

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Harvesters Resources 15M-303**

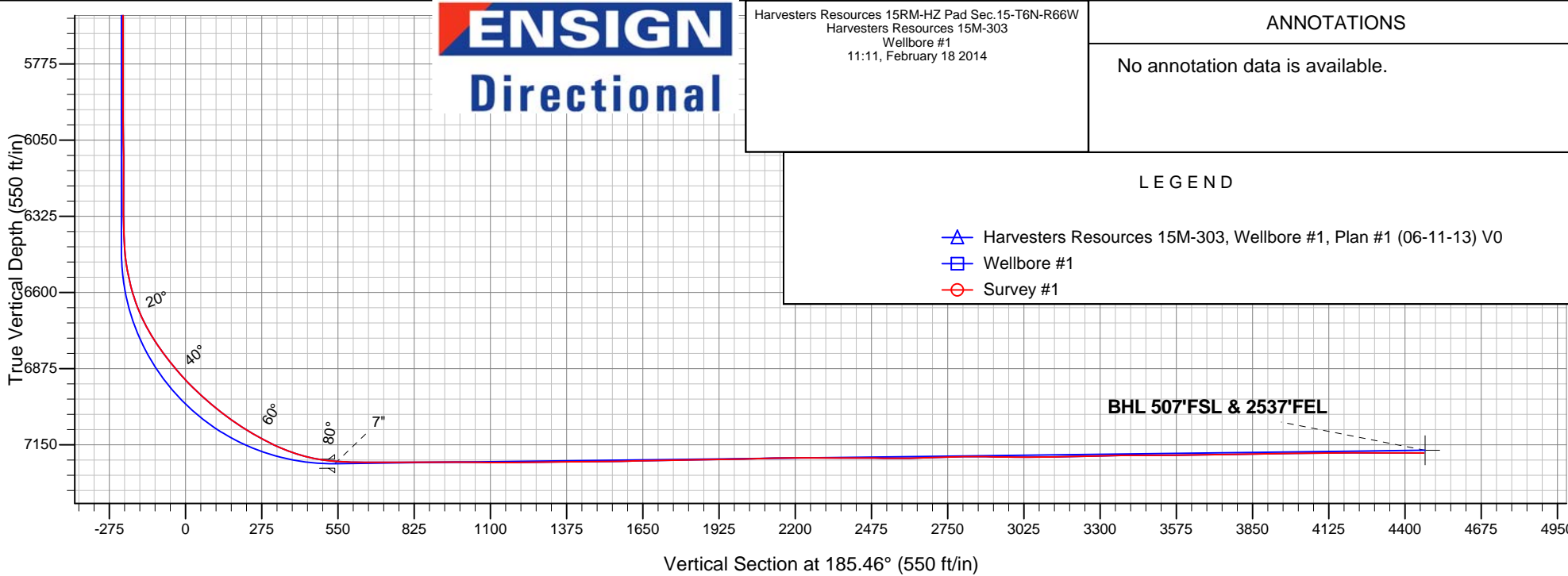
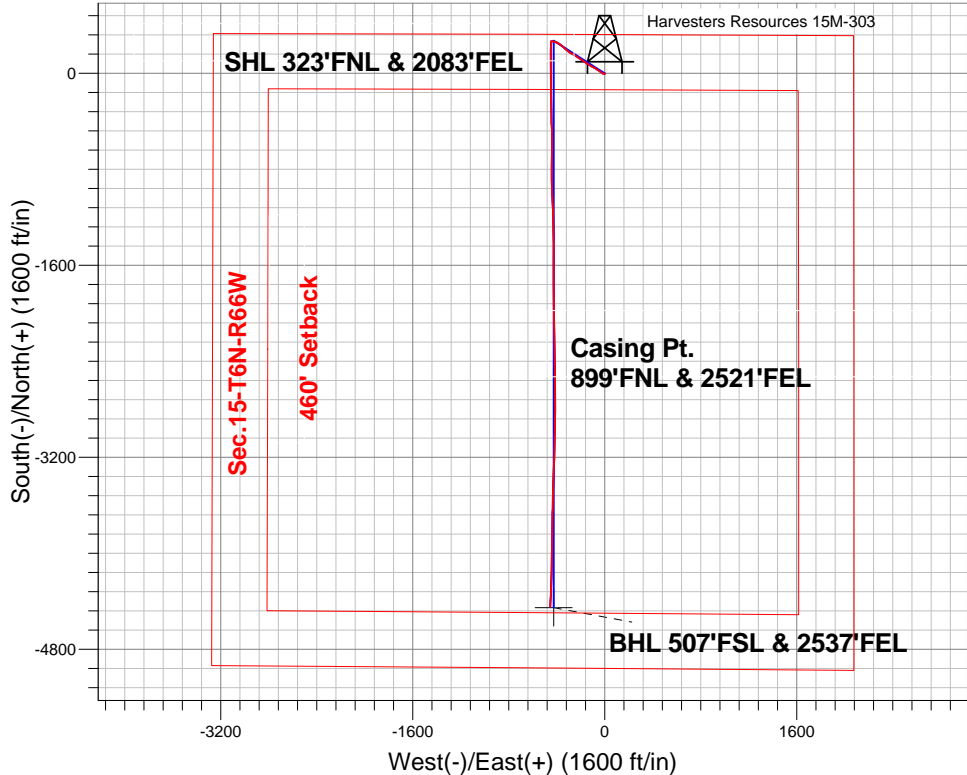
Surface Location: Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4820.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1423918.32	3205359.59	40.494710	-104.761610	
RKB-15' WELL @ 4835.0ft (RKB-15')						

FINAL SURVEY

Projected Bottom Hole Location
11587'MD 7180'TVD 4445'S & 451'W of SHL
89.5 degree Incl @ 182.5 degree AZM





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.15-T6N-R66W

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

Harvesters Resources 15M-303

Wellbore #1

Survey: Survey #1

Standard Survey Report

18 February, 2014

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15M-303
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Well:	Harvesters Resources 15M-303	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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	Latitude:	40.494710
From:	Lat/Long	Easting:	3,205,390.18 ft	Longitude:	-104.761500
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.48 °

Well	Harvesters Resources 15M-303					
Well Position	+N-S	0.0 ft	Northing:	1,423,918.32 ft	Latitude:	40.494710
	+E-W	0.0 ft	Easting:	3,205,359.59 ft	Longitude:	-104.761610
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	1/21/2014	8.52	67.04	52,907

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)	Direction (°)	
	0.0	0.0	0.0	185.46	

Survey Program	Date 2/18/2014				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
146.0	11,587.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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
146.0	0.50	169.80	146.0	-0.6	0.1	0.6	0.34	0.34	0.00
238.0	0.60	187.30	238.0	-1.5	0.1	1.5	0.21	0.11	19.02
330.0	0.70	181.30	330.0	-2.5	0.0	2.5	0.13	0.11	-6.52
422.0	0.40	218.60	422.0	-3.4	-0.2	3.4	0.49	-0.33	40.54
513.0	0.30	232.70	513.0	-3.7	-0.6	3.8	0.14	-0.11	15.49
605.0	0.50	198.40	605.0	-4.3	-0.9	4.3	0.33	0.22	-37.28
697.0	0.60	239.50	697.0	-4.9	-1.4	5.0	0.43	0.11	44.67
789.0	0.70	253.70	789.0	-5.3	-2.4	5.5	0.21	0.11	15.43
881.0	0.80	232.50	881.0	-5.8	-3.4	6.1	0.32	0.11	-23.04
970.0	0.80	252.10	970.0	-6.4	-4.5	6.8	0.31	0.00	22.02

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Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Well:	Harvesters Resources 15M-303	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,061.0	2.10	295.60	1,060.9	-5.9	-6.6	6.5	1.78	1.43	47.80
1,153.0	3.60	301.00	1,152.8	-3.7	-10.6	4.7	1.65	1.63	5.87
1,248.0	5.40	306.10	1,247.5	0.5	-16.8	1.1	1.94	1.89	5.37
1,343.0	7.20	302.40	1,341.9	6.3	-25.4	-3.9	1.94	1.89	-3.89
1,438.0	8.50	304.40	1,436.0	13.5	-36.2	-10.0	1.40	1.37	2.11
1,533.0	8.90	305.10	1,529.9	21.7	-48.0	-17.0	0.44	0.42	0.74
1,628.0	8.90	305.00	1,623.8	30.1	-60.1	-24.3	0.02	0.00	-0.11
1,723.0	8.60	301.00	1,717.7	38.0	-72.2	-30.9	0.71	-0.32	-4.21
1,818.0	8.20	302.20	1,811.7	45.3	-84.0	-37.1	0.46	-0.42	1.26
1,914.0	8.00	297.40	1,906.7	52.0	-95.7	-42.6	0.73	-0.21	-5.00
2,009.0	7.50	296.80	2,000.9	57.8	-107.1	-47.4	0.53	-0.53	-0.63
2,104.0	7.90	299.80	2,095.0	63.9	-118.3	-52.3	0.60	0.42	3.16
2,199.0	8.40	302.30	2,189.0	70.8	-129.9	-58.1	0.65	0.53	2.63
2,293.0	8.00	301.80	2,282.1	77.9	-141.2	-64.1	0.43	-0.43	-0.53
2,387.0	8.20	305.20	2,375.1	85.2	-152.3	-70.4	0.55	0.21	3.62
2,481.0	7.80	305.10	2,468.2	92.8	-163.0	-76.8	0.43	-0.43	-0.11
2,577.0	8.10	307.40	2,563.3	100.6	-173.7	-83.6	0.46	0.31	2.40
2,672.0	7.80	304.70	2,657.4	108.4	-184.3	-90.3	0.50	-0.32	-2.84
2,767.0	8.00	303.10	2,751.5	115.6	-195.1	-96.5	0.31	0.21	-1.68
2,862.0	8.40	302.90	2,845.5	123.0	-206.5	-102.8	0.42	0.42	-0.21
2,957.0	8.60	303.50	2,939.5	130.7	-218.2	-109.3	0.23	0.21	0.63
3,052.0	8.00	301.70	3,033.5	138.1	-229.8	-115.6	0.69	-0.63	-1.89
3,146.0	8.10	303.20	3,126.6	145.2	-240.9	-121.6	0.25	0.11	1.60
3,241.0	8.60	301.60	3,220.5	152.5	-252.5	-127.8	0.58	0.53	-1.68
3,336.0	7.50	297.40	3,314.6	159.1	-264.1	-133.3	1.31	-1.16	-4.42
3,431.0	7.40	296.70	3,408.8	164.7	-275.1	-137.8	0.14	-0.11	-0.74
3,526.0	6.50	301.00	3,503.1	170.2	-285.1	-142.3	1.09	-0.95	4.53
3,622.0	7.10	306.00	3,598.4	176.5	-294.6	-147.7	0.88	0.63	5.21
3,717.0	7.30	309.00	3,692.7	183.8	-304.0	-154.0	0.45	0.21	3.16
3,812.0	7.10	307.60	3,786.9	191.2	-313.4	-160.5	0.28	-0.21	-1.47
3,907.0	7.40	314.60	3,881.2	199.0	-322.4	-167.4	0.98	0.32	7.37
4,002.0	7.80	311.20	3,975.3	207.6	-331.6	-175.1	0.63	0.42	-3.58
4,097.0	8.40	310.60	4,069.4	216.3	-341.7	-182.8	0.64	0.63	-0.63
4,192.0	8.30	313.10	4,163.4	225.5	-352.0	-191.0	0.40	-0.11	2.63
4,287.0	7.60	308.00	4,257.5	234.1	-361.9	-198.6	1.05	-0.74	-5.37
4,382.0	7.20	306.00	4,351.7	241.5	-371.7	-205.0	0.50	-0.42	-2.11
4,477.0	6.90	303.10	4,446.0	248.1	-381.3	-210.7	0.49	-0.32	-3.05
4,572.0	5.50	299.30	4,540.4	253.4	-390.0	-215.1	1.53	-1.47	-4.00
4,667.0	5.40	291.30	4,635.0	257.3	-398.2	-218.2	0.81	-0.11	-8.42
4,762.0	5.10	286.70	4,729.6	260.1	-406.4	-220.3	0.54	-0.32	-4.84
4,856.0	4.10	284.30	4,823.3	262.1	-413.7	-221.6	1.08	-1.06	-2.55
4,951.0	3.10	289.60	4,918.1	263.8	-419.4	-222.7	1.11	-1.05	5.58
5,046.0	1.60	298.80	5,013.0	265.3	-422.9	-223.9	1.62	-1.58	9.68
5,141.0	1.50	285.70	5,108.0	266.3	-425.3	-224.6	0.39	-0.11	-13.79
5,236.0	1.30	294.50	5,202.9	267.1	-427.5	-225.2	0.31	-0.21	9.26
5,331.0	1.20	281.90	5,297.9	267.7	-429.4	-225.7	0.31	-0.11	-13.26
5,426.0	1.20	286.40	5,392.9	268.2	-431.4	-226.0	0.10	0.00	4.74
5,521.0	0.90	260.90	5,487.9	268.4	-433.1	-226.0	0.58	-0.32	-26.84
5,616.0	1.00	258.20	5,582.9	268.1	-434.6	-225.5	0.12	0.11	-2.84
5,712.0	1.10	280.40	5,678.9	268.1	-436.3	-225.4	0.43	0.10	23.13
5,807.0	1.00	270.50	5,773.8	268.3	-438.1	-225.4	0.22	-0.11	-10.42
5,902.0	1.00	281.20	5,868.8	268.4	-439.7	-225.4	0.20	0.00	11.26
5,997.0	1.10	267.10	5,963.8	268.6	-441.4	-225.3	0.29	0.11	-14.84

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6,092.0	1.00	257.80	6,058.8	268.3	-443.1	-224.9	0.21	-0.11	-9.79
6,187.0	0.50	234.40	6,153.8	267.9	-444.3	-224.4	0.61	-0.53	-24.63
6,282.0	0.70	243.50	6,248.8	267.4	-445.1	-223.8	0.23	0.21	9.58
6,377.0	0.60	230.20	6,343.8	266.8	-446.0	-223.2	0.19	-0.11	-14.00
6,410.0	1.10	198.10	6,376.8	266.4	-446.3	-222.8	2.04	1.52	-97.27
6,442.0	2.20	184.80	6,408.8	265.5	-446.4	-221.8	3.62	3.44	-41.56
6,473.0	4.10	181.70	6,439.7	263.8	-446.5	-220.1	6.15	6.13	-10.00
6,505.0	6.50	179.00	6,471.6	260.9	-446.5	-217.2	7.54	7.50	-8.44
6,537.0	8.90	179.00	6,503.3	256.6	-446.4	-212.9	7.50	7.50	0.00
6,569.0	11.30	180.20	6,534.8	251.0	-446.4	-207.4	7.53	7.50	3.75
6,600.0	13.70	181.60	6,565.0	244.3	-446.5	-200.7	7.80	7.74	4.52
6,632.0	16.10	183.10	6,596.0	236.0	-446.9	-192.5	7.60	7.50	4.69
6,664.0	18.60	183.30	6,626.5	226.5	-447.4	-182.9	7.81	7.81	0.63
6,695.0	21.20	182.80	6,655.7	216.0	-448.0	-172.4	8.40	8.39	-1.61
6,727.0	24.00	182.70	6,685.2	203.7	-448.5	-160.1	8.75	8.75	-0.31
6,759.0	27.00	181.80	6,714.1	189.9	-449.1	-146.3	9.45	9.38	-2.81
6,790.0	30.00	180.90	6,741.3	175.2	-449.4	-131.6	9.78	9.68	-2.90
6,823.0	32.60	180.30	6,769.5	158.0	-449.6	-114.5	7.94	7.88	-1.82
6,854.0	34.80	179.80	6,795.3	140.8	-449.6	-97.4	7.15	7.10	-1.61
6,886.0	36.70	179.60	6,821.3	122.1	-449.5	-78.8	5.95	5.94	-0.63
6,918.0	38.50	179.90	6,846.6	102.6	-449.4	-59.4	5.65	5.63	0.94
6,949.0	39.80	179.80	6,870.7	83.0	-449.4	-39.9	4.20	4.19	-0.32
6,981.0	41.20	180.30	6,895.0	62.2	-449.4	-19.2	4.49	4.38	1.56
7,013.0	43.20	179.60	6,918.7	40.7	-449.4	2.2	6.42	6.25	-2.19
7,044.0	45.40	179.50	6,940.9	19.1	-449.2	23.7	7.10	7.10	-0.32
7,076.0	47.60	178.80	6,962.9	-4.1	-448.9	46.8	7.06	6.88	-2.19
7,108.0	48.80	178.80	6,984.2	-28.0	-448.4	70.5	3.75	3.75	0.00
7,140.0	49.90	179.10	7,005.1	-52.2	-447.9	94.6	3.51	3.44	0.94
7,171.0	51.30	179.10	7,024.8	-76.2	-447.5	118.4	4.52	4.52	0.00
7,202.0	53.10	179.60	7,043.8	-100.7	-447.3	142.8	5.94	5.81	1.61
7,234.0	55.30	179.10	7,062.5	-126.6	-447.0	168.6	6.99	6.88	-1.56
7,265.0	57.10	179.10	7,079.7	-152.4	-446.6	194.2	5.81	5.81	0.00
7,297.0	58.60	179.10	7,096.8	-179.5	-446.1	221.1	4.69	4.69	0.00
7,329.0	60.00	178.30	7,113.1	-207.0	-445.5	248.4	4.87	4.38	-2.50
7,360.0	61.50	179.00	7,128.2	-234.0	-444.9	275.3	5.22	4.84	2.26
7,392.0	63.60	179.50	7,143.0	-262.4	-444.5	303.5	6.71	6.56	1.56
7,423.0	66.10	179.30	7,156.2	-290.5	-444.2	331.4	8.09	8.06	-0.65
7,455.0	68.50	179.60	7,168.5	-320.0	-443.9	360.8	7.55	7.50	0.94
7,486.0	71.40	179.20	7,179.1	-349.1	-443.6	389.7	9.43	9.35	-1.29
7,518.0	73.80	178.40	7,188.7	-379.6	-443.0	420.1	7.87	7.50	-2.50
7,550.0	77.30	177.50	7,196.7	-410.6	-441.9	450.8	11.27	10.94	-2.81
7,581.0	80.70	177.40	7,202.6	-441.0	-440.5	480.9	10.97	10.97	-0.32
7,613.0	83.80	177.70	7,206.9	-472.7	-439.2	512.3	9.73	9.69	0.94
7,644.0	85.70	178.90	7,209.8	-503.5	-438.2	542.9	7.24	6.13	3.87
7,717.0	89.00	180.60	7,213.1	-576.4	-437.9	615.5	5.08	4.52	2.33
7,747.0	89.60	181.00	7,213.5	-606.4	-438.3	645.4	2.40	2.00	1.33
7,778.0	90.20	181.60	7,213.5	-637.4	-439.0	676.3	2.74	1.94	1.94
7,808.0	90.10	181.30	7,213.5	-667.4	-439.8	706.2	1.05	-0.33	-1.00
7,838.0	89.90	180.90	7,213.5	-697.4	-440.4	736.1	1.49	-0.67	-1.33
7,869.0	89.70	180.50	7,213.6	-728.4	-440.8	767.0	1.44	-0.65	-1.29
7,899.0	90.10	180.30	7,213.6	-758.4	-441.0	796.9	1.49	1.33	-0.67
7,930.0	90.50	180.30	7,213.5	-789.4	-441.1	827.8	1.29	1.29	0.00

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7,961.0	90.90	180.00	7,213.1	-820.4	-441.2	858.7	1.61	1.29	-0.97
7,991.0	90.80	179.90	7,212.6	-850.4	-441.2	888.5	0.47	-0.33	-0.33
8,022.0	90.60	179.40	7,212.3	-881.4	-441.0	919.4	1.74	-0.65	-1.61
8,052.0	89.90	178.70	7,212.1	-911.4	-440.5	949.2	3.30	-2.33	-2.33
8,083.0	89.50	178.50	7,212.3	-942.4	-439.7	979.9	1.44	-1.29	-0.65
8,114.0	89.00	178.30	7,212.7	-973.4	-438.9	1,010.7	1.74	-1.61	-0.65
8,144.0	88.80	178.00	7,213.3	-1,003.3	-437.9	1,040.5	1.20	-0.67	-1.00
8,175.0	88.80	176.90	7,213.9	-1,034.3	-436.5	1,071.1	3.55	0.00	-3.55
8,206.0	89.40	177.10	7,214.4	-1,065.2	-434.9	1,101.8	2.04	1.94	0.65
8,238.0	90.20	177.20	7,214.5	-1,097.2	-433.3	1,133.5	2.52	2.50	0.31
8,270.0	90.50	176.80	7,214.3	-1,129.2	-431.6	1,165.1	1.56	0.94	-1.25
8,302.0	90.80	177.10	7,214.0	-1,161.1	-429.9	1,196.8	1.33	0.94	0.94
8,333.0	90.90	177.50	7,213.5	-1,192.1	-428.5	1,227.4	1.33	0.32	1.29
8,365.0	90.90	178.10	7,213.0	-1,224.0	-427.3	1,259.2	1.87	0.00	1.88
8,397.0	90.60	178.90	7,212.6	-1,256.0	-426.4	1,290.9	2.67	-0.94	2.50
8,428.0	90.50	179.00	7,212.3	-1,287.0	-425.8	1,321.7	0.46	-0.32	0.32
8,460.0	90.40	179.50	7,212.0	-1,319.0	-425.4	1,353.5	1.59	-0.31	1.56
8,492.0	90.60	180.00	7,211.8	-1,351.0	-425.3	1,385.4	1.68	0.63	1.56
8,523.0	90.50	179.70	7,211.5	-1,382.0	-425.2	1,416.2	1.02	-0.32	-0.97
8,554.0	90.30	179.60	7,211.2	-1,413.0	-425.0	1,447.1	0.72	-0.65	-0.32
8,586.0	90.50	179.70	7,211.0	-1,445.0	-424.8	1,478.9	0.70	0.63	0.31
8,617.0	90.80	179.80	7,210.7	-1,476.0	-424.7	1,509.7	1.02	0.97	0.32
8,649.0	91.00	180.10	7,210.2	-1,508.0	-424.7	1,541.6	1.13	0.63	0.94
8,681.0	91.20	180.60	7,209.6	-1,540.0	-424.9	1,573.4	1.68	0.63	1.56
8,712.0	91.30	180.50	7,208.9	-1,571.0	-425.2	1,604.3	0.46	0.32	-0.32
8,744.0	91.40	180.30	7,208.1	-1,603.0	-425.4	1,636.2	0.70	0.31	-0.63
8,776.0	91.30	180.10	7,207.4	-1,635.0	-425.5	1,668.1	0.70	-0.31	-0.63
8,808.0	91.20	179.90	7,206.7	-1,667.0	-425.5	1,699.9	0.70	-0.31	-0.63
8,839.0	90.90	179.70	7,206.1	-1,698.0	-425.4	1,730.7	1.16	-0.97	-0.65
8,871.0	90.90	179.30	7,205.6	-1,730.0	-425.1	1,762.6	1.25	0.00	-1.25
8,903.0	91.00	179.10	7,205.1	-1,762.0	-424.7	1,794.4	0.70	0.31	-0.63
8,935.0	90.90	179.40	7,204.5	-1,793.9	-424.2	1,826.2	0.99	-0.31	0.94
8,967.0	90.90	179.00	7,204.0	-1,825.9	-423.8	1,858.0	1.25	0.00	-1.25
8,998.0	91.10	179.10	7,203.5	-1,856.9	-423.3	1,888.8	0.72	0.65	0.32
9,029.0	91.20	178.90	7,202.9	-1,887.9	-422.7	1,919.6	0.72	0.32	-0.65
9,061.0	91.10	178.80	7,202.2	-1,919.9	-422.1	1,951.4	0.44	-0.31	-0.31
9,093.0	91.00	179.60	7,201.6	-1,951.9	-421.6	1,983.2	2.52	-0.31	2.50
9,124.0	90.90	180.00	7,201.1	-1,982.9	-421.5	2,014.0	1.33	-0.32	1.29
9,156.0	91.10	180.00	7,200.6	-2,014.9	-421.5	2,045.9	0.63	0.63	0.00
9,188.0	91.30	179.90	7,199.9	-2,046.9	-421.5	2,077.7	0.70	0.63	-0.31
9,220.0	91.50	179.70	7,199.1	-2,078.9	-421.4	2,109.5	0.88	0.63	-0.63
9,251.0	91.40	179.80	7,198.3	-2,109.9	-421.3	2,140.4	0.46	-0.32	0.32
9,283.0	91.30	179.80	7,197.6	-2,141.9	-421.2	2,172.2	0.31	-0.31	0.00
9,315.0	90.40	178.60	7,197.1	-2,173.8	-420.7	2,204.0	4.69	-2.81	-3.75
9,347.0	89.70	177.90	7,197.1	-2,205.8	-419.7	2,235.8	3.09	-2.19	-2.19
9,378.0	89.50	177.30	7,197.3	-2,236.8	-418.4	2,266.5	2.04	-0.65	-1.94
9,410.0	89.50	177.50	7,197.6	-2,268.8	-417.0	2,298.2	0.62	0.00	0.63
9,442.0	89.60	179.00	7,197.8	-2,300.7	-416.0	2,329.9	4.70	0.31	4.69
9,473.0	89.70	179.50	7,198.0	-2,331.7	-415.6	2,360.7	1.64	0.32	1.61
9,505.0	90.10	179.60	7,198.1	-2,363.7	-415.3	2,392.5	1.29	1.25	0.31
9,536.0	90.10	179.70	7,198.0	-2,394.7	-415.2	2,423.4	0.32	0.00	0.32
9,568.0	89.90	179.40	7,198.0	-2,426.7	-414.9	2,455.2	1.13	-0.63	-0.94
9,599.0	89.60	179.20	7,198.2	-2,457.7	-414.5	2,486.0	1.16	-0.97	-0.65

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15M-303
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Well:	Harvesters Resources 15M-303	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,631.0	89.80	179.30	7,198.3	-2,489.7	-414.1	2,517.8	0.70	0.63	0.31
9,663.0	89.10	179.40	7,198.6	-2,521.7	-413.7	2,549.7	2.21	-2.19	0.31
9,694.0	90.20	179.20	7,198.8	-2,552.7	-413.4	2,580.5	3.61	3.55	-0.65
9,726.0	90.60	179.80	7,198.6	-2,584.7	-413.1	2,612.3	2.25	1.25	1.88
9,757.0	91.50	179.70	7,198.0	-2,615.7	-412.9	2,643.1	2.92	2.90	-0.32
9,789.0	92.00	179.50	7,197.0	-2,647.7	-412.7	2,675.0	1.68	1.56	-0.63
9,821.0	92.00	179.50	7,195.9	-2,679.7	-412.4	2,706.8	0.00	0.00	0.00
9,852.0	92.00	179.70	7,194.8	-2,710.7	-412.2	2,737.6	0.64	0.00	0.65
9,884.0	92.00	179.70	7,193.7	-2,742.6	-412.1	2,769.4	0.00	0.00	0.00
9,916.0	91.30	180.10	7,192.8	-2,774.6	-412.0	2,801.2	2.52	-2.19	1.25
9,947.0	89.60	180.70	7,192.6	-2,805.6	-412.2	2,832.1	5.82	-5.48	1.94
9,979.0	89.20	181.10	7,192.9	-2,837.6	-412.7	2,864.0	1.77	-1.25	1.25
10,011.0	88.80	181.20	7,193.5	-2,869.6	-413.4	2,895.9	1.29	-1.25	0.31
10,042.0	89.40	181.00	7,193.9	-2,900.6	-414.0	2,926.8	2.04	1.94	-0.65
10,074.0	89.20	181.20	7,194.3	-2,932.6	-414.6	2,958.7	0.88	-0.63	0.63
10,105.0	89.80	181.20	7,194.6	-2,963.6	-415.2	2,989.7	1.94	1.94	0.00
10,137.0	89.50	181.00	7,194.8	-2,995.6	-415.8	3,021.6	1.13	-0.94	-0.63
10,168.0	90.30	180.90	7,194.9	-3,026.6	-416.4	3,052.5	2.60	2.58	-0.32
10,200.0	91.10	180.90	7,194.5	-3,058.6	-416.9	3,084.4	2.50	2.50	0.00
10,232.0	90.90	181.00	7,193.9	-3,090.6	-417.4	3,116.3	0.70	-0.63	0.31
10,264.0	91.00	181.30	7,193.4	-3,122.5	-418.0	3,148.2	0.99	0.31	0.94
10,295.0	91.10	181.60	7,192.8	-3,153.5	-418.8	3,179.1	1.02	0.32	0.97
10,327.0	91.20	181.70	7,192.2	-3,185.5	-419.7	3,211.0	0.44	0.31	0.31
10,359.0	91.30	181.80	7,191.5	-3,217.5	-420.7	3,242.9	0.44	0.31	0.31
10,391.0	91.10	181.90	7,190.8	-3,249.5	-421.7	3,274.9	0.70	-0.63	0.31
10,423.0	91.20	182.10	7,190.2	-3,281.4	-422.9	3,306.8	0.70	0.31	0.63
10,454.0	91.10	182.00	7,189.5	-3,312.4	-424.0	3,337.7	0.46	-0.32	-0.32
10,486.0	91.10	182.20	7,188.9	-3,344.4	-425.1	3,369.7	0.62	0.00	0.63
10,518.0	90.90	182.40	7,188.4	-3,376.4	-426.4	3,401.6	0.88	-0.63	0.63
10,549.0	90.30	181.80	7,188.0	-3,407.3	-427.6	3,432.6	2.74	-1.94	-1.94
10,581.0	89.90	181.50	7,188.0	-3,439.3	-428.5	3,464.5	1.56	-1.25	-0.94
10,613.0	90.00	182.00	7,188.0	-3,471.3	-429.5	3,496.4	1.59	0.31	1.56
10,644.0	89.70	182.10	7,188.1	-3,502.3	-430.6	3,527.4	1.02	-0.97	0.32
10,676.0	90.30	181.70	7,188.1	-3,534.3	-431.6	3,559.3	2.25	1.88	-1.25
10,708.0	90.80	181.20	7,187.8	-3,566.3	-432.4	3,591.2	2.21	1.56	-1.56
10,739.0	90.70	180.90	7,187.4	-3,597.2	-433.0	3,622.1	1.02	-0.32	-0.97
10,771.0	91.10	181.10	7,186.9	-3,629.2	-433.6	3,654.0	1.40	1.25	0.63
10,803.0	91.10	181.10	7,186.3	-3,661.2	-434.2	3,685.9	0.00	0.00	0.00
10,835.0	90.90	180.80	7,185.7	-3,693.2	-434.7	3,717.8	1.13	-0.63	-0.94
10,867.0	90.90	180.60	7,185.2	-3,725.2	-435.1	3,749.7	0.62	0.00	-0.63
10,899.0	91.10	181.10	7,184.6	-3,757.2	-435.6	3,781.6	1.68	0.63	1.56
10,931.0	91.30	180.90	7,184.0	-3,789.2	-436.1	3,813.5	0.88	0.63	-0.63
10,962.0	91.20	180.90	7,183.3	-3,820.2	-436.6	3,844.4	0.32	-0.32	0.00
10,994.0	91.30	180.90	7,182.6	-3,852.2	-437.1	3,876.3	0.31	0.31	0.00
11,026.0	90.80	181.00	7,182.0	-3,884.2	-437.7	3,908.2	1.59	-1.56	0.31
11,057.0	90.80	181.40	7,181.6	-3,915.1	-438.3	3,939.1	1.29	0.00	1.29
11,089.0	90.60	181.00	7,181.2	-3,947.1	-439.0	3,971.0	1.40	-0.63	-1.25
11,121.0	90.50	180.60	7,180.9	-3,979.1	-439.4	4,002.9	1.29	-0.31	-1.25
11,153.0	90.40	180.70	7,180.6	-4,011.1	-439.8	4,034.8	0.44	-0.31	0.31
11,184.0	90.20	180.70	7,180.5	-4,042.1	-440.2	4,065.7	0.65	-0.65	0.00
11,216.0	90.30	180.70	7,180.3	-4,074.1	-440.6	4,097.6	0.31	0.31	0.00
11,247.0	90.40	180.90	7,180.1	-4,105.1	-441.0	4,128.5	0.72	0.32	0.65

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Harvesters Resources 15M-303
Project:	SEC.15-T6N-R66W	TVD Reference:	WELL @ 4835.0ft (RKB-15')
Site:	Harvesters Resources 15RM-HZ Pad Sec.15-T6N-R66W	MD Reference:	WELL @ 4835.0ft (RKB-15')
Well:	Harvesters Resources 15M-303	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,279.0	90.50	181.10	7,179.9	-4,137.1	-441.5	4,160.4	0.70	0.31	0.63
11,310.0	90.40	181.60	7,179.6	-4,168.1	-442.3	4,191.3	1.64	-0.32	1.61
11,342.0	90.30	181.90	7,179.4	-4,200.1	-443.3	4,223.2	0.99	-0.31	0.94
11,374.0	90.10	182.30	7,179.3	-4,232.1	-444.4	4,255.2	1.40	-0.63	1.25
11,406.0	90.20	182.10	7,179.3	-4,264.0	-445.7	4,287.1	0.70	0.31	-0.63
11,438.0	90.00	182.10	7,179.2	-4,296.0	-446.8	4,319.0	0.63	-0.63	0.00
11,469.0	89.80	182.30	7,179.2	-4,327.0	-448.0	4,350.0	0.91	-0.65	0.65
11,501.0	89.80	182.30	7,179.4	-4,359.0	-449.3	4,381.9	0.00	0.00	0.00
11,533.0	89.50	182.50	7,179.6	-4,390.9	-450.6	4,413.9	1.13	-0.94	0.63
11,587.0	89.50	182.50	7,180.0	-4,444.9	-453.0	4,467.8	0.00	0.00	0.00
BHL 500'FSL & 2510'FEL									

Checked By: _____	Approved By: _____	Date: _____
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