

EXTRACTION OIL & GAS

WELD COUNTY

SEC 20-T7N-R67W

VIC WEST 20W-20-01

OWB

Plan: PROPOSAL 1

Standard Planning Report

01 March, 2021



Project: WELD COUNTY
Site: SEC 20-T7N-R67W
Well: VIC WEST 20W-20-01
Wellbore: OWB
Design: PROPOSAL 1



Azimuths to True North
Magnetic North: 7.97"
Magnetic Field
Strength: 52051.8nT
Dip Angle: 66.77"
Date: 3/1/2021
Model: IGRF2020

WELL DETAILS: VIC WEST 20W-20-01

			5007.00				
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	1447787.49	3164265.67	40.561073°N	104.908790°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	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	
3	1040.97	8.82	24.49	1039.23	30.83	14.04	2.00	24.49	-11.87	
4	6717.25	8.82	24.49	6648.40	822.84	374.76	0.00	0.00	-316.81	
5	7655.78	90.00	268.49	7254.00	892.20	-198.93	10.00	-115.73	260.31	VIC WEST 20W-01-
6	16822.45	90.00	268.49	7254.00	650.62	-9362.42	0.00	0.00	9385.00	VIC WEST 20W-01-

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
1040.97	8.82	24.49	1039.23	30.83	14.04	-11.87	33.87	Start 5676.28 hold at 1040.97 MD
6717.25	8.82	24.49	6648.40	822.84	374.76	-316.81	904.16	Start DLS 10.00 TFO -115.73
7655.78	90.00	268.49	7254.00	892.20	-198.93	260.31	1498.83	Start 9166.67 hold at 7655.78 MD
16822.45	90.00	268.49	7254.00	650.62	-9362.42	9385.00	10665.50	TD at 16822.45

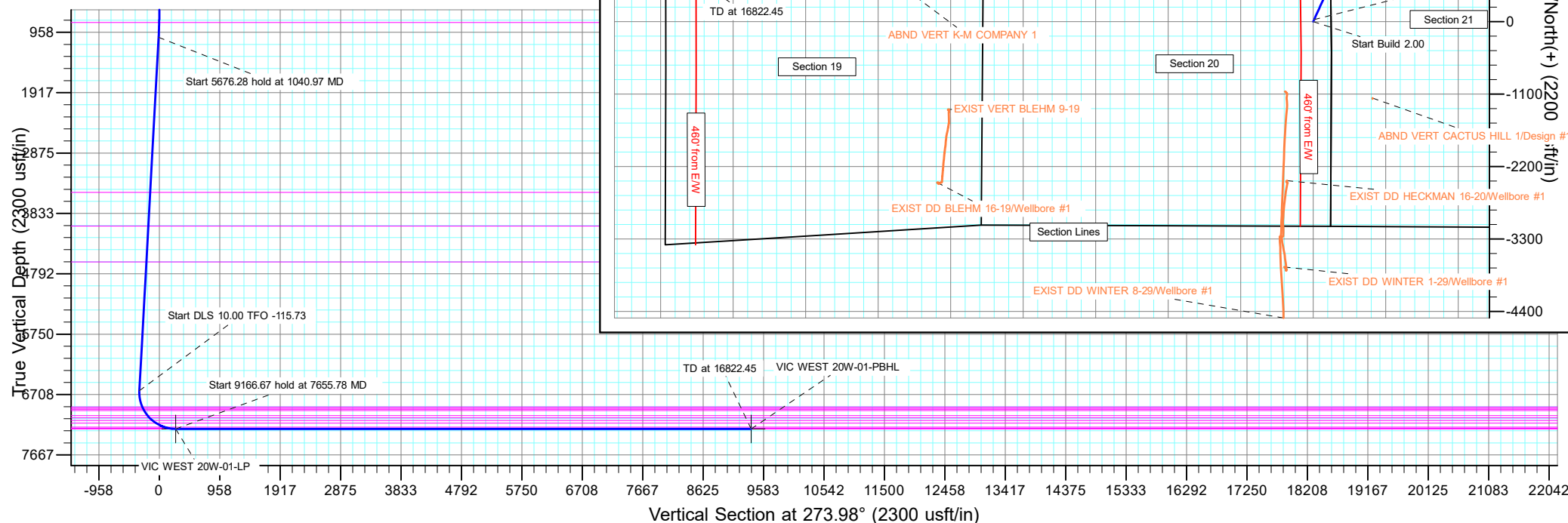
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
VIC WEST 20W-01-LP	7254.00	892.20	-198.93	1448678.34	3164060.79	40.563522°N	104.909506°W	Point
- plan hits target center								
VIC WEST 20W-01-PBHL	7254.00	650.62	-9362.42	1448375.67	3154899.12	40.562854°N	104.942487°W	Point
- plan hits target center								

FORMATION TOP DETAILS

PROJECT DETAILS: WELD COUNTY

TVDPath	MDPath	Formation	Geodetic System: US State Plane 1983
804.00	804.17	Fox Hills Base:	Datum: North American Datum 1983
3499.00	3530.17	Parkman:	Ellipsoid: GRS 1980
4034.00	4071.57	Sussex:	Zone: Colorado Northern Zone
4604.00	4648.39	Shannon:	
6906.00	6983.31	Sharon Springs (Confining Zone):	System Datum: Mean Sea Level
6926.00	7005.39	Niobrara:	
6943.00	7024.47	A Chalk:	
6964.00	7048.50	A Marl:	SHL:
7044.00	7146.24	B2 Chalk:	2176' FNL, 272' FEL
7079.00	7193.36	B Marl:	Sec 20-T7N-R67W
7119.00	7252.28	C Chalk:	LP:
7164.00	7328.67	C Marl:	1285' FNL, 460' FEL
7224.00	7468.65	Ft Hays (Confining Zone):	Sec 20-T7N-R67W
7244.00	7548.06	Codell:	BHL:
7254.00	7655.78	Landing Point:	1285' FNL, 460' FWL
			Sec 19-T7N-R67W



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well VIC WEST 20W-20-01
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 29' @ 5036.00usft
Project:	WELD COUNTY	MD Reference:	KB 29' @ 5036.00usft
Site:	SEC 20-T7N-R67W	North Reference:	True
Well:	VIC WEST 20W-20-01	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
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:	40.567043°N
From:	Lat/Long	Easting:	3,164,495.92	usft	Longitude:	104.907909°W
Position Uncertainty:		0.00	usft	Slot Radius:	13.200	in

Well		VIC WEST 20W-20-01				
Well Position	+N/-S	0.00 usft	Northing:	1,447,787.49 usft	Latitude:	40.561073°N
	+E/-W	0.00 usft	Easting:	3,164,265.67 usft	Longitude:	104.908790°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,007.00 usft
Grid Convergence:		0.38 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/1/2021	7.97	66.77	52,051.81841060

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	273.98	

Plan Survey Tool Program	Date	3/1/2021			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	16,822.45 PROPOSAL 1 (OWB)	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	
1,040.97	8.82	24.49	1,039.23	30.83	14.04	2.00	2.00	0.00	24.49	
6,717.25	8.82	24.49	6,648.40	822.84	374.76	0.00	0.00	0.00	0.00	
7,655.78	90.00	268.49	7,254.00	892.20	-198.93	10.00	8.65	-12.36	-115.73	VIC WEST 20W-01-LI
16,822.45	90.00	268.49	7,254.00	650.62	-9,362.42	0.00	0.00	0.00	0.00	VIC WEST 20W-01-P

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Project:	WELD COUNTY	MD Reference:	KB 29' @ 5036.00usft
Site:	SEC 20-T7N-R67W	North Reference:	True
Well:	VIC WEST 20W-20-01	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
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	24.49	699.98	1.59	0.72	-0.61	2.00	2.00	0.00
800.00	4.00	24.49	799.84	6.35	2.89	-2.45	2.00	2.00	0.00
804.17	4.08	24.49	804.00	6.62	3.01	-2.55	2.00	2.00	0.00
Fox Hills Base:									
900.00	6.00	24.49	899.45	14.28	6.50	-5.50	2.00	2.00	0.00
1,000.00	8.00	24.49	998.70	25.37	11.56	-9.77	2.00	2.00	0.00
1,040.97	8.82	24.49	1,039.23	30.83	14.04	-11.87	2.00	2.00	0.00
Start 5676.28 hold at 1040.97 MD									
1,100.00	8.82	24.49	1,097.56	39.06	17.79	-15.04	0.00	0.00	0.00
1,200.00	8.82	24.49	1,196.38	53.02	24.15	-20.41	0.00	0.00	0.00
1,300.00	8.82	24.49	1,295.20	66.97	30.50	-25.78	0.00	0.00	0.00
1,400.00	8.82	24.49	1,394.02	80.92	36.85	-31.16	0.00	0.00	0.00
1,500.00	8.82	24.49	1,492.83	94.87	43.21	-36.53	0.00	0.00	0.00
1,600.00	8.82	24.49	1,591.65	108.83	49.56	-41.90	0.00	0.00	0.00
1,700.00	8.82	24.49	1,690.47	122.78	55.92	-47.27	0.00	0.00	0.00
1,800.00	8.82	24.49	1,789.29	136.73	62.27	-52.65	0.00	0.00	0.00
1,900.00	8.82	24.49	1,888.10	150.69	68.63	-58.02	0.00	0.00	0.00
2,000.00	8.82	24.49	1,986.92	164.64	74.98	-63.39	0.00	0.00	0.00
2,100.00	8.82	24.49	2,085.74	178.59	81.34	-68.76	0.00	0.00	0.00
2,200.00	8.82	24.49	2,184.56	192.55	87.69	-74.13	0.00	0.00	0.00
2,300.00	8.82	24.49	2,283.37	206.50	94.05	-79.51	0.00	0.00	0.00
2,400.00	8.82	24.49	2,382.19	220.45	100.40	-84.88	0.00	0.00	0.00
2,500.00	8.82	24.49	2,481.01	234.41	106.76	-90.25	0.00	0.00	0.00
2,600.00	8.82	24.49	2,579.83	248.36	113.11	-95.62	0.00	0.00	0.00
2,700.00	8.82	24.49	2,678.65	262.31	119.47	-100.99	0.00	0.00	0.00
2,800.00	8.82	24.49	2,777.46	276.26	125.82	-106.37	0.00	0.00	0.00
2,900.00	8.82	24.49	2,876.28	290.22	132.18	-111.74	0.00	0.00	0.00
3,000.00	8.82	24.49	2,975.10	304.17	138.53	-117.11	0.00	0.00	0.00
3,100.00	8.82	24.49	3,073.92	318.12	144.89	-122.48	0.00	0.00	0.00
3,200.00	8.82	24.49	3,172.73	332.08	151.24	-127.86	0.00	0.00	0.00
3,300.00	8.82	24.49	3,271.55	346.03	157.60	-133.23	0.00	0.00	0.00
3,400.00	8.82	24.49	3,370.37	359.98	163.95	-138.60	0.00	0.00	0.00
3,500.00	8.82	24.49	3,469.19	373.94	170.31	-143.97	0.00	0.00	0.00
3,530.17	8.82	24.49	3,499.00	378.15	172.22	-145.59	0.00	0.00	0.00
Parkman:									
3,600.00	8.82	24.49	3,568.00	387.89	176.66	-149.34	0.00	0.00	0.00
3,700.00	8.82	24.49	3,666.82	401.84	183.02	-154.72	0.00	0.00	0.00
3,800.00	8.82	24.49	3,765.64	415.80	189.37	-160.09	0.00	0.00	0.00
3,900.00	8.82	24.49	3,864.46	429.75	195.73	-165.46	0.00	0.00	0.00
4,000.00	8.82	24.49	3,963.27	443.70	202.08	-170.83	0.00	0.00	0.00
4,071.57	8.82	24.49	4,034.00	453.69	206.63	-174.68	0.00	0.00	0.00
Sussex:									
4,100.00	8.82	24.49	4,062.09	457.66	208.43	-176.21	0.00	0.00	0.00
4,200.00	8.82	24.49	4,160.91	471.61	214.79	-181.58	0.00	0.00	0.00
4,300.00	8.82	24.49	4,259.73	485.56	221.14	-186.95	0.00	0.00	0.00

Planning Report

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Project:	WELD COUNTY	MD Reference:	KB 29' @ 5036.00usft
Site:	SEC 20-T7N-R67W	North Reference:	True
Well:	VIC WEST 20W-20-01	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
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)
4,400.00	8.82	24.49	4,358.55	499.51	227.50	-192.32	0.00	0.00	0.00
4,500.00	8.82	24.49	4,457.36	513.47	233.85	-197.69	0.00	0.00	0.00
4,600.00	8.82	24.49	4,556.18	527.42	240.21	-203.07	0.00	0.00	0.00
4,648.39	8.82	24.49	4,604.00	534.17	243.28	-205.67	0.00	0.00	0.00
Shannon:									
4,700.00	8.82	24.49	4,655.00	541.37	246.56	-208.44	0.00	0.00	0.00
4,800.00	8.82	24.49	4,753.82	555.33	252.92	-213.81	0.00	0.00	0.00
4,900.00	8.82	24.49	4,852.63	569.28	259.27	-219.18	0.00	0.00	0.00
5,000.00	8.82	24.49	4,951.45	583.23	265.63	-224.56	0.00	0.00	0.00
5,100.00	8.82	24.49	5,050.27	597.19	271.98	-229.93	0.00	0.00	0.00
5,200.00	8.82	24.49	5,149.09	611.14	278.34	-235.30	0.00	0.00	0.00
5,300.00	8.82	24.49	5,247.90	625.09	284.69	-240.67	0.00	0.00	0.00
5,400.00	8.82	24.49	5,346.72	639.05	291.05	-246.04	0.00	0.00	0.00
5,500.00	8.82	24.49	5,445.54	653.00	297.40	-251.42	0.00	0.00	0.00
5,600.00	8.82	24.49	5,544.36	666.95	303.76	-256.79	0.00	0.00	0.00
5,700.00	8.82	24.49	5,643.17	680.90	310.11	-262.16	0.00	0.00	0.00
5,800.00	8.82	24.49	5,741.99	694.86	316.47	-267.53	0.00	0.00	0.00
5,900.00	8.82	24.49	5,840.81	708.81	322.82	-272.91	0.00	0.00	0.00
6,000.00	8.82	24.49	5,939.63	722.76	329.18	-278.28	0.00	0.00	0.00
6,100.00	8.82	24.49	6,038.45	736.72	335.53	-283.65	0.00	0.00	0.00
6,200.00	8.82	24.49	6,137.26	750.67	341.89	-289.02	0.00	0.00	0.00
6,300.00	8.82	24.49	6,236.08	764.62	348.24	-294.39	0.00	0.00	0.00
6,400.00	8.82	24.49	6,334.90	778.58	354.60	-299.77	0.00	0.00	0.00
6,500.00	8.82	24.49	6,433.72	792.53	360.95	-305.14	0.00	0.00	0.00
6,600.00	8.82	24.49	6,532.53	806.48	367.30	-310.51	0.00	0.00	0.00
6,700.00	8.82	24.49	6,631.35	820.44	373.66	-315.88	0.00	0.00	0.00
6,717.25	8.82	24.49	6,648.40	822.84	374.76	-316.81	0.00	0.00	0.00
Start DLS 10.00 TFO -115.73									
6,750.00	7.96	2.67	6,680.80	827.39	375.90	-317.64	10.00	-2.62	-66.61
6,800.00	9.08	329.25	6,730.28	834.25	374.05	-315.31	10.00	2.24	-66.85
6,850.00	12.30	308.26	6,779.43	840.94	367.84	-308.66	10.00	6.43	-41.97
6,900.00	16.42	296.73	6,827.86	847.42	357.34	-297.74	10.00	8.25	-23.07
6,950.00	20.92	289.88	6,875.23	853.64	342.63	-282.62	10.00	9.00	-13.70
6,983.31	24.03	286.72	6,906.00	857.61	330.54	-270.29	10.00	9.32	-9.50
Sharon Springs (Confining Zone):									
7,000.00	25.60	285.41	6,921.15	859.55	323.80	-263.44	10.00	9.44	-7.85
7,005.39	26.12	285.02	6,926.00	860.17	321.54	-261.13	10.00	9.49	-7.26
Niobrara:									
7,024.47	27.93	283.74	6,943.00	862.32	313.14	-252.60	10.00	9.53	-6.70
A Chalk:									
7,048.51	30.24	282.33	6,964.00	864.95	301.75	-241.07	10.00	9.59	-5.85
A Marl:									
7,050.00	30.38	282.25	6,965.29	865.11	301.02	-240.32	10.00	9.62	-5.42
7,100.00	35.21	279.89	7,007.31	870.27	274.44	-213.45	10.00	9.67	-4.73
7,146.24	39.72	278.15	7,044.00	874.65	246.67	-185.44	10.00	9.74	-3.74
B2 Chalk:									
7,150.00	40.08	278.03	7,046.89	874.99	244.28	-183.03	10.00	9.77	-3.36
7,193.36	44.33	276.70	7,079.00	878.71	215.40	-153.96	10.00	9.79	-3.07
B Marl:									
7,200.00	44.98	276.51	7,083.72	879.25	210.76	-149.30	10.00	9.80	-2.80
7,250.00	49.89	275.24	7,117.53	883.00	174.14	-112.51	10.00	9.82	-2.55
7,252.28	50.11	275.18	7,119.00	883.16	172.40	-110.76	10.00	9.84	-2.35
C Chalk:									

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Wellbore:	OWB		
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)
7,300.00	54.81	274.13	7,148.07	886.22	134.70	-72.94	10.00	9.85	-2.20
7,328.67	57.64	273.56	7,164.00	887.82	110.92	-49.11	10.00	9.86	-2.00
C Marl:									
7,350.00	59.75	273.16	7,175.08	888.88	92.73	-30.88	10.00	9.87	-1.89
7,400.00	64.68	272.27	7,198.39	890.97	48.56	13.33	10.00	9.88	-1.77
7,450.00	69.63	271.46	7,217.79	892.46	2.52	59.36	10.00	9.89	-1.63
7,468.65	71.47	271.17	7,224.00	892.87	-15.06	76.92	10.00	9.89	-1.55
Ft Hays (Confining Zone):									
7,500.00	74.57	270.70	7,233.15	893.35	-45.04	106.86	10.00	9.90	-1.51
7,548.06	79.33	270.00	7,244.00	893.63	-91.84	153.57	10.00	9.90	-1.46
Codell:									
7,550.00	79.52	269.97	7,244.36	893.63	-93.75	155.48	10.00	9.90	-1.43
7,600.00	84.48	269.26	7,251.31	893.30	-143.25	204.83	10.00	9.90	-1.41
7,650.00	89.43	268.57	7,253.97	892.35	-193.15	254.55	10.00	9.90	-1.39
7,655.78	90.00	268.49	7,254.00	892.20	-198.93	260.31	10.00	9.90	-1.38
Start 9166.67 hold at 7655.78 MD - Landing Point:									
7,700.00	90.00	268.49	7,254.00	891.04	-243.13	304.32	0.00	0.00	0.00
7,800.00	90.00	268.49	7,254.00	888.40	-343.10	403.86	0.00	0.00	0.00
7,900.00	90.00	268.49	7,254.00	885.77	-443.06	503.40	0.00	0.00	0.00
8,000.00	90.00	268.49	7,254.00	883.13	-543.03	602.95	0.00	0.00	0.00
8,100.00	90.00	268.49	7,254.00	880.50	-642.99	702.49	0.00	0.00	0.00
8,200.00	90.00	268.49	7,254.00	877.86	-742.96	802.03	0.00	0.00	0.00
8,300.00	90.00	268.49	7,254.00	875.23	-842.92	901.57	0.00	0.00	0.00
8,400.00	90.00	268.49	7,254.00	872.59	-942.89	1,001.11	0.00	0.00	0.00
8,500.00	90.00	268.49	7,254.00	869.95	-1,042.85	1,100.66	0.00	0.00	0.00
8,600.00	90.00	268.49	7,254.00	867.32	-1,142.82	1,200.20	0.00	0.00	0.00
8,700.00	90.00	268.49	7,254.00	864.68	-1,242.79	1,299.74	0.00	0.00	0.00
8,800.00	90.00	268.49	7,254.00	862.05	-1,342.75	1,399.28	0.00	0.00	0.00
8,900.00	90.00	268.49	7,254.00	859.41	-1,442.72	1,498.82	0.00	0.00	0.00
9,000.00	90.00	268.49	7,254.00	856.78	-1,542.68	1,598.37	0.00	0.00	0.00
9,100.00	90.00	268.49	7,254.00	854.14	-1,642.65	1,697.91	0.00	0.00	0.00
9,200.00	90.00	268.49	7,254.00	851.51	-1,742.61	1,797.45	0.00	0.00	0.00
9,300.00	90.00	268.49	7,254.00	848.87	-1,842.58	1,896.99	0.00	0.00	0.00
9,400.00	90.00	268.49	7,254.00	846.24	-1,942.54	1,996.53	0.00	0.00	0.00
9,500.00	90.00	268.49	7,254.00	843.60	-2,042.51	2,096.08	0.00	0.00	0.00
9,600.00	90.00	268.49	7,254.00	840.96	-2,142.47	2,195.62	0.00	0.00	0.00
9,700.00	90.00	268.49	7,254.00	838.33	-2,242.44	2,295.16	0.00	0.00	0.00
9,800.00	90.00	268.49	7,254.00	835.69	-2,342.40	2,394.70	0.00	0.00	0.00
9,900.00	90.00	268.49	7,254.00	833.06	-2,442.37	2,494.24	0.00	0.00	0.00
10,000.00	90.00	268.49	7,254.00	830.42	-2,542.33	2,593.79	0.00	0.00	0.00
10,100.00	90.00	268.49	7,254.00	827.79	-2,642.30	2,693.33	0.00	0.00	0.00
10,200.00	90.00	268.49	7,254.00	825.15	-2,742.26	2,792.87	0.00	0.00	0.00
10,300.00	90.00	268.49	7,254.00	822.52	-2,842.23	2,892.41	0.00	0.00	0.00
10,400.00	90.00	268.49	7,254.00	819.88	-2,942.20	2,991.96	0.00	0.00	0.00
10,500.00	90.00	268.49	7,254.00	817.25	-3,042.16	3,091.50	0.00	0.00	0.00
10,600.00	90.00	268.49	7,254.00	814.61	-3,142.13	3,191.04	0.00	0.00	0.00
10,700.00	90.00	268.49	7,254.00	811.97	-3,242.09	3,290.58	0.00	0.00	0.00
10,800.00	90.00	268.49	7,254.00	809.34	-3,342.06	3,390.12	0.00	0.00	0.00
10,900.00	90.00	268.49	7,254.00	806.70	-3,442.02	3,489.67	0.00	0.00	0.00
11,000.00	90.00	268.49	7,254.00	804.07	-3,541.99	3,589.21	0.00	0.00	0.00
11,100.00	90.00	268.49	7,254.00	801.43	-3,641.95	3,688.75	0.00	0.00	0.00
11,200.00	90.00	268.49	7,254.00	798.80	-3,741.92	3,788.29	0.00	0.00	0.00
11,300.00	90.00	268.49	7,254.00	796.16	-3,841.88	3,887.83	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well VIC WEST 20W-20-01
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 29' @ 5036.00usft
Project:	WELD COUNTY	MD Reference:	KB 29' @ 5036.00usft
Site:	SEC 20-T7N-R67W	North Reference:	True
Well:	VIC WEST 20W-20-01	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
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)	
11,400.00	90.00	268.49	7,254.00	793.53	-3,941.85	3,987.38	0.00	0.00	0.00	
11,500.00	90.00	268.49	7,254.00	790.89	-4,041.81	4,086.92	0.00	0.00	0.00	
11,600.00	90.00	268.49	7,254.00	788.26	-4,141.78	4,186.46	0.00	0.00	0.00	
11,700.00	90.00	268.49	7,254.00	785.62	-4,241.74	4,286.00	0.00	0.00	0.00	
11,800.00	90.00	268.49	7,254.00	782.98	-4,341.71	4,385.54	0.00	0.00	0.00	
11,900.00	90.00	268.49	7,254.00	780.35	-4,441.67	4,485.09	0.00	0.00	0.00	
12,000.00	90.00	268.49	7,254.00	777.71	-4,541.64	4,584.63	0.00	0.00	0.00	
12,100.00	90.00	268.49	7,254.00	775.08	-4,641.60	4,684.17	0.00	0.00	0.00	
12,200.00	90.00	268.49	7,254.00	772.44	-4,741.57	4,783.71	0.00	0.00	0.00	
12,300.00	90.00	268.49	7,254.00	769.81	-4,841.54	4,883.25	0.00	0.00	0.00	
12,400.00	90.00	268.49	7,254.00	767.17	-4,941.50	4,982.80	0.00	0.00	0.00	
12,500.00	90.00	268.49	7,254.00	764.54	-5,041.47	5,082.34	0.00	0.00	0.00	
12,600.00	90.00	268.49	7,254.00	761.90	-5,141.43	5,181.88	0.00	0.00	0.00	
12,700.00	90.00	268.49	7,254.00	759.27	-5,241.40	5,281.42	0.00	0.00	0.00	
12,800.00	90.00	268.49	7,254.00	756.63	-5,341.36	5,380.96	0.00	0.00	0.00	
12,900.00	90.00	268.49	7,254.00	754.00	-5,441.33	5,480.51	0.00	0.00	0.00	
13,000.00	90.00	268.49	7,254.00	751.36	-5,541.29	5,580.05	0.00	0.00	0.00	
13,100.00	90.00	268.49	7,254.00	748.72	-5,641.26	5,679.59	0.00	0.00	0.00	
13,200.00	90.00	268.49	7,254.00	746.09	-5,741.22	5,779.13	0.00	0.00	0.00	
13,300.00	90.00	268.49	7,254.00	743.45	-5,841.19	5,878.67	0.00	0.00	0.00	
13,400.00	90.00	268.49	7,254.00	740.82	-5,941.15	5,978.22	0.00	0.00	0.00	
13,500.00	90.00	268.49	7,254.00	738.18	-6,041.12	6,077.76	0.00	0.00	0.00	
13,600.00	90.00	268.49	7,254.00	735.55	-6,141.08	6,177.30	0.00	0.00	0.00	
13,700.00	90.00	268.49	7,254.00	732.91	-6,241.05	6,276.84	0.00	0.00	0.00	
13,800.00	90.00	268.49	7,254.00	730.28	-6,341.01	6,376.39	0.00	0.00	0.00	
13,900.00	90.00	268.49	7,254.00	727.64	-6,440.98	6,475.93	0.00	0.00	0.00	
14,000.00	90.00	268.49	7,254.00	725.01	-6,540.94	6,575.47	0.00	0.00	0.00	
14,100.00	90.00	268.49	7,254.00	722.37	-6,640.91	6,675.01	0.00	0.00	0.00	
14,200.00	90.00	268.49	7,254.00	719.73	-6,740.88	6,774.55	0.00	0.00	0.00	
14,300.00	90.00	268.49	7,254.00	717.10	-6,840.84	6,874.10	0.00	0.00	0.00	
14,400.00	90.00	268.49	7,254.00	714.46	-6,940.81	6,973.64	0.00	0.00	0.00	
14,500.00	90.00	268.49	7,254.00	711.83	-7,040.77	7,073.18	0.00	0.00	0.00	
14,600.00	90.00	268.49	7,254.00	709.19	-7,140.74	7,172.72	0.00	0.00	0.00	
14,700.00	90.00	268.49	7,254.00	706.56	-7,240.70	7,272.26	0.00	0.00	0.00	
14,800.00	90.00	268.49	7,254.00	703.92	-7,340.67	7,371.81	0.00	0.00	0.00	
14,900.00	90.00	268.49	7,254.00	701.29	-7,440.63	7,471.35	0.00	0.00	0.00	
15,000.00	90.00	268.49	7,254.00	698.65	-7,540.60	7,570.89	0.00	0.00	0.00	
15,100.00	90.00	268.49	7,254.00	696.02	-7,640.56	7,670.43	0.00	0.00	0.00	
15,200.00	90.00	268.49	7,254.00	693.38	-7,740.53	7,769.97	0.00	0.00	0.00	
15,300.00	90.00	268.49	7,254.00	690.74	-7,840.49	7,869.52	0.00	0.00	0.00	
15,400.00	90.00	268.49	7,254.00	688.11	-7,940.46	7,969.06	0.00	0.00	0.00	
15,500.00	90.00	268.49	7,254.00	685.47	-8,040.42	8,068.60	0.00	0.00	0.00	
15,600.00	90.00	268.49	7,254.00	682.84	-8,140.39	8,168.14	0.00	0.00	0.00	
15,700.00	90.00	268.49	7,254.00	680.20	-8,240.35	8,267.68	0.00	0.00	0.00	
15,800.00	90.00	268.49	7,254.00	677.57	-8,340.32	8,367.23	0.00	0.00	0.00	
15,900.00	90.00	268.49	7,254.00	674.93	-8,440.28	8,466.77	0.00	0.00	0.00	
16,000.00	90.00	268.49	7,254.00	672.30	-8,540.25	8,566.31	0.00	0.00	0.00	
16,100.00	90.00	268.49	7,254.00	669.66	-8,640.22	8,665.85	0.00	0.00	0.00	
16,200.00	90.00	268.49	7,254.00	667.03	-8,740.18	8,765.39	0.00	0.00	0.00	
16,300.00	90.00	268.49	7,254.00	664.39	-8,840.15	8,864.94	0.00	0.00	0.00	
16,400.00	90.00	268.49	7,254.00	661.75	-8,940.11	8,964.48	0.00	0.00	0.00	
16,500.00	90.00	268.49	7,254.00	659.12	-9,040.08	9,064.02	0.00	0.00	0.00	
16,600.00	90.00	268.49	7,254.00	656.48	-9,140.04	9,163.56	0.00	0.00	0.00	
16,700.00	90.00	268.49	7,254.00	653.85	-9,240.01	9,263.10	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well VIC WEST 20W-20-01
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 29' @ 5036.00usft
Project:	WELD COUNTY	MD Reference:	KB 29' @ 5036.00usft
Site:	SEC 20-T7N-R67W	North Reference:	True
Well:	VIC WEST 20W-20-01	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
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)
16,800.00	90.00	268.49	7,254.00	651.21	-9,339.97	9,362.65	0.00	0.00	0.00
16,822.45	90.00	268.49	7,254.00	650.62	-9,362.42	9,385.00	0.00	0.00	0.00
TD at 16822.45									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VIC WEST 20W-01-PB1 - plan hits target center - Point	0.00	0.00	7,254.00	650.62	-9,362.42	1,448,375.68	3,154,899.12	40.562854°N	104.942487°W
VIC WEST 20W-01-LP - plan hits target center - Point	0.00	0.00	7,254.00	892.20	-198.93	1,448,678.35	3,164,060.79	40.563522°N	104.909506°W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
804.17	804.00	Fox Hills Base:				
3,530.17	3,499.00	Parkman:				
4,071.57	4,034.00	Sussex:				
4,648.39	4,604.00	Shannon:				
6,983.31	6,906.00	Sharon Springs (Confining Zone):				
7,005.39	6,926.00	Niobrara:				
7,024.47	6,943.00	A Chalk:				
7,048.51	6,964.00	A Marl:				
7,146.24	7,044.00	B2 Chalk:				
7,193.36	7,079.00	B Marl:				
7,252.28	7,119.00	C Chalk:				
7,328.67	7,164.00	C Marl:				
7,468.65	7,224.00	Ft Hays (Confining Zone):				
7,548.06	7,244.00	Codell:				
7,655.78	7,254.00	Landing Point:				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
600.00	600.00	0.00	0.00	Start Build 2.00
1,040.97	1,039.23	30.83	14.04	Start 5676.28 hold at 1040.97 MD
6,717.25	6,648.40	822.84	374.76	Start DLS 10.00 TFO -115.73
7,655.78	7,254.00	892.20	-198.93	Start 9166.67 hold at 7655.78 MD
16,822.45	7,254.00	650.62	-9,362.42	TD at 16822.45