

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: Sorin Natural Resources 2U-443

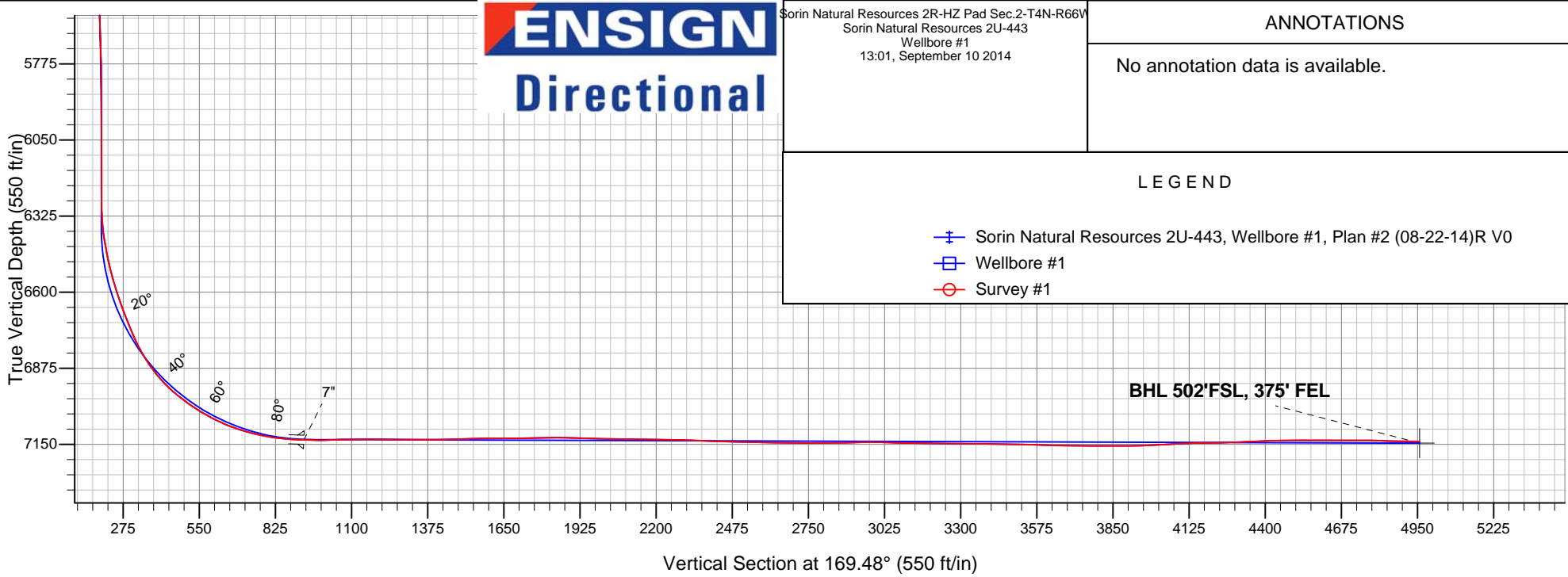
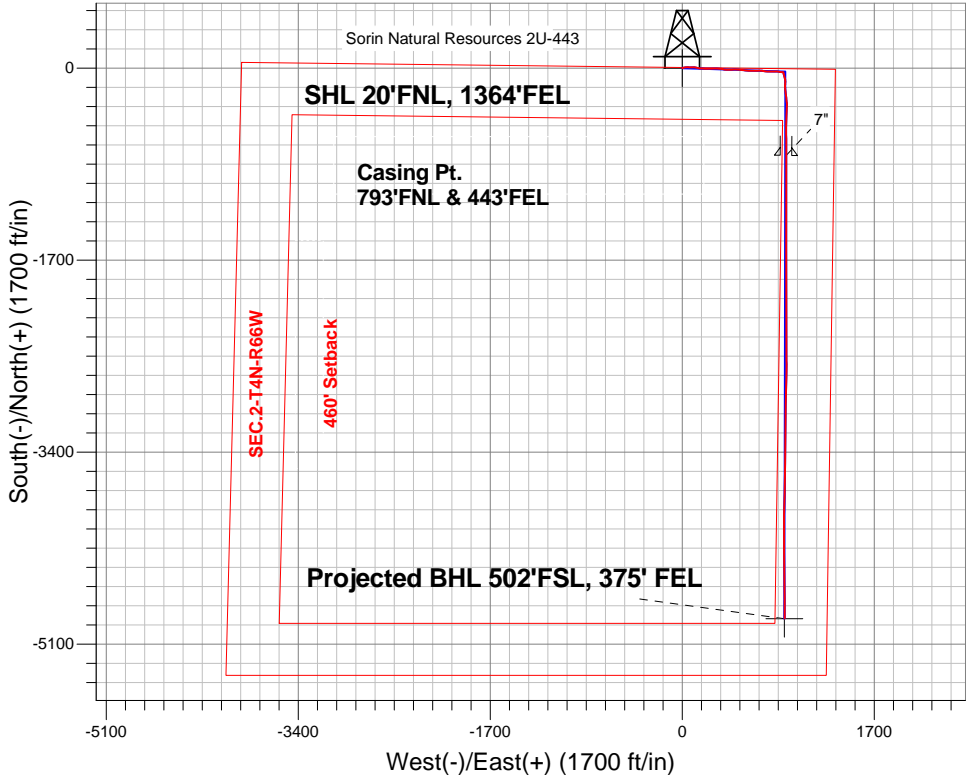
Surface Location: Sorin Natural Resources 2R-HZ Pad Sec.2-T4N-R66W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4671.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1370685.96	3211929.38	40.348440	-104.739630	
Ensign Rig #136 - RKB 12.5' WELL @ 4684ft (Ensign Rig #136 - RKB 13')						

FINAL SURVEY

Projected Bottom Hole Location  
11724'MD 7140'TVD 4872'S & 909'E of SHL  
89.4 degree Incl @ 179.5 degree AZM



Sorin Natural Resources 2R-HZ Pad Sec.2-T4N-R66W Sorin Natural Resources 2U-443 Wellbore #1 13:01, September 10 2014	ANNOTATIONS
	No annotation data is available.
LEGEND	
+ Sorin Natural Resources 2U-443, Wellbore #1, Plan #2 (08-22-14)R V0	
□ Wellbore #1	
○ Survey #1	



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.2-T4N-R66W**

**Sorin Natural Resources 2R-HZ Pad Sec.2-T4N-R66W**

**Sorin Natural Resources 2U-443**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**10 September, 2014**

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Sorin Natural Resources 2U-443
<b>Project:</b>	SEC.2-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4683.5ft (Ensign Rig #136 - RKB 12.5')
<b>Site:</b>	Sorin Natural Resources 2R-HZ Pad Sec.2-T4N-R66W	<b>MD Reference:</b>	WELL @ 4683.5ft (Ensign Rig #136 - RKB 12.5')
<b>Well:</b>	Sorin Natural Resources 2U-443	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.2-T4N-R66W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site	Sorin Natural Resources 2R-HZ Pad Sec.2-T4N-R66W				
Site Position:		Northing:	1,370,685.98 ft	Latitude:	40.348440
From:	Lat/Long	Easting:	3,211,929.38 ft	Longitude:	-104.739630
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.49 °

Well	Sorin Natural Resources 2U-443					
Well Position	+N-S	0.0 ft	Northing:	1,370,685.96 ft	Latitude:	40.348440
	+E-W	0.0 ft	Easting:	3,211,929.38 ft	Longitude:	-104.739630
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,671.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/22/2014	8.42	66.90	52,773

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	169.48	

<b>Survey Program</b>	<b>Date</b> 9/10/2014				
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
68.0	11,724.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	75.70	1.0	0.0	0.0	0.0	0.44	0.44	0.00
<b>SHL 20'FNL, 1364'FEL</b>									
68.0	0.30	75.70	68.0	0.0	0.2	0.0	0.44	0.44	0.00
158.0	0.50	24.40	158.0	0.5	0.6	-0.3	0.43	0.22	-57.00
252.0	0.50	3.50	252.0	1.2	0.8	-1.1	0.19	0.00	-22.23
343.0	1.10	78.70	343.0	1.8	1.6	-1.5	1.19	0.66	82.64
433.0	1.90	75.40	433.0	2.4	3.9	-1.6	0.89	0.89	-3.67
524.0	3.50	81.40	523.9	3.2	8.1	-1.6	1.78	1.76	6.59
615.0	4.90	78.70	614.6	4.3	14.7	-1.6	1.55	1.54	-2.97
706.0	6.80	77.20	705.1	6.3	23.8	-1.8	2.09	2.09	-1.65

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Sorin Natural Resources 2U-443
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<b>Site:</b>	Sorin Natural Resources 2R-HZ Pad Sec.2-T4N-R66W	<b>MD Reference:</b>	WELL @ 4683.5ft (Ensign Rig #136 - RKB 12.5')
<b>Well:</b>	Sorin Natural Resources 2U-443	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
797.0	9.10	85.10	795.2	8.1	36.2	-1.4	2.79	2.53	8.68
850.0	10.40	89.30	847.5	8.5	45.1	-0.1	2.79	2.45	7.92
926.0	11.40	92.40	922.1	8.3	59.5	2.7	1.52	1.32	4.08
1,021.0	10.80	91.60	1,015.3	7.6	77.8	6.7	0.65	-0.63	-0.84
1,112.0	10.60	89.10	1,104.8	7.5	94.7	9.9	0.56	-0.22	-2.75
1,203.0	9.90	88.90	1,194.3	7.8	110.9	12.6	0.77	-0.77	-0.22
1,294.0	9.80	109.70	1,284.0	5.3	126.0	17.7	3.89	-0.11	22.86
1,385.0	9.50	107.00	1,373.7	0.5	140.5	25.1	0.60	-0.33	-2.97
1,476.0	10.40	94.40	1,463.3	-2.3	155.8	30.7	2.58	0.99	-13.85
1,567.0	9.10	91.70	1,553.0	-3.1	171.2	34.3	1.51	-1.43	-2.97
1,657.0	10.00	96.80	1,641.8	-4.3	186.1	38.2	1.37	1.00	5.67
1,748.0	8.40	94.60	1,731.6	-5.7	200.6	42.2	1.80	-1.76	-2.42
1,839.0	10.60	89.30	1,821.4	-6.2	215.6	45.4	2.60	2.42	-5.82
1,930.0	9.20	83.30	1,911.0	-5.2	231.2	47.3	1.91	-1.54	-6.59
2,021.0	9.80	85.40	2,000.7	-3.7	246.1	48.6	0.76	0.66	2.31
2,111.0	10.60	91.00	2,089.3	-3.3	262.0	51.0	1.41	0.89	6.22
2,205.0	10.60	94.70	2,181.7	-4.1	279.3	55.0	0.72	0.00	3.94
2,300.0	10.40	87.00	2,275.1	-4.4	296.5	58.5	1.49	-0.21	-8.11
2,395.0	10.10	93.80	2,368.6	-4.5	313.4	61.6	1.31	-0.32	7.16
2,491.0	9.70	85.10	2,463.2	-4.4	329.9	64.5	1.61	-0.42	-9.06
2,586.0	9.80	105.30	2,556.9	-5.8	345.7	68.8	3.58	0.11	21.26
2,681.0	10.60	104.90	2,650.4	-10.2	361.9	76.1	0.85	0.84	-0.42
2,776.0	12.10	95.80	2,743.5	-13.5	380.2	82.6	2.45	1.58	-9.58
2,875.0	11.30	91.60	2,840.4	-14.8	400.3	87.6	1.18	-0.81	-4.24
2,967.0	10.70	90.70	2,930.8	-15.1	417.8	91.1	0.68	-0.65	-0.98
3,061.0	10.30	87.50	3,023.2	-14.9	434.9	94.0	0.75	-0.43	-3.40
3,156.0	9.50	81.20	3,116.8	-13.3	451.2	95.4	1.42	-0.84	-6.63
3,251.0	8.10	84.70	3,210.7	-11.5	465.6	96.3	1.58	-1.47	3.68
3,346.0	8.20	97.40	3,304.7	-11.7	479.0	99.0	1.89	0.11	13.37
3,442.0	9.80	97.20	3,399.5	-13.6	493.9	103.6	1.67	1.67	-0.21
3,537.0	9.20	92.80	3,493.2	-15.0	509.5	107.8	0.99	-0.63	-4.63
3,632.0	9.60	91.60	3,586.9	-15.6	525.0	111.2	0.47	0.42	-1.26
3,727.0	10.70	97.50	3,680.4	-17.0	541.6	115.6	1.59	1.16	6.21
3,821.0	10.80	97.20	3,772.8	-19.2	559.0	121.0	0.12	0.11	-0.32
3,917.0	10.70	96.00	3,867.1	-21.3	576.8	126.2	0.26	-0.10	-1.25
4,011.0	10.00	93.80	3,959.6	-22.7	593.6	130.7	0.86	-0.74	-2.34
4,106.0	8.60	93.30	4,053.3	-23.7	609.0	134.5	1.48	-1.47	-0.53
4,202.0	10.30	89.60	4,148.0	-24.1	624.7	137.7	1.88	1.77	-3.85
4,297.0	9.30	87.30	4,241.6	-23.6	640.9	140.2	1.13	-1.05	-2.42
4,392.0	10.60	89.10	4,335.2	-23.1	657.3	142.7	1.41	1.37	1.89
4,487.0	9.40	86.30	4,428.8	-22.5	673.8	145.1	1.36	-1.26	-2.95
4,582.0	10.00	94.40	4,522.4	-22.6	689.7	148.2	1.57	0.63	8.53
4,677.0	8.80	90.50	4,616.1	-23.3	705.2	151.7	1.43	-1.26	-4.11
4,772.0	9.90	101.20	4,709.9	-25.0	720.5	156.1	2.16	1.16	11.26
4,868.0	11.20	95.60	4,804.3	-27.5	737.9	161.7	1.72	1.35	-5.83
4,963.0	10.60	94.70	4,897.5	-29.1	755.8	166.6	0.66	-0.63	-0.95
5,058.0	9.70	92.30	4,991.1	-30.1	772.5	170.6	1.05	-0.95	-2.53
5,153.0	8.30	89.80	5,084.9	-30.4	787.3	173.6	1.53	-1.47	-2.63
5,249.0	9.10	88.40	5,179.8	-30.2	801.8	176.1	0.86	0.83	-1.46
5,344.0	10.50	90.50	5,273.4	-30.1	818.0	178.9	1.52	1.47	2.21
5,439.0	8.70	89.50	5,367.1	-30.1	833.8	181.8	1.90	-1.89	-1.05
5,534.0	8.60	94.20	5,461.0	-30.5	848.1	184.8	0.75	-0.11	4.95
5,629.0	7.20	97.00	5,555.1	-31.8	861.1	188.4	1.53	-1.47	2.95

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<b>Well:</b>	Sorin Natural Resources 2U-443	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
5,725.0	5.60	100.50	5,650.5	-33.4	871.7	191.9	1.71	-1.67	3.65
5,820.0	4.50	101.40	5,745.1	-35.0	879.9	195.0	1.16	-1.16	0.95
5,915.0	1.90	93.10	5,839.9	-35.8	885.1	196.7	2.77	-2.74	-8.74
6,010.0	1.70	83.00	5,934.9	-35.7	888.1	197.2	0.39	-0.21	-10.63
6,106.0	1.30	78.60	6,030.9	-35.3	890.6	197.3	0.43	-0.42	-4.58
6,201.0	1.20	80.50	6,125.8	-34.9	892.6	197.3	0.11	-0.11	2.00
6,296.0	1.00	89.80	6,220.8	-34.8	894.4	197.4	0.28	-0.21	9.79
6,328.0	1.00	90.70	6,252.8	-34.8	895.0	197.5	0.05	0.00	2.81
6,360.0	0.90	91.70	6,284.8	-34.8	895.5	197.7	0.32	-0.31	3.13
6,391.0	1.90	158.40	6,315.8	-35.3	895.9	198.2	5.65	3.23	215.16
6,423.0	4.40	165.00	6,347.8	-36.9	896.5	200.0	7.88	7.81	20.63
6,455.0	6.90	166.10	6,379.6	-40.0	897.2	203.1	7.82	7.81	3.44
6,487.0	9.00	168.20	6,411.3	-44.3	898.2	207.5	6.62	6.56	6.56
6,518.0	10.50	169.10	6,441.8	-49.4	899.2	212.8	4.86	4.84	2.90
6,550.0	11.70	167.50	6,473.2	-55.5	900.5	218.9	3.87	3.75	-5.00
6,582.0	13.40	167.20	6,504.5	-62.3	902.0	225.9	5.32	5.31	-0.94
6,613.0	15.20	166.40	6,534.5	-69.7	903.8	233.5	5.84	5.81	-2.58
6,645.0	16.40	164.50	6,565.3	-78.1	906.0	242.2	4.08	3.75	-5.94
6,677.0	17.10	164.90	6,595.9	-87.0	908.4	251.4	2.22	2.19	1.25
6,709.0	18.40	168.40	6,626.4	-96.5	910.6	261.1	5.25	4.06	10.94
6,740.0	20.30	173.80	6,655.7	-106.7	912.2	271.4	8.41	6.13	17.42
6,772.0	22.10	180.20	6,685.5	-118.2	912.8	282.8	9.15	5.63	20.00
6,804.0	23.10	184.00	6,715.1	-130.5	912.3	294.8	5.53	3.13	11.88
6,836.0	22.90	184.70	6,744.5	-143.0	911.4	306.9	1.06	-0.63	2.19
6,867.0	25.20	181.00	6,772.8	-155.6	910.8	319.2	8.87	7.42	-11.94
6,899.0	28.20	177.70	6,801.4	-169.9	910.9	333.4	10.45	9.38	-10.31
6,931.0	30.80	173.70	6,829.3	-185.6	912.1	349.0	10.19	8.13	-12.50
6,963.0	33.50	171.50	6,856.4	-202.5	914.4	366.0	9.20	8.44	-6.88
6,994.0	36.80	172.40	6,881.7	-220.2	916.8	383.9	10.78	10.65	2.90
7,026.0	40.30	173.00	6,906.7	-240.0	919.4	403.8	11.00	10.94	1.88
7,058.0	44.10	173.30	6,930.4	-261.3	921.9	425.2	11.89	11.88	0.94
7,090.0	48.00	173.80	6,952.6	-284.2	924.5	448.2	12.24	12.19	1.56
7,121.0	51.40	177.20	6,972.7	-307.8	926.4	471.7	13.79	10.97	10.97
7,153.0	53.20	181.20	6,992.2	-333.1	926.7	496.6	11.38	5.63	12.50
7,185.0	56.00	181.60	7,010.8	-359.1	926.1	522.2	8.81	8.75	1.25
7,216.0	58.70	181.20	7,027.5	-385.2	925.4	547.7	8.78	8.71	-1.29
7,248.0	61.60	181.60	7,043.4	-413.0	924.7	574.8	9.13	9.06	1.25
7,280.0	63.60	182.80	7,058.2	-441.4	923.7	602.6	7.08	6.25	3.75
7,312.0	66.00	182.30	7,071.8	-470.3	922.4	630.8	7.63	7.50	-1.56
7,343.0	69.10	181.40	7,083.6	-498.9	921.4	658.7	10.35	10.00	-2.90
7,375.0	72.10	180.30	7,094.2	-529.1	921.0	688.3	9.92	9.38	-3.44
7,408.0	73.80	180.00	7,103.9	-560.6	920.9	719.3	5.22	5.15	-0.91
7,439.0	76.20	179.60	7,111.9	-590.6	921.0	748.8	7.84	7.74	-1.29
7,470.0	79.10	179.60	7,118.6	-620.9	921.2	778.6	9.35	9.35	0.00
7,502.0	81.60	180.20	7,123.9	-652.4	921.3	809.6	8.03	7.81	1.88
7,534.0	83.50	180.00	7,128.1	-684.1	921.2	840.8	5.97	5.94	-0.63
7,566.0	85.30	180.20	7,131.2	-716.0	921.2	872.1	5.66	5.63	0.63
7,578.0	86.30	180.00	7,132.1	-728.0	921.2	883.9	8.50	8.33	-1.67
7,623.0	88.09	180.31	7,134.3	-772.9	921.0	928.0	4.03	3.97	0.69
7"									
7,651.0	89.20	180.50	7,135.0	-800.9	920.8	955.5	4.03	3.97	0.68
7,746.0	91.80	179.80	7,134.1	-895.9	920.6	1,048.9	2.83	2.74	-0.74

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<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
7,858.0	90.70	179.50	7,131.7	-1,007.8	921.3	1,159.1	1.02	-0.98	-0.27
7,950.0	88.50	179.50	7,132.3	-1,099.8	922.1	1,249.7	2.39	-2.39	0.00
8,045.0	90.00	180.00	7,133.6	-1,194.8	922.5	1,343.1	1.66	1.58	0.53
8,140.0	91.40	180.70	7,132.4	-1,289.8	921.9	1,436.4	1.65	1.47	0.74
8,236.0	91.50	180.50	7,130.0	-1,385.8	920.9	1,530.6	0.23	0.10	-0.21
8,331.0	90.00	178.80	7,128.7	-1,480.8	921.5	1,624.1	2.39	-1.58	-1.79
8,426.0	90.60	180.00	7,128.2	-1,575.7	922.5	1,717.7	1.41	0.63	1.26
8,521.0	91.30	179.50	7,126.7	-1,670.7	922.9	1,811.1	0.91	0.74	-0.53
8,617.0	88.40	180.20	7,126.9	-1,766.7	923.1	1,905.5	3.11	-3.02	0.73
8,712.0	88.40	180.20	7,129.6	-1,861.7	922.8	1,998.9	0.00	0.00	0.00
8,806.0	89.30	179.50	7,131.5	-1,955.7	923.1	2,091.3	1.21	0.96	-0.74
8,901.0	89.40	179.50	7,132.5	-2,050.7	923.9	2,184.8	0.11	0.11	0.00
8,996.0	88.70	180.20	7,134.1	-2,145.6	924.1	2,278.3	1.04	-0.74	0.74
9,091.0	87.50	181.40	7,137.3	-2,240.6	922.8	2,371.4	1.79	-1.26	1.26
9,187.0	89.00	180.70	7,140.2	-2,336.5	921.1	2,465.4	1.72	1.56	-0.73
9,282.0	88.30	179.50	7,142.4	-2,431.5	920.9	2,558.7	1.46	-0.74	-1.26
9,377.0	89.00	178.00	7,144.7	-2,526.4	923.0	2,652.5	1.74	0.74	-1.58
9,472.0	90.30	180.00	7,145.2	-2,621.4	924.6	2,746.1	2.51	1.37	2.11
9,566.0	90.60	180.50	7,144.5	-2,715.4	924.2	2,838.5	0.62	0.32	0.53
9,662.0	91.40	181.20	7,142.8	-2,811.4	922.8	2,932.6	1.11	0.83	0.73
9,757.0	88.30	182.10	7,143.1	-2,906.3	920.0	3,025.4	3.40	-3.26	0.95
9,851.0	88.40	181.40	7,145.8	-3,000.2	917.2	3,117.3	0.75	0.11	-0.74
9,947.0	90.00	180.50	7,147.1	-3,096.2	915.6	3,211.3	1.91	1.67	-0.94
10,042.0	89.40	180.70	7,147.6	-3,191.2	914.6	3,304.5	0.67	-0.63	0.21
10,137.0	89.30	180.90	7,148.7	-3,286.2	913.3	3,397.7	0.24	-0.11	0.21
10,232.0	88.60	180.90	7,150.4	-3,381.2	911.8	3,490.8	0.74	-0.74	0.00
10,327.0	88.50	180.30	7,152.8	-3,476.1	910.8	3,584.0	0.64	-0.11	-0.63
10,422.0	89.50	179.60	7,154.5	-3,571.1	910.9	3,677.4	1.28	1.05	-0.74
10,517.0	89.30	180.70	7,155.5	-3,666.1	910.6	3,770.7	1.18	-0.21	1.16
10,613.0	90.20	182.10	7,155.9	-3,762.1	908.3	3,864.7	1.73	0.94	1.46
10,708.0	91.70	181.70	7,154.3	-3,857.0	905.1	3,957.4	1.63	1.58	-0.42
10,803.0	93.50	181.60	7,150.0	-3,951.9	902.4	4,050.2	1.90	1.89	-0.11
10,898.0	91.50	179.80	7,145.9	-4,046.8	901.2	4,143.3	2.83	-2.11	-1.89
10,994.0	90.90	180.20	7,143.9	-4,142.7	901.2	4,237.6	0.75	-0.63	0.42
11,089.0	92.50	178.90	7,141.1	-4,237.7	902.0	4,331.1	2.17	1.68	-1.37
11,184.0	92.10	179.60	7,137.2	-4,332.6	903.2	4,424.7	0.85	-0.42	0.74
11,279.0	90.00	178.90	7,135.5	-4,427.6	904.5	4,518.3	2.33	-2.21	-0.74
11,374.0	89.40	180.00	7,136.0	-4,522.6	905.4	4,611.8	1.32	-0.63	1.16
11,470.0	91.00	178.90	7,135.7	-4,618.5	906.3	4,706.4	2.02	1.67	-1.15
11,565.0	87.80	179.60	7,136.7	-4,713.5	907.5	4,800.0	3.45	-3.37	0.74
11,660.0	89.30	179.30	7,139.1	-4,808.5	908.4	4,893.5	1.61	1.58	-0.32
11,672.0	89.40	179.50	7,139.2	-4,820.5	908.6	4,905.3	1.86	0.83	1.67
11,724.0	89.40	179.50	7,139.7	-4,872.5	909.0	4,956.5	0.00	0.00	0.00
BHL 500'FSL, 379' FEL									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,623.0	7,134.3	7"	7	7-1/2

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Sorin Natural Resources 2U-443
<b>Project:</b>	SEC.2-T4N-R66W	<b>TVD Reference:</b>	WELL @ 4683.5ft (Ensign Rig #136 - RKB 12.5')
<b>Site:</b>	Sorin Natural Resources 2R-HZ Pad Sec.2-T4N-R66W	<b>MD Reference:</b>	WELL @ 4683.5ft (Ensign Rig #136 - RKB 12.5')
<b>Well:</b>	Sorin Natural Resources 2U-443	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Checked By: _____	Approved By: _____	Date: _____
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