

103.02932

HALLIBURTON

Sperry Drilling

Statoil

Wetzel County WV (NAD 83 UTM 17N)

Michael Kuhn Unit

Michael Kuhn Unit 2H

Wellbore #1

Design: Michael Kuhn 2H Final Surveys

Standard Survey Report

29 September, 2014

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**WV Department of
Environmental Protection**

10/30/2015

103-02932

HALLIBURTON
 Geophysical Services

Survey Report

Company: Statoil	Local Co-ordinate Reference: Well Michael Kuhn Unit 2H
Project: Wetzel County WV (NAD 83 UTM 17N)	TVD Reference: GL 1507 + KB 22' @ 1529.00usft (Orion Polaris)
Site: Michael Kuhn Unit	MD Reference: GL 1507 + KB 22' @ 1529.00usft (Orion Polaris)
Well: Michael Kuhn Unit 2H	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Michael Kuhn 2H Final Surveys	Database: EDM 5000.1 Single User Db

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

Site	Michael Kuhn Unit				
Site Position:	Northing:	4,385,159.00 m	Latitude:	39.615239	
From: Map	Easting:	540,260.30 m	Longitude:	-80.530968	
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.30 °

Well	Michael Kuhn Unit 2H				
Well Position	+N/-S	0.00 usft	Northing:	4,385,159.00 m	
	+E/-W	0.00 usft	Easting:	540,260.30 m	
Position Uncertainty	0.00 usft	Wellhead Elevation:	1,529.00 usft	Ground Level:	1,507.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	4/9/2014	-8.75	67.07	52,403

Design	Michael Kuhn 2H Final 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	311.95	

Survey Program	Date 9/29/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	800.00	GyroData Survey (Wellbore #1)	GYD_DP_MS	Gyrodata gyro-compassing and drop	
863.00	13,450.00	MWD Surveys (Wellbore #1)	MWD	Fixed:v2:standard declination	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (mm/100ft)	Turn Rate (100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.11	165.34	100.00	-0.09	0.02	-0.08	0.11	0.11	0.00
200.00	0.19	152.91	200.00	-0.33	0.12	-0.32	0.09	0.08	-12.43
300.00	0.15	161.98	300.00	-0.61	0.24	-0.58	0.05	0.04	9.07
400.00	0.14	149.61	400.00	-0.84	0.34	-0.81	0.03	-0.01	-12.37
500.00	0.22	133.98	500.00	-1.07	0.54	-1.12	0.09	0.08	15.63
600.00	0.11	171.14	600.00	-1.30	0.70	-1.39	0.15	0.11	37.15
700.00	0.09	162.40	700.00	-1.47	0.73	-1.53	0.03	-0.02	-8.74
800.00	0.15	256.20	800.00	-1.58	0.63	-1.52	0.18	0.06	93.80
863.00	0.11	60.52	863.00	-1.57	0.60	-1.50	0.41	-0.06	260.82

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Well: Michael Kuhn Unit 2H
Wellbore: Wellbore #1
Design: Michael Kuhn 2H Final Surveys

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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)
955.00	0.36	326.10	955.00	-1.28	0.52	-1.24	0.42	0.27	-102.63
1,047.00	0.24	190.64	1,047.00	-1.23	0.32	-1.06	0.61	-0.13	-147.24
1,139.00	0.03	179.35	1,139.00	-1.45	0.29	-1.18	0.23	-0.23	-12.27
1,231.00	0.51	282.35	1,230.99	-1.38	-0.11	-0.84	0.56	0.52	111.96
1,322.00	0.25	321.00	1,321.99	-1.14	-0.63	-0.29	0.39	-0.29	42.47
1,415.00	0.26	221.25	1,414.99	-1.14	-0.90	-0.10	0.42	0.01	-107.26
1,507.00	0.54	303.78	1,506.99	-1.06	-1.40	0.33	0.62	0.30	89.71
1,599.00	0.71	276.05	1,598.99	-0.76	-2.33	1.22	0.37	0.18	-30.14
1,695.00	0.58	253.53	1,694.98	-0.83	-3.38	1.96	0.29	-0.14	-23.46
1,791.00	0.61	279.88	1,790.97	-0.88	-4.35	2.65	0.28	0.03	27.45
1,886.00	1.31	292.39	1,885.96	-0.38	-5.85	4.10	0.76	0.74	13.17
1,981.00	1.32	291.07	1,980.94	0.42	-7.88	6.14	0.03	0.01	-1.39
2,078.00	0.97	313.55	2,077.92	1.39	-9.52	8.01	0.58	-0.36	23.18
2,172.00	0.51	312.64	2,171.91	2.22	-10.40	9.22	0.49	-0.49	-0.97
2,266.00	0.50	321.69	2,265.90	2.83	-10.96	10.04	0.09	-0.01	9.63
2,360.00	0.40	337.21	2,359.90	3.45	-11.35	10.75	0.17	-0.11	16.51
2,455.00	0.84	18.77	2,454.90	4.42	-11.25	11.32	0.63	0.46	43.75
2,550.00	0.79	31.44	2,549.89	5.64	-10.68	11.71	0.20	-0.05	13.34
2,643.00	0.86	34.16	2,642.88	6.76	-9.96	11.92	0.09	0.08	2.92
2,739.00	0.95	71.21	2,738.87	7.61	-8.80	11.63	0.61	0.09	38.59
2,799.00	0.98	64.60	2,798.86	7.99	-7.87	11.19	0.19	0.05	-11.02
2,870.00	1.03	58.73	2,869.85	8.58	-6.77	10.77	0.16	0.07	-8.27
2,965.00	3.17	28.79	2,964.78	11.33	-4.78	11.13	2.46	2.25	-31.52
3,061.00	5.08	27.87	3,060.53	17.41	-1.51	12.76	1.99	1.99	-0.96
3,156.00	4.33	28.27	3,155.21	24.29	2.15	14.64	0.79	-0.79	0.42
3,251.00	7.00	10.43	3,249.74	33.14	4.90	18.51	3.33	2.81	-18.78
3,347.00	8.86	27.51	3,344.83	45.46	9.38	23.41	3.11	1.94	17.79
3,443.00	8.95	29.20	3,439.67	58.53	16.43	26.91	0.29	0.09	1.76
3,538.00	8.02	25.89	3,533.63	70.95	22.93	30.37	1.11	-0.98	-3.48
3,633.00	11.28	26.85	3,627.28	85.20	30.02	34.63	3.44	3.43	1.01
3,728.00	13.88	22.00	3,719.99	104.06	38.49	40.93	2.95	2.74	-5.11
3,823.00	15.61	21.47	3,811.86	126.52	47.44	49.30	1.83	1.82	-0.56
3,917.00	17.50	24.79	3,901.96	151.12	58.00	57.89	2.25	2.01	3.53
4,012.00	20.00	27.62	3,991.91	178.49	71.52	66.13	2.80	2.63	2.98
4,107.00	22.64	30.72	4,080.41	208.61	88.39	73.71	3.02	2.78	3.26
4,203.00	21.30	30.33	4,189.43	239.55	106.64	80.82	1.40	1.19	0.41
4,298.00	22.12	30.03	4,257.69	269.92	124.30	87.99	0.87	0.66	-0.32
4,393.00	20.45	29.34	4,346.21	299.88	141.39	95.31	1.78	-1.76	-0.73
4,488.00	21.19	25.88	4,435.01	329.80	157.01	103.69	1.51	1.14	-3.64
4,585.00	23.36	22.75	4,524.77	363.31	172.11	114.86	2.55	2.24	-3.23
4,679.00	21.17	19.82	4,611.76	396.47	185.07	127.39	2.61	2.23	0.12
4,774.00	20.33	26.95	4,700.61	427.32	198.37	138.12	2.80	-0.88	7.51
4,868.00	22.03	26.65	4,788.26	457.64	213.68	147.00	1.81	1.61	-0.32

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4,963.00	23.88	26.94	4,875.73	490.70	230.38	156.89	1.95	1.95	0.31
5,059.00	20.84	24.94	4,964.50	523.52	246.39	166.72	3.26	-3.17	-2.08
5,153.00	21.37	25.97	5,052.20	554.08	260.94	176.32	0.69	0.56	1.10
5,249.00	22.68	26.79	5,141.19	586.33	276.94	185.98	1.40	1.36	0.85
5,344.00	24.78	28.77	5,228.15	620.13	294.78	195.31	2.36	2.21	2.08
5,440.00	21.22	25.02	5,316.51	653.52	311.82	204.96	4.01	-3.71	-3.91
5,536.00	22.00	25.67	5,405.77	685.47	326.96	215.06	0.85	0.81	0.68
5,631.00	24.38	29.80	5,493.09	718.53	344.41	224.18	3.03	2.51	4.35
5,726.00	23.81	27.57	5,579.81	752.55	363.03	233.07	1.13	-0.60	-2.35
5,822.00	21.93	23.28	5,668.27	786.20	379.09	243.62	2.62	-1.96	-4.47
5,916.00	21.43	25.47	5,755.62	817.82	393.41	254.11	1.01	-0.53	2.33
6,009.00	22.85	28.31	5,841.76	849.06	409.28	263.19	1.91	1.53	3.05
6,101.00	20.52	25.03	5,927.25	879.40	424.58	272.09	2.85	-2.53	-3.57
6,193.00	21.64	32.16	6,013.11	908.38	440.43	279.67	3.04	1.22	7.75
6,285.00	18.62	32.15	6,099.48	935.18	457.28	285.06	3.28	-3.28	-0.01
6,377.00	21.36	32.05	6,185.93	961.82	473.99	290.44	2.98	2.98	-0.11
6,468.00	25.43	28.66	6,269.43	993.03	492.16	297.78	4.71	4.47	-3.73
6,560.00	21.82	23.95	6,353.71	1,026.00	508.59	307.61	4.43	-3.92	-5.12
6,652.00	22.40	27.56	6,438.95	1,057.17	523.64	317.25	1.61	0.63	3.92
6,745.00	22.88	28.56	6,524.79	1,088.76	540.48	325.84	0.66	0.52	1.08
6,837.00	23.47	28.66	6,609.36	1,120.54	557.82	334.20	0.64	0.64	0.11
6,929.00	19.05	26.31	6,695.08	1,150.09	573.27	342.46	4.89	-4.80	-2.55
7,021.00	21.76	31.65	6,781.31	1,178.07	588.87	349.56	3.57	2.95	5.80
7,113.00	23.68	29.10	6,866.17	1,208.74	606.81	356.72	2.35	2.09	-2.77
7,210.00	23.59	25.44	6,955.03	1,243.29	624.62	366.57	1.52	-0.09	-3.77
7,305.00	23.24	27.10	7,042.21	1,277.14	641.32	376.77	0.79	-0.37	1.75
7,400.00	23.27	27.22	7,129.49	1,310.51	658.45	386.35	0.06	0.03	0.13
7,431.00	22.27	27.47	7,158.08	1,321.17	663.96	389.37	3.24	-3.23	0.81
7,463.00	21.14	27.32	7,187.81	1,331.67	669.40	392.35	3.54	-3.53	-0.47
7,494.00	20.39	19.92	7,216.80	1,341.72	673.81	395.78	8.80	-2.42	-23.87
7,526.00	21.16	9.88	7,246.73	1,352.66	676.70	400.94	11.37	2.41	-31.37
7,558.00	22.39	0.29	7,276.45	1,364.44	677.72	408.06	11.75	3.84	-29.97
7,590.00	24.09	353.19	7,305.86	1,377.03	676.98	417.03	10.23	5.31	-22.19
7,621.00	25.86	347.70	7,333.97	1,389.92	674.79	427.28	9.40	5.71	-17.71
7,653.00	27.81	343.39	7,362.52	1,403.89	671.17	439.31	8.60	6.09	-13.47
7,685.00	29.50	340.56	7,390.60	1,418.48	666.41	452.60	6.77	6.88	-8.84
7,717.00	31.45	338.83	7,418.18	1,433.69	660.77	466.96	6.58	6.89	-5.41
7,749.00	33.91	336.86	7,445.11	1,449.69	654.25	482.51	8.37	7.69	-6.16
7,781.00	36.25	335.32	7,471.30	1,466.49	646.79	499.29	7.82	8.11	-4.81
7,812.00	39.68	334.84	7,495.74	1,483.79	638.75	516.83	11.11	11.06	-1.55
7,844.00	43.25	334.14	7,519.71	1,502.90	629.62	536.39	11.25	11.16	-2.19
7,875.00	45.68	333.09	7,541.84	1,522.35	619.97	556.57	8.79	8.69	3.34
7,907.00	48.56	332.02	7,563.61	1,543.16	609.16	578.52	9.33	9.06	3.34

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7,939.00	52.10	330.92	7,584.03	1,564.79	597.39	601.74	11.37	11.06	-3.44
7,971.00	55.42	329.69	7,602.95	1,587.20	584.60	626.23	10.83	10.37	-3.84
8,003.00	59.23	327.98	7,620.22	1,610.24	570.66	652.00	12.73	11.91	-5.34
8,035.00	62.25	326.08	7,635.86	1,633.66	555.47	678.95	10.76	9.44	-5.94
8,066.00	64.74	323.38	7,649.70	1,656.30	539.44	706.00	11.19	8.03	-8.71
8,097.00	66.72	320.68	7,662.44	1,678.57	522.06	733.82	10.19	6.39	-8.71
8,129.00	67.87	319.60	7,674.79	1,701.23	503.14	763.04	4.75	3.59	-3.37
8,160.00	69.17	319.17	7,686.14	1,723.12	484.36	791.65	4.39	4.19	-1.39
8,192.00	70.62	319.06	7,697.14	1,745.84	464.69	821.46	4.54	4.53	-0.34
8,223.00	73.41	319.12	7,706.71	1,768.12	445.38	850.71	9.00	9.00	0.19
8,255.00	76.72	318.73	7,714.96	1,791.43	425.07	881.40	10.41	10.34	-1.22
8,287.00	80.55	317.95	7,721.26	1,814.86	404.22	912.57	12.20	11.97	-2.44
8,318.00	84.45	317.38	7,725.31	1,837.57	383.52	943.15	12.71	12.58	-1.84
8,350.00	88.92	316.53	7,727.16	1,860.92	361.72	974.96	14.22	13.97	-2.66
8,444.00	92.28	311.88	7,726.18	1,926.42	294.37	1,068.85	6.10	3.57	-4.95
8,540.00	91.38	312.10	7,723.11	1,990.62	223.06	1,164.80	0.97	-0.94	0.23
8,635.00	91.01	311.37	7,721.13	2,053.84	152.18	1,259.78	0.86	-0.39	-0.77
8,730.00	89.60	310.88	7,720.62	2,116.32	80.82	1,354.76	1.57	-1.48	-0.52
8,826.00	89.76	313.27	7,721.16	2,180.64	9.37	1,450.75	2.50	0.17	2.49
8,921.00	91.08	314.44	7,720.46	2,246.46	-59.13	1,545.69	1.86	1.39	1.23
9,015.00	90.34	314.11	7,719.30	2,312.08	-126.43	1,639.61	0.86	-0.79	-0.35
9,110.00	89.97	312.47	7,719.04	2,377.21	-195.57	1,734.58	1.77	-0.39	-1.73
9,206.00	90.94	312.18	7,718.28	2,441.85	-266.55	1,830.57	1.05	1.01	-0.30
9,300.00	88.99	311.36	7,718.34	2,504.46	-336.65	1,924.57	2.25	-2.07	-0.87
9,394.00	88.89	310.99	7,720.08	2,566.34	-407.39	2,018.54	0.41	-0.11	-0.39
9,490.00	90.60	311.20	7,720.50	2,629.44	-479.74	2,114.53	1.79	1.78	0.22
9,587.00	89.83	311.22	7,720.14	2,693.34	-552.71	2,211.52	0.79	-0.79	0.02
9,682.00	90.94	312.34	7,719.50	2,756.64	-623.55	2,306.51	1.66	1.17	1.18
9,778.00	89.87	312.44	7,718.82	2,821.35	-694.45	2,402.50	1.12	-1.11	0.10
9,874.00	90.47	312.01	7,718.54	2,885.87	-765.54	2,498.50	0.77	0.62	-0.45
9,969.00	91.92	312.06	7,716.56	2,949.46	-836.08	2,593.48	1.53	1.53	0.05
10,064.00	88.72	312.93	7,716.02	3,013.63	-906.12	2,688.46	3.49	-3.37	0.92
10,159.00	90.07	313.28	7,717.03	3,078.54	-975.47	2,783.43	1.47	1.42	0.37
10,254.00	91.51	313.57	7,715.72	3,143.84	-1,044.46	2,878.39	1.55	1.52	0.31
10,349.00	89.97	312.32	7,714.49	3,208.55	-1,113.99	2,973.36	2.09	1.62	-1.32
10,444.00	90.91	312.69	7,713.76	3,272.74	-1,184.02	3,068.35	1.06	1.06	0.39
10,539.00	89.40	312.38	7,713.50	3,336.96	-1,254.02	3,163.35	1.39	1.32	0.44
10,635.00	90.67	312.80	7,713.45	3,401.92	-1,324.70	3,259.34	1.34	1.23	0.53
10,730.00	89.50	313.30	7,713.31	3,466.77	-1,394.12	3,354.32	1.34	1.50	-0.61
10,826.00	90.94	312.71	7,712.94	3,532.25	-1,464.32	3,450.30	1.62	1.27	-0.49
10,921.00	89.73	312.24	7,712.38	3,596.40	-1,534.39	3,545.29	1.37	1.05	0.48
11,017.00	90.74	312.70	7,711.99	3,661.21	-1,605.20	3,641.28	1.16	1.51	0.08
11,113.00	89.29	312.62	7,711.96	3,726.27	-1,675.79	3,737.27	1.56	1.16	1.05
11,209.00	90.40	313.63	7,712.22	3,791.89	-1,745.86	3,833.25	1.56	1.16	1.05

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103-02932

Survey Report

Company: Statoil
Project: Wetzel County WV (NAD 83 UTM 17N)
Site: Michael Kuhn Unit
Well: Michael Kuhn Unit 2H
Wellbore: Wellbore #1
Design: Michael Kuhn 2H Final Surveys

Local Co-ordinate Reference: Well Michael Kuhn Unit 2H
TVD Reference: GL 1507 + KB 22' @ 1529.00usft (Orion Polaris)
MD Reference: GL 1507 + KB 22' @ 1529.00usft (Orion Polaris)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
11,303.00	89.90	313.98	7,711.98	3,856.96	-1,813.70	3,927.20	0.65	-0.53	0.37
11,398.00	91.71	313.81	7,710.64	3,922.81	-1,882.14	4,022.13	1.91	1.91	-0.18
11,494.00	89.76	310.50	7,709.41	3,987.23	-1,953.29	4,118.11	4.00	-2.03	-3.45
11,589.00	91.18	311.55	7,708.63	4,049.58	-2,024.96	4,213.09	1.86	1.49	1.11
11,685.00	89.50	310.51	7,708.06	4,112.59	-2,097.37	4,309.07	2.06	-1.75	-1.08
11,779.00	90.13	310.85	7,708.36	4,173.86	-2,168.66	4,403.04	0.76	0.67	0.36
11,875.00	91.18	311.44	7,707.27	4,237.02	-2,240.94	4,499.03	1.25	1.09	0.61
11,970.00	90.50	311.92	7,705.87	4,300.19	-2,311.89	4,594.02	0.88	-0.72	0.51
12,065.00	90.50	312.79	7,705.04	4,364.19	-2,382.09	4,689.01	0.92	0.00	0.92
12,160.00	90.34	313.35	7,704.35	4,429.06	-2,451.49	4,783.99	0.61	-0.17	0.59
12,255.00	90.47	313.22	7,703.68	4,494.19	-2,520.64	4,878.96	0.19	0.14	-0.14
12,349.00	91.11	313.76	7,702.38	4,558.88	-2,588.83	4,972.92	0.89	0.68	0.57
12,445.00	91.14	314.17	7,700.50	4,625.51	-2,657.91	5,068.84	0.43	0.03	0.43
12,541.00	89.16	310.60	7,700.24	4,690.21	-2,728.81	5,164.81	4.25	-2.06	-3.72
12,636.00	89.23	310.49	7,701.58	4,751.96	-2,800.99	5,259.78	0.14	0.07	-0.12
12,732.00	89.46	309.94	7,702.68	4,813.94	-2,874.29	5,355.73	0.62	0.24	-0.57
12,826.00	89.93	309.82	7,703.18	4,874.21	-2,946.43	5,449.66	0.52	0.50	-0.13
12,922.00	90.74	310.34	7,702.62	4,936.02	-3,019.88	5,545.61	1.00	0.84	0.54
13,017.00	91.11	309.29	7,701.08	4,996.84	-3,092.84	5,640.53	1.17	0.39	-1.11
13,113.00	91.95	309.65	7,698.52	5,057.84	-3,166.92	5,736.40	0.95	0.87	0.37
13,208.00	92.99	309.23	7,694.42	5,118.14	-3,240.22	5,831.22	1.18	1.09	-0.44
13,303.00	93.13	309.18	7,689.35	5,178.10	-3,313.73	5,925.98	0.16	0.15	-0.05
13,397.00	93.87	309.29	7,683.62	5,237.44	-3,386.40	6,019.70	0.80	0.79	0.12
Last Sperry MWD Survey at 13397' MD									
13,450.00	94.30	309.30	7,679.84	5,270.92	-3,427.31	6,072.51	0.81	0.81	0.02
Projected to the Bit at 13450' MD									

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (m)	Easting (m)	Latitude	Longitude
Michael Kuhn Unit 2H - hit/miss target - Shape	0.00	0.00	7,696.00	5,270.00	-3,406.82	4,386,765.30	539,221.90	39.629760	-80.542970
- actual wellpath misses target center by 19.30usft at 13432.45usft MD (7681.13 TVD, 5259.84 N, -3413.76 E)									
- Point									
Michael Kuhn Unit 2H - actual wellpath misses target center by 3.93usft at 13221.78usft MD (7693.70 TVD, 5126.84 N, -3250.87 E)	0.00	0.00	7,697.00	5,128.60	-3,249.67	4,386,722.20	539,269.80	39.629370	-80.542415
- Point									
Michael Kuhn Unit 2H - actual wellpath misses target center by 108.48usft at 8061.41usft MD (7647.73 TVD, 1652.96 N, 541.91 E)	0.00	0.00	7,728.00	1,655.51	614.83	4,385,663.60	540,447.70	39.619777	-80.528754
- Point									

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Sperry Drilling

Survey Report

Company:	Statoil	Local Co-ordinate Reference:	Well Michael Kuhn Unit 2H
Project:	Wetzel County WV (NAD 83 UTM 17N)	TVD Reference:	GL 1507 + KB 22' @ 1529.00usft (Orion Polaris)
Site:	Michael Kuhn Unit	MD Reference:	GL 1507 + KB 22' @ 1529.00usft (Orion Polaris)
Well:	Michael Kuhn Unit 2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Michael Kuhn 2H Final Surveys	Database:	EDM 5000.1 Single User Db

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (in)	Hole Diameter (in)
450.00	450.00	13 3/8" Casing		13.375	17.500
2,682.00	2,681.87	9 5/8" Casing		9.625	12.250

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
13,397.00	7,683.62	5,237.44	-3,386.40	Last Sperry MWD Survey at 13397' MD	
13,450.00	7,679.84	5,270.92	-3,427.31	Projected to the Bit at 13450' MD	

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103.02982



August 3, 2015

West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Reference: Well Operator's Report of Well Work
Michael Kuhn Unit Well No. 2H
Wetzel County

Gentlemen:

Statoil USA Onshore Properties Inc. herein submits the Well Operator's Report of Well Work and other applicable documentation for the Michael Kuhn Unit 2H well. Please note that this well is shut in and has not begun flowing back. An updated WR-35 will be submitted once flow back tests have been run. Enclosed please find the following documents:

- One (1) original and one (1) copy of Well Operator's Report of Well Work (Form WR-35)
- One (1) "As-drilled" plat
- One (1) Profile plat
- One (1) Deviation survey
- One (1) Frac Focus Disclosure

Should you have any questions or require additional information please contact the undersigned at 713-478-8975 or betda@statoil.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Beth Davidson".

Beth Davidson
Regulatory Advisor – Marcellus Asset

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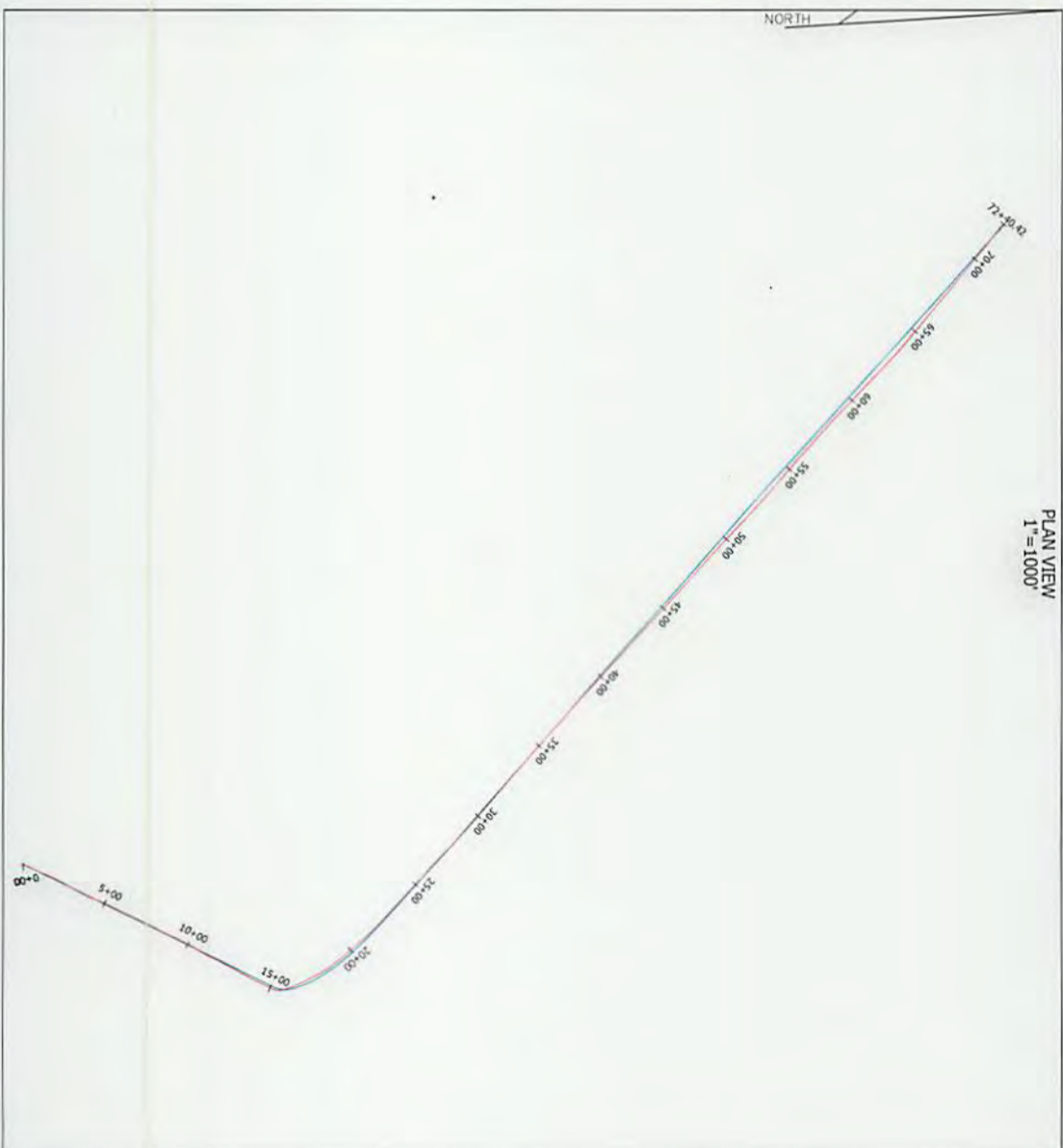
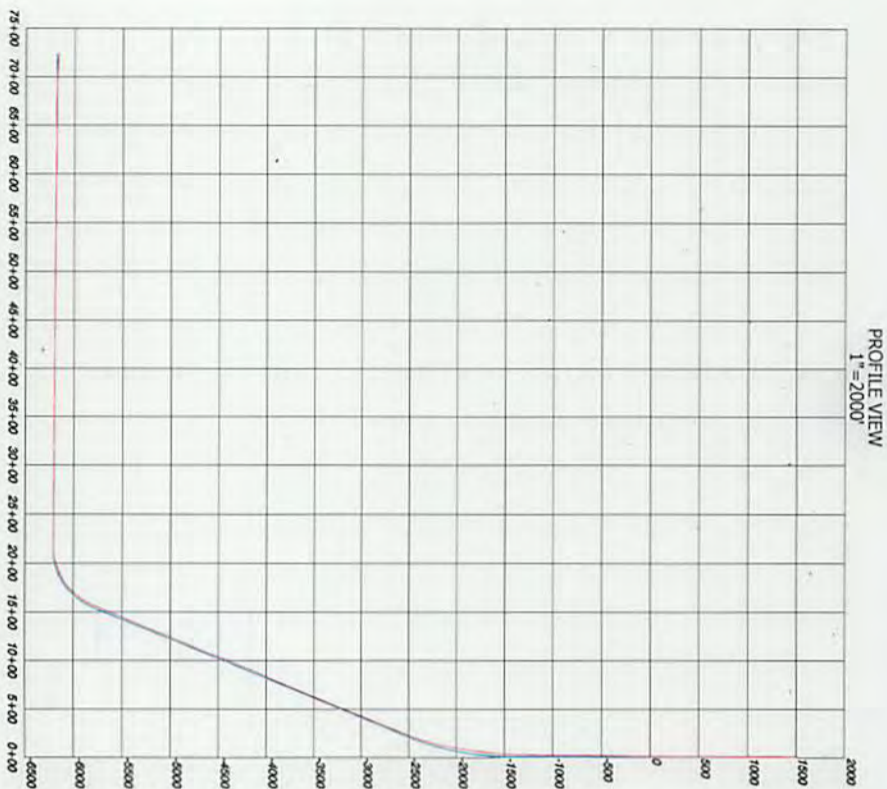
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Environmental Protection

10/30/2015

PLAN AND PROFILE VIEW FOR MICHAEL KUHN UNIT 2H (47-103-02932)

10/30/2015



NOTES

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

AS-DRILLED LATERAL
PROPOSED LATERAL

HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net

Prepared For:
STATOIL USA ONSHORE PROPERTIES INC.
2103 CITYWEST BLVD, SUITE 800
HOUSTON, TX 77042