69-00107

Chesapeake Appalachia, LLC

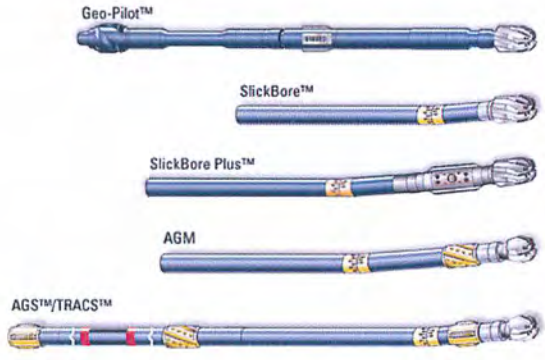
Chad Glauser OHI 8H

Ohio County, West Virginia
Nomac #25

Sperry Drilling Services

End of Well Report

Prepared For: Chesapeake Appalachia, LLC



July 16,2012

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

HALLIBURTON

69-00107

Chesapeake Appalachia, LLC

Ohio County, WV
Valley Grove
Chad Glauser OHI 8H

Wellbore #1

Design: Surveys

Sperry Drilling Services

Combo Report

16 July, 2012

Well Coordinates: 559,085.43 N, 1,692,638.20 E (40° 01' 47.38" N, 080° 35' 51.35" W)
Ground Level: 1,250.00 ft

Local Coordinate Origin:	Centered on Well Chad Glauser OHI 8H
Viewing Datum:	GL 1250' + KB 16' @ 1266.00ft (Nomac 25)
TVDs to System:	N
North Reference:	Grid
Unit System:	API-US Survey Feet

Version: 2003.16 Build: 43I

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05/23/2014

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Design Report for Chad Glauser OHI 8H - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
0.00	0.00	0.00	-1,266.00	0.00	0.00 N	0.00 E	559,085.43	1,692,638.20	0.00	0.00
100.00	0.19	68.18	-1,166.00	100.00	0.06 N	0.15 E	559,085.50	1,692,638.35	0.19	0.02
200.00	0.12	191.55	-1,066.00	200.00	0.02 N	0.29 E	559,085.46	1,692,638.48	0.27	0.12
300.00	0.23	62.84	-966.00	300.00	0.01 N	0.44 E	559,085.44	1,692,638.64	0.32	0.21
400.00	0.18	100.44	-866.00	400.00	0.07 N	0.78 E	559,085.51	1,692,638.97	0.14	0.32
500.00	0.17	324.85	-766.00	500.00	0.17 N	0.85 E	559,085.60	1,692,639.04	0.32	0.27
600.00	0.27	13.37	-666.00	600.00	0.52 N	0.82 E	559,085.95	1,692,639.01	0.20	-0.05
605.00	0.13	321.64	-661.00	605.00	0.53 N	0.81 E	559,085.97	1,692,639.01	4.30	-0.06
700.00	0.11	338.49	-566.00	700.00	0.70 N	0.71 E	559,086.14	1,692,638.91	0.04	-0.26
720.00	0.12	47.62	-546.00	720.00	0.73 N	0.72 E	559,086.17	1,692,638.92	0.65	-0.28
800.00	0.36	201.01	-466.00	800.00	0.56 N	0.69 E	559,085.99	1,692,638.89	0.59	-0.14
900.00	0.60	216.84	-366.01	899.99	0.16 S	0.27 E	559,085.28	1,692,638.46	0.27	0.27
1,000.00	0.49	211.90	-266.01	999.99	0.94 S	0.27 W	559,084.50	1,692,637.92	0.12	0.69
1,100.00	0.48	206.34	-166.01	1,099.99	1.68 S	0.68 W	559,083.76	1,692,637.51	0.05	1.13
1,200.00	0.13	211.81	-66.02	1,199.98	2.15 S	0.93 W	559,083.29	1,692,637.27	0.35	1.42
1,300.00	0.15	171.69	33.98	1,299.98	2.38 S	0.97 W	559,083.06	1,692,637.23	0.10	1.59
1,400.00	0.10	310.80	133.98	1,399.98	2.45 S	1.02 W	559,082.99	1,692,637.18	0.23	1.63
1,500.00	0.22	237.36	233.98	1,499.98	2.49 S	1.24 W	559,082.94	1,692,636.95	0.21	1.56
1,600.00	0.11	245.82	333.98	1,599.98	2.64 S	1.49 W	559,082.80	1,692,636.70	0.11	1.57
1,700.00	0.11	311.75	433.98	1,699.98	2.61 S	1.65 W	559,082.82	1,692,636.54	0.12	1.47
1,800.00	0.13	179.40	533.98	1,799.98	2.66 S	1.72 W	559,082.77	1,692,636.47	0.22	1.48
1,900.00	0.17	273.86	633.98	1,899.98	2.77 S	1.87 W	559,082.67	1,692,636.32	0.22	1.49
2,000.00	0.22	162.47	733.98	1,999.98	2.94 S	1.96 W	559,082.50	1,692,636.23	0.32	1.60
2,100.00	0.22	177.95	833.98	2,099.98	3.31 S	1.90 W	559,082.12	1,692,636.30	0.06	1.96
2,200.00	0.25	213.25	933.98	2,199.98	3.69 S	2.01 W	559,081.75	1,692,636.19	0.15	2.23
2,300.00	0.29	236.73	1,033.98	2,299.98	4.01 S	2.34 W	559,081.43	1,692,635.86	0.12	2.35
2,400.00	0.25	313.68	1,133.98	2,399.98	4.00 S	2.71 W	559,081.44	1,692,635.49	0.34	2.16
2,500.00	0.13	277.20	1,233.98	2,499.98	3.83 S	2.98 W	559,081.60	1,692,635.22	0.16	1.88
2,600.00	0.78	275.14	1,333.97	2,599.97	3.76 S	3.77 W	559,081.68	1,692,634.43	0.65	1.43
2,700.00	0.45	278.79	1,433.97	2,699.97	3.64 S	4.84 W	559,081.80	1,692,633.36	0.33	0.80
2,800.00	0.70	281.24	1,533.96	2,799.96	3.46 S	5.82 W	559,081.98	1,692,632.37	0.25	0.16
2,900.00	0.85	286.98	1,633.95	2,899.95	3.12 S	7.13 W	559,082.31	1,692,631.06	0.17	-0.77
3,000.00	0.80	286.63	1,733.94	2,999.94	2.70 S	8.51 W	559,082.73	1,692,629.68	0.05	-1.81
3,100.00	0.87	283.47	1,833.93	3,099.93	2.33 S	9.92 W	559,083.11	1,692,628.28	0.08	-2.83
3,200.00	1.00	274.46	1,933.92	3,199.92	2.08 S	11.53 W	559,083.35	1,692,626.67	0.20	-3.83
3,300.00	0.63	265.92	2,033.91	3,299.91	2.05 S	12.94 W	559,083.38	1,692,625.25	0.39	-4.55
3,400.00	0.59	258.88	2,133.90	3,399.90	2.19 S	14.00 W	559,083.24	1,692,624.20	0.08	-4.95
3,500.00	0.76	249.01	2,233.90	3,499.90	2.53 S	15.12 W	559,082.90	1,692,623.07	0.21	-5.21
3,600.00	0.70	259.32	2,333.89	3,599.89	2.88 S	16.34 W	559,082.55	1,692,621.85	0.14	-5.50
3,700.00	0.74	260.71	2,433.88	3,699.88	3.10 S	17.58 W	559,082.34	1,692,620.62	0.04	-5.92
3,800.00	0.88	265.99	2,533.87	3,799.87	3.26 S	18.98 W	559,082.18	1,692,619.21	0.16	-6.47
3,900.00	0.60	252.22	2,633.86	3,899.86	3.47 S	20.25 W	559,081.96	1,692,617.95	0.33	-6.90
4,000.00	0.34	258.57	2,733.86	3,999.86	3.69 S	21.04 W	559,081.75	1,692,617.16	0.26	-7.10
4,100.00	1.05	242.53	2,833.85	4,099.85	4.17 S	22.14 W	559,081.26	1,692,616.06	0.73	-7.22
4,200.00	0.69	230.07	2,933.84	4,199.84	4.98 S	23.41 W	559,080.46	1,692,614.78	0.40	-7.14

05/23/2014

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Design Report for Chad Glauser OHI 8H - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
4,300.00	0.98	220.88	3,033.83	4,299.83	6.01 S	24.44 W	559,079.42	1,692,613.76	0.32	-6.74
4,400.00	0.45	231.22	3,133.82	4,399.82	6.90 S	25.30 W	559,078.53	1,692,612.89	0.54	-6.38
4,500.00	0.49	237.63	3,233.82	4,499.82	7.38 S	25.97 W	559,078.06	1,692,612.23	0.07	-6.30
4,600.00	0.86	233.90	3,333.81	4,599.81	8.05 S	26.94 W	559,077.38	1,692,611.26	0.37	-6.19
4,700.00	0.88	238.60	3,433.80	4,699.80	8.89 S	28.20 W	559,076.54	1,692,610.00	0.07	-6.07
4,800.00	1.02	223.43	3,533.79	4,799.79	9.94 S	29.47 W	559,075.50	1,692,608.73	0.29	-5.78
4,900.00	0.95	220.50	3,633.77	4,899.77	11.22 S	30.62 W	559,074.22	1,692,607.58	0.09	-5.23
5,000.00	0.73	210.52	3,733.76	4,999.76	12.40 S	31.48 W	559,073.04	1,692,606.72	0.26	-4.62
5,100.00	0.38	214.87	3,833.76	5,099.76	13.22 S	31.99 W	559,072.22	1,692,606.20	0.35	-4.16
5,200.00	0.81	225.37	3,933.75	5,199.75	13.98 S	32.68 W	559,071.45	1,692,605.51	0.44	-3.83
5,300.00	0.76	237.33	4,033.74	5,299.74	14.84 S	33.75 W	559,070.60	1,692,604.45	0.17	-3.61
5,400.00	0.67	250.86	4,133.73	5,399.73	15.39 S	34.86 W	559,070.05	1,692,603.34	0.19	-3.67
5,500.00	0.56	230.70	4,233.73	5,499.73	15.89 S	35.79 W	559,069.54	1,692,602.41	0.24	-3.69
5,510.00	0.74	219.67	4,243.73	5,509.73	15.97 S	35.87 W	559,069.46	1,692,602.33	2.18	-3.66
5,580.00	0.67	237.13	4,313.72	5,579.72	16.54 S	36.50 W	559,068.89	1,692,601.70	0.32	-3.47
5,612.00	0.26	156.20	4,345.72	5,611.72	16.71 S	36.63 W	559,068.73	1,692,601.57	2.12	-3.39
5,643.00	2.33	61.24	4,376.71	5,642.71	16.47 S	36.04 W	559,068.96	1,692,602.15	7.63	-3.31
5,675.00	6.04	55.76	4,408.62	5,674.62	15.21 S	34.08 W	559,070.23	1,692,604.11	11.65	-3.45
5,706.00	9.27	55.19	4,439.34	5,705.34	12.87 S	30.68 W	559,072.57	1,692,607.51	10.42	-3.82
5,737.00	12.77	57.49	4,469.76	5,735.76	9.60 S	25.74 W	559,075.84	1,692,612.45	11.38	-4.25
5,768.00	15.70	58.36	4,499.81	5,765.81	5.56 S	19.28 W	559,079.88	1,692,618.91	9.48	-4.61
5,799.00	19.05	65.08	4,529.39	5,795.39	1.22 S	11.12 W	559,084.21	1,692,627.08	12.58	-4.38
5,831.00	22.36	63.02	4,559.32	5,825.32	3.74 N	0.96 W	559,089.18	1,692,637.24	10.59	-3.73
5,862.00	26.67	65.97	4,587.52	5,853.52	9.25 N	10.66 E	559,094.69	1,692,648.86	14.45	-2.84
5,893.00	29.35	67.19	4,614.89	5,880.89	15.03 N	24.02 E	559,100.47	1,692,662.22	8.84	-1.33
5,924.00	33.36	65.89	4,641.36	5,907.36	21.46 N	38.81 E	559,106.90	1,692,677.00	13.12	0.32
5,956.00	37.78	65.25	4,667.38	5,933.38	29.16 N	55.75 E	559,114.60	1,692,693.95	13.86	1.91
5,987.00	42.21	63.79	4,691.12	5,957.12	37.74 N	73.73 E	559,123.18	1,692,711.92	14.61	3.24
6,019.00	41.80	68.50	4,714.91	5,980.91	46.40 N	93.30 E	559,131.84	1,692,731.49	9.93	5.28
6,050.00	39.75	76.11	4,738.40	6,004.40	52.57 N	112.55 E	559,138.01	1,692,750.74	17.33	9.34
6,081.00	37.68	82.08	4,762.59	6,028.59	56.26 N	131.56 E	559,141.69	1,692,769.76	13.77	15.45
6,113.00	38.58	89.85	4,787.78	6,053.78	57.63 N	151.24 E	559,143.07	1,692,789.43	15.25	23.89
6,144.00	39.57	94.41	4,811.85	6,077.85	56.90 N	170.75 E	559,142.33	1,692,808.95	9.80	34.10
6,176.00	40.05	97.01	4,836.43	6,102.43	54.86 N	191.13 E	559,140.29	1,692,829.33	5.41	45.87
6,207.00	42.23	97.91	4,859.78	6,125.78	52.21 N	211.35 E	559,137.64	1,692,849.55	7.29	58.09
6,238.00	42.94	98.09	4,882.60	6,148.60	49.29 N	232.13 E	559,134.72	1,692,870.32	2.32	70.81
6,269.00	44.83	100.34	4,904.94	6,170.94	45.84 N	253.33 E	559,131.27	1,692,891.53	7.90	84.21
6,301.00	47.40	103.19	4,927.13	6,193.13	41.13 N	275.90 E	559,126.56	1,692,914.10	10.28	99.39
6,333.00	49.86	105.19	4,948.28	6,214.28	35.23 N	299.18 E	559,120.67	1,692,937.37	9.00	115.93
6,365.00	50.92	108.90	4,968.68	6,234.68	28.00 N	322.74 E	559,113.44	1,692,960.94	9.53	133.78
6,397.00	52.52	112.59	4,988.51	6,254.51	19.10 N	346.22 E	559,104.53	1,692,984.42	10.34	153.05
6,428.00	54.94	117.00	5,006.85	6,272.85	8.61 N	368.89 E	559,094.04	1,693,007.09	13.87	173.31
6,459.00	57.48	121.02	5,024.10	6,290.10	3.89 S	391.41 E	559,081.54	1,693,029.60	13.54	195.24
6,490.00	60.19	123.85	5,040.14	6,306.14	18.12 S	413.78 E	559,067.31	1,693,051.98	11.72	218.61
6,522.00	62.02	126.27	5,055.61	6,321.61	34.22 S	436.71 E	559,051.22	1,693,074.91	8.75	243.88

05/23/2014

Design Report for Chad Glauser OHI 8H - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
6,553.00	62.82	128.60	5,069.96	6,335.96	50.92 S	458.53 E	559,034.51	1,693,096.72	7.14	269.13
6,585.00	65.23	130.50	5,083.98	6,349.98	69.24 S	480.70 E	559,016.20	1,693,118.90	9.23	295.96
6,616.00	68.27	132.30	5,096.21	6,362.21	88.08 S	502.06 E	558,997.36	1,693,140.25	11.16	322.85
6,648.00	71.02	132.84	5,107.34	6,373.34	108.37 S	524.15 E	558,977.06	1,693,162.35	8.74	351.37
6,679.00	74.13	133.86	5,116.62	6,382.62	128.67 S	545.65 E	558,956.76	1,693,183.85	10.51	379.61
6,710.00	74.91	135.00	5,124.90	6,390.90	149.59 S	566.99 E	558,935.85	1,693,205.18	4.35	408.29
6,742.00	75.22	137.93	5,133.15	6,399.15	172.00 S	588.28 E	558,913.44	1,693,226.48	8.90	438.26
6,773.00	75.18	140.58	5,141.07	6,407.07	194.70 S	607.84 E	558,890.73	1,693,246.04	8.27	467.64
6,804.00	76.86	141.94	5,148.56	6,414.56	218.17 S	626.66 E	558,867.27	1,693,264.86	6.89	497.32
6,835.00	80.07	143.83	5,154.75	6,420.75	242.39 S	644.99 E	558,843.05	1,693,283.18	11.95	527.41
6,867.00	82.81	146.51	5,159.52	6,425.52	268.36 S	663.05 E	558,817.08	1,693,301.25	11.91	558.90
6,899.00	86.09	148.60	5,162.61	6,428.61	295.23 S	680.14 E	558,790.20	1,693,318.33	12.14	590.70
6,930.00	87.98	150.28	5,164.22	6,430.22	321.89 S	695.88 E	558,763.55	1,693,334.07	8.15	621.65
6,962.00	88.25	150.38	5,165.27	6,431.27	349.68 S	711.71 E	558,735.76	1,693,349.90	0.90	653.63
7,025.00	89.02	151.03	5,166.77	6,432.77	404.60 S	742.52 E	558,680.83	1,693,380.72	1.60	716.61
7,087.00	89.87	151.38	5,167.37	6,433.37	458.93 S	772.39 E	558,626.50	1,693,410.58	1.48	778.61
7,149.00	88.25	152.87	5,168.39	6,434.39	513.73 S	801.37 E	558,571.71	1,693,439.56	3.55	840.57
7,211.00	88.59	153.93	5,170.10	6,436.10	569.14 S	829.12 E	558,516.29	1,693,467.31	1.79	902.48
7,274.00	88.82	152.88	5,171.52	6,437.52	625.46 S	857.32 E	558,459.97	1,693,495.51	1.71	965.39
7,337.00	88.95	151.18	5,172.75	6,438.75	681.09 S	886.86 E	558,404.34	1,693,525.05	2.71	1,028.35
7,400.00	89.46	151.14	5,173.62	6,439.62	736.27 S	917.24 E	558,349.16	1,693,555.44	0.81	1,091.35
7,464.00	89.53	150.61	5,174.19	6,440.19	792.18 S	948.39 E	558,293.26	1,693,586.59	0.84	1,155.34
7,526.00	90.17	150.79	5,174.35	6,440.35	846.25 S	978.73 E	558,239.19	1,693,616.93	1.07	1,217.34
7,589.00	87.95	150.70	5,175.38	6,441.38	901.20 S	1,009.51 E	558,184.24	1,693,647.71	3.53	1,280.33
7,652.00	88.45	150.68	5,177.36	6,443.36	956.11 S	1,040.34 E	558,129.33	1,693,678.53	0.79	1,343.30
7,715.00	89.53	151.13	5,178.47	6,444.47	1,011.15 S	1,070.97 E	558,074.29	1,693,709.16	1.86	1,406.29
7,777.00	90.17	152.03	5,178.63	6,444.63	1,065.68 S	1,100.48 E	558,019.76	1,693,738.67	1.78	1,468.28
7,840.00	91.14	152.03	5,177.91	6,443.91	1,121.31 S	1,130.02 E	557,964.12	1,693,768.22	1.54	1,531.25
7,902.00	89.66	149.29	5,177.48	6,443.48	1,175.35 S	1,160.40 E	557,910.08	1,693,798.59	5.02	1,593.25
7,965.00	90.64	148.43	5,177.31	6,443.31	1,229.27 S	1,192.97 E	557,856.16	1,693,831.17	2.07	1,656.21
8,028.00	87.41	148.39	5,178.39	6,444.39	1,282.92 S	1,225.97 E	557,802.51	1,693,864.16	5.13	1,719.15
8,091.00	88.11	148.82	5,180.85	6,446.85	1,336.66 S	1,258.76 E	557,748.78	1,693,896.96	1.30	1,782.06
8,153.00	88.69	148.84	5,182.58	6,448.58	1,389.69 S	1,290.84 E	557,695.75	1,693,929.03	0.94	1,844.00
8,217.00	89.53	148.60	5,183.57	6,449.57	1,444.37 S	1,324.06 E	557,641.06	1,693,962.26	1.37	1,907.96
8,279.00	87.78	149.71	5,185.03	6,451.03	1,497.59 S	1,355.84 E	557,587.85	1,693,994.04	3.34	1,969.92
8,342.00	88.48	149.78	5,187.09	6,453.09	1,551.98 S	1,387.57 E	557,533.46	1,694,025.76	1.12	2,032.88
8,405.00	89.63	149.99	5,188.12	6,454.12	1,606.47 S	1,419.17 E	557,478.97	1,694,057.37	1.86	2,095.86
8,468.00	90.58	150.82	5,188.01	6,454.01	1,661.24 S	1,450.28 E	557,424.19	1,694,088.48	2.00	2,158.86
8,531.00	89.16	151.05	5,188.15	6,454.15	1,716.31 S	1,480.89 E	557,369.13	1,694,119.08	2.28	2,221.86
8,594.00	90.17	151.00	5,188.52	6,454.52	1,771.42 S	1,511.41 E	557,314.01	1,694,149.60	1.61	2,284.85
8,656.00	88.92	151.28	5,189.01	6,455.01	1,825.72 S	1,541.33 E	557,259.72	1,694,179.53	2.07	2,346.85
8,718.00	88.95	149.77	5,190.16	6,456.16	1,879.68 S	1,571.83 E	557,205.75	1,694,210.03	2.44	2,408.83
8,781.00	89.80	149.30	5,190.85	6,456.85	1,933.98 S	1,603.77 E	557,151.45	1,694,241.97	1.54	2,471.82
8,844.00	88.52	149.33	5,191.78	6,457.78	1,988.15 S	1,635.92 E	557,097.28	1,694,274.11	2.03	2,534.79
8,907.00	89.40	149.25	5,192.92	6,458.92	2,042.31 S	1,668.09 E	557,043.13	1,694,306.28	1.40	2,597.76

HALLIBURTON

Design Report for Chad Glauser OHI 8H - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
8,970.00	89.26	151.34	5,193.66	6,459.66	2,097.02 S	1,699.30 E	556,988.41	1,694,337.50	3.32	2,660.75
9,033.00	90.20	151.96	5,193.95	6,459.95	2,152.47 S	1,729.21 E	556,932.97	1,694,367.41	1.79	2,723.74
9,096.00	88.68	152.02	5,194.57	6,460.57	2,208.08 S	1,758.80 E	556,877.35	1,694,396.99	2.41	2,786.72
9,158.00	89.40	152.05	5,195.61	6,461.61	2,262.84 S	1,787.87 E	556,822.60	1,694,426.06	1.16	2,848.69
9,221.00	88.01	152.88	5,197.03	6,463.03	2,318.68 S	1,816.98 E	556,766.75	1,694,455.18	2.57	2,911.64
9,284.00	88.92	153.17	5,198.72	6,464.72	2,374.81 S	1,845.55 E	556,710.63	1,694,483.75	1.52	2,974.57
9,346.00	88.59	152.27	5,200.07	6,466.07	2,429.90 S	1,873.96 E	556,655.54	1,694,512.16	1.55	3,036.51
9,409.00	89.06	151.38	5,201.36	6,467.36	2,485.42 S	1,903.70 E	556,600.01	1,694,541.90	1.60	3,099.48
9,472.00	90.13	151.15	5,201.80	6,467.80	2,540.66 S	1,933.99 E	556,544.77	1,694,572.18	1.74	3,162.48
9,535.00	90.87	150.55	5,201.25	6,467.25	2,595.68 S	1,964.67 E	556,489.76	1,694,602.87	1.51	3,225.47
9,597.00	90.17	149.58	5,200.69	6,466.69	2,649.40 S	1,995.61 E	556,436.03	1,694,633.81	1.93	3,287.47
9,660.00	90.51	148.90	5,200.32	6,466.32	2,703.54 S	2,027.83 E	556,381.89	1,694,666.03	1.21	3,350.45
9,722.00	88.79	149.57	5,200.70	6,466.70	2,756.81 S	2,059.54 E	556,328.62	1,694,697.74	2.98	3,412.42
9,785.00	87.77	149.92	5,202.59	6,468.59	2,811.21 S	2,091.27 E	556,274.23	1,694,729.47	1.71	3,475.39
9,848.00	88.08	150.49	5,204.87	6,470.87	2,865.84 S	2,122.55 E	556,219.59	1,694,760.75	1.03	3,538.34
9,911.00	88.68	150.63	5,206.65	6,472.65	2,920.68 S	2,153.51 E	556,164.75	1,694,791.70	0.98	3,601.32
9,974.00	89.93	152.85	5,207.41	6,473.41	2,976.17 S	2,183.33 E	556,109.27	1,694,821.53	4.04	3,664.30
10,037.00	90.37	153.97	5,207.25	6,473.25	3,032.50 S	2,211.53 E	556,052.93	1,694,849.72	1.91	3,727.22
10,100.00	90.47	153.48	5,206.79	6,472.79	3,088.99 S	2,239.42 E	555,996.44	1,694,877.61	0.79	3,790.13
10,163.00	89.53	152.89	5,206.79	6,472.79	3,145.22 S	2,267.84 E	555,940.22	1,694,906.03	1.76	3,853.07
10,226.00	89.46	152.56	5,207.34	6,473.34	3,201.21 S	2,296.71 E	555,884.23	1,694,934.90	0.54	3,916.02
10,287.00	88.99	153.57	5,208.17	6,474.17	3,255.59 S	2,324.34 E	555,829.85	1,694,962.53	1.83	3,976.96
10,350.00	87.71	150.24	5,209.98	6,475.98	3,311.13 S	2,353.99 E	555,774.30	1,694,992.18	5.66	4,039.91
10,413.00	87.95	149.53	5,212.37	6,478.37	3,365.59 S	2,385.57 E	555,719.85	1,695,023.77	1.19	4,102.86
10,477.00	88.52	148.92	5,214.34	6,480.34	3,420.55 S	2,418.30 E	555,664.89	1,695,056.50	1.30	4,166.81
10,539.00	88.79	148.70	5,215.79	6,481.79	3,473.57 S	2,450.40 E	555,611.86	1,695,088.60	0.56	4,228.76
10,602.00	91.01	151.71	5,215.90	6,481.90	3,528.23 S	2,481.70 E	555,557.20	1,695,119.90	5.94	4,291.75
10,664.00	91.38	150.44	5,214.61	6,480.61	3,582.49 S	2,511.68 E	555,502.95	1,695,149.88	2.13	4,353.73
10,727.00	90.30	148.60	5,213.69	6,479.69	3,636.77 S	2,543.63 E	555,448.66	1,695,181.83	3.39	4,416.71
10,790.00	91.32	148.18	5,212.80	6,478.80	3,690.42 S	2,576.65 E	555,395.02	1,695,214.84	1.75	4,479.65
10,853.00	89.13	147.49	5,212.55	6,478.55	3,743.74 S	2,610.19 E	555,341.69	1,695,248.38	3.64	4,542.57
10,916.00	89.83	147.60	5,213.12	6,479.12	3,796.90 S	2,643.99 E	555,288.53	1,695,282.19	1.12	4,605.47
10,978.00	90.60	146.98	5,212.89	6,478.89	3,849.07 S	2,677.50 E	555,236.37	1,695,315.69	1.59	4,667.37
11,041.00	90.24	147.21	5,212.43	6,478.43	3,901.96 S	2,711.72 E	555,183.47	1,695,349.91	0.68	4,730.24
11,104.00	89.02	148.68	5,212.83	6,478.83	3,955.35 S	2,745.15 E	555,130.08	1,695,383.35	3.03	4,793.17
11,168.00	88.25	149.68	5,214.36	6,480.36	4,010.30 S	2,777.93 E	555,075.14	1,695,416.13	1.97	4,857.13
11,230.00	89.19	150.36	5,215.74	6,481.74	4,063.99 S	2,808.91 E	555,021.45	1,695,447.10	1.87	4,919.11
11,294.00	90.24	150.16	5,216.06	6,482.06	4,119.56 S	2,840.65 E	554,965.88	1,695,478.85	1.67	4,983.11
11,357.00	90.74	150.74	5,215.52	6,481.52	4,174.36 S	2,871.72 E	554,911.08	1,695,509.92	1.22	5,046.10
11,420.00	91.35	150.24	5,214.37	6,480.37	4,229.18 S	2,902.75 E	554,856.26	1,695,540.94	1.25	5,109.09
11,483.00	92.46	150.36	5,212.28	6,478.28	4,283.87 S	2,933.95 E	554,801.57	1,695,572.14	1.77	5,172.05
11,546.00	92.63	151.11	5,209.48	6,475.48	4,338.77 S	2,964.71 E	554,746.66	1,695,602.91	1.22	5,234.99
11,609.00	90.17	150.32	5,207.94	6,473.94	4,393.70 S	2,995.52 E	554,691.73	1,695,633.71	4.10	5,297.97
11,672.00	88.62	148.91	5,208.61	6,474.61	4,448.04 S	3,027.38 E	554,637.39	1,695,665.58	3.33	5,360.95
11,734.00	88.08	147.25	5,210.39	6,476.39	4,500.64 S	3,060.15 E	554,584.79	1,695,698.34	2.81	5,422.86

05/23/2014

HALLIBURTON

Design Report for Chad Glauser OHI 8H - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
11,797.00	88.82	145.69	5,212.10	6,478.10	4,553.14 S	3,094.93 E	554,532.30	1,695,733.13	2.74	5,485.67
11,861.00	89.26	147.36	5,213.17	6,479.17	4,606.51 S	3,130.23 E	554,478.92	1,695,768.42	2.70	5,549.49
11,924.00	90.67	148.29	5,213.21	6,479.21	4,659.84 S	3,163.77 E	554,425.60	1,695,801.97	2.68	5,612.41
11,987.00	90.81	145.58	5,212.39	6,478.39	4,712.62 S	3,198.14 E	554,372.81	1,695,836.33	4.31	5,675.27
12,051.00	89.29	146.23	5,212.34	6,478.34	4,765.62 S	3,234.01 E	554,319.81	1,695,872.21	2.58	5,739.05
12,114.00	87.30	146.79	5,214.21	6,480.21	4,818.14 S	3,268.76 E	554,267.30	1,695,906.96	3.28	5,801.85
12,177.00	88.08	147.45	5,216.75	6,482.75	4,871.00 S	3,302.93 E	554,214.44	1,695,941.13	1.62	5,864.68
12,240.00	89.46	147.15	5,218.10	6,484.10	4,924.00 S	3,336.96 E	554,161.43	1,695,975.16	2.24	5,927.55
12,303.00	90.44	146.45	5,218.16	6,484.16	4,976.72 S	3,371.46 E	554,108.72	1,696,009.65	1.91	5,990.41
12,366.00	91.42	146.48	5,217.14	6,483.14	5,029.22 S	3,406.25 E	554,056.21	1,696,044.45	1.56	6,053.23
12,429.00	91.35	146.44	5,215.61	6,481.61	5,081.72 S	3,441.05 E	554,003.72	1,696,079.25	0.13	6,116.05
12,465.00	90.07	145.68	5,215.17	6,481.17	5,111.58 S	3,461.15 E	553,973.85	1,696,099.35	4.13	6,151.93
12,527.00	87.57	145.96	5,216.44	6,482.44	5,162.86 S	3,495.97 E	553,922.58	1,696,134.17	4.06	6,213.69
12,590.00	88.69	146.27	5,218.50	6,484.50	5,215.13 S	3,531.08 E	553,870.31	1,696,169.27	1.84	6,276.46
12,652.00	89.70	146.34	5,219.37	6,485.37	5,266.71 S	3,565.47 E	553,818.73	1,696,203.66	1.63	6,338.27
12,715.00	88.62	147.94	5,220.29	6,486.29	5,319.62 S	3,599.65 E	553,765.82	1,696,237.84	3.06	6,401.14
12,778.00	89.13	147.68	5,221.53	6,487.53	5,372.92 S	3,633.20 E	553,712.51	1,696,271.40	0.91	6,464.06
12,840.00	90.07	148.43	5,221.96	6,487.96	5,425.53 S	3,666.01 E	553,659.90	1,696,304.20	1.94	6,525.99
12,903.00	87.67	149.37	5,223.21	6,489.21	5,479.46 S	3,698.54 E	553,605.97	1,696,336.73	4.09	6,588.94
12,967.00	88.32	149.91	5,225.45	6,491.45	5,534.65 S	3,730.87 E	553,550.78	1,696,369.06	1.32	6,652.89
13,030.00	89.49	149.86	5,226.65	6,492.65	5,589.14 S	3,762.47 E	553,496.30	1,696,400.66	1.86	6,715.87
13,056.00	89.83	149.96	5,226.80	6,492.80	5,611.63 S	3,775.50 E	553,473.80	1,696,413.70	1.36	6,741.87
Last MWD Survey at 13056' MD										
13,103.00	89.83	149.96	5,226.94	6,492.94	5,652.32 S	3,799.03 E	553,433.12	1,696,437.23	0.00	6,788.87
Projection to TD at 13103' MD										

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	150.65	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
100.00	600.00	VES Gyro	NS-Gyro-MS
605.00	5,510.00	VES Gyro 2	NS-Gyro-MS
5,580.00	13,103.00	Sperry MWD	MWD

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Design Report for Chad Glauser OHI 8H - Surveys

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Chad Glauser 8H BH	0.00	360.00	6,497.23	-5,699.69	3,714.26	553,385.75	1,696,352.45	40° 0' 51.498 N	80° 35' 2.717 W
- actual wellpath misses target center by 97.20ft at 13101.58ft MD (6492.94 TVD, -5651.09 N, 3798.32 E) - Point									