



Company: Extraction Oil & Gas  
Field: Weld Co., Co  
Location: Sec.08-T07N-R66W  
Well: Thornton 6  
Borehole: Original Hole  
Rig: Xtreme 7  
Plan: Rev 0

**PATHFINDER**  
A Schlumberger Company

#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00
3	1279.82	5.60	290.27	1279.38	4.73	-12.81	2.00	290.27	-12.72
4	6529.47	5.60	290.27	6504.00	182.10	-493.05	0.00	0.00	-489.48
5	6809.29	0.00	0.00	6783.38	186.83	-505.86	2.00	180.00	-502.19
6	6909.29	0.00	0.00	6883.38	186.83	-505.86	0.00	0.00	-502.19
7	7909.29	90.00	90.00	7520.00	186.83	130.76	9.00	90.00	134.31
8	17547.64	90.00	90.00	7520.00	186.86	9769.11	0.00	0.00	9770.89

#### WELL DETAILS: Thornton 6

+N/-S	+E/-W	GL 5035.00 Northing	KB @ 5051.00usft (Xtreme 7 - 16') Easting	Latitude	Longitude
0.00	0.00	1456990.87	3191541.33	40° 35' 8.858 N	104° 48' 37.325 W

#### WELLBORE TARGET DETAILS

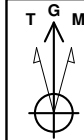
Name	TVD	+N/-S	+E/-W	Shape Point
KOP 6	6783.38	186.83	-505.86	Point
LP 6	7520.00	186.83	130.76	Point
PBHL Thornton 6	7520.00	186.86	9769.11	Point

#### ANNOTATIONS

TVD	MD	Annotation
1000.00	1000.00	Begin Nudge
1279.38	1279.82	Hold Tangent
6504.00	6529.47	Begin Drop
6783.38	6809.29	Vertical Point
6883.38	6909.29	KOP, Build 9°/100' DLS
7520.00	7909.29	LP, Hold to TD
7520.00	17547.64	PBHL/TD

#### CASING DETAILS

TVD	MD	Name	Size
7520.00	7909.29	7" Csg	7



Azimuths to Grid North  
True North: -0.45°  
Magnetic North: 8.05°  
  
Magnetic Field  
Strength: 52904.5nT  
Dip Angle: 67.09°  
Date: 6/19/2014  
Model: IGRF2010

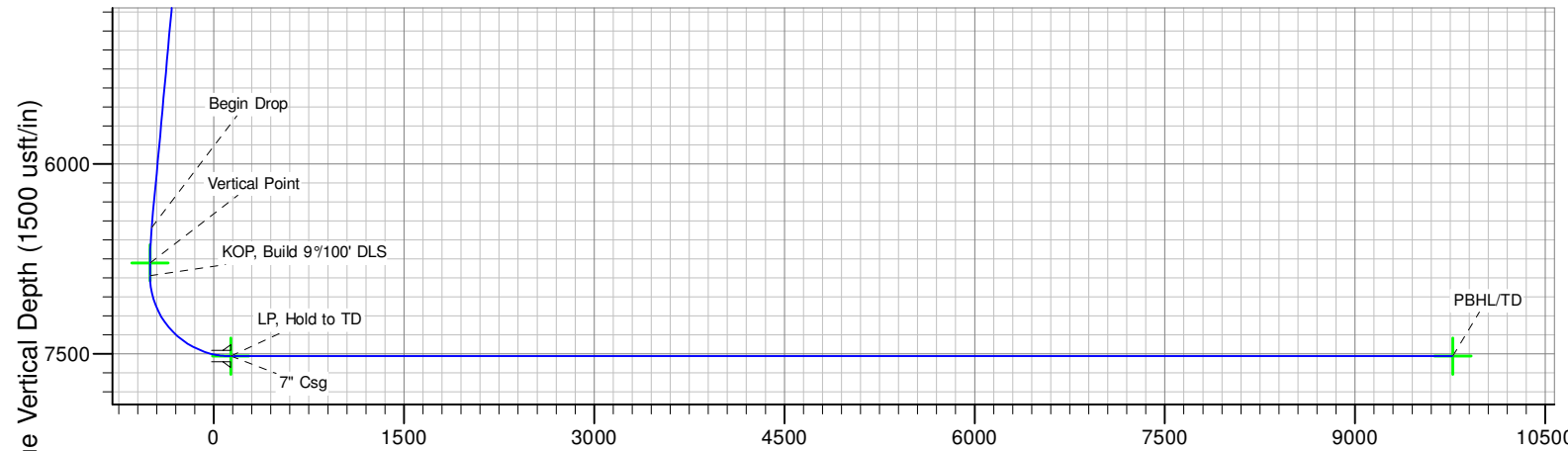
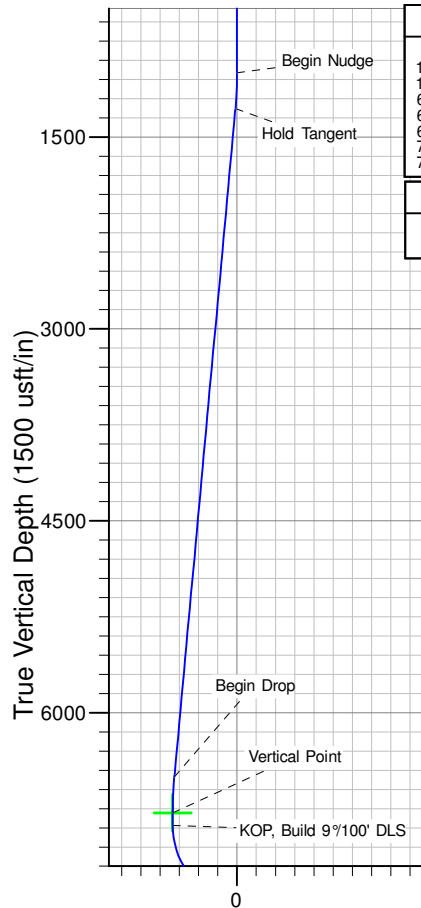
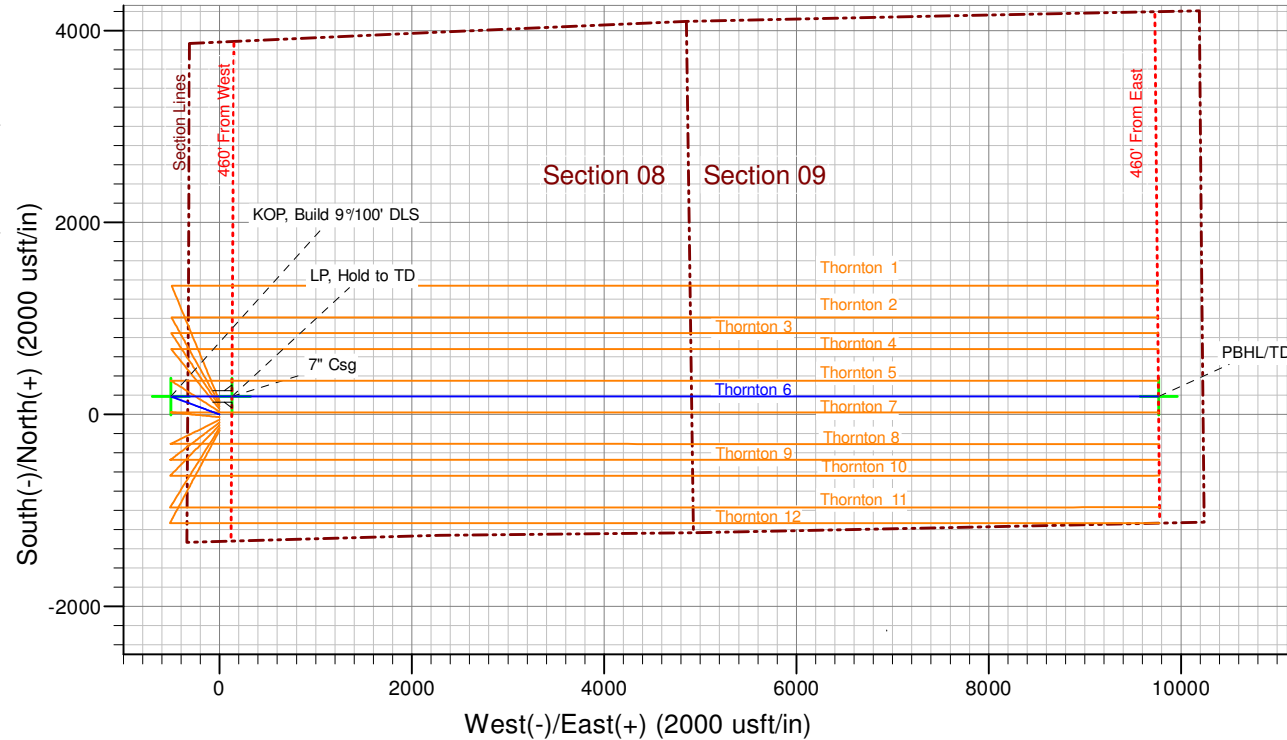
SHL: 1325' FSL & 330' FWL  
(Sec.08-T07N-R66W)  
PBHL: 1320' FSL & 460' FEL  
(Sec.09-T07N-R66W)

Notice:  
Section Lines and Hardlines  
are estimates only and are  
subject to customer approval

Thornton 6 Rev 0

Created By: J Rieke Date: 12:43, June 21 2014

South(-)/North(+) (2000 usft/in)



Vertical Section at 88.90° (1500 usft/in)

Vertical Section at 88.90° (1500 usft/in)



# **Extraction Oil & Gas**

**Weld Co., Co  
Sec.08-T07N-R66W  
Thornton 6**

**Original Hole**

**Plan: Rev 0**

## **Standard Planning Report**

**21 June, 2014**



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Thornton 6
<b>Company:</b>	Extraction Oil & Gas	<b>TVD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Project:</b>	Weld Co., Co	<b>MD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Site:</b>	Sec.08-T07N-R66W	<b>North Reference:</b>	Grid
<b>Well:</b>	Thornton 6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Rev 0		

<b>Project</b>	Weld Co., Co		
<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		

<b>Site</b>	Sec.08-T07N-R66W			
<b>Site Position:</b>		<b>Northing:</b>	1,457,130.79 usft	<b>Latitude:</b> 40° 35' 10.241 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,191,541.35 usft	<b>Longitude:</b> 104° 48' 37.310 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.45 °

<b>Well</b>	Thornton 6			
<b>Well Position</b>	<b>+N/-S</b>	-139.91 usft	<b>Northing:</b>	1,456,990.88 usft
	<b>+E/-W</b>	-0.02 usft	<b>Easting:</b>	3,191,541.33 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	5,051.00 usft
			<b>Ground Level:</b>	5,035.00 usft

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/19/2014	8.50	67.09	52,904

<b>Design</b>	Rev 0			
<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	88.90

<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 (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,279.82	5.60	290.27	1,279.38	4.73	-12.81	2.00	2.00	0.00	290.27	
6,529.47	5.60	290.27	6,504.00	182.10	-493.05	0.00	0.00	0.00	0.00	
6,809.29	0.00	0.00	6,783.38	186.83	-505.86	2.00	-2.00	0.00	180.00	KOP 6
6,909.29	0.00	0.00	6,883.38	186.83	-505.86	0.00	0.00	0.00	0.00	
7,909.29	90.00	90.00	7,520.00	186.83	130.76	9.00	9.00	0.00	90.00	
17,547.64	90.00	90.00	7,520.00	186.86	9,769.11	0.00	0.00	0.00	0.00	PBHL Thornton 6



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Thornton 6
<b>Company:</b>	Extraction Oil & Gas	<b>TVD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Project:</b>	Weld Co., Co	<b>MD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Site:</b>	Sec.08-T07N-R66W	<b>North Reference:</b>	Grid
<b>Well:</b>	Thornton 6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge									
1,100.00	2.00	290.27	1,099.98	0.60	-1.64	-1.63	2.00	2.00	0.00
1,200.00	4.00	290.27	1,199.84	2.42	-6.55	-6.50	2.00	2.00	0.00
1,279.82	5.60	290.27	1,279.38	4.73	-12.81	-12.72	2.00	2.00	0.00
Hold Tangent									
1,300.00	5.60	290.27	1,299.46	5.41	-14.66	-14.55	0.00	0.00	0.00
1,400.00	5.60	290.27	1,398.98	8.79	-23.80	-23.63	0.00	0.00	0.00
1,500.00	5.60	290.27	1,498.51	12.17	-32.95	-32.71	0.00	0.00	0.00
1,600.00	5.60	290.27	1,598.03	15.55	-42.10	-41.79	0.00	0.00	0.00
1,700.00	5.60	290.27	1,697.55	18.93	-51.25	-50.88	0.00	0.00	0.00
1,800.00	5.60	290.27	1,797.08	22.31	-60.40	-59.96	0.00	0.00	0.00
1,900.00	5.60	290.27	1,896.60	25.68	-69.54	-69.04	0.00	0.00	0.00
2,000.00	5.60	290.27	1,996.12	29.06	-78.69	-78.12	0.00	0.00	0.00
2,100.00	5.60	290.27	2,095.65	32.44	-87.84	-87.20	0.00	0.00	0.00
2,200.00	5.60	290.27	2,195.17	35.82	-96.99	-96.29	0.00	0.00	0.00
2,300.00	5.60	290.27	2,294.69	39.20	-106.14	-105.37	0.00	0.00	0.00
2,400.00	5.60	290.27	2,394.22	42.58	-115.28	-114.45	0.00	0.00	0.00
2,500.00	5.60	290.27	2,493.74	45.96	-124.43	-123.53	0.00	0.00	0.00
2,600.00	5.60	290.27	2,593.26	49.34	-133.58	-132.61	0.00	0.00	0.00
2,700.00	5.60	290.27	2,692.79	52.71	-142.73	-141.69	0.00	0.00	0.00
2,800.00	5.60	290.27	2,792.31	56.09	-151.88	-150.78	0.00	0.00	0.00
2,900.00	5.60	290.27	2,891.83	59.47	-161.02	-159.86	0.00	0.00	0.00
3,000.00	5.60	290.27	2,991.36	62.85	-170.17	-168.94	0.00	0.00	0.00
3,100.00	5.60	290.27	3,090.88	66.23	-179.32	-178.02	0.00	0.00	0.00
3,200.00	5.60	290.27	3,190.40	69.61	-188.47	-187.10	0.00	0.00	0.00
3,300.00	5.60	290.27	3,289.93	72.99	-197.62	-196.18	0.00	0.00	0.00
3,400.00	5.60	290.27	3,389.45	76.36	-206.76	-205.27	0.00	0.00	0.00
3,500.00	5.60	290.27	3,488.97	79.74	-215.91	-214.35	0.00	0.00	0.00
3,600.00	5.60	290.27	3,588.50	83.12	-225.06	-223.43	0.00	0.00	0.00
3,700.00	5.60	290.27	3,688.02	86.50	-234.21	-232.51	0.00	0.00	0.00
3,800.00	5.60	290.27	3,787.54	89.88	-243.36	-241.59	0.00	0.00	0.00
3,900.00	5.60	290.27	3,887.07	93.26	-252.50	-250.68	0.00	0.00	0.00
3,923.04	5.60	290.27	3,910.00	94.04	-254.61	-252.77	0.00	0.00	0.00
Parkman									
4,000.00	5.60	290.27	3,986.59	96.64	-261.65	-259.76	0.00	0.00	0.00
4,100.00	5.60	290.27	4,086.11	100.02	-270.80	-268.84	0.00	0.00	0.00
4,200.00	5.60	290.27	4,185.64	103.39	-279.95	-277.92	0.00	0.00	0.00
4,300.00	5.60	290.27	4,285.16	106.77	-289.10	-287.00	0.00	0.00	0.00
4,400.00	5.60	290.27	4,384.68	110.15	-298.25	-296.08	0.00	0.00	0.00
4,500.00	5.60	290.27	4,484.21	113.53	-307.39	-305.17	0.00	0.00	0.00
4,600.00	5.60	290.27	4,583.73	116.91	-316.54	-314.25	0.00	0.00	0.00
4,659.55	5.60	290.27	4,643.00	118.92	-321.99	-319.66	0.00	0.00	0.00
Sussex									



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Thornton 6
<b>Company:</b>	Extraction Oil & Gas	<b>TVD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Project:</b>	Weld Co., Co	<b>MD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Site:</b>	Sec.08-T07N-R66W	<b>North Reference:</b>	Grid
<b>Well:</b>	Thornton 6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,700.00	5.60	290.27	4,683.25	120.29	-325.69	-323.33	0.00	0.00	0.00
4,800.00	5.60	290.27	4,782.78	123.67	-334.84	-332.41	0.00	0.00	0.00
4,900.00	5.60	290.27	4,882.30	127.04	-343.99	-341.49	0.00	0.00	0.00
5,000.00	5.60	290.27	4,981.82	130.42	-353.13	-350.57	0.00	0.00	0.00
5,083.58	5.60	290.27	5,065.00	133.25	-360.78	-358.17	0.00	0.00	0.00
Shannon									
5,100.00	5.60	290.27	5,081.35	133.80	-362.28	-359.66	0.00	0.00	0.00
5,200.00	5.60	290.27	5,180.87	137.18	-371.43	-368.74	0.00	0.00	0.00
5,300.00	5.60	290.27	5,280.39	140.56	-380.58	-377.82	0.00	0.00	0.00
5,400.00	5.60	290.27	5,379.92	143.94	-389.73	-386.90	0.00	0.00	0.00
5,500.00	5.60	290.27	5,479.44	147.32	-398.87	-395.98	0.00	0.00	0.00
5,600.00	5.60	290.27	5,578.96	150.70	-408.02	-405.07	0.00	0.00	0.00
5,700.00	5.60	290.27	5,678.49	154.07	-417.17	-414.15	0.00	0.00	0.00
5,800.00	5.60	290.27	5,778.01	157.45	-426.32	-423.23	0.00	0.00	0.00
5,900.00	5.60	290.27	5,877.53	160.83	-435.47	-432.31	0.00	0.00	0.00
6,000.00	5.60	290.27	5,977.06	164.21	-444.61	-441.39	0.00	0.00	0.00
6,100.00	5.60	290.27	6,076.58	167.59	-453.76	-450.47	0.00	0.00	0.00
6,200.00	5.60	290.27	6,176.10	170.97	-462.91	-459.56	0.00	0.00	0.00
6,300.00	5.60	290.27	6,275.63	174.35	-472.06	-468.64	0.00	0.00	0.00
6,400.00	5.60	290.27	6,375.15	177.72	-481.21	-477.72	0.00	0.00	0.00
6,500.00	5.60	290.27	6,474.67	181.10	-490.35	-486.80	0.00	0.00	0.00
6,529.47	5.60	290.27	6,504.00	182.10	-493.05	-489.48	0.00	0.00	0.00
Begin Drop									
6,600.00	4.19	290.27	6,574.27	184.18	-498.69	-495.08	2.00	-2.00	0.00
6,700.00	2.19	290.27	6,674.11	186.11	-503.90	-500.25	2.00	-2.00	0.00
6,800.00	0.19	290.27	6,774.09	186.82	-505.85	-502.18	2.00	-2.00	0.00
6,809.29	0.00	0.00	6,783.38	186.83	-505.86	-502.19	2.00	-2.00	750.58
Vertical Point									
6,900.00	0.00	0.00	6,874.09	186.83	-505.86	-502.19	0.00	0.00	0.00
6,909.29	0.00	0.00	6,883.38	186.83	-505.86	-502.19	0.00	0.00	0.00
KOP, Build 9°/100' DLS									
7,000.00	8.16	90.00	6,973.78	186.83	-499.41	-495.74	9.00	9.00	0.00
7,100.00	17.16	90.00	7,071.25	186.83	-477.51	-473.85	9.00	9.00	0.00
7,200.00	26.16	90.00	7,164.09	186.83	-440.63	-436.98	9.00	9.00	0.00
7,229.21	28.79	90.00	7,190.00	186.83	-427.16	-423.50	9.00	9.00	0.00
Niobrara									
7,300.00	35.16	90.00	7,250.02	186.83	-389.68	-386.04	9.00	9.00	0.00
7,400.00	44.16	90.00	7,326.92	186.83	-325.92	-322.29	9.00	9.00	0.00
7,500.00	53.16	90.00	7,392.90	186.83	-250.91	-247.29	9.00	9.00	0.00
7,600.00	62.16	90.00	7,446.33	186.83	-166.51	-162.90	9.00	9.00	0.00
7,682.42	69.58	90.00	7,480.00	186.83	-91.34	-87.75	9.00	9.00	0.00
Fort Hays									
7,700.00	71.16	90.00	7,485.91	186.83	-74.78	-71.20	9.00	9.00	0.00
7,800.00	80.16	90.00	7,510.64	186.83	22.00	25.57	9.00	9.00	0.00
7,900.00	89.16	90.00	7,519.93	186.83	121.47	125.02	9.00	9.00	0.00
7,909.29	90.00	90.00	7,520.00	186.83	130.76	134.31	9.00	9.00	0.00
LP, Hold to TD - Codell - 7" Csg									
8,000.00	90.00	90.00	7,520.00	186.83	221.47	225.00	0.00	0.00	0.00
8,100.00	90.00	90.00	7,520.00	186.83	321.47	324.98	0.00	0.00	0.00
8,200.00	90.00	90.00	7,520.00	186.83	421.47	424.96	0.00	0.00	0.00
8,300.00	90.00	90.00	7,520.00	186.83	521.47	524.95	0.00	0.00	0.00
8,400.00	90.00	90.00	7,520.00	186.83	621.47	624.93	0.00	0.00	0.00
8,500.00	90.00	90.00	7,520.00	186.83	721.47	724.91	0.00	0.00	0.00



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Thornton 6
<b>Company:</b>	Extraction Oil & Gas	<b>TVD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Project:</b>	Weld Co., Co	<b>MD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Site:</b>	Sec.08-T07N-R66W	<b>North Reference:</b>	Grid
<b>Well:</b>	Thornton 6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Rev 0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,600.00	90.00	90.00	7,520.00	186.83	821.47	824.89	0.00	0.00	0.00	
8,700.00	90.00	90.00	7,520.00	186.83	921.47	924.87	0.00	0.00	0.00	
8,800.00	90.00	90.00	7,520.00	186.83	1,021.47	1,024.85	0.00	0.00	0.00	
8,900.00	90.00	90.00	7,520.00	186.83	1,121.47	1,124.84	0.00	0.00	0.00	
9,000.00	90.00	90.00	7,520.00	186.83	1,221.47	1,224.82	0.00	0.00	0.00	
9,100.00	90.00	90.00	7,520.00	186.83	1,321.47	1,324.80	0.00	0.00	0.00	
9,200.00	90.00	90.00	7,520.00	186.83	1,421.47	1,424.78	0.00	0.00	0.00	
9,300.00	90.00	90.00	7,520.00	186.83	1,521.47	1,524.76	0.00	0.00	0.00	
9,400.00	90.00	90.00	7,520.00	186.83	1,621.47	1,624.74	0.00	0.00	0.00	
9,500.00	90.00	90.00	7,520.00	186.83	1,721.47	1,724.73	0.00	0.00	0.00	
9,600.00	90.00	90.00	7,520.00	186.83	1,821.47	1,824.71	0.00	0.00	0.00	
9,700.00	90.00	90.00	7,520.00	186.83	1,921.47	1,924.69	0.00	0.00	0.00	
9,800.00	90.00	90.00	7,520.00	186.83	2,021.47	2,024.67	0.00	0.00	0.00	
9,900.00	90.00	90.00	7,520.00	186.83	2,121.47	2,124.65	0.00	0.00	0.00	
10,000.00	90.00	90.00	7,520.00	186.83	2,221.47	2,224.63	0.00	0.00	0.00	
10,100.00	90.00	90.00	7,520.00	186.83	2,321.47	2,324.62	0.00	0.00	0.00	
10,200.00	90.00	90.00	7,520.00	186.83	2,421.47	2,424.60	0.00	0.00	0.00	
10,300.00	90.00	90.00	7,520.00	186.83	2,521.47	2,524.58	0.00	0.00	0.00	
10,400.00	90.00	90.00	7,520.00	186.83	2,621.47	2,624.56	0.00	0.00	0.00	
10,500.00	90.00	90.00	7,520.00	186.83	2,721.47	2,724.54	0.00	0.00	0.00	
10,600.00	90.00	90.00	7,520.00	186.83	2,821.47	2,824.52	0.00	0.00	0.00	
10,700.00	90.00	90.00	7,520.00	186.83	2,921.47	2,924.51	0.00	0.00	0.00	
10,800.00	90.00	90.00	7,520.00	186.83	3,021.47	3,024.49	0.00	0.00	0.00	
10,900.00	90.00	90.00	7,520.00	186.83	3,121.47	3,124.47	0.00	0.00	0.00	
11,000.00	90.00	90.00	7,520.00	186.83	3,221.47	3,224.45	0.00	0.00	0.00	
11,100.00	90.00	90.00	7,520.00	186.83	3,321.47	3,324.43	0.00	0.00	0.00	
11,200.00	90.00	90.00	7,520.00	186.83	3,421.47	3,424.42	0.00	0.00	0.00	
11,300.00	90.00	90.00	7,520.00	186.83	3,521.47	3,524.40	0.00	0.00	0.00	
11,400.00	90.00	90.00	7,520.00	186.83	3,621.47	3,624.38	0.00	0.00	0.00	
11,500.00	90.00	90.00	7,520.00	186.83	3,721.47	3,724.36	0.00	0.00	0.00	
11,600.00	90.00	90.00	7,520.00	186.83	3,821.47	3,824.34	0.00	0.00	0.00	
11,700.00	90.00	90.00	7,520.00	186.83	3,921.47	3,924.32	0.00	0.00	0.00	
11,800.00	90.00	90.00	7,520.00	186.83	4,021.47	4,024.31	0.00	0.00	0.00	
11,900.00	90.00	90.00	7,520.00	186.83	4,121.47	4,124.29	0.00	0.00	0.00	
12,000.00	90.00	90.00	7,520.00	186.83	4,221.47	4,224.27	0.00	0.00	0.00	
12,100.00	90.00	90.00	7,520.00	186.83	4,321.47	4,324.25	0.00	0.00	0.00	
12,200.00	90.00	90.00	7,520.00	186.83	4,421.47	4,424.23	0.00	0.00	0.00	
12,300.00	90.00	90.00	7,520.00	186.83	4,521.47	4,524.21	0.00	0.00	0.00	
12,400.00	90.00	90.00	7,520.00	186.83	4,621.47	4,624.20	0.00	0.00	0.00	
12,500.00	90.00	90.00	7,520.00	186.83	4,721.47	4,724.18	0.00	0.00	0.00	
12,600.00	90.00	90.00	7,520.00	186.83	4,821.47	4,824.16	0.00	0.00	0.00	
12,700.00	90.00	90.00	7,520.00	186.83	4,921.47	4,924.14	0.00	0.00	0.00	
12,800.00	90.00	90.00	7,520.00	186.83	5,021.47	5,024.12	0.00	0.00	0.00	
12,900.00	90.00	90.00	7,520.00	186.83	5,121.47	5,124.10	0.00	0.00	0.00	
13,000.00	90.00	90.00	7,520.00	186.83	5,221.47	5,224.09	0.00	0.00	0.00	
13,100.00	90.00	90.00	7,520.00	186.83	5,321.47	5,324.07	0.00	0.00	0.00	
13,200.00	90.00	90.00	7,520.00	186.83	5,421.47	5,424.05	0.00	0.00	0.00	
13,300.00	90.00	90.00	7,520.00	186.83	5,521.47	5,524.03	0.00	0.00	0.00	
13,400.00	90.00	90.00	7,520.00	186.83	5,621.47	5,624.01	0.00	0.00	0.00	
13,500.00	90.00	90.00	7,520.00	186.83	5,721.47	5,723.99	0.00	0.00	0.00	
13,600.00	90.00	90.00	7,520.00	186.83	5,821.47	5,823.98	0.00	0.00	0.00	
13,700.00	90.00	90.00	7,520.00	186.83	5,921.47	5,923.96	0.00	0.00	0.00	
13,800.00	90.00	90.00	7,520.00	186.83	6,021.47	6,023.94	0.00	0.00	0.00	
13,900.00	90.00	90.00	7,520.00	186.83	6,121.47	6,123.92	0.00	0.00	0.00	



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Thornton 6
<b>Company:</b>	Extraction Oil & Gas	<b>TVD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Project:</b>	Weld Co., Co	<b>MD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Site:</b>	Sec.08-T07N-R66W	<b>North Reference:</b>	Grid
<b>Well:</b>	Thornton 6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Rev 0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,000.00	90.00	90.00	7,520.00	186.83	6,221.47	6,223.90	0.00	0.00	0.00
14,100.00	90.00	90.00	7,520.00	186.83	6,321.47	6,323.88	0.00	0.00	0.00
14,200.00	90.00	90.00	7,520.00	186.83	6,421.47	6,423.87	0.00	0.00	0.00
14,300.00	90.00	90.00	7,520.00	186.83	6,521.47	6,523.85	0.00	0.00	0.00
14,400.00	90.00	90.00	7,520.00	186.83	6,621.47	6,623.83	0.00	0.00	0.00
14,500.00	90.00	90.00	7,520.00	186.83	6,721.47	6,723.81	0.00	0.00	0.00
14,600.00	90.00	90.00	7,520.00	186.83	6,821.47	6,823.79	0.00	0.00	0.00
14,700.00	90.00	90.00	7,520.00	186.83	6,921.47	6,923.78	0.00	0.00	0.00
14,800.00	90.00	90.00	7,520.00	186.83	7,021.47	7,023.76	0.00	0.00	0.00
14,900.00	90.00	90.00	7,520.00	186.83	7,121.47	7,123.74	0.00	0.00	0.00
15,000.00	90.00	90.00	7,520.00	186.83	7,221.47	7,223.72	0.00	0.00	0.00
15,100.00	90.00	90.00	7,520.00	186.83	7,321.47	7,323.70	0.00	0.00	0.00
15,200.00	90.00	90.00	7,520.00	186.83	7,421.47	7,423.68	0.00	0.00	0.00
15,300.00	90.00	90.00	7,520.00	186.83	7,521.47	7,523.67	0.00	0.00	0.00
15,400.00	90.00	90.00	7,520.00	186.83	7,621.47	7,623.65	0.00	0.00	0.00
15,500.00	90.00	90.00	7,520.00	186.83	7,721.47	7,723.63	0.00	0.00	0.00
15,600.00	90.00	90.00	7,520.00	186.83	7,821.47	7,823.61	0.00	0.00	0.00
15,700.00	90.00	90.00	7,520.00	186.83	7,921.47	7,923.59	0.00	0.00	0.00
15,800.00	90.00	90.00	7,520.00	186.83	8,021.47	8,023.57	0.00	0.00	0.00
15,900.00	90.00	90.00	7,520.00	186.83	8,121.47	8,123.56	0.00	0.00	0.00
16,000.00	90.00	90.00	7,520.00	186.83	8,221.47	8,223.54	0.00	0.00	0.00
16,100.00	90.00	90.00	7,520.00	186.83	8,321.47	8,323.52	0.00	0.00	0.00
16,200.00	90.00	90.00	7,520.00	186.83	8,421.47	8,423.50	0.00	0.00	0.00
16,300.00	90.00	90.00	7,520.00	186.83	8,521.47	8,523.48	0.00	0.00	0.00
16,400.00	90.00	90.00	7,520.00	186.83	8,621.47	8,623.46	0.00	0.00	0.00
16,500.00	90.00	90.00	7,520.00	186.83	8,721.47	8,723.45	0.00	0.00	0.00
16,600.00	90.00	90.00	7,520.00	186.83	8,821.47	8,823.43	0.00	0.00	0.00
16,700.00	90.00	90.00	7,520.00	186.83	8,921.47	8,923.41	0.00	0.00	0.00
16,800.00	90.00	90.00	7,520.00	186.83	9,021.47	9,023.39	0.00	0.00	0.00
16,900.00	90.00	90.00	7,520.00	186.83	9,121.47	9,123.37	0.00	0.00	0.00
17,000.00	90.00	90.00	7,520.00	186.83	9,221.47	9,223.35	0.00	0.00	0.00
17,100.00	90.00	90.00	7,520.00	186.83	9,321.47	9,323.34	0.00	0.00	0.00
17,200.00	90.00	90.00	7,520.00	186.83	9,421.47	9,423.32	0.00	0.00	0.00
17,300.00	90.00	90.00	7,520.00	186.83	9,521.47	9,523.30	0.00	0.00	0.00
17,400.00	90.00	90.00	7,520.00	186.83	9,621.47	9,623.28	0.00	0.00	0.00
17,500.00	90.00	90.00	7,520.00	186.83	9,721.47	9,723.26	0.00	0.00	0.00
17,547.64	90.00	90.00	7,520.00	186.86	9,769.11	9,770.89	0.00	0.00	0.00
PBHL/TD									



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Thornton 6
<b>Company:</b>	Extraction Oil & Gas	<b>TVD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Project:</b>	Weld Co., Co	<b>MD Reference:</b>	KB @ 5051.00usft (Xtreme 7 - 16')
<b>Site:</b>	Sec.08-T07N-R66W	<b>North Reference:</b>	Grid
<b>Well:</b>	Thornton 6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	Rev 0		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
KOP 6	0.00	0.00	6,783.38	186.83	-505.86	1,457,177.71	3,191,035.47	40° 35' 10.743 N	104° 48' 43.862 W
- plan hits target center									
- Point									
PBHL Thornton 6	0.00	0.00	7,520.00	186.86	9,769.11	1,457,177.73	3,201,310.43	40° 35' 9.935 N	104° 46' 30.688 W
- plan hits target center									
- Point									
LP 6	0.00	0.00	7,520.00	186.83	130.76	1,457,177.71	3,191,672.09	40° 35' 10.694 N	104° 48' 35.611 W
- plan hits target center									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
7,909.29	7,520.00	7" Csg	7	7-1/2

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,923.04	3,910.00	Parkman		0.00	
4,659.55	4,643.00	Sussex		0.00	
5,083.58	5,065.00	Shannon		0.00	
7,229.21	7,190.00	Niobrara		0.00	
7,682.42	7,480.00	Fort Hays		0.00	
7,909.29	7,520.00	Codell		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,000.00	1,000.00	0.00	0.00	Begin Nudge
1,279.82	1,279.38	4.73	-12.81	Hold Tangent
6,529.47	6,504.00	182.10	-493.05	Begin Drop
6,809.29	6,783.38	186.83	-505.86	Vertical Point
6,909.29	6,883.38	186.83	-505.86	KOP, Build 9"/100' DLS
7,909.29	7,520.00	186.83	130.76	LP, Hold to TD
17,547.64	7,520.00	186.86	9,769.11	PBHL/TD