

# **EXTRACTION OIL & GAS**

**WELD COUNTY**

**Sec 32-T6N-R65W**

**WAKE NORTH FED 33W-20-14**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL #1**

## **Standard Planning Report**

**08 March, 2019**



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well WAKE NORTH FED 33W-20-14
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4666.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4666.00usft
<b>Site:</b>	Sec 32-T6N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	WAKE NORTH FED 33W-20-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

<b>Project</b>	WELD COUNTY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		Sec 32-T6N-R65W			
Site Position:		Northing:	1,405,488.40 usft	Latitude:	40.443610°N
From:	Lat/Long	Easting:	3,226,675.31 usft	Longitude:	104.685580°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.53 °

Well	WAKE NORTH FED 33W-20-14					
Well Position	+N/-S	-1,737.72 usft	Northing:	1,403,755.02 usft	Latitude:	40.438840°N
	+E/-W	464.85 usft	Easting:	3,227,156.09 usft	Longitude:	104.683910°W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	4,641.00 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	6/29/2016	8.27	66.92	52,532.65039981

<b>Design</b>	PROPOSAL #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	282.03

<b>Plan Survey Tool Program</b>	<b>Date</b>	3/8/2019		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	18,895.31	PROPOSAL #1 (ORIGINAL WEL	MWD OWSG
				OWSG MWD - Standard

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,553.98	27.08	64.68	1,504.13	134.29	283.89	2.00	2.00	0.00	64.68	
6,748.63	27.08	64.68	6,129.32	1,145.48	2,421.54	0.00	0.00	0.00	0.00	
7,885.37	90.00	272.80	6,910.00	1,358.93	1,906.60	10.00	5.54	-13.36	-149.04	WAKE NORTH 14 - L
18,895.31	90.00	272.80	6,910.00	1,896.05	-9,090.24	0.00	0.00	0.00	0.00	WAKE NORTH 14 - P

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well WAKE NORTH FED 33W-20-14
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4666.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4666.00usft
<b>Site:</b>	Sec 32-T6N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	WAKE NORTH FED 33W-20-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
300.00	2.00	64.68	299.98	0.75	1.58	-1.39	2.00	2.00	0.00
400.00	4.00	64.68	399.84	2.98	6.31	-5.55	2.00	2.00	0.00
500.00	6.00	64.68	499.45	6.71	14.19	-12.48	2.00	2.00	0.00
600.00	8.00	64.68	598.70	11.92	25.20	-22.16	2.00	2.00	0.00
700.00	10.00	64.68	697.47	18.61	39.34	-34.60	2.00	2.00	0.00
800.00	12.00	64.68	795.62	26.77	56.59	-49.77	2.00	2.00	0.00
900.00	14.00	64.68	893.06	36.39	76.92	-67.65	2.00	2.00	0.00
1,000.00	16.00	64.68	989.64	47.45	100.32	-88.22	2.00	2.00	0.00
1,100.00	18.00	64.68	1,085.27	59.96	126.75	-111.46	2.00	2.00	0.00
1,200.00	20.00	64.68	1,179.82	73.88	156.18	-137.34	2.00	2.00	0.00
1,300.00	22.00	64.68	1,273.17	89.20	188.57	-165.83	2.00	2.00	0.00
1,400.00	24.00	64.68	1,365.21	105.91	223.89	-196.89	2.00	2.00	0.00
1,500.00	26.00	64.68	1,455.84	123.98	262.09	-230.49	2.00	2.00	0.00
1,553.98	27.08	64.68	1,504.13	134.29	283.89	-249.66	2.00	2.00	0.00
Start 5194.65 hold at 1553.98 MD									
1,600.00	27.08	64.68	1,545.11	143.25	302.83	-266.31	0.00	0.00	0.00
1,700.00	27.08	64.68	1,634.14	162.72	343.98	-302.50	0.00	0.00	0.00
1,800.00	27.08	64.68	1,723.18	182.18	385.13	-338.69	0.00	0.00	0.00
1,900.00	27.08	64.68	1,812.22	201.65	426.28	-374.88	0.00	0.00	0.00
2,000.00	27.08	64.68	1,901.26	221.11	467.43	-411.07	0.00	0.00	0.00
2,100.00	27.08	64.68	1,990.29	240.58	508.58	-447.26	0.00	0.00	0.00
2,200.00	27.08	64.68	2,079.33	260.04	549.74	-483.45	0.00	0.00	0.00
2,300.00	27.08	64.68	2,168.37	279.51	590.89	-519.64	0.00	0.00	0.00
2,400.00	27.08	64.68	2,257.41	298.98	632.04	-555.83	0.00	0.00	0.00
2,500.00	27.08	64.68	2,346.44	318.44	673.19	-592.02	0.00	0.00	0.00
2,600.00	27.08	64.68	2,435.48	337.91	714.34	-628.20	0.00	0.00	0.00
2,700.00	27.08	64.68	2,524.52	357.37	755.49	-664.39	0.00	0.00	0.00
2,800.00	27.08	64.68	2,613.56	376.84	796.64	-700.58	0.00	0.00	0.00
2,900.00	27.08	64.68	2,702.59	396.31	837.79	-736.77	0.00	0.00	0.00
3,000.00	27.08	64.68	2,791.63	415.77	878.94	-772.96	0.00	0.00	0.00
3,100.00	27.08	64.68	2,880.67	435.24	920.09	-809.15	0.00	0.00	0.00
3,200.00	27.08	64.68	2,969.71	454.70	961.25	-845.34	0.00	0.00	0.00
3,300.00	27.08	64.68	3,058.74	474.17	1,002.40	-881.53	0.00	0.00	0.00
3,400.00	27.08	64.68	3,147.78	493.63	1,043.55	-917.72	0.00	0.00	0.00
3,500.00	27.08	64.68	3,236.82	513.10	1,084.70	-953.90	0.00	0.00	0.00
3,600.00	27.08	64.68	3,325.86	532.57	1,125.85	-990.09	0.00	0.00	0.00
3,700.00	27.08	64.68	3,414.90	552.03	1,167.00	-1,026.28	0.00	0.00	0.00
3,800.00	27.08	64.68	3,503.93	571.50	1,208.15	-1,062.47	0.00	0.00	0.00
3,900.00	27.08	64.68	3,592.97	590.96	1,249.30	-1,098.66	0.00	0.00	0.00
3,937.10	27.08	64.68	3,626.00	598.19	1,264.57	-1,112.09	0.00	0.00	0.00
PARKMAN									
4,000.00	27.08	64.68	3,682.01	610.43	1,290.45	-1,134.85	0.00	0.00	0.00
4,100.00	27.08	64.68	3,771.05	629.90	1,331.60	-1,171.04	0.00	0.00	0.00
4,200.00	27.08	64.68	3,860.08	649.36	1,372.75	-1,207.23	0.00	0.00	0.00
4,300.00	27.08	64.68	3,949.12	668.83	1,413.91	-1,243.42	0.00	0.00	0.00
4,400.00	27.08	64.68	4,038.16	688.29	1,455.06	-1,279.61	0.00	0.00	0.00
4,500.00	27.08	64.68	4,127.20	707.76	1,496.21	-1,315.79	0.00	0.00	0.00
4,600.00	27.08	64.68	4,216.23	727.23	1,537.36	-1,351.98	0.00	0.00	0.00
4,700.00	27.08	64.68	4,305.27	746.69	1,578.51	-1,388.17	0.00	0.00	0.00

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<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,727.77	27.08	64.68	4,330.00	752.10	1,589.94	-1,398.22	0.00	0.00	0.00
<b>SUSSEX</b>									
4,800.00	27.08	64.68	4,394.31	766.16	1,619.66	-1,424.36	0.00	0.00	0.00
4,900.00	27.08	64.68	4,483.35	785.62	1,660.81	-1,460.55	0.00	0.00	0.00
5,000.00	27.08	64.68	4,572.38	805.09	1,701.96	-1,496.74	0.00	0.00	0.00
5,100.00	27.08	64.68	4,661.42	824.55	1,743.11	-1,532.93	0.00	0.00	0.00
5,200.00	27.08	64.68	4,750.46	844.02	1,784.26	-1,569.12	0.00	0.00	0.00
5,300.00	27.08	64.68	4,839.50	863.49	1,825.41	-1,605.31	0.00	0.00	0.00
5,339.88	27.08	64.68	4,875.00	871.25	1,841.82	-1,619.74	0.00	0.00	0.00
<b>SHANNON</b>									
5,400.00	27.08	64.68	4,928.53	882.95	1,866.57	-1,641.49	0.00	0.00	0.00
5,500.00	27.08	64.68	5,017.57	902.42	1,907.72	-1,677.68	0.00	0.00	0.00
5,600.00	27.08	64.68	5,106.61	921.88	1,948.87	-1,713.87	0.00	0.00	0.00
5,700.00	27.08	64.68	5,195.65	941.35	1,990.02	-1,750.06	0.00	0.00	0.00
5,800.00	27.08	64.68	5,284.68	960.82	2,031.17	-1,786.25	0.00	0.00	0.00
5,900.00	27.08	64.68	5,373.72	980.28	2,072.32	-1,822.44	0.00	0.00	0.00
6,000.00	27.08	64.68	5,462.76	999.75	2,113.47	-1,858.63	0.00	0.00	0.00
6,100.00	27.08	64.68	5,551.80	1,019.21	2,154.62	-1,894.82	0.00	0.00	0.00
6,200.00	27.08	64.68	5,640.83	1,038.68	2,195.77	-1,931.01	0.00	0.00	0.00
6,300.00	27.08	64.68	5,729.87	1,058.14	2,236.92	-1,967.20	0.00	0.00	0.00
6,400.00	27.08	64.68	5,818.91	1,077.61	2,278.08	-2,003.38	0.00	0.00	0.00
6,500.00	27.08	64.68	5,907.95	1,097.08	2,319.23	-2,039.57	0.00	0.00	0.00
6,600.00	27.08	64.68	5,996.98	1,116.54	2,360.38	-2,075.76	0.00	0.00	0.00
6,700.00	27.08	64.68	6,086.02	1,136.01	2,401.53	-2,111.95	0.00	0.00	0.00
6,748.63	27.08	64.68	6,129.32	1,145.48	2,421.54	-2,129.55	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -149.04</b>									
6,750.00	26.96	64.53	6,130.54	1,145.74	2,422.10	-2,130.04	10.00	-8.57	-11.35
6,800.00	22.82	57.86	6,175.90	1,155.78	2,440.56	-2,146.00	10.00	-8.29	-13.33
6,850.00	19.06	48.59	6,222.60	1,166.34	2,454.90	-2,157.82	10.00	-7.51	-18.55
6,900.00	15.97	35.45	6,270.29	1,177.35	2,465.01	-2,165.42	10.00	-6.18	-26.27
6,950.00	13.99	17.58	6,318.62	1,188.73	2,470.83	-2,168.74	10.00	-3.95	-35.75
7,000.00	13.62	356.57	6,367.20	1,200.37	2,472.31	-2,167.76	10.00	-0.74	-42.01
7,050.00	14.98	336.98	6,415.68	1,212.21	2,469.43	-2,162.47	10.00	2.72	-39.18
7,100.00	17.68	321.91	6,463.68	1,224.14	2,462.21	-2,152.93	10.00	5.39	-30.15
7,150.00	21.20	311.19	6,510.84	1,236.07	2,450.72	-2,139.20	10.00	7.05	-21.43
7,200.00	25.21	303.58	6,556.80	1,247.92	2,435.04	-2,121.39	10.00	8.02	-15.23
7,250.00	29.50	297.99	6,601.20	1,259.60	2,415.28	-2,099.64	10.00	8.59	-11.17
7,300.00	33.98	293.74	6,643.72	1,271.01	2,391.60	-2,074.10	10.00	8.95	-8.51
7,350.00	38.57	290.38	6,684.02	1,282.07	2,364.19	-2,044.98	10.00	9.18	-6.72
7,400.00	43.24	287.64	6,721.81	1,292.69	2,333.24	-2,012.50	10.00	9.34	-5.48
7,411.35	44.30	287.09	6,730.00	1,295.04	2,325.75	-2,004.68	10.00	9.41	-4.89
<b>SHARON SPRINGS</b>									
7,450.00	47.96	285.34	6,756.78	1,302.80	2,298.99	-1,976.90	10.00	9.46	-4.51
7,454.83	48.42	285.14	6,760.00	1,303.75	2,295.52	-1,973.30	10.00	9.49	-4.22
<b>NIOBRARA</b>									
7,500.00	52.72	283.36	6,788.69	1,312.32	2,261.71	-1,938.45	10.00	9.53	-3.93
7,550.00	57.51	281.62	6,817.27	1,321.17	2,221.67	-1,897.45	10.00	9.58	-3.49
7,600.00	62.33	280.05	6,842.33	1,329.29	2,179.19	-1,854.21	10.00	9.63	-3.13
7,650.00	67.16	278.62	6,863.66	1,336.61	2,134.58	-1,809.05	10.00	9.66	-2.87
7,700.00	72.00	277.29	6,881.10	1,343.09	2,088.19	-1,762.33	10.00	9.68	-2.67
7,750.00	76.85	276.02	6,894.53	1,348.66	2,040.37	-1,714.40	10.00	9.70	-2.53
7,776.64	79.43	275.37	6,900.00	1,351.25	2,014.43	-1,688.49	10.00	9.71	-2.45
<b>NIO B TARGET</b>									

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<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4666.00usft
<b>Site:</b>	Sec 32-T6N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	WAKE NORTH FED 33W-20-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,800.00	81.70	274.81	6,903.83	1,353.29	1,991.48	-1,665.61	10.00	9.71	-2.41
7,850.00	86.56	273.63	6,908.94	1,356.95	1,941.89	-1,616.35	10.00	9.72	-2.37
7,885.37	90.00	272.80	6,910.00	1,358.93	1,906.60	-1,581.42	10.00	9.72	-2.34
Start 11009.95 hold at 7885.37 MD									
7,900.00	90.00	272.80	6,910.00	1,359.64	1,891.98	-1,566.98	0.00	0.00	0.00
8,000.00	90.00	272.80	6,910.00	1,364.52	1,792.10	-1,468.28	0.00	0.00	0.00
8,100.00	90.00	272.80	6,910.00	1,369.40	1,692.22	-1,369.57	0.00	0.00	0.00
8,200.00	90.00	272.80	6,910.00	1,374.28	1,592.34	-1,270.87	0.00	0.00	0.00
8,300.00	90.00	272.80	6,910.00	1,379.15	1,492.46	-1,172.17	0.00	0.00	0.00
8,400.00	90.00	272.80	6,910.00	1,384.03	1,392.58	-1,073.46	0.00	0.00	0.00
8,500.00	90.00	272.80	6,910.00	1,388.91	1,292.70	-974.76	0.00	0.00	0.00
8,600.00	90.00	272.80	6,910.00	1,393.79	1,192.82	-876.06	0.00	0.00	0.00
8,700.00	90.00	272.80	6,910.00	1,398.67	1,092.93	-777.35	0.00	0.00	0.00
8,800.00	90.00	272.80	6,910.00	1,403.55	993.05	-678.65	0.00	0.00	0.00
8,900.00	90.00	272.80	6,910.00	1,408.42	893.17	-579.95	0.00	0.00	0.00
9,000.00	90.00	272.80	6,910.00	1,413.30	793.29	-481.24	0.00	0.00	0.00
9,100.00	90.00	272.80	6,910.00	1,418.18	693.41	-382.54	0.00	0.00	0.00
9,200.00	90.00	272.80	6,910.00	1,423.06	593.53	-283.83	0.00	0.00	0.00
9,300.00	90.00	272.80	6,910.00	1,427.94	493.65	-185.13	0.00	0.00	0.00
9,400.00	90.00	272.80	6,910.00	1,432.82	393.77	-86.43	0.00	0.00	0.00
9,500.00	90.00	272.80	6,910.00	1,437.70	293.89	12.28	0.00	0.00	0.00
9,600.00	90.00	272.80	6,910.00	1,442.57	194.01	110.98	0.00	0.00	0.00
9,700.00	90.00	272.80	6,910.00	1,447.45	94.13	209.68	0.00	0.00	0.00
9,800.00	90.00	272.80	6,910.00	1,452.33	-5.76	308.39	0.00	0.00	0.00
9,900.00	90.00	272.80	6,910.00	1,457.21	-105.64	407.09	0.00	0.00	0.00
10,000.00	90.00	272.80	6,910.00	1,462.09	-205.52	505.79	0.00	0.00	0.00
10,100.00	90.00	272.80	6,910.00	1,466.97	-305.40	604.50	0.00	0.00	0.00
10,200.00	90.00	272.80	6,910.00	1,471.85	-405.28	703.20	0.00	0.00	0.00
10,300.00	90.00	272.80	6,910.00	1,476.72	-505.16	801.90	0.00	0.00	0.00
10,400.00	90.00	272.80	6,910.00	1,481.60	-605.04	900.61	0.00	0.00	0.00
10,500.00	90.00	272.80	6,910.00	1,486.48	-704.92	999.31	0.00	0.00	0.00
10,600.00	90.00	272.80	6,910.00	1,491.36	-804.80	1,098.02	0.00	0.00	0.00
10,700.00	90.00	272.80	6,910.00	1,496.24	-904.68	1,196.72	0.00	0.00	0.00
10,800.00	90.00	272.80	6,910.00	1,501.12	-1,004.56	1,295.42	0.00	0.00	0.00
10,900.00	90.00	272.80	6,910.00	1,506.00	-1,104.45	1,394.13	0.00	0.00	0.00
11,000.00	90.00	272.80	6,910.00	1,510.87	-1,204.33	1,492.83	0.00	0.00	0.00
11,100.00	90.00	272.80	6,910.00	1,515.75	-1,304.21	1,591.53	0.00	0.00	0.00
11,200.00	90.00	272.80	6,910.00	1,520.63	-1,404.09	1,690.24	0.00	0.00	0.00
11,300.00	90.00	272.80	6,910.00	1,525.51	-1,503.97	1,788.94	0.00	0.00	0.00
11,400.00	90.00	272.80	6,910.00	1,530.39	-1,603.85	1,887.64	0.00	0.00	0.00
11,500.00	90.00	272.80	6,910.00	1,535.27	-1,703.73	1,986.35	0.00	0.00	0.00
11,600.00	90.00	272.80	6,910.00	1,540.14	-1,803.61	2,085.05	0.00	0.00	0.00
11,700.00	90.00	272.80	6,910.00	1,545.02	-1,903.49	2,183.75	0.00	0.00	0.00
11,800.00	90.00	272.80	6,910.00	1,549.90	-2,003.37	2,282.46	0.00	0.00	0.00
11,900.00	90.00	272.80	6,910.00	1,554.78	-2,103.26	2,381.16	0.00	0.00	0.00
12,000.00	90.00	272.80	6,910.00	1,559.66	-2,203.14	2,479.86	0.00	0.00	0.00
12,100.00	90.00	272.80	6,910.00	1,564.54	-2,303.02	2,578.57	0.00	0.00	0.00
12,200.00	90.00	272.80	6,910.00	1,569.42	-2,402.90	2,677.27	0.00	0.00	0.00
12,300.00	90.00	272.80	6,910.00	1,574.29	-2,502.78	2,775.98	0.00	0.00	0.00
12,400.00	90.00	272.80	6,910.00	1,579.17	-2,602.66	2,874.68	0.00	0.00	0.00
12,500.00	90.00	272.80	6,910.00	1,584.05	-2,702.54	2,973.38	0.00	0.00	0.00
12,600.00	90.00	272.80	6,910.00	1,588.93	-2,802.42	3,072.09	0.00	0.00	0.00
12,700.00	90.00	272.80	6,910.00	1,593.81	-2,902.30	3,170.79	0.00	0.00	0.00
12,800.00	90.00	272.80	6,910.00	1,598.69	-3,002.18	3,269.49	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well WAKE NORTH FED 33W-20-14
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4666.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4666.00usft
<b>Site:</b>	Sec 32-T6N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	WAKE NORTH FED 33W-20-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,900.00	90.00	272.80	6,910.00	1,603.57	-3,102.06	3,368.20	0.00	0.00	0.00
13,000.00	90.00	272.80	6,910.00	1,608.44	-3,201.95	3,466.90	0.00	0.00	0.00
13,100.00	90.00	272.80	6,910.00	1,613.32	-3,301.83	3,565.60	0.00	0.00	0.00
13,200.00	90.00	272.80	6,910.00	1,618.20	-3,401.71	3,664.31	0.00	0.00	0.00
13,300.00	90.00	272.80	6,910.00	1,623.08	-3,501.59	3,763.01	0.00	0.00	0.00
13,400.00	90.00	272.80	6,910.00	1,627.96	-3,601.47	3,861.71	0.00	0.00	0.00
13,500.00	90.00	272.80	6,910.00	1,632.84	-3,701.35	3,960.42	0.00	0.00	0.00
13,600.00	90.00	272.80	6,910.00	1,637.72	-3,801.23	4,059.12	0.00	0.00	0.00
13,700.00	90.00	272.80	6,910.00	1,642.59	-3,901.11	4,157.83	0.00	0.00	0.00
13,800.00	90.00	272.80	6,910.00	1,647.47	-4,000.99	4,256.53	0.00	0.00	0.00
13,900.00	90.00	272.80	6,910.00	1,652.35	-4,100.87	4,355.23	0.00	0.00	0.00
14,000.00	90.00	272.80	6,910.00	1,657.23	-4,200.75	4,453.94	0.00	0.00	0.00
14,100.00	90.00	272.80	6,910.00	1,662.11	-4,300.64	4,552.64	0.00	0.00	0.00
14,200.00	90.00	272.80	6,910.00	1,666.99	-4,400.52	4,651.34	0.00	0.00	0.00
14,300.00	90.00	272.80	6,910.00	1,671.86	-4,500.40	4,750.05	0.00	0.00	0.00
14,400.00	90.00	272.80	6,910.00	1,676.74	-4,600.28	4,848.75	0.00	0.00	0.00
14,500.00	90.00	272.80	6,910.00	1,681.62	-4,700.16	4,947.45	0.00	0.00	0.00
14,600.00	90.00	272.80	6,910.00	1,686.50	-4,800.04	5,046.16	0.00	0.00	0.00
14,700.00	90.00	272.80	6,910.00	1,691.38	-4,899.92	5,144.86	0.00	0.00	0.00
14,800.00	90.00	272.80	6,910.00	1,696.26	-4,999.80	5,243.56	0.00	0.00	0.00
14,900.00	90.00	272.80	6,910.00	1,701.14	-5,099.68	5,342.27	0.00	0.00	0.00
15,000.00	90.00	272.80	6,910.00	1,706.01	-5,199.56	5,440.97	0.00	0.00	0.00
15,100.00	90.00	272.80	6,910.00	1,710.89	-5,299.44	5,539.68	0.00	0.00	0.00
15,200.00	90.00	272.80	6,910.00	1,715.77	-5,399.33	5,638.38	0.00	0.00	0.00
15,300.00	90.00	272.80	6,910.00	1,720.65	-5,499.21	5,737.08	0.00	0.00	0.00
15,400.00	90.00	272.80	6,910.00	1,725.53	-5,599.09	5,835.79	0.00	0.00	0.00
15,500.00	90.00	272.80	6,910.00	1,730.41	-5,698.97	5,934.49	0.00	0.00	0.00
15,600.00	90.00	272.80	6,910.00	1,735.29	-5,798.85	6,033.19	0.00	0.00	0.00
15,700.00	90.00	272.80	6,910.00	1,740.16	-5,898.73	6,131.90	0.00	0.00	0.00
15,800.00	90.00	272.80	6,910.00	1,745.04	-5,998.61	6,230.60	0.00	0.00	0.00
15,900.00	90.00	272.80	6,910.00	1,749.92	-6,098.49	6,329.30	0.00	0.00	0.00
16,000.00	90.00	272.80	6,910.00	1,754.80	-6,198.37	6,428.01	0.00	0.00	0.00
16,100.00	90.00	272.80	6,910.00	1,759.68	-6,298.25	6,526.71	0.00	0.00	0.00
16,200.00	90.00	272.80	6,910.00	1,764.56	-6,398.14	6,625.41	0.00	0.00	0.00
16,300.00	90.00	272.80	6,910.00	1,769.43	-6,498.02	6,724.12	0.00	0.00	0.00
16,400.00	90.00	272.80	6,910.00	1,774.31	-6,597.90	6,822.82	0.00	0.00	0.00
16,500.00	90.00	272.80	6,910.00	1,779.19	-6,697.78	6,921.53	0.00	0.00	0.00
16,600.00	90.00	272.80	6,910.00	1,784.07	-6,797.66	7,020.23	0.00	0.00	0.00
16,700.00	90.00	272.80	6,910.00	1,788.95	-6,897.54	7,118.93	0.00	0.00	0.00
16,800.00	90.00	272.80	6,910.00	1,793.83	-6,997.42	7,217.64	0.00	0.00	0.00
16,900.00	90.00	272.80	6,910.00	1,798.71	-7,097.30	7,316.34	0.00	0.00	0.00
17,000.00	90.00	272.80	6,910.00	1,803.58	-7,197.18	7,415.04	0.00	0.00	0.00
17,100.00	90.00	272.80	6,910.00	1,808.46	-7,297.06	7,513.75	0.00	0.00	0.00
17,200.00	90.00	272.80	6,910.00	1,813.34	-7,396.94	7,612.45	0.00	0.00	0.00
17,300.00	90.00	272.80	6,910.00	1,818.22	-7,496.83	7,711.15	0.00	0.00	0.00
17,400.00	90.00	272.80	6,910.00	1,823.10	-7,596.71	7,809.86	0.00	0.00	0.00
17,500.00	90.00	272.80	6,910.00	1,827.98	-7,696.59	7,908.56	0.00	0.00	0.00
17,600.00	90.00	272.80	6,910.00	1,832.86	-7,796.47	8,007.26	0.00	0.00	0.00
17,700.00	90.00	272.80	6,910.00	1,837.73	-7,896.35	8,105.97	0.00	0.00	0.00
17,800.00	90.00	272.80	6,910.00	1,842.61	-7,996.23	8,204.67	0.00	0.00	0.00
17,900.00	90.00	272.80	6,910.00	1,847.49	-8,096.11	8,303.38	0.00	0.00	0.00
18,000.00	90.00	272.80	6,910.00	1,852.37	-8,195.99	8,402.08	0.00	0.00	0.00
18,100.00	90.00	272.80	6,910.00	1,857.25	-8,295.87	8,500.78	0.00	0.00	0.00
18,200.00	90.00	272.80	6,910.00	1,862.13	-8,395.75	8,599.49	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well WAKE NORTH FED 33W-20-14
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4666.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 4666.00usft
<b>Site:</b>	Sec 32-T6N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	WAKE NORTH FED 33W-20-14	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
18,300.00	90.00	272.80	6,910.00	1,867.01	-8,495.63	8,698.19	0.00	0.00	0.00	
18,400.00	90.00	272.80	6,910.00	1,871.88	-8,595.52	8,796.89	0.00	0.00	0.00	
18,500.00	90.00	272.80	6,910.00	1,876.76	-8,695.40	8,895.60	0.00	0.00	0.00	
18,600.00	90.00	272.80	6,910.00	1,881.64	-8,795.28	8,994.30	0.00	0.00	0.00	
18,700.00	90.00	272.80	6,910.00	1,886.52	-8,895.16	9,093.00	0.00	0.00	0.00	
18,800.00	90.00	272.80	6,910.00	1,891.40	-8,995.04	9,191.71	0.00	0.00	0.00	
18,895.31	90.00	272.80	6,910.00	1,896.05	-9,090.24	9,285.78	0.00	0.00	0.00	
TD at 18895.31										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
WAKE NORTH 14 - PBI	0.00	0.00	6,910.00	1,896.05	-9,090.24	1,405,567.33	3,218,048.79	40.444040°N	104.716570°W	
- plan hits target center										
- Point										
WAKE NORTH 14 - LP	0.00	0.00	6,910.00	1,358.93	1,906.60	1,405,131.43	3,229,050.10	40.442570°N	104.677060°W	
- plan hits target center										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,937.10	3,626.00	PARKMAN				
4,727.77	4,330.00	SUSSEX				
5,339.88	4,875.00	SHANNON				
7,411.35	6,730.00	SHARON SPRINGS				
7,454.83	6,760.00	NIOBRARA				
7,776.64	6,900.00	NIO B TARGET				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.00	200.00	0.00	0.00	Start Build 2.00	
1,553.98	1,504.13	134.29	283.89	Start 5194.65 hold at 1553.98 MD	
6,748.63	6,129.32	1,145.48	2,421.54	Start DLS 10.00 TFO -149.04	
7,885.37	6,910.00	1,358.93	1,906.60	Start 11009.95 hold at 7885.37 MD	
18,895.31	6,910.00	1,896.05	-9,090.24	TD at 18895.31	