

EXTRACTION OIL & GAS

WELD COUNTY

Sec 20-T7N-R67W

VIC 20W-20-10C

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

22 May, 2018



Project: WELD COUNTY
Site: Sec 20-T7N-R67W
Well: VIC 20W-20-10C
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL 1



Azimuths to True North
Magnetic North: 8.27°

Magnetic Field
Strength: 52425.6nT
Dip Angle: 66.95°
Date: 10/2/2017
Model: IGRF2015

WELL DETAILS: VIC 20W-20-10C

5004.00							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	1447815.53	3164265.48	40° 33' 40.140 N	104° 54' 31.644 W		

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
3	1625.70	20.51	167.90	1603.93	-177.63	38.09	2.00	167.90	0.90	
4	5827.07	20.51	167.90	5538.87	-1617.22	346.79	0.00	0.00	8.23	
5	6852.77	0.00	0.00	6542.80	-1794.85	384.88	2.00	180.00	9.13	
6	6882.77	0.00	0.00	6572.80	-1794.85	384.88	0.00	0.00	9.13	
7	7783.16	90.00	268.46	7146.00	-1810.25	-188.12	10.00	268.46	572.09	VIC 20W-20-10C - L
8	16963.18	90.00	268.46	7146.00	-2056.93	-9364.83	0.00	0.00	9588.06	VIC 20W-20-10C - P

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	Start Build 2.00
1625.70	20.51	167.90	1603.93	-177.63	38.09	0.90	181.67	Start 4201.37 hold at 1625.70 MD
5827.07	20.51	167.90	5538.87	-1617.22	346.79	8.23	1653.99	Start Drop -2.00
6852.77	0.00	0.00	6542.80	-1794.85	384.88	9.13	1835.65	Start 30.00 hold at 6852.77 MD
6882.77	0.00	0.00	6572.80	-1794.85	384.88	9.13	1835.65	Start DLS 10.00 TFO 268.46
7783.16	90.00	268.46	7146.00	-1810.25	-188.12	572.09	2408.86	Start 9180.02 hold at 7783.16 MD
16963.18	90.00	268.46	7145.93	-2056.92	-9364.83	9588.06	11588.88	TD at 16963.18

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
VIC 20W-20-10C - LP	7146.00	-1810.25	-188.12	1446004.07	3164089.43	40° 33' 22.252 N	104° 54' 34.081 W	Point
- plan hits target center								
VIC 20W-20-10C - PBHL	7146.00	-2056.93	-9364.83	1445696.21	3154914.57	40° 33' 19.796 N	104° 56' 32.971 W	Point
- plan hits target center								

FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
3488.00	3637.34	PARKMAN
4220.00	4418.90	SUSSEX
4594.00	4818.22	SHANNON
6798.00	7114.21	SHARON SPRINGS
6836.00	7156.23	NIOBRARA
6938.00	7278.72	NIO B
7103.00	7559.72	FORT HAYS
7146.00	7783.16	CODELL

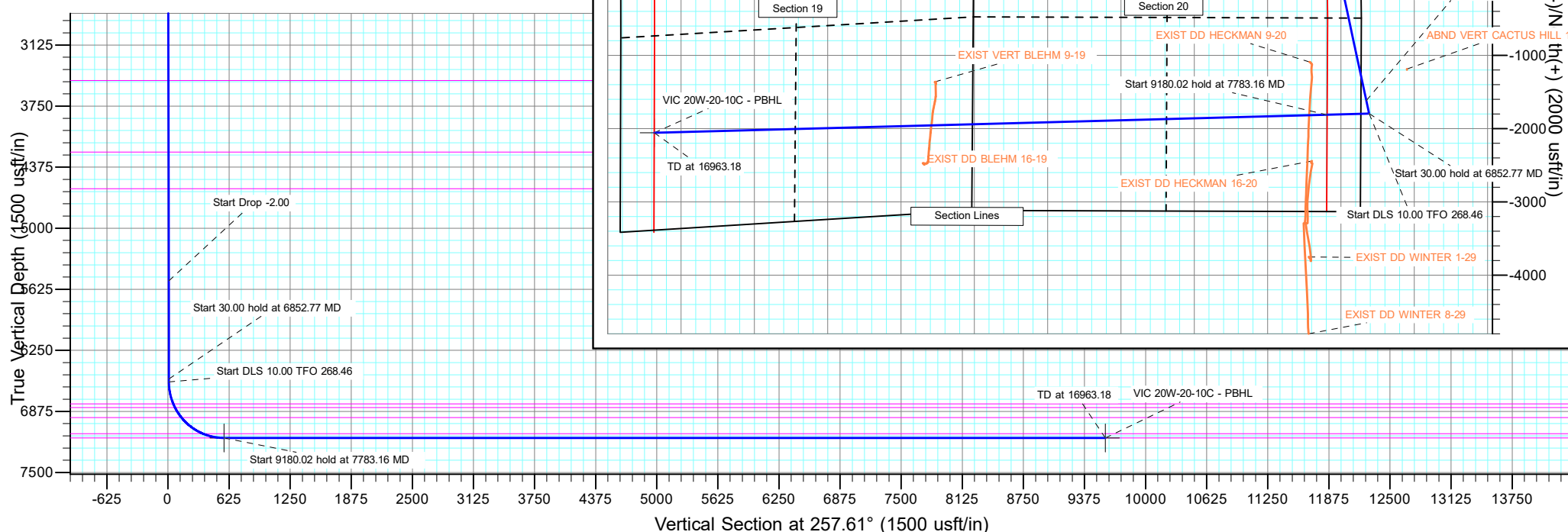
PROJECT DETAILS: WELD COUNTY

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

SHL:
2148' FNL, 272' FEL
Sec 20-T7N-R67W

LP:
1322' FSL, 460' FEL
Sec 20-T7N-R67W

BHL:
1327' FSL, 460' FWL
Sec 19-T7N-R67W



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well VIC 20W-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5029.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5029.00usft
Site:	Sec 20-T7N-R67W	North Reference:	True
Well:	VIC 20W-20-10C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Project	WELD COUNTY		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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-20-10C					
Well Position	+N/-S	-2,146.89 usft	Northing:	1,447,815.54 usft	Latitude:	40° 33' 40.140 N
	+E/-W	-244.78 usft	Easting:	3,164,265.48 usft	Longitude:	104° 54' 31.644 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	5,004.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/2/2017	8.27	66.95	52,425.62550705

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	257.61

Plan Survey Tool Program	Date	5/22/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,963.18	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	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	
1,625.70	20.51	167.90	1,603.93	-177.63	38.09	2.00	2.00	0.00	167.90	
5,827.07	20.51	167.90	5,538.87	-1,617.22	346.79	0.00	0.00	0.00	0.00	
6,852.77	0.00	0.00	6,542.80	-1,794.85	384.88	2.00	-2.00	0.00	180.00	
6,882.77	0.00	0.00	6,572.80	-1,794.85	384.88	0.00	0.00	0.00	0.00	
7,783.16	90.00	268.46	7,146.00	-1,810.25	-188.12	10.00	10.00	-10.17	268.46	VIC 20W-20-10C - LP
16,963.18	90.00	268.46	7,146.00	-2,056.93	-9,364.83	0.00	0.00	0.00	0.00	VIC 20W-20-10C - PE

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5029.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5029.00usft
Site:	Sec 20-T7N-R67W	North Reference:	True
Well:	VIC 20W-20-10C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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
Start Build 2.00									
700.00	2.00	167.90	699.98	-1.71	0.37	0.01	2.00	2.00	0.00
800.00	4.00	167.90	799.84	-6.82	1.46	0.03	2.00	2.00	0.00
900.00	6.00	167.90	899.45	-15.34	3.29	0.08	2.00	2.00	0.00
1,000.00	8.00	167.90	998.70	-27.26	5.85	0.14	2.00	2.00	0.00
1,100.00	10.00	167.90	1,097.47	-42.56	9.13	0.22	2.00	2.00	0.00
1,200.00	12.00	167.90	1,195.62	-61.21	13.13	0.31	2.00	2.00	0.00
1,300.00	14.00	167.90	1,293.06	-83.21	17.84	0.42	2.00	2.00	0.00
1,400.00	16.00	167.90	1,389.64	-108.51	23.27	0.55	2.00	2.00	0.00
1,500.00	18.00	167.90	1,485.27	-137.10	29.40	0.70	2.00	2.00	0.00
1,600.00	20.00	167.90	1,579.82	-168.93	36.22	0.86	2.00	2.00	0.00
1,625.70	20.51	167.90	1,603.93	-177.63	38.09	0.90	2.00	2.00	0.00
Start 4201.37 hold at 1625.70 MD									
1,700.00	20.51	167.90	1,673.51	-203.09	43.55	1.03	0.00	0.00	0.00
1,800.00	20.51	167.90	1,767.17	-237.35	50.90	1.21	0.00	0.00	0.00
1,900.00	20.51	167.90	1,860.83	-271.62	58.24	1.38	0.00	0.00	0.00
2,000.00	20.51	167.90	1,954.49	-305.88	65.59	1.56	0.00	0.00	0.00
2,100.00	20.51	167.90	2,048.15	-340.15	72.94	1.73	0.00	0.00	0.00
2,200.00	20.51	167.90	2,141.81	-374.41	80.29	1.90	0.00	0.00	0.00
2,300.00	20.51	167.90	2,235.47	-408.68	87.63	2.08	0.00	0.00	0.00
2,400.00	20.51	167.90	2,329.12	-442.94	94.98	2.25	0.00	0.00	0.00
2,500.00	20.51	167.90	2,422.78	-477.21	102.33	2.43	0.00	0.00	0.00
2,600.00	20.51	167.90	2,516.44	-511.47	109.68	2.60	0.00	0.00	0.00
2,700.00	20.51	167.90	2,610.10	-545.74	117.03	2.78	0.00	0.00	0.00
2,800.00	20.51	167.90	2,703.76	-580.00	124.37	2.95	0.00	0.00	0.00
2,900.00	20.51	167.90	2,797.42	-614.26	131.72	3.13	0.00	0.00	0.00
3,000.00	20.51	167.90	2,891.08	-648.53	139.07	3.30	0.00	0.00	0.00
3,100.00	20.51	167.90	2,984.73	-682.79	146.42	3.47	0.00	0.00	0.00
3,200.00	20.51	167.90	3,078.39	-717.06	153.76	3.65	0.00	0.00	0.00
3,300.00	20.51	167.90	3,172.05	-751.32	161.11	3.82	0.00	0.00	0.00
3,400.00	20.51	167.90	3,265.71	-785.59	168.46	4.00	0.00	0.00	0.00
3,500.00	20.51	167.90	3,359.37	-819.85	175.81	4.17	0.00	0.00	0.00
3,600.00	20.51	167.90	3,453.03	-854.12	183.15	4.35	0.00	0.00	0.00
3,637.34	20.51	167.90	3,488.00	-866.91	185.90	4.41	0.00	0.00	0.00
PARKMAN									
3,700.00	20.51	167.90	3,546.69	-888.38	190.50	4.52	0.00	0.00	0.00
3,800.00	20.51	167.90	3,640.34	-922.65	197.85	4.69	0.00	0.00	0.00
3,900.00	20.51	167.90	3,734.00	-956.91	205.20	4.87	0.00	0.00	0.00
4,000.00	20.51	167.90	3,827.66	-991.18	212.54	5.04	0.00	0.00	0.00
4,100.00	20.51	167.90	3,921.32	-1,025.44	219.89	5.22	0.00	0.00	0.00
4,200.00	20.51	167.90	4,014.98	-1,059.71	227.24	5.39	0.00	0.00	0.00
4,300.00	20.51	167.90	4,108.64	-1,093.97	234.59	5.57	0.00	0.00	0.00
4,400.00	20.51	167.90	4,202.30	-1,128.24	241.93	5.74	0.00	0.00	0.00
4,418.90	20.51	167.90	4,220.00	-1,134.71	243.32	5.77	0.00	0.00	0.00
SUSSEX									
4,500.00	20.51	167.90	4,295.96	-1,162.50	249.28	5.91	0.00	0.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5029.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5029.00usft
Site:	Sec 20-T7N-R67W	North Reference:	True
Well:	VIC 20W-20-10C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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	20.51	167.90	4,389.61	-1,196.77	256.63	6.09	0.00	0.00	0.00
4,700.00	20.51	167.90	4,483.27	-1,231.03	263.98	6.26	0.00	0.00	0.00
4,800.00	20.51	167.90	4,576.93	-1,265.30	271.32	6.44	0.00	0.00	0.00
4,818.22	20.51	167.90	4,594.00	-1,271.54	272.66	6.47	0.00	0.00	0.00
SHANNON									
4,900.00	20.51	167.90	4,670.59	-1,299.56	278.67	6.61	0.00	0.00	0.00
5,000.00	20.51	167.90	4,764.25	-1,333.83	286.02	6.79	0.00	0.00	0.00
5,100.00	20.51	167.90	4,857.91	-1,368.09	293.37	6.96	0.00	0.00	0.00
5,200.00	20.51	167.90	4,951.57	-1,402.36	300.72	7.13	0.00	0.00	0.00
5,300.00	20.51	167.90	5,045.22	-1,436.62	308.06	7.31	0.00	0.00	0.00
5,400.00	20.51	167.90	5,138.88	-1,470.89	315.41	7.48	0.00	0.00	0.00
5,500.00	20.51	167.90	5,232.54	-1,505.15	322.76	7.66	0.00	0.00	0.00
5,600.00	20.51	167.90	5,326.20	-1,539.42	330.11	7.83	0.00	0.00	0.00
5,700.00	20.51	167.90	5,419.86	-1,573.68	337.45	8.01	0.00	0.00	0.00
5,800.00	20.51	167.90	5,513.52	-1,607.94	344.80	8.18	0.00	0.00	0.00
5,827.07	20.51	167.90	5,538.87	-1,617.22	346.79	8.23	0.00	0.00	0.00
Start Drop -2.00									
5,900.00	19.06	167.90	5,607.49	-1,641.36	351.97	8.35	2.00	-2.00	0.00
6,000.00	17.06	167.90	5,702.56	-1,671.66	358.46	8.50	2.00	-2.00	0.00
6,100.00	15.06	167.90	5,798.66	-1,698.70	364.26	8.64	2.00	-2.00	0.00
6,200.00	13.06	167.90	5,895.66	-1,722.45	369.35	8.76	2.00	-2.00	0.00
6,300.00	11.06	167.90	5,993.45	-1,742.87	373.73	8.87	2.00	-2.00	0.00
6,400.00	9.06	167.90	6,091.91	-1,759.94	377.39	8.95	2.00	-2.00	0.00
6,500.00	7.06	167.90	6,190.92	-1,773.64	380.33	9.02	2.00	-2.00	0.00
6,600.00	5.06	167.90	6,290.35	-1,783.95	382.54	9.08	2.00	-2.00	0.00
6,700.00	3.06	167.90	6,390.10	-1,790.87	384.03	9.11	2.00	-2.00	0.00
6,800.00	1.06	167.90	6,490.03	-1,794.37	384.78	9.13	2.00	-2.00	0.00
6,852.77	0.00	0.00	6,542.80	-1,794.85	384.88	9.13	2.00	-2.00	-318.14
Start 30.00 hold at 6852.77 MD									
6,882.77	0.00	0.00	6,572.80	-1,794.85	384.88	9.13	0.00	0.00	0.00
Start DLS 10.00 TFO 268.46									
6,900.00	1.72	268.46	6,590.02	-1,794.86	384.62	9.39	10.00	10.00	0.00
6,950.00	6.72	268.46	6,639.87	-1,794.96	380.94	13.00	10.00	10.00	0.00
7,000.00	11.72	268.46	6,689.21	-1,795.17	372.94	20.86	10.00	10.00	0.00
7,050.00	16.72	268.46	6,737.66	-1,795.50	360.67	32.92	10.00	10.00	0.00
7,100.00	21.71	268.46	6,784.86	-1,795.94	344.22	49.08	10.00	10.00	0.00
7,114.21	23.13	268.46	6,798.00	-1,796.09	338.80	54.40	10.00	10.00	0.00
SHARON SPRINGS									
7,150.00	26.71	268.46	6,830.45	-1,796.49	323.73	69.21	10.00	10.00	0.00
7,156.23	27.33	268.46	6,836.00	-1,796.57	320.90	71.99	10.00	10.00	0.00
NIOBRARA									
7,200.00	31.71	268.46	6,874.08	-1,797.15	299.35	93.17	10.00	10.00	0.00
7,250.00	36.71	268.46	6,915.42	-1,797.90	271.26	120.76	10.00	10.00	0.00
7,278.72	39.58	268.46	6,938.00	-1,798.38	253.53	138.18	10.00	10.00	0.00
NIO B									
7,300.00	41.70	268.46	6,954.15	-1,798.75	239.67	151.80	10.00	10.00	0.00
7,350.00	46.70	268.46	6,989.98	-1,799.69	204.84	186.02	10.00	10.00	0.00
7,400.00	51.70	268.46	7,022.64	-1,800.71	167.01	223.18	10.00	10.00	0.00
7,450.00	56.70	268.46	7,051.88	-1,801.80	126.48	263.00	10.00	10.00	0.00
7,500.00	61.70	268.46	7,077.47	-1,802.95	83.57	305.17	10.00	10.00	0.00
7,550.00	66.69	268.46	7,099.23	-1,804.16	38.58	349.36	10.00	10.00	0.00
7,559.72	67.67	268.46	7,103.00	-1,804.40	29.63	358.16	10.00	10.00	0.00
FORT HAYS									

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well VIC 20W-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5029.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5029.00usft
Site:	Sec 20-T7N-R67W	North Reference:	True
Well:	VIC 20W-20-10C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
7,600.00	71.69	268.46	7,116.99	-1,805.41	-8.12	395.25	10.00	10.00	0.00
7,650.00	76.69	268.46	7,130.60	-1,806.71	-56.20	442.49	10.00	10.00	0.00
7,700.00	81.69	268.46	7,139.98	-1,808.03	-105.28	490.71	10.00	10.00	0.00
7,750.00	86.69	268.46	7,145.04	-1,809.36	-154.99	539.54	10.00	10.00	0.00
7,783.16	90.00	268.46	7,146.00	-1,810.25	-188.12	572.09	10.00	10.00	0.00
Start 9180.02 hold at 7783.16 MD - CODELL									
7,800.00	90.00	268.46	7,146.00	-1,810.70	-204.95	588.63	0.00	0.00	0.00
7,900.00	90.00	268.46	7,146.00	-1,813.39	-304.92	686.85	0.00	0.00	0.00
8,000.00	90.00	268.46	7,146.00	-1,816.08	-404.88	785.06	0.00	0.00	0.00
8,100.00	90.00	268.46	7,146.00	-1,818.77	-504.84	883.27	0.00	0.00	0.00
8,200.00	90.00	268.46	7,146.00	-1,821.45	-604.81	981.48	0.00	0.00	0.00
8,300.00	90.00	268.46	7,146.00	-1,824.14	-704.77	1,079.70	0.00	0.00	0.00
8,400.00	90.00	268.46	7,146.00	-1,826.83	-804.74	1,177.91	0.00	0.00	0.00
8,500.00	90.00	268.46	7,146.00	-1,829.51	-904.70	1,276.12	0.00	0.00	0.00
8,600.00	90.00	268.46	7,145.99	-1,832.20	-1,004.66	1,374.34	0.00	0.00	0.00
8,700.00	90.00	268.46	7,145.99	-1,834.89	-1,104.63	1,472.55	0.00	0.00	0.00
8,800.00	90.00	268.46	7,145.99	-1,837.58	-1,204.59	1,570.76	0.00	0.00	0.00
8,900.00	90.00	268.46	7,145.99	-1,840.26	-1,304.56	1,668.97	0.00	0.00	0.00
9,000.00	90.00	268.46	7,145.99	-1,842.95	-1,404.52	1,767.19	0.00	0.00	0.00
9,100.00	90.00	268.46	7,145.99	-1,845.64	-1,504.48	1,865.40	0.00	0.00	0.00
9,200.00	90.00	268.46	7,145.99	-1,848.32	-1,604.45	1,963.61	0.00	0.00	0.00
9,300.00	90.00	268.46	7,145.99	-1,851.01	-1,704.41	2,061.83	0.00	0.00	0.00
9,400.00	90.00	268.46	7,145.99	-1,853.70	-1,804.37	2,160.04	0.00	0.00	0.00
9,500.00	90.00	268.46	7,145.99	-1,856.38	-1,904.34	2,258.25	0.00	0.00	0.00
9,600.00	90.00	268.46	7,145.99	-1,859.07	-2,004.30	2,356.46	0.00	0.00	0.00
9,700.00	90.00	268.46	7,145.99	-1,861.76	-2,104.27	2,454.68	0.00	0.00	0.00
9,800.00	90.00	268.46	7,145.99	-1,864.45	-2,204.23	2,552.89	0.00	0.00	0.00
9,900.00	90.00	268.46	7,145.99	-1,867.13	-2,304.19	2,651.10	0.00	0.00	0.00
10,000.00	90.00	268.46	7,145.98	-1,869.82	-2,404.16	2,749.32	0.00	0.00	0.00
10,100.00	90.00	268.46	7,145.98	-1,872.51	-2,504.12	2,847.53	0.00	0.00	0.00
10,200.00	90.00	268.46	7,145.98	-1,875.19	-2,604.09	2,945.74	0.00	0.00	0.00
10,300.00	90.00	268.46	7,145.98	-1,877.88	-2,704.05	3,043.96	0.00	0.00	0.00
10,400.00	90.00	268.46	7,145.98	-1,880.57	-2,804.01	3,142.17	0.00	0.00	0.00
10,500.00	90.00	268.46	7,145.98	-1,883.26	-2,903.98	3,240.38	0.00	0.00	0.00
10,600.00	90.00	268.46	7,145.98	-1,885.94	-3,003.94	3,338.59	0.00	0.00	0.00
10,700.00	90.00	268.46	7,145.98	-1,888.63	-3,103.91	3,436.81	0.00	0.00	0.00
10,800.00	90.00	268.46	7,145.98	-1,891.32	-3,203.87	3,535.02	0.00	0.00	0.00
10,900.00	90.00	268.46	7,145.98	-1,894.00	-3,303.83	3,633.23	0.00	0.00	0.00
11,000.00	90.00	268.46	7,145.98	-1,896.69	-3,403.80	3,731.45	0.00	0.00	0.00
11,100.00	90.00	268.46	7,145.98	-1,899.38	-3,503.76	3,829.66	0.00	0.00	0.00
11,200.00	90.00	268.46	7,145.98	-1,902.06	-3,603.72	3,927.87	0.00	0.00	0.00
11,300.00	90.00	268.46	7,145.98	-1,904.75	-3,703.69	4,026.08	0.00	0.00	0.00
11,400.00	90.00	268.46	7,145.97	-1,907.44	-3,803.65	4,124.30	0.00	0.00	0.00
11,500.00	90.00	268.46	7,145.97	-1,910.13	-3,903.62	4,222.51	0.00	0.00	0.00
11,600.00	90.00	268.46	7,145.97	-1,912.81	-4,003.58	4,320.72	0.00	0.00	0.00
11,700.00	90.00	268.46	7,145.97	-1,915.50	-4,103.54	4,418.94	0.00	0.00	0.00
11,800.00	90.00	268.46	7,145.97	-1,918.19	-4,203.51	4,517.15	0.00	0.00	0.00
11,900.00	90.00	268.46	7,145.97	-1,920.87	-4,303.47	4,615.36	0.00	0.00	0.00
12,000.00	90.00	268.46	7,145.97	-1,923.56	-4,403.44	4,713.57	0.00	0.00	0.00
12,100.00	90.00	268.46	7,145.97	-1,926.25	-4,503.40	4,811.79	0.00	0.00	0.00
12,200.00	90.00	268.46	7,145.97	-1,928.93	-4,603.36	4,910.00	0.00	0.00	0.00
12,300.00	90.00	268.46	7,145.97	-1,931.62	-4,703.33	5,008.21	0.00	0.00	0.00
12,400.00	90.00	268.46	7,145.97	-1,934.31	-4,803.29	5,106.43	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well VIC 20W-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5029.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5029.00usft
Site:	Sec 20-T7N-R67W	North Reference:	True
Well:	VIC 20W-20-10C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)	
12,500.00	90.00	268.46	7,145.97	-1,937.00	-4,903.26	5,204.64	0.00	0.00	0.00	
12,600.00	90.00	268.46	7,145.97	-1,939.68	-5,003.22	5,302.85	0.00	0.00	0.00	
12,700.00	90.00	268.46	7,145.97	-1,942.37	-5,103.18	5,401.07	0.00	0.00	0.00	
12,800.00	90.00	268.46	7,145.96	-1,945.06	-5,203.15	5,499.28	0.00	0.00	0.00	
12,900.00	90.00	268.46	7,145.96	-1,947.74	-5,303.11	5,597.49	0.00	0.00	0.00	
13,000.00	90.00	268.46	7,145.96	-1,950.43	-5,403.08	5,695.70	0.00	0.00	0.00	
13,100.00	90.00	268.46	7,145.96	-1,953.12	-5,503.04	5,793.92	0.00	0.00	0.00	
13,200.00	90.00	268.46	7,145.96	-1,955.81	-5,603.00	5,892.13	0.00	0.00	0.00	
13,300.00	90.00	268.46	7,145.96	-1,958.49	-5,702.97	5,990.34	0.00	0.00	0.00	
13,400.00	90.00	268.46	7,145.96	-1,961.18	-5,802.93	6,088.56	0.00	0.00	0.00	
13,500.00	90.00	268.46	7,145.96	-1,963.87	-5,902.89	6,186.77	0.00	0.00	0.00	
13,600.00	90.00	268.46	7,145.96	-1,966.55	-6,002.86	6,284.98	0.00	0.00	0.00	
13,700.00	90.00	268.46	7,145.96	-1,969.24	-6,102.82	6,383.19	0.00	0.00	0.00	
13,800.00	90.00	268.46	7,145.96	-1,971.93	-6,202.79	6,481.41	0.00	0.00	0.00	
13,900.00	90.00	268.46	7,145.96	-1,974.61	-6,302.75	6,579.62	0.00	0.00	0.00	
14,000.00	90.00	268.46	7,145.96	-1,977.30	-6,402.71	6,677.83	0.00	0.00	0.00	
14,100.00	90.00	268.46	7,145.96	-1,979.99	-6,502.68	6,776.05	0.00	0.00	0.00	
14,200.00	90.00	268.46	7,145.95	-1,982.68	-6,602.64	6,874.26	0.00	0.00	0.00	
14,300.00	90.00	268.46	7,145.95	-1,985.36	-6,702.61	6,972.47	0.00	0.00	0.00	
14,400.00	90.00	268.46	7,145.95	-1,988.05	-6,802.57	7,070.68	0.00	0.00	0.00	
14,500.00	90.00	268.46	7,145.95	-1,990.74	-6,902.53	7,168.90	0.00	0.00	0.00	
14,600.00	90.00	268.46	7,145.95	-1,993.42	-7,002.50	7,267.11	0.00	0.00	0.00	
14,700.00	90.00	268.46	7,145.95	-1,996.11	-7,102.46	7,365.32	0.00	0.00	0.00	
14,800.00	90.00	268.46	7,145.95	-1,998.80	-7,202.43	7,463.54	0.00	0.00	0.00	
14,900.00	90.00	268.46	7,145.95	-2,001.49	-7,302.39	7,561.75	0.00	0.00	0.00	
15,000.00	90.00	268.46	7,145.95	-2,004.17	-7,402.35	7,659.96	0.00	0.00	0.00	
15,100.00	90.00	268.46	7,145.95	-2,006.86	-7,502.32	7,758.18	0.00	0.00	0.00	
15,200.00	90.00	268.46	7,145.95	-2,009.55	-7,602.28	7,856.39	0.00	0.00	0.00	
15,300.00	90.00	268.46	7,145.95	-2,012.23	-7,702.24	7,954.60	0.00	0.00	0.00	
15,400.00	90.00	268.46	7,145.95	-2,014.92	-7,802.21	8,052.81	0.00	0.00	0.00	
15,500.00	90.00	268.46	7,145.95	-2,017.61	-7,902.17	8,151.03	0.00	0.00	0.00	
15,600.00	90.00	268.46	7,145.94	-2,020.29	-8,002.14	8,249.24	0.00	0.00	0.00	
15,700.00	90.00	268.46	7,145.94	-2,022.98	-8,102.10	8,347.45	0.00	0.00	0.00	
15,800.00	90.00	268.46	7,145.94	-2,025.67	-8,202.06	8,445.67	0.00	0.00	0.00	
15,900.00	90.00	268.46	7,145.94	-2,028.36	-8,302.03	8,543.88	0.00	0.00	0.00	
16,000.00	90.00	268.46	7,145.94	-2,031.04	-8,401.99	8,642.09	0.00	0.00	0.00	
16,100.00	90.00	268.46	7,145.94	-2,033.73	-8,501.96	8,740.30	0.00	0.00	0.00	
16,200.00	90.00	268.46	7,145.94	-2,036.42	-8,601.92	8,838.52	0.00	0.00	0.00	
16,300.00	90.00	268.46	7,145.94	-2,039.10	-8,701.88	8,936.73	0.00	0.00	0.00	
16,400.00	90.00	268.46	7,145.94	-2,041.79	-8,801.85	9,034.94	0.00	0.00	0.00	
16,500.00	90.00	268.46	7,145.94	-2,044.48	-8,901.81	9,133.16	0.00	0.00	0.00	
16,600.00	90.00	268.46	7,145.94	-2,047.16	-9,001.78	9,231.37	0.00	0.00	0.00	
16,700.00	90.00	268.46	7,145.94	-2,049.85	-9,101.74	9,329.58	0.00	0.00	0.00	
16,800.00	90.00	268.46	7,145.94	-2,052.54	-9,201.70	9,427.79	0.00	0.00	0.00	
16,900.00	90.00	268.46	7,145.94	-2,055.23	-9,301.67	9,526.01	0.00	0.00	0.00	
16,963.18	90.00	268.46	7,145.93	-2,056.92	-9,364.83	9,588.06	0.00	0.00	0.00	
TD at 16963.18										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well VIC 20W-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5029.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 5029.00usft
Site:	Sec 20-T7N-R67W	North Reference:	True
Well:	VIC 20W-20-10C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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-20-10C - PBHI	0.00	0.00	7,146.00	-2,056.93	-9,364.83	1,445,696.21	3,154,914.57	40° 33' 19.796 N	104° 56' 32.971 W
- plan misses target center by 0.07usft at 16963.18usft MD (7145.93 TVD, -2056.92 N, -9364.83 E)									
- Point									
VIC 20W-20-10C - LP	0.00	0.00	7,146.00	-1,810.25	-188.12	1,446,004.07	3,164,089.44	40° 33' 22.252 N	104° 54' 34.081 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,637.34	3,488.00	PARKMAN				
4,418.90	4,220.00	SUSSEX				
4,818.22	4,594.00	SHANNON				
7,114.21	6,798.00	SHARON SPRINGS				
7,156.23	6,836.00	NIOBRARA				
7,278.72	6,938.00	NIO B				
7,559.72	7,103.00	FORT HAYS				
7,783.16	7,146.00	CODELL				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	Comment
600.00	600.00	0.00	0.00	Start Build 2.00
1,625.70	1,603.93	-177.63	38.09	Start 4201.37 hold at 1625.70 MD
5,827.07	5,538.87	-1,617.22	346.79	Start Drop -2.00
6,852.77	6,542.80	-1,794.85	384.88	Start 30.00 hold at 6852.77 MD
6,882.77	6,572.80	-1,794.85	384.88	Start DLS 10.00 TFO 268.46
7,783.16	7,146.00	-1,810.25	-188.12	Start 9180.02 hold at 7783.16 MD
16,963.18	7,145.93	-2,056.92	-9,364.83	TD at 16963.18