

# **EXTRACTION OIL & GAS**

**WELD COUNTY**

**SEC 20-T7N-R67W**

**VIC EAST 21E-20-02**

**OWB**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**01 March, 2021**



WELL DETAILS: VIC EAST 21E-20-02

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1447759.44	3164265.85	40.560996°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	900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	
3	1223.85	6.48	13.65	1223.16	17.77	4.32	2.00	13.65	5.41	
4	6735.29	6.48	13.65	6699.42	621.91	151.06	0.00	0.00	189.36	
5	7620.28	90.00	90.22	7254.00	680.91	724.05	10.00	76.65	764.92	VIC EAST 21E-02-LI
6	17243.12	90.00	90.22	7254.00	643.36	10346.82	0.00	0.00	10366.81	VIC EAST 21E-02-P

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	Start Build 2.00
1223.85	6.48	13.65	1223.16	17.77	4.32	5.41	18.28	Start 5511.45 hold at 1223.85 MD
6735.29	6.48	13.65	6699.42	621.91	151.06	189.36	639.99	Start DLS 10.00 TFO 76.65
7620.28	90.00	90.22	7254.00	680.91	724.05	764.92	1222.21	Start 9622.84 hold at 7620.28 MD
17243.12	90.00	90.22	7254.00	643.36	10346.82	10366.81	10845.06	TD at 17243.12

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
VIC EAST 21E-02-LP	7254.00	680.91	724.05	1448445.16	3164985.35	40.562865°N	104.906184°W	Point
- plan hits target center								
VIC EAST 21E-02-PBHL	7254.00	643.36	10346.82	1448471.77	3174608.16	40.562756°N	104.871550°W	Point
- plan hits target center								

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
804.00	804.00	Fox Hills Base:
3499.00	3514.31	Parkman:
4034.00	4052.75	Sussex:
4604.00	4626.41	Shannon:
6906.00	6949.16	Sharon Springs (Confining Zone):
6926.00	6971.19	Niobrara:
6943.00	6990.22	A Chalk:
6964.00	7014.20	A Marl:
7044.00	7111.70	B2 Chalk:
7079.00	7158.73	B Marl:
7119.00	7217.53	C Chalk:
7164.00	7293.76	C Marl:
7224.00	7433.48	Ft Hays (Confining Zone):
7244.00	7512.75	Codell:
7254.00	7620.28	Landing Point:

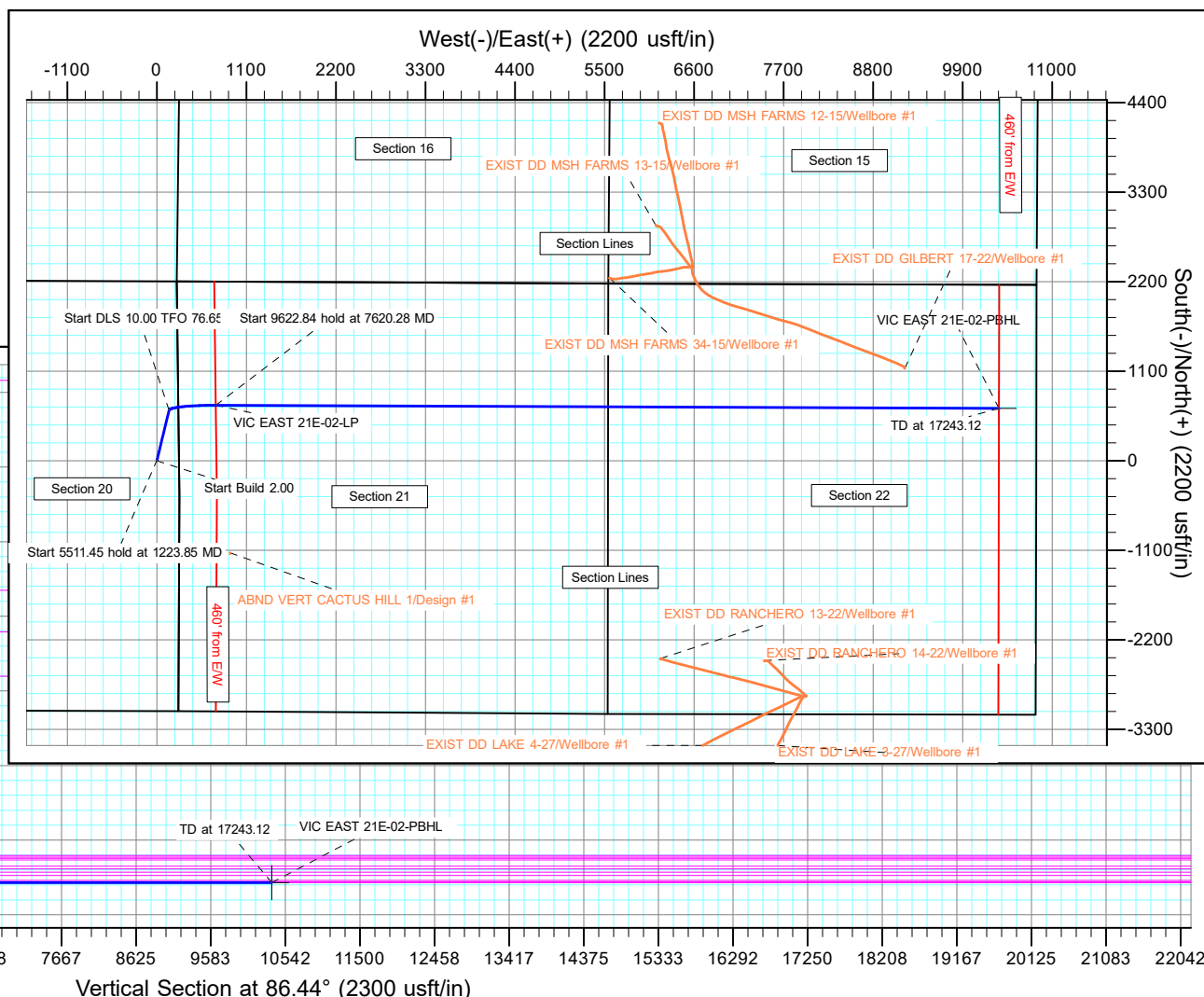
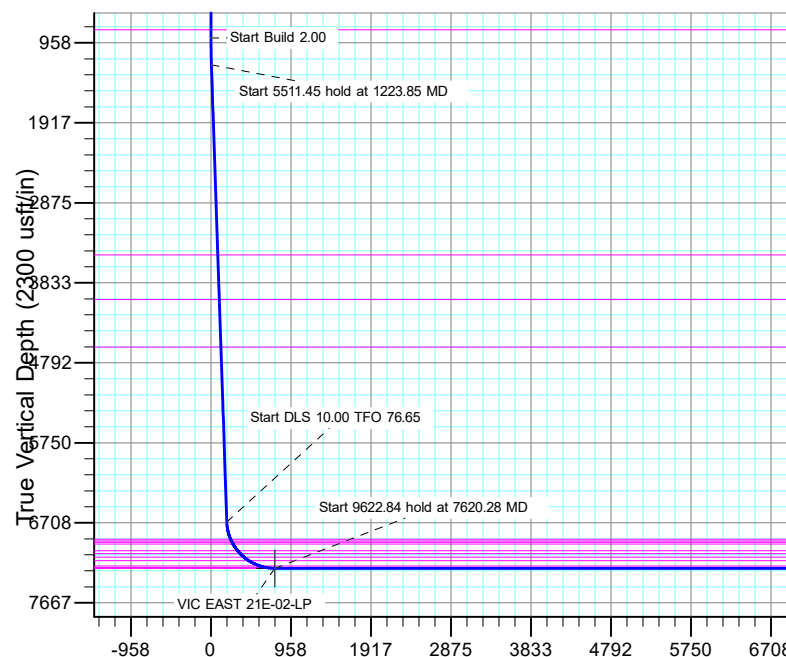
PROJECT DETAILS: WELD COUNTY

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

SHL:  
2204' FNL, 273' FEL  
Sec 20-T7N-R67W

LP:  
1520' FNL, 460' FWL  
Sec 21-T7N-R67W

BHL:  
1520' FNL, 460' FEL  
Sec 22-T7N-R67W



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VIC EAST 21E-20-02
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 29' @ 5033.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 29' @ 5033.00usft
<b>Site:</b>	SEC 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC EAST 21E-20-02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<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:	40.567043°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 EAST 21E-20-02					
Well Position	+N/-S	0.00 usft	Northing:	1,447,759.44 usft	Latitude:	40.560996°N
	+E/-W	0.00 usft	Easting:	3,164,265.85 usft	Longitude:	104.908790°W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,004.00 usft
Grid Convergence:		0.38 °				

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	3/1/2021	7.97	66.77	52,051.80239338

<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	86.44	

<b>Plan Survey Tool Program</b>	<b>Date</b>	3/1/2021			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	17,243.12 PROPOSAL 1 (OWB)	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	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,223.85	6.48	13.65	1,223.16	17.77	4.32	2.00	2.00	0.00	13.65	
6,735.29	6.48	13.65	6,699.42	621.91	151.06	0.00	0.00	0.00	0.00	
7,620.28	90.00	90.22	7,254.00	680.91	724.05	10.00	9.44	8.65	76.65	VIC EAST 21E-02-LP
17,243.12	90.00	90.22	7,254.00	643.36	10,346.82	0.00	0.00	0.00	0.00	VIC EAST 21E-02-PB

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VIC EAST 21E-20-02
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 29' @ 5033.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 29' @ 5033.00usft
<b>Site:</b>	SEC 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC EAST 21E-20-02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<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
804.00	0.00	0.00	804.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base:									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,000.00	2.00	13.65	999.98	1.70	0.41	0.52	2.00	2.00	0.00
1,100.00	4.00	13.65	1,099.84	6.78	1.65	2.06	2.00	2.00	0.00
1,200.00	6.00	13.65	1,199.45	15.25	3.70	4.64	2.00	2.00	0.00
1,223.85	6.48	13.65	1,223.16	17.77	4.32	5.41	2.00	2.00	0.00
Start 5511.45 hold at 1223.85 MD									
1,300.00	6.48	13.65	1,298.82	26.12	6.34	7.95	0.00	0.00	0.00
1,400.00	6.48	13.65	1,398.19	37.08	9.01	11.29	0.00	0.00	0.00
1,500.00	6.48	13.65	1,497.55	48.04	11.67	14.63	0.00	0.00	0.00
1,600.00	6.48	13.65	1,596.91	59.00	14.33	17.97	0.00	0.00	0.00
1,700.00	6.48	13.65	1,696.27	69.96	16.99	21.30	0.00	0.00	0.00
1,800.00	6.48	13.65	1,795.63	80.92	19.66	24.64	0.00	0.00	0.00
1,900.00	6.48	13.65	1,895.00	91.89	22.32	27.98	0.00	0.00	0.00
2,000.00	6.48	13.65	1,994.36	102.85	24.98	31.32	0.00	0.00	0.00
2,100.00	6.48	13.65	2,093.72	113.81	27.64	34.65	0.00	0.00	0.00
2,200.00	6.48	13.65	2,193.08	124.77	30.31	37.99	0.00	0.00	0.00
2,300.00	6.48	13.65	2,292.44	135.73	32.97	41.33	0.00	0.00	0.00
2,400.00	6.48	13.65	2,391.80	146.69	35.63	44.67	0.00	0.00	0.00
2,500.00	6.48	13.65	2,491.17	157.65	38.29	48.00	0.00	0.00	0.00
2,600.00	6.48	13.65	2,590.53	168.62	40.96	51.34	0.00	0.00	0.00
2,700.00	6.48	13.65	2,689.89	179.58	43.62	54.68	0.00	0.00	0.00
2,800.00	6.48	13.65	2,789.25	190.54	46.28	58.02	0.00	0.00	0.00
2,900.00	6.48	13.65	2,888.61	201.50	48.94	61.35	0.00	0.00	0.00
3,000.00	6.48	13.65	2,987.97	212.46	51.61	64.69	0.00	0.00	0.00
3,100.00	6.48	13.65	3,087.34	223.42	54.27	68.03	0.00	0.00	0.00
3,200.00	6.48	13.65	3,186.70	234.39	56.93	71.37	0.00	0.00	0.00
3,300.00	6.48	13.65	3,286.06	245.35	59.59	74.71	0.00	0.00	0.00
3,400.00	6.48	13.65	3,385.42	256.31	62.26	78.04	0.00	0.00	0.00
3,500.00	6.48	13.65	3,484.78	267.27	64.92	81.38	0.00	0.00	0.00
3,514.31	6.48	13.65	3,499.00	268.84	65.30	81.86	0.00	0.00	0.00
Parkman:									
3,600.00	6.48	13.65	3,584.14	278.23	67.58	84.72	0.00	0.00	0.00
3,700.00	6.48	13.65	3,683.51	289.19	70.24	88.06	0.00	0.00	0.00
3,800.00	6.48	13.65	3,782.87	300.16	72.91	91.39	0.00	0.00	0.00
3,900.00	6.48	13.65	3,882.23	311.12	75.57	94.73	0.00	0.00	0.00
4,000.00	6.48	13.65	3,981.59	322.08	78.23	98.07	0.00	0.00	0.00
4,052.75	6.48	13.65	4,034.00	327.86	79.64	99.83	0.00	0.00	0.00
Sussex:									
4,100.00	6.48	13.65	4,080.95	333.04	80.89	101.41	0.00	0.00	0.00
4,200.00	6.48	13.65	4,180.32	344.00	83.56	104.74	0.00	0.00	0.00
4,300.00	6.48	13.65	4,279.68	354.96	86.22	108.08	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VIC EAST 21E-20-02
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 29' @ 5033.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 29' @ 5033.00usft
<b>Site:</b>	SEC 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC EAST 21E-20-02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<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)
4,400.00	6.48	13.65	4,379.04	365.92	88.88	111.42	0.00	0.00	0.00
4,500.00	6.48	13.65	4,478.40	376.89	91.54	114.76	0.00	0.00	0.00
4,600.00	6.48	13.65	4,577.76	387.85	94.21	118.10	0.00	0.00	0.00
4,626.41	6.48	13.65	4,604.00	390.74	94.91	118.98	0.00	0.00	0.00
<b>Shannon:</b>									
4,700.00	6.48	13.65	4,677.12	398.81	96.87	121.43	0.00	0.00	0.00
4,800.00	6.48	13.65	4,776.49	409.77	99.53	124.77	0.00	0.00	0.00
4,900.00	6.48	13.65	4,875.85	420.73	102.19	128.11	0.00	0.00	0.00
5,000.00	6.48	13.65	4,975.21	431.69	104.86	131.45	0.00	0.00	0.00
5,100.00	6.48	13.65	5,074.57	442.66	107.52	134.78	0.00	0.00	0.00
5,200.00	6.48	13.65	5,173.93	453.62	110.18	138.12	0.00	0.00	0.00
5,300.00	6.48	13.65	5,273.29	464.58	112.84	141.46	0.00	0.00	0.00
5,400.00	6.48	13.65	5,372.66	475.54	115.51	144.80	0.00	0.00	0.00
5,500.00	6.48	13.65	5,472.02	486.50	118.17	148.13	0.00	0.00	0.00
5,600.00	6.48	13.65	5,571.38	497.46	120.83	151.47	0.00	0.00	0.00
5,700.00	6.48	13.65	5,670.74	508.43	123.49	154.81	0.00	0.00	0.00
5,800.00	6.48	13.65	5,770.10	519.39	126.16	158.15	0.00	0.00	0.00
5,900.00	6.48	13.65	5,869.46	530.35	128.82	161.48	0.00	0.00	0.00
6,000.00	6.48	13.65	5,968.83	541.31	131.48	164.82	0.00	0.00	0.00
6,100.00	6.48	13.65	6,068.19	552.27	134.14	168.16	0.00	0.00	0.00
6,200.00	6.48	13.65	6,167.55	563.23	136.81	171.50	0.00	0.00	0.00
6,300.00	6.48	13.65	6,266.91	574.19	139.47	174.84	0.00	0.00	0.00
6,400.00	6.48	13.65	6,366.27	585.16	142.13	178.17	0.00	0.00	0.00
6,500.00	6.48	13.65	6,465.64	596.12	144.80	181.51	0.00	0.00	0.00
6,600.00	6.48	13.65	6,565.00	607.08	147.46	184.85	0.00	0.00	0.00
6,700.00	6.48	13.65	6,664.36	618.04	150.12	188.19	0.00	0.00	0.00
6,735.29	6.48	13.65	6,699.42	621.91	151.06	189.36	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 76.65</b>									
6,750.00	6.96	25.54	6,714.03	623.52	151.64	190.04	10.00	3.31	80.81
6,800.00	10.15	52.14	6,763.49	628.96	156.43	195.16	10.00	6.37	53.19
6,850.00	14.40	64.75	6,812.34	634.32	165.53	204.58	10.00	8.50	25.22
6,900.00	19.01	71.53	6,860.23	639.56	178.89	218.23	10.00	9.22	13.57
6,949.16	23.69	75.65	6,906.00	644.54	196.06	235.69	10.00	9.53	8.38
<b>Sharon Springs (Confining Zone):</b>									
6,950.00	23.78	75.71	6,906.77	644.63	196.39	236.02	10.00	9.62	6.77
6,971.19	25.82	77.03	6,926.00	646.72	205.03	244.77	10.00	9.65	6.25
<b>Niobrara:</b>									
6,990.22	27.67	78.06	6,943.00	648.56	213.39	253.23	10.00	9.70	5.43
<b>A Chalk:</b>									
7,000.00	28.62	78.55	6,951.62	649.50	217.91	257.79	10.00	9.73	4.94
7,014.20	30.00	79.20	6,964.00	650.84	224.72	264.68	10.00	9.75	4.58
<b>A Marl:</b>									
7,050.00	33.50	80.62	6,994.44	654.13	243.27	283.40	10.00	9.78	3.97
7,100.00	38.41	82.22	7,034.90	658.48	272.30	312.64	10.00	9.82	3.20
7,111.70	39.57	82.54	7,044.00	659.46	279.59	319.98	10.00	9.85	2.77
<b>B2 Chalk:</b>									
7,150.00	43.34	83.50	7,072.70	662.53	304.76	345.28	10.00	9.86	2.51
7,158.73	44.20	83.70	7,079.00	663.20	310.76	351.32	10.00	9.87	2.29
<b>B Marl:</b>									
7,200.00	48.28	84.57	7,107.54	666.24	340.40	381.10	10.00	9.88	2.11
7,217.53	50.02	84.91	7,119.00	667.45	353.61	394.35	10.00	9.89	1.92
<b>C Chalk:</b>									
7,250.00	53.23	85.49	7,139.16	669.58	378.97	419.79	10.00	9.90	1.79

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VIC EAST 21E-20-02
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 29' @ 5033.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 29' @ 5033.00usft
<b>Site:</b>	SEC 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC EAST 21E-20-02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<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)
7,293.76	57.57	86.20	7,164.00	672.18	414.89	455.81	10.00	9.91	1.62
<b>C Marl:</b>									
7,300.00	58.19	86.30	7,167.32	672.53	420.16	461.09	10.00	9.92	1.53
7,350.00	63.15	87.02	7,191.80	675.06	463.66	504.67	10.00	9.92	1.45
7,400.00	68.11	87.68	7,212.43	677.16	509.15	550.19	10.00	9.93	1.32
7,433.48	71.44	88.10	7,224.00	678.32	540.53	581.59	10.00	9.93	1.25
<b>Ft Hays (Confining Zone):</b>									
7,450.00	73.08	88.30	7,229.04	678.81	556.26	597.32	10.00	9.93	1.21
7,500.00	78.05	88.88	7,241.50	680.00	604.65	645.69	10.00	9.94	1.17
7,512.75	79.31	89.03	7,244.00	680.23	617.15	658.18	10.00	9.94	1.14
<b>Codell:</b>									
7,550.00	83.01	89.45	7,249.72	680.71	653.95	694.94	10.00	9.94	1.12
7,600.00	87.98	90.00	7,253.64	680.95	703.78	744.68	10.00	9.94	1.11
7,620.28	90.00	90.22	7,254.00	680.91	724.05	764.92	10.00	9.94	1.10
<b>Start 9622.84 hold at 7620.28 MD - Landing Point:</b>									
7,700.00	90.00	90.22	7,254.00	680.60	803.78	844.47	0.00	0.00	0.00
7,800.00	90.00	90.22	7,254.00	680.21	903.78	944.25	0.00	0.00	0.00
7,900.00	90.00	90.22	7,254.00	679.82	1,003.77	1,044.03	0.00	0.00	0.00
8,000.00	90.00	90.22	7,254.00	679.43	1,103.77	1,143.81	0.00	0.00	0.00
8,100.00	90.00	90.22	7,254.00	679.04	1,203.77	1,243.59	0.00	0.00	0.00
8,200.00	90.00	90.22	7,254.00	678.65	1,303.77	1,343.38	0.00	0.00	0.00
8,300.00	90.00	90.22	7,254.00	678.26	1,403.77	1,443.16	0.00	0.00	0.00
8,400.00	90.00	90.22	7,254.00	677.87	1,503.77	1,542.94	0.00	0.00	0.00
8,500.00	90.00	90.22	7,254.00	677.48	1,603.77	1,642.72	0.00	0.00	0.00
8,600.00	90.00	90.22	7,254.00	677.09	1,703.77	1,742.51	0.00	0.00	0.00
8,700.00	90.00	90.22	7,254.00	676.70	1,803.77	1,842.29	0.00	0.00	0.00
8,800.00	90.00	90.22	7,254.00	676.31	1,903.77	1,942.07	0.00	0.00	0.00
8,900.00	90.00	90.22	7,254.00	675.92	2,003.77	2,041.85	0.00	0.00	0.00
9,000.00	90.00	90.22	7,254.00	675.53	2,103.77	2,141.63	0.00	0.00	0.00
9,100.00	90.00	90.22	7,254.00	675.14	2,203.77	2,241.42	0.00	0.00	0.00
9,200.00	90.00	90.22	7,254.00	674.75	2,303.76	2,341.20	0.00	0.00	0.00
9,300.00	90.00	90.22	7,254.00	674.36	2,403.76	2,440.98	0.00	0.00	0.00
9,400.00	90.00	90.22	7,254.00	673.97	2,503.76	2,540.76	0.00	0.00	0.00
9,500.00	90.00	90.22	7,254.00	673.58	2,603.76	2,640.55	0.00	0.00	0.00
9,600.00	90.00	90.22	7,254.00	673.19	2,703.76	2,740.33	0.00	0.00	0.00
9,700.00	90.00	90.22	7,254.00	672.80	2,803.76	2,840.11	0.00	0.00	0.00
9,800.00	90.00	90.22	7,254.00	672.41	2,903.76	2,939.89	0.00	0.00	0.00
9,900.00	90.00	90.22	7,254.00	672.02	3,003.76	3,039.67	0.00	0.00	0.00
10,000.00	90.00	90.22	7,254.00	671.63	3,103.76	3,139.46	0.00	0.00	0.00
10,100.00	90.00	90.22	7,254.00	671.24	3,203.76	3,239.24	0.00	0.00	0.00
10,200.00	90.00	90.22	7,254.00	670.85	3,303.76	3,339.02	0.00	0.00	0.00
10,300.00	90.00	90.22	7,254.00	670.46	3,403.76	3,438.80	0.00	0.00	0.00
10,400.00	90.00	90.22	7,254.00	670.07	3,503.76	3,538.59	0.00	0.00	0.00
10,500.00	90.00	90.22	7,254.00	669.68	3,603.76	3,638.37	0.00	0.00	0.00
10,600.00	90.00	90.22	7,254.00	669.29	3,703.75	3,738.15	0.00	0.00	0.00
10,700.00	90.00	90.22	7,254.00	668.90	3,803.75	3,837.93	0.00	0.00	0.00
10,800.00	90.00	90.22	7,254.00	668.51	3,903.75	3,937.72	0.00	0.00	0.00
10,900.00	90.00	90.22	7,254.00	668.12	4,003.75	4,037.50	0.00	0.00	0.00
11,000.00	90.00	90.22	7,254.00	667.72	4,103.75	4,137.28	0.00	0.00	0.00
11,100.00	90.00	90.22	7,254.00	667.33	4,203.75	4,237.06	0.00	0.00	0.00
11,200.00	90.00	90.22	7,254.00	666.94	4,303.75	4,336.84	0.00	0.00	0.00
11,300.00	90.00	90.22	7,254.00	666.55	4,403.75	4,436.63	0.00	0.00	0.00
11,400.00	90.00	90.22	7,254.00	666.16	4,503.75	4,536.41	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VIC EAST 21E-20-02
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 29' @ 5033.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 29' @ 5033.00usft
<b>Site:</b>	SEC 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC EAST 21E-20-02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<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)
11,500.00	90.00	90.22	7,254.00	665.77	4,603.75	4,636.19	0.00	0.00	0.00
11,600.00	90.00	90.22	7,254.00	665.38	4,703.75	4,735.97	0.00	0.00	0.00
11,700.00	90.00	90.22	7,254.00	664.99	4,803.75	4,835.76	0.00	0.00	0.00
11,800.00	90.00	90.22	7,254.00	664.60	4,903.75	4,935.54	0.00	0.00	0.00
11,900.00	90.00	90.22	7,254.00	664.21	5,003.74	5,035.32	0.00	0.00	0.00
12,000.00	90.00	90.22	7,254.00	663.82	5,103.74	5,135.10	0.00	0.00	0.00
12,100.00	90.00	90.22	7,254.00	663.43	5,203.74	5,234.88	0.00	0.00	0.00
12,200.00	90.00	90.22	7,254.00	663.04	5,303.74	5,334.67	0.00	0.00	0.00
12,300.00	90.00	90.22	7,254.00	662.65	5,403.74	5,434.45	0.00	0.00	0.00
12,400.00	90.00	90.22	7,254.00	662.26	5,503.74	5,534.23	0.00	0.00	0.00
12,500.00	90.00	90.22	7,254.00	661.87	5,603.74	5,634.01	0.00	0.00	0.00
12,600.00	90.00	90.22	7,254.00	661.48	5,703.74	5,733.80	0.00	0.00	0.00
12,700.00	90.00	90.22	7,254.00	661.09	5,803.74	5,833.58	0.00	0.00	0.00
12,800.00	90.00	90.22	7,254.00	660.70	5,903.74	5,933.36	0.00	0.00	0.00
12,900.00	90.00	90.22	7,254.00	660.31	6,003.74	6,033.14	0.00	0.00	0.00
13,000.00	90.00	90.22	7,254.00	659.92	6,103.74	6,132.93	0.00	0.00	0.00
13,100.00	90.00	90.22	7,254.00	659.53	6,203.74	6,232.71	0.00	0.00	0.00
13,200.00	90.00	90.22	7,254.00	659.14	6,303.73	6,332.49	0.00	0.00	0.00
13,300.00	90.00	90.22	7,254.00	658.75	6,403.73	6,432.27	0.00	0.00	0.00
13,400.00	90.00	90.22	7,254.00	658.36	6,503.73	6,532.05	0.00	0.00	0.00
13,500.00	90.00	90.22	7,254.00	657.97	6,603.73	6,631.84	0.00	0.00	0.00
13,600.00	90.00	90.22	7,254.00	657.58	6,703.73	6,731.62	0.00	0.00	0.00
13,700.00	90.00	90.22	7,254.00	657.19	6,803.73	6,831.40	0.00	0.00	0.00
13,800.00	90.00	90.22	7,254.00	656.80	6,903.73	6,931.18	0.00	0.00	0.00
13,900.00	90.00	90.22	7,254.00	656.41	7,003.73	7,030.97	0.00	0.00	0.00
14,000.00	90.00	90.22	7,254.00	656.02	7,103.73	7,130.75	0.00	0.00	0.00
14,100.00	90.00	90.22	7,254.00	655.63	7,203.73	7,230.53	0.00	0.00	0.00
14,200.00	90.00	90.22	7,254.00	655.24	7,303.73	7,330.31	0.00	0.00	0.00
14,300.00	90.00	90.22	7,254.00	654.85	7,403.73	7,430.09	0.00	0.00	0.00
14,400.00	90.00	90.22	7,254.00	654.46	7,503.73	7,529.88	0.00	0.00	0.00
14,500.00	90.00	90.22	7,254.00	654.07	7,603.72	7,629.66	0.00	0.00	0.00
14,600.00	90.00	90.22	7,254.00	653.68	7,703.72	7,729.44	0.00	0.00	0.00
14,700.00	90.00	90.22	7,254.00	653.29	7,803.72	7,829.22	0.00	0.00	0.00
14,800.00	90.00	90.22	7,254.00	652.90	7,903.72	7,929.01	0.00	0.00	0.00
14,900.00	90.00	90.22	7,254.00	652.51	8,003.72	8,028.79	0.00	0.00	0.00
15,000.00	90.00	90.22	7,254.00	652.12	8,103.72	8,128.57	0.00	0.00	0.00
15,100.00	90.00	90.22	7,254.00	651.73	8,203.72	8,228.35	0.00	0.00	0.00
15,200.00	90.00	90.22	7,254.00	651.34	8,303.72	8,328.14	0.00	0.00	0.00
15,300.00	90.00	90.22	7,254.00	650.95	8,403.72	8,427.92	0.00	0.00	0.00
15,400.00	90.00	90.22	7,254.00	650.56	8,503.72	8,527.70	0.00	0.00	0.00
15,500.00	90.00	90.22	7,254.00	650.17	8,603.72	8,627.48	0.00	0.00	0.00
15,600.00	90.00	90.22	7,254.00	649.78	8,703.72	8,727.26	0.00	0.00	0.00
15,700.00	90.00	90.22	7,254.00	649.39	8,803.72	8,827.05	0.00	0.00	0.00
15,800.00	90.00	90.22	7,254.00	649.00	8,903.71	8,926.83	0.00	0.00	0.00
15,900.00	90.00	90.22	7,254.00	648.61	9,003.71	9,026.61	0.00	0.00	0.00
16,000.00	90.00	90.22	7,254.00	648.22	9,103.71	9,126.39	0.00	0.00	0.00
16,100.00	90.00	90.22	7,254.00	647.82	9,203.71	9,226.18	0.00	0.00	0.00
16,200.00	90.00	90.22	7,254.00	647.43	9,303.71	9,325.96	0.00	0.00	0.00
16,300.00	90.00	90.22	7,254.00	647.04	9,403.71	9,425.74	0.00	0.00	0.00
16,400.00	90.00	90.22	7,254.00	646.65	9,503.71	9,525.52	0.00	0.00	0.00
16,500.00	90.00	90.22	7,254.00	646.26	9,603.71	9,625.30	0.00	0.00	0.00
16,600.00	90.00	90.22	7,254.00	645.87	9,703.71	9,725.09	0.00	0.00	0.00
16,700.00	90.00	90.22	7,254.00	645.48	9,803.71	9,824.87	0.00	0.00	0.00
16,800.00	90.00	90.22	7,254.00	645.09	9,903.71	9,924.65	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VIC EAST 21E-20-02
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 29' @ 5033.00usft
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB 29' @ 5033.00usft
<b>Site:</b>	SEC 20-T7N-R67W	<b>North Reference:</b>	True
<b>Well:</b>	VIC EAST 21E-20-02	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<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)
16,900.00	90.00	90.22	7,254.00	644.70	10,003.71	10,024.43	0.00	0.00	0.00
17,000.00	90.00	90.22	7,254.00	644.31	10,103.71	10,124.22	0.00	0.00	0.00
17,100.00	90.00	90.22	7,254.00	643.92	10,203.70	10,224.00	0.00	0.00	0.00
17,200.00	90.00	90.22	7,254.00	643.53	10,303.70	10,323.78	0.00	0.00	0.00
17,243.12	90.00	90.22	7,254.00	643.36	10,346.82	10,366.81	0.00	0.00	0.00
TD at 17243.12									

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 EAST 21E-02-LP - plan hits target center - Point	0.00	0.00	7,254.00	680.91	724.05	1,448,445.16	3,164,985.35	40.562865°N	104.906184°W
VIC EAST 21E-02-PBHL - plan hits target center - Point	0.00	0.00	7,254.00	643.36	10,346.82	1,448,471.77	3,174,608.16	40.562756°N	104.871550°W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
804.00	804.00	Fox Hills Base:				
3,514.31	3,499.00	Parkman:				
4,052.75	4,034.00	Sussex:				
4,626.41	4,604.00	Shannon:				
6,949.16	6,906.00	Sharon Springs (Confining Zone):				
6,971.19	6,926.00	Niobrara:				
6,990.22	6,943.00	A Chalk:				
7,014.20	6,964.00	A Marl:				
7,111.70	7,044.00	B2 Chalk:				
7,158.73	7,079.00	B Marl:				
7,217.53	7,119.00	C Chalk:				
7,293.76	7,164.00	C Marl:				
7,433.48	7,224.00	Ft Hays (Confining Zone):				
7,512.75	7,244.00	Codell:				
7,620.28	7,254.00	Landing Point:				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
900.00	900.00	0.00	0.00	Start Build 2.00
1,223.85	1,223.16	17.77	4.32	Start 5511.45 hold at 1223.85 MD
6,735.29	6,699.42	621.91	151.06	Start DLS 10.00 TFO 76.65
7,620.28	7,254.00	680.91	724.05	Start 9622.84 hold at 7620.28 MD
17,243.12	7,254.00	643.36	10,346.82	TD at 17243.12