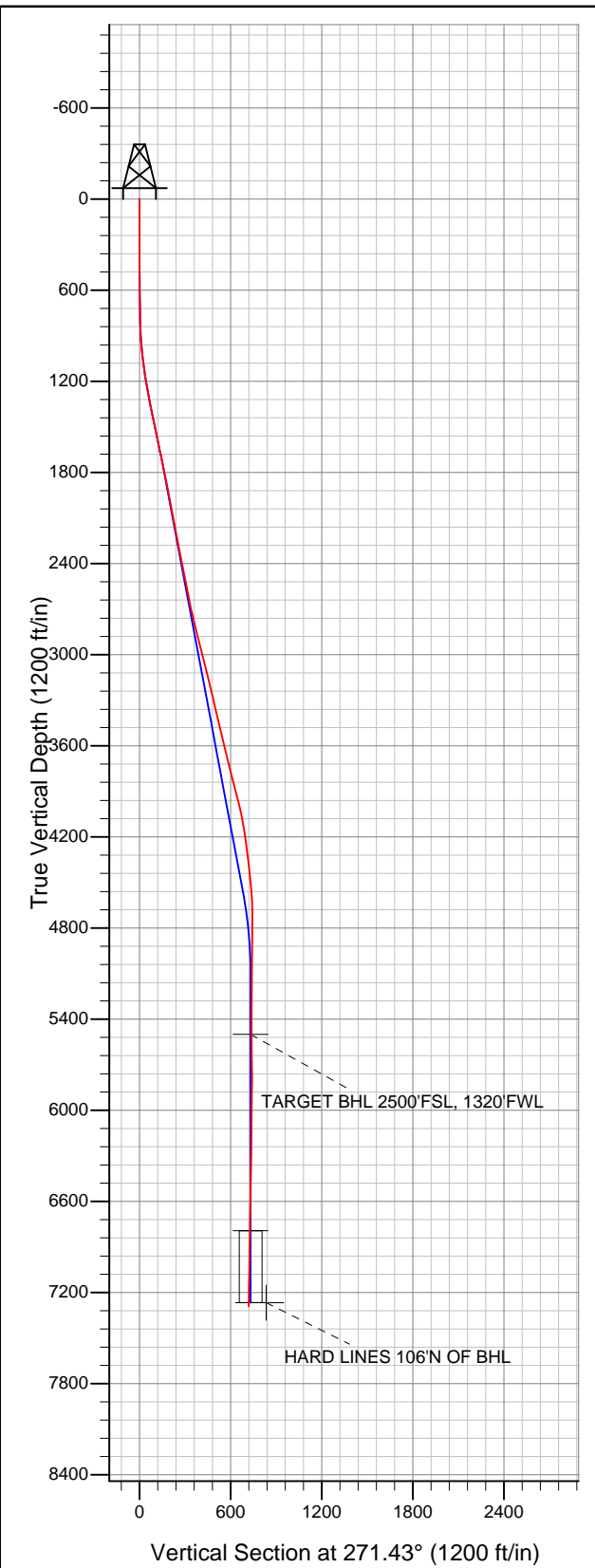


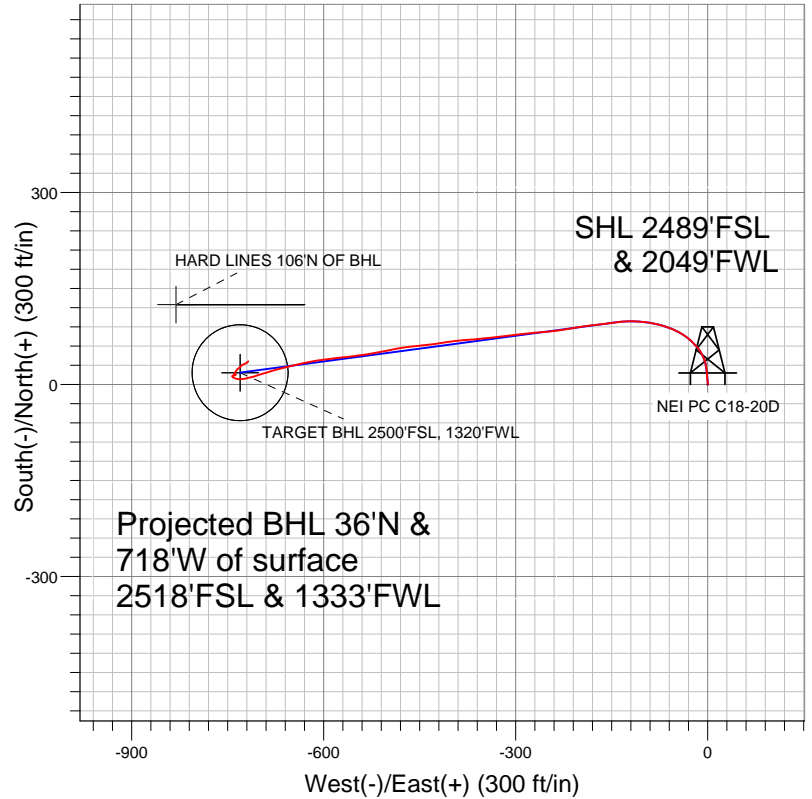


Well Name: NEI PC C18-20D

Surface Location: NEI C18-32D Pad Sec.18-T4N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4834.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1357747.39 3252444.91 40.311880 -104.594750
Original Well Elev WELL @ 4847.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- NEI PC C18-20D, Wellbore #1, PLAN 2 (NOV 8,2011) V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
7375'MD & 7292'TVD @ 719'VS
1.3 deg Inc 30.0 deg AZ

Project: SEC.18-T4N-R64W
Site: NEI C18-32D Pad Sec.18-T4N-R64W
Well: NEI PC C18-20D
Plan: Wellbore #1



NOBLE ENERGY INC WELD COUNTY CO

SEC.18-T4N-R64W

NEI C18-32D Pad Sec.18-T4N-R64W

NEI PC C18-20D

Wellbore #1

Design: Wellbore #1

Standard Survey Report

10 November, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well NEI PC C18-20D
Project:	SEC.18-T4N-R64W	TVD Reference:	WELL @ 4847.0ft (Original Well Elev)
Site:	NEI C18-32D Pad Sec.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Well:	NEI PC C18-20D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.18-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	NEI C18-32D Pad Sec.18-T4N-R64W		
Site Position:		Northing:	1,357,747.19 ft
From:	Lat/Long	Easting:	3,252,422.52 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.311880
		Longitude:	-104.594830
		Grid Convergence:	0.58 °

Well	NEI PC C18-20D		
Well Position	+N/-S	0.0 ft	Northing: 1,357,747.39 ft
	+E/-W	0.0 ft	Easting: 3,252,444.91 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.311880
		Longitude:	-104.594750
		Ground Level:	4,834.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/20/2011	8.75	67.00	53,093

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	271.43	

Survey Program	Date	11/10/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
289.0	7,375.0	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	
289.0	0.70	6.60	289.0	1.8	0.2	-0.2	0.24	0.24	0.00	
394.0	0.70	343.40	394.0	3.0	0.1	0.0	0.27	0.00	-22.10	
521.0	2.40	352.60	520.9	6.4	-0.5	0.6	1.35	1.34	7.24	
643.0	4.50	356.80	642.7	13.7	-1.1	1.4	1.73	1.72	3.44	
731.0	5.70	354.70	730.4	21.5	-1.7	2.2	1.38	1.36	-2.39	
859.0	7.50	344.70	857.5	35.9	-4.5	5.4	1.66	1.41	-7.81	
987.0	9.40	326.00	984.1	52.6	-12.5	13.8	2.59	1.48	-14.61	
1,116.0	10.40	311.80	1,111.2	69.1	-27.1	28.8	2.04	0.78	-11.01	
1,244.0	11.20	297.00	1,237.0	82.5	-46.8	48.8	2.25	0.63	-11.56	
1,373.0	11.30	286.30	1,363.5	91.7	-70.1	72.3	1.62	0.08	-8.29	
1,501.0	12.00	277.50	1,488.9	97.0	-95.3	97.7	1.49	0.55	-6.88	
1,629.0	12.30	269.80	1,614.0	98.6	-122.1	124.6	1.29	0.23	-6.02	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well NEI PC C18-20D
Project:	SEC.18-T4N-R64W	TVD Reference:	WELL @ 4847.0ft (Original Well Elev)
Site:	NEI C18-32D Pad Sec.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Well:	NEI PC C18-20D	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)	
1,758.0	11.10	260.50	1,740.4	96.5	-148.1	150.5	1.73	-0.93	-7.21	
1,886.0	11.90	264.30	1,865.8	93.2	-173.4	175.7	0.86	0.63	2.97	
2,015.0	11.10	261.20	1,992.2	90.0	-198.9	201.1	0.78	-0.62	-2.40	
2,143.0	10.60	259.60	2,117.9	86.0	-222.7	224.7	0.46	-0.39	-1.25	
2,271.0	11.30	265.20	2,243.6	82.8	-246.7	248.7	0.99	0.55	4.38	
2,400.0	11.20	264.90	2,370.1	80.6	-271.8	273.7	0.09	-0.08	-0.23	
2,528.0	11.30	262.10	2,495.7	77.8	-296.6	298.5	0.43	0.08	-2.19	
2,657.0	11.30	264.30	2,622.2	74.8	-321.7	323.5	0.33	0.00	1.71	
2,785.0	13.00	263.80	2,747.3	72.0	-348.5	350.2	1.33	1.33	-0.39	
2,913.0	14.20	266.40	2,871.7	69.5	-378.5	380.1	1.05	0.94	2.03	
3,042.0	14.80	260.30	2,996.6	65.7	-410.5	412.0	1.27	0.47	-4.73	
3,170.0	13.80	264.70	3,120.6	61.5	-441.8	443.2	1.15	-0.78	3.44	
3,299.0	13.50	262.10	3,246.0	58.0	-472.1	473.4	0.53	-0.23	-2.02	
3,427.0	13.40	257.70	3,370.5	52.8	-501.4	502.5	0.80	-0.08	-3.44	
3,555.0	13.90	261.30	3,494.9	47.3	-531.1	532.1	0.77	0.39	2.81	
3,684.0	13.40	263.10	3,620.2	43.2	-561.2	562.1	0.51	-0.39	1.40	
3,812.0	14.40	264.30	3,744.5	39.8	-591.8	592.6	0.81	0.78	0.94	
3,941.0	15.20	258.20	3,869.2	34.8	-624.3	625.0	1.36	0.62	-4.73	
4,069.0	14.10	256.30	3,993.0	27.7	-655.9	656.4	0.94	-0.86	-1.48	
4,197.0	10.30	253.30	4,118.1	20.7	-682.0	682.3	3.01	-2.97	-2.34	
4,326.0	7.70	252.40	4,245.5	14.7	-701.3	701.4	2.02	-2.02	-0.70	
4,454.0	6.90	255.50	4,372.5	10.2	-716.9	716.9	0.70	-0.63	2.42	
4,583.0	5.70	269.60	4,500.7	8.2	-730.8	730.8	1.51	-0.93	10.93	
4,711.0	3.50	303.90	4,628.3	10.4	-740.4	740.4	2.68	-1.72	26.80	
4,839.0	0.80	43.60	4,756.2	13.2	-743.0	743.1	2.91	-2.11	77.89	
4,968.0	0.60	86.40	4,885.2	13.9	-741.7	741.9	0.42	-0.16	33.18	
5,096.0	0.40	76.30	5,013.2	14.0	-740.6	740.8	0.17	-0.16	-7.89	
5,225.0	1.10	78.40	5,142.2	14.4	-739.0	739.1	0.54	0.54	1.63	
5,353.0	0.50	44.40	5,270.2	15.0	-737.4	737.5	0.58	-0.47	-26.56	
5,481.0	0.20	299.50	5,398.2	15.6	-737.2	737.4	0.46	-0.23	-81.95	
5,582.8	0.27	272.19	5,500.0	15.7	-737.6	737.7	0.13	0.07	-26.83	
TARGET BHL 2500'FSL, 1320'FWL										
5,610.0	0.30	267.50	5,527.2	15.7	-737.7	737.9	0.13	0.10	-17.24	
5,738.0	1.10	228.10	5,655.2	14.8	-739.0	739.1	0.69	0.63	-30.78	
5,867.0	1.20	16.80	5,784.2	15.3	-739.5	739.7	1.72	0.08	115.27	
5,995.0	1.20	9.80	5,912.1	17.9	-738.9	739.1	0.11	0.00	-5.47	
6,123.0	1.10	49.50	6,040.1	20.0	-737.7	738.0	0.61	-0.08	31.02	
6,252.0	1.20	27.20	6,169.1	22.0	-736.2	736.5	0.35	0.08	-17.29	
6,380.0	1.00	49.50	6,297.1	23.9	-734.7	735.1	0.37	-0.16	17.42	
6,509.0	1.10	56.70	6,426.0	25.3	-732.8	733.2	0.13	0.08	5.58	
6,637.0	1.70	46.00	6,554.0	27.3	-730.4	730.9	0.51	0.47	-8.36	
6,765.0	1.20	39.90	6,682.0	29.7	-728.2	728.7	0.41	-0.39	-4.77	
6,875.8	1.27	66.69	6,792.8	31.1	-726.3	726.9	0.52	0.06	24.17	
TARGET CIRCLE 2550'FSL, 1320'FWL										
6,894.0	1.30	70.60	6,810.9	31.2	-726.0	726.5	0.52	0.19	21.53	
7,022.0	1.10	64.10	6,938.9	32.2	-723.5	724.1	0.19	-0.16	-5.08	
7,151.0	1.10	71.20	7,067.9	33.2	-721.2	721.8	0.11	0.00	5.50	
7,279.0	1.10	40.20	7,195.9	34.5	-719.2	719.9	0.46	0.00	-24.22	
7,323.0	1.30	29.30	7,239.9	35.3	-718.7	719.4	0.69	0.45	-24.77	
7,350.6	1.30	29.67	7,267.5	35.8	-718.4	719.1	0.03	0.00	1.35	
HARD LINES 106'N OF BHL										
7,375.0	1.30	30.00	7,291.8	36.3	-718.1	718.8	0.03	0.00	1.35	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well NEI PC C18-20D
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Site:	NEI C18-32D Pad Sec.18-T4N-R64W	MD Reference:	WELL @ 4847.0ft (Original Well Elev)
Well:	NEI PC C18-20D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Checked By: _____ Approved By: _____ Date: _____