

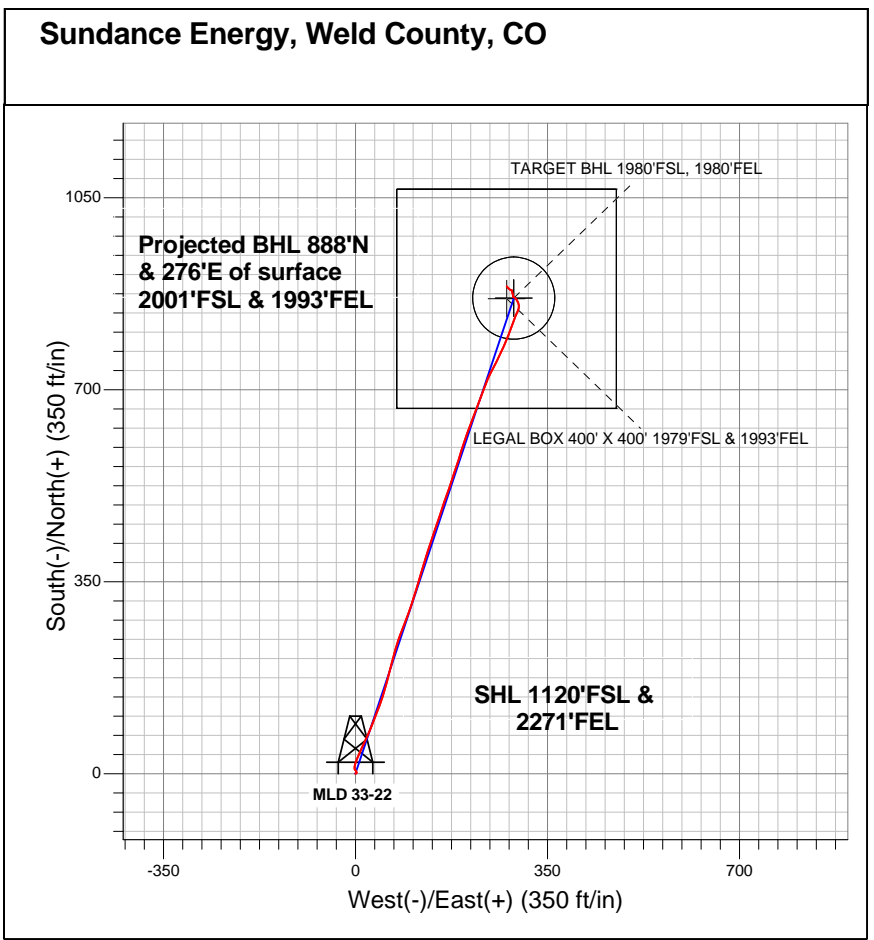
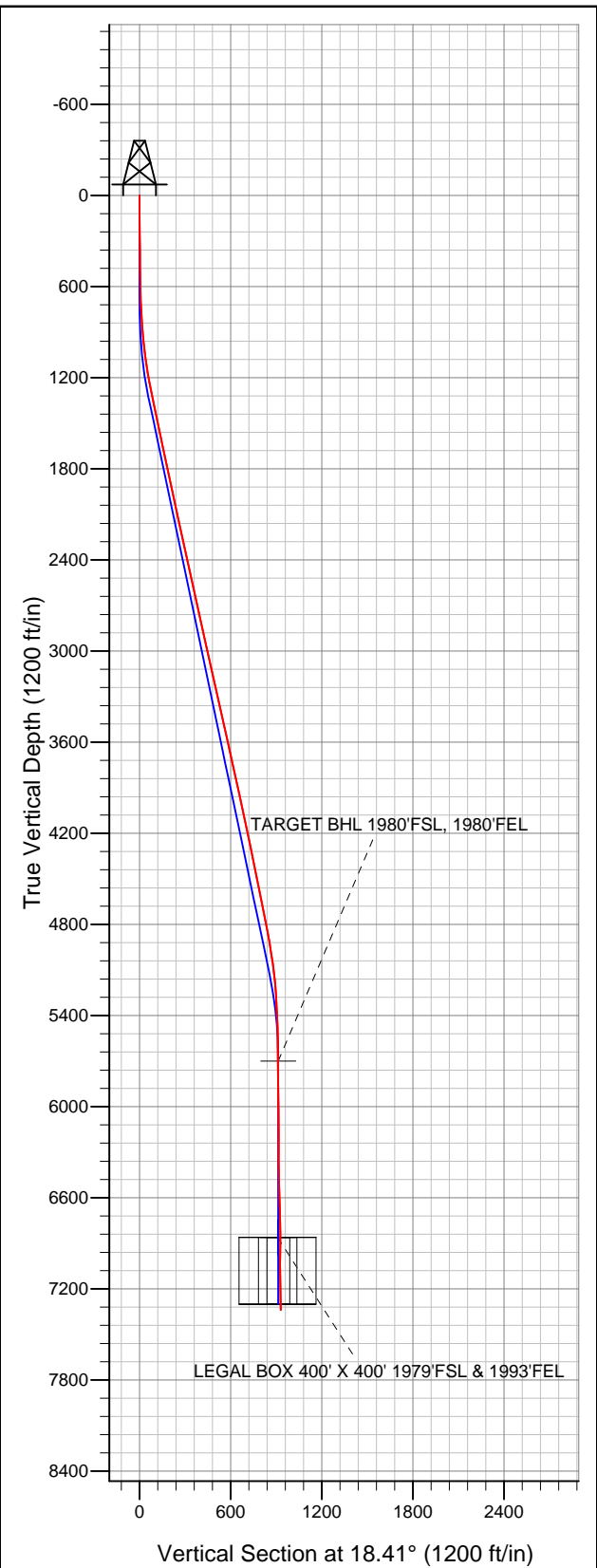


+N/-S +E/-W
0.0 0.0

Northing
1350661.32

Well Name: MLD 33-22

Surface Location: HFE 5 Pad Sec.22-T4N-R68W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4942.0
 Easting 3142856.77 Latitude 40.294833 Longitude -104.987860 Slot
 Original Well Elev WELL @ 4955.0ft (Original Well Elev)



LEGEND

- ◆ MLD 33-22, Wellbore #1, plan #1 (10-05-12) R V0
- Wellbore #1
- Survey #1

Final Survey Plot

**Projected Final Survey -
 7430'MD & 7339'TVD @ 930'VS
 2.20 deg Inc 316.40 deg AZ**

Project: SEC.22-T4N-R68W
 Site: HFE 5 Pad Sec.22-T4N-R68W
 Well: MLD 33-22
 Plan: Wellbore #1



Directional

Sundance Energy, Weld County, CO

SEC.22-T4N-R68W

HFE 5 Pad Sec.22-T4N-R68W

MLD 33-22

Wellbore #1

Survey: Survey #1

Standard Survey Report

16 October, 2012

Company:	Sundance Energy, Weld County, CO	Local Co-ordinate Reference:	Well MLD 33-22
Project:	SEC.22-T4N-R68W	TVD Reference:	WELL @ 4955.0ft (Original Well Elev)
Site:	HFE 5 Pad Sec.22-T4N-R68W	MD Reference:	WELL @ 4955.0ft (Original Well Elev)
Well:	MLD 33-22	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.22-T4N-R68W, 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	HFE 5 Pad Sec.22-T4N-R68W				
Site Position:		Northing:	1,350,660.89ft	Latitude:	40.294832
From:	Lat/Long	Easting:	3,142,841.99ft	Longitude:	-104.987913
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.33 °

Well	MLD 33-22					
Well Position	+N/-S	0.0 ft	Northing:	1,350,661.32 ft	Latitude:	40.294833
	+E/-W	0.0 ft	Easting:	3,142,856.77 ft	Longitude:	-104.987860
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,942.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/10/2012	8.80	66.88	52,912

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	18.41	

Survey Program	Date	10/16/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
127.0	7,430.0	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	
127.0	0.40	75.30	127.0	0.1	0.4	0.2	0.31	0.31	0.00	
249.0	0.80	66.50	249.0	0.6	1.6	1.0	0.34	0.33	-7.21	
370.0	1.10	345.60	370.0	2.0	2.1	2.6	1.04	0.25	-66.86	
491.0	1.10	333.50	491.0	4.2	1.3	4.4	0.19	0.00	-10.00	
553.0	0.80	330.10	552.9	5.1	0.8	5.1	0.49	-0.48	-5.48	
641.0	1.80	316.10	640.9	6.6	-0.4	6.1	1.18	1.14	-15.91	
766.0	3.10	2.70	765.8	11.4	-1.6	10.3	1.82	1.04	37.28	
891.0	5.10	18.50	890.5	20.1	0.3	19.1	1.82	1.60	12.64	
1,015.0	7.10	23.90	1,013.8	32.3	5.1	32.3	1.68	1.61	4.35	
1,140.0	8.50	24.80	1,137.6	47.7	12.1	49.1	1.12	1.12	0.72	
1,265.0	11.30	24.30	1,260.8	67.3	21.1	70.5	2.24	2.24	-0.40	
1,390.0	12.10	21.30	1,383.2	90.7	30.8	95.8	0.80	0.64	-2.40	

Company:	Sundance Energy, Weld County, CO	Local Co-ordinate Reference:	Well MLD 33-22
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Site:	HFE 5 Pad Sec.22-T4N-R68W	MD Reference:	WELL @ 4955.0ft (Original Well Elev)
Well:	MLD 33-22	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)
1,514.0	12.10	20.90	1,504.4	114.9	40.2	121.7	0.07	0.00	-0.32
1,639.0	11.70	18.70	1,626.7	139.2	48.9	147.5	0.48	-0.32	-1.76
1,764.0	11.90	15.70	1,749.1	163.6	56.5	173.0	0.52	0.16	-2.40
1,889.0	11.80	12.50	1,871.4	188.5	62.7	198.6	0.53	-0.08	-2.56
2,013.0	12.30	15.90	1,992.7	213.5	69.1	224.4	0.70	0.40	2.74
2,138.0	12.00	18.10	2,114.9	238.7	76.8	250.7	0.44	-0.24	1.76
2,263.0	12.80	21.50	2,237.0	263.9	85.9	277.6	0.87	0.64	2.72
2,388.0	12.80	20.10	2,358.9	289.8	95.7	305.2	0.25	0.00	-1.12
2,513.0	11.60	18.10	2,481.0	314.8	104.4	331.6	1.02	-0.96	-1.60
2,637.0	12.30	15.50	2,602.4	339.3	111.8	357.3	0.71	0.56	-2.10
2,762.0	12.80	16.90	2,724.4	365.4	119.4	384.4	0.47	0.40	1.12
2,887.0	12.70	18.10	2,846.3	391.7	127.7	412.0	0.23	-0.08	0.96
3,012.0	12.40	17.10	2,968.3	417.6	135.9	439.2	0.30	-0.24	-0.80
3,136.0	12.80	19.50	3,089.3	443.3	144.4	466.2	0.53	0.32	1.94
3,261.0	12.90	17.80	3,211.2	469.6	153.3	494.0	0.31	0.08	-1.36
3,386.0	12.10	19.40	3,333.2	495.3	161.9	521.1	0.70	-0.64	1.28
3,511.0	12.70	19.00	3,455.3	520.6	170.7	547.9	0.48	0.48	-0.32
3,635.0	12.80	18.00	3,576.2	546.6	179.4	575.3	0.20	0.08	-0.81
3,760.0	12.40	19.20	3,698.2	572.4	188.1	602.5	0.38	-0.32	0.96
3,885.0	12.30	17.40	3,820.3	597.8	196.5	629.3	0.32	-0.08	-1.44
4,010.0	12.30	18.30	3,942.5	623.1	204.7	655.9	0.15	0.00	0.72
4,134.0	12.40	23.20	4,063.6	647.9	214.1	682.4	0.85	0.08	3.95
4,259.0	11.90	19.50	4,185.8	672.4	223.6	708.6	0.74	-0.40	-2.96
4,384.0	11.50	20.10	4,308.2	696.3	232.2	734.0	0.33	-0.32	0.48
4,509.0	11.40	23.10	4,430.7	719.3	241.4	758.7	0.48	-0.08	2.40
4,633.0	12.10	28.20	4,552.1	742.0	252.3	783.8	1.01	0.56	4.11
4,758.0	11.20	25.50	4,674.6	764.6	263.7	808.7	0.84	-0.72	-2.16
4,883.0	10.90	23.20	4,797.2	786.4	273.6	832.5	0.43	-0.24	-1.84
5,008.0	9.80	20.20	4,920.2	807.2	281.9	854.9	0.98	-0.88	-2.40
5,132.0	8.30	19.00	5,042.7	825.6	288.5	874.4	1.22	-1.21	-0.97
5,257.0	5.90	26.90	5,166.7	839.9	294.3	889.8	2.07	-1.92	6.32
5,382.0	3.40	7.60	5,291.3	849.3	297.7	899.8	2.33	-2.00	-15.44
5,507.0	2.60	341.20	5,416.1	855.6	297.3	905.7	1.26	-0.64	-21.12
5,632.0	1.20	338.10	5,541.0	859.5	295.9	909.0	1.12	-1.12	-2.48
5,754.0	0.20	330.30	5,663.0	860.9	295.3	910.1	0.82	-0.82	-6.39
5,791.1	0.67	329.51	5,700.1	861.1	295.2	910.3	1.26	1.26	-2.12
TARGET BHL 1980'FSL, 1980'FEL									
5,881.0	1.80	329.30	5,790.0	862.8	294.2	911.5	1.26	1.26	-0.24
6,006.0	0.40	316.10	5,915.0	864.8	292.9	913.0	1.13	-1.12	-10.56
6,131.0	1.70	321.40	6,040.0	866.6	291.4	914.2	1.04	1.04	4.24
6,255.0	1.20	283.90	6,163.9	868.3	289.0	915.1	0.84	-0.40	-30.24
6,380.0	0.70	319.20	6,288.9	869.2	287.3	915.4	0.60	-0.40	28.24
6,505.0	0.70	13.90	6,413.9	870.5	286.9	916.6	0.51	0.00	43.76
6,630.0	1.80	350.70	6,538.9	873.2	286.8	919.1	0.95	0.88	-18.56
6,754.0	2.50	346.50	6,662.8	877.7	285.9	923.1	0.58	0.56	-3.39
6,879.0	0.60	350.70	6,787.7	881.0	285.1	926.0	1.52	-1.52	3.36
6,951.2	0.48	267.14	6,860.0	881.4	284.8	926.2	1.01	-0.16	-115.67
TARGET CIRCLE 1980'FSL & 1980'FEL									
6,951.5	0.48	267.14	6,860.2	881.4	284.8	926.2	0.00	0.00	0.00
LEGAL BOX 400' X 400' 1979'FSL & 1993'FEL									
7,004.0	0.90	238.20	6,912.7	881.2	284.2	925.8	1.01	0.79	-55.07
7,129.0	1.10	310.80	7,037.7	881.4	282.4	925.5	0.96	0.16	58.08
7,253.0	1.80	312.60	7,161.7	883.5	280.1	926.8	0.57	0.56	1.45
7,384.0	2.20	316.40	7,292.6	886.8	276.9	928.8	0.32	0.31	2.90

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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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)
7,430.0	2.20	316.40	7,338.5	888.0	275.6	929.6	0.00	0.00	0.00

Target Name	- hit/miss target	- Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TARGET BHL 1980'F:			0.00	0.00	5,700.0	866.7	288.4	1,351,529.63	3,143,140.17	40.297212	-104.986826
	- survey misses target center by 8.8ft at 5791.0ft MD (5700.1 TVD, 861.1 N, 295.2 E)										
	- Point										
TARGET CIRCLE 198			0.00	0.00	6,860.0	866.7	288.4	1,351,529.63	3,143,140.17	40.297212	-104.986826
	- survey misses target center by 15.2ft at 6951.2ft MD (6859.9 TVD, 881.4 N, 284.8 E)										
	- Circle (radius 75.0)										
LEGAL BOX 400' X 40			0.00	0.00	6,860.0	865.7	275.4	1,351,528.56	3,143,127.15	40.297209	-104.986873
	- survey misses target center by 18.3ft at 6951.4ft MD (6860.1 TVD, 881.4 N, 284.8 E)										
	- Rectangle (sides W400.0 H400.0 D440.0)										

Checked By: _____	Approved By: _____	Date: _____
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