

VERDAD RESOURCES

WATTENBERG FIELD

1N-65W-12 WUERTZ 1201 PAD

WUERTZ 1201-16H

Wellbore #1

Plan: Design #1

Standard Planning Report

27 February, 2018

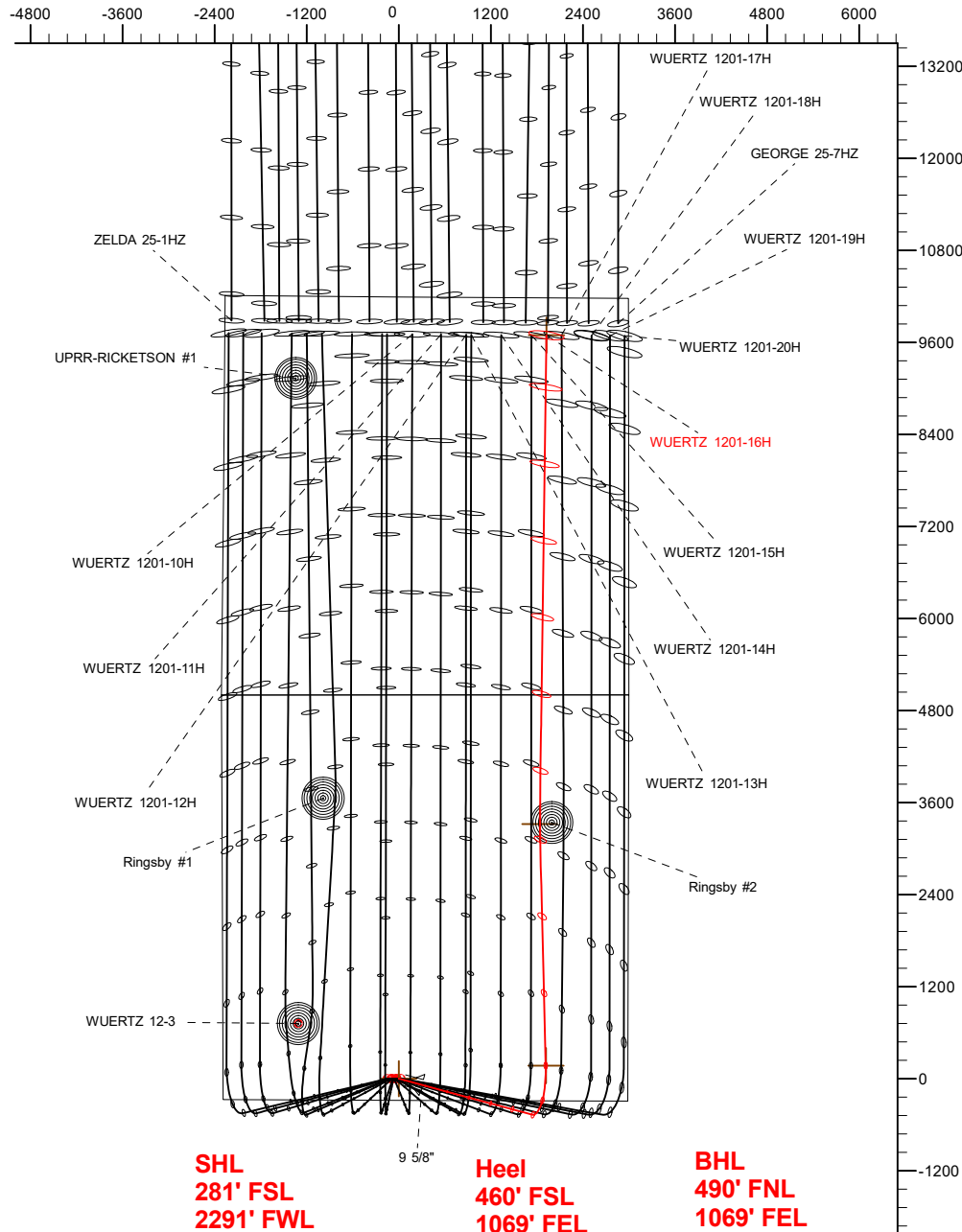
Project: WATTENBERG FIELD
Site: 1N-65W-12 WUERTZ 1201 PAD
Well: WUERTZ 1201-16H
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1740.57	9 5/8"	9-5/8

West(-)/East(+) (2400 usft/in)

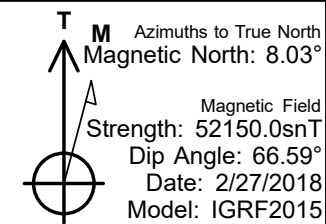
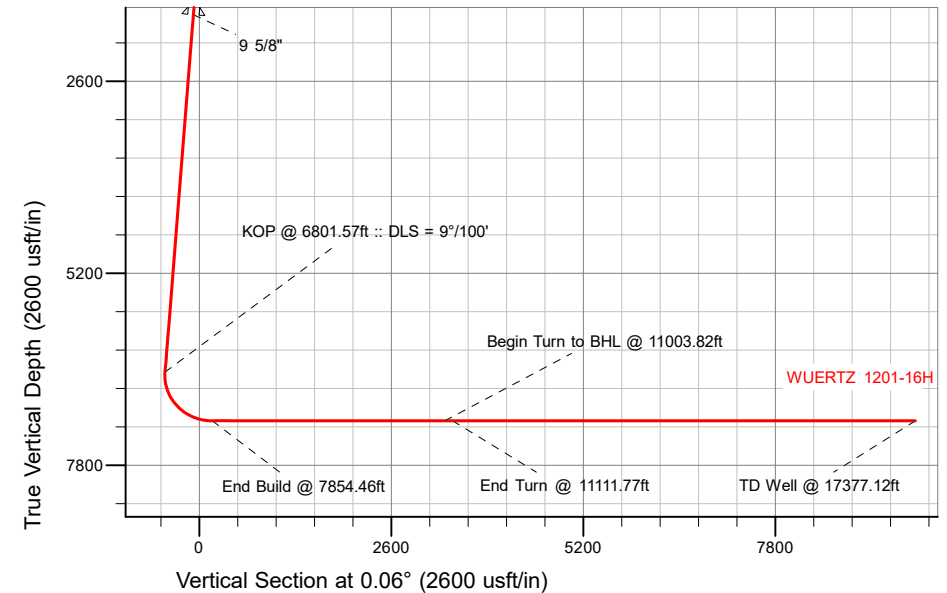


SECTION DETAILS

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1102.50	17.05	105.07	1089.97	-32.74	121.58	2.00	105.07	-32.61	
4	6801.57	17.05	105.07	6538.57	-467.20	1735.11	0.00	0.00	-465.38	
5	7854.46	90.00	358.63	7200.00	171.71	1914.42	9.00	-105.76	173.71	
6	11003.82	90.00	358.63	7200.00	3320.16	1839.00	0.00	0.00	3322.08	WUERTZ 1201-16H_tgt
7	11111.77	90.00	0.79	7200.00	3428.10	1838.45	2.00	90.00	3430.02	
8	17377.12	90.00	0.79	7200.00	9692.86	1924.46	0.00	0.00	9694.87	WUERTZ 1201-16H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
WUERTZ 1201-16H_SHL	0.00	0.00	0.00	40.059485	-104.613373
WUERTZ 1201-16H_BHL	7200.00	9692.86	1924.46	40.086093	-104.606495



WELL DETAILS: WUERTZ 1201-16H

GL = 4981'

RKB = 20' @ 5001.00usft (RIG)

Plan: Design #1 (WUERTZ 1201-16H/Wellbore #1)

Created By: _____ Date: 2/27/2018
Reviewed: _____ Date: _____

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well WUERTZ 1201-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5001.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5001.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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-65W-12 WUERTZ 1201 PAD			
Site Position:		Northing:	1,265,754.92 usft	Latitude:	40.059485
From:	Lat/Long	Easting:	3,248,020.92 usft	Longitude:	-104.613909
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.57 °

Well	WUERTZ 1201-16H					
Well Position	+N/-S	-0.11 usft	Northing:	1,265,756.31 usft	Latitude:	40.059485
	+E/-W	150.03 usft	Easting:	3,248,170.95 usft	Longitude:	-104.613373
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,981.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/27/2018	8.03	66.59	52,149.98041331

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	0.06	

Plan Survey Tool Program		Date	2/27/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	
2	1,700.00	17,377.12	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5001.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5001.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,102.50	17.05	105.07	1,089.97	-32.74	121.58	2.00	2.00	0.00	105.07	
6,801.57	17.05	105.07	6,538.57	-467.20	1,735.11	0.00	0.00	0.00	0.00	
7,854.46	90.00	358.63	7,200.00	171.71	1,914.42	9.00	6.93	-10.11	-105.76	
11,003.82	90.00	358.63	7,200.00	3,320.16	1,839.00	0.00	0.00	0.00	0.00	WUERTZ 1201-16H_1
11,111.77	90.00	0.79	7,200.00	3,428.10	1,838.45	2.00	0.00	2.00	90.00	
17,377.12	90.00	0.79	7,200.00	9,692.86	1,924.46	0.00	0.00	0.00	0.00	WUERTZ 1201-16H_1

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well WUERTZ 1201-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5001.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5001.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Tangent @ 250.00ft									
300.00	1.00	105.07	300.00	-0.11	0.42	-0.11	2.00	2.00	0.00
400.00	3.00	105.07	399.93	-1.02	3.79	-1.02	2.00	2.00	0.00
500.00	5.00	105.07	499.68	-2.83	10.53	-2.82	2.00	2.00	0.00
600.00	7.00	105.07	599.13	-5.55	20.62	-5.53	2.00	2.00	0.00
700.00	9.00	105.07	698.15	-9.17	34.06	-9.13	2.00	2.00	0.00
800.00	11.00	105.07	796.63	-13.68	50.82	-13.63	2.00	2.00	0.00
900.00	13.00	105.07	894.44	-19.09	70.90	-19.02	2.00	2.00	0.00
1,000.00	15.00	105.07	991.46	-25.38	94.26	-25.28	2.00	2.00	0.00
1,102.50	17.05	105.07	1,089.97	-32.74	121.58	-32.61	2.00	2.00	0.00
End Tangent @ 1102.50ft									
1,200.00	17.05	105.07	1,183.19	-40.17	149.18	-40.01	0.00	0.00	0.00
1,300.00	17.05	105.07	1,278.79	-47.79	177.50	-47.61	0.00	0.00	0.00
1,400.00	17.05	105.07	1,374.40	-55.42	205.81	-55.20	0.00	0.00	0.00
1,500.00	17.05	105.07	1,470.00	-63.04	234.12	-62.79	0.00	0.00	0.00
1,600.00	17.05	105.07	1,565.61	-70.66	262.43	-70.39	0.00	0.00	0.00
1,700.00	17.05	105.07	1,661.21	-78.29	290.75	-77.98	0.00	0.00	0.00
1,740.57	17.05	105.07	1,700.00	-81.38	302.23	-81.06	0.00	0.00	0.00
9 5/8"									
1,800.00	17.05	105.07	1,756.82	-85.91	319.06	-85.57	0.00	0.00	0.00
1,900.00	17.05	105.07	1,852.42	-93.53	347.37	-93.17	0.00	0.00	0.00
2,000.00	17.05	105.07	1,948.03	-101.16	375.68	-100.76	0.00	0.00	0.00
2,100.00	17.05	105.07	2,043.63	-108.78	403.99	-108.36	0.00	0.00	0.00
2,200.00	17.05	105.07	2,139.24	-116.40	432.31	-115.95	0.00	0.00	0.00
2,300.00	17.05	105.07	2,234.84	-124.03	460.62	-123.54	0.00	0.00	0.00
2,400.00	17.05	105.07	2,330.45	-131.65	488.93	-131.14	0.00	0.00	0.00
2,500.00	17.05	105.07	2,426.05	-139.27	517.24	-138.73	0.00	0.00	0.00
2,600.00	17.05	105.07	2,521.66	-146.90	545.56	-146.32	0.00	0.00	0.00
2,700.00	17.05	105.07	2,617.26	-154.52	573.87	-153.92	0.00	0.00	0.00
2,800.00	17.05	105.07	2,712.87	-162.14	602.18	-161.51	0.00	0.00	0.00
2,900.00	17.05	105.07	2,808.47	-169.77	630.49	-169.11	0.00	0.00	0.00
3,000.00	17.05	105.07	2,904.08	-177.39	658.80	-176.70	0.00	0.00	0.00
3,100.00	17.05	105.07	2,999.68	-185.01	687.12	-184.29	0.00	0.00	0.00
3,200.00	17.05	105.07	3,095.29	-192.64	715.43	-191.89	0.00	0.00	0.00
3,300.00	17.05	105.07	3,190.89	-200.26	743.74	-199.48	0.00	0.00	0.00
3,400.00	17.05	105.07	3,286.50	-207.88	772.05	-207.07	0.00	0.00	0.00
3,500.00	17.05	105.07	3,382.10	-215.51	800.37	-214.67	0.00	0.00	0.00
3,600.00	17.05	105.07	3,477.71	-223.13	828.68	-222.26	0.00	0.00	0.00
3,700.00	17.05	105.07	3,573.31	-230.75	856.99	-229.85	0.00	0.00	0.00
3,800.00	17.05	105.07	3,668.92	-238.38	885.30	-237.45	0.00	0.00	0.00
3,900.00	17.05	105.07	3,764.52	-246.00	913.61	-245.04	0.00	0.00	0.00
4,000.00	17.05	105.07	3,860.13	-253.62	941.93	-252.64	0.00	0.00	0.00
4,100.00	17.05	105.07	3,955.73	-261.25	970.24	-260.23	0.00	0.00	0.00
4,200.00	17.05	105.07	4,051.34	-268.87	998.55	-267.82	0.00	0.00	0.00
4,300.00	17.05	105.07	4,146.94	-276.49	1,026.86	-275.42	0.00	0.00	0.00
4,400.00	17.05	105.07	4,242.55	-284.12	1,055.18	-283.01	0.00	0.00	0.00
4,500.00	17.05	105.07	4,338.15	-291.74	1,083.49	-290.60	0.00	0.00	0.00
4,600.00	17.05	105.07	4,433.76	-299.36	1,111.80	-298.20	0.00	0.00	0.00
4,700.00	17.05	105.07	4,529.36	-306.99	1,140.11	-305.79	0.00	0.00	0.00

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5001.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5001.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)
4,800.00	17.05	105.07	4,624.97	-314.61	1,168.42	-313.39	0.00	0.00	0.00
4,900.00	17.05	105.07	4,720.57	-322.23	1,196.74	-320.98	0.00	0.00	0.00
5,000.00	17.05	105.07	4,816.18	-329.86	1,225.05	-328.57	0.00	0.00	0.00
5,100.00	17.05	105.07	4,911.78	-337.48	1,253.36	-336.17	0.00	0.00	0.00
5,200.00	17.05	105.07	5,007.39	-345.10	1,281.67	-343.76	0.00	0.00	0.00
5,300.00	17.05	105.07	5,102.99	-352.73	1,309.99	-351.35	0.00	0.00	0.00
5,400.00	17.05	105.07	5,198.60	-360.35	1,338.30	-358.95	0.00	0.00	0.00
5,500.00	17.05	105.07	5,294.20	-367.97	1,366.61	-366.54	0.00	0.00	0.00
5,600.00	17.05	105.07	5,389.81	-375.60	1,394.92	-374.13	0.00	0.00	0.00
5,700.00	17.05	105.07	5,485.41	-383.22	1,423.23	-381.73	0.00	0.00	0.00
5,800.00	17.05	105.07	5,581.02	-390.84	1,451.55	-389.32	0.00	0.00	0.00
5,900.00	17.05	105.07	5,676.62	-398.47	1,479.86	-396.92	0.00	0.00	0.00
6,000.00	17.05	105.07	5,772.23	-406.09	1,508.17	-404.51	0.00	0.00	0.00
6,100.00	17.05	105.07	5,867.83	-413.71	1,536.48	-412.10	0.00	0.00	0.00
6,200.00	17.05	105.07	5,963.43	-421.34	1,564.80	-419.70	0.00	0.00	0.00
6,300.00	17.05	105.07	6,059.04	-428.96	1,593.11	-427.29	0.00	0.00	0.00
6,400.00	17.05	105.07	6,154.64	-436.58	1,621.42	-434.88	0.00	0.00	0.00
6,500.00	17.05	105.07	6,250.25	-444.21	1,649.73	-442.48	0.00	0.00	0.00
6,600.00	17.05	105.07	6,345.85	-451.83	1,678.05	-450.07	0.00	0.00	0.00
6,700.00	17.05	105.07	6,441.46	-459.45	1,706.36	-457.67	0.00	0.00	0.00
6,801.57	17.05	105.07	6,538.57	-467.20	1,735.11	-465.38	0.00	0.00	0.00
KOP @ 6801.57ft :: DLS = 9°/100'									
6,850.00	16.40	90.05	6,584.97	-469.05	1,748.81	-467.22	9.00	-1.35	-31.01
6,900.00	16.88	74.38	6,632.90	-467.10	1,762.87	-465.25	9.00	0.97	-31.34
6,950.00	18.45	60.44	6,680.56	-461.24	1,776.75	-459.38	9.00	3.14	-27.87
7,000.00	20.87	49.12	6,727.66	-451.50	1,790.37	-449.63	9.00	4.83	-22.65
7,050.00	23.87	40.29	6,773.90	-437.95	1,803.66	-436.06	9.00	6.00	-17.67
7,100.00	27.27	33.43	6,819.01	-420.66	1,816.51	-418.76	9.00	6.79	-13.72
7,150.00	30.93	28.03	6,862.70	-399.75	1,828.87	-397.84	9.00	7.32	-10.79
7,200.00	34.77	23.70	6,904.71	-375.35	1,840.64	-373.42	9.00	7.68	-8.67
7,250.00	38.73	20.14	6,944.77	-347.59	1,851.76	-345.65	9.00	7.93	-7.12
7,300.00	42.79	17.16	6,982.63	-316.66	1,862.17	-314.71	9.00	8.11	-5.97
7,350.00	46.91	14.60	7,018.08	-282.75	1,871.78	-280.79	9.00	8.25	-5.12
7,400.00	51.09	12.36	7,050.87	-246.06	1,880.55	-244.09	9.00	8.35	-4.47
7,450.00	55.30	10.38	7,080.83	-206.82	1,888.43	-204.85	9.00	8.42	-3.97
7,500.00	59.54	8.59	7,107.75	-165.28	1,895.35	-163.29	9.00	8.48	-3.58
7,550.00	63.80	6.95	7,131.47	-121.68	1,901.29	-119.69	9.00	8.52	-3.28
7,600.00	68.08	5.43	7,151.86	-76.31	1,906.20	-74.31	9.00	8.56	-3.05
7,650.00	72.37	3.99	7,168.77	-29.42	1,910.05	-27.42	9.00	8.59	-2.87
7,700.00	76.67	2.62	7,182.11	18.67	1,912.82	20.67	9.00	8.61	-2.74
7,750.00	80.98	1.30	7,191.79	67.68	1,914.50	69.69	9.00	8.62	-2.64
7,800.00	85.30	0.01	7,197.77	117.31	1,915.07	119.31	9.00	8.63	-2.58
7,854.46	90.00	358.63	7,200.00	171.71	1,914.42	173.71	9.00	8.63	-2.55
End Build @ 7854.46ft									
7,900.00	90.00	358.63	7,200.00	217.23	1,913.33	219.23	0.00	0.00	0.00
8,000.00	90.00	358.63	7,200.00	317.20	1,910.94	319.20	0.00	0.00	0.00
8,100.00	90.00	358.63	7,200.00	417.17	1,908.54	419.17	0.00	0.00	0.00
8,200.00	90.00	358.63	7,200.00	517.14	1,906.15	519.14	0.00	0.00	0.00
8,300.00	90.00	358.63	7,200.00	617.11	1,903.75	619.11	0.00	0.00	0.00
8,400.00	90.00	358.63	7,200.00	717.08	1,901.36	719.07	0.00	0.00	0.00
8,500.00	90.00	358.63	7,200.00	817.06	1,898.96	819.04	0.00	0.00	0.00
8,600.00	90.00	358.63	7,200.00	917.03	1,896.57	919.01	0.00	0.00	0.00
8,700.00	90.00	358.63	7,200.00	1,017.00	1,894.17	1,018.98	0.00	0.00	0.00
8,800.00	90.00	358.63	7,200.00	1,116.97	1,891.78	1,118.95	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well WUERTZ 1201-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5001.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5001.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)	
8,900.00	90.00	358.63	7,200.00	1,216.94	1,889.38	1,218.92	0.00	0.00	0.00	
9,000.00	90.00	358.63	7,200.00	1,316.91	1,886.99	1,318.89	0.00	0.00	0.00	
9,100.00	90.00	358.63	7,200.00	1,416.88	1,884.59	1,418.86	0.00	0.00	0.00	
9,200.00	90.00	358.63	7,200.00	1,516.85	1,882.20	1,518.83	0.00	0.00	0.00	
9,300.00	90.00	358.63	7,200.00	1,616.83	1,879.80	1,618.79	0.00	0.00	0.00	
9,400.00	90.00	358.63	7,200.00	1,716.80	1,877.41	1,718.76	0.00	0.00	0.00	
9,500.00	90.00	358.63	7,200.00	1,816.77	1,875.01	1,818.73	0.00	0.00	0.00	
9,600.00	90.00	358.63	7,200.00	1,916.74	1,872.62	1,918.70	0.00	0.00	0.00	
9,700.00	90.00	358.63	7,200.00	2,016.71	1,870.22	2,018.67	0.00	0.00	0.00	
9,800.00	90.00	358.63	7,200.00	2,116.68	1,867.83	2,118.64	0.00	0.00	0.00	
9,900.00	90.00	358.63	7,200.00	2,216.65	1,865.43	2,218.61	0.00	0.00	0.00	
10,000.00	90.00	358.63	7,200.00	2,316.63	1,863.04	2,318.58	0.00	0.00	0.00	
10,100.00	90.00	358.63	7,200.00	2,416.60	1,860.64	2,418.54	0.00	0.00	0.00	
10,200.00	90.00	358.63	7,200.00	2,516.57	1,858.25	2,518.51	0.00	0.00	0.00	
10,300.00	90.00	358.63	7,200.00	2,616.54	1,855.86	2,618.48	0.00	0.00	0.00	
10,400.00	90.00	358.63	7,200.00	2,716.51	1,853.46	2,718.45	0.00	0.00	0.00	
10,500.00	90.00	358.63	7,200.00	2,816.48	1,851.07	2,818.42	0.00	0.00	0.00	
10,600.00	90.00	358.63	7,200.00	2,916.45	1,848.67	2,918.39	0.00	0.00	0.00	
10,700.00	90.00	358.63	7,200.00	3,016.42	1,846.28	3,018.36	0.00	0.00	0.00	
10,800.00	90.00	358.63	7,200.00	3,116.40	1,843.88	3,118.33	0.00	0.00	0.00	
10,900.00	90.00	358.63	7,200.00	3,216.37	1,841.49	3,218.29	0.00	0.00	0.00	
11,003.82	90.00	358.63	7,200.00	3,320.16	1,839.00	3,322.08	0.00	0.00	0.00	
Begin Turn to BHL @ 11003.82ft										
11,100.00	90.00	0.55	7,200.00	3,416.33	1,838.31	3,418.25	2.00	0.00	2.00	
11,111.77	90.00	0.79	7,200.00	3,428.10	1,838.45	3,430.02	2.00	0.00	2.00	
End Turn @ 11111.77ft										
11,200.00	90.00	0.79	7,200.00	3,516.32	1,839.66	3,518.25	0.00	0.00	0.00	
11,300.00	90.00	0.79	7,200.00	3,616.31	1,841.03	3,618.24	0.00	0.00	0.00	
11,400.00	90.00	0.79	7,200.00	3,716.30	1,842.41	3,718.23	0.00	0.00	0.00	
11,500.00	90.00	0.79	7,200.00	3,816.29	1,843.78	3,818.22	0.00	0.00	0.00	
11,600.00	90.00	0.79	7,200.00	3,916.28	1,845.15	3,918.21	0.00	0.00	0.00	
11,700.00	90.00	0.79	7,200.00	4,016.27	1,846.52	4,018.21	0.00	0.00	0.00	
11,800.00	90.00	0.79	7,200.00	4,116.26	1,847.90	4,118.20	0.00	0.00	0.00	
11,900.00	90.00	0.79	7,200.00	4,216.26	1,849.27	4,218.19	0.00	0.00	0.00	
12,000.00	90.00	0.79	7,200.00	4,316.25	1,850.64	4,318.18	0.00	0.00	0.00	
12,100.00	90.00	0.79	7,200.00	4,416.24	1,852.02	4,418.17	0.00	0.00	0.00	
12,200.00	90.00	0.79	7,200.00	4,516.23	1,853.39	4,518.17	0.00	0.00	0.00	
12,300.00	90.00	0.79	7,200.00	4,616.22	1,854.76	4,618.16	0.00	0.00	0.00	
12,400.00	90.00	0.79	7,200.00	4,716.21	1,856.13	4,718.15	0.00	0.00	0.00	
12,500.00	90.00	0.79	7,200.00	4,816.20	1,857.51	4,818.14	0.00	0.00	0.00	
12,600.00	90.00	0.79	7,200.00	4,916.19	1,858.88	4,918.13	0.00	0.00	0.00	
12,700.00	90.00	0.79	7,200.00	5,016.18	1,860.25	5,018.13	0.00	0.00	0.00	
12,800.00	90.00	0.79	7,200.00	5,116.17	1,861.63	5,118.12	0.00	0.00	0.00	
12,900.00	90.00	0.79	7,200.00	5,216.16	1,863.00	5,218.11	0.00	0.00	0.00	
13,000.00	90.00	0.79	7,200.00	5,316.15	1,864.37	5,318.10	0.00	0.00	0.00	
13,100.00	90.00	0.79	7,200.00	5,416.14	1,865.74	5,418.09	0.00	0.00	0.00	
13,200.00	90.00	0.79	7,200.00	5,516.13	1,867.12	5,518.09	0.00	0.00	0.00	
13,300.00	90.00	0.79	7,200.00	5,616.12	1,868.49	5,618.08	0.00	0.00	0.00	
13,400.00	90.00	0.79	7,200.00	5,716.11	1,869.86	5,718.07	0.00	0.00	0.00	
13,500.00	90.00	0.79	7,200.00	5,816.10	1,871.24	5,818.06	0.00	0.00	0.00	
13,600.00	90.00	0.79	7,200.00	5,916.10	1,872.61	5,918.05	0.00	0.00	0.00	
13,700.00	90.00	0.79	7,200.00	6,016.09	1,873.98	6,018.05	0.00	0.00	0.00	
13,800.00	90.00	0.79	7,200.00	6,116.08	1,875.35	6,118.04	0.00	0.00	0.00	
13,900.00	90.00	0.79	7,200.00	6,216.07	1,876.73	6,218.03	0.00	0.00	0.00	

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well WUERTZ 1201-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5001.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5001.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)	
14,000.00	90.00	0.79	7,200.00	6,316.06	1,878.10	6,318.02	0.00	0.00	0.00	
14,100.00	90.00	0.79	7,200.00	6,416.05	1,879.47	6,418.01	0.00	0.00	0.00	
14,200.00	90.00	0.79	7,200.00	6,516.04	1,880.85	6,518.00	0.00	0.00	0.00	
14,300.00	90.00	0.79	7,200.00	6,616.03	1,882.22	6,618.00	0.00	0.00	0.00	
14,400.00	90.00	0.79	7,200.00	6,716.02	1,883.59	6,717.99	0.00	0.00	0.00	
14,500.00	90.00	0.79	7,200.00	6,816.01	1,884.96	6,817.98	0.00	0.00	0.00	
14,600.00	90.00	0.79	7,200.00	6,916.00	1,886.34	6,917.97	0.00	0.00	0.00	
14,700.00	90.00	0.79	7,200.00	7,015.99	1,887.71	7,017.96	0.00	0.00	0.00	
14,800.00	90.00	0.79	7,200.00	7,115.98	1,889.08	7,117.96	0.00	0.00	0.00	
14,900.00	90.00	0.79	7,200.00	7,215.97	1,890.46	7,217.95	0.00	0.00	0.00	
15,000.00	90.00	0.79	7,200.00	7,315.96	1,891.83	7,317.94	0.00	0.00	0.00	
15,100.00	90.00	0.79	7,200.00	7,415.95	1,893.20	7,417.93	0.00	0.00	0.00	
15,200.00	90.00	0.79	7,200.00	7,515.94	1,894.57	7,517.92	0.00	0.00	0.00	
15,300.00	90.00	0.79	7,200.00	7,615.94	1,895.95	7,617.92	0.00	0.00	0.00	
15,400.00	90.00	0.79	7,200.00	7,715.93	1,897.32	7,717.91	0.00	0.00	0.00	
15,500.00	90.00	0.79	7,200.00	7,815.92	1,898.69	7,817.90	0.00	0.00	0.00	
15,600.00	90.00	0.79	7,200.00	7,915.91	1,900.07	7,917.89	0.00	0.00	0.00	
15,700.00	90.00	0.79	7,200.00	8,015.90	1,901.44	8,017.88	0.00	0.00	0.00	
15,800.00	90.00	0.79	7,200.00	8,115.89	1,902.81	8,117.88	0.00	0.00	0.00	
15,900.00	90.00	0.79	7,200.00	8,215.88	1,904.18	8,217.87	0.00	0.00	0.00	
16,000.00	90.00	0.79	7,200.00	8,315.87	1,905.56	8,317.86	0.00	0.00	0.00	
16,100.00	90.00	0.79	7,200.00	8,415.86	1,906.93	8,417.85	0.00	0.00	0.00	
16,200.00	90.00	0.79	7,200.00	8,515.85	1,908.30	8,517.84	0.00	0.00	0.00	
16,300.00	90.00	0.79	7,200.00	8,615.84	1,909.68	8,617.84	0.00	0.00	0.00	
16,400.00	90.00	0.79	7,200.00	8,715.83	1,911.05	8,717.83	0.00	0.00	0.00	
16,500.00	90.00	0.79	7,200.00	8,815.82	1,912.42	8,817.82	0.00	0.00	0.00	
16,600.00	90.00	0.79	7,200.00	8,915.81	1,913.80	8,917.81	0.00	0.00	0.00	
16,700.00	90.00	0.79	7,200.00	9,015.80	1,915.17	9,017.80	0.00	0.00	0.00	
16,800.00	90.00	0.79	7,200.00	9,115.79	1,916.54	9,117.80	0.00	0.00	0.00	
16,900.00	90.00	0.79	7,200.00	9,215.78	1,917.91	9,217.79	0.00	0.00	0.00	
17,000.00	90.00	0.79	7,200.00	9,315.77	1,919.29	9,317.78	0.00	0.00	0.00	
17,100.00	90.00	0.79	7,200.00	9,415.77	1,920.66	9,417.77	0.00	0.00	0.00	
17,200.00	90.00	0.79	7,200.00	9,515.76	1,922.03	9,517.76	0.00	0.00	0.00	
17,300.00	90.00	0.79	7,200.00	9,615.75	1,923.41	9,617.76	0.00	0.00	0.00	
17,377.12	90.00	0.79	7,200.00	9,692.86	1,924.46	9,694.87	0.00	0.00	0.00	
TD Well @ 17377.12ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,740.57	1,700.00	9 5/8"		9-5/8	13-1/2

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well WUERTZ 1201-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5001.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5001.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.00	250.00	0.00	0.00	Begin Tangent @ 250.00ft
1,102.50	1,089.97	-32.74	121.58	End Tangent @ 1102.50ft
6,801.57	6,538.57	-467.20	1,735.11	KOP @ 6801.57ft :: DLS = 9°/100'
7,854.46	7,200.00	171.71	1,914.42	End Build @ 7854.46ft
11,003.82	7,200.00	3,320.16	1,839.00	Begin Turn to BHL @ 11003.82ft
11,111.77	7,200.00	3,428.10	1,838.45	End Turn @ 11111.77ft
17,377.12	7,200.00	9,692.86	1,924.46	TD Well @ 17377.12ft