



4700900138

## Chesapeake Appalachia, LLC

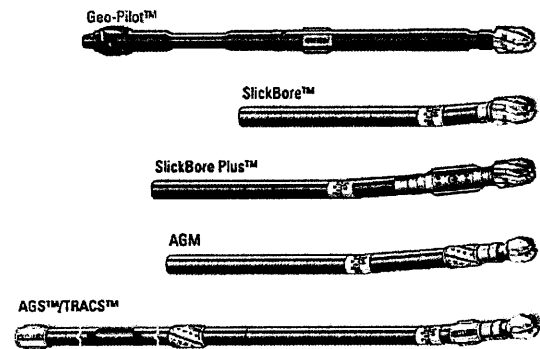
OV Royalty Trust LLC BRK 6H

Brooke County, West Virginia  
Nomac #37

## Sperry Drilling Services

### End of Well Report

Prepared For: Chesapeake Appalachia, LLC



August 23, 2012

Submitted by:  
Tim Aitken - Well Planner  
Darin Brown - Directional Drilling Coordinator  
Hunter Williams - Sperry Account Rep.  
1-800-332-3992  
Houston, TX 77032

**HALLIBURTON**

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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

# Chesapeake Appalachia. LLC

OV Royalty Trust LLC BRK 6H  
Brooke County, West Virginia

## End of Well Report

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**Sperry Drilling Services**

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MORGANTOWN, WV

## Final Surveys and Plot

# Chesapeake Appalachia, LLC

**HALLIBURTON**  
Sperry Drilling Services

Project: Brooke County, WV  
Site: Steubenville East  
Well: OV Royalty Trust LLC BRK 6H  
Wellbore: Wellbore #1  
Design: Plan #3  
Rig: Nomac 37

### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
9526.00	89.19	160.03	5788.90	-4192.24	186.08	0.00	0.00	4069.79	Tie-On
9574.00	89.19	160.03	5789.58	-4237.35	202.47	0.00	0.00	4117.70	Start Build
9866.02	91.40	167.46	5788.07	-4517.48	284.15	2.65	73.43	4409.49	End Build
9909.80	91.40	167.46	5787.00	-4560.20	293.66	0.00	0.00	4453.15	Start Drop
10073.35	90.00	163.35	5785.00	-4718.42	334.86	2.65	-108.80	4616.53	TD

### WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

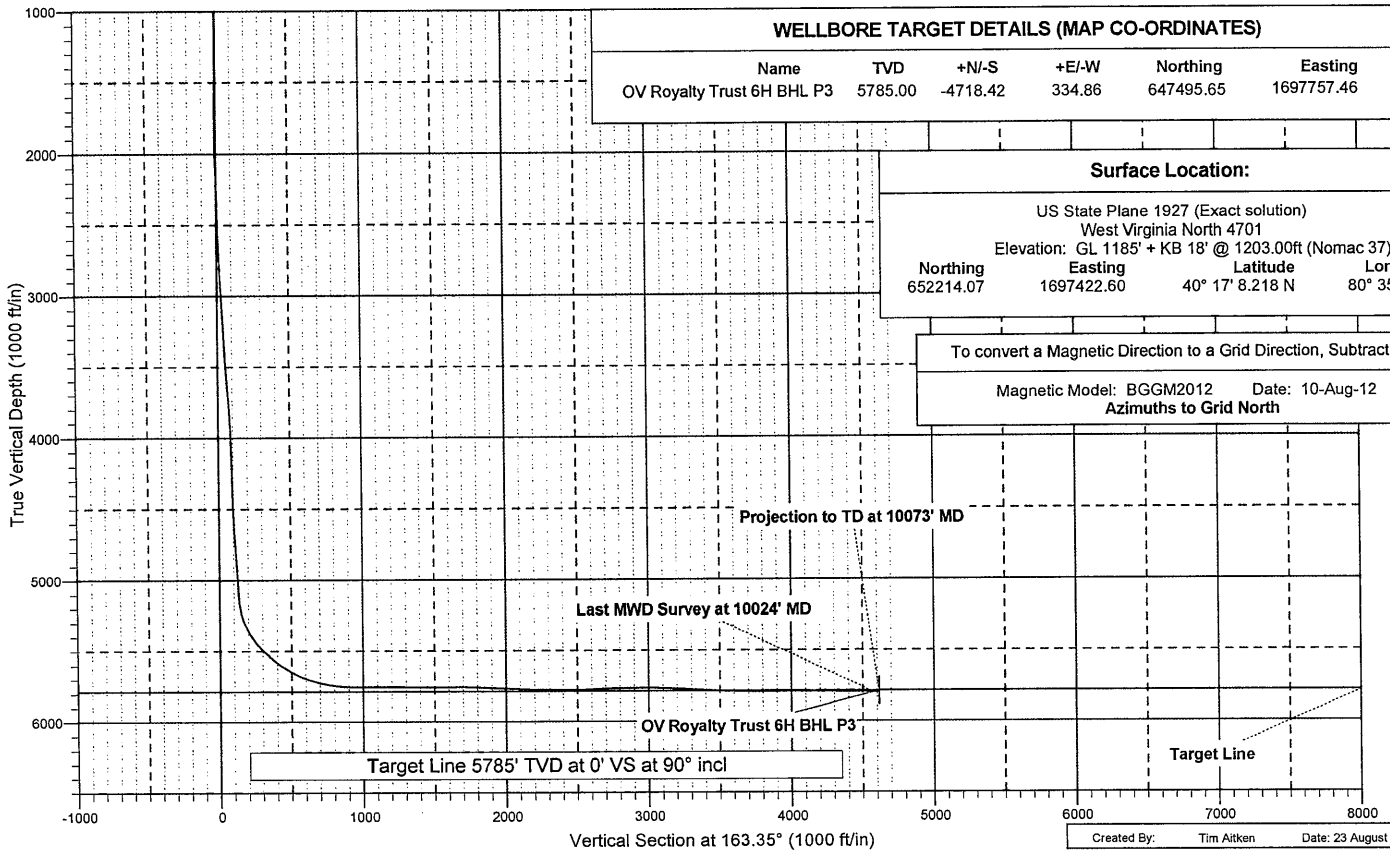
Name	TVD	+N/-S	+E/-W	Northing	Easting
OV Royalty Trust 6H BHL P3	5785.00	-4718.42	334.86	647495.65	1697757.46

### Surface Location:

US State Plane 1927 (Exact solution)  
West Virginia North 4701  
Elevation: GL 1185' + KB 18' @ 1203.00ft (Nomac 37)  
Northing: 652214.07    Easting: 1697422.60    Latitude: 40° 17' 8.218 N    Longitude: 80° 35' 4.297 W

To convert a Magnetic Direction to a Grid Direction, Subtract 8.06°

Magnetic Model: BGGM2012    Date: 10-Aug-12  
Azimuths to Grid North



Created By: Tim Aitken    Date: 23 August 2012

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MORGANTOWN, WV

# Chesapeake Appalachia, LLC

**HALLIBURTON**  
Sperry Drilling Services

Project: Brooke County, WV  
Site: Steubenville East  
Well: OV Royalty Trust LLC BRK 6H  
Wellbore: Wellbore #1  
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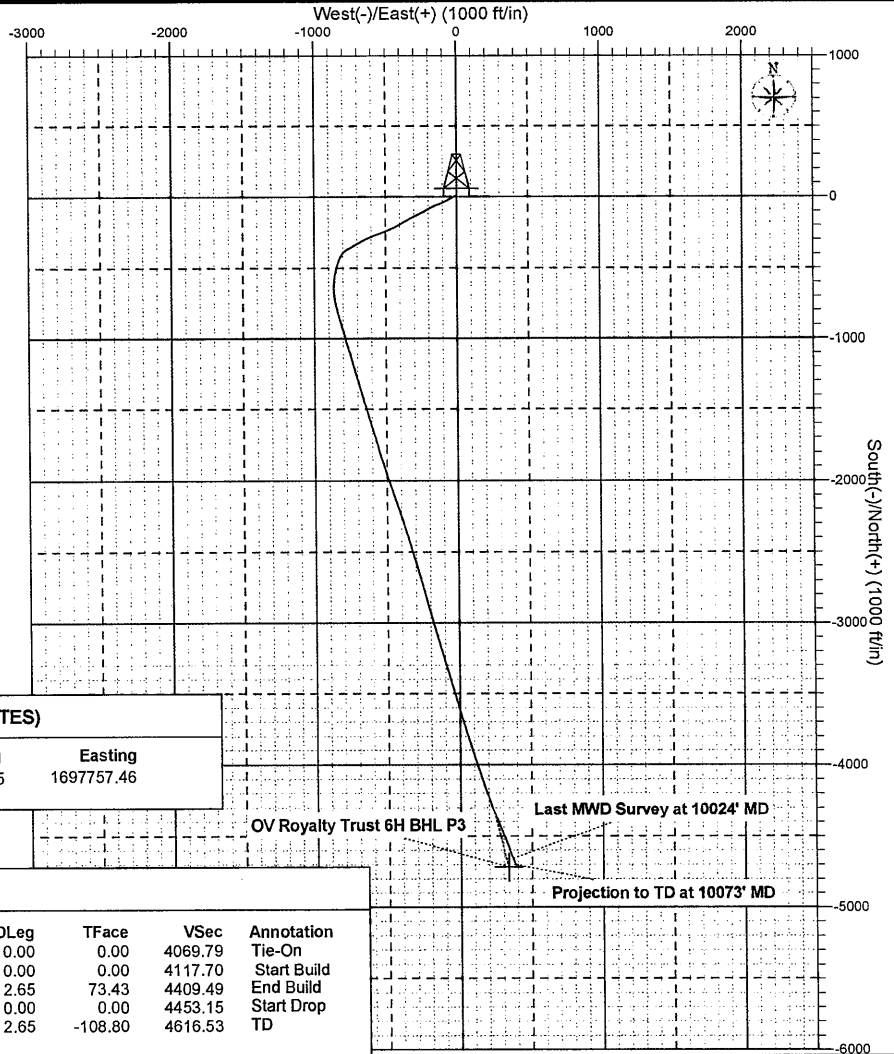
**Surface Location:**

US State Plane 1927 (Exact solution)  
West Virginia North 4701  
Elevation: GL 1185' + KB 18' @ 1203.00ft (Nomac 37)

Northing	Easting	Latitude	Longitude
652214.07	1697422.60	40° 17' 8.218 N	80° 35' 4.297 W

To convert a Magnetic Direction to a Grid Direction, Subtract 8.06°

Magnetic Model: BGGM2012 Date: 10-Aug-12  
Azimuths to Grid North



**WELLBORE TARGET DETAILS (MAP CO-ORDINATES)**

Name	TVD	+N/-S	+E/-W	Northing	Easting
OV Royalty Trust 6H BHL P3	5785.00	-4718.42	334.86	647495.65	1697757.46

**SECTION DETAILS**

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
9526.00	89.19	160.03	5788.90	-4192.24	186.08	0.00	0.00	4069.79	Tie-On
9574.00	89.19	160.03	5789.58	-4237.35	202.47	0.00	0.00	4117.70	Start Build
9866.02	91.40	167.46	5788.07	-4517.48	284.15	2.65	73.43	4409.49	End Build
9909.80	91.40	167.46	5787.00	-4560.20	293.66	0.00	0.00	4453.15	Start Drop
10073.35	90.00	163.35	5785.00	-4718.42	334.86	2.65	-108.80	4616.53	TD

Created By: Tim Aitken Date: 23 August 2012

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MORGANTOWN, WV

# Chesapeake Appalachia, LLC

Brooke County, WV  
Steubenville East  
OV Royalty Trust LLC BRK 6H

Wellbore #1

Design: Surveys

## Sperry Drilling Services Combo Report

23 August, 2012

Well Coordinates: 652,214.07 N, 1,697,422.60 E (40° 17' 08.22" N, 080° 35' 04.30" W)  
Ground Level: 1,185.00 ft

Local Coordinate Origin:	Centered on Well OV Royalty Trust LLC BRK 6H
Viewing Datum:	GL 1185' + KB 18' @ 1203.00ft (Nomac 37)
TVDs to System:	N
North Reference:	Grid
Unit System:	API-US Survey Feet

Version: 2003.16 Build: 43I

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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

**Design Report for OV Royalty Trust LLC BRK 6H - Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
3,455.00	17.96	245.57	2,209.65	3,412.65	146.91 S	318.46 W	652,067.15	1,697,104.15	2.39	49.51
3,518.00	16.93	240.46	2,269.75	3,472.75	155.45 S	335.28 W	652,058.61	1,697,087.32	2.93	52.87
3,581.00	16.15	238.16	2,330.15	3,533.15	164.60 S	350.71 W	652,049.47	1,697,071.90	1.62	57.21
3,645.00	17.19	240.96	2,391.46	3,594.46	173.89 S	366.54 W	652,040.18	1,697,056.07	2.05	61.57
3,708.00	16.13	238.68	2,451.81	3,654.81	182.95 S	382.15 W	652,031.11	1,697,040.45	1.98	65.79
3,771.00	14.85	237.17	2,512.52	3,715.52	191.88 S	396.41 W	652,022.18	1,697,026.19	2.13	70.25
3,834.00	16.45	239.29	2,573.19	3,776.19	200.81 S	410.87 W	652,013.25	1,697,011.74	2.70	74.67
3,898.00	16.71	240.54	2,634.52	3,837.52	209.97 S	426.67 W	652,004.10	1,696,995.94	0.69	78.91
3,962.00	17.08	243.14	2,695.76	3,898.76	218.74 S	443.07 W	651,995.33	1,696,979.54	1.31	82.62
4,024.00	18.20	247.04	2,754.85	3,957.85	226.63 S	460.10 W	651,987.44	1,696,962.50	2.63	85.30
4,088.00	18.17	249.55	2,815.65	4,018.65	234.02 S	478.66 W	651,980.05	1,696,943.95	1.22	87.06
4,151.00	17.49	248.21	2,875.63	4,078.63	240.96 S	496.65 W	651,973.10	1,696,925.95	1.26	88.56
4,215.00	18.32	250.11	2,936.53	4,139.53	247.95 S	515.04 W	651,966.11	1,696,907.56	1.59	89.99
4,278.00	17.00	248.91	2,996.56	4,199.56	254.64 S	532.95 W	651,959.43	1,696,889.66	2.17	91.26
4,342.00	16.06	247.68	3,057.91	4,260.91	261.37 S	549.86 W	651,952.70	1,696,872.74	1.57	92.86
4,405.00	17.11	249.34	3,118.29	4,321.29	267.94 S	566.60 W	651,946.12	1,696,856.01	1.83	94.37
4,469.00	17.45	249.46	3,179.40	4,382.40	274.63 S	584.39 W	651,939.43	1,696,838.21	0.53	95.68
4,532.00	17.30	248.45	3,239.53	4,442.53	281.39 S	601.95 W	651,932.68	1,696,820.65	0.53	97.12
4,595.00	16.00	246.49	3,299.89	4,502.89	288.29 S	618.63 W	651,925.77	1,696,803.98	2.25	98.95
4,658.00	15.43	244.75	3,360.53	4,563.53	295.33 S	634.17 W	651,918.73	1,696,788.44	1.17	101.24
4,721.00	16.12	242.35	3,421.16	4,624.16	302.97 S	649.50 W	651,911.10	1,696,773.11	1.51	104.17
4,785.00	15.64	242.36	3,482.72	4,685.72	311.09 S	665.01 W	651,902.97	1,696,757.60	0.75	107.51
4,847.00	16.64	241.96	3,542.27	4,745.27	319.14 S	680.25 W	651,894.92	1,696,742.36	1.62	110.85
4,910.00	17.11	239.60	3,602.56	4,805.56	328.07 S	696.20 W	651,885.99	1,696,726.40	1.32	114.84
4,973.00	15.86	238.58	3,662.97	4,865.97	337.25 S	711.54 W	651,876.82	1,696,711.06	2.04	119.23
5,037.00	14.94	238.65	3,724.67	4,927.67	346.10 S	726.05 W	651,867.97	1,696,696.55	1.44	123.56
5,099.00	16.17	241.29	3,784.40	4,987.40	354.41 S	740.45 W	651,859.66	1,696,682.15	2.29	127.39
5,163.00	16.66	244.94	3,845.79	5,048.79	362.57 S	756.58 W	651,851.49	1,696,666.03	1.78	130.59
5,184.00	16.35	244.74	3,865.93	5,068.93	365.11 S	761.98 W	651,848.96	1,696,660.63	1.50	131.48
5,215.00	15.40	242.94	3,895.74	5,098.74	368.84 S	769.59 W	651,845.22	1,696,653.02	3.45	132.87
5,247.00	15.62	240.09	3,926.58	5,129.58	372.93 S	777.11 W	651,841.14	1,696,645.50	2.48	134.63
5,276.00	16.90	231.60	3,954.42	5,157.42	377.49 S	783.80 W	651,836.57	1,696,638.81	9.30	137.09
5,308.00	18.67	224.57	3,984.89	5,187.89	384.03 S	791.04 W	651,830.04	1,696,631.57	8.69	141.28
5,339.00	20.82	218.26	4,014.07	5,217.07	391.89 S	797.93 W	651,822.17	1,696,624.67	9.76	146.83
5,371.00	23.60	214.33	4,043.70	5,246.70	401.65 S	805.07 W	651,812.42	1,696,617.54	9.85	154.14
5,402.00	25.53	208.84	4,071.89	5,274.89	412.63 S	811.79 W	651,801.44	1,696,610.81	9.64	162.73
5,433.00	27.70	205.05	4,099.61	5,302.61	425.01 S	818.07 W	651,789.06	1,696,604.54	8.88	172.80
5,465.00	30.48	202.05	4,127.57	5,330.57	439.27 S	824.26 W	651,774.79	1,696,598.34	9.81	184.68
5,497.00	33.25	200.69	4,154.75	5,357.75	455.01 S	830.41 W	651,759.06	1,696,592.19	8.94	198.00
5,528.00	36.16	198.49	4,180.23	5,383.23	471.63 S	836.31 W	651,742.43	1,696,586.29	10.22	212.24
5,560.00	39.27	197.26	4,205.54	5,408.54	490.26 S	842.32 W	651,723.80	1,696,580.29	10.00	228.36
5,591.00	42.30	195.51	4,229.01	5,432.01	509.69 S	848.02 W	651,704.38	1,696,574.59	10.45	245.34
5,623.00	44.83	191.90	4,252.20	5,455.20	531.11 S	853.22 W	651,682.95	1,696,569.38	11.09	264.37
5,655.00	46.37	189.24	4,274.59	5,477.59	553.58 S	857.41 W	651,660.48	1,696,565.19	7.64	284.70
5,687.00	46.99	187.19	4,296.55	5,499.55	576.62 S	860.73 W	651,637.44	1,696,561.87	5.05	305.83

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**HALLIBURTON****Design Report for OV Royalty Trust LLC BRK 6H - Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
0.00	0.00	0.00	-1,203.00	0.00	0.00 N	0.00 E	652,214.07	1,697,422.60	0.00	0.00
100.00	0.44	350.04	-1,103.00	100.00	0.38 N	0.07 W	652,214.44	1,697,422.54	0.44	-0.38
200.00	0.35	348.55	-1,003.00	200.00	1.06 N	0.19 W	652,215.12	1,697,422.41	0.09	-1.07
300.00	0.06	354.36	-903.00	300.00	1.41 N	0.26 W	652,215.47	1,697,422.35	0.29	-1.42
400.00	0.28	8.97	-803.00	400.00	1.70 N	0.23 W	652,215.77	1,697,422.38	0.22	-1.69
500.00	0.18	9.18	-703.01	499.99	2.10 N	0.16 W	652,216.16	1,697,422.44	0.10	-2.06
600.00	0.41	359.87	-603.01	599.99	2.61 N	0.14 W	652,216.68	1,697,422.47	0.23	-2.54
700.00	0.49	10.47	-503.01	699.99	3.39 N	0.06 W	652,217.45	1,697,422.54	0.12	-3.26
800.00	0.47	13.16	-403.01	799.99	4.21 N	0.11 E	652,218.27	1,697,422.71	0.03	-4.00
900.00	0.46	21.37	-303.02	899.98	4.98 N	0.35 E	652,219.05	1,697,422.95	0.07	-4.67
1,000.00	0.37	6.27	-203.02	999.98	5.68 N	0.53 E	652,219.74	1,697,423.13	0.14	-5.29
1,100.00	0.28	358.86	-103.02	1,099.98	6.24 N	0.56 E	652,220.31	1,697,423.16	0.10	-5.82
1,200.00	0.43	12.33	-3.02	1,199.98	6.85 N	0.64 E	652,220.92	1,697,423.24	0.17	-6.38
1,300.00	0.45	355.34	96.97	1,299.97	7.61 N	0.68 E	652,221.68	1,697,423.29	0.13	-7.10
1,400.00	0.66	9.15	196.97	1,399.97	8.57 N	0.74 E	652,222.64	1,697,423.35	0.25	-8.00
1,500.00	0.42	356.56	296.97	1,499.97	9.50 N	0.81 E	652,223.57	1,697,423.42	0.27	-8.87
1,590.00	0.62	9.73	386.96	1,589.96	10.31 N	0.88 E	652,224.38	1,697,423.48	0.26	-9.63
1,683.00	0.32	4.03	479.96	1,682.96	11.07 N	0.98 E	652,225.13	1,697,423.58	0.33	-10.32
1,747.00	2.81	253.17	543.93	1,746.93	10.79 N	0.51 W	652,224.86	1,697,422.09	4.59	-10.49
1,811.00	3.47	249.94	607.84	1,810.84	9.67 N	3.83 W	652,223.74	1,697,418.77	1.07	-10.37
1,874.00	5.76	247.93	670.63	1,873.63	7.83 N	8.55 W	652,221.90	1,697,414.05	3.64	-9.95
1,936.00	5.94	244.76	732.31	1,935.31	5.30 N	14.34 W	652,219.36	1,697,408.27	0.60	-9.18
1,999.00	8.20	242.43	794.82	1,997.82	1.83 N	21.27 W	652,215.89	1,697,401.33	3.62	-7.84
2,062.00	7.82	237.59	857.21	2,060.21	2.55 S	28.87 W	652,211.51	1,697,393.73	1.23	-5.83
2,126.00	7.39	235.23	920.65	2,123.65	7.23 S	35.93 W	652,206.83	1,697,386.68	0.83	-3.37
2,189.00	7.67	234.23	983.10	2,186.10	12.00 S	42.67 W	652,202.07	1,697,379.94	0.49	-0.73
2,253.00	10.00	241.67	1,046.34	2,249.34	17.13 S	51.02 W	652,196.93	1,697,371.58	4.05	1.80
2,316.00	9.55	240.92	1,108.43	2,311.43	22.27 S	60.41 W	652,191.80	1,697,362.20	0.74	4.03
2,379.00	9.41	240.90	1,170.57	2,373.57	27.32 S	69.47 W	652,186.75	1,697,353.13	0.22	6.26
2,443.00	10.34	248.94	1,233.62	2,436.62	31.92 S	79.41 W	652,182.14	1,697,343.20	2.60	7.83
2,507.00	10.51	245.53	1,296.56	2,499.56	36.41 S	90.08 W	652,177.66	1,697,332.52	1.00	9.07
2,570.00	12.62	246.54	1,358.28	2,561.28	41.53 S	101.62 W	652,172.54	1,697,320.98	3.36	10.67
2,633.00	14.37	248.44	1,419.54	2,622.54	47.14 S	115.21 W	652,166.93	1,697,307.40	2.87	12.15
2,696.00	15.40	248.63	1,480.42	2,683.42	53.06 S	130.27 W	652,161.01	1,697,292.33	1.64	13.51
2,759.00	15.34	245.81	1,541.17	2,744.17	59.52 S	145.66 W	652,154.54	1,697,276.94	1.19	15.29
2,822.00	16.30	244.16	1,601.79	2,804.79	66.79 S	161.22 W	652,147.27	1,697,261.38	1.68	17.80
2,885.00	15.67	242.29	1,662.35	2,865.35	74.60 S	176.71 W	652,139.46	1,697,245.89	1.29	20.84
2,948.00	15.09	242.18	1,723.09	2,926.09	82.38 S	191.50 W	652,131.68	1,697,231.11	0.92	24.06
3,011.00	16.45	243.13	1,783.72	2,986.72	90.24 S	206.71 W	652,123.82	1,697,215.90	2.20	27.23
3,074.00	16.37	242.32	1,844.15	3,047.15	98.40 S	222.52 W	652,115.67	1,697,200.08	0.38	30.52
3,138.00	16.79	243.75	1,905.49	3,108.49	106.68 S	238.80 W	652,107.39	1,697,183.80	0.91	33.78
3,201.00	15.95	241.16	1,965.94	3,168.94	114.88 S	254.55 W	652,099.19	1,697,168.06	1.77	37.13
3,265.00	15.56	240.89	2,027.54	3,230.54	123.30 S	269.75 W	652,090.77	1,697,152.86	0.62	40.84
3,328.00	16.41	244.78	2,088.10	3,291.10	131.20 S	285.18 W	652,082.87	1,697,137.42	2.17	43.99
3,392.00	16.51	244.23	2,149.48	3,352.48	139.00 S	301.55 W	652,075.06	1,697,121.05	0.29	46.77

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MORGANTOWN, WV



**HALLIBURTON****Design Report for OV Royalty Trust LLC BRK 6H - Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
5,718.00	47.65	183.72	4,317.57	5,520.57	599.30 S	862.90 W	651,614.76	1,696,559.71	8.50	326.93
5,750.00	49.39	180.43	4,338.76	5,541.76	623.25 S	863.76 W	651,590.81	1,696,558.85	9.43	349.64
5,782.00	51.37	177.93	4,359.17	5,562.17	647.90 S	863.40 W	651,566.17	1,696,559.21	8.63	373.35
5,813.00	53.35	176.53	4,378.10	5,581.10	672.41 S	862.21 W	651,541.65	1,696,560.40	7.32	397.18
5,845.00	55.08	173.44	4,396.82	5,599.82	698.27 S	859.93 W	651,515.80	1,696,562.68	9.52	422.60
5,876.00	56.74	170.65	4,414.19	5,617.19	723.69 S	856.37 W	651,490.38	1,696,566.23	9.18	447.97
5,908.00	59.08	168.40	4,431.19	5,634.19	750.34 S	851.44 W	651,463.73	1,696,571.17	9.43	474.92
5,939.00	61.35	166.80	4,446.59	5,649.59	776.61 S	845.65 W	651,437.45	1,696,576.95	8.58	501.75
5,970.00	63.55	165.25	4,460.93	5,663.93	803.28 S	839.01 W	651,410.79	1,696,583.59	8.37	529.20
6,002.00	65.81	163.94	4,474.62	5,677.62	831.16 S	831.33 W	651,382.90	1,696,591.28	7.97	558.12
6,033.00	68.33	163.98	4,486.69	5,689.69	858.60 S	823.44 W	651,355.47	1,696,599.16	8.13	586.67
6,065.00	69.99	164.19	4,498.08	5,701.08	887.36 S	815.24 W	651,326.71	1,696,607.36	5.22	616.57
6,097.00	71.82	164.50	4,508.54	5,711.54	916.48 S	807.08 W	651,297.59	1,696,615.52	5.79	646.80
6,129.00	74.39	164.14	4,517.84	5,720.84	945.95 S	798.81 W	651,268.11	1,696,623.80	8.10	677.41
6,161.00	77.03	163.60	4,525.74	5,728.74	975.74 S	790.19 W	651,238.33	1,696,632.41	8.41	708.42
6,193.00	78.84	163.01	4,532.43	5,735.43	1,005.71 S	781.20 W	651,208.36	1,696,641.40	5.94	739.71
6,225.00	80.66	163.09	4,538.12	5,741.12	1,035.83 S	772.02 W	651,178.24	1,696,650.58	5.69	771.20
6,256.00	82.99	163.49	4,542.53	5,745.53	1,065.22 S	763.20 W	651,148.85	1,696,659.41	7.62	801.88
6,288.00	84.24	164.20	4,546.09	5,749.09	1,095.76 S	754.35 W	651,118.30	1,696,668.25	4.49	833.68
6,320.00	85.03	164.39	4,549.08	5,752.08	1,126.43 S	745.73 W	651,087.63	1,696,676.88	2.54	865.54
6,383.00	89.19	164.01	4,552.26	5,755.26	1,186.96 S	728.60 W	651,027.10	1,696,694.01	6.63	928.43
6,509.00	90.64	164.35	4,552.44	5,755.44	1,308.19 S	694.25 W	650,905.88	1,696,728.35	1.18	1,054.42
6,634.00	89.90	163.50	4,551.86	5,754.86	1,428.30 S	659.64 W	650,785.77	1,696,762.96	0.90	1,179.41
6,761.00	89.23	163.41	4,552.82	5,755.82	1,550.03 S	623.48 W	650,664.03	1,696,799.13	0.53	1,306.40
6,888.00	89.40	163.10	4,554.34	5,757.34	1,671.64 S	586.89 W	650,542.43	1,696,835.72	0.28	1,433.39
7,016.00	90.60	163.15	4,554.34	5,757.34	1,794.12 S	549.73 W	650,419.94	1,696,872.87	0.94	1,561.39
7,141.00	89.97	162.23	4,553.72	5,756.72	1,913.46 S	512.54 W	650,300.61	1,696,910.06	0.89	1,686.38
7,268.00	87.58	160.86	4,556.43	5,759.43	2,033.89 S	472.35 W	650,180.18	1,696,950.25	2.17	1,813.27
7,394.00	87.61	161.59	4,561.72	5,764.72	2,153.08 S	431.83 W	650,060.99	1,696,990.77	0.58	1,939.08
7,521.00	87.48	161.31	4,567.16	5,770.16	2,273.37 S	391.47 W	649,940.69	1,697,031.14	0.24	2,065.89
7,647.00	88.96	163.19	4,571.07	5,774.07	2,393.31 S	353.08 W	649,820.76	1,697,069.53	1.90	2,191.80
7,772.00	89.23	163.71	4,573.05	5,776.05	2,513.11 S	317.47 W	649,700.95	1,697,105.13	0.47	2,316.78
7,899.00	89.46	163.33	4,574.50	5,777.50	2,634.89 S	281.45 W	649,579.18	1,697,141.15	0.35	2,443.77
8,025.00	92.78	164.98	4,572.04	5,775.04	2,756.05 S	247.06 W	649,458.01	1,697,175.55	2.94	2,569.71
8,152.00	91.37	164.29	4,567.44	5,770.44	2,878.43 S	213.43 W	649,335.63	1,697,209.17	1.24	2,696.59
8,278.00	91.41	163.97	4,564.38	5,767.38	2,999.59 S	178.99 W	649,214.47	1,697,243.62	0.26	2,822.54
8,403.00	90.13	163.86	4,562.70	5,765.70	3,119.69 S	144.36 W	649,094.38	1,697,278.25	1.03	2,947.52
8,528.00	88.99	163.63	4,563.66	5,766.66	3,239.68 S	109.37 W	648,974.38	1,697,313.24	0.93	3,072.52
8,653.00	87.27	163.59	4,567.74	5,770.74	3,359.54 S	74.12 W	648,854.53	1,697,348.49	1.38	3,197.44
8,777.00	87.48	163.85	4,573.42	5,776.42	3,478.44 S	39.39 W	648,735.63	1,697,383.21	0.27	3,321.31
8,901.00	87.27	162.84	4,579.10	5,782.10	3,597.11 S	3.89 W	648,616.96	1,697,418.71	0.83	3,445.18
9,025.00	87.72	163.66	4,584.52	5,787.52	3,715.73 S	31.81 E	648,498.33	1,697,454.41	0.75	3,569.06
9,150.00	89.19	162.92	4,587.89	5,790.89	3,835.41 S	67.74 E	648,378.66	1,697,490.34	1.32	3,694.01
9,275.00	90.64	161.95	4,588.07	5,791.07	3,954.58 S	105.46 E	648,259.49	1,697,528.06	1.40	3,818.99
9,400.00	91.08	161.54	4,586.20	5,789.20	4,073.27 S	144.61 E	648,140.80	1,697,567.21	0.48	3,943.92

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	6/20/2013
Well Name	WEST VIRGINIA BROOKE
Well Name and Number	4700900138
Operator	CHESAPEAKE APPALACHIA LLC
Well Name and Number	OV ROYALTY TRUST LLC BRK 6H
Phone Number	-80.584527
Address	40.285616
County	NAD27
Product Type	GAS
Flowback Volume (GAL)	5,792
Total Water Volume (GAL)	4,720,884

## Hydraulic Fracturing Fluid Composition:

Fracture Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)*	Maximum Ingredient Concentration in HF Fluid (% by Mass)*	Comments
Fresh Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	78.31976%	
Recycled Produced Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	7.03433%	
EC6110A	NALCO	Anti-Bacterial Agent	Ethanol Glutaraldehyde (Pentanediol) Quaternary Ammonium Compounds	000064-17-5 000111-30-8 NA	5.00% 60.00% 10.00%	0.00117% 0.01402% 0.00234%	
EC6629A	NALCO	Scale Inhibitor	No Hazardous Components	NONE	0.00000%	0.00000%	
Northern White Sand, 100 Mesh Sand, Acid	SCHLUMBERGER	Proppant - Natural, Acid, Gelling Agent, Friction Reducer, Iron Control Agent, Corrosion Inhibitor, Breaker	Crystalline silica Hydrogen chloride Acrylamide sodium acrylate copolymer Distillates (petroleum), hydrotreated light Guar gum	14808-60-7 7647-01-0 25085-02-3 64742-47-8 9000-30-0	98.23930% 1.17919% 0.25475% 0.22133% 0.04710%	14.64102% 0.17574% 0.03797% 0.03299% 0.00702%	

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Alkylalcohol, ethoxylate >C-10	68002-97-1	0.01355%	0.00202%	
Sorbitan monooleate	1338-43-8	0.01084%	0.00162%	
Thiocyanic acid, ammonium salt	1762-95-4	0.00668%	0.00100%	
Poly(oxyethylene) sorbitol monostearate	9005-67-8	0.00632%	0.00094%	
Sodium erythorbate	6381-77-7	0.00507%	0.00076%	
Methanol	67-56-1	0.00399%	0.00059%	
Fatty acids, tall-oil	61790-12-3	0.00293%	0.00044%	
Diammonium peroxidisulphate	7727-54-0	0.00275%	0.00041%	
Thiourea, polymer with formaldehyde and 1-phenylethanone	68527-49-1	0.00241%	0.00036%	
Alcohols, C14-15, ethoxylated (ZEO)	68951-67-7	0.00112%	0.00017%	
Prop-2-yn-1-ol	107-19-7	0.00075%	0.00011%	
Alkenes, C>10 a-	64743-02-8	0.00050%	0.00007%	
Non-crystalline silica	7631-86-9	0.00013%	0.00002%	
Tetrasodium ethylenediaminetetraacetate	64-02-8	0.00008%	0.00001%	

**Additional Ingredients Not Listed on MSDS**

EC6110A, EC6629A	NALCO	Anti-Bacterial Agent, Scale Inhibitor	Methanol (Methyl Alcohol)	000067-56-1	TRADE SECRET	0.00963%	
			Proprietary Acrylate Polymer		TRADE SECRET	0.00963%	
			Proprietary Quaternary Ammonium Salt		TRADE SECRET	0.00963%	
			Water	007732-18-5		0.02700%	

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

"Additional Ingredients Not Listed on MSDS" component information were obtained directly from the supplier. As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of this information should be directed to the supplier who provided it.

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**Design Report for OV Royalty Trust LLC BRK 6H - Surveys**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
9,526.00	89.19	160.03	4,585.90	5,788.90	4,192.24 S	186.08 E	648,021.82	1,697,608.68	1.92	4,069.79
9,652.00	89.93	160.29	4,586.87	5,789.87	4,310.76 S	228.84 E	647,903.31	1,697,651.44	0.62	4,195.59
9,775.00	89.36	155.71	4,587.63	5,790.63	4,424.77 S	274.90 E	647,789.30	1,697,697.51	3.75	4,318.02
9,900.00	89.53	159.58	4,588.84	5,791.84	4,540.35 S	322.43 E	647,673.72	1,697,745.04	3.10	4,442.37
10,024.00	89.87	160.34	4,589.49	5,792.49	4,656.84 S	364.92 E	647,557.23	1,697,787.53	0.67	4,566.15
<b>Last MWD Survey at 10024' MD</b>										
10,073.00	89.87	160.34	4,589.60	5,792.60	4,702.98 S	381.41 E	647,511.09	1,697,804.01	0.00	4,615.08
<b>Projection to TD at 10073' MD</b>										

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,024.00	5,792.49	-4,656.84	364.92	Last MWD Survey at 10024' MD
10,073.00	5,792.60	-4,702.98	381.41	Projection to TD at 10073' MD

**Vertical Section Information**

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/_S (ft)	+E/-W (ft)	
User	No Target (Freehand)	163.35	Slot	0.00	0.00	0.00

**Survey tool program**

From (ft)	To (ft)	Survey/Plan	Survey Tool
100.00	1,590.00	VES Gyro	NS-Gyro-MS
1,683.00	10,073.00	Sperry MWD	MWD

**Targets**

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
OV Royalty Trust 6H	0.00	0.00	5,785.00	-4,718.42	334.86	647,495.65	1,697,757.46	40° 16' 21.634 N	80° 34' 59.243 W
- hit/miss target									
- Shape									
- actual wellpath misses target center by 49.62ft at 10071.86ft MD (5792.60 TVD, -4701.91 N, 381.03 E)									
- Point									

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**HALLIBURTON****North Reference Sheet for Steubenville East - OV Royalty Trust LLC BRK 6H - Wellbore #1**

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GL 1185' + KB 18' @ 1203.00ft (Nomac 37). Northing and Easting are relative to OV Royalty Trust LLC BRK 6H Coordinate System is US State Plane 1927 (Exact solution), West Virginia North 4701 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866 Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 79° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 15' 0.000 N°

False Easting: 2,000,000.00ft, False Northing: 0.00ft, Scale Reduction: 1.00000697

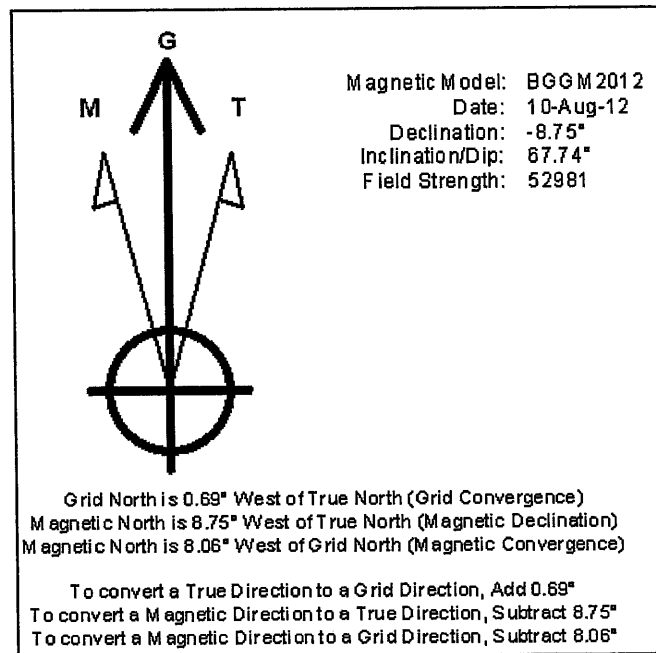
Grid Coordinates of Well: 652,214.07 ft N, 1,697,422.60 ft E

Geographical Coordinates of Well: 40° 17' 08.22" N, 080° 35' 04.30" W

Grid Convergence at Surface is: -0.69°

Based upon Minimum Curvature type calculations, at a Measured Depth of 10,073.00ft the Bottom Hole Displacement is 4,718.42ft in the Direction of 175.36° (Grid).

Magnetic Convergence at surface is: 8.06° (10 August 2012, , BGGM2012)



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