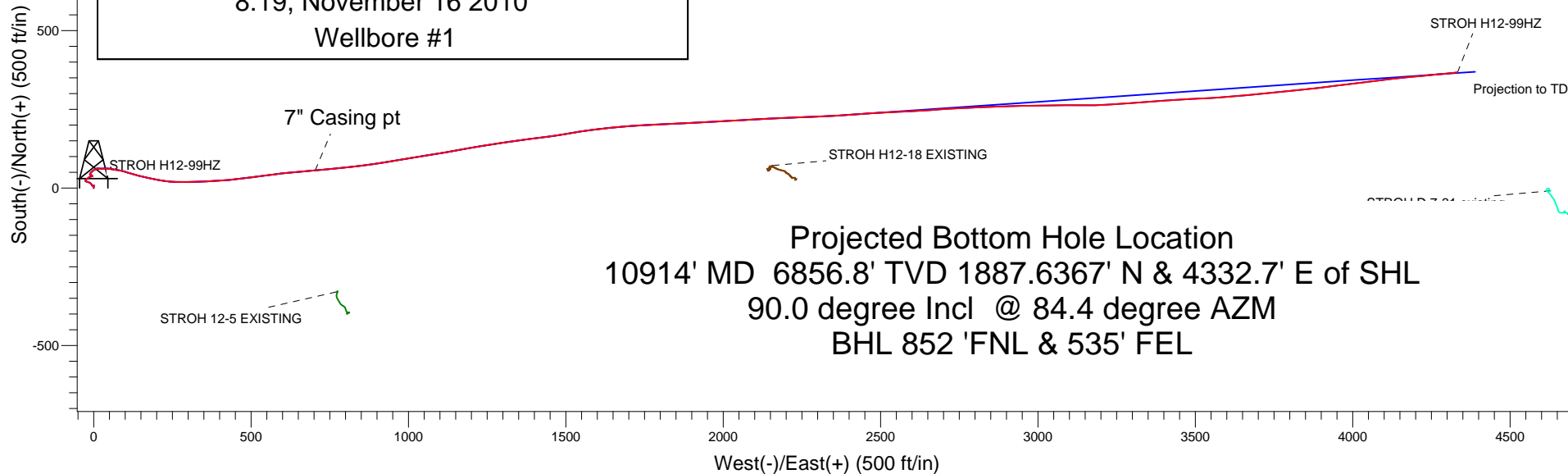
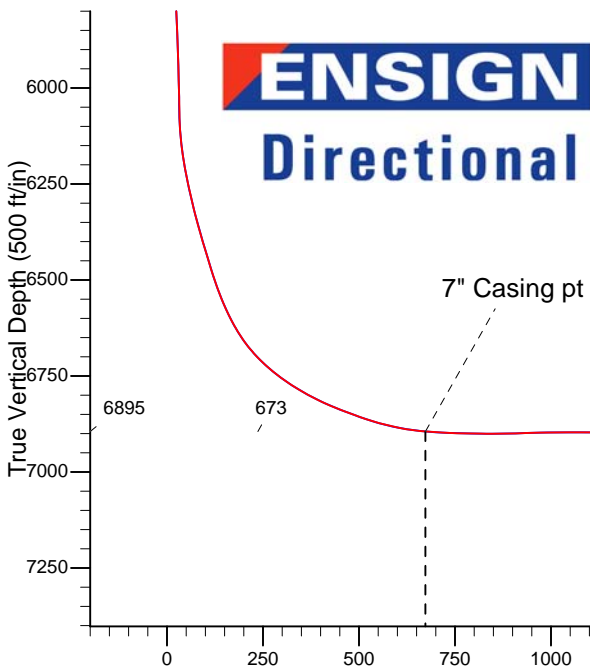


STROH H12-99HZ PAD Sec.12-T3N-R65W
 STROH H12-99HZ
 8:19, November 16 2010
 Wellbore #1



Projected Bottom Hole Location
 10914' MD 6856.8' TVD 1887.6367' N & 4332.7' E of SHL
 90.0 degree Incl @ 84.4 degree AZM
 BHL 852' FNL & 535' FEL



LEGEND

- ✕ STROH H12-99HZ, Wellbore #1, PLAN 5 (NOV 15) t3V0
- Survey #1

ANNOTATIONS

TVD	MD	Annotation
6894.8	7267.0	7" Casing pt
6856.8	10914.0	Projection to TD

TIE PT FOR TARGET CHANGE 3

Projection to TD



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.12-T3N-R65W

STROH H12-99HZ PAD Sec.12-T3N-R65W

STROH H12-99HZ

Wellbore #1

Survey: Survey #1

Standard Survey Report

16 November, 2010

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well STROH H12-99HZ
Project:	SEC.12-T3N-R65W	TVD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Site:	STROH H12-99HZ PAD Sec.12-T3N-R65W	MD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Well:	STROH H12-99HZ	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.12-T3N-R65W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	STROH H12-99HZ PAD Sec.12-T3N-R65W				
Site Position:		Northing:	1,332,826.12 ft	Latitude:	40.243660
From:	Lat/Long	Easting:	3,245,658.65 ft	Longitude:	-104.619970
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.57 °

Well	STROH H12-99HZ					
Well Position	+N/-S	0.0 ft	Northing:	1,332,826.11 ft	Latitude:	40.243660
	+E/-W	0.0 ft	Easting:	3,245,658.65 ft	Longitude:	-104.619970
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,834.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/1/2010	8.86	66.97	53,130

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	67.98	

Survey Program	Date	11/16/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
245.0	10,914.0	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	
245.0	0.50	0.00	245.0	1.1	0.0	0.4	0.20	0.20	0.00	
521.0	1.00	0.00	521.0	4.7	0.0	1.8	0.18	0.18	0.00	
690.0	1.00	0.00	689.9	7.6	0.0	2.9	0.00	0.00	0.00	
700.0	1.00	0.00	699.9	7.8	0.0	2.9	0.00	0.00	0.00	
775.0	0.10	19.90	774.9	8.5	0.0	3.2	1.21	-1.20	26.53	
903.0	0.20	134.80	902.9	8.5	0.2	3.4	0.20	0.08	89.77	
1,030.0	0.20	146.50	1,029.9	8.1	0.5	3.5	0.03	0.00	9.21	
1,153.0	0.20	218.20	1,152.9	7.8	0.5	3.4	0.19	0.00	58.29	
1,275.0	0.40	253.60	1,274.9	7.5	-0.1	2.8	0.22	0.16	29.02	
1,398.0	0.20	261.19	1,397.9	7.3	-0.7	2.1	0.17	-0.16	6.17	
1,521.0	0.40	257.20	1,520.9	7.2	-1.3	1.5	0.16	0.16	-3.24	
1,644.0	0.40	268.60	1,643.9	7.1	-2.2	0.7	0.06	0.00	9.27	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well STROH H12-99HZ
Project:	SEC.12-T3N-R65W	TVD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Site:	STROH H12-99HZ PAD Sec.12-T3N-R65W	MD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Well:	STROH H12-99HZ	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)	
1,767.0	0.40	228.20	1,766.9	6.8	-2.9	-0.1	0.22	0.00	-32.85	
1,889.0	0.50	304.50	1,888.9	6.8	-3.7	-0.8	0.46	0.08	62.54	
2,006.0	0.90	300.10	2,005.9	7.6	-4.9	-1.7	0.34	0.34	-3.76	
2,134.0	1.10	331.50	2,133.9	9.2	-6.3	-2.4	0.45	0.16	24.53	
2,262.0	1.50	331.10	2,261.9	11.7	-7.7	-2.8	0.31	0.31	-0.31	
2,391.0	1.40	317.60	2,390.8	14.3	-9.6	-3.5	0.28	-0.08	-10.47	
2,519.0	1.80	294.60	2,518.8	16.3	-12.5	-5.5	0.58	0.31	-17.97	
2,648.0	1.30	298.00	2,647.7	17.9	-15.6	-7.8	0.39	-0.39	2.64	
2,776.0	1.10	282.90	2,775.7	18.8	-18.1	-9.7	0.29	-0.16	-11.80	
2,905.0	1.10	286.00	2,904.7	19.4	-20.5	-11.7	0.05	0.00	2.40	
3,033.0	1.40	285.50	3,032.6	20.2	-23.2	-13.9	0.23	0.23	-0.39	
3,161.0	1.00	307.70	3,160.6	21.3	-25.6	-15.7	0.47	-0.31	17.34	
3,290.0	1.10	330.10	3,289.6	23.1	-27.1	-16.5	0.33	0.08	17.36	
3,418.0	1.20	30.20	3,417.6	25.3	-27.0	-15.6	0.90	0.08	46.95	
3,546.0	1.60	56.50	3,545.5	27.4	-24.9	-12.8	0.58	0.31	20.55	
3,675.0	1.50	72.20	3,674.5	28.9	-21.8	-9.3	0.34	-0.08	12.17	
3,803.0	1.90	54.10	3,802.4	30.7	-18.4	-5.6	0.52	0.31	-14.14	
3,932.0	1.50	31.00	3,931.4	33.4	-15.8	-2.2	0.61	-0.31	-17.91	
4,060.0	1.30	55.10	4,059.3	35.7	-13.8	0.6	0.48	-0.16	18.83	
4,189.0	1.60	93.10	4,188.3	36.4	-10.8	3.6	0.76	0.23	29.46	
4,317.0	1.60	80.70	4,316.3	36.6	-7.2	7.0	0.27	0.00	-9.69	
4,445.0	0.60	65.70	4,444.2	37.2	-4.9	9.4	0.81	-0.78	-11.72	
4,574.0	1.20	333.40	4,573.2	38.6	-4.9	10.0	1.06	0.47	-71.55	
4,702.0	2.20	296.00	4,701.2	40.9	-7.7	8.2	1.13	0.78	-29.22	
4,831.0	1.20	293.80	4,830.1	42.6	-11.1	5.6	0.78	-0.78	-1.71	
4,959.0	1.00	8.40	4,958.1	44.2	-12.2	5.3	1.05	-0.16	58.28	
5,087.0	0.80	28.70	5,086.1	46.1	-11.6	6.5	0.29	-0.16	15.86	
5,216.0	1.40	35.90	5,215.0	48.2	-10.2	8.6	0.48	0.47	5.58	
5,344.0	1.50	60.50	5,343.0	50.2	-7.9	11.5	0.49	0.08	19.22	
5,473.0	1.40	45.70	5,472.0	52.2	-5.3	14.7	0.30	-0.08	-11.47	
5,601.0	1.40	37.20	5,599.9	54.5	-3.2	17.5	0.16	0.00	-6.64	
5,729.0	2.30	67.90	5,727.9	56.7	0.1	21.4	1.02	0.70	23.98	
5,858.0	2.50	61.90	5,856.8	59.0	5.0	26.8	0.25	0.16	-4.65	
5,943.0	1.60	64.10	5,941.7	60.4	7.7	29.8	1.06	-1.06	2.59	
5,982.0	1.60	52.20	5,980.7	61.0	8.6	30.9	0.85	0.00	-30.51	
6,025.0	0.90	48.10	6,023.7	61.6	9.4	31.8	1.64	-1.63	-9.53	
6,068.0	1.50	59.70	6,066.7	62.1	10.1	32.6	1.50	1.40	26.98	
6,089.0	2.70	94.40	6,087.6	62.2	10.8	33.3	8.08	5.71	165.24	
6,111.0	3.80	98.10	6,109.6	62.1	12.1	34.4	5.09	5.00	16.82	
6,132.0	5.90	97.30	6,130.5	61.8	13.8	36.0	10.00	10.00	-3.81	
6,154.0	7.30	94.30	6,152.4	61.6	16.3	38.2	6.55	6.36	-13.64	
6,175.0	9.60	91.70	6,173.2	61.4	19.4	41.0	11.10	10.95	-12.38	
6,196.0	10.40	88.90	6,193.8	61.4	23.1	44.4	4.46	3.81	-13.33	
6,217.0	11.40	87.10	6,214.5	61.5	27.0	48.1	5.03	4.76	-8.57	
6,239.0	11.90	86.60	6,236.0	61.8	31.5	52.3	2.32	2.27	-2.27	
6,260.0	12.80	88.90	6,256.5	62.0	36.0	56.6	4.88	4.29	10.95	
6,282.0	14.10	92.20	6,277.9	61.9	41.1	61.3	6.86	5.91	15.00	
6,303.0	15.20	96.60	6,298.2	61.5	46.4	66.0	7.45	5.24	20.95	
6,325.0	16.20	99.70	6,319.4	60.6	52.2	71.2	5.93	4.55	14.09	
6,346.0	17.40	101.00	6,339.5	59.5	58.2	76.3	5.99	5.71	6.19	
6,367.0	18.20	100.50	6,359.5	58.4	64.5	81.7	3.88	3.81	-2.38	
6,388.0	18.60	98.50	6,379.4	57.3	71.1	87.3	3.56	1.90	-9.52	
6,410.0	18.60	96.90	6,400.3	56.3	78.0	93.4	2.32	0.00	-7.27	
6,431.0	19.40	98.70	6,420.1	55.4	84.8	99.4	4.72	3.81	8.57	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well STROH H12-99HZ
Project:	SEC.12-T3N-R65W	TVD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Site:	STROH H12-99HZ PAD Sec.12-T3N-R65W	MD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Well:	STROH H12-99HZ	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)	
6,453.0	20.30	104.50	6,440.8	53.9	92.1	105.6	9.84	4.09	26.36	
6,475.0	21.80	107.60	6,461.4	51.7	99.7	111.8	8.49	6.82	14.09	
6,496.0	22.60	107.20	6,480.8	49.3	107.3	117.9	3.88	3.81	-1.90	
6,518.0	23.70	107.90	6,501.0	46.7	115.5	124.6	5.15	5.00	3.18	
6,539.0	24.40	107.70	6,520.2	44.1	123.7	131.2	3.36	3.33	-0.95	
6,561.0	26.10	105.50	6,540.1	41.4	132.6	138.5	8.83	7.73	-10.00	
6,581.0	27.50	104.10	6,558.0	39.1	141.4	145.7	7.68	7.00	-7.00	
6,603.0	29.30	102.50	6,577.3	36.7	151.5	154.3	8.88	8.18	-7.27	
6,624.0	30.80	101.90	6,595.5	34.5	161.8	163.0	7.28	7.14	-2.86	
6,646.0	33.40	101.70	6,614.1	32.1	173.3	172.7	11.83	11.82	-0.91	
6,667.0	35.80	101.80	6,631.4	29.7	184.9	182.6	11.43	11.43	0.48	
6,689.0	38.80	101.50	6,648.9	27.0	198.0	193.7	13.66	13.64	-1.36	
6,710.0	41.20	100.30	6,665.0	24.4	211.2	205.0	12.00	11.43	-5.71	
6,732.0	43.90	97.50	6,681.2	22.1	225.9	217.8	14.99	12.27	-12.73	
6,753.0	46.00	95.10	6,696.1	20.5	240.7	230.8	12.85	10.00	-11.43	
6,775.0	48.30	92.60	6,711.0	19.4	256.8	245.3	13.37	10.45	-11.36	
6,796.0	50.10	90.80	6,724.8	19.0	272.7	259.9	10.75	8.57	-8.57	
6,818.0	52.80	89.50	6,738.5	18.9	289.9	275.8	13.11	12.27	-5.91	
6,838.0	54.90	88.60	6,750.3	19.2	306.0	290.9	11.11	10.50	-4.50	
6,860.0	57.10	87.70	6,762.6	19.8	324.2	308.0	10.56	10.00	-4.09	
6,881.0	58.60	87.50	6,773.7	20.5	342.0	324.8	7.19	7.14	-0.95	
6,903.0	60.40	87.30	6,784.9	21.4	360.9	342.6	8.22	8.18	-0.91	
6,924.0	61.60	87.40	6,795.1	22.2	379.3	360.0	5.73	5.71	0.48	
6,946.0	63.10	86.60	6,805.3	23.3	398.8	378.4	7.54	6.82	-3.64	
6,967.0	65.30	85.70	6,814.4	24.5	417.6	396.4	11.16	10.48	-4.29	
6,989.0	67.30	84.00	6,823.3	26.4	437.7	415.6	11.52	9.09	-7.73	
7,010.0	68.60	83.10	6,831.2	28.5	457.0	434.4	7.36	6.19	-4.29	
7,032.0	69.20	82.50	6,839.1	31.1	477.4	454.2	3.73	2.73	-2.73	
7,053.0	69.90	82.70	6,846.4	33.6	496.9	473.3	3.45	3.33	0.95	
7,075.0	70.60	83.00	6,853.9	36.2	517.4	493.3	3.43	3.18	1.36	
7,095.0	72.00	82.90	6,860.3	38.5	536.2	511.6	7.02	7.00	-0.50	
7,117.0	73.40	82.80	6,866.8	41.2	557.1	531.9	6.38	6.36	-0.45	
7,138.0	75.10	82.90	6,872.5	43.7	577.1	551.4	8.11	8.10	0.48	
7,160.0	77.00	83.40	6,877.8	46.2	598.3	572.0	8.91	8.64	2.27	
7,181.0	77.90	84.40	6,882.4	48.4	618.7	591.7	6.32	4.29	4.76	
7,203.0	79.30	85.10	6,886.7	50.4	640.2	612.4	7.09	6.36	3.18	
7,231.0	82.90	85.30	6,891.1	52.7	667.7	638.8	12.88	12.86	0.71	
7,267.0	85.20	84.86	6,894.8	55.8	703.4	673.0	6.50	6.39	-1.22	
7" Casing pt										
7,289.0	86.60	84.60	6,896.4	57.8	725.3	694.0	6.47	6.36	-1.18	
7,321.0	87.70	84.60	6,897.9	60.8	757.1	724.7	3.44	3.44	0.00	
7,353.0	88.30	84.20	6,899.1	63.9	788.9	755.3	2.25	1.88	-1.25	
7,385.0	88.80	83.60	6,899.9	67.3	820.7	786.1	2.44	1.56	-1.88	
7,417.0	89.10	82.70	6,900.5	71.1	852.5	817.0	2.96	0.94	-2.81	
7,448.0	90.20	81.80	6,900.7	75.3	883.2	847.0	4.58	3.55	-2.90	
7,479.0	91.00	81.00	6,900.3	79.9	913.9	877.2	3.65	2.58	-2.58	
7,511.0	91.50	80.60	6,899.6	85.0	945.4	908.4	2.00	1.56	-1.25	
7,543.0	91.70	80.50	6,898.7	90.3	977.0	939.6	0.70	0.63	-0.31	
7,575.0	91.30	80.40	6,897.9	95.6	1,008.5	970.8	1.29	-1.25	-0.31	
7,607.0	91.10	81.20	6,897.2	100.7	1,040.1	1,002.0	2.58	-0.63	2.50	
7,638.0	90.40	81.30	6,896.8	105.4	1,070.7	1,032.2	2.28	-2.26	0.32	
7,670.0	89.40	80.00	6,896.9	110.6	1,102.3	1,063.4	5.13	-3.13	-4.06	
7,702.0	89.20	79.80	6,897.3	116.2	1,133.8	1,094.7	0.88	-0.63	-0.63	
7,739.0	90.40	80.10	6,897.4	122.7	1,170.3	1,130.9	3.34	3.24	0.81	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well STROH H12-99HZ
Project:	SEC.12-T3N-R65W	TVD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Site:	STROH H12-99HZ PAD Sec.12-T3N-R65W	MD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Well:	STROH H12-99HZ	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)
7,766.0	90.70	80.00	6,897.1	127.4	1,196.8	1,157.3	1.17	1.11	-0.37
7,798.0	90.90	80.70	6,896.7	132.7	1,228.4	1,188.6	2.27	0.63	2.19
7,831.0	90.70	80.80	6,896.2	138.0	1,261.0	1,220.7	0.68	-0.61	0.30
7,863.0	91.40	81.50	6,895.6	143.0	1,292.6	1,251.9	3.09	2.19	2.19
7,895.0	90.40	82.30	6,895.1	147.5	1,324.2	1,283.0	4.00	-3.13	2.50
7,925.0	90.60	82.70	6,894.9	151.4	1,354.0	1,312.0	1.49	0.67	1.33
7,959.0	91.00	82.70	6,894.4	155.7	1,387.7	1,344.9	1.18	1.18	0.00
7,991.0	90.90	82.70	6,893.9	159.8	1,419.4	1,375.8	0.31	-0.31	0.00
8,023.0	90.20	82.30	6,893.6	163.9	1,451.2	1,406.8	2.52	-2.19	-1.25
8,054.0	90.40	80.50	6,893.4	168.6	1,481.8	1,436.9	5.84	0.65	-5.81
8,086.0	91.00	80.60	6,893.0	173.8	1,513.4	1,468.2	1.90	1.88	0.31
8,118.0	90.30	80.80	6,892.7	179.0	1,545.0	1,499.4	2.28	-2.19	0.63
8,150.0	90.60	82.10	6,892.4	183.8	1,576.6	1,530.5	4.17	0.94	4.06
8,182.0	91.30	84.00	6,891.9	187.6	1,608.4	1,561.4	6.33	2.19	5.94
8,214.0	90.90	84.10	6,891.3	191.0	1,640.2	1,592.1	1.29	-1.25	0.31
8,246.0	89.90	84.70	6,891.0	194.1	1,672.0	1,622.8	3.64	-3.13	1.88
8,278.0	91.40	85.50	6,890.7	196.8	1,703.9	1,653.4	5.31	4.69	2.50
8,309.0	90.40	86.70	6,890.2	198.9	1,734.8	1,682.9	5.04	-3.23	3.87
8,341.0	90.10	87.00	6,890.0	200.7	1,766.8	1,713.2	1.33	-0.94	0.94
8,373.0	91.30	87.80	6,889.7	202.1	1,798.8	1,743.3	4.51	3.75	2.50
8,405.0	92.00	87.50	6,888.7	203.4	1,830.7	1,773.5	2.38	2.19	-0.94
8,437.0	92.80	86.90	6,887.4	205.0	1,862.6	1,803.6	3.12	2.50	-1.88
8,468.0	92.20	86.40	6,886.0	206.8	1,893.6	1,833.0	2.52	-1.94	-1.61
8,500.0	91.60	87.10	6,885.0	208.6	1,925.5	1,863.3	2.88	-1.88	2.19
8,532.0	91.30	87.60	6,884.2	210.1	1,957.4	1,893.4	1.82	-0.94	1.56
8,564.0	90.70	87.10	6,883.6	211.6	1,989.4	1,923.6	2.44	-1.88	-1.56
8,596.0	89.70	86.60	6,883.5	213.3	2,021.4	1,953.9	3.49	-3.13	-1.56
8,628.0	90.00	86.80	6,883.6	215.2	2,053.3	1,984.2	1.13	0.94	0.63
8,659.0	90.80	86.80	6,883.4	216.9	2,084.3	2,013.6	2.58	2.58	0.00
8,691.0	90.60	87.00	6,883.0	218.6	2,116.2	2,043.8	0.88	-0.63	0.63
8,723.0	89.90	87.30	6,882.8	220.2	2,148.2	2,074.1	2.38	-2.19	0.94
8,755.0	89.90	87.20	6,882.9	221.8	2,180.1	2,104.3	0.31	0.00	-0.31
8,787.0	89.80	87.20	6,883.0	223.3	2,212.1	2,134.5	0.31	-0.31	0.00
8,819.0	90.20	87.60	6,883.0	224.8	2,244.1	2,164.7	1.77	1.25	1.25
8,851.0	91.30	88.50	6,882.6	225.9	2,276.0	2,194.7	4.44	3.44	2.81
8,883.0	91.10	87.70	6,881.9	226.9	2,308.0	2,224.8	2.58	-0.63	-2.50
8,915.0	90.40	86.80	6,881.5	228.5	2,340.0	2,255.0	3.56	-2.19	-2.81
8,947.0	90.00	86.00	6,881.4	230.5	2,371.9	2,285.3	2.80	-1.25	-2.50
8,979.0	90.40	86.10	6,881.2	232.7	2,403.8	2,315.7	1.29	1.25	0.31
9,011.0	91.40	86.40	6,880.7	234.8	2,435.8	2,346.1	3.26	3.13	0.94
9,043.0	91.10	86.60	6,880.0	236.7	2,467.7	2,376.5	1.13	-0.94	0.63
9,074.0	89.70	86.10	6,879.8	238.7	2,498.6	2,405.9	4.80	-4.52	-1.61
9,106.0	90.50	86.80	6,879.8	240.7	2,530.6	2,436.2	3.32	2.50	2.19
9,138.0	91.60	87.90	6,879.2	242.2	2,562.5	2,466.4	4.86	3.44	3.44
9,170.0	92.00	87.20	6,878.2	243.5	2,594.5	2,496.6	2.52	1.25	-2.19
9,201.0	92.20	86.20	6,877.0	245.3	2,625.4	2,525.9	3.29	0.65	-3.23
9,233.0	91.70	85.70	6,876.0	247.6	2,657.3	2,556.3	2.21	-1.56	-1.56
9,265.0	90.70	86.30	6,875.3	249.8	2,689.2	2,586.7	3.64	-3.13	1.88
9,297.0	90.90	86.80	6,874.8	251.7	2,721.2	2,617.1	1.68	0.63	1.56
9,329.0	90.60	86.90	6,874.4	253.5	2,753.1	2,647.3	0.99	-0.94	0.31
9,361.0	90.90	87.30	6,874.0	255.1	2,785.1	2,677.6	1.56	0.94	1.25
9,393.0	90.70	87.70	6,873.6	256.5	2,817.0	2,707.7	1.40	-0.63	1.25
9,417.0	90.40	87.70	6,873.3	257.5	2,841.0	2,730.3	1.25	-1.25	0.00
9,449.0	90.30	88.40	6,873.1	258.6	2,873.0	2,760.4	2.21	-0.31	2.19

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well STROH H12-99HZ
Project:	SEC.12-T3N-R65W	TVD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Site:	STROH H12-99HZ PAD Sec.12-T3N-R65W	MD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Well:	STROH H12-99HZ	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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)	
9,481.0	90.20	88.20	6,873.0	259.5	2,905.0	2,790.4	0.70	-0.31	-0.63	
9,513.0	90.20	88.20	6,872.9	260.5	2,937.0	2,820.4	0.00	0.00	0.00	
9,545.0	89.70	89.00	6,872.9	261.3	2,969.0	2,850.4	2.95	-1.56	2.50	
9,577.0	90.50	89.40	6,872.8	261.7	3,000.9	2,880.2	2.80	2.50	1.25	
9,609.0	90.40	88.80	6,872.6	262.2	3,032.9	2,910.1	1.90	-0.31	-1.88	
9,641.0	90.20	89.50	6,872.4	262.7	3,064.9	2,939.9	2.28	-0.63	2.19	
9,673.0	90.00	90.10	6,872.4	262.8	3,096.9	2,969.6	1.98	-0.63	1.88	
9,705.0	91.00	90.30	6,872.1	262.7	3,128.9	2,999.2	3.19	3.13	0.63	
9,736.0	91.70	89.70	6,871.4	262.7	3,159.9	3,028.0	2.97	2.26	-1.94	
9,768.0	91.40	87.40	6,870.5	263.5	3,191.9	3,057.9	7.25	-0.94	-7.19	
9,800.0	89.90	87.00	6,870.1	265.1	3,223.9	3,088.1	4.85	-4.69	-1.25	
9,832.0	90.40	86.20	6,870.0	267.0	3,255.8	3,118.4	2.95	1.56	-2.50	
9,864.0	90.00	86.10	6,869.9	269.1	3,287.7	3,148.8	1.29	-1.25	-0.31	
9,896.0	90.30	86.10	6,869.9	271.3	3,319.7	3,179.3	0.94	0.94	0.00	
9,928.0	90.10	85.50	6,869.7	273.6	3,351.6	3,209.7	1.98	-0.63	-1.88	
9,960.0	90.20	85.60	6,869.7	276.1	3,383.5	3,240.2	0.44	0.31	0.31	
9,991.0	90.10	85.90	6,869.6	278.4	3,414.4	3,269.7	1.02	-0.32	0.97	
10,023.0	90.20	86.40	6,869.5	280.6	3,446.3	3,300.2	1.59	0.31	1.56	
10,055.0	90.20	86.90	6,869.4	282.4	3,478.3	3,330.5	1.56	0.00	1.56	
10,087.0	90.20	87.10	6,869.3	284.1	3,510.2	3,360.7	0.62	0.00	0.63	
10,119.0	91.60	87.40	6,868.8	285.7	3,542.2	3,390.9	4.47	4.38	0.94	
10,151.0	93.10	86.60	6,867.5	287.3	3,574.1	3,421.2	5.31	4.69	-2.50	
10,182.0	93.20	85.10	6,866.8	289.6	3,605.0	3,450.6	4.84	0.32	-4.84	
10,214.0	92.30	84.50	6,864.2	292.5	3,636.8	3,481.2	3.38	-2.81	-1.88	
10,246.0	91.00	84.40	6,863.3	295.6	3,668.6	3,511.9	4.07	-4.06	-0.31	
10,278.0	89.80	84.70	6,863.1	298.6	3,700.5	3,542.6	3.87	-3.75	0.94	
10,310.0	90.50	84.40	6,863.0	301.6	3,732.4	3,573.2	2.38	2.19	-0.94	
10,342.0	89.80	84.70	6,862.9	304.7	3,764.2	3,603.9	2.38	-2.19	0.94	
10,374.0	90.40	84.10	6,862.8	307.8	3,796.1	3,634.6	2.65	1.88	-1.88	
10,406.0	89.90	84.20	6,862.8	311.1	3,827.9	3,665.3	1.59	-1.56	0.31	
10,438.0	90.20	83.60	6,862.7	314.5	3,859.7	3,696.1	2.10	0.94	-1.88	
10,470.0	89.80	83.40	6,862.7	318.1	3,891.5	3,726.9	1.40	-1.25	-0.63	
10,502.0	90.20	82.60	6,862.7	322.0	3,923.3	3,757.8	2.80	1.25	-2.50	
10,533.0	91.40	83.60	6,862.3	325.7	3,954.0	3,787.8	5.04	3.87	3.23	
10,565.0	91.90	83.20	6,861.4	329.4	3,985.8	3,818.6	2.00	1.56	-1.25	
10,597.0	92.40	83.00	6,860.2	333.2	4,017.6	3,849.5	1.68	1.56	-0.63	
10,629.0	92.50	83.00	6,858.8	337.1	4,049.3	3,880.3	0.31	0.31	0.00	
10,661.0	91.80	82.40	6,857.6	341.2	4,081.0	3,911.3	2.88	-2.19	-1.88	
10,693.0	90.40	83.40	6,857.0	345.1	4,112.8	3,942.2	5.38	-4.38	3.13	
10,725.0	90.00	84.00	6,856.9	348.7	4,144.6	3,973.0	2.25	-1.25	1.88	
10,757.0	90.20	83.90	6,856.8	352.0	4,176.4	4,003.8	0.70	0.63	-0.31	
10,789.0	90.00	84.90	6,856.8	355.1	4,208.2	4,034.4	3.19	-0.63	3.13	
10,820.0	90.10	84.80	6,856.7	357.9	4,239.1	4,064.1	0.46	0.32	-0.32	
10,852.0	89.90	84.40	6,856.7	360.9	4,271.0	4,094.8	1.40	-0.63	-1.25	
10,869.0	90.00	84.40	6,856.8	362.6	4,287.9	4,111.1	0.59	0.59	0.00	
10,914.0	90.00	84.40	6,856.8	367.0	4,332.7	4,154.3	0.00	0.00	0.00	
Projection to TD										

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well STROH H12-99HZ
Project:	SEC.12-T3N-R65W	TVD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Site:	STROH H12-99HZ PAD Sec.12-T3N-R65W	MD Reference:	RKB @ 4847.0ft (RKB ENSIGN RIG 136)
Well:	STROH H12-99HZ	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N-S (ft)	+E-W (ft)	
7,267.0	6,894.8	55.8	703.4	7" Casing pt
10,914.0	6,856.8	367.0	4,332.7	Projection to TD

Checked By: _____ Approved By: _____ Date: _____