

VERDAD RESOURCES

WATTENBERG FIELD

1N-65W-12 WUERTZ 1201 PAD

WUERTZ 1201-11H

Wellbore #1

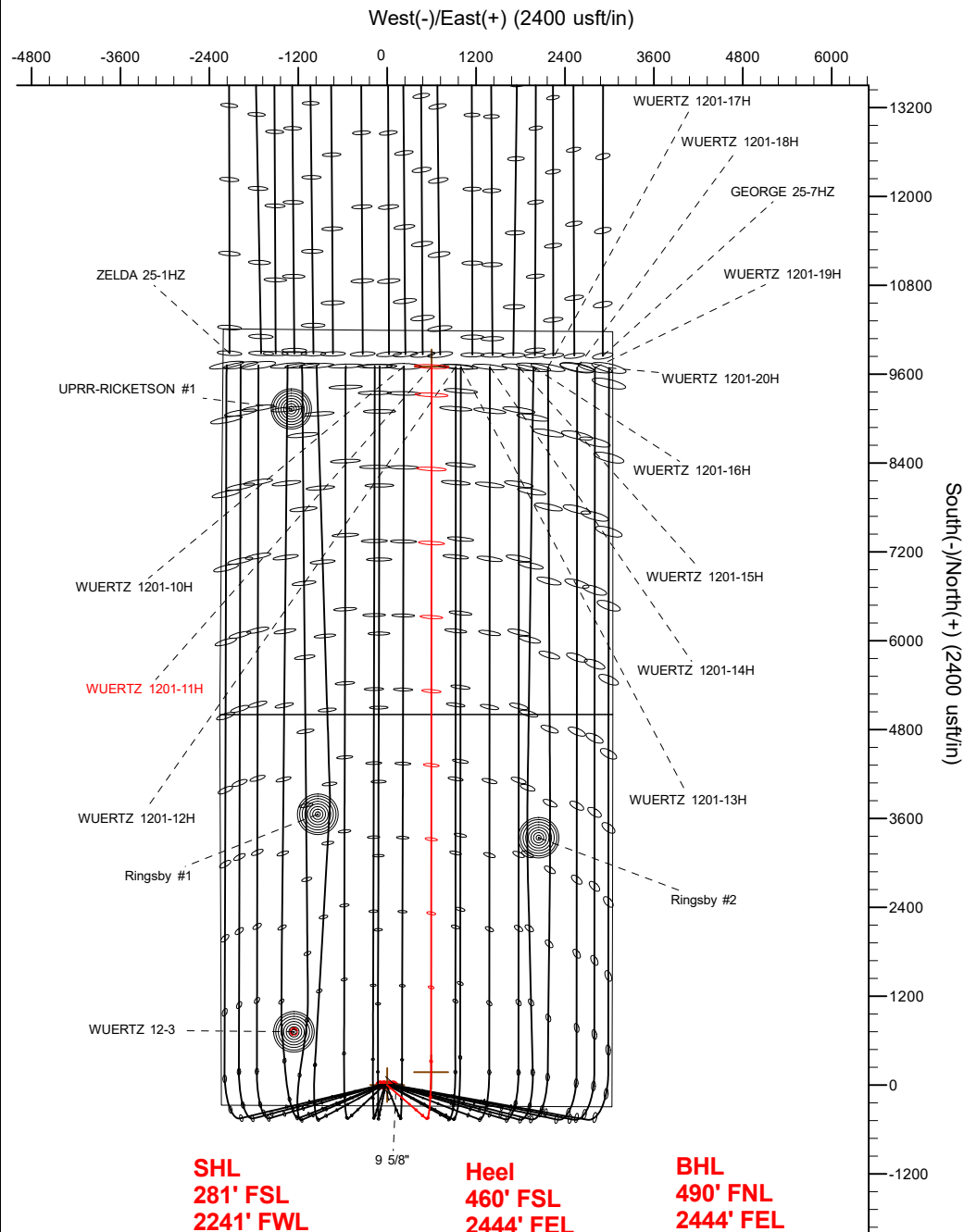
Plan: Design #1

Standard Planning Report

27 February, 2018

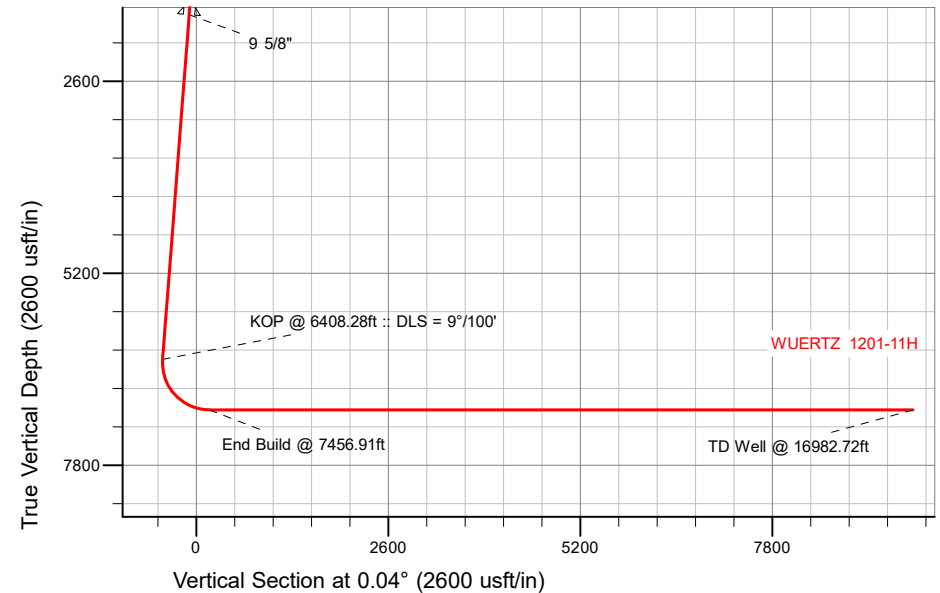
VERDAD RESOURCES


CASING DETAILS			
TVD	MD	Name	Size
1700.00	1708.48	9 5/8"	9-5/8



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	586.00	6.72	130.75	585.23	-12.85	14.91	2.00	130.75	-12.84	
4	6408.28	6.72	130.75	6367.51	-457.58	531.05	0.00	0.00	-457.21	
5	7456.91	90.00	0.04	7050.00	177.14	592.50	0.00	-130.51	177.55	
6	16982.72	90.00	0.04	7050.00	9702.95	599.89	0.00	0.00	9703.36	WUERTZ 1201-11H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name		TVD	+N/-S	+E/-W	Latitude
WUERTZ	1201-11H_SHL	0.00	0.00	0.00	40.059485 -104.613552
WUERTZ	1201-11H_BHL	7050.00	9702.95	599.89	40.086121 -104.611408



 <p> Azimuths to True North Magnetic North: 8.03° Magnetic Field Strength: 52150.0snT Dip Angle: 66.59° Date: 2/27/2018 Model: IGRF2015 </p>	WELL DETAILS: WUERTZ 1201-11H
	GL = 4982'
	RKB = 20' @ 5002.00usft (RIG)
	Plan: Design #1 (WUERTZ 1201-11H/Wellbore #1)
Created By:	Date: 2/27/2018
Reviewed: _____	Date: _____

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well WUERTZ 1201-11H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5002.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5002.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-11H	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 1201-11H					
Well Position	+N/-S	-0.06 usft	Northing:	1,265,755.86 usft	Latitude:	40.059485
	+E/-W	99.93 usft	Easting:	3,248,120.85 usft	Longitude:	-104.613552
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,982.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/27/2018	8.03	66.59	52,149.95372178

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	0.04

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	16,982.72	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination

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	
586.00	6.72	130.75	585.23	-12.85	14.91	2.00	2.00	0.00	130.75	
6,408.28	6.72	130.75	6,367.51	-457.58	531.05	0.00	0.00	0.00	0.00	
7,456.91	90.00	0.04	7,050.00	177.14	592.50	9.00	7.94	-12.46	-130.51	
16,982.72	90.00	0.04	7,050.00	9,702.95	599.89	0.00	0.00	0.00	0.00	WUERTZ 1201-11H_I

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5002.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5002.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-11H	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	130.75	300.00	-0.28	0.33	-0.28	2.00	2.00	0.00
400.00	3.00	130.75	399.93	-2.56	2.97	-2.56	2.00	2.00	0.00
500.00	5.00	130.75	499.68	-7.12	8.26	-7.11	2.00	2.00	0.00
586.00	6.72	130.75	585.23	-12.85	14.91	-12.84	2.00	2.00	0.00
End Tangent @ 586.00ft									
600.00	6.72	130.75	599.13	-13.92	16.15	-13.91	0.00	0.00	0.00
700.00	6.72	130.75	698.45	-21.56	25.02	-21.54	0.00	0.00	0.00
800.00	6.72	130.75	797.76	-29.19	33.88	-29.17	0.00	0.00	0.00
900.00	6.72	130.75	897.07	-36.83	42.75	-36.80	0.00	0.00	0.00
1,000.00	6.72	130.75	996.39	-44.47	51.61	-44.43	0.00	0.00	0.00
1,100.00	6.72	130.75	1,095.70	-52.11	60.48	-52.07	0.00	0.00	0.00
1,200.00	6.72	130.75	1,195.01	-59.75	69.34	-59.70	0.00	0.00	0.00
1,300.00	6.72	130.75	1,294.32	-67.39	78.20	-67.33	0.00	0.00	0.00
1,400.00	6.72	130.75	1,393.64	-75.02	87.07	-74.96	0.00	0.00	0.00
1,500.00	6.72	130.75	1,492.95	-82.66	95.93	-82.60	0.00	0.00	0.00
1,600.00	6.72	130.75	1,592.26	-90.30	104.80	-90.23	0.00	0.00	0.00
1,700.00	6.72	130.75	1,691.58	-97.94	113.66	-97.86	0.00	0.00	0.00
1,708.48	6.72	130.75	1,700.00	-98.59	114.42	-98.51	0.00	0.00	0.00
9 5/8"									
1,800.00	6.72	130.75	1,790.89	-105.58	122.53	-105.49	0.00	0.00	0.00
1,900.00	6.72	130.75	1,890.20	-113.22	131.39	-113.12	0.00	0.00	0.00
2,000.00	6.72	130.75	1,989.52	-120.85	140.26	-120.76	0.00	0.00	0.00
2,100.00	6.72	130.75	2,088.83	-128.49	149.12	-128.39	0.00	0.00	0.00
2,200.00	6.72	130.75	2,188.14	-136.13	157.99	-136.02	0.00	0.00	0.00
2,300.00	6.72	130.75	2,287.45	-143.77	166.85	-143.65	0.00	0.00	0.00
2,400.00	6.72	130.75	2,386.77	-151.41	175.72	-151.29	0.00	0.00	0.00
2,500.00	6.72	130.75	2,486.08	-159.05	184.58	-158.92	0.00	0.00	0.00
2,600.00	6.72	130.75	2,585.39	-166.69	193.45	-166.55	0.00	0.00	0.00
2,700.00	6.72	130.75	2,684.71	-174.32	202.31	-174.18	0.00	0.00	0.00
2,800.00	6.72	130.75	2,784.02	-181.96	211.18	-181.81	0.00	0.00	0.00
2,900.00	6.72	130.75	2,883.33	-189.60	220.04	-189.45	0.00	0.00	0.00
3,000.00	6.72	130.75	2,982.65	-197.24	228.91	-197.08	0.00	0.00	0.00
3,100.00	6.72	130.75	3,081.96	-204.88	237.77	-204.71	0.00	0.00	0.00
3,200.00	6.72	130.75	3,181.27	-212.52	246.64	-212.34	0.00	0.00	0.00
3,300.00	6.72	130.75	3,280.58	-220.15	255.50	-219.98	0.00	0.00	0.00
3,400.00	6.72	130.75	3,379.90	-227.79	264.37	-227.61	0.00	0.00	0.00
3,500.00	6.72	130.75	3,479.21	-235.43	273.23	-235.24	0.00	0.00	0.00
3,600.00	6.72	130.75	3,578.52	-243.07	282.10	-242.87	0.00	0.00	0.00
3,700.00	6.72	130.75	3,677.84	-250.71	290.96	-250.50	0.00	0.00	0.00
3,800.00	6.72	130.75	3,777.15	-258.35	299.83	-258.14	0.00	0.00	0.00
3,900.00	6.72	130.75	3,876.46	-265.98	308.69	-265.77	0.00	0.00	0.00
4,000.00	6.72	130.75	3,975.78	-273.62	317.56	-273.40	0.00	0.00	0.00
4,100.00	6.72	130.75	4,075.09	-281.26	326.42	-281.03	0.00	0.00	0.00
4,200.00	6.72	130.75	4,174.40	-288.90	335.28	-288.67	0.00	0.00	0.00
4,300.00	6.72	130.75	4,273.71	-296.54	344.15	-296.30	0.00	0.00	0.00
4,400.00	6.72	130.75	4,373.03	-304.18	353.01	-303.93	0.00	0.00	0.00
4,500.00	6.72	130.75	4,472.34	-311.82	361.88	-311.56	0.00	0.00	0.00
4,600.00	6.72	130.75	4,571.65	-319.45	370.74	-319.19	0.00	0.00	0.00

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5002.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5002.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-11H	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)
4,700.00	6.72	130.75	4,670.97	-327.09	379.61	-326.83	0.00	0.00	0.00
4,800.00	6.72	130.75	4,770.28	-334.73	388.47	-334.46	0.00	0.00	0.00
4,900.00	6.72	130.75	4,869.59	-342.37	397.34	-342.09	0.00	0.00	0.00
5,000.00	6.72	130.75	4,968.91	-350.01	406.20	-349.72	0.00	0.00	0.00
5,100.00	6.72	130.75	5,068.22	-357.65	415.07	-357.36	0.00	0.00	0.00
5,200.00	6.72	130.75	5,167.53	-365.28	423.93	-364.99	0.00	0.00	0.00
5,300.00	6.72	130.75	5,266.84	-372.92	432.80	-372.62	0.00	0.00	0.00
5,400.00	6.72	130.75	5,366.16	-380.56	441.66	-380.25	0.00	0.00	0.00
5,500.00	6.72	130.75	5,465.47	-388.20	450.53	-387.88	0.00	0.00	0.00
5,600.00	6.72	130.75	5,564.78	-395.84	459.39	-395.52	0.00	0.00	0.00
5,700.00	6.72	130.75	5,664.10	-403.48	468.26	-403.15	0.00	0.00	0.00
5,800.00	6.72	130.75	5,763.41	-411.11	477.12	-410.78	0.00	0.00	0.00
5,900.00	6.72	130.75	5,862.72	-418.75	485.99	-418.41	0.00	0.00	0.00
6,000.00	6.72	130.75	5,962.04	-426.39	494.85	-426.05	0.00	0.00	0.00
6,100.00	6.72	130.75	6,061.35	-434.03	503.72	-433.68	0.00	0.00	0.00
6,200.00	6.72	130.75	6,160.66	-441.67	512.58	-441.31	0.00	0.00	0.00
6,300.00	6.72	130.75	6,259.97	-449.31	521.45	-448.94	0.00	0.00	0.00
6,408.28	6.72	130.75	6,367.51	-457.58	531.05	-457.21	0.00	0.00	0.00
KOP @ 6408.28ft :: DLS = 9°/100'									
6,450.00	5.14	97.00	6,409.02	-459.40	534.75	-459.03	9.00	-3.78	-80.89
6,500.00	6.41	52.74	6,458.79	-457.98	539.20	-457.61	9.00	2.53	-88.52
6,550.00	9.80	31.18	6,508.29	-452.65	543.62	-452.27	9.00	6.79	-43.12
6,600.00	13.84	21.31	6,557.23	-443.43	548.00	-443.05	9.00	8.07	-19.75
6,650.00	18.09	15.91	6,605.29	-430.39	552.31	-430.01	9.00	8.51	-10.79
6,700.00	22.44	12.54	6,652.19	-413.60	556.51	-413.22	9.00	8.69	-6.75
6,750.00	26.83	10.21	6,697.62	-393.17	560.58	-392.78	9.00	8.79	-4.64
6,800.00	31.26	8.51	6,741.33	-369.23	564.50	-368.83	9.00	8.85	-3.42
6,850.00	35.70	7.19	6,783.02	-341.91	568.25	-341.51	9.00	8.88	-2.64
6,900.00	40.15	6.12	6,822.46	-311.40	571.79	-311.00	9.00	8.90	-2.13
6,950.00	44.61	5.24	6,859.38	-277.87	575.12	-277.47	9.00	8.92	-1.77
7,000.00	49.08	4.49	6,893.57	-241.53	578.20	-241.13	9.00	8.93	-1.51
7,050.00	53.55	3.83	6,924.82	-202.62	581.02	-202.21	9.00	8.94	-1.32
7,100.00	58.02	3.24	6,952.93	-161.36	583.57	-160.95	9.00	8.95	-1.17
7,150.00	62.50	2.71	6,977.73	-118.02	585.81	-117.61	9.00	8.95	-1.06
7,200.00	66.97	2.22	6,999.06	-72.85	587.75	-72.44	9.00	8.96	-0.98
7,250.00	71.45	1.76	7,016.80	-26.15	589.38	-25.74	9.00	8.96	-0.92
7,300.00	75.94	1.33	7,030.83	21.81	590.67	22.22	9.00	8.96	-0.87
7,350.00	80.42	0.91	7,041.08	70.73	591.62	71.14	9.00	8.96	-0.84
7,400.00	84.90	0.50	7,047.47	120.30	592.23	120.72	9.00	8.96	-0.81
7,450.00	89.38	0.10	7,049.96	170.23	592.49	170.64	9.00	8.96	-0.80
7,456.91	90.00	0.04	7,050.00	177.14	592.50	177.55	9.00	8.96	-0.80
End Build @ 7456.91ft									
7,500.00	90.00	0.04	7,050.00	220.23	592.53	220.64	0.00	0.00	0.00
7,600.00	90.00	0.04	7,050.00	320.23	592.61	320.64	0.00	0.00	0.00
7,700.00	90.00	0.04	7,050.00	420.23	592.69	420.64	0.00	0.00	0.00
7,800.00	90.00	0.04	7,050.00	520.23	592.76	520.64	0.00	0.00	0.00
7,900.00	90.00	0.04	7,050.00	620.23	592.84	620.64	0.00	0.00	0.00
8,000.00	90.00	0.04	7,050.00	720.23	592.92	720.64	0.00	0.00	0.00
8,100.00	90.00	0.04	7,050.00	820.23	593.00	820.64	0.00	0.00	0.00
8,200.00	90.00	0.04	7,050.00	920.23	593.07	920.64	0.00	0.00	0.00
8,300.00	90.00	0.04	7,050.00	1,020.23	593.15	1,020.64	0.00	0.00	0.00
8,400.00	90.00	0.04	7,050.00	1,120.23	593.23	1,120.64	0.00	0.00	0.00
8,500.00	90.00	0.04	7,050.00	1,220.23	593.31	1,220.64	0.00	0.00	0.00
8,600.00	90.00	0.04	7,050.00	1,320.23	593.39	1,320.64	0.00	0.00	0.00

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5002.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5002.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-11H	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)	
8,700.00	90.00	0.04	7,050.00	1,420.23	593.46	1,420.64	0.00	0.00	0.00	
8,800.00	90.00	0.04	7,050.00	1,520.23	593.54	1,520.64	0.00	0.00	0.00	
8,900.00	90.00	0.04	7,050.00	1,620.23	593.62	1,620.64	0.00	0.00	0.00	
9,000.00	90.00	0.04	7,050.00	1,720.23	593.70	1,720.64	0.00	0.00	0.00	
9,100.00	90.00	0.04	7,050.00	1,820.23	593.77	1,820.64	0.00	0.00	0.00	
9,200.00	90.00	0.04	7,050.00	1,920.23	593.85	1,920.64	0.00	0.00	0.00	
9,300.00	90.00	0.04	7,050.00	2,020.23	593.93	2,020.64	0.00	0.00	0.00	
9,400.00	90.00	0.04	7,050.00	2,120.23	594.01	2,120.64	0.00	0.00	0.00	
9,500.00	90.00	0.04	7,050.00	2,220.23	594.08	2,220.64	0.00	0.00	0.00	
9,600.00	90.00	0.04	7,050.00	2,320.23	594.16	2,320.64	0.00	0.00	0.00	
9,700.00	90.00	0.04	7,050.00	2,420.23	594.24	2,420.64	0.00	0.00	0.00	
9,800.00	90.00	0.04	7,050.00	2,520.23	594.32	2,520.64	0.00	0.00	0.00	
9,900.00	90.00	0.04	7,050.00	2,620.23	594.39	2,620.64	0.00	0.00	0.00	
10,000.00	90.00	0.04	7,050.00	2,720.23	594.47	2,720.64	0.00	0.00	0.00	
10,100.00	90.00	0.04	7,050.00	2,820.23	594.55	2,820.64	0.00	0.00	0.00	
10,200.00	90.00	0.04	7,050.00	2,920.23	594.63	2,920.64	0.00	0.00	0.00	
10,300.00	90.00	0.04	7,050.00	3,020.23	594.70	3,020.64	0.00	0.00	0.00	
10,400.00	90.00	0.04	7,050.00	3,120.23	594.78	3,120.64	0.00	0.00	0.00	
10,500.00	90.00	0.04	7,050.00	3,220.23	594.86	3,220.64	0.00	0.00	0.00	
10,600.00	90.00	0.04	7,050.00	3,320.23	594.94	3,320.64	0.00	0.00	0.00	
10,700.00	90.00	0.04	7,050.00	3,420.23	595.02	3,420.64	0.00	0.00	0.00	
10,800.00	90.00	0.04	7,050.00	3,520.23	595.09	3,520.64	0.00	0.00	0.00	
10,900.00	90.00	0.04	7,050.00	3,620.23	595.17	3,620.64	0.00	0.00	0.00	
11,000.00	90.00	0.04	7,050.00	3,720.23	595.25	3,720.64	0.00	0.00	0.00	
11,100.00	90.00	0.04	7,050.00	3,820.23	595.33	3,820.64	0.00	0.00	0.00	
11,200.00	90.00	0.04	7,050.00	3,920.23	595.40	3,920.64	0.00	0.00	0.00	
11,300.00	90.00	0.04	7,050.00	4,020.23	595.48	4,020.64	0.00	0.00	0.00	
11,400.00	90.00	0.04	7,050.00	4,120.23	595.56	4,120.64	0.00	0.00	0.00	
11,500.00	90.00	0.04	7,050.00	4,220.23	595.64	4,220.64	0.00	0.00	0.00	
11,600.00	90.00	0.04	7,050.00	4,320.23	595.71	4,320.64	0.00	0.00	0.00	
11,700.00	90.00	0.04	7,050.00	4,420.23	595.79	4,420.64	0.00	0.00	0.00	
11,800.00	90.00	0.04	7,050.00	4,520.23	595.87	4,520.64	0.00	0.00	0.00	
11,900.00	90.00	0.04	7,050.00	4,620.23	595.95	4,620.64	0.00	0.00	0.00	
12,000.00	90.00	0.04	7,050.00	4,720.23	596.02	4,720.64	0.00	0.00	0.00	
12,100.00	90.00	0.04	7,050.00	4,820.23	596.10	4,820.64	0.00	0.00	0.00	
12,200.00	90.00	0.04	7,050.00	4,920.23	596.18	4,920.64	0.00	0.00	0.00	
12,300.00	90.00	0.04	7,050.00	5,020.23	596.26	5,020.64	0.00	0.00	0.00	
12,400.00	90.00	0.04	7,050.00	5,120.23	596.33	5,120.64	0.00	0.00	0.00	
12,500.00	90.00	0.04	7,050.00	5,220.23	596.41	5,220.64	0.00	0.00	0.00	
12,600.00	90.00	0.04	7,050.00	5,320.23	596.49	5,320.64	0.00	0.00	0.00	
12,700.00	90.00	0.04	7,050.00	5,420.23	596.57	5,420.64	0.00	0.00	0.00	
12,800.00	90.00	0.04	7,050.00	5,520.23	596.64	5,520.64	0.00	0.00	0.00	
12,900.00	90.00	0.04	7,050.00	5,620.23	596.72	5,620.64	0.00	0.00	0.00	
13,000.00	90.00	0.04	7,050.00	5,720.23	596.80	5,720.64	0.00	0.00	0.00	
13,100.00	90.00	0.04	7,050.00	5,820.23	596.88	5,820.64	0.00	0.00	0.00	
13,200.00	90.00	0.04	7,050.00	5,920.23	596.96	5,920.64	0.00	0.00	0.00	
13,300.00	90.00	0.04	7,050.00	6,020.23	597.03	6,020.64	0.00	0.00	0.00	
13,400.00	90.00	0.04	7,050.00	6,120.23	597.11	6,120.64	0.00	0.00	0.00	
13,500.00	90.00	0.04	7,050.00	6,220.23	597.19	6,220.64	0.00	0.00	0.00	
13,600.00	90.00	0.04	7,050.00	6,320.22	597.27	6,320.64	0.00	0.00	0.00	
13,700.00	90.00	0.04	7,050.00	6,420.22	597.34	6,420.64	0.00	0.00	0.00	
13,800.00	90.00	0.04	7,050.00	6,520.22	597.42	6,520.64	0.00	0.00	0.00	
13,900.00	90.00	0.04	7,050.00	6,620.22	597.50	6,620.64	0.00	0.00	0.00	
14,000.00	90.00	0.04	7,050.00	6,720.22	597.58	6,720.64	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well WUERTZ 1201-11H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5002.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5002.00usft (RIG)
Site:	1N-65W-12 WUERTZ 1201 PAD	North Reference:	True
Well:	WUERTZ 1201-11H	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)	
14,100.00	90.00	0.04	7,050.00	6,820.22	597.65	6,820.64	0.00	0.00	0.00	
14,200.00	90.00	0.04	7,050.00	6,920.22	597.73	6,920.64	0.00	0.00	0.00	
14,300.00	90.00	0.04	7,050.00	7,020.22	597.81	7,020.64	0.00	0.00	0.00	
14,400.00	90.00	0.04	7,050.00	7,120.22	597.89	7,120.64	0.00	0.00	0.00	
14,500.00	90.00	0.04	7,050.00	7,220.22	597.96	7,220.64	0.00	0.00	0.00	
14,600.00	90.00	0.04	7,050.00	7,320.22	598.04	7,320.64	0.00	0.00	0.00	
14,700.00	90.00	0.04	7,050.00	7,420.22	598.12	7,420.64	0.00	0.00	0.00	
14,800.00	90.00	0.04	7,050.00	7,520.22	598.20	7,520.64	0.00	0.00	0.00	
14,900.00	90.00	0.04	7,050.00	7,620.22	598.27	7,620.64	0.00	0.00	0.00	
15,000.00	90.00	0.04	7,050.00	7,720.22	598.35	7,720.64	0.00	0.00	0.00	
15,100.00	90.00	0.04	7,050.00	7,820.22	598.43	7,820.64	0.00	0.00	0.00	
15,200.00	90.00	0.04	7,050.00	7,920.22	598.51	7,920.64	0.00	0.00	0.00	
15,300.00	90.00	0.04	7,050.00	8,020.22	598.58	8,020.64	0.00	0.00	0.00	
15,400.00	90.00	0.04	7,050.00	8,120.22	598.66	8,120.64	0.00	0.00	0.00	
15,500.00	90.00	0.04	7,050.00	8,220.22	598.74	8,220.64	0.00	0.00	0.00	
15,600.00	90.00	0.04	7,050.00	8,320.22	598.82	8,320.64	0.00	0.00	0.00	
15,700.00	90.00	0.04	7,050.00	8,420.22	598.90	8,420.64	0.00	0.00	0.00	
15,800.00	90.00	0.04	7,050.00	8,520.22	598.97	8,520.64	0.00	0.00	0.00	
15,900.00	90.00	0.04	7,050.00	8,620.22	599.05	8,620.64	0.00	0.00	0.00	
16,000.00	90.00	0.04	7,050.00	8,720.22	599.13	8,720.64	0.00	0.00	0.00	
16,100.00	90.00	0.04	7,050.00	8,820.22	599.21	8,820.64	0.00	0.00	0.00	
16,200.00	90.00	0.04	7,050.00	8,920.22	599.28	8,920.64	0.00	0.00	0.00	
16,300.00	90.00	0.04	7,050.00	9,020.22	599.36	9,020.64	0.00	0.00	0.00	
16,400.00	90.00	0.04	7,050.00	9,120.22	599.44	9,120.64	0.00	0.00	0.00	
16,500.00	90.00	0.04	7,050.00	9,220.22	599.52	9,220.64	0.00	0.00	0.00	
16,600.00	90.00	0.04	7,050.00	9,320.22	599.59	9,320.64	0.00	0.00	0.00	
16,700.00	90.00	0.04	7,050.00	9,420.22	599.67	9,420.64	0.00	0.00	0.00	
16,800.00	90.00	0.04	7,050.00	9,520.22	599.75	9,520.64	0.00	0.00	0.00	
16,900.00	90.00	0.04	7,050.00	9,620.22	599.83	9,620.64	0.00	0.00	0.00	
16,982.72	90.00	0.04	7,050.00	9,702.95	599.89	9,703.36	0.00	0.00	0.00	
TD Well @ 16982.72ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,708.48	1,700.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
250.00	250.00	+N/-S (usft)	+E/-W (usft)	Begin Tangent @ 250.00ft	
586.00	585.23	-12.85	14.91	End Tangent @ 586.00ft	
6,408.28	6,367.51	-457.58	531.05	KOP @ 6408.28ft :: DLS = 9°/100'	
7,456.91	7,050.00	177.14	592.50	End Build @ 7456.91ft	
16,982.72	7,050.00	9,702.95	599.89	TD Well @ 16982.72ft	