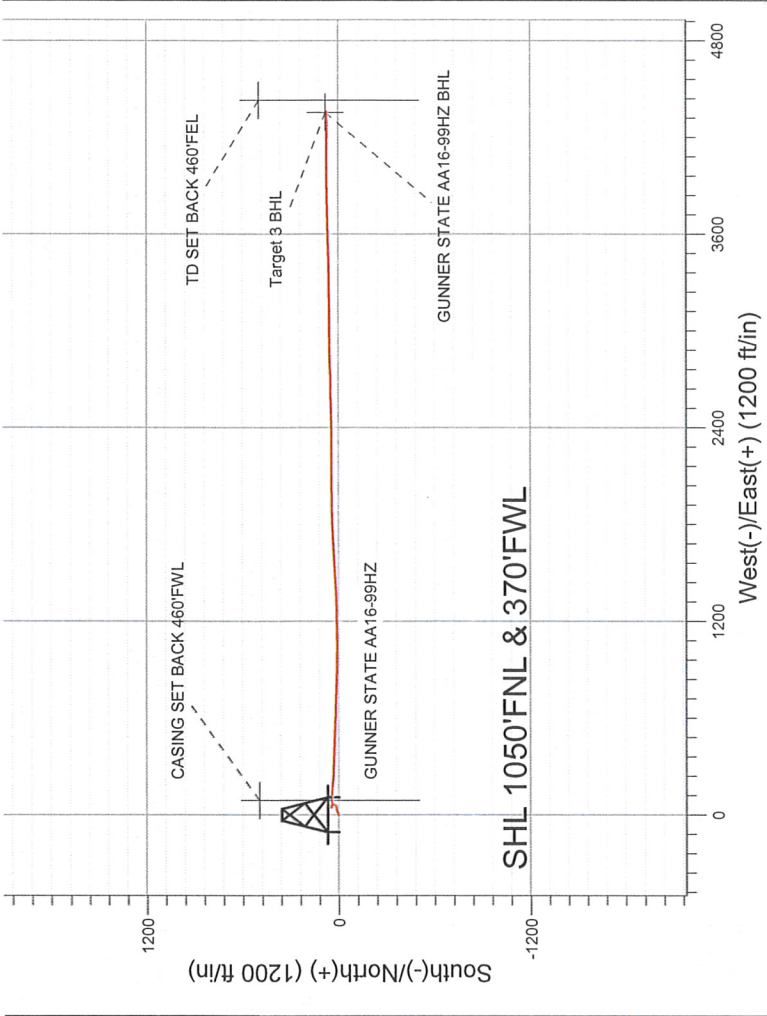
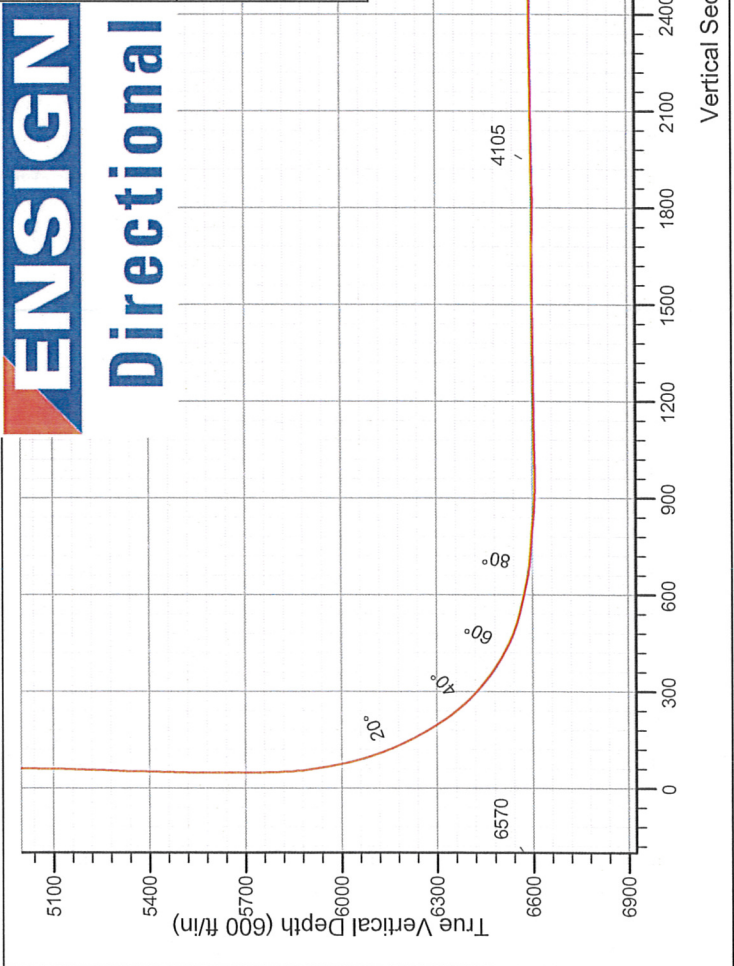


NOBLE ENERGY INC WELD COUNTY CO

Well Name: GUNNER STATE AA16-99HZ			
Surface Location: GUNNER STATE AA16-99HZ PAD 16-6N-63W			
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone			
Ground Elevation: 4682.0		Longitude	Slot
+N/-S	+E/-W	Northing	Eastng
0.0	0.0	1423465.61	3291997.58
RKB ENSIGN 136 13' RKB @ 4695.0ft (RKB ENSIGN 136 13')		Latitude	-104.450139
		Longitude	

FINAL SURVEY

Projected Bottom Hole Location
10590' MD 6571' TVD 73' N & 4354' E of
SHL
90.0 degree Incl @ 89.4 degree AZM



GUNNER STATE AA16-99HZ PAD 16-6N-63W GUNNER STATE AA16-99HZ Plan 3 Target 3 (dec 2, 2010) 13:06, February 07 2011		ANNOTATIONS	
		TVD	MD Annotation
		6570.5	10340.0 tie on pt
LEGEND			
GUNNER STATE AA16-99HZ, Wellbore #1, Wellbore #1 V0			
Plan 3 Target 3 (dec 2 ,2010)			
Projection to TD			
tie on pt			
GUNNER STATE AA16-99HZ BHL			
Target 3 BHL			



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.16-T6N-R63W

GUNNER STATE AA16-99HZ PAD 16-6N-63W

GUNNER STATE AA16-99HZ

Wellbore #1

Design: Wellbore #1

Standard Survey Report

07 February, 2011



Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T6N-R63W
 Site: GUNNER STATE AA16-99HZ PAD 16-6N-63W
 Well: GUNNER STATE AA16-99HZ
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Site GUNNER STATE AA16-99HZ PAD 16-6N-63W
 TVD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
 MD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Project	SEC.16-T6N-R63W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site GUNNER STATE AA16-99HZ PAD 16-6N-63W

Site Position:	Lat/Long	Northing:	1,423,465.62 ft	Latitude:	40.491069
From:		Easting:	3,291,997.58 ft	Longitude:	-104.450139
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.68 °

Well GUNNER STATE AA16-99HZ

Well Position	+N/-S	0.0 ft	Northing:	1,423,465.61 ft	Latitude:	40.491069
	+E/-W	0.0 ft	Easting:	3,291,997.58 ft	Longitude:	-104.450139
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,682.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/18/2010	8.78	67.20	53,275

Design Wellbore #1

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
----------	-----	--------	--------	---------------	-----

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	88.93

Survey Program Date 2/7/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
730.0	10,590.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.7	0.01	73.60	1.7	0.0	0.0	0.0	0.33	0.33	0.00
TD SET BACK 460'FEL									
5.8	0.02	73.60	5.8	0.0	0.0	0.0	0.33	0.33	0.00
CASING SET BACK 460'FWL									
730.0	2.40	73.60	729.8	4.3	14.7	14.7	0.33	0.33	0.00
857.0	2.70	70.20	856.7	6.1	20.0	20.1	0.26	0.24	-2.68
985.0	2.10	63.90	984.5	8.1	25.0	25.1	0.51	-0.47	-4.92
1,113.0	2.00	70.60	1,112.5	9.9	29.2	29.4	0.20	-0.08	5.23
1,241.0	1.70	59.80	1,240.4	11.6	32.9	33.1	0.36	-0.23	-8.44
1,369.0	1.80	78.30	1,368.3	13.0	36.5	36.8	0.45	0.08	14.45
1,498.0	1.70	84.10	1,497.3	13.6	40.4	40.7	0.16	-0.08	4.50

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.16-T6N-R63W
Site: GUNNER STATE AA16-99HZ PAD 16-6N-63W
Well: GUNNER STATE AA16-99HZ
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Site GUNNER STATE AA16-99HZ PAD 16-6N-63W
TVD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
MD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,626.0	1.40	84.80	1,625.2	13.9	43.9	44.1	0.23	-0.23	0.55
1,754.0	1.30	103.20	1,753.2	13.7	46.8	47.1	0.35	-0.08	14.38
1,927.0	1.50	75.20	1,926.1	13.8	50.9	51.2	0.41	0.12	-16.19
2,054.0	1.40	57.30	2,053.1	15.1	53.9	54.1	0.36	-0.08	-14.09
2,182.0	1.50	54.00	2,181.1	16.9	56.5	56.8	0.10	0.08	-2.58
2,310.0	1.50	49.40	2,309.0	19.0	59.2	59.5	0.09	0.00	-3.59
2,439.0	1.10	33.70	2,438.0	21.1	61.1	61.5	0.41	-0.31	-12.17
2,567.0	1.40	32.20	2,566.0	23.5	62.6	63.1	0.24	0.23	-1.17
2,739.0	0.90	17.10	2,737.9	26.6	64.2	64.6	0.34	-0.29	-8.78
2,824.0	0.70	9.30	2,822.9	27.7	64.4	64.9	0.27	-0.24	-9.18
2,952.0	0.70	15.40	2,950.9	29.2	64.8	65.3	0.06	0.00	4.77
3,081.0	0.60	13.50	3,079.9	30.7	65.1	65.7	0.08	-0.08	-1.47
3,209.0	1.00	28.00	3,207.9	32.3	65.8	66.4	0.35	0.31	11.33
3,338.0	1.40	19.90	3,336.9	34.8	66.9	67.5	0.34	0.31	-6.28
3,466.0	1.10	323.30	3,464.8	37.2	66.7	67.4	0.95	-0.23	-44.22
3,595.0	1.10	296.30	3,593.8	38.8	64.8	65.5	0.40	0.00	-20.93
3,723.0	1.50	300.80	3,721.8	40.2	62.3	63.0	0.32	0.31	3.52
3,851.0	1.80	314.80	3,849.7	42.4	59.4	60.2	0.39	0.23	10.94
3,980.0	1.40	317.50	3,978.7	45.0	56.9	57.8	0.32	-0.31	2.09
4,108.0	0.70	295.50	4,106.7	46.5	55.2	56.0	0.62	-0.55	-17.19
4,237.0	0.30	153.50	4,235.6	46.6	54.6	55.5	0.74	-0.31	-110.08
4,365.0	1.00	131.50	4,363.6	45.5	55.6	56.4	0.57	0.55	-17.19
4,494.0	0.90	135.70	4,492.6	44.0	57.1	57.9	0.09	-0.08	3.26
4,622.0	0.70	129.50	4,620.6	42.8	58.4	59.2	0.17	-0.16	-4.84
4,751.0	0.70	121.30	4,749.6	41.9	59.7	60.5	0.08	0.00	-6.36
4,879.0	0.40	81.20	4,877.6	41.6	60.8	61.6	0.37	-0.23	-31.33
5,007.0	0.40	20.60	5,005.6	42.1	61.4	62.2	0.32	0.00	-47.34
5,136.0	2.30	319.30	5,134.6	44.4	59.9	60.7	1.66	1.47	-47.52
5,264.0	2.80	295.60	5,262.4	47.7	55.4	56.3	0.90	0.39	-18.52
5,393.0	1.20	258.70	5,391.4	48.8	51.2	52.1	1.53	-1.24	-28.60
5,521.0	1.40	218.20	5,519.3	47.4	49.0	49.8	0.72	0.16	-31.64
5,638.0	1.40	203.10	5,636.3	44.9	47.5	48.3	0.31	0.00	-12.91
5,767.0	1.50	97.50	5,765.3	43.2	48.6	49.4	1.79	0.08	-81.86
5,809.0	2.20	84.80	5,807.2	43.2	49.9	50.7	1.92	1.67	-30.24
5,830.0	3.30	77.20	5,828.2	43.4	50.9	51.7	5.51	5.24	-36.19
5,852.0	4.20	80.00	5,850.2	43.7	52.3	53.1	4.17	4.09	12.73
5,873.0	5.70	81.00	5,871.1	44.0	54.1	54.9	7.15	7.14	4.76
5,895.0	7.40	84.30	5,892.9	44.3	56.6	57.4	7.91	7.73	15.00
5,916.0	8.50	96.40	5,913.7	44.3	59.5	60.3	9.51	5.24	57.62
5,938.0	9.60	99.00	5,935.5	43.8	62.9	63.7	5.33	5.00	11.82
5,959.0	11.00	100.00	5,956.1	43.2	66.6	67.4	6.72	6.67	4.76
5,981.0	11.30	97.50	5,977.7	42.5	70.8	71.6	2.59	1.36	-11.36
6,002.0	10.80	87.60	5,998.3	42.3	74.8	75.6	9.33	-2.38	-47.14
6,023.0	11.60	83.80	6,018.9	42.7	78.9	79.7	5.18	3.81	-18.10
6,044.0	13.90	85.90	6,039.4	43.1	83.5	84.3	11.17	10.95	10.00
6,066.0	15.60	87.30	6,060.7	43.4	89.1	89.9	7.89	7.73	6.36
6,087.0	17.40	90.90	6,080.8	43.5	95.1	95.9	9.85	8.57	17.14
6,109.0	18.50	92.20	6,101.7	43.3	101.8	102.6	5.32	5.00	5.91
6,130.0	20.20	93.80	6,121.6	42.9	108.8	109.6	8.48	8.10	7.62
6,152.0	21.80	92.60	6,142.1	42.5	116.7	117.4	7.53	7.27	-5.45
6,173.0	23.00	93.00	6,161.5	42.1	124.6	125.4	5.76	5.71	1.90
6,195.0	24.00	93.20	6,181.7	41.6	133.4	134.2	4.56	4.55	0.91
6,238.0	26.90	93.00	6,220.5	40.6	151.9	152.6	6.75	6.74	-0.47
6,280.0	28.70	96.20	6,257.7	39.0	171.4	172.1	5.57	4.29	7.62

Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T6N-R63W
 Site: GUNNER STATE AA16-99HZ PAD 16-6N-63W
 Well: GUNNER STATE AA16-99HZ
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Site GUNNER STATE AA16-99HZ PAD 16-6N-63W
 TVD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
 MD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,301.0	30.40	96.30	6,275.9	37.9	181.7	182.3	8.10	8.10	0.48
6,323.0	32.50	95.40	6,294.7	36.7	193.1	193.7	9.78	9.55	-4.09
6,344.0	33.80	95.40	6,312.3	35.7	204.5	205.1	6.19	6.19	0.00
6,366.0	35.30	95.30	6,330.4	34.5	216.9	217.5	6.82	6.82	-0.45
6,387.0	37.40	93.90	6,347.3	33.5	229.3	229.9	10.75	10.00	-6.67
6,409.0	39.30	93.50	6,364.6	32.6	243.0	243.5	8.71	8.64	-1.82
6,430.0	41.50	92.30	6,380.6	31.9	256.6	257.1	11.11	10.48	-5.71
6,452.0	43.70	92.20	6,396.8	31.3	271.4	272.0	10.00	10.00	-0.45
6,473.0	46.00	93.50	6,411.6	30.6	286.2	286.8	11.79	10.95	6.19
6,495.0	47.80	93.90	6,426.7	29.6	302.3	302.8	8.29	8.18	1.82
6,516.0	50.10	93.60	6,440.5	28.5	318.1	318.5	11.01	10.95	-1.43
6,537.0	51.90	93.70	6,453.7	27.5	334.3	334.8	8.58	8.57	0.48
6,558.0	54.30	93.10	6,466.3	26.5	351.1	351.5	11.65	11.43	-2.86
6,580.0	56.20	92.70	6,478.8	25.6	369.2	369.6	8.76	8.64	-1.82
6,601.0	57.60	92.10	6,490.3	24.9	386.7	387.1	7.08	6.67	-2.86
6,623.0	59.10	91.50	6,501.8	24.3	405.5	405.8	7.20	6.82	-2.73
6,644.0	60.90	91.00	6,512.3	23.9	423.6	424.0	8.82	8.57	-2.38
6,666.0	62.90	90.90	6,522.7	23.5	443.0	443.4	9.10	9.09	-0.45
6,687.0	65.70	91.40	6,531.8	23.2	462.0	462.3	13.50	13.33	2.38
6,708.0	68.60	91.70	6,540.0	22.6	481.3	481.6	13.87	13.81	1.43
6,729.0	71.40	92.20	6,547.1	22.0	501.0	501.3	13.52	13.33	2.38
6,751.0	73.60	92.30	6,553.8	21.1	522.0	522.3	10.01	10.00	0.45
6,772.0	75.80	91.90	6,559.3	20.4	542.2	542.5	10.64	10.48	-1.90
6,794.0	76.30	91.30	6,564.6	19.8	563.6	563.8	3.49	2.27	-2.73
6,815.0	76.50	91.40	6,569.5	19.3	584.0	584.2	1.06	0.95	0.48
6,837.0	76.60	91.40	6,574.7	18.8	605.4	605.6	0.45	0.45	0.00
6,858.0	76.90	91.10	6,579.5	18.4	625.8	626.0	1.99	1.43	-1.43
6,880.0	78.40	92.10	6,584.2	17.8	647.3	647.5	8.14	6.82	4.55
6,901.0	81.30	92.20	6,587.9	17.0	667.9	668.1	13.82	13.81	0.48
6,922.0	83.00	92.40	6,590.7	16.2	688.7	688.9	8.15	8.10	0.95
6,955.0	85.20	92.00	6,594.1	14.9	721.5	721.7	6.77	6.67	-1.21
6,993.0	85.70	92.20	6,597.1	13.5	759.4	759.5	1.42	1.32	0.53
7,025.0	85.60	91.90	6,599.6	12.4	791.3	791.4	0.99	-0.31	-0.94
7,057.0	85.40	92.00	6,602.1	11.3	823.1	823.2	0.70	-0.63	0.31
7,089.0	85.60	92.00	6,604.6	10.2	855.0	855.1	0.63	0.63	0.00
7,121.0	86.60	91.80	6,606.8	9.1	886.9	887.0	3.19	3.13	-0.63
7,153.0	88.70	91.70	6,608.1	8.1	918.9	918.9	6.57	6.56	-0.31
7,185.0	90.50	91.60	6,608.3	7.2	950.9	950.8	5.63	5.63	-0.31
7,217.0	90.90	90.70	6,607.9	6.6	982.9	982.8	3.08	1.25	-2.81
7,249.0	91.50	90.00	6,607.2	6.4	1,014.9	1,014.8	2.88	1.88	-2.19
7,281.0	91.30	89.60	6,606.5	6.5	1,046.8	1,046.8	1.40	-0.63	-1.25
7,313.0	90.60	89.40	6,605.9	6.8	1,078.8	1,078.8	2.28	-2.19	-0.63
7,345.0	90.30	88.70	6,605.7	7.3	1,110.8	1,110.8	2.38	-0.94	-2.19
7,377.0	90.50	88.60	6,605.5	8.0	1,142.8	1,142.8	0.70	0.63	-0.31
7,409.0	90.90	89.00	6,605.1	8.7	1,174.8	1,174.8	1.77	1.25	1.25
7,441.0	90.50	87.90	6,604.7	9.6	1,206.8	1,206.8	3.66	-1.25	-3.44
7,472.0	90.40	87.40	6,604.4	10.9	1,237.8	1,237.8	1.64	-0.32	-1.61
7,504.0	90.60	88.50	6,604.2	12.0	1,269.8	1,269.8	3.49	0.63	3.44
7,535.0	90.50	88.80	6,603.9	12.7	1,300.7	1,300.8	1.02	-0.32	0.97
7,566.0	90.50	88.50	6,603.6	13.5	1,331.7	1,331.8	0.97	0.00	-0.97
7,598.0	90.50	87.80	6,603.3	14.5	1,363.7	1,363.8	2.19	0.00	-2.19
7,630.0	90.20	86.80	6,603.1	16.0	1,395.7	1,395.7	3.26	-0.94	-3.13
7,662.0	90.50	87.00	6,602.9	17.7	1,427.6	1,427.7	1.13	0.94	0.63

Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.16-T6N-R63W
Site: GUNNER STATE AA16-99HZ PAD 16-6N-63W
Well: GUNNER STATE AA16-99HZ
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Site GUNNER STATE AA16-99HZ PAD 16-6N-63W
TVD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
MD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,693.0	90.60	87.50	6,602.6	19.2	1,458.6	1,458.7	1.64	0.32	1.61
7,725.0	90.20	86.90	6,602.4	20.8	1,490.6	1,490.7	2.25	-1.25	-1.88
7,757.0	90.20	87.10	6,602.3	22.5	1,522.5	1,522.7	0.62	0.00	0.63
7,789.0	90.10	86.60	6,602.2	24.2	1,554.5	1,554.6	1.59	-0.31	-1.56
7,820.0	90.40	86.20	6,602.1	26.2	1,585.4	1,585.6	1.61	0.97	-1.29
7,852.0	90.30	85.70	6,601.9	28.4	1,617.3	1,617.6	1.59	-0.31	-1.56
7,884.0	89.50	85.60	6,601.9	30.8	1,649.2	1,649.5	2.52	-2.50	-0.31
7,916.0	89.40	86.30	6,602.2	33.1	1,681.1	1,681.5	2.21	-0.31	2.19
7,948.0	89.30	86.80	6,602.6	35.0	1,713.1	1,713.4	1.59	-0.31	1.56
7,980.0	89.00	87.70	6,603.1	36.6	1,745.0	1,745.4	2.96	-0.94	2.81
8,012.0	88.90	88.30	6,603.7	37.7	1,777.0	1,777.4	1.90	-0.31	1.88
8,044.0	89.70	88.70	6,604.0	38.5	1,809.0	1,809.4	2.80	2.50	1.25
8,076.0	91.20	88.90	6,603.8	39.2	1,841.0	1,841.4	4.73	4.69	0.63
8,108.0	92.10	88.50	6,602.9	39.9	1,873.0	1,873.4	3.08	2.81	-1.25
8,140.0	91.60	88.10	6,601.8	40.9	1,904.9	1,905.4	2.00	-1.56	-1.25
8,172.0	90.70	88.30	6,601.2	41.9	1,936.9	1,937.4	2.88	-2.81	0.63
8,204.0	90.70	89.10	6,600.8	42.6	1,968.9	1,969.4	2.50	0.00	2.50
8,236.0	90.80	88.80	6,600.4	43.2	2,000.9	2,001.4	0.99	0.31	-0.94
8,268.0	90.00	88.30	6,600.2	44.0	2,032.9	2,033.4	2.95	-2.50	-1.56
8,300.0	90.20	89.60	6,600.1	44.6	2,064.9	2,065.4	4.11	0.63	4.06
8,332.0	90.50	90.30	6,599.9	44.6	2,096.9	2,097.4	2.38	0.94	2.19
8,364.0	90.40	90.90	6,599.7	44.3	2,128.9	2,129.3	1.90	-0.31	1.88
8,396.0	90.40	91.30	6,599.4	43.7	2,160.9	2,161.3	1.25	0.00	1.25
8,428.0	90.80	91.50	6,599.1	42.9	2,192.9	2,193.3	1.40	1.25	0.63
8,459.0	91.40	90.50	6,598.5	42.3	2,223.9	2,224.3	3.76	1.94	-3.23
8,491.0	91.30	90.40	6,597.8	42.1	2,255.8	2,256.2	0.44	-0.31	-0.31
8,523.0	91.10	90.20	6,597.1	41.9	2,287.8	2,288.2	0.88	-0.63	-0.63
8,555.0	90.40	90.20	6,596.7	41.8	2,319.8	2,320.2	2.19	-2.19	0.00
8,587.0	90.30	89.60	6,596.5	41.9	2,351.8	2,352.2	1.90	-0.31	-1.88
8,619.0	90.40	89.30	6,596.3	42.2	2,383.8	2,384.2	0.99	0.31	-0.94
8,651.0	90.60	88.60	6,596.0	42.8	2,415.8	2,416.2	2.27	0.63	-2.19
8,682.0	91.20	88.10	6,595.5	43.6	2,446.8	2,447.2	2.52	1.94	-1.61
8,713.0	91.50	87.90	6,594.8	44.7	2,477.8	2,478.2	1.16	0.97	-0.65
8,745.0	92.00	87.80	6,593.8	45.9	2,509.7	2,510.2	1.59	1.56	-0.31
8,777.0	91.60	88.30	6,592.8	47.0	2,541.7	2,542.1	2.00	-1.25	1.56
8,809.0	90.40	88.80	6,592.2	47.8	2,573.7	2,574.1	4.06	-3.75	1.56
8,841.0	90.00	88.80	6,592.1	48.5	2,605.7	2,606.1	1.25	-1.25	0.00
8,873.0	89.90	88.60	6,592.2	49.2	2,637.7	2,638.1	0.70	-0.31	-0.63
8,905.0	89.90	88.60	6,592.2	50.0	2,669.7	2,670.1	0.00	0.00	0.00
8,937.0	90.50	88.60	6,592.1	50.8	2,701.7	2,702.1	1.88	1.88	0.00
8,969.0	91.20	88.60	6,591.6	51.6	2,733.6	2,734.1	2.19	2.19	0.00
9,001.0	91.80	89.10	6,590.8	52.2	2,765.6	2,766.1	2.44	1.88	1.56
9,033.0	91.50	88.40	6,589.9	52.9	2,797.6	2,798.1	2.38	-0.94	-2.19
9,065.0	90.20	88.60	6,589.4	53.7	2,829.6	2,830.1	4.11	-4.06	0.63
9,097.0	89.50	89.30	6,589.5	54.3	2,861.6	2,862.1	3.09	-2.19	2.19
9,129.0	89.20	89.00	6,589.8	54.8	2,893.6	2,894.1	1.33	-0.94	-0.94
9,161.0	90.90	89.50	6,589.8	55.2	2,925.6	2,926.1	5.54	5.31	1.56
9,193.0	92.40	89.70	6,588.9	55.4	2,957.6	2,958.1	4.73	4.69	0.63
9,225.0	92.00	89.20	6,587.7	55.8	2,989.5	2,990.1	2.00	-1.25	-1.56
9,256.0	91.60	89.90	6,586.7	56.0	3,020.5	3,021.0	2.60	-1.29	2.26
9,288.0	90.90	89.60	6,586.0	56.1	3,052.5	3,053.0	2.38	-2.19	-0.94
9,320.0	92.00	90.20	6,585.2	56.2	3,084.5	3,085.0	3.92	3.44	1.88
9,352.0	92.40	90.40	6,583.9	56.0	3,116.5	3,117.0	1.40	1.25	0.63

Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.16-T6N-R63W
 Site: GUNNER STATE AA16-99HZ PAD 16-6N-63W
 Well: GUNNER STATE AA16-99HZ
 Wellbore: Wellbore #1
 Design: Wellbore #1

Local Co-ordinate Reference: Site GUNNER STATE AA16-99HZ PAD 16-6N-63W
 TVD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
 MD Reference: RKB @ 4695.0ft (RKB ENSIGN 136 13')
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,384.0	92.30	89.70	6,582.6	56.0	3,148.4	3,148.9	2.21	-0.31	-2.19
9,416.0	91.50	89.30	6,581.6	56.3	3,180.4	3,180.9	2.79	-2.50	-1.25
9,448.0	91.30	88.80	6,580.8	56.8	3,212.4	3,212.9	1.68	-0.63	-1.56
9,480.0	91.20	88.80	6,580.1	57.5	3,244.4	3,244.9	0.31	-0.31	0.00
9,512.0	91.60	88.70	6,579.3	58.2	3,276.4	3,276.9	1.29	1.25	-0.31
9,543.0	91.30	88.70	6,578.5	58.9	3,307.4	3,307.9	0.97	-0.97	0.00
9,575.0	91.30	88.80	6,577.8	59.6	3,339.3	3,339.9	0.31	0.00	0.31
9,607.0	90.50	88.70	6,577.3	60.3	3,371.3	3,371.9	2.52	-2.50	-0.31
9,639.0	90.40	88.50	6,577.1	61.1	3,403.3	3,403.9	0.70	-0.31	-0.63
9,671.0	90.50	88.70	6,576.8	61.8	3,435.3	3,435.9	0.70	0.31	0.63
9,703.0	90.40	88.80	6,576.5	62.5	3,467.3	3,467.9	0.44	-0.31	0.31
9,735.0	90.20	88.80	6,576.4	63.2	3,499.3	3,499.9	0.63	-0.63	0.00
9,767.0	90.00	88.90	6,576.3	63.8	3,531.3	3,531.9	0.70	-0.63	0.31
9,798.0	90.00	88.90	6,576.3	64.4	3,562.3	3,562.9	0.00	0.00	0.00
9,830.0	90.20	88.80	6,576.3	65.1	3,594.3	3,594.9	0.70	0.63	-0.31
9,862.0	90.10	88.80	6,576.2	65.8	3,626.3	3,626.9	0.31	-0.31	0.00
9,893.0	90.50	88.70	6,576.0	66.4	3,657.3	3,657.9	1.33	1.29	-0.32
9,926.0	90.70	88.70	6,575.7	67.2	3,690.3	3,690.9	0.61	0.61	0.00
9,958.0	90.90	88.60	6,575.2	67.9	3,722.2	3,722.9	0.70	0.63	-0.31
9,990.0	91.00	88.60	6,574.7	68.7	3,754.2	3,754.9	0.31	0.31	0.00
10,022.0	91.00	88.60	6,574.1	69.5	3,786.2	3,786.9	0.00	0.00	0.00
10,054.0	91.80	88.70	6,573.4	70.2	3,818.2	3,818.8	2.52	2.50	0.31
10,086.0	91.30	88.90	6,572.5	70.9	3,850.2	3,850.8	1.68	-1.56	0.63
10,118.0	90.50	88.80	6,572.0	71.6	3,882.2	3,882.8	2.52	-2.50	-0.31
10,150.0	90.50	88.80	6,571.7	72.2	3,914.2	3,914.8	0.00	0.00	0.00
10,181.0	90.50	89.10	6,571.4	72.8	3,945.2	3,945.8	0.97	0.00	0.97
10,213.0	90.80	89.30	6,571.1	73.2	3,977.1	3,977.8	1.13	0.94	0.63
10,244.0	90.90	89.40	6,570.6	73.6	4,008.1	4,008.8	0.46	0.32	0.32
10,276.0	90.10	90.30	6,570.3	73.7	4,040.1	4,040.8	3.76	-2.50	2.81
10,308.0	89.60	90.40	6,570.4	73.5	4,072.1	4,072.8	1.59	-1.56	0.31
10,340.0	90.30	90.40	6,570.5	73.3	4,104.1	4,104.8	2.19	2.19	0.00
10,372.0	91.50	91.00	6,569.9	72.9	4,136.1	4,136.8	4.19	3.75	1.88
10,404.0	90.00	90.30	6,569.5	72.5	4,168.1	4,168.8	5.17	-4.69	-2.19
10,435.0	89.40	90.30	6,569.7	72.3	4,199.1	4,199.7	1.94	-1.94	0.00
10,467.0	89.20	89.60	6,570.1	72.4	4,231.1	4,231.7	2.27	-0.63	-2.19
10,499.0	89.60	89.60	6,570.4	72.6	4,263.1	4,263.7	1.25	1.25	0.00
10,543.0	90.00	89.40	6,570.6	73.0	4,307.1	4,307.7	1.02	0.91	-0.45
10,590.0	90.00	89.40	6,570.6	73.5	4,354.1	4,354.7	0.00	0.00	0.00

Projection to TD - Target 3 BHL - GUNNER STATE AA16-99HZ BHL

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,590.0	6,570.6	73.5	4,354.1	Projection to TD

Checked By: _____ Approved By: _____ Date: _____