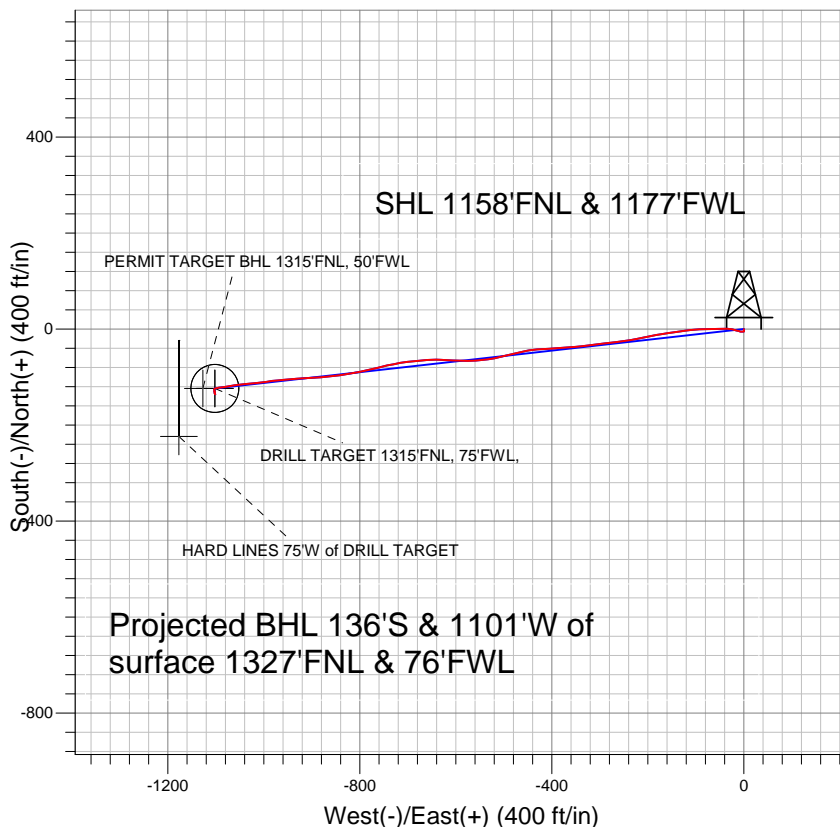
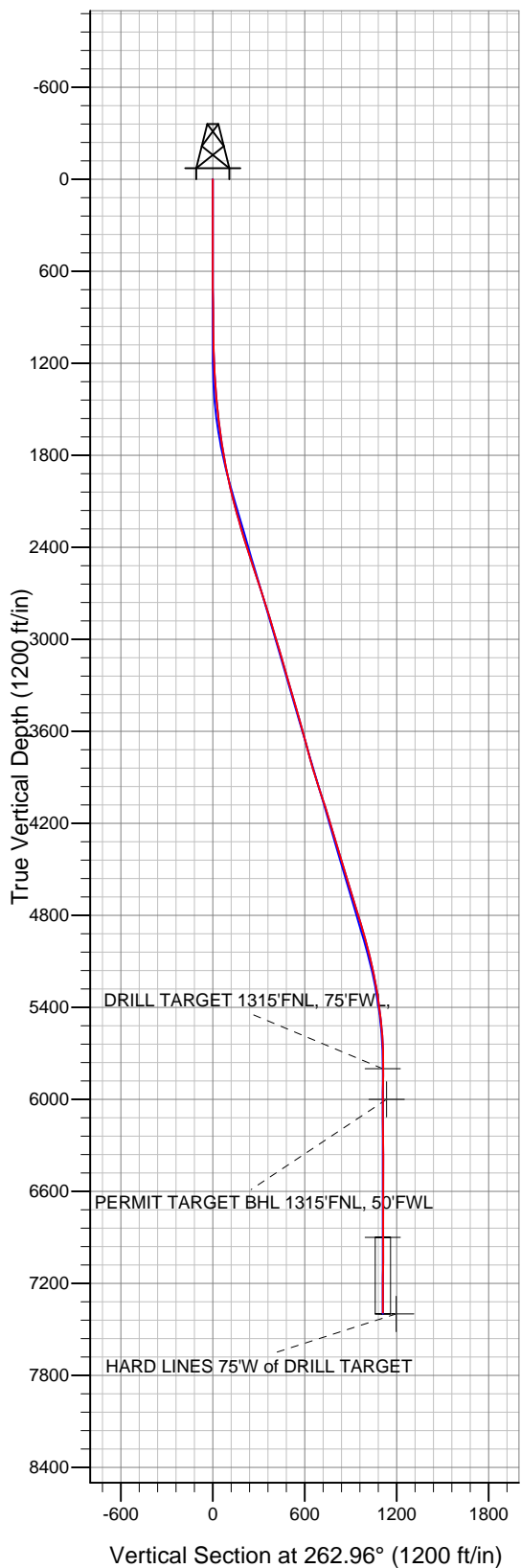


HRM Resources, LLC Weld County, CO



LEGEND

- ◆ Dutton 0-2-22, Wellbore #1, Plan #1 (10-13-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7540'MD & 7391'TVD @ 1109' VS
0.4 deg Inc 119.9 deg AZ

Project: SEC.22-T4N-R67W
Site: Dutton 11-22 Pad Sec.22-T4N-R67W
Well: Dutton 0-2-22
Plan: Wellbore #1



Directional

HRM Resources, LLC Weld County, CO

SEC.22-T4N-R67W

Dutton 11-22 Pad Sec.22-T4N-R67W

Dutton 0-2-22

Wellbore #1

Survey: Survey #1

Standard Survey Report

30 November, 2010

Company:	HRM Resources, LLC Weld County, CO	Local Co-ordinate Reference:	Well Dutton 0-2-22
Project:	SEC.22-T4N-R67W	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site:	Dutton 11-22 Pad Sec.22-T4N-R67W	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Well:	Dutton 0-2-22	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.22-T4N-R67W, Weld County, CO		
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		Dutton 11-22 Pad Sec.22-T4N-R67W			
Site Position:		Northing:	1,353,525.58ft	Latitude:	40° 18' 7.848 N
From:	Lat/Long	Easting:	3,172,324.52ft	Longitude:	104° 52' 55.740 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.40 °

Well	Dutton 0-2-22					
Well Position	+N/-S	0.0 ft	Northing:	1,353,500.07 ft	Latitude:	40° 18' 7.596 N
	+E/-W	0.0 ft	Easting:	3,172,324.70 ft	Longitude:	104° 52' 55.740 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,871.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/23/2010	8.99	66.97	53,126

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	262.96

Survey Program		Date	11/30/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
710.0	7,540.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey	Wellbore Data									
	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)
Survey 1	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	710.0	0.70	172.20	710.0	-4.3	0.6	-0.1	0.10	0.10	0.00
	802.0	0.80	261.20	802.0	-5.0	0.0	0.6	1.15	0.11	96.74
	895.0	1.10	262.60	895.0	-5.2	-1.5	2.1	0.32	0.32	1.51
	988.0	0.90	269.70	987.9	-5.3	-3.1	3.7	0.25	-0.22	7.63
	1,080.0	1.00	269.20	1,079.9	-5.3	-4.6	5.3	0.11	0.11	-0.54
	1,173.0	1.00	273.20	1,172.9	-5.3	-6.3	6.9	0.08	0.00	4.30
	1,266.0	3.10	284.60	1,265.9	-4.6	-9.5	10.0	2.29	2.26	12.26
	1,359.0	4.90	286.50	1,358.6	-2.8	-15.7	16.0	1.94	1.94	2.04
	1,452.0	6.20	281.50	1,451.2	-0.7	-24.5	24.4	1.49	1.40	-5.38
	1,545.0	6.80	275.80	1,543.6	0.9	-34.9	34.5	0.95	0.65	-6.13
	1,638.0	7.80	266.40	1,635.8	1.0	-46.7	46.2	1.67	1.08	-10.11
	1,731.0	8.40	264.80	1,727.9	0.0	-59.7	59.3	0.69	0.65	-1.72

Company:	HRM Resources, LLC Weld County, CO	Local Co-ordinate Reference:	Well Dutton 0-2-22
Project:	SEC.22-T4N-R67W	TVD Reference:	WELL @ 4884.0ft (Original Well Elev)
Site:	Dutton 11-22 Pad Sec.22-T4N-R67W	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Well:	Dutton 0-2-22	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)
1,824.0	9.80	272.90	1,819.7	-0.2	-74.4	73.8	2.04	1.51	8.71
1,918.0	11.10	265.60	1,912.2	-0.5	-91.4	90.8	1.97	1.38	-7.77
2,011.0	13.30	264.90	2,003.1	-2.1	-111.0	110.4	2.37	2.37	-0.75
2,104.0	14.60	260.70	2,093.3	-5.0	-133.2	132.8	1.77	1.40	-4.52
2,197.0	15.40	262.30	2,183.2	-8.5	-157.0	156.9	0.97	0.86	1.72
2,290.0	16.60	259.30	2,272.6	-12.6	-182.3	182.5	1.57	1.29	-3.23
2,383.0	17.00	258.30	2,361.6	-17.9	-208.7	209.3	0.53	0.43	-1.08
2,475.0	17.90	261.30	2,449.4	-22.7	-235.8	236.8	1.38	0.98	3.26
2,568.0	18.50	262.30	2,537.7	-26.9	-264.6	265.9	0.73	0.65	1.08
2,661.0	18.50	263.30	2,625.9	-30.6	-293.8	295.4	0.34	0.00	1.08
2,755.0	17.50	262.70	2,715.3	-34.1	-322.7	324.4	1.08	-1.06	-0.64
2,848.0	17.00	266.40	2,804.1	-36.7	-350.1	352.0	1.30	-0.54	3.98
2,940.0	17.60	265.00	2,892.0	-38.8	-377.4	379.3	0.79	0.65	-1.52
3,033.0	16.60	266.00	2,980.9	-40.9	-404.6	406.6	1.12	-1.08	1.08
3,125.0	15.70	266.30	3,069.2	-42.7	-430.2	432.2	0.98	-0.98	0.33
3,218.0	16.50	258.50	3,158.6	-46.1	-455.7	457.9	2.48	0.86	-8.39
3,311.0	16.90	255.80	3,247.7	-52.1	-481.7	484.5	0.94	0.43	-2.90
3,404.0	16.20	257.30	3,336.8	-58.2	-507.5	510.8	0.88	-0.75	1.61
3,497.0	15.70	261.90	3,426.2	-62.9	-532.6	536.3	1.46	-0.54	4.95
3,590.0	16.70	265.90	3,515.5	-65.6	-558.4	562.2	1.61	1.08	4.30
3,683.0	14.50	271.30	3,605.1	-66.3	-583.4	587.1	2.83	-2.37	5.81
3,776.0	15.20	272.80	3,695.0	-65.4	-607.2	610.6	0.86	0.75	1.61
3,869.0	16.00	273.50	3,784.6	-64.0	-632.2	635.2	0.88	0.86	0.75
3,962.0	17.40	264.50	3,873.7	-64.6	-658.8	661.7	3.16	1.51	-9.68
4,054.0	18.30	265.80	3,961.2	-67.0	-686.9	689.9	1.07	0.98	1.41
4,147.0	17.90	259.70	4,049.6	-70.6	-715.5	718.8	2.08	-0.43	-6.56
4,240.0	16.80	258.30	4,138.4	-75.9	-742.7	746.4	1.27	-1.18	-1.51
4,333.0	16.70	255.30	4,227.5	-82.0	-768.8	773.1	0.94	-0.11	-3.23
4,426.0	17.10	258.10	4,316.5	-88.2	-795.1	799.9	0.98	0.43	3.01
4,519.0	17.80	261.00	4,405.2	-93.2	-822.5	827.8	1.20	0.75	3.12
4,612.0	16.20	262.70	4,494.1	-97.1	-849.5	855.0	1.80	-1.72	1.83
4,705.0	16.60	265.90	4,583.3	-99.7	-875.6	881.2	1.06	0.43	3.44
4,797.0	17.10	266.20	4,671.4	-101.5	-902.2	907.8	0.55	0.54	0.33
4,890.0	17.60	265.90	4,760.1	-103.5	-929.8	935.5	0.55	0.54	-0.32
4,983.0	16.70	265.50	4,849.0	-105.5	-957.2	962.9	0.98	-0.97	-0.43
5,076.0	15.60	262.20	4,938.3	-108.3	-982.9	988.8	1.54	-1.18	-3.55
5,169.0	14.90	262.90	5,028.1	-111.4	-1,007.2	1,013.2	0.78	-0.75	0.75
5,262.0	12.40	265.00	5,118.4	-113.8	-1,029.0	1,035.2	2.74	-2.69	2.26
5,355.0	11.10	264.00	5,209.5	-115.6	-1,047.8	1,054.1	1.41	-1.40	-1.08
5,449.0	9.50	261.20	5,302.0	-117.7	-1,064.5	1,070.9	1.78	-1.70	-2.98
5,542.0	7.60	260.10	5,393.9	-120.0	-1,078.1	1,084.7	2.05	-2.04	-1.18
5,635.0	6.20	262.80	5,486.3	-121.6	-1,089.2	1,095.9	1.54	-1.51	2.90
5,727.0	4.40	260.60	5,577.9	-122.8	-1,097.6	1,104.4	1.97	-1.96	-2.39
5,820.0	2.20	231.60	5,670.7	-124.5	-1,102.5	1,109.5	2.90	-2.37	-31.18
5,913.0	1.20	159.60	5,763.7	-126.6	-1,103.6	1,110.8	2.32	-1.08	-77.42
5,949.3	1.20	156.01	5,799.9	-127.3	-1,103.3	1,110.6	0.21	-0.01	-9.89
DRILL TARGET 1315'FNL, 75'FWL,									
6,006.0	1.20	150.40	5,856.6	-128.3	-1,102.7	1,110.2	0.21	0.01	-9.90
6,099.0	0.60	137.00	5,949.6	-129.5	-1,101.9	1,109.5	0.68	-0.65	-14.41
6,149.3	0.39	169.29	5,999.9	-129.9	-1,101.7	1,109.3	0.68	-0.41	64.22
PERMIT TARGET BHL 1315'FNL, 50'FWL									
6,192.0	0.40	212.20	6,042.6	-130.1	-1,101.8	1,109.4	0.68	0.02	100.44
6,285.0	0.40	236.10	6,135.6	-130.6	-1,102.2	1,109.9	0.18	0.00	25.70
6,378.0	0.10	186.30	6,228.6	-130.9	-1,102.5	1,110.2	0.37	-0.32	-53.55

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Site:	Dutton 11-22 Pad Sec.22-T4N-R67W	MD Reference:	WELL @ 4884.0ft (Original Well Elev)
Well:	Dutton 0-2-22	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)	
6,470.0	0.10	343.30	6,320.6	-130.9	-1,102.5	1,110.3	0.21	0.00	170.65	
6,564.0	0.10	202.60	6,414.6	-130.9	-1,102.6	1,110.3	0.20	0.00	-149.68	
6,657.0	0.30	172.90	6,507.6	-131.2	-1,102.6	1,110.4	0.24	0.22	-31.94	
6,750.0	0.20	160.00	6,600.6	-131.6	-1,102.5	1,110.3	0.12	-0.11	-13.87	
6,842.0	0.50	178.50	6,692.6	-132.1	-1,102.4	1,110.3	0.34	0.33	20.11	
6,935.0	0.40	151.10	6,785.6	-132.8	-1,102.3	1,110.2	0.25	-0.11	-29.46	
7,028.0	0.40	192.20	6,878.6	-133.4	-1,102.2	1,110.2	0.30	0.00	44.19	
7,049.3	0.40	189.55	6,899.9	-133.6	-1,102.2	1,110.3	0.09	-0.01	-12.44	
TARGET CIRCLE 1315'FNL, 75'FWL,										
7,121.0	0.40	180.60	6,971.6	-134.1	-1,102.3	1,110.4	0.09	0.00	-12.48	
7,214.0	0.30	145.00	7,064.6	-134.6	-1,102.1	1,110.3	0.25	-0.11	-38.28	
7,305.0	0.30	120.40	7,155.6	-134.9	-1,101.8	1,110.0	0.14	0.00	-27.03	
7,398.0	0.40	161.20	7,248.6	-135.3	-1,101.5	1,109.7	0.28	0.11	43.87	
7,496.0	0.40	119.90	7,346.6	-135.8	-1,101.1	1,109.4	0.29	0.00	-42.14	
7,540.0	0.40	119.90	7,390.6	-136.0	-1,100.8	1,109.2	0.00	0.00	0.00	
HARD LINES 75'W of DRILL TARGET										

Checked By: _____	Approved By: _____	Date: _____
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