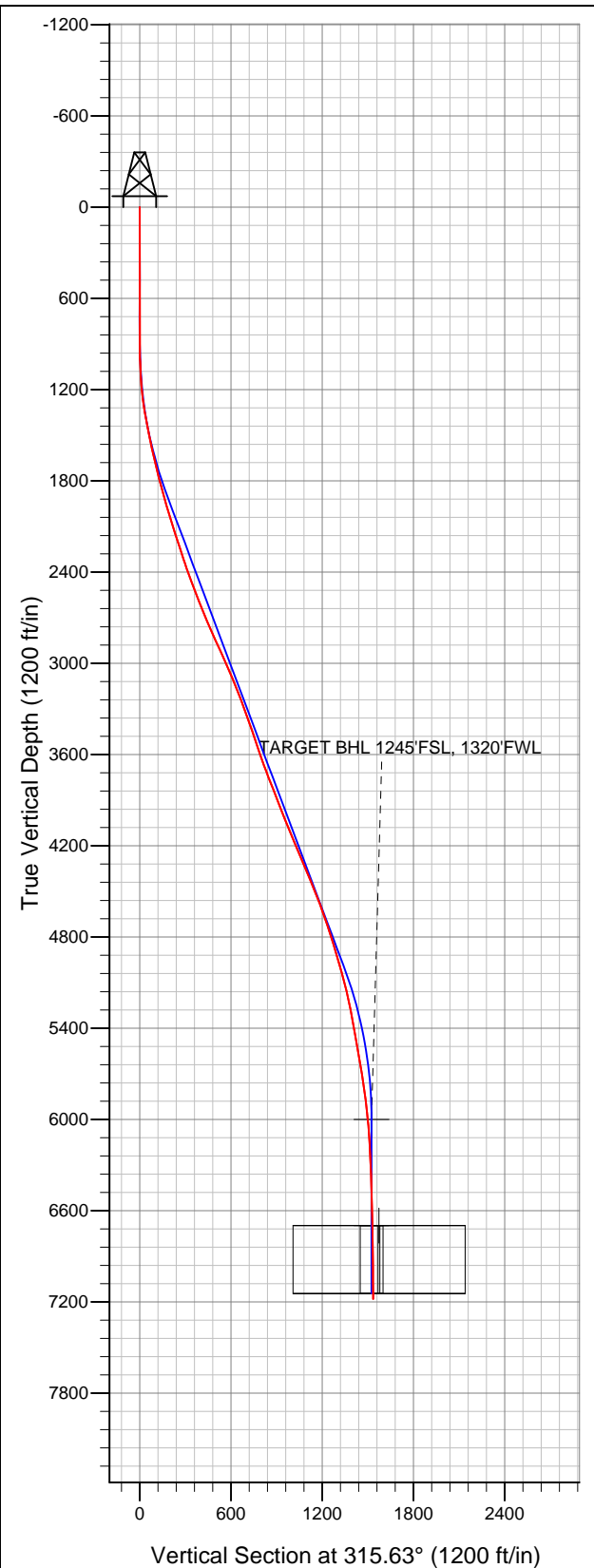


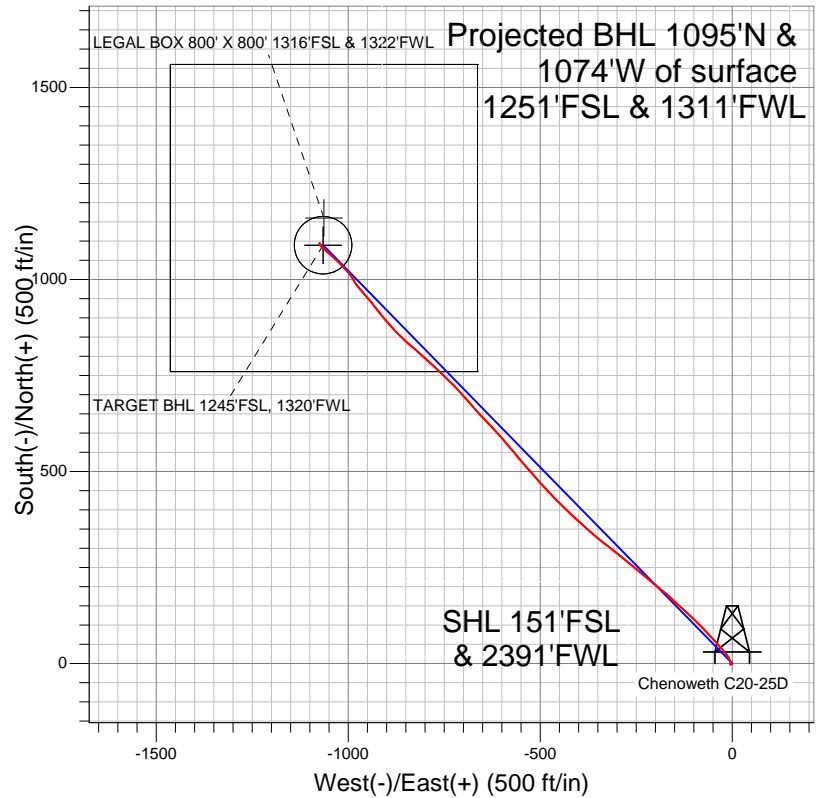
Well Name: Chenoweth C20-25D

Surface Location: Balboa C20-24D Pad Sec.20-T4N-R64W
 North American Datum 1983 US State Plane 1983Colorado Northern Zone
 Ground Elevation: 4766.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1350229.29	3257861.11	40.291090	-104.575610	
		Original Well Elev	WELL @ 4779.0ft (Original Well Elev)			



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- Survey #1
- Chenoweth C20-25D, Wellbore #1, Noble Chenoweth C20-25D Plan #4 (3-20-12) R V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
 7430'MD & 7182'TVD @ 1534'VS
 0.60 deg Inc 43.80 deg AZ

Project: SEC.20-T4N-R64W
 Site: Balboa C20-24D Pad Sec.20-T4N-R64W
 Well: Chenoweth C20-25D
 Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.20-T4N-R64W

Balboa C20-24D Pad Sec.20-T4N-R64W

Chenoweth C20-25D

Wellbore #1

Survey: Survey #1

Standard Survey Report

26 March, 2012



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Chenoweth C20-25D
Project:	SEC.20-T4N-R64W	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Well:	Chenoweth C20-25D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.20-T4N-R64W, 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	Balboa C20-24D Pad Sec.20-T4N-R64W		
Site Position:		Northing:	1,350,229.55ft
From:	Lat/Long	Easting:	3,257,883.43ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.291090
		Longitude:	-104.575530
		Grid Convergence:	0.60 °

Well	Chenoweth C20-25D		
Well Position	+N/-S	0.0 ft	Northing: 1,350,229.29 ft
	+E/-W	0.0 ft	Easting: 3,257,861.11 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.291090
		Longitude:	-104.575610
		Ground Level:	4,766.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	3/20/2012	8.61	66.98	53,038

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	315.63	

Survey Program	Date	3/26/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
903.0	7,430.0	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	
903.0	0.70	232.40	903.0	-3.4	-4.4	0.7	0.08	0.08	0.00	
989.0	1.60	12.20	989.0	-2.5	-4.5	1.4	2.54	1.05	162.56	
1,074.0	3.60	350.70	1,073.9	1.3	-4.7	4.2	2.58	2.35	-25.29	
1,160.0	5.00	346.00	1,159.6	7.6	-6.1	9.7	1.68	1.63	-5.47	
1,245.0	6.90	329.50	1,244.2	15.6	-9.5	17.8	2.99	2.24	-19.41	
1,331.0	8.90	320.80	1,329.4	25.2	-16.4	29.5	2.70	2.33	-10.12	
1,416.0	11.00	318.40	1,413.1	36.3	-25.9	44.1	2.52	2.47	-2.82	
1,502.0	12.00	320.80	1,497.4	49.4	-37.0	61.2	1.29	1.16	2.79	
1,587.0	12.00	315.70	1,580.5	62.6	-48.8	78.8	1.25	0.00	-6.00	
1,673.0	12.90	315.40	1,664.5	75.8	-61.8	97.4	1.05	1.05	-0.35	
1,758.0	14.20	317.30	1,747.1	90.2	-75.5	117.3	1.62	1.53	2.24	
1,844.0	15.00	316.30	1,830.3	106.0	-90.3	139.0	0.98	0.93	-1.16	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Chenoweth C20-25D
Project:	SEC.20-T4N-R64W	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Well:	Chenoweth C20-25D	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)
1,929.0	15.60	312.80	1,912.3	121.8	-106.3	161.4	1.30	0.71	-4.12
2,015.0	16.60	310.80	1,994.9	137.6	-124.1	185.2	1.33	1.16	-2.33
2,100.0	17.30	313.10	2,076.3	154.2	-142.5	209.9	1.14	0.82	2.71
2,186.0	18.10	313.10	2,158.2	172.1	-161.6	236.0	0.93	0.93	0.00
2,271.0	18.60	308.70	2,238.9	189.6	-181.8	262.7	1.73	0.59	-5.18
2,357.0	18.00	308.90	2,320.5	206.5	-202.9	289.5	0.70	-0.70	0.23
2,442.0	20.00	310.80	2,400.9	224.2	-224.1	317.0	2.46	2.35	2.24
2,528.0	20.70	310.60	2,481.5	243.7	-246.8	346.8	0.82	0.81	-0.23
2,613.0	20.80	307.00	2,561.0	262.6	-270.2	376.7	1.50	0.12	-4.24
2,699.0	22.20	310.30	2,641.0	282.3	-294.8	408.0	2.15	1.63	3.84
2,784.0	23.80	307.10	2,719.3	303.0	-320.8	440.9	2.39	1.88	-3.76
2,870.0	23.40	309.80	2,798.1	324.4	-347.7	475.1	1.34	-0.47	3.14
2,955.0	25.20	311.00	2,875.5	347.1	-374.3	509.9	2.20	2.12	1.41
3,041.0	23.90	312.60	2,953.8	370.9	-401.0	545.5	1.70	-1.51	1.86
3,126.0	23.20	313.60	3,031.7	394.1	-425.8	579.5	0.95	-0.82	1.18
3,212.0	23.00	314.70	3,110.8	417.6	-450.0	613.2	0.55	-0.23	1.28
3,297.0	21.70	316.80	3,189.4	440.8	-472.6	645.5	1.79	-1.53	2.47
3,383.0	20.20	317.30	3,269.7	463.3	-493.5	676.3	1.76	-1.74	0.58
3,468.0	20.20	320.10	3,349.5	485.3	-512.9	705.6	1.14	0.00	3.29
3,554.0	18.40	318.70	3,430.6	506.9	-531.4	733.9	2.16	-2.09	-1.63
3,639.0	18.20	318.60	3,511.4	526.9	-549.0	760.6	0.24	-0.24	-0.12
3,725.0	19.50	320.70	3,592.7	548.1	-567.0	788.3	1.70	1.51	2.44
3,810.0	20.10	319.30	3,672.7	570.2	-585.5	817.0	0.90	0.71	-1.65
3,896.0	21.60	318.00	3,753.1	593.1	-605.7	847.6	1.83	1.74	-1.51
3,981.0	21.50	317.00	3,832.1	616.1	-626.8	878.8	0.45	-0.12	-1.18
4,067.0	20.80	316.30	3,912.3	638.7	-648.1	909.8	0.87	-0.81	-0.81
4,152.0	21.90	318.40	3,991.5	661.5	-669.0	940.7	1.58	1.29	2.47
4,238.0	22.10	319.10	4,071.2	685.7	-690.3	972.9	0.38	0.23	0.81
4,323.0	22.30	317.70	4,149.9	709.7	-711.6	1,005.0	0.67	0.24	-1.65
4,409.0	22.50	314.50	4,229.5	733.3	-734.3	1,037.7	1.44	0.23	-3.72
4,494.0	22.50	313.60	4,308.0	755.9	-757.7	1,070.2	0.41	0.00	-1.06
4,580.0	23.00	312.40	4,387.3	778.6	-782.0	1,103.4	0.79	0.58	-1.40
4,665.0	23.30	311.90	4,465.5	801.0	-806.8	1,136.8	0.42	0.35	-0.59
4,751.0	21.10	312.20	4,545.1	822.8	-830.9	1,169.2	2.56	-2.56	0.35
4,836.0	19.90	311.30	4,624.7	842.6	-853.1	1,198.9	1.46	-1.41	-1.06
4,922.0	18.70	314.70	4,705.9	862.0	-873.9	1,227.3	1.91	-1.40	3.95
5,007.0	18.20	319.30	4,786.5	881.6	-892.3	1,254.2	1.81	-0.59	5.41
5,093.0	15.80	320.50	4,868.7	900.8	-908.5	1,279.3	2.82	-2.79	1.40
5,178.0	16.40	322.90	4,950.4	919.3	-923.1	1,302.7	1.05	0.71	2.82
5,264.0	16.50	320.30	5,032.9	938.4	-938.2	1,326.9	0.86	0.12	-3.02
5,349.0	14.20	318.60	5,114.8	955.5	-952.8	1,349.3	2.76	-2.71	-2.00
5,435.0	12.90	319.80	5,198.4	970.8	-966.0	1,369.5	1.55	-1.51	1.40
5,520.0	10.70	322.90	5,281.6	984.3	-976.9	1,386.7	2.69	-2.59	3.65
5,606.0	10.60	331.20	5,366.2	997.6	-985.5	1,402.3	1.79	-0.12	9.65
5,691.0	9.50	321.90	5,449.9	1,010.0	-993.6	1,416.8	2.30	-1.29	-10.94
5,777.0	10.50	319.40	5,534.6	1,021.5	-1,003.1	1,431.7	1.27	1.16	-2.91
5,862.0	9.80	317.80	5,618.2	1,032.8	-1,013.0	1,446.6	0.89	-0.82	-1.88
5,948.0	9.10	314.30	5,703.1	1,042.9	-1,022.8	1,460.7	1.05	-0.81	-4.07
6,033.0	8.00	313.50	5,787.1	1,051.7	-1,031.9	1,473.4	1.30	-1.29	-0.94
6,119.0	7.30	310.60	5,872.4	1,059.4	-1,040.4	1,484.8	0.93	-0.81	-3.37
6,204.0	6.10	309.90	5,956.8	1,065.8	-1,047.9	1,494.7	1.42	-1.41	-0.82
6,249.8	5.46	310.33	6,002.3	1,068.8	-1,051.4	1,499.3	1.40	-1.40	0.94
TARGET BHL 1245'FSL, 1320'FWL									
6,290.0	4.90	310.80	6,042.4	1,071.1	-1,054.2	1,502.9	1.40	-1.39	1.17

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Chenoweth C20-25D
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Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Well:	Chenoweth C20-25D	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)	
6,375.0	3.50	317.80	6,127.1	1,075.4	-1,058.7	1,509.1	1.75	-1.65	8.24	
6,461.0	2.90	324.50	6,213.0	1,079.1	-1,061.7	1,513.9	0.82	-0.70	7.79	
6,546.0	2.20	317.80	6,297.9	1,082.1	-1,064.1	1,517.6	0.89	-0.82	-7.88	
6,632.0	2.40	304.70	6,383.9	1,084.3	-1,066.7	1,521.0	0.65	0.23	-15.23	
6,717.0	1.80	303.40	6,468.8	1,086.1	-1,069.2	1,524.1	0.71	-0.71	-1.53	
6,803.0	1.80	305.40	6,554.8	1,087.6	-1,071.5	1,526.7	0.07	0.00	2.33	
6,888.0	1.10	319.30	6,639.7	1,089.0	-1,073.1	1,528.9	0.92	-0.82	16.35	
6,947.2	1.03	324.17	6,698.9	1,089.9	-1,073.8	1,530.0	0.19	-0.12	8.23	
TARGET CIRCLE 1245'FSL & 1320'FWL										
6,948.2	1.03	324.26	6,699.9	1,089.9	-1,073.8	1,530.0	0.19	-0.11	8.80	
LEGAL BOX 800' X 800' 1316'FSL & 1322'FWL										
6,974.0	1.00	326.60	6,725.7	1,090.3	-1,074.0	1,530.4	0.19	-0.11	9.06	
7,059.0	0.60	355.60	6,810.7	1,091.3	-1,074.5	1,531.5	0.66	-0.47	34.12	
7,145.0	0.60	336.00	6,896.7	1,092.2	-1,074.7	1,532.3	0.24	0.00	-22.79	
7,230.0	0.80	8.10	6,981.7	1,093.2	-1,074.8	1,533.0	0.51	0.24	37.76	
7,316.0	0.70	358.50	7,067.7	1,094.3	-1,074.7	1,533.8	0.19	-0.12	-11.16	
7,385.0	0.60	43.80	7,136.7	1,095.0	-1,074.5	1,534.1	0.74	-0.14	65.65	
7,430.0	0.60	43.80	7,181.7	1,095.3	-1,074.2	1,534.1	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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