

VERDAD RESOURCES

WATTENBERG FIELD

1N-64W-19 ONION 1907 PAD

ONION 1907-02H

Plan A

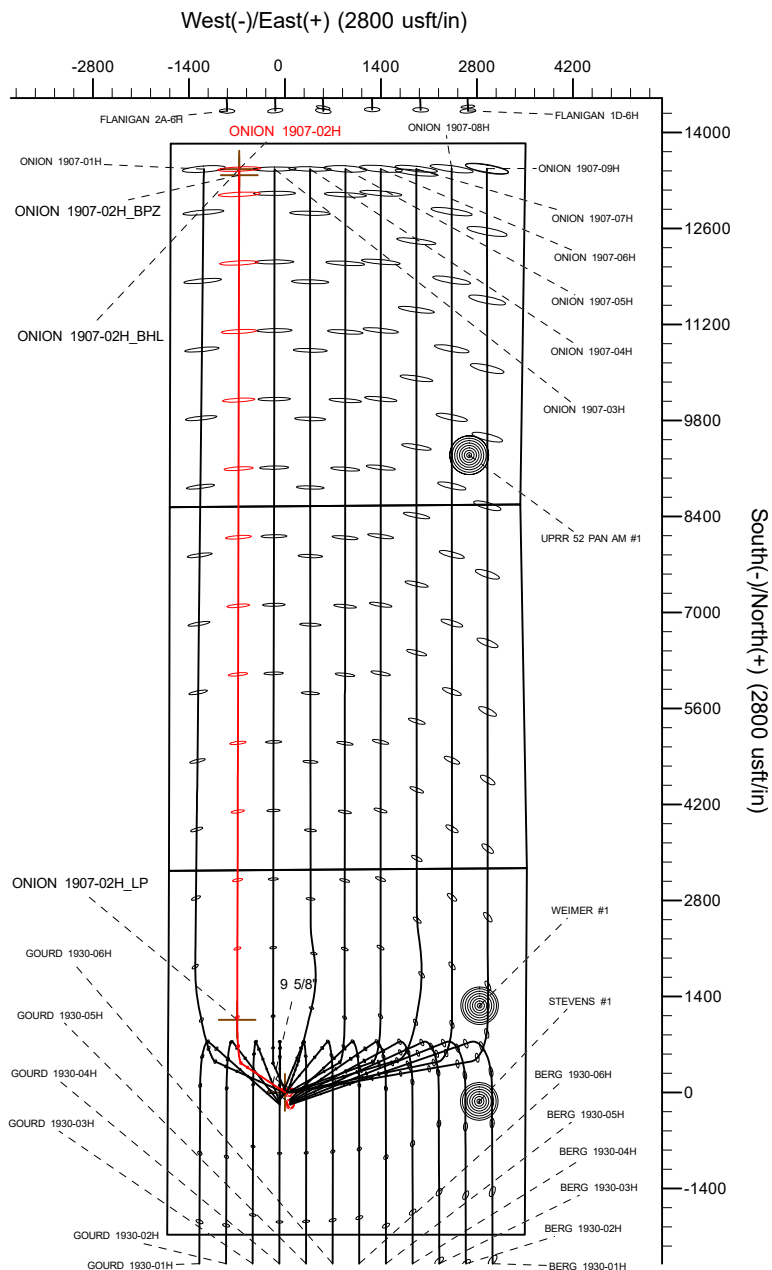
Plan: Design #1

Standard Planning Report

16 March, 2022

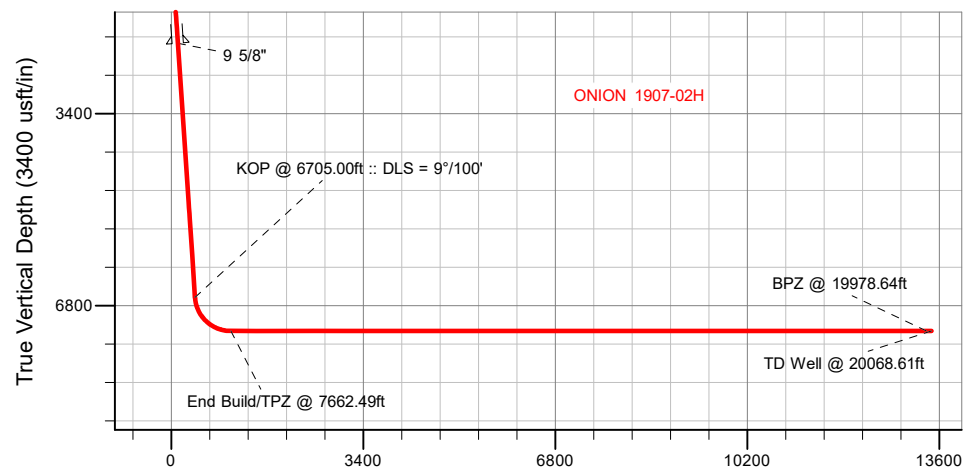
VERDAD RESOURCES

CASING DETAILS			
TVD	MD	Name	Size
2156.00	2168.65	9 5/8"	9-5/8




SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
220.00	0.00	0.00	220.00	0.00	0.00	0.00	0.00	0.00	
568.00	6.96	303.55	567.14	11.67	-17.59	2.00	303.55	11.62	
6705.00	6.96	303.55	6658.92	422.66	-637.36	0.00	0.00	421.10	
7662.49	90.00	0.14	7250.00	1058.00	-696.08	9.00	56.78	1056.30	
20068.61	90.00	0.14	7250.00	13464.09	-666.51	0.00	0.00	13462.42	ONION 1907-02H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
ONION 1907-02H_SHL	0.00	0.00	0.00	40.035251	-104.596711
ONION 1907-02H_LP	7250.00	1058.00	-696.08	40.038156	-104.599198
ONION 1907-02H_BPZ	7250.00	13374.12	-666.73	40.071966	-104.599094
ONION 1907-02H_BHL	7250.00	13464.09	-666.51	40.072213	-104.599093



Vertical Section at 0.14° (3400 usft/in)

 <p> T Azimuths to True North M Magnetic North: 7.65° Magnetic Field Strength: 51700.5nT Dip Angle: 66.36° Date: 3/12/2022 Model: IGRF2020 </p>	WELL DETAILS: ONION 1907-02H
	GL = 5011'
	RKB = 24' @ 5035.00usft (RIG)
	Plan: Design #1 (ONION 1907-02H/Plan A)
	Date: 3/16/2022

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ONION 1907-02H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5035.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5035.00usft (RIG)
Site:	1N-64W-19 ONION 1907 PAD	North Reference:	True
Well:	ONION 1907-02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Project	WATTENBERG FIELD		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		1N-64W-19 ONION 1907 PAD				
Site Position:		Northing:	1,256,976.07	usft	Latitude:	40.035252
From:	Lat/Long	Easting:	3,252,908.41	usft	Longitude:	-104.596769
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well		ONION 1907-02H				
Well Position	+N/-S	0.00 usft	Northing:	1,256,976.23 usft	Latitude:	40.035251
	+E/-W	0.00 usft	Easting:	3,252,924.39 usft	Longitude:	-104.596712
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	5,011.00 usft
Grid Convergence:		0.58 °				

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	3/12/2022	7.65	66.36	51,700.52466806

Design	Design #1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	0.14	

Plan Survey Tool Program	Date	3/16/2022			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,156.00	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	
2	2,156.00	20,068.61	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5035.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5035.00usft (RIG)
Site:	1N-64W-19 ONION 1907 PAD	North Reference:	True
Well:	ONION 1907-02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
220.00	0.00	0.00	220.00	0.00	0.00	0.00	0.00	0.00	0.00	
568.00	6.96	303.55	567.14	11.67	-17.59	2.00	2.00	0.00	303.55	
6,705.00	6.96	303.55	6,658.92	422.66	-637.36	0.00	0.00	0.00	0.00	
7,662.49	90.00	0.14	7,250.00	1,058.00	-696.08	9.00	8.67	5.91	56.78	
20,068.61	90.00	0.14	7,250.00	13,464.09	-666.51	0.00	0.00	0.00	0.00	ONION 1907-02H_BH

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ONION 1907-02H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5035.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5035.00usft (RIG)
Site:	1N-64W-19 ONION 1907 PAD	North Reference:	True
Well:	ONION 1907-02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
220.00	0.00	0.00	220.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 220.00ft									
300.00	1.60	303.55	299.99	0.62	-0.93	0.62	2.00	2.00	0.00
400.00	3.60	303.55	399.88	3.12	-4.71	3.11	2.00	2.00	0.00
500.00	5.60	303.55	499.55	7.56	-11.39	7.53	2.00	2.00	0.00
568.00	6.96	303.55	567.14	11.67	-17.59	11.62	2.00	2.00	0.00
Hold Tangent @ 568.00ft									
600.00	6.96	303.55	598.91	13.81	-20.83	13.76	0.00	0.00	0.00
700.00	6.96	303.55	698.17	20.51	-30.92	20.43	0.00	0.00	0.00
800.00	6.96	303.55	797.44	27.20	-41.02	27.10	0.00	0.00	0.00
900.00	6.96	303.55	896.70	33.90	-51.12	33.78	0.00	0.00	0.00
1,000.00	6.96	303.55	995.96	40.60	-61.22	40.45	0.00	0.00	0.00
1,100.00	6.96	303.55	1,095.22	47.30	-71.32	47.12	0.00	0.00	0.00
1,200.00	6.96	303.55	1,194.49	53.99	-81.42	53.79	0.00	0.00	0.00
1,300.00	6.96	303.55	1,293.75	60.69	-91.52	60.47	0.00	0.00	0.00
1,400.00	6.96	303.55	1,393.01	67.39	-101.62	67.14	0.00	0.00	0.00
1,500.00	6.96	303.55	1,492.28	74.08	-111.72	73.81	0.00	0.00	0.00
1,600.00	6.96	303.55	1,591.54	80.78	-121.81	80.48	0.00	0.00	0.00
1,700.00	6.96	303.55	1,690.80	87.48	-131.91	87.15	0.00	0.00	0.00
1,800.00	6.96	303.55	1,790.07	94.17	-142.01	93.83	0.00	0.00	0.00
1,900.00	6.96	303.55	1,889.33	100.87	-152.11	100.50	0.00	0.00	0.00
2,000.00	6.96	303.55	1,988.59	107.57	-162.21	107.17	0.00	0.00	0.00
2,100.00	6.96	303.55	2,087.86	114.26	-172.31	113.84	0.00	0.00	0.00
2,168.65	6.96	303.55	2,156.00	118.86	-179.24	118.42	0.00	0.00	0.00
9 5/8"									
2,200.00	6.96	303.55	2,187.12	120.96	-182.41	120.52	0.00	0.00	0.00
2,300.00	6.96	303.55	2,286.38	127.66	-192.51	127.19	0.00	0.00	0.00
2,400.00	6.96	303.55	2,385.64	134.36	-202.61	133.86	0.00	0.00	0.00
2,500.00	6.96	303.55	2,484.91	141.05	-212.70	140.53	0.00	0.00	0.00
2,600.00	6.96	303.55	2,584.17	147.75	-222.80	147.21	0.00	0.00	0.00
2,700.00	6.96	303.55	2,683.43	154.45	-232.90	153.88	0.00	0.00	0.00
2,800.00	6.96	303.55	2,782.70	161.14	-243.00	160.55	0.00	0.00	0.00
2,900.00	6.96	303.55	2,881.96	167.84	-253.10	167.22	0.00	0.00	0.00
3,000.00	6.96	303.55	2,981.22	174.54	-263.20	173.89	0.00	0.00	0.00
3,100.00	6.96	303.55	3,080.49	181.23	-273.30	180.57	0.00	0.00	0.00
3,200.00	6.96	303.55	3,179.75	187.93	-283.40	187.24	0.00	0.00	0.00
3,300.00	6.96	303.55	3,279.01	194.63	-293.50	193.91	0.00	0.00	0.00
3,400.00	6.96	303.55	3,378.28	201.33	-303.59	200.58	0.00	0.00	0.00
3,500.00	6.96	303.55	3,477.54	208.02	-313.69	207.26	0.00	0.00	0.00
3,600.00	6.96	303.55	3,576.80	214.72	-323.79	213.93	0.00	0.00	0.00
3,700.00	6.96	303.55	3,676.07	221.42	-333.89	220.60	0.00	0.00	0.00
3,800.00	6.96	303.55	3,775.33	228.11	-343.99	227.27	0.00	0.00	0.00
3,900.00	6.96	303.55	3,874.59	234.81	-354.09	233.94	0.00	0.00	0.00
4,000.00	6.96	303.55	3,973.85	241.51	-364.19	240.62	0.00	0.00	0.00
4,100.00	6.96	303.55	4,073.12	248.20	-374.29	247.29	0.00	0.00	0.00
4,200.00	6.96	303.55	4,172.38	254.90	-384.39	253.96	0.00	0.00	0.00
4,300.00	6.96	303.55	4,271.64	261.60	-394.48	260.63	0.00	0.00	0.00
4,400.00	6.96	303.55	4,370.91	268.30	-404.58	267.31	0.00	0.00	0.00
4,500.00	6.96	303.55	4,470.17	274.99	-414.68	273.98	0.00	0.00	0.00
4,600.00	6.96	303.55	4,569.43	281.69	-424.78	280.65	0.00	0.00	0.00

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5035.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5035.00usft (RIG)
Site:	1N-64W-19 ONION 1907 PAD	North Reference:	True
Well:	ONION 1907-02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,700.00	6.96	303.55	4,668.70	288.39	-434.88	287.32	0.00	0.00	0.00
4,800.00	6.96	303.55	4,767.96	295.08	-444.98	294.00	0.00	0.00	0.00
4,900.00	6.96	303.55	4,867.22	301.78	-455.08	300.67	0.00	0.00	0.00
5,000.00	6.96	303.55	4,966.49	308.48	-465.18	307.34	0.00	0.00	0.00
5,100.00	6.96	303.55	5,065.75	315.17	-475.28	314.01	0.00	0.00	0.00
5,200.00	6.96	303.55	5,165.01	321.87	-485.37	320.68	0.00	0.00	0.00
5,300.00	6.96	303.55	5,264.27	328.57	-495.47	327.36	0.00	0.00	0.00
5,400.00	6.96	303.55	5,363.54	335.27	-505.57	334.03	0.00	0.00	0.00
5,500.00	6.96	303.55	5,462.80	341.96	-515.67	340.70	0.00	0.00	0.00
5,600.00	6.96	303.55	5,562.06	348.66	-525.77	347.37	0.00	0.00	0.00
5,700.00	6.96	303.55	5,661.33	355.36	-535.87	354.05	0.00	0.00	0.00
5,800.00	6.96	303.55	5,760.59	362.05	-545.97	360.72	0.00	0.00	0.00
5,900.00	6.96	303.55	5,859.85	368.75	-556.07	367.39	0.00	0.00	0.00
6,000.00	6.96	303.55	5,959.12	375.45	-566.17	374.06	0.00	0.00	0.00
6,100.00	6.96	303.55	6,058.38	382.14	-576.26	380.74	0.00	0.00	0.00
6,200.00	6.96	303.55	6,157.64	388.84	-586.36	387.41	0.00	0.00	0.00
6,300.00	6.96	303.55	6,256.91	395.54	-596.46	394.08	0.00	0.00	0.00
6,400.00	6.96	303.55	6,356.17	402.24	-606.56	400.75	0.00	0.00	0.00
6,500.00	6.96	303.55	6,455.43	408.93	-616.66	407.42	0.00	0.00	0.00
6,600.00	6.96	303.55	6,554.70	415.63	-626.76	414.10	0.00	0.00	0.00
6,705.00	6.96	303.55	6,658.92	422.66	-637.36	421.10	0.00	0.00	0.00
KOP @ 6705.00ft :: DLS = 9°/100'									
6,750.00	9.78	323.90	6,703.45	427.26	-641.89	425.69	9.00	6.27	45.23
6,800.00	13.66	335.34	6,752.40	436.06	-646.86	434.48	9.00	7.75	22.88
6,850.00	17.82	341.66	6,800.52	448.69	-651.73	447.10	9.00	8.33	12.64
6,900.00	22.12	345.62	6,847.50	465.08	-656.48	463.48	9.00	8.59	7.91
6,950.00	26.48	348.33	6,893.07	485.13	-661.07	483.51	9.00	8.72	5.43
7,000.00	30.88	350.32	6,936.92	508.70	-665.49	507.07	9.00	8.80	3.98
7,050.00	35.30	351.86	6,978.81	535.66	-669.69	534.02	9.00	8.84	3.07
7,100.00	39.73	353.10	7,018.46	565.84	-673.66	564.20	9.00	8.87	2.47
7,150.00	44.18	354.12	7,055.63	599.06	-677.37	597.40	9.00	8.90	2.05
7,200.00	48.64	354.99	7,090.09	635.10	-680.79	633.43	9.00	8.91	1.74
7,250.00	53.10	355.75	7,121.64	673.75	-683.91	672.08	9.00	8.92	1.52
7,300.00	57.56	356.42	7,150.08	714.77	-686.71	713.08	9.00	8.93	1.35
7,350.00	62.03	357.04	7,175.22	757.90	-689.17	756.21	9.00	8.94	1.22
7,400.00	66.51	357.60	7,196.92	802.88	-691.28	801.19	9.00	8.94	1.13
7,450.00	70.98	358.12	7,215.05	849.43	-693.01	847.74	9.00	8.95	1.05
7,500.00	75.45	358.62	7,229.48	897.27	-694.37	895.57	9.00	8.95	1.00
7,550.00	79.93	359.10	7,240.14	946.10	-695.34	944.40	9.00	8.95	0.96
7,600.00	84.41	359.56	7,246.95	995.62	-695.92	993.91	9.00	8.95	0.93
7,650.00	88.88	0.02	7,249.88	1,045.52	-696.10	1,043.81	9.00	8.95	0.92
7,662.49	90.00	0.14	7,250.00	1,058.00	-696.08	1,056.30	9.00	8.95	0.91
End Build/TPZ @ 7662.49ft									
7,700.00	90.00	0.14	7,250.00	1,095.52	-695.99	1,093.81	0.00	0.00	0.00
7,800.00	90.00	0.14	7,250.00	1,195.52	-695.75	1,193.81	0.00	0.00	0.00
7,900.00	90.00	0.14	7,250.00	1,295.52	-695.51	1,293.81	0.00	0.00	0.00
8,000.00	90.00	0.14	7,250.00	1,395.52	-695.27	1,393.81	0.00	0.00	0.00
8,100.00	90.00	0.14	7,250.00	1,495.52	-695.04	1,493.81	0.00	0.00	0.00
8,200.00	90.00	0.14	7,250.00	1,595.51	-694.80	1,593.81	0.00	0.00	0.00
8,300.00	90.00	0.14	7,250.00	1,695.51	-694.56	1,693.81	0.00	0.00	0.00
8,400.00	90.00	0.14	7,250.00	1,795.51	-694.32	1,793.81	0.00	0.00	0.00
8,500.00	90.00	0.14	7,250.00	1,895.51	-694.08	1,893.81	0.00	0.00	0.00
8,600.00	90.00	0.14	7,250.00	1,995.51	-693.84	1,993.81	0.00	0.00	0.00
8,700.00	90.00	0.14	7,250.00	2,095.51	-693.61	2,093.81	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ONION 1907-02H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5035.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5035.00usft (RIG)
Site:	1N-64W-19 ONION 1907 PAD	North Reference:	True
Well:	ONION 1907-02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,800.00	90.00	0.14	7,250.00	2,195.51	-693.37	2,193.81	0.00	0.00	0.00	
8,900.00	90.00	0.14	7,250.00	2,295.51	-693.13	2,293.81	0.00	0.00	0.00	
9,000.00	90.00	0.14	7,250.00	2,395.51	-692.89	2,393.81	0.00	0.00	0.00	
9,100.00	90.00	0.14	7,250.00	2,495.51	-692.65	2,493.81	0.00	0.00	0.00	
9,200.00	90.00	0.14	7,250.00	2,595.51	-692.41	2,593.81	0.00	0.00	0.00	
9,300.00	90.00	0.14	7,250.00	2,695.51	-692.18	2,693.81	0.00	0.00	0.00	
9,400.00	90.00	0.14	7,250.00	2,795.51	-691.94	2,793.81	0.00	0.00	0.00	
9,500.00	90.00	0.14	7,250.00	2,895.51	-691.70	2,893.81	0.00	0.00	0.00	
9,600.00	90.00	0.14	7,250.00	2,995.51	-691.46	2,993.81	0.00	0.00	0.00	
9,700.00	90.00	0.14	7,250.00	3,095.51	-691.22	3,093.81	0.00	0.00	0.00	
9,800.00	90.00	0.14	7,250.00	3,195.51	-690.98	3,193.81	0.00	0.00	0.00	
9,900.00	90.00	0.14	7,250.00	3,295.51	-690.75	3,293.81	0.00	0.00	0.00	
10,000.00	90.00	0.14	7,250.00	3,395.51	-690.51	3,393.81	0.00	0.00	0.00	
10,100.00	90.00	0.14	7,250.00	3,495.51	-690.27	3,493.81	0.00	0.00	0.00	
10,200.00	90.00	0.14	7,250.00	3,595.51	-690.03	3,593.81	0.00	0.00	0.00	
10,300.00	90.00	0.14	7,250.00	3,695.51	-689.79	3,693.81	0.00	0.00	0.00	
10,400.00	90.00	0.14	7,250.00	3,795.51	-689.55	3,793.81	0.00	0.00	0.00	
10,500.00	90.00	0.14	7,250.00	3,895.51	-689.31	3,893.81	0.00	0.00	0.00	
10,600.00	90.00	0.14	7,250.00	3,995.51	-689.08	3,993.81	0.00	0.00	0.00	
10,700.00	90.00	0.14	7,250.00	4,095.51	-688.84	4,093.81	0.00	0.00	0.00	
10,800.00	90.00	0.14	7,250.00	4,195.51	-688.60	4,193.81	0.00	0.00	0.00	
10,900.00	90.00	0.14	7,250.00	4,295.51	-688.36	4,293.81	0.00	0.00	0.00	
11,000.00	90.00	0.14	7,250.00	4,395.51	-688.12	4,393.81	0.00	0.00	0.00	
11,100.00	90.00	0.14	7,250.00	4,495.51	-687.88	4,493.81	0.00	0.00	0.00	
11,200.00	90.00	0.14	7,250.00	4,595.51	-687.65	4,593.81	0.00	0.00	0.00	
11,300.00	90.00	0.14	7,250.00	4,695.51	-687.41	4,693.81	0.00	0.00	0.00	
11,400.00	90.00	0.14	7,250.00	4,795.51	-687.17	4,793.81	0.00	0.00	0.00	
11,500.00	90.00	0.14	7,250.00	4,895.51	-686.93	4,893.81	0.00	0.00	0.00	
11,600.00	90.00	0.14	7,250.00	4,995.51	-686.69	4,993.81	0.00	0.00	0.00	
11,700.00	90.00	0.14	7,250.00	5,095.51	-686.45	5,093.81	0.00	0.00	0.00	
11,800.00	90.00	0.14	7,250.00	5,195.50	-686.22	5,193.81	0.00	0.00	0.00	
11,900.00	90.00	0.14	7,250.00	5,295.50	-685.98	5,293.81	0.00	0.00	0.00	
12,000.00	90.00	0.14	7,250.00	5,395.50	-685.74	5,393.81	0.00	0.00	0.00	
12,100.00	90.00	0.14	7,250.00	5,495.50	-685.50	5,493.81	0.00	0.00	0.00	
12,200.00	90.00	0.14	7,250.00	5,595.50	-685.26	5,593.81	0.00	0.00	0.00	
12,300.00	90.00	0.14	7,250.00	5,695.50	-685.02	5,693.81	0.00	0.00	0.00	
12,400.00	90.00	0.14	7,250.00	5,795.50	-684.79	5,793.81	0.00	0.00	0.00	
12,500.00	90.00	0.14	7,250.00	5,895.50	-684.55	5,893.81	0.00	0.00	0.00	
12,600.00	90.00	0.14	7,250.00	5,995.50	-684.31	5,993.81	0.00	0.00	0.00	
12,700.00	90.00	0.14	7,250.00	6,095.50	-684.07	6,093.81	0.00	0.00	0.00	
12,800.00	90.00	0.14	7,250.00	6,195.50	-683.83	6,193.81	0.00	0.00	0.00	
12,900.00	90.00	0.14	7,250.00	6,295.50	-683.59	6,293.81	0.00	0.00	0.00	
13,000.00	90.00	0.14	7,250.00	6,395.50	-683.36	6,393.81	0.00	0.00	0.00	
13,100.00	90.00	0.14	7,250.00	6,495.50	-683.12	6,493.81	0.00	0.00	0.00	
13,200.00	90.00	0.14	7,250.00	6,595.50	-682.88	6,593.81	0.00	0.00	0.00	
13,300.00	90.00	0.14	7,250.00	6,695.50	-682.64	6,693.81	0.00	0.00	0.00	
13,400.00	90.00	0.14	7,250.00	6,795.50	-682.40	6,793.81	0.00	0.00	0.00	
13,500.00	90.00	0.14	7,250.00	6,895.50	-682.16	6,893.81	0.00	0.00	0.00	
13,600.00	90.00	0.14	7,250.00	6,995.50	-681.93	6,993.81	0.00	0.00	0.00	
13,700.00	90.00	0.14	7,250.00	7,095.50	-681.69	7,093.81	0.00	0.00	0.00	
13,800.00	90.00	0.14	7,250.00	7,195.50	-681.45	7,193.81	0.00	0.00	0.00	
13,900.00	90.00	0.14	7,250.00	7,295.50	-681.21	7,293.81	0.00	0.00	0.00	
14,000.00	90.00	0.14	7,250.00	7,395.50	-680.97	7,393.81	0.00	0.00	0.00	
14,100.00	90.00	0.14	7,250.00	7,495.50	-680.73	7,493.81	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ONION 1907-02H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5035.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5035.00usft (RIG)
Site:	1N-64W-19 ONION 1907 PAD	North Reference:	True
Well:	ONION 1907-02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,200.00	90.00	0.14	7,250.00	7,595.50	-680.50	7,593.81	0.00	0.00	0.00
14,300.00	90.00	0.14	7,250.00	7,695.50	-680.26	7,693.81	0.00	0.00	0.00
14,400.00	90.00	0.14	7,250.00	7,795.50	-680.02	7,793.81	0.00	0.00	0.00
14,500.00	90.00	0.14	7,250.00	7,895.50	-679.78	7,893.81	0.00	0.00	0.00
14,600.00	90.00	0.14	7,250.00	7,995.50	-679.54	7,993.81	0.00	0.00	0.00
14,700.00	90.00	0.14	7,250.00	8,095.50	-679.30	8,093.81	0.00	0.00	0.00
14,800.00	90.00	0.14	7,250.00	8,195.50	-679.07	8,193.81	0.00	0.00	0.00
14,900.00	90.00	0.14	7,250.00	8,295.50	-678.83	8,293.81	0.00	0.00	0.00
15,000.00	90.00	0.14	7,250.00	8,395.50	-678.59	8,393.81	0.00	0.00	0.00
15,100.00	90.00	0.14	7,250.00	8,495.50	-678.35	8,493.81	0.00	0.00	0.00
15,200.00	90.00	0.14	7,250.00	8,595.50	-678.11	8,593.81	0.00	0.00	0.00
15,300.00	90.00	0.14	7,250.00	8,695.49	-677.87	8,693.81	0.00	0.00	0.00
15,400.00	90.00	0.14	7,250.00	8,795.49	-677.64	8,793.81	0.00	0.00	0.00
15,500.00	90.00	0.14	7,250.00	8,895.49	-677.40	8,893.81	0.00	0.00	0.00
15,600.00	90.00	0.14	7,250.00	8,995.49	-677.16	8,993.81	0.00	0.00	0.00
15,700.00	90.00	0.14	7,250.00	9,095.49	-676.92	9,093.81	0.00	0.00	0.00
15,800.00	90.00	0.14	7,250.00	9,195.49	-676.68	9,193.81	0.00	0.00	0.00
15,900.00	90.00	0.14	7,250.00	9,295.49	-676.44	9,293.81	0.00	0.00	0.00
16,000.00	90.00	0.14	7,250.00	9,395.49	-676.21	9,393.81	0.00	0.00	0.00
16,100.00	90.00	0.14	7,250.00	9,495.49	-675.97	9,493.81	0.00	0.00	0.00
16,200.00	90.00	0.14	7,250.00	9,595.49	-675.73	9,593.81	0.00	0.00	0.00
16,300.00	90.00	0.14	7,250.00	9,695.49	-675.49	9,693.81	0.00	0.00	0.00
16,400.00	90.00	0.14	7,250.00	9,795.49	-675.25	9,793.81	0.00	0.00	0.00
16,500.00	90.00	0.14	7,250.00	9,895.49	-675.01	9,893.81	0.00	0.00	0.00
16,600.00	90.00	0.14	7,250.00	9,995.49	-674.78	9,993.81	0.00	0.00	0.00
16,700.00	90.00	0.14	7,250.00	10,095.49	-674.54	10,093.81	0.00	0.00	0.00
16,800.00	90.00	0.14	7,250.00	10,195.49	-674.30	10,193.81	0.00	0.00	0.00
16,900.00	90.00	0.14	7,250.00	10,295.49	-674.06	10,293.81	0.00	0.00	0.00
17,000.00	90.00	0.14	7,250.00	10,395.49	-673.82	10,393.81	0.00	0.00	0.00
17,100.00	90.00	0.14	7,250.00	10,495.49	-673.58	10,493.81	0.00	0.00	0.00
17,200.00	90.00	0.14	7,250.00	10,595.49	-673.34	10,593.81	0.00	0.00	0.00
17,300.00	90.00	0.14	7,250.00	10,695.49	-673.11	10,693.81	0.00	0.00	0.00
17,400.00	90.00	0.14	7,250.00	10,795.49	-672.87	10,793.81	0.00	0.00	0.00
17,500.00	90.00	0.14	7,250.00	10,895.49	-672.63	10,893.81	0.00	0.00	0.00
17,600.00	90.00	0.14	7,250.00	10,995.49	-672.39	10,993.81	0.00	0.00	0.00
17,700.00	90.00	0.14	7,250.00	11,095.49	-672.15	11,093.81	0.00	0.00	0.00
17,800.00	90.00	0.14	7,250.00	11,195.49	-671.91	11,193.81	0.00	0.00	0.00
17,900.00	90.00	0.14	7,250.00	11,295.49	-671.68	11,293.81	0.00	0.00	0.00
18,000.00	90.00	0.14	7,250.00	11,395.49	-671.44	11,393.81	0.00	0.00	0.00
18,100.00	90.00	0.14	7,250.00	11,495.49	-671.20	11,493.81	0.00	0.00	0.00
18,200.00	90.00	0.14	7,250.00	11,595.49	-670.96	11,593.81	0.00	0.00	0.00
18,300.00	90.00	0.14	7,250.00	11,695.49	-670.72	11,693.81	0.00	0.00	0.00
18,400.00	90.00	0.14	7,250.00	11,795.49	-670.48	11,793.81	0.00	0.00	0.00
18,500.00	90.00	0.14	7,250.00	11,895.49	-670.25	11,893.81	0.00	0.00	0.00
18,600.00	90.00	0.14	7,250.00	11,995.49	-670.01	11,993.81	0.00	0.00	0.00
18,700.00	90.00	0.14	7,250.00	12,095.49	-669.77	12,093.81	0.00	0.00	0.00
18,800.00	90.00	0.14	7,250.00	12,195.49	-669.53	12,193.81	0.00	0.00	0.00
18,900.00	90.00	0.14	7,250.00	12,295.48	-669.29	12,293.81	0.00	0.00	0.00
19,000.00	90.00	0.14	7,250.00	12,395.48	-669.05	12,393.81	0.00	0.00	0.00
19,100.00	90.00	0.14	7,250.00	12,495.48	-668.82	12,493.81	0.00	0.00	0.00
19,200.00	90.00	0.14	7,250.00	12,595.48	-668.58	12,593.81	0.00	0.00	0.00
19,300.00	90.00	0.14	7,250.00	12,695.48	-668.34	12,693.81	0.00	0.00	0.00
19,400.00	90.00	0.14	7,250.00	12,795.48	-668.10	12,793.81	0.00	0.00	0.00
19,500.00	90.00	0.14	7,250.00	12,895.48	-667.86	12,893.81	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well ONION 1907-02H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5035.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5035.00usft (RIG)
Site:	1N-64W-19 ONION 1907 PAD	North Reference:	True
Well:	ONION 1907-02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
19,600.00	90.00	0.14	7,250.00	12,995.48	-667.62	12,993.81	0.00	0.00	0.00	
19,700.00	90.00	0.14	7,250.00	13,095.48	-667.39	13,093.81	0.00	0.00	0.00	
19,800.00	90.00	0.14	7,250.00	13,195.48	-667.15	13,193.81	0.00	0.00	0.00	
19,900.00	90.00	0.14	7,250.00	13,295.48	-666.91	13,293.81	0.00	0.00	0.00	
19,978.64	90.00	0.14	7,250.00	13,374.12	-666.72	13,372.45	0.00	0.00	0.00	
BPZ @ 19978.64ft										
20,000.00	90.00	0.14	7,250.00	13,395.48	-666.67	13,393.81	0.00	0.00	0.00	
20,068.61	90.00	0.14	7,250.00	13,464.09	-666.51	13,462.42	0.00	0.00	0.00	
TD Well @ 20068.61ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
2,168.65	2,156.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
220.00	220.00	0.00	0.00	Begin Nudge @ 220.00ft	
568.00	567.14	11.67	-17.59	Hold Tangent @ 568.00ft	
6,705.00	6,658.92	422.66	-637.36	KOP @ 6705.00ft :: DLS = 9°/100'	
7,662.49	7,250.00	1,058.00	-696.08	End Build/TPZ @ 7662.49ft	
19,978.64	7,250.00	13,374.12	-666.72	BPZ @ 19978.64ft	
20,068.61	7,250.00	13,464.09	-666.51	TD Well @ 20068.61ft	