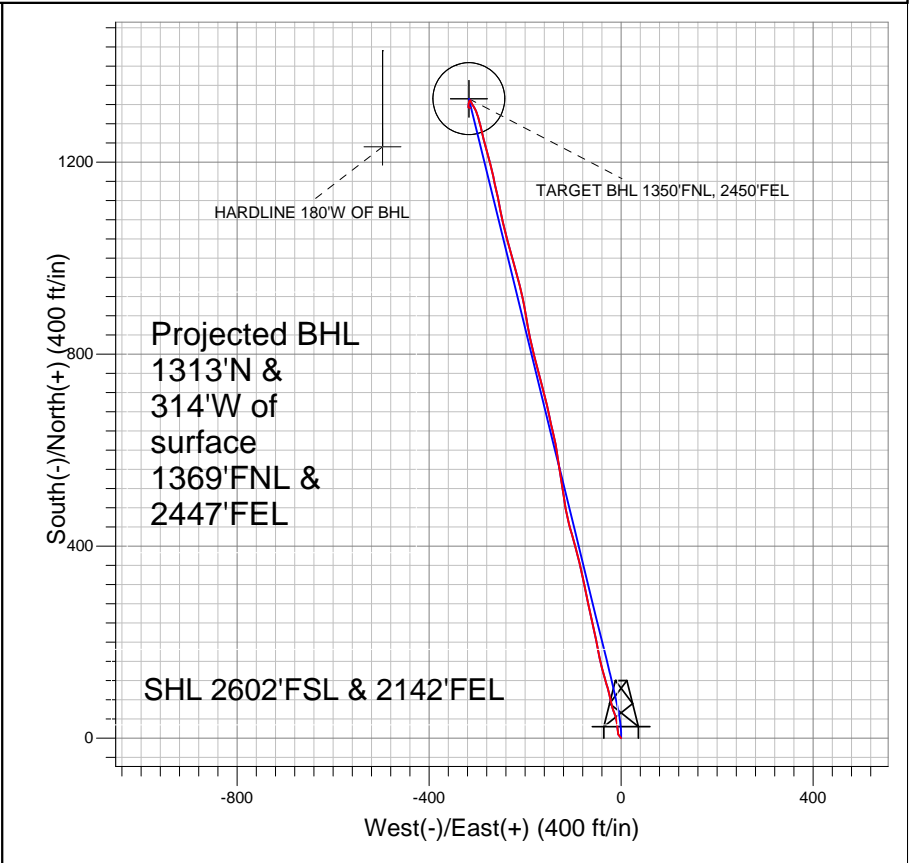





NOBLE ENERGY INC WELD COUNTY CO



LEGEND	
	Sekich P19-18D, Wellbore #1, Noble Sekich P19-18D Plan #1 (03-25-10) V0
	Wellbore #1
	Survey #1

Final Survey Plot

Projected Final Survey -
 7616'MD & 7411'TVD @ 1350' VS
 1.0 deg Inc 99.5 deg AZ

Project: SEC.19-T3N-R67W
 Site: Sekich P19-18D Pad Sec.19-T3N-R67W
 Well: Sekich P19-18D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.19-T3N-R67W

Sekich P19-18D Pad Sec.19-T3N-R67W

Sekich P19-18D

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 January, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Site Sekich P19-18D Pad Sec.19-T3N-R67W
Project:	SEC.19-T3N-R67W	TVD Reference:	WELL @ 4915.0ft (Original Well Elev)
Site:	Sekich P19-18D Pad Sec.19-T3N-R67W	MD Reference:	WELL @ 4915.0ft (Original Well Elev)
Well:	Sekich P19-18D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.19-T3N-R67W, Weld County, Colorado		
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	Sekich P19-18D Pad Sec.19-T3N-R67W		
Site Position:		Northing:	1,320,394.39ft
From:	Lat/Long	Easting:	3,158,928.73ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 12' 41.328 N
		Longitude:	104° 55' 51.384 W
		Grid Convergence:	0.37 °

Well	Sekich P19-18D		
Well Position	+N/-S	0.0 ft	Northing: 1,320,394.38 ft
	+E/-W	0.0 ft	Easting: 3,158,928.73 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 12' 41.328 N
		Longitude:	104° 55' 51.384 W
		Ground Level:	4,902.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/21/2010	9.00	66.89	53,064

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	346.54	

Survey Program	Date	1/6/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
976.0	7,616.0	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	
976.0	1.10	323.10	975.9	7.5	-5.6	8.6	0.11	0.11	0.00	
1,073.0	3.00	349.40	1,072.9	10.7	-6.7	12.0	2.14	1.96	27.11	
1,167.0	5.30	354.90	1,166.6	17.5	-7.5	18.7	2.48	2.45	5.85	
1,261.0	7.10	354.00	1,260.1	27.6	-8.5	28.8	1.92	1.91	-0.96	
1,355.0	8.40	347.10	1,353.2	40.0	-10.6	41.4	1.70	1.38	-7.34	
1,449.0	9.20	337.80	1,446.1	53.7	-15.0	55.7	1.73	0.85	-9.89	
1,577.0	13.40	348.70	1,571.6	77.7	-21.8	80.7	3.67	3.28	8.52	
1,637.0	12.50	345.30	1,630.1	90.8	-24.8	94.1	1.96	-1.50	-5.67	
1,731.0	14.30	344.40	1,721.5	111.8	-30.5	115.9	1.93	1.91	-0.96	
1,825.0	14.70	344.20	1,812.5	134.5	-36.9	139.4	0.43	0.43	-0.21	
1,919.0	16.50	346.50	1,903.1	159.0	-43.2	164.7	2.02	1.91	2.45	
2,013.0	18.20	350.20	1,992.8	186.4	-48.8	192.7	2.16	1.81	3.94	

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Site Sekich P19-18D Pad Sec.19-T3N-R67W
Project:	SEC.19-T3N-R67W	TVD Reference:	WELL @ 4915.0ft (Original Well Elev)
Site:	Sekich P19-18D Pad Sec.19-T3N-R67W	MD Reference:	WELL @ 4915.0ft (Original Well Elev)
Well:	Sekich P19-18D	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)
2,107.0	18.30	347.30	2,082.1	215.3	-54.6	222.1	0.97	0.11	-3.09
2,201.0	17.90	347.20	2,171.4	243.8	-61.0	251.3	0.43	-0.43	-0.11
2,295.0	18.70	348.00	2,260.7	272.6	-67.4	280.8	0.89	0.85	0.85
2,389.0	19.10	349.30	2,349.6	302.4	-73.3	311.2	0.62	0.43	1.38
2,483.0	20.20	347.10	2,438.1	333.4	-79.8	342.8	1.41	1.17	-2.34
2,577.0	20.00	347.10	2,526.4	364.9	-87.0	375.1	0.21	-0.21	0.00
2,671.0	19.90	344.70	2,614.7	396.0	-94.8	407.2	0.88	-0.11	-2.55
2,765.0	18.10	344.10	2,703.6	425.4	-103.1	437.7	1.93	-1.91	-0.64
2,860.0	16.20	346.80	2,794.4	452.5	-110.1	465.7	2.17	-2.00	2.84
3,049.0	16.50	352.30	2,975.8	504.8	-119.8	518.8	0.83	0.16	2.91
3,237.0	16.90	349.90	3,155.8	558.2	-128.1	572.7	0.42	0.21	-1.28
3,332.0	16.70	352.50	3,246.8	585.3	-132.3	600.0	0.82	-0.21	2.74
3,426.0	17.80	348.70	3,336.6	612.8	-136.9	627.8	1.67	1.17	-4.04
3,521.0	17.90	345.90	3,427.0	641.2	-143.3	656.9	0.91	0.11	-2.95
3,611.0	18.50	348.80	3,512.5	668.6	-149.5	685.0	1.21	0.67	3.22
3,709.0	18.40	346.30	3,605.4	698.9	-156.1	716.0	0.81	-0.10	-2.55
3,799.0	18.70	345.60	3,690.8	726.6	-163.1	744.7	0.42	0.33	-0.78
3,893.0	18.10	346.20	3,780.0	755.4	-170.3	774.3	0.67	-0.64	0.64
4,081.0	18.00	344.70	3,958.7	811.8	-184.9	832.6	0.25	-0.05	-0.80
4,175.0	18.30	350.10	4,048.0	840.3	-191.3	861.8	1.82	0.32	5.74
4,269.0	20.40	349.90	4,136.7	871.0	-196.7	892.9	2.24	2.23	-0.21
4,363.0	20.00	349.40	4,224.9	902.9	-202.6	925.3	0.46	-0.43	-0.53
4,457.0	20.80	346.60	4,313.1	935.0	-209.4	958.0	1.34	0.85	-2.98
4,551.0	20.30	344.30	4,401.1	966.9	-217.7	991.0	1.01	-0.53	-2.45
4,645.0	20.10	344.10	4,489.3	998.1	-226.5	1,023.5	0.23	-0.21	-0.21
4,739.0	19.70	345.60	4,577.7	1,029.0	-234.9	1,055.4	0.69	-0.43	1.60
4,833.0	21.30	345.30	4,665.7	1,060.9	-243.1	1,088.4	1.71	1.70	-0.32
4,927.0	21.20	349.30	4,753.3	1,094.1	-250.6	1,122.4	1.55	-0.11	4.26
5,021.0	20.00	348.20	4,841.3	1,126.5	-257.1	1,155.4	1.34	-1.28	-1.17
5,209.0	16.50	346.80	5,019.8	1,184.0	-269.7	1,214.3	1.88	-1.86	-0.74
5,303.0	16.00	344.40	5,110.1	1,209.5	-276.3	1,240.6	0.89	-0.53	-2.55
5,397.0	14.20	344.60	5,200.8	1,233.1	-282.8	1,265.1	1.92	-1.91	0.21
5,491.0	13.30	347.20	5,292.1	1,254.8	-288.3	1,287.4	1.16	-0.96	2.77
5,585.0	11.40	345.60	5,384.0	1,274.3	-293.0	1,307.5	2.05	-2.02	-1.70
5,679.0	9.20	344.60	5,476.4	1,290.5	-297.3	1,324.3	2.35	-2.34	-1.06
5,773.0	6.90	339.10	5,569.5	1,303.1	-301.3	1,337.4	2.58	-2.45	-5.85
5,867.0	6.10	331.10	5,662.9	1,312.7	-305.7	1,347.8	1.28	-0.85	-8.51
5,961.0	4.40	329.10	5,756.5	1,320.2	-310.0	1,356.1	1.82	-1.81	-2.13
6,055.0	2.90	328.40	5,850.3	1,325.3	-313.1	1,361.8	1.60	-1.60	-0.74
6,149.0	0.70	17.20	5,944.3	1,327.9	-314.2	1,364.5	2.65	-2.34	51.91
6,204.8	0.46	24.72	6,000.0	1,328.4	-314.0	1,365.0	0.46	-0.44	13.48
TARGET BHL 1350'FNL, 2450'FEL									
6,243.0	0.30	36.80	6,038.3	1,328.6	-313.9	1,365.2	0.46	-0.41	31.60
6,337.0	0.10	227.00	6,132.3	1,328.8	-313.8	1,365.3	0.42	-0.21	-180.64
6,462.0	0.40	283.10	6,257.3	1,328.8	-314.3	1,365.4	0.28	0.24	44.88
6,556.0	0.60	249.30	6,351.3	1,328.7	-315.1	1,365.5	0.37	0.21	-35.96
6,650.0	0.90	212.90	6,445.3	1,327.9	-315.9	1,365.0	0.58	0.32	-38.72
6,838.0	1.10	191.60	6,633.2	1,324.9	-317.1	1,362.3	0.22	0.11	-11.33
6,932.0	0.70	190.80	6,727.2	1,323.4	-317.4	1,361.0	0.43	-0.43	-0.85
7,028.0	1.30	185.90	6,823.2	1,321.8	-317.6	1,359.4	0.63	0.63	-5.10
7,139.5	1.24	184.88	6,934.7	1,319.3	-317.8	1,357.1	0.06	-0.05	-0.92
TARGET CIRCLE 1350'FNL, 2450'FEL									
7,218.0	1.20	184.10	7,013.2	1,317.6	-318.0	1,355.5	0.06	-0.05	-0.99
7,313.0	1.20	194.60	7,108.1	1,315.7	-318.3	1,353.6	0.23	0.00	11.05

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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)
7,408.0	1.00	136.00	7,203.1	1,314.1	-318.0	1,352.1	1.15	-0.21	-61.68
7,503.0	1.30	107.50	7,298.1	1,313.2	-316.3	1,350.8	0.67	0.32	-30.00
7,566.0	1.00	99.50	7,361.1	1,312.9	-315.1	1,350.2	0.54	-0.48	-12.70
HARDLINE 180°W OF BHL									
7,616.0	1.00	99.50	7,411.1	1,312.8	-314.3	1,349.9	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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