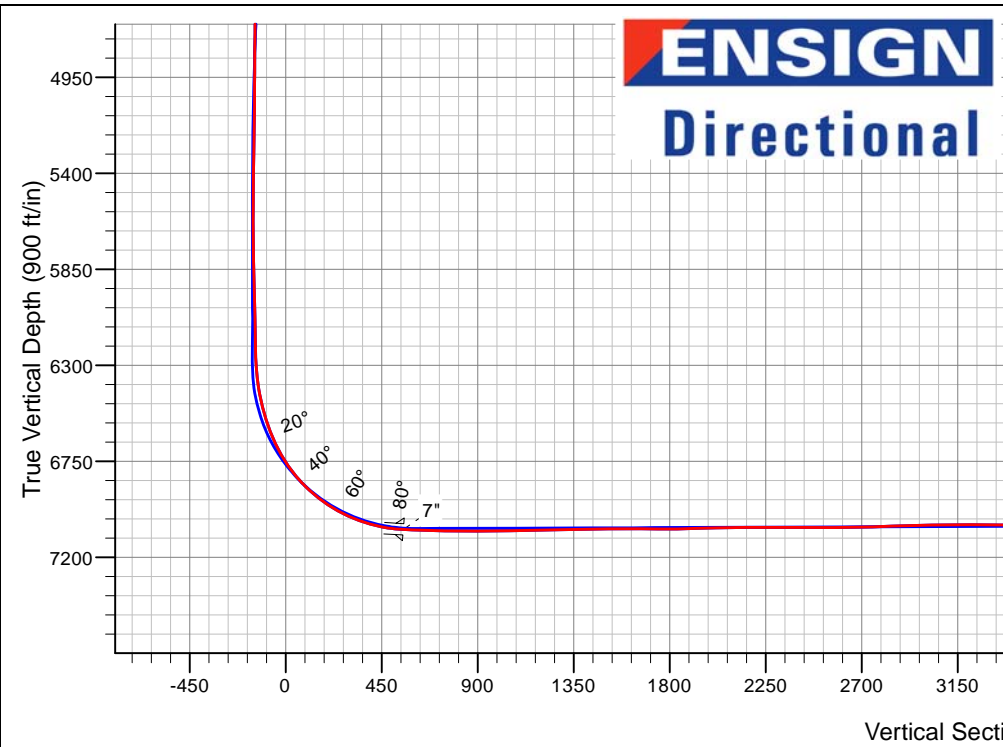
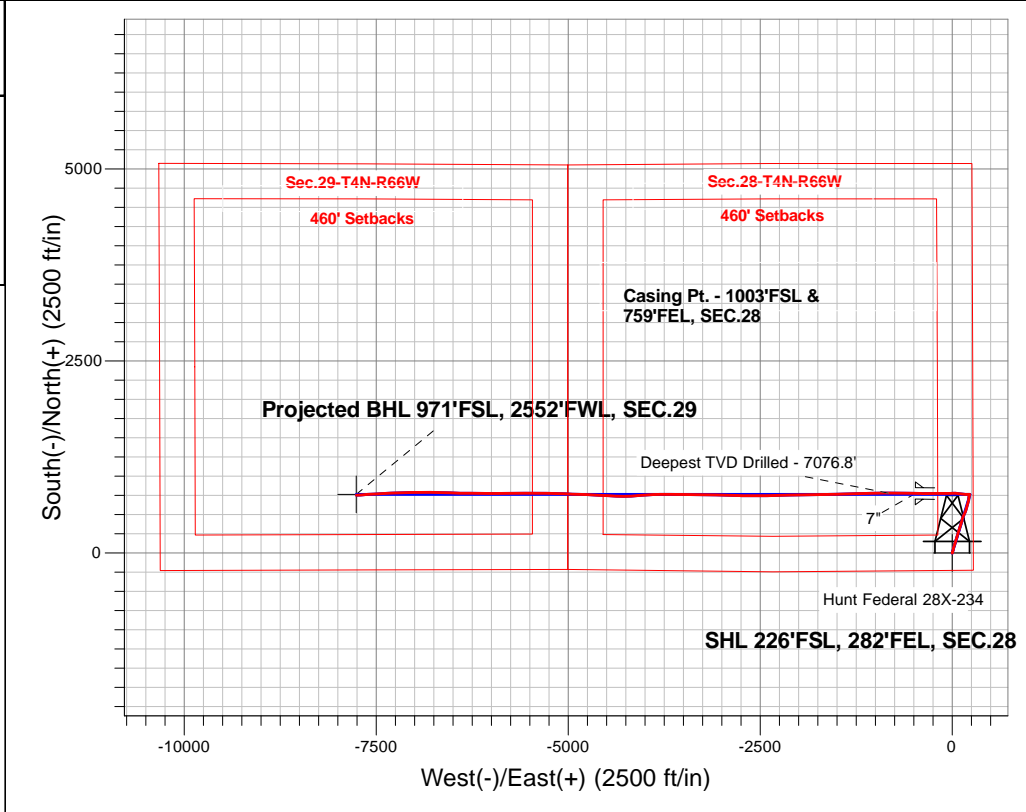


PETROLEUM DEVELOPMENT CORP DJ Basin

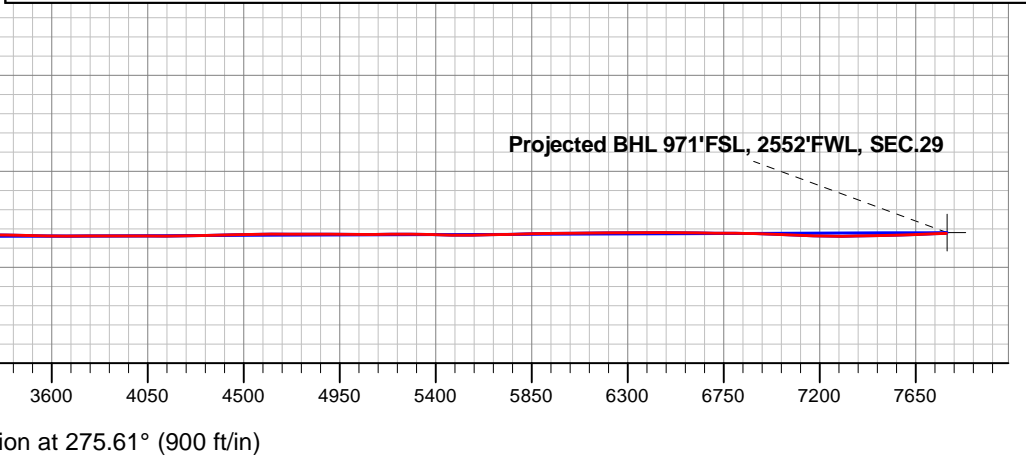
Well Name: **Hunt Federal 28X-234**
Surface Location: Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4762.0
+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 344202.82 3202569.00 40.275960 -104.773990
Ensign Rig #121 - RKB -13.5'WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')

FINAL SURVEY

Projected Bottom Hole Location
14795'MD 7040'TVD 753'N & 7757'W of SHL
92.2 degree Incl @ 265.9 degree AZM



Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W Hunt Federal 28X-234 Wellbore #1 11:55, December 22 2015	ANNOTATIONS		
	TVD	MD	Annotation
	7076.8	7867.0	Deepest TVD Drilled - 7076.8'
LEGEND			
△ Hunt Federal 28X-234, Wellbore #1, Plan #2 (12-11-15) R V0			
□ Wellbore #1			
○ Survey #1			





PETROLEUM DEVELOPMENT CORP DJ Basin

SEC.28-T4N-R66W

Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W

Hunt Federal 28X-234

Wellbore #1

Survey: Survey #1

Standard Survey Report

22 December, 2015

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Hunt Federal 28X-234
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Hunt Federal 28X-234	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Project	SEC.28-T4N-R66W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W				
Site Position:		Northing:	1,344,202.84 usft	Latitude:	40.275960
From:	Lat/Long	Easting:	3,202,569.00 usft	Longitude:	-104.773990
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.47 °

Well	Hunt Federal 28X-234					
Well Position	+N/-S	0.0 ft	Northing:	1,344,202.82 usft	Latitude:	40.275960
	+E/-W	0.0 ft	Easting:	3,202,569.00 usft	Longitude:	-104.773990
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,762.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/11/2015	8.25	66.79	52,593

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		275.61

Survey Program	Date	12/22/2015			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
71.0	14,795.0	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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.00	158.40	1.0	0.0	0.0	0.0	0.42	0.42	0.00	
SHL 226'FSL, 282'FEL, SEC.28										
71.0	0.30	158.40	71.0	-0.2	0.1	-0.1	0.42	0.42	0.00	
164.0	0.20	121.80	164.0	-0.5	0.3	-0.3	0.20	-0.11	-39.35	
258.0	0.10	144.10	258.0	-0.6	0.5	-0.5	0.12	-0.11	23.72	
352.0	0.30	184.00	352.0	-0.9	0.5	-0.6	0.25	0.21	42.45	
444.0	1.40	15.10	444.0	-0.1	0.8	-0.8	1.84	1.20	-183.59	
538.0	2.90	13.90	537.9	3.3	1.7	-1.3	1.60	1.60	-1.28	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Hunt Federal 28X-234
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Hunt Federal 28X-234	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
631.0	3.40	16.00	630.8	8.2	3.0	-2.2	0.55	0.54	2.26
725.0	3.60	19.10	724.6	13.7	4.7	-3.4	0.29	0.21	3.30
818.0	4.50	15.30	817.4	20.0	6.6	-4.7	1.01	0.97	-4.09
863.0	5.10	12.10	862.2	23.7	7.5	-5.2	1.46	1.33	-7.11
1,007.0	6.10	12.50	1,005.5	37.4	10.5	-6.8	0.69	0.69	0.28
1,100.0	7.30	18.80	1,097.9	47.8	13.5	-8.8	1.51	1.29	6.77
1,194.0	7.70	7.40	1,191.1	59.7	16.2	-10.3	1.64	0.43	-12.13
1,288.0	9.70	14.60	1,284.0	73.6	19.0	-11.7	2.42	2.13	7.66
1,381.0	9.80	19.90	1,375.7	88.6	23.7	-14.9	0.97	0.11	5.70
1,475.0	11.00	16.90	1,468.1	104.7	29.0	-18.7	1.40	1.28	-3.19
1,568.0	10.00	14.10	1,559.6	121.1	33.6	-21.6	1.21	-1.08	-3.01
1,661.0	10.60	20.60	1,651.1	136.9	38.6	-25.0	1.41	0.65	6.99
1,753.0	11.30	20.60	1,741.4	153.3	44.7	-29.5	0.76	0.76	0.00
1,846.0	11.10	16.90	1,832.6	170.3	50.5	-33.6	0.80	-0.22	-3.98
1,941.0	10.60	13.40	1,925.9	187.6	55.2	-36.6	0.87	-0.53	-3.68
2,039.0	10.60	17.90	2,022.3	204.9	60.1	-39.7	0.84	0.00	4.59
2,134.0	10.00	16.30	2,115.7	221.2	65.1	-43.1	0.70	-0.63	-1.68
2,230.0	10.30	14.20	2,210.2	237.5	69.5	-45.9	0.50	0.31	-2.19
2,325.0	11.30	20.20	2,303.5	254.5	74.8	-49.6	1.58	1.05	6.32
2,420.0	10.10	16.30	2,396.9	271.2	80.4	-53.4	1.47	-1.26	-4.11
2,516.0	10.60	19.50	2,491.3	287.6	85.7	-57.1	0.79	0.52	3.33
2,611.0	10.90	18.10	2,584.7	304.4	91.4	-61.2	0.42	0.32	-1.47
2,707.0	10.80	17.20	2,678.9	321.6	96.9	-64.9	0.20	-0.10	-0.94
2,802.0	10.80	16.20	2,772.3	338.6	102.0	-68.4	0.20	0.00	-1.05
2,897.0	10.10	15.30	2,865.7	355.2	106.6	-71.4	0.76	-0.74	-0.95
2,993.0	11.30	16.20	2,960.0	372.4	111.5	-74.5	1.26	1.25	0.94
3,088.0	10.60	13.40	3,053.3	389.8	116.1	-77.4	0.93	-0.74	-2.95
3,184.0	10.60	20.40	3,147.6	406.7	121.2	-80.9	1.34	0.00	7.29
3,279.0	8.70	17.60	3,241.3	421.7	126.5	-84.6	2.06	-2.00	-2.95
3,374.0	8.80	16.90	3,335.2	435.5	130.7	-87.5	0.15	0.11	-0.74
3,470.0	9.00	15.30	3,430.0	449.8	134.9	-90.2	0.33	0.21	-1.67
3,565.0	9.40	17.60	3,523.8	464.4	139.2	-93.1	0.57	0.42	2.42
3,661.0	10.60	16.20	3,618.4	480.3	144.0	-96.3	1.28	1.25	-1.46
3,756.0	10.80	23.70	3,711.7	496.8	150.0	-100.7	1.48	0.21	7.89
3,851.0	12.40	29.50	3,804.8	513.9	158.6	-107.6	2.08	1.68	6.11
3,947.0	12.00	26.70	3,898.6	531.8	168.2	-115.4	0.74	-0.42	-2.92
4,042.0	12.20	20.20	3,991.5	550.0	176.1	-121.4	1.45	0.21	-6.84
4,138.0	10.80	11.40	4,085.6	568.3	181.4	-124.9	2.33	-1.46	-9.17
4,233.0	9.80	13.40	4,179.0	584.9	185.0	-126.9	1.12	-1.05	2.11
4,328.0	11.10	15.10	4,272.5	601.6	189.3	-129.5	1.41	1.37	1.79
4,424.0	10.90	16.20	4,366.7	619.3	194.2	-132.7	0.30	-0.21	1.15
4,519.0	11.60	15.60	4,459.9	637.1	199.3	-136.0	0.75	0.74	-0.63

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Hunt Federal 28X-234
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Hunt Federal 28X-234	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,614.0	12.00	19.70	4,552.9	655.6	205.2	-140.1	0.98	0.42	4.32	
4,710.0	11.30	10.50	4,646.9	674.2	210.2	-143.3	2.07	-0.73	-9.58	
4,805.0	9.60	8.60	4,740.3	691.2	213.1	-144.5	1.83	-1.79	-2.00	
4,901.0	9.30	7.90	4,835.0	706.8	215.4	-145.2	0.33	-0.31	-0.73	
4,996.0	7.60	6.50	4,929.0	720.7	217.2	-145.6	1.80	-1.79	-1.47	
5,092.0	6.10	7.90	5,024.3	732.0	218.6	-145.9	1.57	-1.56	1.46	
5,187.0	5.40	14.40	5,118.8	741.4	220.4	-146.8	1.01	-0.74	6.84	
5,282.0	3.30	20.90	5,213.5	748.2	222.5	-148.2	2.27	-2.21	6.84	
5,378.0	3.20	22.10	5,309.4	753.3	224.5	-149.7	0.13	-0.10	1.25	
5,473.0	2.70	23.90	5,404.3	757.8	226.4	-151.2	0.54	-0.53	1.89	
5,569.0	1.80	25.80	5,500.2	761.2	227.9	-152.4	0.94	-0.94	1.98	
5,664.0	0.40	209.70	5,595.2	762.3	228.4	-152.8	2.31	-1.47	-185.37	
5,760.0	0.40	323.30	5,691.2	762.3	228.1	-152.4	0.70	0.00	118.33	
5,855.0	0.80	300.20	5,786.2	762.9	227.3	-151.6	0.48	0.42	-24.32	
5,951.0	1.50	284.90	5,882.1	763.5	225.5	-149.7	0.79	0.73	-15.94	
6,046.0	2.10	281.10	5,977.1	764.2	222.6	-146.8	0.64	0.63	-4.00	
6,142.0	1.20	260.50	6,073.1	764.4	219.9	-144.0	1.11	-0.94	-21.46	
6,237.0	1.00	263.70	6,168.0	764.1	218.1	-142.3	0.22	-0.21	3.37	
6,332.0	1.30	271.80	6,263.0	764.0	216.2	-140.4	0.36	0.32	8.53	
6,379.0	4.30	269.30	6,310.0	764.0	213.9	-138.1	6.39	6.38	-5.32	
6,428.0	6.40	268.10	6,358.7	763.9	209.3	-133.6	4.29	4.29	-2.45	
6,475.0	8.60	274.00	6,405.3	764.1	203.2	-127.5	4.95	4.68	12.55	
6,523.0	11.70	272.80	6,452.6	764.6	194.7	-119.0	6.47	6.46	-2.50	
6,570.0	14.60	267.70	6,498.3	764.6	184.0	-108.4	6.64	6.17	-10.85	
6,619.0	17.60	271.60	6,545.4	764.5	170.5	-94.9	6.50	6.12	7.96	
6,666.0	19.80	275.80	6,589.9	765.5	155.4	-79.8	5.49	4.68	8.94	
6,714.0	22.40	275.60	6,634.7	767.2	138.2	-62.5	5.42	5.42	-0.42	
6,761.0	26.00	276.90	6,677.6	769.4	119.1	-43.3	7.74	7.66	2.77	
6,809.0	29.40	277.20	6,720.1	772.1	97.0	-21.0	7.09	7.08	0.63	
6,856.0	34.10	276.90	6,760.0	775.1	72.4	3.7	10.01	10.00	-0.64	
6,905.0	38.30	272.80	6,799.6	777.5	43.6	32.7	9.89	8.57	-8.37	
6,952.0	41.90	267.50	6,835.5	777.5	13.4	62.8	10.55	7.66	-11.28	
7,000.0	45.90	268.80	6,870.1	776.5	-19.9	95.8	8.54	8.33	2.71	
7,047.0	49.30	270.50	6,901.8	776.3	-54.6	130.3	7.71	7.23	3.62	
7,096.0	53.10	270.30	6,932.5	776.6	-92.8	168.3	7.76	7.76	-0.41	
7,143.0	57.20	270.00	6,959.3	776.6	-131.3	206.7	8.74	8.72	-0.64	
7,191.0	61.60	269.50	6,983.8	776.5	-172.6	247.8	9.21	9.17	-1.04	
7,238.0	65.80	269.10	7,004.6	775.9	-214.8	289.6	8.97	8.94	-0.85	
7,287.0	69.60	268.90	7,023.2	775.2	-260.1	334.7	7.76	7.76	-0.41	
7,334.0	72.90	268.80	7,038.3	774.3	-304.6	378.9	7.02	7.02	-0.21	
7,382.0	76.00	270.50	7,051.1	774.0	-350.8	424.8	7.30	6.46	3.54	
7,429.0	80.30	271.90	7,060.8	775.0	-396.8	470.7	9.60	9.15	2.98	

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Hunt Federal 28X-234
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Hunt Federal 28X-234	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,475.0	85.60	270.70	7,066.4	776.0	-442.4	516.2	11.81	11.52	-2.61
7,510.0	86.13	270.87	7,069.0	776.5	-477.3	551.0	1.60	1.52	0.48
7"									
7,580.0	87.20	271.20	7,073.0	777.7	-547.2	620.6	1.60	1.52	0.48
7,676.0	90.80	272.40	7,074.7	780.7	-643.1	716.4	3.95	3.75	1.25
7,771.0	88.60	269.60	7,075.2	782.4	-738.1	811.1	3.75	-2.32	-2.95
7,867.0	89.50	269.60	7,076.8	781.7	-834.1	906.5	0.94	0.94	0.00
Deepest TVD Drilled - 7076.8'									
7,962.0	91.20	268.60	7,076.2	780.2	-929.0	1,000.9	2.08	1.79	-1.05
8,058.0	91.20	268.60	7,074.2	777.9	-1,025.0	1,096.2	0.00	0.00	0.00
8,153.0	91.50	268.60	7,072.0	775.6	-1,119.9	1,190.4	0.32	0.32	0.00
8,248.0	91.00	268.10	7,069.9	772.8	-1,214.9	1,284.6	0.74	-0.53	-0.53
8,341.0	91.50	267.90	7,067.9	769.6	-1,307.8	1,376.8	0.58	0.54	-0.22
8,433.0	90.70	269.50	7,066.1	767.5	-1,399.8	1,468.1	1.94	-0.87	1.74
8,525.0	89.90	268.90	7,065.6	766.2	-1,491.7	1,559.5	1.09	-0.87	-0.65
8,617.0	89.60	268.90	7,066.0	764.5	-1,583.7	1,650.9	0.33	-0.33	0.00
8,710.0	89.40	268.80	7,066.8	762.6	-1,676.7	1,743.3	0.24	-0.22	-0.11
8,802.0	91.50	268.20	7,066.1	760.2	-1,768.7	1,834.5	2.37	2.28	-0.65
8,894.0	91.50	269.80	7,063.7	758.6	-1,860.6	1,925.9	1.74	0.00	1.74
8,986.0	91.20	269.50	7,061.5	758.0	-1,952.6	2,017.4	0.46	-0.33	-0.33
9,079.0	90.70	268.90	7,060.0	756.7	-2,045.6	2,109.8	0.84	-0.54	-0.65
9,171.0	90.30	268.10	7,059.2	754.3	-2,137.5	2,201.1	0.97	-0.43	-0.87
9,263.0	89.90	267.90	7,059.0	751.1	-2,229.5	2,292.2	0.49	-0.43	-0.22
9,355.0	90.20	268.40	7,059.0	748.1	-2,321.4	2,383.5	0.63	0.33	0.54
9,448.0	88.70	269.50	7,059.8	746.4	-2,414.4	2,475.8	2.00	-1.61	1.18
9,540.0	90.70	268.90	7,060.3	745.1	-2,506.4	2,567.2	2.27	2.17	-0.65
9,632.0	91.10	270.90	7,058.9	745.0	-2,598.4	2,658.8	2.22	0.43	2.17
9,724.0	91.30	270.20	7,057.0	745.9	-2,690.3	2,750.4	0.79	0.22	-0.76
9,816.0	92.00	271.90	7,054.3	747.5	-2,782.3	2,842.1	2.00	0.76	1.85
9,909.0	92.00	271.60	7,051.1	750.4	-2,875.2	2,934.8	0.32	0.00	-0.32
10,001.0	91.70	272.10	7,048.1	753.3	-2,967.1	3,026.5	0.63	-0.33	0.54
10,093.0	89.60	272.10	7,047.0	756.7	-3,059.0	3,118.4	2.28	-2.28	0.00
10,185.0	90.30	270.90	7,047.1	759.1	-3,151.0	3,210.1	1.51	0.76	-1.30
10,277.0	89.40	269.60	7,047.4	759.5	-3,243.0	3,301.7	1.72	-0.98	-1.41
10,370.0	89.00	270.70	7,048.7	759.8	-3,336.0	3,394.3	1.26	-0.43	1.18
10,462.0	88.60	271.00	7,050.6	761.1	-3,427.9	3,485.9	0.54	-0.43	0.33
10,554.0	89.30	271.00	7,052.3	762.7	-3,519.9	3,577.6	0.76	0.76	0.00
10,646.0	90.00	269.30	7,052.8	763.0	-3,611.9	3,669.2	2.00	0.76	-1.85
10,742.0	90.30	271.40	7,052.6	763.6	-3,707.9	3,764.8	2.21	0.31	2.19
10,837.0	90.00	268.20	7,052.3	763.2	-3,802.9	3,859.3	3.38	-0.32	-3.37
10,933.0	90.00	268.80	7,052.3	760.7	-3,898.8	3,954.6	0.63	0.00	0.63
11,028.0	89.90	265.20	7,052.4	755.8	-3,993.7	4,048.5	3.79	-0.11	-3.79

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Hunt Federal 28X-234
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Hunt Federal 28X-234	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,124.0	89.60	265.60	7,052.8	748.1	-4,089.4	4,142.9	0.52	-0.31	0.42	
11,219.0	90.70	266.80	7,052.6	741.8	-4,184.2	4,236.7	1.71	1.16	1.26	
11,315.0	92.70	270.70	7,049.7	739.7	-4,280.1	4,331.9	4.56	2.08	4.06	
11,410.0	90.50	271.70	7,047.1	741.7	-4,375.0	4,426.6	2.54	-2.32	1.05	
11,505.0	91.20	272.40	7,045.7	745.1	-4,469.9	4,521.4	1.04	0.74	0.74	
11,601.0	89.90	273.50	7,044.8	750.0	-4,565.8	4,617.3	1.77	-1.35	1.15	
11,696.0	90.90	273.70	7,044.1	756.0	-4,660.6	4,712.2	1.07	1.05	0.21	
11,792.0	89.50	271.90	7,043.8	760.6	-4,756.5	4,808.1	2.38	-1.46	-1.88	
11,887.0	89.80	272.10	7,044.3	764.0	-4,851.4	4,902.9	0.38	0.32	0.21	
11,983.0	89.30	271.90	7,045.1	767.3	-4,947.4	4,998.7	0.56	-0.52	-0.21	
12,078.0	90.20	271.60	7,045.5	770.2	-5,042.3	5,093.5	1.00	0.95	-0.32	
12,174.0	91.10	271.70	7,044.4	773.0	-5,138.3	5,189.3	0.94	0.94	0.10	
12,269.0	89.20	271.20	7,044.2	775.4	-5,233.3	5,284.0	2.07	-2.00	-0.53	
12,364.0	88.70	271.60	7,045.9	777.7	-5,328.2	5,378.7	0.67	-0.53	0.42	
12,460.0	88.60	270.00	7,048.2	779.0	-5,424.2	5,474.4	1.67	-0.10	-1.67	
12,555.0	91.10	269.80	7,048.4	778.9	-5,519.2	5,568.9	2.64	2.63	-0.21	
12,650.0	91.20	269.60	7,046.5	778.4	-5,614.1	5,663.4	0.24	0.11	-0.21	
12,746.0	91.10	269.60	7,044.6	777.7	-5,710.1	5,758.8	0.10	-0.10	0.00	
12,841.0	91.50	269.80	7,042.4	777.2	-5,805.1	5,853.3	0.47	0.42	0.21	
12,936.0	90.70	269.80	7,040.6	776.9	-5,900.1	5,947.8	0.84	-0.84	0.00	
13,032.0	91.00	269.50	7,039.2	776.3	-5,996.1	6,043.2	0.44	0.31	-0.31	
13,127.0	90.40	270.30	7,038.0	776.1	-6,091.1	6,137.8	1.05	-0.63	0.84	
13,222.0	89.90	270.50	7,037.8	776.8	-6,186.0	6,232.4	0.57	-0.53	0.21	
13,318.0	90.30	271.00	7,037.6	778.0	-6,282.0	6,328.0	0.67	0.42	0.52	
13,413.0	89.30	270.20	7,037.9	779.0	-6,377.0	6,422.7	1.35	-1.05	-0.84	
13,509.0	91.50	272.10	7,037.3	781.0	-6,473.0	6,518.3	3.03	2.29	1.98	
13,604.0	88.50	271.60	7,037.3	784.0	-6,567.9	6,613.1	3.20	-3.16	-0.53	
13,699.0	89.20	272.30	7,039.2	787.3	-6,662.9	6,707.9	1.04	0.74	0.74	
13,795.0	90.00	270.70	7,039.8	789.8	-6,758.8	6,803.7	1.86	0.83	-1.67	
13,890.0	88.00	271.00	7,041.5	791.2	-6,853.8	6,898.3	2.13	-2.11	0.32	
13,986.0	87.80	268.80	7,045.0	791.0	-6,949.7	6,993.8	2.30	-0.21	-2.29	
14,081.0	87.80	268.80	7,048.7	789.0	-7,044.6	7,088.0	0.00	0.00	0.00	
14,176.0	88.10	267.70	7,052.1	786.1	-7,139.5	7,182.2	1.20	0.32	-1.16	
14,272.0	90.50	267.40	7,053.2	782.0	-7,235.4	7,277.2	2.52	2.50	-0.31	
14,367.0	90.70	267.20	7,052.2	777.6	-7,330.3	7,371.2	0.30	0.21	-0.21	
14,463.0	91.00	267.40	7,050.8	773.0	-7,426.2	7,466.2	0.38	0.31	0.21	
14,558.0	91.80	266.80	7,048.5	768.2	-7,521.0	7,560.1	1.05	0.84	-0.63	
14,654.0	91.90	266.50	7,045.4	762.6	-7,616.8	7,654.9	0.33	0.10	-0.31	
14,740.0	92.20	265.90	7,042.3	756.9	-7,702.6	7,739.7	0.78	0.35	-0.70	
14,795.0	92.20	265.90	7,040.2	753.0	-7,757.4	7,793.9	0.00	0.00	0.00	
BHL 981'FSL, 2550'FWL, SEC.29										

Company:	PETROLEUM DEVELOPMENT CORP DJ Basin	Local Co-ordinate Reference:	Well Hunt Federal 28X-234
Project:	SEC.28-T4N-R66W	TVD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Site:	Hunt Federal 4N66W28Y Pad Sec.28-T4N-R66W	MD Reference:	WELL @ 4775.5ft (Ensign Rig #121 - RKB -13.5')
Well:	Hunt Federal 28X-234	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 226'FSL, 282'FEL, :	0.00	0.00	1.0	0.0	0.0	1,344,202.84	3,202,569.00	40.275960	-104.773990
- survey hits target center									
- Point									
BHL 981'FSL, 2550'FWL	0.00	0.00	7,037.0	762.6	-7,759.7	1,344,901.86	3,194,803.71	40.278050	-104.801800
- survey misses target center by 10.4ft at 14795.0ft MD (7040.2 TVD, 753.0 N, -7757.4 E)									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,510.0	7,069.0	7"	7	8-3/4	

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,867.0	7,076.8	781.7	-834.1	Deepest TVD Drilled - 7076.8'	

Checked By: _____	Approved By: _____	Date: _____
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