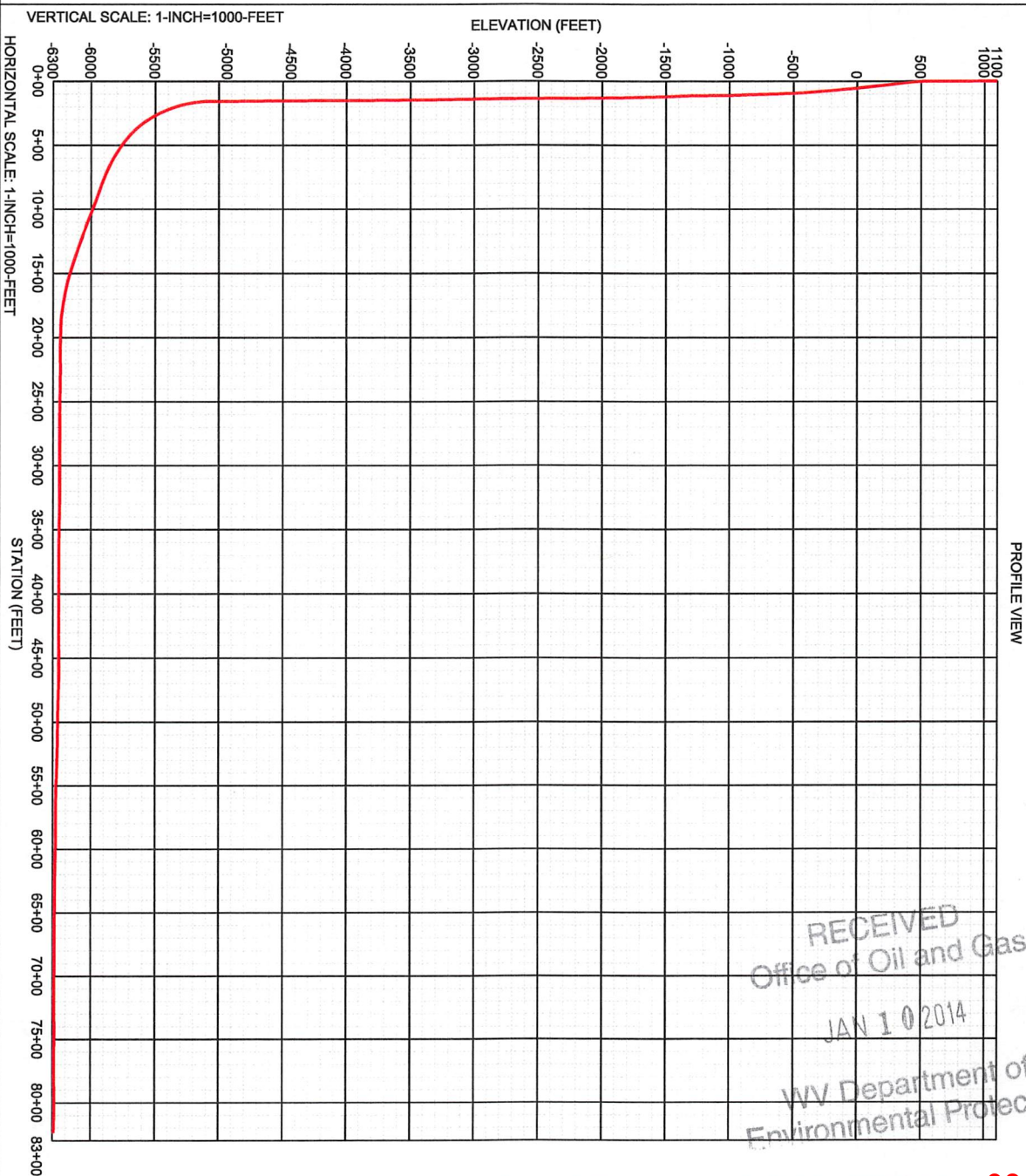
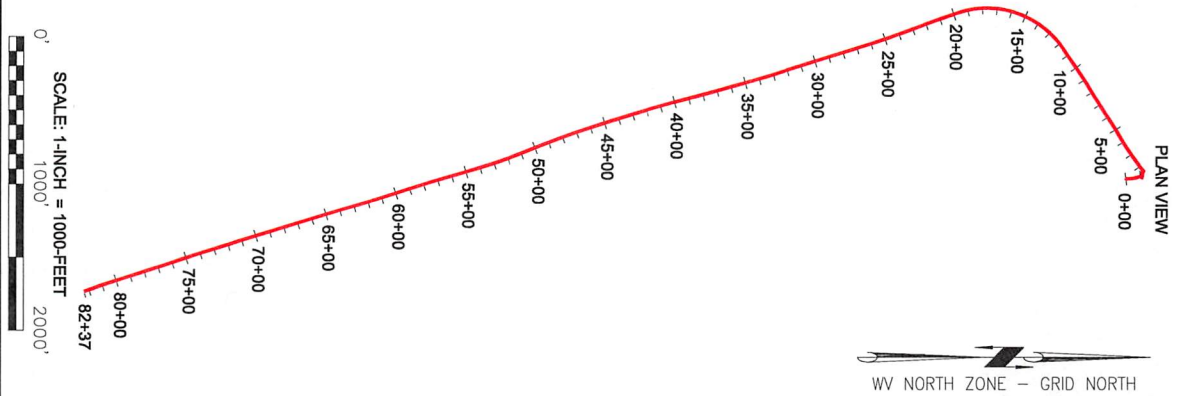


PLAN AND PROFILE VIEW FOR WELL # GOODWIN 3-3H API # 47-033-05732



RECEIVED
Office of Oil and Gas
JAN 10 2014
WV Department of
Environmental Protection

Project: Harrison County, WV
Site: Goodwin Pad
Well: Goodwin 3-3H
Wellbore: Wellbore #1
Design: Plan #4
Rig: Pioneer 59

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Annotation
8099.00	74.64	200.76	7277.50	-730.43	-1117.20	0.00	0.00	361.12	Tie-On
8148.00	76.60	196.00	7289.67	-775.45	-1132.15	10.22	-67.57	399.58	Start Build/Turn
8509.98	88.35	160.28	7338.57	-1127.48	-1119.16	10.29	-74.67	739.25	Cont Build/Turn
8535.41	89.70	162.52	7339.00	-1151.57	-1111.05	10.29	58.92	764.67	End Build/Turn
14842.89	89.70	162.52	7372.00	-7167.57	783.95	0.00	0.00	7072.07	TD

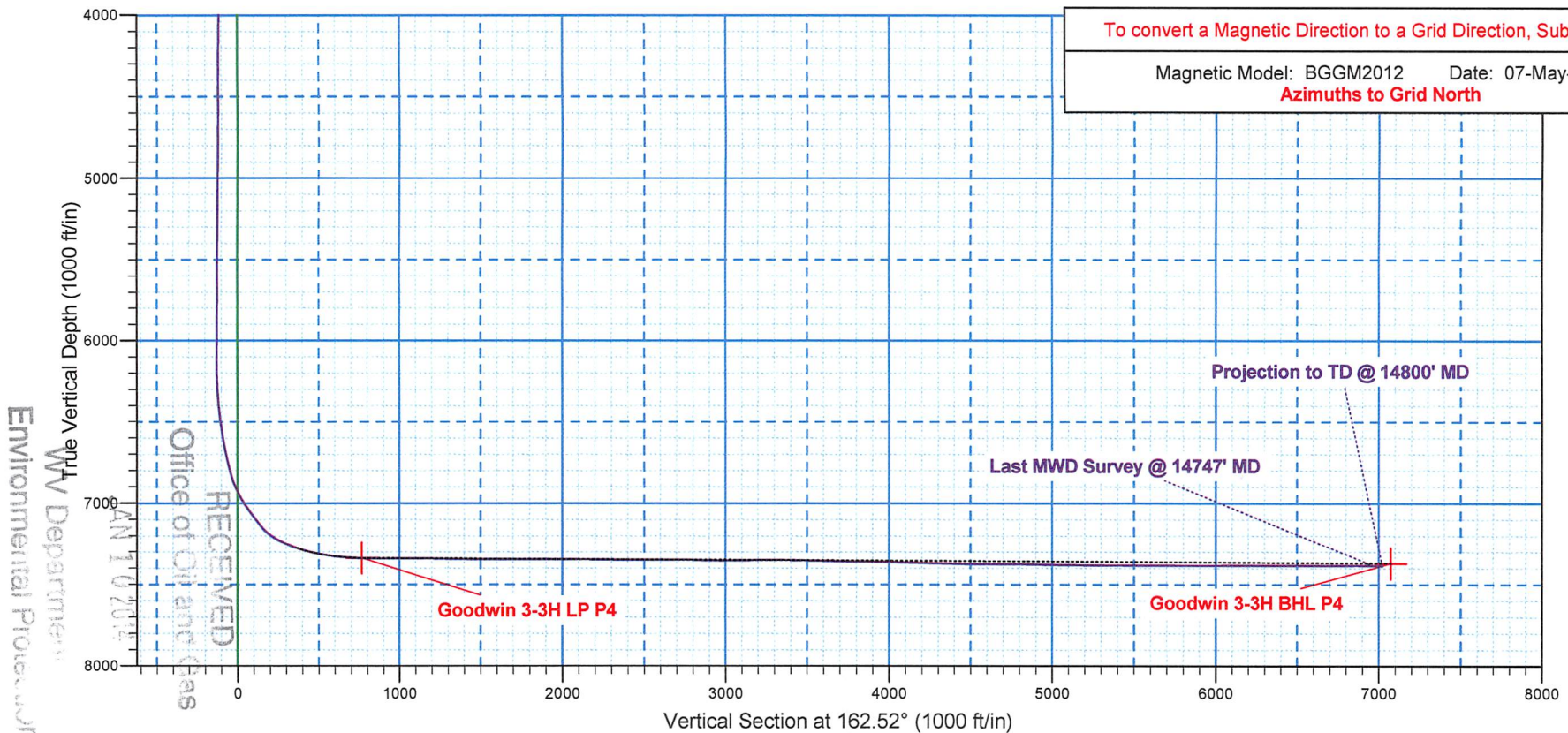
Surface Location:

Universal Transverse Mercator (US Survey Feet)
 Zone 17N (84 W to 78 W)
 Elevation: GL 1096' + KB 19' @ 1115.00ft (Pioneer 59)

Northing	Easting	Latitude	Longitude
14296888.57	1772871.05	39° 22' 10.935 N	80° 31' 52.783 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
Goodwin 3-3H LP P4	7339.00	-1151.57	-1111.05	14295737.00	1771760.00
Goodwin 3-3H BHL P4	7372.00	-7167.57	783.95	14289721.00	1773655.00



WV Department of Environmental Protection
 RECEIVED
 Office of Oil and Gas
 JAN 10 2013

Project: Harrison County, WV
Site: Goodwin Pad
Well: Goodwin 3-3H
Wellbore: Wellbore #1
Design: Plan #4
Rig: Pioneer 59

Surface Location:

Universal Transverse Mercator (US Survey Feet)
 Zone 17N (84 W to 78 W)
 Elevation: GL 1096' + KB 19' @ 1115.00ft (Pioneer 59)

Northing	Easting	Latitude	Longitude
14296888.57	1772871.05	39° 22' 10.935 N	80° 31' 52.783 W

To convert a Magnetic Direction to a Grid Direction, Subtract 8.88°

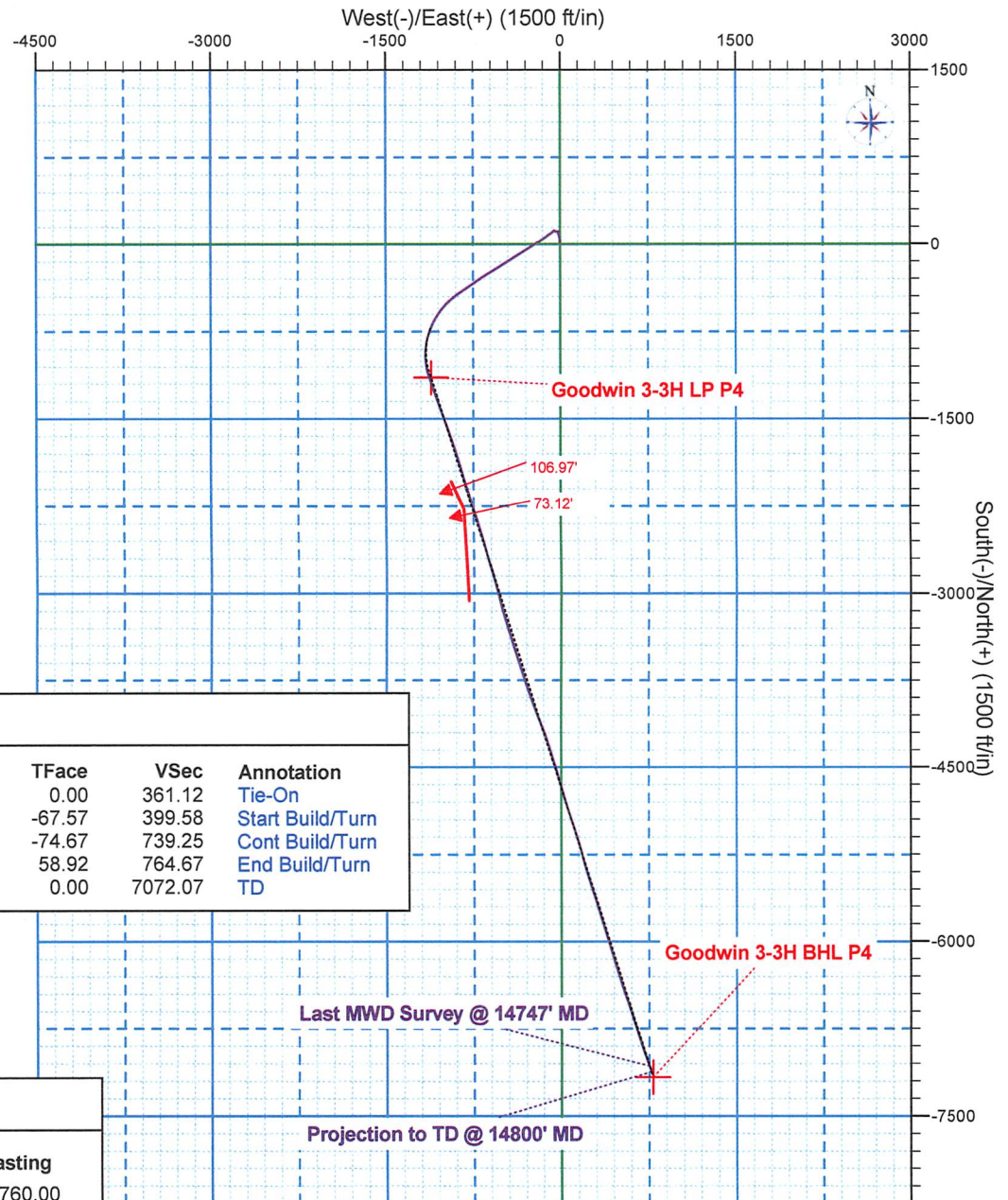
Magnetic Model: BGGM2012 Date: 07-May-13
Azimuths to Grid North

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
8099.00	74.64	200.76	7277.50	-730.43	-1117.20	0.00	0.00	361.12	Tie-On
8148.00	76.60	196.00	7289.67	-775.45	-1132.15	10.22	-67.57	399.58	Start Build/Turn
8509.98	88.35	160.28	7338.57	-1127.48	-1119.16	10.29	-74.67	739.25	Cont Build/Turn
8535.41	89.70	162.52	7339.00	-1151.57	-1111.05	10.29	58.92	764.67	End Build/Turn
14842.89	89.70	162.52	7372.00	-7167.57	783.95	0.00	0.00	7072.07	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Goodwin 3-3H LP P4	7339.00	-1151.57	-1111.05	14295737.00	1771760.00
Goodwin 3-3H BHL P4	7372.00	-7167.57	783.95	14289721.00	1773655.00



Statoil

Harrison County, WV
Goodwin Pad
Goodwin 3-3H

Wellbore #1

Design: Surveys

Sperry Drilling Services Combo Report

11 June, 2013

Well Coordinates: 14,296,888.57 N, 1,772,871.05 E (39° 22' 10.94" N, 080° 31' 52.78" W)
Ground Level: 1,096.00 ft

Local Coordinate Origin:	Centered on Well Goodwin 3-3H
Viewing Datum:	GL 1096' + KB 19' @ 1115.00ft (Pioneer 59)
TVDs to System:	N
North Reference:	Grid
Unit System:	API-US Survey Feet

Version: 2003.16 Build: 431

RECEIVED
Office of Oil and Gas
HALLIBURTON
JAN 10 2014

WV Department of
Environmental Protection
08/12/2022

Design Report for Goodwin 3-3H - 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	-1,115.00	0.00	0.00 N	0.00 E	14,296,888.57	1,772,871.05	0.00	0.00
342.00	0.10	84.81	-773.00	342.00	0.03 N	0.30 E	14,296,888.60	1,772,871.35	0.03	0.06
363.00	0.11	49.37	-752.00	363.00	0.04 N	0.33 E	14,296,888.62	1,772,871.38	0.31	0.06
395.00	0.07	23.79	-720.00	395.00	0.08 N	0.36 E	14,296,888.65	1,772,871.41	0.17	0.03
427.00	0.27	7.26	-688.00	427.00	0.17 N	0.38 E	14,296,888.75	1,772,871.43	0.64	-0.05
458.00	0.50	347.78	-657.00	458.00	0.38 N	0.36 E	14,296,888.95	1,772,871.41	0.84	-0.25
489.00	0.82	1.57	-626.00	489.00	0.73 N	0.34 E	14,296,889.30	1,772,871.39	1.15	-0.60
521.00	1.13	356.69	-594.01	520.99	1.27 N	0.33 E	14,296,889.85	1,772,871.37	1.00	-1.12
552.00	1.57	355.16	-563.02	551.98	2.00 N	0.27 E	14,296,890.58	1,772,871.32	1.42	-1.83
584.00	2.22	353.52	-531.03	583.97	3.06 N	0.17 E	14,296,891.63	1,772,871.21	2.04	-2.87
615.00	3.08	352.86	-500.07	614.93	4.48 N	0.01 W	14,296,893.05	1,772,871.04	2.78	-4.27
647.00	3.95	357.02	-468.13	646.87	6.43 N	0.17 W	14,296,895.01	1,772,870.88	2.83	-6.19
678.00	5.06	356.91	-437.22	677.78	8.86 N	0.30 W	14,296,897.44	1,772,870.75	3.58	-8.54
710.00	5.90	2.73	-405.37	709.63	11.92 N	0.30 W	14,296,900.49	1,772,870.75	3.14	-11.46
773.00	6.81	358.53	-342.76	772.24	18.88 N	0.24 W	14,296,907.46	1,772,870.81	1.62	-18.08
836.00	7.42	357.75	-280.24	834.76	26.68 N	0.49 W	14,296,915.26	1,772,870.55	0.98	-25.60
897.00	6.55	353.95	-219.70	895.30	34.08 N	1.02 W	14,296,922.65	1,772,870.03	1.61	-32.81
960.00	5.97	357.54	-157.07	957.93	40.93 N	1.54 W	14,296,929.50	1,772,869.51	1.11	-39.50
1,024.00	6.03	351.71	-93.42	1,021.58	47.58 N	2.16 W	14,296,936.15	1,772,868.89	0.96	-46.03
1,086.00	5.91	352.77	-31.76	1,083.24	53.97 N	3.03 W	14,296,942.54	1,772,868.02	0.26	-52.39
1,149.00	5.72	347.85	30.92	1,145.92	60.25 N	4.10 W	14,296,948.83	1,772,866.95	0.85	-58.70
1,212.00	5.07	345.10	93.64	1,208.64	66.01 N	5.48 W	14,296,954.59	1,772,865.57	1.11	-64.61
1,276.00	5.01	341.97	157.39	1,272.39	71.40 N	7.07 W	14,296,959.98	1,772,863.98	0.44	-70.23
1,338.00	4.84	341.64	219.16	1,334.16	76.46 N	8.73 W	14,296,965.03	1,772,862.32	0.28	-75.55
1,401.00	4.76	340.91	281.94	1,396.94	81.45 N	10.43 W	14,296,970.03	1,772,860.62	0.16	-80.82
1,465.00	4.43	341.35	345.74	1,460.74	86.30 N	12.08 W	14,296,974.88	1,772,858.97	0.52	-85.95
1,528.00	3.54	342.41	408.58	1,523.58	90.46 N	13.45 W	14,296,979.04	1,772,857.60	1.42	-90.33
1,592.00	2.78	338.54	472.48	1,587.48	93.79 N	14.62 W	14,296,982.36	1,772,856.43	1.23	-93.85
1,654.00	1.81	351.11	534.43	1,649.43	96.16 N	15.32 W	14,296,984.73	1,772,855.73	1.75	-96.32
1,717.00	1.47	2.50	597.41	1,712.41	97.95 N	15.44 W	14,296,986.52	1,772,855.61	0.75	-98.06
1,781.00	1.59	18.29	661.39	1,776.39	99.61 N	15.12 W	14,296,988.19	1,772,855.93	0.68	-99.55
1,844.00	1.96	26.82	724.36	1,839.36	101.40 N	14.36 W	14,296,989.98	1,772,856.69	0.72	-101.03
1,907.00	2.07	40.92	787.32	1,902.32	103.22 N	13.13 W	14,296,991.80	1,772,857.92	0.80	-102.40
1,971.00	2.21	59.15	851.27	1,966.27	104.73 N	11.31 W	14,296,993.30	1,772,859.74	1.08	-103.29
2,034.00	2.02	60.13	914.23	2,029.23	105.91 N	9.31 W	14,296,994.48	1,772,861.74	0.31	-103.81
2,098.00	0.61	45.85	978.21	2,093.21	106.70 N	8.08 W	14,296,995.28	1,772,862.97	2.24	-104.21
2,161.00	0.35	312.84	1,041.21	2,156.21	107.07 N	7.98 W	14,296,995.64	1,772,863.06	1.14	-104.52
2,224.00	0.70	286.98	1,104.21	2,219.21	107.31 N	8.49 W	14,296,995.89	1,772,862.56	0.66	-104.91
2,275.00	0.95	286.39	1,155.20	2,270.20	107.52 N	9.20 W	14,296,996.10	1,772,861.85	0.49	-105.32
2,408.00	1.46	282.04	1,288.17	2,403.17	108.19 N	11.91 W	14,296,996.76	1,772,859.14	0.39	-106.77
2,472.00	1.68	278.79	1,352.15	2,467.15	108.50 N	13.64 W	14,296,997.07	1,772,857.41	0.37	-107.59
2,534.00	1.81	277.85	1,414.12	2,529.12	108.77 N	15.50 W	14,296,997.35	1,772,855.54	0.21	-108.41
2,597.00	1.91	275.20	1,477.09	2,592.09	109.00 N	17.54 W	14,296,997.58	1,772,853.51	0.21	-109.24
2,660.00	1.87	275.28	1,540.05	2,655.05	109.19 N	19.61 W	14,296,997.77	1,772,851.44	0.06	-110.04
2,724.00	1.73	275.76	1,604.02	2,719.02	109.39 N	21.61 W	14,296,997.96	1,772,849.44	0.22	-110.83

Design Report for Goodwin 3-3H - 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)		
2,786.00	1.58	275.95	1,666.00	2,781.00	109.57 N	23.39 W	14,296,998.14	1,772,847.66	0.24	-111.53
2,849.00	1.29	274.55	1,728.98	2,843.98	109.72 N	24.96 W	14,296,998.29	1,772,846.09	0.46	-112.15
2,912.00	1.05	270.10	1,791.96	2,906.96	109.77 N	26.24 W	14,296,998.35	1,772,844.81	0.41	-112.59
2,976.00	0.93	274.50	1,855.95	2,970.95	109.82 N	27.35 W	14,296,998.39	1,772,843.70	0.22	-112.96
3,039.00	1.05	276.38	1,918.94	3,033.94	109.92 N	28.43 W	14,296,998.49	1,772,842.62	0.20	-113.38
3,102.00	1.08	275.72	1,981.93	3,096.93	110.04 N	29.59 W	14,296,998.62	1,772,841.46	0.05	-113.85
3,165.00	0.75	266.61	2,044.92	3,159.92	110.08 N	30.60 W	14,296,998.65	1,772,840.45	0.57	-114.18
3,228.00	0.67	262.84	2,107.92	3,222.92	110.01 N	31.37 W	14,296,998.58	1,772,839.68	0.15	-114.35
3,290.00	0.49	257.54	2,169.92	3,284.92	109.90 N	31.99 W	14,296,998.48	1,772,839.06	0.30	-114.44
3,352.00	0.44	263.64	2,231.91	3,346.91	109.82 N	32.49 W	14,296,998.40	1,772,838.56	0.11	-114.51
3,415.00	0.28	256.28	2,294.91	3,409.91	109.76 N	32.88 W	14,296,998.33	1,772,838.17	0.26	-114.57
3,478.00	0.24	258.65	2,357.91	3,472.91	109.70 N	33.16 W	14,296,998.27	1,772,837.89	0.07	-114.59
3,542.00	0.20	259.55	2,421.91	3,536.91	109.65 N	33.40 W	14,296,998.22	1,772,837.65	0.06	-114.62
3,605.00	0.27	281.94	2,484.91	3,599.91	109.66 N	33.65 W	14,296,998.23	1,772,837.40	0.18	-114.70
3,668.00	0.44	267.58	2,547.91	3,662.91	109.68 N	34.04 W	14,296,998.25	1,772,837.01	0.30	-114.84
3,732.00	0.59	263.00	2,611.91	3,726.91	109.63 N	34.61 W	14,296,998.20	1,772,836.44	0.24	-114.96
3,794.00	0.60	264.27	2,673.90	3,788.90	109.56 N	35.25 W	14,296,998.13	1,772,835.80	0.03	-115.09
3,857.00	0.53	271.95	2,736.90	3,851.90	109.54 N	35.87 W	14,296,998.11	1,772,835.18	0.16	-115.25
3,920.00	0.51	268.39	2,799.90	3,914.90	109.54 N	36.44 W	14,296,998.11	1,772,834.61	0.06	-115.43
3,983.00	0.62	276.10	2,862.90	3,977.90	109.57 N	37.06 W	14,296,998.14	1,772,833.99	0.21	-115.64
4,046.00	0.64	288.61	2,925.89	4,040.89	109.71 N	37.73 W	14,296,998.29	1,772,833.32	0.22	-115.98
4,108.00	0.68	296.38	2,987.89	4,102.89	109.99 N	38.39 W	14,296,998.56	1,772,832.66	0.16	-116.44
4,171.00	0.72	299.21	3,050.88	4,165.88	110.35 N	39.07 W	14,296,998.92	1,772,831.98	0.08	-116.99
4,234.00	0.75	301.60	3,113.88	4,228.88	110.76 N	39.77 W	14,296,999.33	1,772,831.28	0.07	-117.59
4,361.00	0.81	298.00	3,240.87	4,355.87	111.61 N	41.27 W	14,297,000.19	1,772,829.78	0.06	-118.86
4,425.00	0.64	305.64	3,304.86	4,419.86	112.03 N	41.96 W	14,297,000.61	1,772,829.09	0.31	-119.46
4,489.00	0.51	308.47	3,368.86	4,483.86	112.42 N	42.47 W	14,297,000.99	1,772,828.58	0.21	-119.99
4,552.00	0.48	302.40	3,431.86	4,546.86	112.74 N	42.91 W	14,297,001.31	1,772,828.14	0.10	-120.42
4,616.00	0.48	292.84	3,495.85	4,610.85	112.98 N	43.39 W	14,297,001.56	1,772,827.66	0.12	-120.80
4,679.00	0.49	286.92	3,558.85	4,673.85	113.16 N	43.89 W	14,297,001.74	1,772,827.16	0.08	-121.12
4,742.00	0.61	287.42	3,621.85	4,736.85	113.34 N	44.47 W	14,297,001.92	1,772,826.58	0.19	-121.47
4,805.00	0.58	293.81	3,684.84	4,799.84	113.57 N	45.08 W	14,297,002.15	1,772,825.97	0.12	-121.87
4,869.00	0.61	291.36	3,748.84	4,863.84	113.83 N	45.69 W	14,297,002.40	1,772,825.36	0.06	-122.29
4,932.00	0.34	293.89	3,811.84	4,926.84	114.02 N	46.17 W	14,297,002.60	1,772,824.87	0.43	-122.63
4,994.00	0.14	323.53	3,873.84	4,988.84	114.16 N	46.39 W	14,297,002.73	1,772,824.66	0.37	-122.82
5,058.00	0.08	91.53	3,937.84	5,052.84	114.22 N	46.39 W	14,297,002.80	1,772,824.66	0.31	-122.88
5,121.00	0.17	97.64	4,000.84	5,115.84	114.21 N	46.25 W	14,297,002.78	1,772,824.80	0.14	-122.83
5,246.00	0.10	14.30	4,125.84	5,240.84	114.29 N	46.04 W	14,297,002.86	1,772,825.01	0.15	-122.84
5,309.00	0.23	306.93	4,188.84	5,303.84	114.42 N	46.13 W	14,297,002.99	1,772,824.92	0.34	-122.99
5,372.00	0.29	299.24	4,251.84	5,366.84	114.57 N	46.37 W	14,297,003.15	1,772,824.68	0.11	-123.21
5,435.00	0.36	305.36	4,314.84	5,429.84	114.76 N	46.67 W	14,297,003.34	1,772,824.38	0.12	-123.48
5,499.00	0.34	308.19	4,378.83	5,493.83	115.00 N	46.98 W	14,297,003.57	1,772,824.07	0.04	-123.80
5,563.00	0.50	308.88	4,442.83	5,557.83	115.29 N	47.35 W	14,297,003.87	1,772,823.70	0.25	-124.19
5,625.00	0.55	309.16	4,504.83	5,619.83	115.65 N	47.79 W	14,297,004.22	1,772,823.26	0.08	-124.66
5,688.00	0.68	310.50	4,567.83	5,682.83	116.08 N	48.31 W	14,297,004.66	1,772,822.74	0.21	-125.23



Design Report for Goodwin 3-3H - 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)		
5,752.00	0.61	313.15	4,631.82	5,746.82	116.56 N	48.85 W	14,297,005.14	1,772,822.20	0.12	-125.85
5,815.00	0.57	314.33	4,694.82	5,809.82	117.01 N	49.32 W	14,297,005.58	1,772,821.73	0.07	-126.42
5,878.00	0.41	315.28	4,757.82	5,872.82	117.39 N	49.70 W	14,297,005.96	1,772,821.35	0.25	-126.90
5,942.00	0.44	309.83	4,821.82	5,936.82	117.71 N	50.05 W	14,297,006.28	1,772,821.00	0.08	-127.31
6,005.00	0.34	304.87	4,884.81	5,999.81	117.97 N	50.39 W	14,297,006.55	1,772,820.66	0.17	-127.66
6,069.00	0.32	302.33	4,948.81	6,063.81	118.18 N	50.70 W	14,297,006.75	1,772,820.35	0.04	-127.95
6,123.00	0.29	294.21	5,002.81	6,117.81	118.31 N	50.95 W	14,297,006.89	1,772,820.10	0.10	-128.15
6,177.00	0.29	256.21	5,056.81	6,171.81	118.34 N	51.20 W	14,297,006.91	1,772,819.84	0.35	-128.25
6,208.00	1.34	225.96	5,087.81	6,202.81	118.07 N	51.54 W	14,297,006.64	1,772,819.51	3.55	-128.09
6,240.00	3.98	223.57	5,119.77	6,234.77	117.00 N	52.58 W	14,297,005.57	1,772,818.47	8.26	-127.39
6,304.00	8.82	227.87	5,183.35	6,298.35	112.10 N	57.75 W	14,297,000.67	1,772,813.30	7.59	-124.27
6,336.00	10.62	230.89	5,214.89	6,329.89	108.59 N	61.86 W	14,296,997.16	1,772,809.19	5.84	-122.16
6,367.00	12.72	232.62	5,245.25	6,360.25	104.72 N	66.79 W	14,296,993.29	1,772,804.26	6.87	-119.94
6,398.00	14.73	232.92	5,275.36	6,390.36	100.27 N	72.64 W	14,296,988.84	1,772,798.41	6.49	-117.46
6,429.00	16.92	231.88	5,305.19	6,420.19	95.11 N	79.34 W	14,296,983.68	1,772,791.71	7.12	-114.54
6,493.00	20.96	235.63	5,365.71	6,480.71	82.89 N	96.12 W	14,296,971.46	1,772,774.93	6.59	-107.93
6,525.00	22.37	235.34	5,395.45	6,510.45	76.19 N	105.85 W	14,296,964.77	1,772,765.20	4.42	-104.47
6,557.00	23.81	233.22	5,424.89	6,539.89	68.86 N	116.04 W	14,296,957.44	1,772,755.01	5.20	-100.54
6,588.00	26.30	232.17	5,452.97	6,567.97	60.90 N	126.47 W	14,296,949.48	1,772,744.58	8.16	-96.08
6,619.00	28.86	233.70	5,480.44	6,595.44	52.26 N	137.93 W	14,296,940.84	1,772,733.12	8.57	-91.28
6,651.00	31.78	234.81	5,508.06	6,623.06	42.83 N	151.04 W	14,296,931.40	1,772,720.01	9.29	-86.22
6,683.00	33.46	235.11	5,535.01	6,650.01	32.93 N	165.17 W	14,296,921.50	1,772,705.88	5.27	-81.02
6,715.00	34.39	235.52	5,561.57	6,676.57	22.77 N	179.85 W	14,296,911.34	1,772,691.20	2.99	-75.74
6,747.00	36.48	235.86	5,587.64	6,702.64	12.31 N	195.18 W	14,296,900.88	1,772,675.87	6.56	-70.37
6,778.00	39.79	236.62	5,612.02	6,727.02	1.68 N	211.09 W	14,296,890.25	1,772,659.96	10.78	-65.01
6,810.00	42.95	237.56	5,636.03	6,751.03	9.81 S	228.85 W	14,296,878.77	1,772,642.20	10.06	-59.39
6,842.00	45.96	238.51	5,658.87	6,773.87	21.67 S	247.86 W	14,296,866.91	1,772,623.19	9.63	-53.79
6,873.00	47.84	239.60	5,680.05	6,795.05	33.30 S	267.27 W	14,296,855.27	1,772,603.78	6.59	-48.52
6,904.00	49.09	239.52	5,700.61	6,815.61	45.06 S	287.28 W	14,296,843.52	1,772,583.77	4.04	-43.31
6,936.00	51.49	238.29	5,721.05	6,836.05	57.77 S	308.36 W	14,296,830.80	1,772,562.69	8.06	-37.52
6,967.00	53.80	238.50	5,739.86	6,854.86	70.69 S	329.34 W	14,296,817.89	1,772,541.71	7.47	-31.50
6,999.00	56.17	237.78	5,758.22	6,873.22	84.52 S	351.60 W	14,296,804.05	1,772,519.45	7.63	-24.99
7,030.00	57.85	237.19	5,775.10	6,890.10	98.50 S	373.52 W	14,296,790.08	1,772,497.53	5.65	-18.25
7,061.00	58.93	235.99	5,791.34	6,906.34	113.04 S	395.56 W	14,296,775.54	1,772,475.49	4.80	-11.00
7,093.00	60.44	237.10	5,807.50	6,922.50	128.26 S	418.61 W	14,296,760.31	1,772,452.44	5.59	-3.40
7,124.00	61.61	236.98	5,822.51	6,937.51	143.02 S	441.36 W	14,296,745.56	1,772,429.69	3.79	3.84
7,156.00	63.40	236.98	5,837.29	6,952.29	158.48 S	465.16 W	14,296,730.09	1,772,405.89	5.59	11.44
7,187.00	64.94	237.38	5,850.79	6,965.79	173.61 S	488.61 W	14,296,714.97	1,772,382.44	5.10	18.83
7,219.00	66.40	237.03	5,863.98	6,978.98	189.40 S	513.12 W	14,296,699.17	1,772,357.93	4.67	26.53
7,249.00	67.88	238.15	5,875.63	6,990.63	204.21 S	536.46 W	14,296,684.36	1,772,334.59	6.01	33.65
7,281.00	69.34	238.48	5,887.30	7,002.30	219.86 S	561.81 W	14,296,668.71	1,772,309.24	4.66	40.96
7,312.00	69.79	238.14	5,898.12	7,013.12	235.12 S	586.53 W	14,296,653.45	1,772,284.52	1.78	48.09
7,343.00	70.37	238.97	5,908.69	7,023.69	250.33 S	611.39 W	14,296,638.25	1,772,259.66	3.14	55.12
7,375.00	71.09	239.35	5,919.25	7,034.25	265.81 S	637.33 W	14,296,622.76	1,772,233.72	2.51	62.10
7,407.00	70.64	237.06	5,929.74	7,044.74	281.74 S	663.02 W	14,296,606.83	1,772,208.03	6.91	69.58

Design Report for Goodwin 3-3H - 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)		
7,439.00	70.09	236.69	5,940.49	7,055.49	298.21 S	688.26 W	14,296,590.36	1,772,182.79	2.03	77.70
7,501.00	68.37	235.05	5,962.48	7,077.48	330.73 S	736.25 W	14,296,557.85	1,772,134.80	3.72	94.31
7,564.00	68.46	235.29	5,985.65	7,100.65	364.19 S	784.33 W	14,296,524.39	1,772,086.71	0.38	111.78
7,596.00	68.77	234.55	5,997.32	7,112.32	381.31 S	808.72 W	14,296,507.26	1,772,062.33	2.36	120.79
7,627.00	69.06	235.57	6,008.47	7,123.47	397.88 S	832.43 W	14,296,490.70	1,772,038.62	3.21	129.46
7,658.00	69.18	235.94	6,019.52	7,134.52	414.18 S	856.37 W	14,296,474.40	1,772,014.68	1.18	137.82
7,689.00	69.27	235.66	6,030.52	7,145.52	430.47 S	880.34 W	14,296,458.11	1,771,990.70	0.89	146.16
7,721.00	69.24	233.14	6,041.86	7,156.86	447.89 S	904.67 W	14,296,440.69	1,771,966.37	7.36	155.46
7,752.00	69.37	229.43	6,052.81	7,167.81	466.02 S	927.30 W	14,296,422.55	1,771,943.75	11.20	165.97
7,784.00	69.73	226.76	6,064.00	7,179.00	486.04 S	949.61 W	14,296,402.53	1,771,921.44	7.90	178.36
7,816.00	70.44	225.80	6,074.90	7,189.90	506.84 S	971.35 W	14,296,381.74	1,771,899.70	3.59	191.67
7,847.00	70.72	222.81	6,085.21	7,200.21	527.76 S	991.77 W	14,296,360.82	1,771,879.28	9.14	205.49
7,879.00	70.72	219.61	6,095.77	7,210.77	550.48 S	1,011.67 W	14,296,338.10	1,771,859.38	9.44	221.18
7,911.00	71.40	217.11	6,106.16	7,221.16	574.21 S	1,030.45 W	14,296,314.36	1,771,840.60	7.69	238.18
7,942.00	71.89	214.74	6,115.93	7,230.93	598.03 S	1,047.71 W	14,296,290.54	1,771,823.34	7.43	255.72
7,974.00	72.04	212.60	6,125.83	7,240.83	623.36 S	1,064.58 W	14,296,265.22	1,771,806.47	6.38	274.80
8,005.00	72.40	208.64	6,135.30	7,250.30	648.75 S	1,079.61 W	14,296,239.82	1,771,791.44	12.22	294.51
8,036.00	72.67	205.93	6,144.61	7,259.61	675.03 S	1,093.16 W	14,296,213.54	1,771,777.89	8.38	315.50
8,067.00	73.34	203.62	6,153.67	7,268.67	701.95 S	1,105.58 W	14,296,186.63	1,771,765.47	7.45	337.45
8,099.00	74.64	200.76	6,162.50	7,277.50	730.43 S	1,117.20 W	14,296,158.15	1,771,753.85	9.50	361.12
8,131.00	76.13	198.51	6,170.57	7,285.57	759.59 S	1,127.60 W	14,296,128.99	1,771,743.45	8.24	385.81
8,162.00	76.82	195.52	6,177.82	7,292.82	788.40 S	1,136.42 W	14,296,100.17	1,771,734.63	9.64	410.65
8,194.00	78.17	192.63	6,184.75	7,299.75	818.70 S	1,144.01 W	14,296,069.87	1,771,727.04	9.77	437.27
8,224.00	78.66	189.27	6,190.78	7,305.78	847.55 S	1,149.59 W	14,296,041.02	1,771,721.46	11.09	463.11
8,256.00	79.83	186.80	6,196.75	7,311.75	878.68 S	1,153.98 W	14,296,009.89	1,771,717.07	8.42	491.48
8,288.00	80.97	184.27	6,202.09	7,317.09	910.08 S	1,157.02 W	14,295,978.49	1,771,714.02	8.57	520.52
8,320.00	81.26	181.51	6,207.03	7,322.03	941.65 S	1,158.62 W	14,295,946.92	1,771,712.43	8.57	550.15
8,351.00	82.10	178.09	6,211.52	7,326.52	972.32 S	1,158.51 W	14,295,916.25	1,771,712.54	11.25	579.44
8,383.00	83.22	175.09	6,215.61	7,330.61	1,004.00 S	1,156.62 W	14,295,884.57	1,771,714.43	9.93	610.22
8,415.00	84.74	171.77	6,218.97	7,333.97	1,035.61 S	1,152.98 W	14,295,852.97	1,771,718.07	11.36	641.46
8,446.00	87.44	170.22	6,221.08	7,336.08	1,066.15 S	1,148.14 W	14,295,822.42	1,771,722.91	10.04	672.05
8,478.00	88.71	166.30	6,222.16	7,337.16	1,097.46 S	1,141.63 W	14,295,791.12	1,771,729.42	12.87	703.86
8,509.00	87.90	162.69	6,223.07	7,338.07	1,127.31 S	1,133.35 W	14,295,761.26	1,771,737.70	11.93	734.83
8,541.00	87.94	161.14	6,224.23	7,339.23	1,157.71 S	1,123.42 W	14,295,730.86	1,771,747.63	4.84	766.80
8,573.00	87.78	161.35	6,225.43	7,340.43	1,187.99 S	1,113.14 W	14,295,700.59	1,771,757.91	0.82	798.77
8,604.00	87.82	162.00	6,226.62	7,341.62	1,217.40 S	1,103.40 W	14,295,671.18	1,771,767.65	2.10	829.75
8,636.00	89.60	160.86	6,227.34	7,342.34	1,247.72 S	1,093.22 W	14,295,640.85	1,771,777.83	6.60	861.73
8,672.00	89.82	160.13	6,227.52	7,342.52	1,281.65 S	1,081.20 W	14,295,606.92	1,771,789.85	2.12	897.71
8,703.00	90.37	160.16	6,227.47	7,342.47	1,310.81 S	1,070.67 W	14,295,577.76	1,771,800.38	1.78	928.68
8,734.00	90.55	160.58	6,227.22	7,342.22	1,340.01 S	1,060.25 W	14,295,548.57	1,771,810.80	1.47	959.66
8,765.00	90.99	160.15	6,226.81	7,341.81	1,369.20 S	1,049.84 W	14,295,519.37	1,771,821.21	1.98	990.63
8,796.00	90.55	159.96	6,226.39	7,341.39	1,398.34 S	1,039.26 W	14,295,490.23	1,771,831.79	1.55	1,021.60
8,829.00	90.09	159.30	6,226.20	7,341.20	1,429.28 S	1,027.78 W	14,295,459.30	1,771,843.27	2.44	1,054.56
8,857.00	89.08	159.11	6,226.41	7,341.41	1,455.45 S	1,017.84 W	14,295,433.12	1,771,853.21	3.67	1,082.51
8,919.00	89.35	160.22	6,227.26	7,342.26	1,513.58 S	996.29 W	14,295,374.99	1,771,874.76	1.84	1,144.43

Design Report for Goodwin 3-3H - 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)		
8,981.00	89.38	160.05	6,227.94	7,342.94	1,571.89 S	975.23 W	14,295,316.69	1,771,895.82	0.28	1,206.37
9,042.00	88.86	160.77	6,228.88	7,343.88	1,629.35 S	954.78 W	14,295,259.23	1,771,916.27	1.46	1,267.32
9,104.00	89.63	161.88	6,229.70	7,344.70	1,688.08 S	934.93 W	14,295,200.50	1,771,936.12	2.18	1,329.30
9,166.00	89.11	162.49	6,230.38	7,345.38	1,747.10 S	915.96 W	14,295,141.47	1,771,955.09	1.29	1,391.29
9,228.00	89.72	161.95	6,231.01	7,346.01	1,806.14 S	897.03 W	14,295,082.44	1,771,974.02	1.31	1,453.29
9,291.00	89.75	162.67	6,231.30	7,346.30	1,866.16 S	877.89 W	14,295,022.42	1,771,993.16	1.14	1,516.29
9,355.00	89.66	163.02	6,231.63	7,346.63	1,927.31 S	859.01 W	14,294,961.27	1,772,012.04	0.56	1,580.29
9,417.00	90.22	163.05	6,231.70	7,346.70	1,986.61 S	840.92 W	14,294,901.96	1,772,030.13	0.90	1,642.28
9,480.00	90.12	162.56	6,231.51	7,346.51	2,046.79 S	822.29 W	14,294,841.78	1,772,048.76	0.79	1,705.28
9,542.00	89.63	162.30	6,231.65	7,346.65	2,105.90 S	803.58 W	14,294,782.67	1,772,067.47	0.89	1,767.28
9,606.00	90.31	162.84	6,231.68	7,346.68	2,166.96 S	784.41 W	14,294,721.61	1,772,086.64	1.36	1,831.28
9,669.00	90.43	162.53	6,231.27	7,346.27	2,227.10 S	765.66 W	14,294,661.47	1,772,105.39	0.53	1,894.28
9,733.00	89.26	161.97	6,231.45	7,346.45	2,288.06 S	746.15 W	14,294,600.52	1,772,124.90	2.03	1,958.28
9,796.00	90.03	162.21	6,231.84	7,346.84	2,348.00 S	726.77 W	14,294,540.57	1,772,144.28	1.28	2,021.27
9,859.00	89.88	162.86	6,231.89	7,346.89	2,408.10 S	707.86 W	14,294,480.48	1,772,163.18	1.06	2,084.27
9,923.00	89.54	164.25	6,232.21	7,347.21	2,469.48 S	689.75 W	14,294,419.10	1,772,181.30	2.24	2,148.26
9,987.00	88.92	163.94	6,233.07	7,348.07	2,531.02 S	672.21 W	14,294,357.55	1,772,198.84	1.08	2,212.23
10,049.00	89.54	164.29	6,233.90	7,348.90	2,590.65 S	655.24 W	14,294,297.93	1,772,215.81	1.15	2,274.20
10,113.00	89.14	164.53	6,234.64	7,349.64	2,652.29 S	638.04 W	14,294,236.29	1,772,233.01	0.73	2,338.16
10,176.00	89.32	164.03	6,235.49	7,350.49	2,712.93 S	620.98 W	14,294,175.65	1,772,250.07	0.84	2,401.12
10,240.00	89.94	164.13	6,235.90	7,350.90	2,774.47 S	603.42 W	14,294,114.10	1,772,267.63	0.98	2,465.10
10,365.00	90.22	164.57	6,235.73	7,350.73	2,894.84 S	569.70 W	14,293,993.74	1,772,301.35	0.42	2,590.03
10,491.00	90.12	165.07	6,235.35	7,350.35	3,016.44 S	536.71 W	14,293,872.14	1,772,334.34	0.40	2,715.93
10,617.00	88.30	164.91	6,237.09	7,352.09	3,138.12 S	504.08 W	14,293,750.45	1,772,366.97	1.45	2,841.80
10,743.00	89.54	162.89	6,239.46	7,354.46	3,259.15 S	469.15 W	14,293,629.42	1,772,401.90	1.88	2,967.73
10,870.00	91.17	162.40	6,238.68	7,353.68	3,380.36 S	431.27 W	14,293,508.21	1,772,439.78	1.34	3,094.72
10,996.00	89.82	162.19	6,237.59	7,352.59	3,500.39 S	392.95 W	14,293,388.19	1,772,478.10	1.08	3,220.71
11,123.00	90.00	162.41	6,237.79	7,352.79	3,621.37 S	354.34 W	14,293,267.20	1,772,516.71	0.22	3,347.71
11,249.00	89.32	162.08	6,238.54	7,353.54	3,741.37 S	315.92 W	14,293,147.20	1,772,555.13	0.60	3,473.71
11,376.00	88.24	159.53	6,241.24	7,356.24	3,861.27 S	274.17 W	14,293,027.30	1,772,596.88	2.18	3,600.61
11,502.00	89.23	160.02	6,244.02	7,359.02	3,979.47 S	230.63 W	14,292,909.10	1,772,640.42	0.88	3,726.43
11,627.00	88.92	157.76	6,246.04	7,361.04	4,096.06 S	185.62 W	14,292,792.51	1,772,685.43	1.82	3,851.16
11,754.00	88.83	159.64	6,248.53	7,363.53	4,214.36 S	139.49 W	14,292,674.22	1,772,731.56	1.48	3,977.85
11,878.00	89.29	162.82	6,250.57	7,365.57	4,331.73 S	99.60 W	14,292,556.84	1,772,771.44	2.59	4,101.78
12,005.00	87.41	163.67	6,254.23	7,369.23	4,453.28 S	63.01 W	14,292,435.29	1,772,808.04	1.62	4,228.71
12,067.00	87.50	163.85	6,256.98	7,371.98	4,512.75 S	45.69 W	14,292,375.82	1,772,825.36	0.32	4,290.64
12,193.00	89.57	163.90	6,260.20	7,375.20	4,633.75 S	10.71 W	14,292,254.83	1,772,860.34	1.64	4,416.55
12,318.00	89.88	163.03	6,260.80	7,375.80	4,753.57 S	24.87 E	14,292,135.00	1,772,895.92	0.74	4,541.53
12,445.00	90.59	162.53	6,260.28	7,375.28	4,874.88 S	62.46 E	14,292,013.69	1,772,933.51	0.68	4,668.53
12,571.00	88.61	161.41	6,261.16	7,376.16	4,994.68 S	101.46 E	14,291,893.89	1,772,972.51	1.81	4,794.51
12,697.00	88.64	163.11	6,264.18	7,379.18	5,114.65 S	139.84 E	14,291,773.92	1,773,010.89	1.35	4,920.47
12,822.00	89.63	164.36	6,266.07	7,381.07	5,234.63 S	174.84 E	14,291,653.94	1,773,045.89	1.28	5,045.42
12,949.00	89.54	163.62	6,266.99	7,381.99	5,356.70 S	209.87 E	14,291,531.87	1,773,080.92	0.59	5,172.38
13,075.00	89.29	163.05	6,268.28	7,383.28	5,477.40 S	246.00 E	14,291,411.17	1,773,117.05	0.49	5,298.36
13,831.00	90.25	162.71	6,271.31	7,386.31	6,199.89 S	468.54 E	14,290,688.69	1,773,339.59	0.13	6,054.33

Design Report for Goodwin 3-3H - 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)		
13,958.00	91.02	162.77	6,269.90	7,384.90	6,321.16 S	506.22 E	14,290,567.41	1,773,377.27	0.61	6,181.32
14,085.00	88.92	161.09	6,269.97	7,384.97	6,441.89 S	545.61 E	14,290,446.69	1,773,416.66	2.12	6,308.30
14,211.00	90.28	161.76	6,270.85	7,385.85	6,561.32 S	585.75 E	14,290,327.26	1,773,456.80	1.20	6,434.27
14,336.00	90.25	162.63	6,270.27	7,385.27	6,680.33 S	623.97 E	14,290,208.25	1,773,495.02	0.70	6,559.26
14,463.00	90.09	161.86	6,269.89	7,384.89	6,801.28 S	662.70 E	14,290,087.30	1,773,533.74	0.62	6,686.26
14,590.00	90.52	162.11	6,269.22	7,384.22	6,922.05 S	701.97 E	14,289,966.53	1,773,573.02	0.39	6,813.25
14,685.00	89.51	161.03	6,269.19	7,384.19	7,012.17 S	732.00 E	14,289,876.40	1,773,603.05	1.56	6,908.24
14,747.00	88.12	160.84	6,270.48	7,385.48	7,070.76 S	752.25 E	14,289,817.82	1,773,623.30	2.26	6,970.20
Last MWD Survey @ 14747' MD										
14,800.00	88.12	160.84	6,272.21	7,387.21	7,120.79 S	769.64 E	14,289,767.78	1,773,640.69	0.00	7,023.15

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	162.52	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
342.00	14,800.00	Sperry MWD	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
350.00	350.00	13 3/8"	13-3/8	17-1/2
2,370.00	2,365.18	9 5/8"	9-5/8	12-1/4

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Goodwin 3-3H LP P- - hit/miss target - Shape	0.00	359.71	7,339.00	-1,151.57	-1,111.05	4,295,737.00	1,771,760.00	39° 21' 59.606 N	80° 32' 7.010 W
- actual wellpath misses target center by 13.69ft at 8539.00ft MD (7339.16 TVD, -1155.82 N, -1124.07 E)									
- Point									
Goodwin 3-3H BHL I	0.00	359.70	7,372.00	-7,167.57	783.95	4,289,721.00	1,773,655.00	39° 21' 0.027 N	80° 31' 43.273 W
- actual wellpath misses target center by 51.23ft at 14800.00ft MD (7387.21 TVD, -7120.79 N, 769.64 E)									
- Point									

North Reference Sheet for Goodwin Pad - Goodwin 3-3H - 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 1096' + KB 19' @ 1115.00ft (Pioneer 59). Northing and Easting are relative to Goodwin 3-3H

Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 17N (84 W to 78 W) using datum NAD 1927 - Eastern US, ellipsoid Clarke

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 81° 0' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°

False Easting: 1,640,416.67ft, False Northing: 0.00ft, Scale Reduction: 0.99962006

Grid Coordinates of Well: 14,296,888.57 ft N, 1,772,871.05 ft E

Geographical Coordinates of Well: 39° 22' 10.94" N, 080° 31' 52.78" W

Grid Convergence at Surface is: 0.30°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,800.00ft the Bottom Hole Displacement is 7,162.27ft in the Direction of 173.83° (Grid).

Magnetic Convergence at surface is: 8.88° (7 May 2013, , BGGM2012)

