

# **EXTRACTION OIL & GAS**

**WELD COUNTY**

**Sec 20-T7N-R67W**

**VIC 20W-20-4C**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**22 May, 2018**



WELL DETAILS: VIC 20W-20-4C

+N/-S	+E/-W	Northing	Easting	5012.00	Latitude	Longitude	Slot
0.00	0.00	1447983.48	3164264.64	40° 33'	41.800 N	104° 54'	31.640 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	0.00	
3	1759.07	9.18	28.96	1757.10	32.11	17.77	2.00	28.96	-16.32	
4	6143.83	9.18	28.96	6085.70	644.24	356.58	0.00	0.00	-327.40	
5	6602.90	0.00	0.00	6542.80	676.35	374.35	2.00	180.00	-343.72	
6	6632.90	0.00	0.00	6572.80	676.35	374.35	0.00	0.00	-343.72	
7	7533.29	90.00	268.49	7146.00	661.23	-198.65	10.00	268.49	228.04	
8	16700.26	90.00	268.49	7146.00	419.28	-9362.43	0.00	0.00	9371.82	

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	0.00	Start Build 2.00
1759.07	9.18	28.96	1757.10	32.11	17.77	-16.32	36.70	Start 4384.77 hold at 1759.07 MD
6143.83	9.18	28.96	6085.70	644.24	356.58	-327.40	736.33	Start Drop -2.00
6602.90	0.00	0.00	6542.80	676.35	374.35	-343.72	773.04	Start 30.00 hold at 6602.90 MD
6632.90	0.00	0.00	6572.80	676.35	374.35	-343.72	773.04	Start DLS 10.00 TFO 268.49
7533.29	90.00	268.49	7146.00	661.23	-198.65	228.04	1346.24	Start 9166.97 hold at 7533.29 MD
16700.26	90.00	268.49	7146.00	419.28	-9362.43	9371.82	10513.21	TD at 16700.26

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	40° 33'	Latitude	Longitude	Shape
VIC 20W-20-4C - LP	7146.00	661.23	-198.65	1448643.37	3164061.58	40° 33'	48.334 N	104° 54'	34.214 W
- plan hits target center									Point
VIC 20W-20-4C - PBHL	7146.00	419.28	-9362.43	1448340.34	3154899.62	40° 33'	45.925 N	104° 56'	32.950 W
- plan hits target center									Point

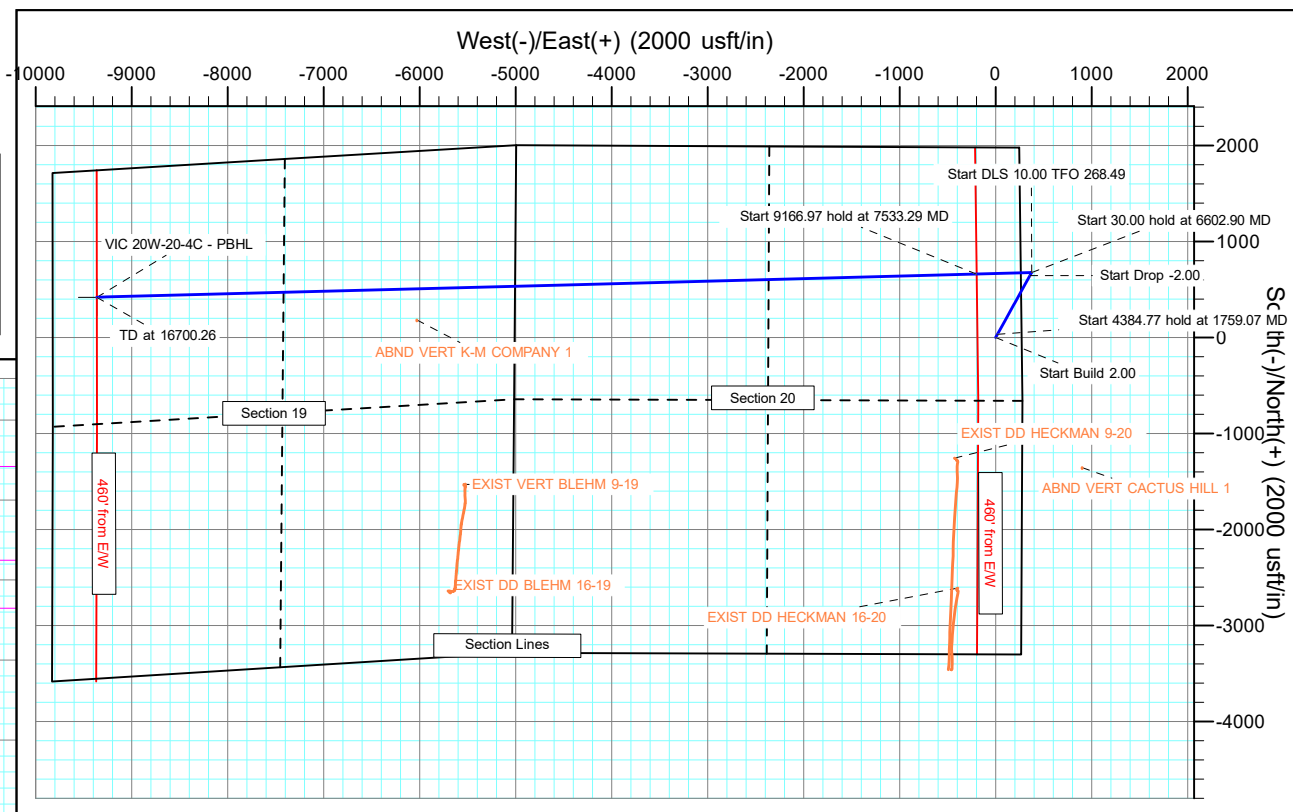
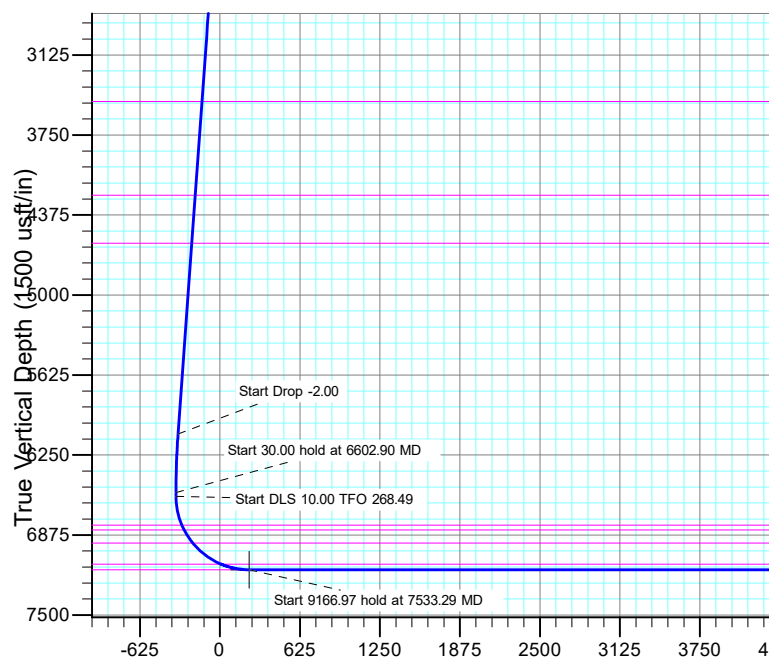
FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
3488.00	3512.43	PARKMAN
4220.00	4253.93	SUSSEX
4594.00	4632.78	SHANNON
6798.00	6864.34	SHARON SPRINGS
6836.00	6906.36	NIOBRARA
6938.00	7028.85	NIO B
7103.00	7309.84	FORT HAYS
7146.00	7533.29	CODELL

PROJECT DETAILS: WELD COUNTY

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
System Datum: Mean Sea Level

SHL:  
1980' FNL, 270' FEL  
Sec 20-T7N-R67W  
LP:  
1320' FNL, 460' FEL  
Sec 20-T7N-R67W  
BHL:  
1320' FNL, 460' FWL  
Sec 19-T7N-R67W



TD at 16700.26 VIC 20W-20-4C - PBHL

Vertical Section at 272.56° (1500 usft/in)

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well VIC 20W-20-4C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5037.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5037.00usft
<b>Site:</b>	Sec 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC 20W-20-4C	<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 20-T7N-R67W				
Site Position:		Northing:	1,449,964.02 usft	Latitude:	40° 34' 1.355 N
From:	Lat/Long	Easting:	3,164,495.92 usft	Longitude:	104° 54' 28.472 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.38 °

Well	VIC 20W-20-4C					
Well Position	+N/-S	-1,978.94 usft	Northing:	1,447,983.49 usft	Latitude:	40° 33' 41.800 N
	+E/-W	-244.50 usft	Easting:	3,164,264.64 usft	Longitude:	104° 54' 31.640 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,012.00 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	6/29/2017	8.30	66.96	52,455.52574530

<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	272.56

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/22/2018		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	16,700.21	PROPOSAL 1 (ORIGINAL WELL	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	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,759.07	9.18	28.96	1,757.10	32.11	17.77	2.00	2.00	0.00	28.96	
6,143.83	9.18	28.96	6,085.70	644.24	356.58	0.00	0.00	0.00	0.00	
6,602.90	0.00	0.00	6,542.80	676.35	374.35	2.00	-2.00	0.00	180.00	
6,632.90	0.00	0.00	6,572.80	676.35	374.35	0.00	0.00	0.00	0.00	
7,533.29	90.00	268.49	7,146.00	661.23	-198.65	10.00	10.00	-10.16	268.49	VIC 20W-20-4C - LP
16,700.26	90.00	268.49	7,146.00	419.28	-9,362.43	0.00	0.00	0.00	0.00	VIC 20W-20-4C - PBH

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well VIC 20W-20-4C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5037.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5037.00usft
<b>Site:</b>	Sec 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC 20W-20-4C	<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
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
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,400.00	2.00	28.96	1,399.98	1.53	0.85	-0.78	2.00	2.00	0.00
1,500.00	4.00	28.96	1,499.84	6.11	3.38	-3.10	2.00	2.00	0.00
1,600.00	6.00	28.96	1,599.45	13.73	7.60	-6.98	2.00	2.00	0.00
1,700.00	8.00	28.96	1,698.70	24.39	13.50	-12.40	2.00	2.00	0.00
1,759.07	9.18	28.96	1,757.10	32.11	17.77	-16.32	2.00	2.00	0.00
Start 4384.77 hold at 1759.07 MD									
1,800.00	9.18	28.96	1,797.51	37.83	20.94	-19.22	0.00	0.00	0.00
1,900.00	9.18	28.96	1,896.23	51.79	28.66	-26.32	0.00	0.00	0.00
2,000.00	9.18	28.96	1,994.95	65.75	36.39	-33.41	0.00	0.00	0.00
2,100.00	9.18	28.96	2,093.67	79.71	44.12	-40.51	0.00	0.00	0.00
2,200.00	9.18	28.96	2,192.39	93.67	51.84	-47.60	0.00	0.00	0.00
2,300.00	9.18	28.96	2,291.11	107.63	59.57	-54.70	0.00	0.00	0.00
2,400.00	9.18	28.96	2,389.83	121.59	67.30	-61.79	0.00	0.00	0.00
2,500.00	9.18	28.96	2,488.55	135.55	75.02	-68.88	0.00	0.00	0.00
2,600.00	9.18	28.96	2,587.26	149.51	82.75	-75.98	0.00	0.00	0.00
2,700.00	9.18	28.96	2,685.98	163.47	90.48	-83.07	0.00	0.00	0.00
2,800.00	9.18	28.96	2,784.70	177.43	98.20	-90.17	0.00	0.00	0.00
2,900.00	9.18	28.96	2,883.42	191.39	105.93	-97.26	0.00	0.00	0.00
3,000.00	9.18	28.96	2,982.14	205.35	113.66	-104.36	0.00	0.00	0.00
3,100.00	9.18	28.96	3,080.86	219.31	121.39	-111.45	0.00	0.00	0.00
3,200.00	9.18	28.96	3,179.58	233.27	129.11	-118.55	0.00	0.00	0.00
3,300.00	9.18	28.96	3,278.30	247.23	136.84	-125.64	0.00	0.00	0.00
3,400.00	9.18	28.96	3,377.01	261.19	144.57	-132.74	0.00	0.00	0.00
3,500.00	9.18	28.96	3,475.73	275.15	152.29	-139.83	0.00	0.00	0.00
3,512.43	9.18	28.96	3,488.00	276.89	153.25	-140.71	0.00	0.00	0.00
PARKMAN									
3,600.00	9.18	28.96	3,574.45	289.11	160.02	-146.92	0.00	0.00	0.00
3,700.00	9.18	28.96	3,673.17	303.07	167.75	-154.02	0.00	0.00	0.00
3,800.00	9.18	28.96	3,771.89	317.03	175.47	-161.11	0.00	0.00	0.00
3,900.00	9.18	28.96	3,870.61	330.99	183.20	-168.21	0.00	0.00	0.00
4,000.00	9.18	28.96	3,969.33	344.95	190.93	-175.30	0.00	0.00	0.00
4,100.00	9.18	28.96	4,068.05	358.91	198.65	-182.40	0.00	0.00	0.00
4,200.00	9.18	28.96	4,166.77	372.87	206.38	-189.49	0.00	0.00	0.00
4,253.93	9.18	28.96	4,220.00	380.40	210.55	-193.32	0.00	0.00	0.00
SUSSEX									
4,300.00	9.18	28.96	4,265.48	386.83	214.11	-196.59	0.00	0.00	0.00
4,400.00	9.18	28.96	4,364.20	400.79	221.83	-203.68	0.00	0.00	0.00
4,500.00	9.18	28.96	4,462.92	414.75	229.56	-210.77	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well VIC 20W-20-4C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5037.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5037.00usft
<b>Site:</b>	Sec 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC 20W-20-4C	<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)
4,600.00	9.18	28.96	4,561.64	428.71	237.29	-217.87	0.00	0.00	0.00
4,632.78	9.18	28.96	4,594.00	433.29	239.82	-220.19	0.00	0.00	0.00
<b>SHANNON</b>									
4,700.00	9.18	28.96	4,660.36	442.67	245.01	-224.96	0.00	0.00	0.00
4,800.00	9.18	28.96	4,759.08	456.63	252.74	-232.06	0.00	0.00	0.00
4,900.00	9.18	28.96	4,857.80	470.60	260.47	-239.15	0.00	0.00	0.00
5,000.00	9.18	28.96	4,956.52	484.56	268.19	-246.25	0.00	0.00	0.00
5,100.00	9.18	28.96	5,055.23	498.52	275.92	-253.34	0.00	0.00	0.00
5,200.00	9.18	28.96	5,153.95	512.48	283.65	-260.44	0.00	0.00	0.00
5,300.00	9.18	28.96	5,252.67	526.44	291.37	-267.53	0.00	0.00	0.00
5,400.00	9.18	28.96	5,351.39	540.40	299.10	-274.63	0.00	0.00	0.00
5,500.00	9.18	28.96	5,450.11	554.36	306.83	-281.72	0.00	0.00	0.00
5,600.00	9.18	28.96	5,548.83	568.32	314.56	-288.81	0.00	0.00	0.00
5,700.00	9.18	28.96	5,647.55	582.28	322.28	-295.91	0.00	0.00	0.00
5,800.00	9.18	28.96	5,746.27	596.24	330.01	-303.00	0.00	0.00	0.00
5,900.00	9.18	28.96	5,844.99	610.20	337.74	-310.10	0.00	0.00	0.00
6,000.00	9.18	28.96	5,943.70	624.16	345.46	-317.19	0.00	0.00	0.00
6,100.00	9.18	28.96	6,042.42	638.12	353.19	-324.29	0.00	0.00	0.00
6,143.83	9.18	28.96	6,085.70	644.24	356.58	-327.40	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
6,200.00	8.06	28.96	6,141.23	651.60	360.65	-331.14	2.00	-2.00	0.00
6,300.00	6.06	28.96	6,240.46	662.35	366.60	-336.60	2.00	-2.00	0.00
6,400.00	4.06	28.96	6,340.07	670.07	370.87	-340.52	2.00	-2.00	0.00
6,500.00	2.06	28.96	6,439.92	674.73	373.46	-342.89	2.00	-2.00	0.00
6,602.90	0.00	0.00	6,542.80	676.35	374.35	-343.72	2.00	-2.00	0.00
<b>Start 30.00 hold at 6602.90 MD</b>									
6,632.90	0.00	0.00	6,572.80	676.35	374.35	-343.72	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 268.49</b>									
6,650.00	1.71	268.49	6,589.90	676.34	374.10	-343.46	10.00	10.00	0.00
6,700.00	6.71	268.49	6,639.75	676.25	370.43	-339.80	10.00	10.00	0.00
6,750.00	11.70	268.49	6,689.09	676.04	362.43	-331.83	10.00	10.00	0.00
6,800.00	16.70	268.49	6,737.54	675.71	350.17	-319.59	10.00	10.00	0.00
6,850.00	21.70	268.49	6,784.75	675.28	333.74	-303.19	10.00	10.00	0.00
6,864.34	23.13	268.49	6,798.00	675.13	328.27	-297.74	10.00	10.00	0.00
<b>SHARON SPRINGS</b>									
6,900.00	26.70	268.49	6,830.34	674.74	313.26	-282.76	10.00	10.00	0.00
6,906.36	27.33	268.49	6,836.00	674.66	310.37	-279.88	10.00	10.00	0.00
<b>NIOBRARA</b>									
6,950.00	31.70	268.49	6,873.97	674.09	288.88	-258.44	10.00	10.00	0.00
7,000.00	36.69	268.49	6,915.31	673.35	260.80	-230.41	10.00	10.00	0.00
7,028.85	39.58	268.49	6,938.00	672.88	243.00	-212.65	10.00	10.00	0.00
<b>NIO B</b>									
7,050.00	41.69	268.49	6,954.05	672.52	229.22	-198.91	10.00	10.00	0.00
7,100.00	46.69	268.49	6,989.89	671.60	194.40	-164.15	10.00	10.00	0.00
7,150.00	51.69	268.49	7,022.56	670.60	156.58	-126.42	10.00	10.00	0.00
7,200.00	56.69	268.49	7,051.81	669.53	116.06	-85.99	10.00	10.00	0.00
7,250.00	61.68	268.49	7,077.41	668.40	73.14	-43.17	10.00	10.00	0.00
7,300.00	66.68	268.49	7,099.18	667.22	28.16	1.71	10.00	10.00	0.00
7,309.84	67.67	268.49	7,103.00	666.98	19.10	10.76	10.00	10.00	0.00
<b>FORT HAYS</b>									
7,350.00	71.68	268.49	7,116.95	665.98	-18.54	48.32	10.00	10.00	0.00
7,400.00	76.68	268.49	7,130.57	664.71	-66.61	96.28	10.00	10.00	0.00
7,450.00	81.68	268.49	7,139.96	663.42	-115.69	145.26	10.00	10.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well VIC 20W-20-4C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5037.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5037.00usft
<b>Site:</b>	Sec 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC 20W-20-4C	<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)	
7,500.00	86.67	268.49	7,145.03	662.11	-165.40	194.86	10.00	10.00	0.00	
7,533.29	90.00	268.49	7,146.00	661.23	-198.65	228.04	10.00	10.00	0.00	
Start 9166.97 hold at 7533.29 MD - CODELL										
7,600.00	90.00	268.49	7,146.00	659.47	-265.35	294.58	0.00	0.00	0.00	
7,700.00	90.00	268.49	7,146.00	656.83	-365.31	394.33	0.00	0.00	0.00	
7,800.00	90.00	268.49	7,146.00	654.19	-465.28	494.08	0.00	0.00	0.00	
7,900.00	90.00	268.49	7,146.00	651.56	-565.24	593.83	0.00	0.00	0.00	
8,000.00	90.00	268.49	7,146.00	648.92	-665.21	693.57	0.00	0.00	0.00	
8,100.00	90.00	268.49	7,146.00	646.28	-765.17	793.32	0.00	0.00	0.00	
8,200.00	90.00	268.49	7,146.00	643.64	-865.14	893.07	0.00	0.00	0.00	
8,300.00	90.00	268.49	7,145.99	641.01	-965.10	992.81	0.00	0.00	0.00	
8,400.00	90.00	268.49	7,145.99	638.37	-1,065.07	1,092.56	0.00	0.00	0.00	
8,500.00	90.00	268.49	7,145.99	635.73	-1,165.03	1,192.31	0.00	0.00	0.00	
8,600.00	90.00	268.49	7,145.99	633.09	-1,265.00	1,292.06	0.00	0.00	0.00	
8,700.00	90.00	268.49	7,145.99	630.45	-1,364.96	1,391.80	0.00	0.00	0.00	
8,800.00	90.00	268.49	7,145.99	627.82	-1,464.93	1,491.55	0.00	0.00	0.00	
8,900.00	90.00	268.49	7,145.99	625.18	-1,564.89	1,591.30	0.00	0.00	0.00	
9,000.00	90.00	268.49	7,145.99	622.54	-1,664.86	1,691.04	0.00	0.00	0.00	
9,100.00	90.00	268.49	7,145.99	619.90	-1,764.82	1,790.79	0.00	0.00	0.00	
9,200.00	90.00	268.49	7,145.99	617.26	-1,864.79	1,890.54	0.00	0.00	0.00	
9,300.00	90.00	268.49	7,145.99	614.63	-1,964.75	1,990.29	0.00	0.00	0.00	
9,400.00	90.00	268.49	7,145.99	611.99	-2,064.72	2,090.03	0.00	0.00	0.00	
9,500.00	90.00	268.49	7,145.99	609.35	-2,164.69	2,189.78	0.00	0.00	0.00	
9,600.00	90.00	268.49	7,145.98	606.71	-2,264.65	2,289.53	0.00	0.00	0.00	
9,700.00	90.00	268.49	7,145.98	604.08	-2,364.62	2,389.27	0.00	0.00	0.00	
9,800.00	90.00	268.49	7,145.98	601.44	-2,464.58	2,489.02	0.00	0.00	0.00	
9,900.00	90.00	268.49	7,145.98	598.80	-2,564.55	2,588.77	0.00	0.00	0.00	
10,000.00	90.00	268.49	7,145.98	596.16	-2,664.51	2,688.51	0.00	0.00	0.00	
10,100.00	90.00	268.49	7,145.98	593.52	-2,764.48	2,788.26	0.00	0.00	0.00	
10,200.00	90.00	268.49	7,145.98	590.89	-2,864.44	2,888.01	0.00	0.00	0.00	
10,300.00	90.00	268.49	7,145.98	588.25	-2,964.41	2,987.76	0.00	0.00	0.00	
10,400.00	90.00	268.49	7,145.98	585.61	-3,064.37	3,087.50	0.00	0.00	0.00	
10,500.00	90.00	268.49	7,145.98	582.97	-3,164.34	3,187.25	0.00	0.00	0.00	
10,600.00	90.00	268.49	7,145.98	580.34	-3,264.30	3,287.00	0.00	0.00	0.00	
10,700.00	90.00	268.49	7,145.98	577.70	-3,364.27	3,386.74	0.00	0.00	0.00	
10,800.00	90.00	268.49	7,145.98	575.06	-3,464.23	3,486.49	0.00	0.00	0.00	
10,900.00	90.00	268.49	7,145.97	572.42	-3,564.20	3,586.24	0.00	0.00	0.00	
11,000.00	90.00	268.49	7,145.97	569.78	-3,664.16	3,685.99	0.00	0.00	0.00	
11,100.00	90.00	268.49	7,145.97	567.15	-3,764.13	3,785.73	0.00	0.00	0.00	
11,200.00	90.00	268.49	7,145.97	564.51	-3,864.09	3,885.48	0.00	0.00	0.00	
11,300.00	90.00	268.49	7,145.97	561.87	-3,964.06	3,985.23	0.00	0.00	0.00	
11,400.00	90.00	268.49	7,145.97	559.23	-4,064.02	4,084.97	0.00	0.00	0.00	
11,500.00	90.00	268.49	7,145.97	556.59	-4,163.99	4,184.72	0.00	0.00	0.00	
11,600.00	90.00	268.49	7,145.97	553.96	-4,263.95	4,284.47	0.00	0.00	0.00	
11,700.00	90.00	268.49	7,145.97	551.32	-4,363.92	4,384.22	0.00	0.00	0.00	
11,800.00	90.00	268.49	7,145.97	548.68	-4,463.88	4,483.96	0.00	0.00	0.00	
11,900.00	90.00	268.49	7,145.97	546.04	-4,563.85	4,583.71	0.00	0.00	0.00	
12,000.00	90.00	268.49	7,145.97	543.41	-4,663.82	4,683.46	0.00	0.00	0.00	
12,100.00	90.00	268.49	7,145.97	540.77	-4,763.78	4,783.20	0.00	0.00	0.00	
12,200.00	90.00	268.49	7,145.97	538.13	-4,863.75	4,882.95	0.00	0.00	0.00	
12,300.00	90.00	268.49	7,145.96	535.49	-4,963.71	4,982.70	0.00	0.00	0.00	
12,400.00	90.00	268.49	7,145.96	532.85	-5,063.68	5,082.45	0.00	0.00	0.00	
12,500.00	90.00	268.49	7,145.96	530.22	-5,163.64	5,182.19	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well VIC 20W-20-4C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5037.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5037.00usft
<b>Site:</b>	Sec 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC 20W-20-4C	<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)
12,600.00	90.00	268.49	7,145.96	527.58	-5,263.61	5,281.94	0.00	0.00	0.00
12,700.00	90.00	268.49	7,145.96	524.94	-5,363.57	5,381.69	0.00	0.00	0.00
12,800.00	90.00	268.49	7,145.96	522.30	-5,463.54	5,481.43	0.00	0.00	0.00
12,900.00	90.00	268.49	7,145.96	519.67	-5,563.50	5,581.18	0.00	0.00	0.00
13,000.00	90.00	268.49	7,145.96	517.03	-5,663.47	5,680.93	0.00	0.00	0.00
13,100.00	90.00	268.49	7,145.96	514.39	-5,763.43	5,780.67	0.00	0.00	0.00
13,200.00	90.00	268.49	7,145.96	511.75	-5,863.40	5,880.42	0.00	0.00	0.00
13,300.00	90.00	268.49	7,145.96	509.11	-5,963.36	5,980.17	0.00	0.00	0.00
13,400.00	90.00	268.49	7,145.96	506.48	-6,063.33	6,079.92	0.00	0.00	0.00
13,500.00	90.00	268.49	7,145.96	503.84	-6,163.29	6,179.66	0.00	0.00	0.00
13,600.00	90.00	268.49	7,145.95	501.20	-6,263.26	6,279.41	0.00	0.00	0.00
13,700.00	90.00	268.49	7,145.95	498.56	-6,363.22	6,379.16	0.00	0.00	0.00
13,800.00	90.00	268.49	7,145.95	495.92	-6,463.19	6,478.90	0.00	0.00	0.00
13,900.00	90.00	268.49	7,145.95	493.29	-6,563.15	6,578.65	0.00	0.00	0.00
14,000.00	90.00	268.49	7,145.95	490.65	-6,663.12	6,678.40	0.00	0.00	0.00
14,100.00	90.00	268.49	7,145.95	488.01	-6,763.08	6,778.15	0.00	0.00	0.00
14,200.00	90.00	268.49	7,145.95	485.37	-6,863.05	6,877.89	0.00	0.00	0.00
14,300.00	90.00	268.49	7,145.95	482.74	-6,963.01	6,977.64	0.00	0.00	0.00
14,400.00	90.00	268.49	7,145.95	480.10	-7,062.98	7,077.39	0.00	0.00	0.00
14,500.00	90.00	268.49	7,145.95	477.46	-7,162.95	7,177.13	0.00	0.00	0.00
14,600.00	90.00	268.49	7,145.95	474.82	-7,262.91	7,276.88	0.00	0.00	0.00
14,700.00	90.00	268.49	7,145.95	472.18	-7,362.88	7,376.63	0.00	0.00	0.00
14,800.00	90.00	268.49	7,145.95	469.55	-7,462.84	7,476.38	0.00	0.00	0.00
14,900.00	90.00	268.49	7,145.94	466.91	-7,562.81	7,576.12	0.00	0.00	0.00
15,000.00	90.00	268.49	7,145.94	464.27	-7,662.77	7,675.87	0.00	0.00	0.00
15,100.00	90.00	268.49	7,145.94	461.63	-7,762.74	7,775.62	0.00	0.00	0.00
15,200.00	90.00	268.49	7,145.94	459.00	-7,862.70	7,875.36	0.00	0.00	0.00
15,300.00	90.00	268.49	7,145.94	456.36	-7,962.67	7,975.11	0.00	0.00	0.00
15,400.00	90.00	268.49	7,145.94	453.72	-8,062.63	8,074.86	0.00	0.00	0.00
15,500.00	90.00	268.49	7,145.94	451.08	-8,162.60	8,174.61	0.00	0.00	0.00
15,600.00	90.00	268.49	7,145.94	448.44	-8,262.56	8,274.35	0.00	0.00	0.00
15,700.00	90.00	268.49	7,145.94	445.81	-8,362.53	8,374.10	0.00	0.00	0.00
15,800.00	90.00	268.49	7,145.94	443.17	-8,462.49	8,473.85	0.00	0.00	0.00
15,900.00	90.00	268.49	7,145.94	440.53	-8,562.46	8,573.59	0.00	0.00	0.00
16,000.00	90.00	268.49	7,145.94	437.89	-8,662.42	8,673.34	0.00	0.00	0.00
16,100.00	90.00	268.49	7,145.94	435.25	-8,762.39	8,773.09	0.00	0.00	0.00
16,200.00	90.00	268.49	7,145.94	432.62	-8,862.35	8,872.83	0.00	0.00	0.00
16,300.00	90.00	268.49	7,145.93	429.98	-8,962.32	8,972.58	0.00	0.00	0.00
16,400.00	90.00	268.49	7,145.93	427.34	-9,062.28	9,072.33	0.00	0.00	0.00
16,500.00	90.00	268.49	7,145.93	424.70	-9,162.25	9,172.08	0.00	0.00	0.00
16,600.00	90.00	268.49	7,145.93	422.07	-9,262.21	9,271.82	0.00	0.00	0.00
16,700.26	90.00	268.49	7,146.00	419.28	-9,362.43	9,371.82	0.00	0.00	0.00
TD at 16700.26									

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well VIC 20W-20-4C
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 5037.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 25' @ 5037.00usft
<b>Site:</b>	Sec 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC 20W-20-4C	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

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)		
VIC 20W-20-4C - LP	0.00	0.00	7,146.00	661.23	-198.65	1,448,643.38	3,164,061.58	40° 33' 48.334 N	104° 54' 34.214 W
- plan hits target center									
- Point									
VIC 20W-20-4C - PBHL	0.00	0.00	7,146.00	419.28	-9,362.43	1,448,340.34	3,154,899.62	40° 33' 45.925 N	104° 56' 32.950 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,512.43	3,488.00	PARKMAN				
4,253.93	4,220.00	SUSSEX				
4,632.78	4,594.00	SHANNON				
6,864.34	6,798.00	SHARON SPRINGS				
6,906.36	6,836.00	NIOBRARA				
7,028.85	6,938.00	NIO B				
7,309.84	7,103.00	FORT HAYS				
7,533.29	7,146.00	CODELL				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment
1,300.00	1,300.00	0.00	0.00	Start Build 2.00
1,759.07	1,757.10	32.11	17.77	Start 4384.77 hold at 1759.07 MD
6,143.83	6,085.70	644.24	356.58	Start Drop -2.00
6,602.90	6,542.80	676.35	374.35	Start 30.00 hold at 6602.90 MD
6,632.90	6,572.80	676.35	374.35	Start DLS 10.00 TFO 268.49
7,533.29	7,146.00	661.23	-198.65	Start 9166.97 hold at 7533.29 MD
16,700.26	7,146.00	419.28	-9,362.43	TD at 16700.26