

HALLIBURTON

Sperry Drilling

Statoil

Wetzel County, WV (NAD 83, UTM 17N)

Shreve-Watson Unit

Shreve-Watson Unit 2H

Wellbore #1

Design: Surveys

Standard Survey Report

22 August, 2014

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WV Department of
Environmental Protection

06/12/2015

Survey Report

Company: Statoil	Local Co-ordinate Reference: Well Shreve-Watson Unit 2H
Project: Wetzel County, WV (NAD 83, UTM 17N)	TVD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
Site: Shreve-Watson Unit	MD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
Well: Shreve-Watson Unit 2H	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Surveys	Database: EDM 5000.1 Single User Db

Project	Wetzel County, WV (NAD 83, UTM 17N)		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Shreve-Watson Unit				
Site Position:		Northing:	4,391,190.80 m	Latitude:	39.669645
From:	Map	Easting:	538,993.30 m	Longitude:	-80.545373
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Shreve-Watson Unit 2H					
Well Position	+N/-S	0.00 usft	Northing:	4,391,190.80 m	Latitude:	39.669645
	+E/-W	0.00 usft	Easting:	538,993.30 m	Longitude:	-80.545373
Position Uncertainty		0.00 usft	Wellhead Elevation:	1,493.00 usft	Ground Level:	1,471.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	3/27/2014	-8.70	67.15	52,444

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	313.09	

Survey Program	Date 8/20/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
92.78	807.00	Gyrodata Gyro (Wellbore #1)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
829.00	13,760.00	Sperry MWD (Wellbore #1)	MWD	Fixed:v2:standard declination	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Bull Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92.78	0.24	96.57	92.78	-0.02	0.19	-0.16	0.26	0.26	0.00	
190.73	0.49	101.30	190.73	-0.13	0.81	-0.68	0.26	0.26	4.83	
285.22	0.65	120.90	285.21	-0.48	1.66	-1.54	0.26	0.17	20.74	
377.14	0.75	126.91	377.13	-1.11	2.59	-2.65	0.13	0.11	6.54	
468.21	0.67	128.00	468.19	-1.80	3.49	-3.78	0.09	0.09	1.20	
560.48	0.65	140.20	560.45	-2.53	4.25	-4.83	0.15	0.15	13.22	
653.13	0.80	133.87	653.10	-3.38	5.05	-6.00	0.18	0.16	6.83	
745.60	0.54	131.56	745.56	-4.12	5.84	-7.08	0.28	0.28	-2.50	
807.00	0.49	117.62	806.96	-4.43	6.29	-7.62	0.22	0.22	-22.70	

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Survey Report

Company: Statoil
 Project: Wetzel County, WV (NAD 83, UTM 17N)
 Site: Shreve-Watson Unit
 Well: Shreve-Watson Unit 2H
 Wellbore: Wellbore #1
 Design: Surveys

Local Co-ordinate Reference: Well Shreve-Watson Unit 2H
 TVD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
 MD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
829.00	0.53	106.81	828.96	-4.51	6.47	-7.81	0.47	0.18	-49.14
860.00	0.46	115.29	859.95	-4.60	6.72	-8.05	0.33	-0.23	27.35
891.00	0.75	104.89	890.95	-4.71	7.03	-8.35	1.00	0.94	-33.55
921.00	0.83	103.20	920.95	-4.81	7.43	-8.71	0.28	0.27	-5.63
952.00	0.78	81.94	951.95	-4.83	7.86	-9.04	0.97	-0.16	-68.58
983.00	1.38	96.77	982.94	-4.84	8.44	-9.47	2.12	1.94	47.84
1,014.00	1.92	90.18	1,013.93	-4.89	9.33	-10.15	1.84	1.74	-21.26
1,044.00	2.68	87.98	1,043.90	-4.86	10.53	-11.02	2.55	2.53	-7.33
1,074.00	3.57	84.78	1,073.86	-4.76	12.16	-12.13	3.02	2.97	-10.67
1,105.00	4.47	81.70	1,104.78	-4.49	14.32	-13.53	2.98	2.90	-9.94
1,136.00	5.23	80.59	1,135.67	-4.09	16.91	-15.14	2.47	2.45	-3.58
1,228.00	5.80	76.66	1,227.25	-2.33	25.57	-20.26	0.74	0.62	-4.27
1,321.00	5.59	77.60	1,319.79	-0.27	34.57	-25.43	0.25	-0.23	1.01
1,414.00	5.06	79.20	1,412.39	1.47	43.02	-30.41	0.59	-0.57	1.72
1,506.00	4.97	82.64	1,504.03	2.74	50.96	-35.34	0.34	-0.10	3.74
1,598.00	4.55	82.29	1,595.72	3.74	58.52	-40.18	0.46	-0.46	-0.38
1,694.00	6.35	71.68	1,691.28	5.92	67.34	-45.13	2.14	1.87	-11.05
1,790.00	7.04	70.75	1,786.62	9.53	77.93	-50.40	0.73	0.72	-0.97
1,884.00	6.88	70.21	1,879.93	13.33	88.67	-55.64	0.18	-0.17	-0.57
1,980.00	6.55	72.21	1,975.27	16.95	99.29	-60.93	0.42	-0.34	2.08
2,076.00	6.15	73.16	2,070.68	20.12	109.43	-66.17	0.43	-0.42	0.99
2,171.00	5.42	76.16	2,165.20	22.66	118.65	-71.17	0.83	-0.77	3.16
2,266.00	4.93	77.34	2,259.81	24.63	126.99	-75.92	0.53	-0.52	1.24
2,361.00	5.14	76.87	2,354.45	26.49	135.12	-80.58	0.23	0.22	-0.49
2,455.00	5.40	75.23	2,448.05	28.58	143.50	-85.27	0.32	0.28	-1.74
2,550.00	5.50	73.61	2,542.62	31.00	152.19	-89.96	0.19	0.11	-1.71
2,646.00	5.07	68.28	2,638.21	33.87	160.54	-94.10	0.68	-0.45	-5.55
2,742.00	5.34	68.73	2,733.82	37.06	168.65	-97.84	0.28	0.28	0.47
2,837.00	6.83	73.50	2,828.28	40.27	178.18	-102.62	1.65	1.57	5.02
2,931.00	8.58	75.96	2,921.43	43.56	190.35	-109.25	1.89	1.86	2.62
3,026.00	10.67	77.94	3,015.08	47.11	205.82	-118.12	2.23	2.20	2.08
3,095.00	11.74	79.73	3,082.77	49.70	218.98	-125.96	1.63	1.55	2.59
3,158.00	13.22	80.00	3,144.28	52.09	232.38	-134.12	2.35	2.35	0.43
3,253.00	14.06	77.08	3,236.60	56.56	254.33	-147.09	1.14	0.88	-3.07
3,347.00	14.79	78.04	3,327.63	61.60	277.19	-160.35	0.82	0.78	1.02
3,441.00	14.02	74.37	3,418.68	67.15	299.90	-173.13	1.27	-0.82	-3.90
3,536.00	15.22	73.79	3,510.60	73.73	322.95	-185.47	1.27	1.26	-0.61
3,631.00	13.96	69.57	3,602.54	81.22	345.67	-196.95	1.73	-1.33	-4.44
3,726.00	14.56	78.90	3,694.63	87.52	368.13	-209.05	2.50	0.63	9.82
3,821.00	14.46	81.53	3,786.60	91.56	391.58	-223.41	0.70	-0.11	2.77
3,917.00	15.61	81.26	3,879.31	95.29	416.20	-238.84	1.20	1.20	1.20
4,012.00	14.80	78.55	3,970.98	99.64	440.72	-253.78	1.13	-0.85	-2.85
4,108.00	13.88	76.14	4,063.99	104.83	463.92	-267.18	1.14	1.14	1.14

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Database: EDM 5000.1 Single User Db

Survey

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4,202.00	16.40	79.56	4,154.72	109.94	487.92	-281.22	2.84	2.68	3.64
4,298.00	15.53	78.12	4,247.02	115.04	513.83	-296.65	1.00	-0.91	-1.50
4,395.00	14.22	76.00	4,340.77	120.60	538.10	-310.58	1.46	-1.35	-2.19
4,490.00	15.18	77.84	4,432.66	126.04	561.58	-324.01	1.12	1.01	1.94
4,585.00	13.20	74.86	4,524.76	131.49	584.21	-336.81	2.22	-2.08	-3.14
4,681.00	14.70	82.41	4,617.93	135.97	606.87	-350.30	2.45	1.56	7.86
4,777.00	12.74	79.02	4,711.19	139.59	629.33	-364.23	2.21	-2.04	-3.53
4,871.00	15.38	80.42	4,802.36	143.64	651.81	-377.87	2.83	2.81	1.49
4,965.00	15.75	77.69	4,892.92	148.44	676.56	-392.68	0.87	0.39	-2.90
5,060.00	13.33	72.98	4,984.87	154.39	699.63	-405.46	2.83	-2.55	-4.96
5,154.00	15.04	77.90	5,076.01	160.12	721.92	-417.82	2.22	1.82	5.23
5,249.00	16.89	79.16	5,167.34	165.30	747.53	-432.99	1.98	1.95	1.33
5,345.00	14.84	75.83	5,259.68	170.93	773.15	-447.85	2.34	-2.14	-3.47
5,440.00	15.95	77.75	5,351.27	176.68	797.70	-461.85	1.29	1.17	2.02
5,535.00	13.84	72.32	5,443.08	182.90	821.29	-474.82	2.66	-2.22	-5.72
5,630.00	14.48	75.57	5,535.19	189.31	843.62	-486.75	1.07	0.67	3.42
5,725.00	15.56	77.66	5,626.94	195.00	867.57	-500.36	1.27	1.14	2.20
5,820.00	14.85	77.87	5,718.62	200.28	891.92	-514.53	0.75	-0.75	0.22
5,916.00	16.02	78.94	5,811.15	205.40	916.95	-529.31	1.25	1.22	1.11
6,011.00	14.01	74.05	5,902.91	211.08	940.87	-542.90	2.50	-2.12	-5.15
6,108.00	16.29	80.88	5,996.54	216.46	965.60	-557.28	2.98	2.35	7.04
6,203.00	15.31	79.69	6,087.95	220.82	991.10	-572.93	1.09	-1.03	-1.25
6,297.00	12.77	77.77	6,179.13	225.24	1,013.46	-586.24	2.75	-2.70	-2.04
6,390.00	13.34	82.14	6,269.73	228.89	1,034.14	-598.85	1.23	0.61	4.70
6,482.00	14.26	81.31	6,359.08	232.05	1,055.85	-612.54	1.02	1.00	-0.90
6,573.00	15.29	77.37	6,447.07	236.37	1,078.64	-626.24	1.58	1.13	-4.33
6,667.00	12.60	75.37	6,538.29	241.67	1,100.66	-638.70	2.91	-2.86	-2.13
6,759.00	13.27	78.29	6,627.96	246.35	1,120.71	-650.14	1.02	0.73	3.17
6,851.00	15.12	80.38	6,717.14	250.49	1,142.88	-663.50	2.09	2.01	2.27
6,942.00	16.84	79.96	6,804.62	254.78	1,167.56	-678.60	1.89	1.89	-0.46
7,035.00	15.23	78.80	6,894.00	259.50	1,192.81	-693.81	1.77	-1.73	-1.25
7,127.00	14.02	72.35	6,983.03	265.22	1,215.29	-706.31	2.20	-1.32	-7.01
7,158.00	14.19	63.49	7,013.09	268.06	1,222.26	-709.47	6.98	0.55	-28.58
7,188.00	14.44	55.29	7,042.17	271.83	1,228.63	-711.55	6.80	0.83	-27.33
7,219.00	14.48	49.08	7,072.19	276.57	1,234.74	-712.77	5.00	0.13	-20.03
7,250.00	14.48	40.03	7,102.21	282.08	1,240.16	-712.97	7.29	0.00	-29.19
7,280.00	15.26	29.73	7,131.21	288.38	1,244.53	-711.85	9.17	2.60	-34.33
7,311.00	16.62	20.17	7,161.02	296.08	1,248.08	-709.18	9.52	4.39	-30.84
7,342.00	17.78	10.55	7,190.64	304.90	1,250.48	-704.91	9.90	3.74	-31.03
7,373.00	18.84	2.28	7,220.07	314.56	1,251.54	-699.09	9.04	3.42	-26.68
7,404.00	20.16	354.38	7,249.30	324.88	1,251.22	-691.80	9.50	4.26	-25.48
7,435.00	21.66	346.73	7,278.26	335.76	1,249.38	-683.03	10.04	4.84	-24.68
7,465.00	23.74	341.91	7,305.94	346.90	1,246.24	-673.12	9.30	4.84	-16.87

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7,496.00	25.69	340.45	7,334.10	359.16	1,242.05	-661.69	6.59	6.29	-4.71
7,526.00	28.00	338.88	7,360.86	371.86	1,237.34	-649.57	8.05	7.70	-5.23
7,557.00	30.43	337.50	7,387.92	385.90	1,231.71	-635.87	8.13	7.84	-4.45
7,587.00	33.39	336.41	7,413.38	400.49	1,225.50	-621.36	10.05	9.87	-3.63
7,617.00	36.77	334.88	7,437.93	416.19	1,218.38	-605.44	11.64	11.27	-5.10
7,649.00	39.92	332.93	7,463.02	434.01	1,209.64	-586.88	10.54	9.84	-6.09
7,681.00	43.45	331.44	7,486.92	452.82	1,199.70	-566.78	11.46	11.03	-4.66
7,713.00	47.16	330.04	7,509.42	472.66	1,188.58	-545.10	12.00	11.59	-4.37
7,745.00	50.90	329.02	7,530.40	493.48	1,176.32	-521.93	11.93	11.69	-3.19
7,777.00	54.47	327.86	7,549.80	515.16	1,163.00	-497.39	11.52	11.16	-3.62
7,809.00	58.97	327.21	7,567.35	537.72	1,148.64	-471.49	14.16	14.06	-2.03
7,841.00	62.77	326.26	7,582.93	561.08	1,133.31	-444.33	12.15	11.87	-2.97
7,873.00	66.49	324.83	7,596.64	584.92	1,116.95	-416.10	12.31	11.62	-4.47
7,904.00	70.89	323.86	7,607.90	608.38	1,100.12	-387.78	14.49	14.19	-3.13
7,935.00	73.65	321.57	7,617.34	631.86	1,082.23	-358.68	11.35	8.90	-7.39
7,967.00	75.91	318.77	7,625.74	655.57	1,062.45	-328.04	11.01	7.06	-8.75
7,999.00	78.05	316.30	7,632.95	678.56	1,041.40	-296.96	10.06	6.69	-7.72
8,031.00	80.31	314.66	7,638.96	700.97	1,019.36	-265.56	8.67	7.06	-5.12
8,062.00	83.27	312.30	7,643.39	722.07	997.10	-234.88	12.16	9.55	-7.61
8,094.00	87.34	311.26	7,646.00	743.32	973.33	-203.01	13.12	12.72	-3.25
8,125.00	88.69	311.14	7,647.08	763.73	950.02	-172.04	4.37	4.35	-0.39
8,156.00	89.23	310.36	7,647.64	783.96	926.54	-141.07	3.06	1.74	-2.52
8,252.00	89.13	310.13	7,649.01	845.97	853.27	-45.20	0.26	-0.10	-0.24
8,348.00	91.65	310.00	7,648.36	907.76	779.80	50.65	2.63	2.62	-0.14
8,443.00	91.85	310.12	7,645.46	968.87	707.13	145.48	0.25	0.21	0.13
8,539.00	91.34	309.30	7,642.79	1,030.18	633.31	241.27	1.01	-0.53	-0.85
8,634.00	90.64	309.75	7,641.15	1,090.63	560.04	336.07	0.88	-0.74	0.47
8,728.00	90.24	312.12	7,640.42	1,152.21	489.03	430.00	2.56	-0.43	2.52
8,823.00	89.16	312.45	7,640.92	1,216.13	418.75	524.98	1.19	-1.14	0.35
8,919.00	90.17	312.47	7,641.48	1,280.93	347.93	620.98	1.05	1.05	0.02
9,015.00	89.87	312.58	7,641.45	1,345.82	277.18	716.97	0.33	-0.31	0.11
9,109.00	88.25	312.86	7,642.99	1,409.58	208.13	810.95	1.75	-1.72	0.30
9,204.00	88.15	312.55	7,645.98	1,473.98	138.36	905.90	0.34	-0.11	-0.33
9,299.00	88.76	312.17	7,648.54	1,537.97	68.19	1,000.86	0.76	0.64	-0.40
9,394.00	88.35	312.54	7,650.93	1,601.95	-1.99	1,095.82	0.58	-0.43	0.39
9,491.00	88.86	312.72	7,653.29	1,667.62	-73.34	1,192.79	0.56	0.53	0.19
9,585.00	89.60	313.14	7,654.56	1,731.64	-142.16	1,286.78	0.91	0.79	0.45
9,680.00	89.36	313.95	7,655.42	1,797.09	-211.01	1,381.77	0.89	-0.25	0.85
9,773.00	89.80	313.23	7,656.10	1,861.21	-278.37	1,474.77	0.91	0.47	-0.77
9,869.00	89.70	312.49	7,656.52	1,926.51	-348.74	1,570.76	0.78	-0.10	-0.77
9,964.00	89.90	312.63	7,656.85	1,990.76	-418.71	1,665.76	0.26	0.15	-0.15
10,059.00	88.92	311.64	7,657.83	2,054.49	-489.16	1,760.74	1.47	0.28	-0.26
10,154.00	89.19	311.39	7,659.40	2,117.45	-560.28	1,855.69	0.39	0.28	-0.26
10,249.00	90.44	312.41	7,659.70	2,180.89	-630.99	1,950.67	1.70	0.28	-0.26

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Survey Report

Company: Statoil
Project: Wetzel County, WV (NAD 83, UTM 17N)
Site: Shreve-Watson Unit
Well: Shreve-Watson Unit 2H
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well Shreve-Watson Unit 2H
TVD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
MD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,344.00	90.57	313.19	7,658.87	2,245.43	-700.69	2,045.66	0.83	0.14	0.82
10,439.00	89.50	313.16	7,658.81	2,310.43	-769.97	2,140.66	1.13	-1.13	-0.03
10,535.00	88.89	313.91	7,660.16	2,376.55	-839.56	2,236.64	1.01	-0.64	0.78
10,630.00	89.73	313.93	7,661.30	2,442.44	-907.98	2,331.63	0.88	0.88	0.02
10,724.00	89.33	314.11	7,662.07	2,507.76	-975.57	2,425.61	0.47	-0.43	0.19
10,819.00	88.69	314.46	7,663.71	2,574.08	-1,043.57	2,520.58	0.77	-0.67	0.37
10,915.00	90.20	313.88	7,664.64	2,640.97	-1,112.42	2,616.55	1.68	1.57	-0.60
11,009.00	89.93	314.61	7,664.54	2,706.56	-1,179.76	2,710.53	0.83	-0.29	0.78
11,104.00	89.90	314.03	7,664.68	2,772.93	-1,247.73	2,805.51	0.61	-0.03	-0.61
11,200.00	91.48	313.74	7,663.52	2,839.47	-1,316.91	2,901.49	1.67	1.65	-0.30
11,296.00	89.80	314.12	7,662.45	2,906.07	-1,386.04	2,997.47	1.79	-1.75	0.40
11,392.00	88.52	313.43	7,663.86	2,972.47	-1,455.35	3,093.45	1.51	-1.33	-0.72
11,487.00	89.09	312.24	7,665.84	3,037.05	-1,525.00	3,188.43	1.39	0.60	-1.25
11,583.00	89.09	312.44	7,667.36	3,101.70	-1,595.95	3,284.41	0.21	0.00	0.21
11,678.00	89.46	312.68	7,668.56	3,165.95	-1,665.92	3,379.39	0.46	0.39	0.25
11,774.00	89.16	311.99	7,669.72	3,230.59	-1,736.88	3,475.38	0.78	-0.31	-0.72
11,868.00	88.69	312.01	7,671.48	3,293.48	-1,806.72	3,569.34	0.50	-0.50	0.02
11,963.00	90.00	312.22	7,672.57	3,357.18	-1,877.19	3,664.32	1.40	1.38	0.22
12,057.00	89.33	312.57	7,673.12	3,420.56	-1,946.60	3,758.31	0.80	-0.71	0.37
12,151.00	89.73	312.38	7,673.89	3,484.03	-2,015.93	3,852.30	0.47	0.43	-0.20
12,246.00	88.72	312.33	7,675.18	3,548.03	-2,086.13	3,947.29	1.06	-1.06	-0.05
12,342.00	89.56	312.94	7,676.62	3,613.05	-2,156.75	4,043.27	1.08	0.87	0.64
12,437.00	91.68	312.41	7,675.59	3,677.43	-2,226.58	4,138.26	2.30	2.23	-0.56
12,533.00	90.00	314.85	7,674.18	3,743.66	-2,296.05	4,234.23	3.09	-1.75	2.54
12,628.00	88.72	314.77	7,675.24	3,810.60	-2,363.45	4,329.18	1.35	-1.35	-0.08
12,722.00	89.29	314.73	7,676.87	3,876.77	-2,430.19	4,423.13	0.61	0.61	-0.04
12,817.00	88.92	313.72	7,678.36	3,943.02	-2,498.26	4,518.10	1.13	-0.39	-1.06
12,913.00	89.53	313.11	7,679.66	4,009.00	-2,567.99	4,614.08	0.90	0.64	-0.64
13,007.00	89.13	312.55	7,680.76	4,072.89	-2,636.92	4,708.08	0.73	-0.43	-0.60
13,102.00	88.49	311.44	7,682.73	4,136.44	-2,707.51	4,803.04	1.35	-0.67	-1.17
13,197.00	89.66	312.97	7,684.26	4,200.25	-2,777.87	4,898.01	2.03	1.23	1.61
13,293.00	89.70	313.59	7,684.80	4,266.06	-2,847.75	4,994.01	0.65	0.04	0.65
13,389.00	89.16	313.51	7,685.75	4,332.20	-2,917.33	5,090.00	0.57	-0.56	-0.08
13,483.00	88.45	313.39	7,687.71	4,396.83	-2,985.55	5,183.97	0.77	-0.76	-0.13
13,578.00	89.56	313.47	7,689.36	4,462.13	-3,054.53	5,278.96	1.17	1.17	0.08
13,673.00	88.28	313.10	7,691.15	4,527.25	-3,123.67	5,373.94	1.40	-1.35	-0.39
13,710.00	88.86	313.21	7,692.08	4,552.55	-3,150.66	5,410.93	1.60	1.57	0.30
Last MWD Survey at 13710' MD									
13,760.00	88.86	313.21	7,693.07	4,586.78	-3,187.09	5,460.92	0.00	0.00	0.00

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COMPASS 5000.1 Build 70

Survey Report

Company: Statoil
Project: Wetzel County, WV (NAD 83, UTM 17N)
Site: Shreve-Watson Unit
Well: Shreve-Watson Unit 2H
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well Shreve-Watson Unit 2H
TVD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
MD Reference: GL 1471' + KB 22' @ 1493.00usft (Orion Polaris)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
13,710.00	7,692.08	4,552.55	-3,150.66	Last MWD Survey at 13710' MD
13,760.00	7,693.07	4,586.78	-3,187.09	Projection to TD at 13760' MD

Checked By: _____ Approved By: _____ Date: _____

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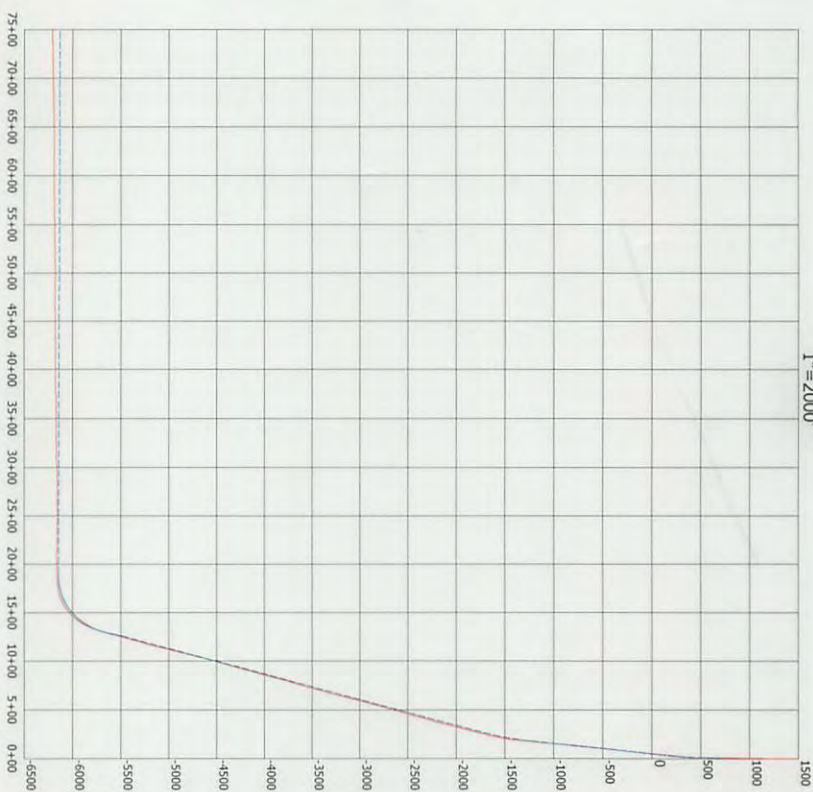
FEB 09 2015 EDM PASS 5000.1 Build 70

06/12/2015

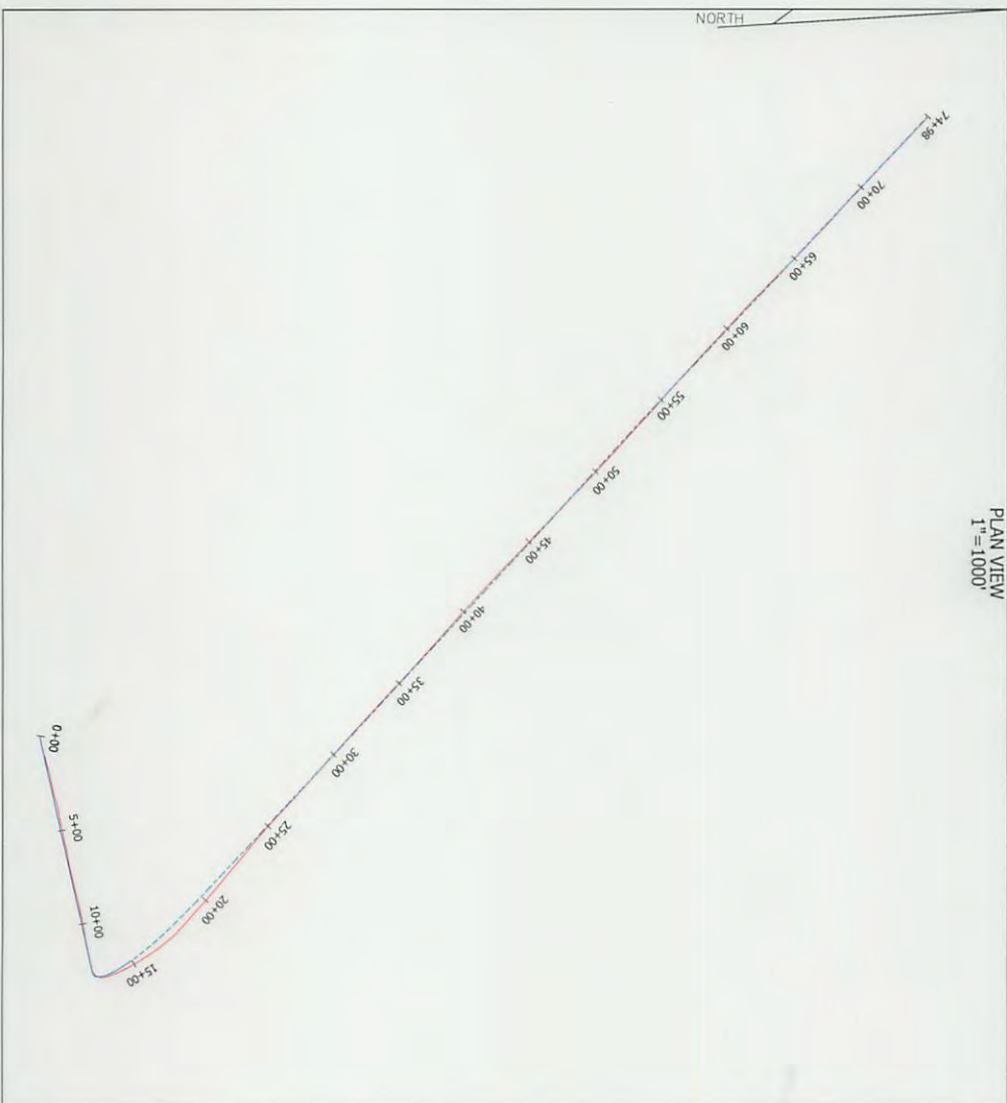
WV Department of
 Environmental Protection

PLAN AND PROFILE VIEW FOR SHREVE-WATSON UNIT 2H API #47-103-02926

PROFILE VIEW
1"=2000'



PLAN VIEW
1"=1000'



NOTES

1. AS DRILLED DATA WAS PROVIDED BY STATOIL USA ONSHORE PROPERTIES INC.
2. HSW IS NOT CERTIFYING THIS DATA AND IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA THAT HAS BEEN PROVIDED.



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06/12/2015