

VERDAD RESOURCES

**WATTENBERG FIELD
8N-60W-11 SONIC STAR 1101 PAD
SONIC STAR 1101-09H**

Wellbore #1

Plan: Plan #1

Standard Planning Report

06 March, 2018

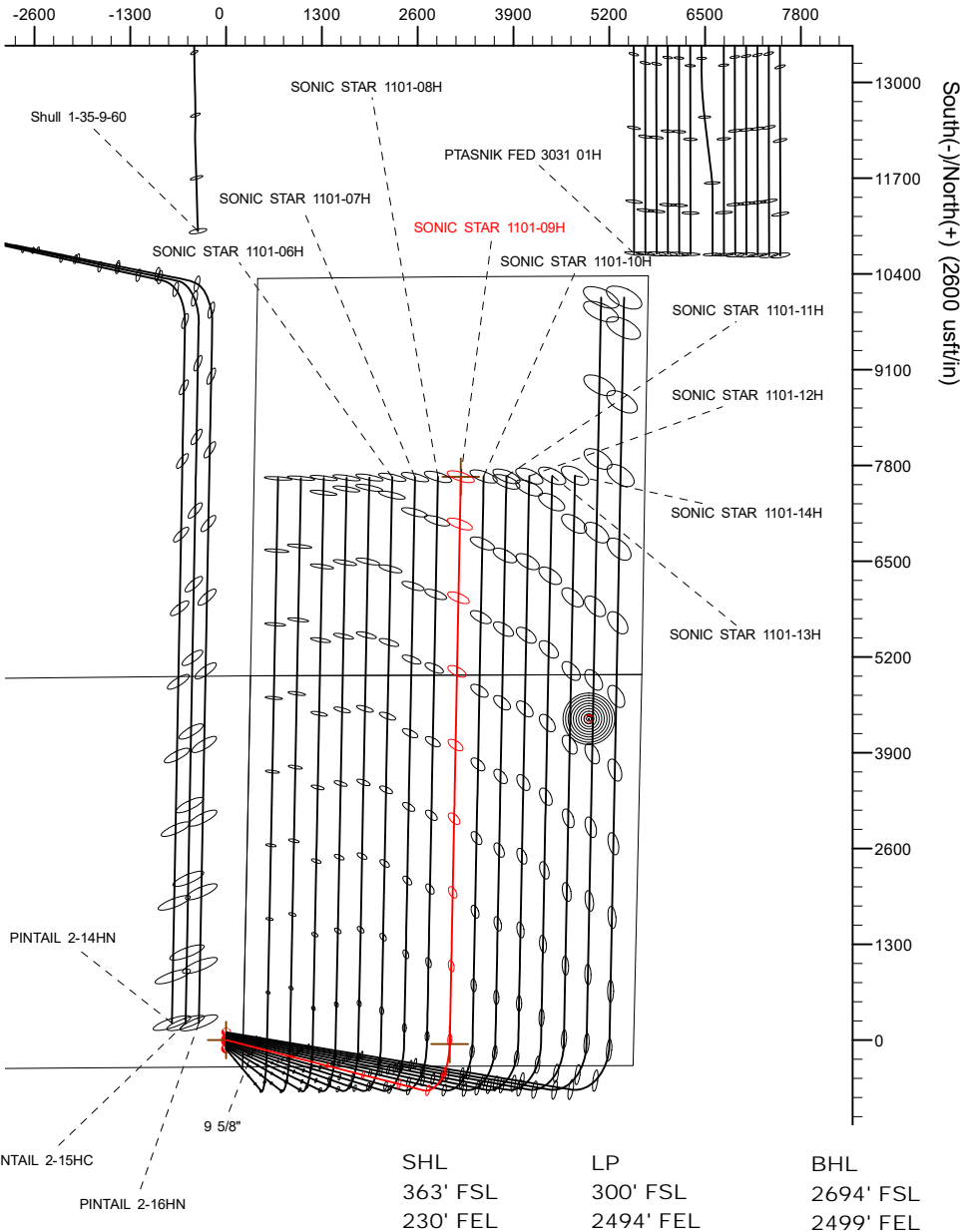
Project: WATTENBERG FIELD
 Site: 8N-60W-11 SONIC STAR 1101 PAD
 Well: SONIC STAR 1101-09H
 Wellbore: Wellbore #1
 Design: Plan #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1770.36	9 5/8"	9-5/8

West(-)/East(+) (2600 usft/in)

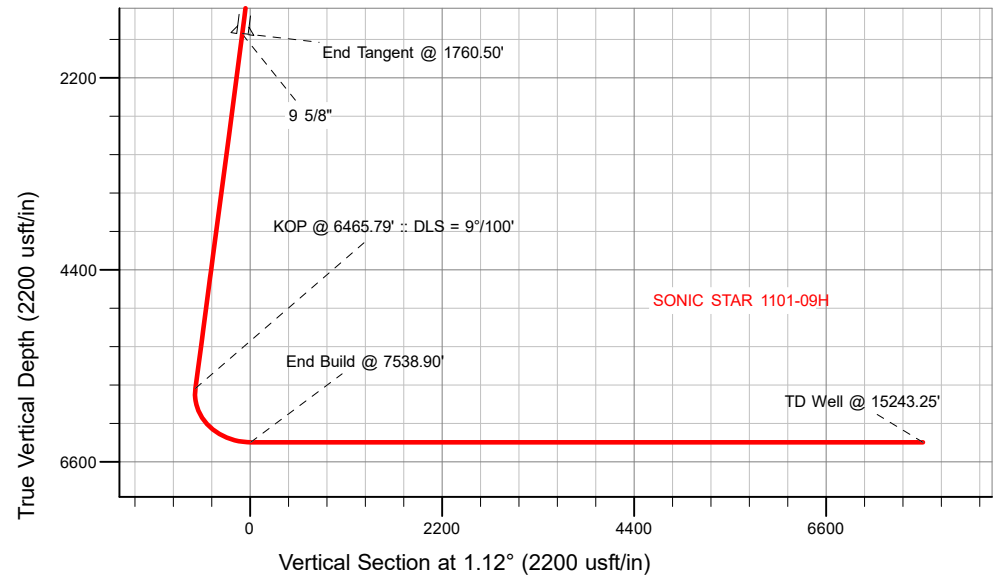


SECTION DETAILS

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	1760.50	30.21	104.28	1691.48	-95.97	377.05	2.00	104.28	-88.58	
4	6465.79	30.21	104.28	5757.73	-679.95	2671.47	0.00	0.00	-627.61	
5	7538.90	90.00	1.12	6375.00	-54.46	3033.67	9.00	-101.43	4.85	
6	15243.25	90.00	1.12	6375.00	7648.43	3183.67	0.00	0.00	7709.19	SONIC STAR 1101-09H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SONIC STAR 1101-09H_SHL	0.00	0.00	0.00	40.670835	-104.049105
SONIC STAR 1101-09H_BHL	6375.00	7648.43	3183.67	40.691828	-104.037625



T
M Azimuths to True North
 Magnetic North: 7.77°

Magnetic Field
 Strength: 52522.9snT
 Dip Angle: 67.16°
 Date: 3/5/2018
 Model: IGRF2015

WELL DETAILS: SONIC STAR 1101-09H

GL = 4881'

RKB = 20' @ 4901.00usft (RIG)

Plan: Plan #1 (SONIC STAR 1101-09H/Wellbore #1)

Created By: _____ Date: 3/6/2018
 Reviewed: _____ Date: _____

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SONIC STAR 1101-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4901.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4901.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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	8N-60W-11 SONIC STAR 1101 PAD				
Site Position:		Northing:	1,490,400.68 usft	Latitude:	40.670506
From:	Lat/Long	Easting:	3,402,456.42 usft	Longitude:	-104.049114
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.94 °

Well	SONIC STAR 1101-09H					
Well Position	+N/-S	120.04 usft	Northing:	1,490,520.74 usft	Latitude:	40.670835
	+E/-W	2.36 usft	Easting:	3,402,456.81 usft	Longitude:	-104.049106
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,881.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/5/2018	7.77	67.16	52,522.86944126

Design	Plan #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	1.12

Plan Survey Tool Program	Date	3/6/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,700.00 Plan #1 (Wellbore #1)	ISWWSA REV 2 MWD	Fixed:v2:standard declination	
2	1,700.00	15,243.25 Plan #1 (Wellbore #1)	ISWWSA 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	
1,760.50	30.21	104.28	1,691.48	-95.97	377.05	2.00	2.00	0.00	104.28	
6,465.79	30.21	104.28	5,757.73	-679.95	2,671.47	0.00	0.00	0.00	0.00	
7,538.90	90.00	1.12	6,375.00	-54.46	3,033.67	9.00	5.57	-9.61	-101.43	
15,243.25	90.00	1.12	6,375.00	7,648.43	3,183.67	0.00	0.00	0.00	0.00	SONIC STAR 1101-09

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SONIC STAR 1101-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4901.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4901.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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 @ 250.00'									
300.00	1.00	104.28	300.00	-0.11	0.42	-0.10	2.00	2.00	0.00
400.00	3.00	104.28	399.93	-0.97	3.80	-0.89	2.00	2.00	0.00
500.00	5.00	104.28	499.68	-2.69	10.56	-2.48	2.00	2.00	0.00
600.00	7.00	104.28	599.13	-5.27	20.69	-4.86	2.00	2.00	0.00
700.00	9.00	104.28	698.15	-8.70	34.18	-8.03	2.00	2.00	0.00
800.00	11.00	104.28	796.63	-12.98	51.01	-11.98	2.00	2.00	0.00
900.00	13.00	104.28	894.44	-18.11	71.16	-16.72	2.00	2.00	0.00
1,000.00	15.00	104.28	991.46	-24.08	94.60	-22.22	2.00	2.00	0.00
1,100.00	17.00	104.28	1,087.58	-30.88	121.31	-28.50	2.00	2.00	0.00
1,200.00	19.00	104.28	1,182.68	-38.50	151.26	-35.53	2.00	2.00	0.00
1,300.00	21.00	104.28	1,276.65	-46.93	184.40	-43.32	2.00	2.00	0.00
1,400.00	23.00	104.28	1,369.36	-56.17	220.70	-51.85	2.00	2.00	0.00
1,500.00	25.00	104.28	1,460.71	-66.21	260.12	-61.11	2.00	2.00	0.00
1,600.00	27.00	104.28	1,550.59	-77.02	302.60	-71.09	2.00	2.00	0.00
1,700.00	29.00	104.28	1,638.88	-88.60	348.09	-81.78	2.00	2.00	0.00
1,760.50	30.21	104.28	1,691.48	-95.97	377.05	-88.58	2.00	2.00	0.00
End Tangent @ 1760.50'									
1,770.36	30.21	104.28	1,700.00	-97.19	381.86	-89.71	0.00	0.00	0.00
9 5/8"									
1,800.00	30.21	104.28	1,725.61	-100.87	396.32	-93.11	0.00	0.00	0.00
1,900.00	30.21	104.28	1,812.03	-113.28	445.08	-104.56	0.00	0.00	0.00
2,000.00	30.21	104.28	1,898.45	-125.69	493.84	-116.02	0.00	0.00	0.00
2,100.00	30.21	104.28	1,984.87	-138.11	542.60	-127.47	0.00	0.00	0.00
2,200.00	30.21	104.28	2,071.29	-150.52	591.36	-138.93	0.00	0.00	0.00
2,300.00	30.21	104.28	2,157.71	-162.93	640.13	-150.39	0.00	0.00	0.00
2,400.00	30.21	104.28	2,244.13	-175.34	688.89	-161.84	0.00	0.00	0.00
2,500.00	30.21	104.28	2,330.54	-187.75	737.65	-173.30	0.00	0.00	0.00
2,600.00	30.21	104.28	2,416.96	-200.16	786.41	-184.75	0.00	0.00	0.00
2,700.00	30.21	104.28	2,503.38	-212.57	835.18	-196.21	0.00	0.00	0.00
2,800.00	30.21	104.28	2,589.80	-224.98	883.94	-207.66	0.00	0.00	0.00
2,900.00	30.21	104.28	2,676.22	-237.40	932.70	-219.12	0.00	0.00	0.00
3,000.00	30.21	104.28	2,762.64	-249.81	981.46	-230.58	0.00	0.00	0.00
3,100.00	30.21	104.28	2,849.06	-262.22	1,030.23	-242.03	0.00	0.00	0.00
3,200.00	30.21	104.28	2,935.48	-274.63	1,078.99	-253.49	0.00	0.00	0.00
3,300.00	30.21	104.28	3,021.89	-287.04	1,127.75	-264.94	0.00	0.00	0.00
3,400.00	30.21	104.28	3,108.31	-299.45	1,176.51	-276.40	0.00	0.00	0.00
3,500.00	30.21	104.28	3,194.73	-311.86	1,225.28	-287.85	0.00	0.00	0.00
3,600.00	30.21	104.28	3,281.15	-324.27	1,274.04	-299.31	0.00	0.00	0.00
3,700.00	30.21	104.28	3,367.57	-336.69	1,322.80	-310.77	0.00	0.00	0.00
3,800.00	30.21	104.28	3,453.99	-349.10	1,371.56	-322.22	0.00	0.00	0.00
3,900.00	30.21	104.28	3,540.41	-361.51	1,420.32	-333.68	0.00	0.00	0.00
4,000.00	30.21	104.28	3,626.82	-373.92	1,469.09	-345.13	0.00	0.00	0.00
4,100.00	30.21	104.28	3,713.24	-386.33	1,517.85	-356.59	0.00	0.00	0.00
4,200.00	30.21	104.28	3,799.66	-398.74	1,566.61	-368.04	0.00	0.00	0.00
4,300.00	30.21	104.28	3,886.08	-411.15	1,615.37	-379.50	0.00	0.00	0.00
4,400.00	30.21	104.28	3,972.50	-423.56	1,664.14	-390.96	0.00	0.00	0.00
4,500.00	30.21	104.28	4,058.92	-435.98	1,712.90	-402.41	0.00	0.00	0.00
4,600.00	30.21	104.28	4,145.34	-448.39	1,761.66	-413.87	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SONIC STAR 1101-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4901.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4901.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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	30.21	104.28	4,231.76	-460.80	1,810.42	-425.32	0.00	0.00	0.00	
4,800.00	30.21	104.28	4,318.17	-473.21	1,859.19	-436.78	0.00	0.00	0.00	
4,900.00	30.21	104.28	4,404.59	-485.62	1,907.95	-448.23	0.00	0.00	0.00	
5,000.00	30.21	104.28	4,491.01	-498.03	1,956.71	-459.69	0.00	0.00	0.00	
5,100.00	30.21	104.28	4,577.43	-510.44	2,005.47	-471.15	0.00	0.00	0.00	
5,200.00	30.21	104.28	4,663.85	-522.85	2,054.24	-482.60	0.00	0.00	0.00	
5,300.00	30.21	104.28	4,750.27	-535.27	2,103.00	-494.06	0.00	0.00	0.00	
5,400.00	30.21	104.28	4,836.69	-547.68	2,151.76	-505.51	0.00	0.00	0.00	
5,500.00	30.21	104.28	4,923.11	-560.09	2,200.52	-516.97	0.00	0.00	0.00	
5,600.00	30.21	104.28	5,009.52	-572.50	2,249.29	-528.42	0.00	0.00	0.00	
5,700.00	30.21	104.28	5,095.94	-584.91	2,298.05	-539.88	0.00	0.00	0.00	
5,800.00	30.21	104.28	5,182.36	-597.32	2,346.81	-551.34	0.00	0.00	0.00	
5,900.00	30.21	104.28	5,268.78	-609.73	2,395.57	-562.79	0.00	0.00	0.00	
6,000.00	30.21	104.28	5,355.20	-622.14	2,444.33	-574.25	0.00	0.00	0.00	
6,100.00	30.21	104.28	5,441.62	-634.56	2,493.10	-585.70	0.00	0.00	0.00	
6,200.00	30.21	104.28	5,528.04	-646.97	2,541.86	-597.16	0.00	0.00	0.00	
6,300.00	30.21	104.28	5,614.46	-659.38	2,590.62	-608.61	0.00	0.00	0.00	
6,400.00	30.21	104.28	5,700.87	-671.79	2,639.38	-620.07	0.00	0.00	0.00	
6,465.79	30.21	104.28	5,757.73	-679.95	2,671.47	-627.61	0.00	0.00	0.00	
KOP @ 6465.79' :: DLS = 9°/100'										
6,500.00	29.74	98.19	5,787.37	-683.29	2,688.21	-630.61	9.00	-1.38	-17.81	
6,550.00	29.57	89.09	5,830.84	-684.86	2,712.83	-631.70	9.00	-0.35	-18.19	
6,600.00	30.01	80.07	5,874.26	-682.51	2,737.49	-628.87	9.00	0.89	-18.04	
6,650.00	31.05	71.45	5,917.35	-676.24	2,762.05	-622.13	9.00	2.08	-17.25	
6,700.00	32.63	63.45	5,959.84	-666.11	2,786.34	-611.52	9.00	3.15	-16.00	
6,750.00	34.66	56.20	6,001.48	-652.17	2,810.23	-597.11	9.00	4.07	-14.50	
6,800.00	37.08	49.72	6,042.01	-634.50	2,833.55	-578.99	9.00	4.84	-12.96	
6,850.00	39.82	43.97	6,081.18	-613.22	2,856.18	-557.28	9.00	5.47	-11.50	
6,900.00	42.80	38.86	6,118.74	-588.46	2,877.96	-532.09	9.00	5.97	-10.20	
6,950.00	45.99	34.32	6,154.47	-560.37	2,898.77	-503.60	9.00	6.38	-9.08	
7,000.00	49.34	30.25	6,188.15	-529.12	2,918.47	-471.97	9.00	6.70	-8.13	
7,050.00	52.82	26.58	6,219.56	-494.91	2,936.95	-437.41	9.00	6.96	-7.34	
7,100.00	56.40	23.24	6,248.51	-457.94	2,954.09	-400.11	9.00	7.16	-6.69	
7,150.00	60.07	20.17	6,274.84	-418.45	2,969.79	-360.32	9.00	7.33	-6.15	
7,200.00	63.80	17.32	6,298.36	-376.68	2,983.94	-318.28	9.00	7.46	-5.71	
7,250.00	67.58	14.64	6,318.94	-332.88	2,996.46	-274.25	9.00	7.57	-5.35	
7,300.00	71.41	12.11	6,336.46	-287.33	3,007.28	-228.49	9.00	7.65	-5.06	
7,350.00	75.26	9.69	6,350.80	-240.30	3,016.33	-181.30	9.00	7.71	-4.84	
7,400.00	79.15	7.36	6,361.87	-192.10	3,023.55	-132.96	9.00	7.76	-4.67	
7,450.00	83.05	5.08	6,369.61	-143.00	3,028.89	-83.77	9.00	7.80	-4.55	
7,500.00	86.95	2.84	6,373.97	-93.32	3,032.33	-34.03	9.00	7.82	-4.47	
7,538.90	90.00	1.12	6,375.00	-54.46	3,033.67	4.85	9.00	7.83	-4.44	
End Build @ 7538.90'										
7,600.00	90.00	1.12	6,375.00	6.62	3,034.86	65.94	0.00	0.00	0.00	
7,700.00	90.00	1.12	6,375.00	106.60	3,036.81	165.94	0.00	0.00	0.00	
7,800.00	90.00	1.12	6,375.00	206.58	3,038.75	265.94	0.00	0.00	0.00	
7,900.00	90.00	1.12	6,375.00	306.56	3,040.70	365.94	0.00	0.00	0.00	
8,000.00	90.00	1.12	6,375.00	406.55	3,042.65	465.94	0.00	0.00	0.00	
8,100.00	90.00	1.12	6,375.00	506.53	3,044.60	565.94	0.00	0.00	0.00	
8,200.00	90.00	1.12	6,375.00	606.51	3,046.54	665.94	0.00	0.00	0.00	
8,300.00	90.00	1.12	6,375.00	706.49	3,048.49	765.94	0.00	0.00	0.00	
8,400.00	90.00	1.12	6,375.00	806.47	3,050.44	865.94	0.00	0.00	0.00	
8,500.00	90.00	1.12	6,375.00	906.45	3,052.38	965.94	0.00	0.00	0.00	
8,600.00	90.00	1.12	6,375.00	1,006.43	3,054.33	1,065.94	0.00	0.00	0.00	

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4901.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4901.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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	1.12	6,375.00	1,106.41	3,056.28	1,165.94	0.00	0.00	0.00
8,800.00	90.00	1.12	6,375.00	1,206.39	3,058.22	1,265.94	0.00	0.00	0.00
8,900.00	90.00	1.12	6,375.00	1,306.38	3,060.17	1,365.94	0.00	0.00	0.00
9,000.00	90.00	1.12	6,375.00	1,406.36	3,062.12	1,465.94	0.00	0.00	0.00
9,100.00	90.00	1.12	6,375.00	1,506.34	3,064.07	1,565.94	0.00	0.00	0.00
9,200.00	90.00	1.12	6,375.00	1,606.32	3,066.01	1,665.94	0.00	0.00	0.00
9,300.00	90.00	1.12	6,375.00	1,706.30	3,067.96	1,765.94	0.00	0.00	0.00
9,400.00	90.00	1.12	6,375.00	1,806.28	3,069.91	1,865.94	0.00	0.00	0.00
9,500.00	90.00	1.12	6,375.00	1,906.26	3,071.85	1,965.94	0.00	0.00	0.00
9,600.00	90.00	1.12	6,375.00	2,006.24	3,073.80	2,065.94	0.00	0.00	0.00
9,700.00	90.00	1.12	6,375.00	2,106.22	3,075.75	2,165.94	0.00	0.00	0.00
9,800.00	90.00	1.12	6,375.00	2,206.20	3,077.69	2,265.94	0.00	0.00	0.00
9,900.00	90.00	1.12	6,375.00	2,306.19	3,079.64	2,365.94	0.00	0.00	0.00
10,000.00	90.00	1.12	6,375.00	2,406.17	3,081.59	2,465.94	0.00	0.00	0.00
10,100.00	90.00	1.12	6,375.00	2,506.15	3,083.54	2,565.94	0.00	0.00	0.00
10,200.00	90.00	1.12	6,375.00	2,606.13	3,085.48	2,665.94	0.00	0.00	0.00
10,300.00	90.00	1.12	6,375.00	2,706.11	3,087.43	2,765.94	0.00	0.00	0.00
10,400.00	90.00	1.12	6,375.00	2,806.09	3,089.38	2,865.94	0.00	0.00	0.00
10,500.00	90.00	1.12	6,375.00	2,906.07	3,091.32	2,965.94	0.00	0.00	0.00
10,600.00	90.00	1.12	6,375.00	3,006.05	3,093.27	3,065.94	0.00	0.00	0.00
10,700.00	90.00	1.12	6,375.00	3,106.03	3,095.22	3,165.94	0.00	0.00	0.00
10,800.00	90.00	1.12	6,375.00	3,206.02	3,097.16	3,265.94	0.00	0.00	0.00
10,900.00	90.00	1.12	6,375.00	3,306.00	3,099.11	3,365.94	0.00	0.00	0.00
11,000.00	90.00	1.12	6,375.00	3,405.98	3,101.06	3,465.94	0.00	0.00	0.00
11,100.00	90.00	1.12	6,375.00	3,505.96	3,103.01	3,565.94	0.00	0.00	0.00
11,200.00	90.00	1.12	6,375.00	3,605.94	3,104.95	3,665.94	0.00	0.00	0.00
11,300.00	90.00	1.12	6,375.00	3,705.92	3,106.90	3,765.94	0.00	0.00	0.00
11,400.00	90.00	1.12	6,375.00	3,805.90	3,108.85	3,865.94	0.00	0.00	0.00
11,500.00	90.00	1.12	6,375.00	3,905.88	3,110.79	3,965.94	0.00	0.00	0.00
11,600.00	90.00	1.12	6,375.00	4,005.86	3,112.74	4,065.94	0.00	0.00	0.00
11,700.00	90.00	1.12	6,375.00	4,105.84	3,114.69	4,165.94	0.00	0.00	0.00
11,800.00	90.00	1.12	6,375.00	4,205.83	3,116.63	4,265.94	0.00	0.00	0.00
11,900.00	90.00	1.12	6,375.00	4,305.81	3,118.58	4,365.94	0.00	0.00	0.00
12,000.00	90.00	1.12	6,375.00	4,405.79	3,120.53	4,465.94	0.00	0.00	0.00
12,100.00	90.00	1.12	6,375.00	4,505.77	3,122.48	4,565.94	0.00	0.00	0.00
12,200.00	90.00	1.12	6,375.00	4,605.75	3,124.42	4,665.94	0.00	0.00	0.00
12,300.00	90.00	1.12	6,375.00	4,705.73	3,126.37	4,765.94	0.00	0.00	0.00
12,400.00	90.00	1.12	6,375.00	4,805.71	3,128.32	4,865.94	0.00	0.00	0.00
12,500.00	90.00	1.12	6,375.00	4,905.69	3,130.26	4,965.94	0.00	0.00	0.00
12,600.00	90.00	1.12	6,375.00	5,005.67	3,132.21	5,065.94	0.00	0.00	0.00
12,700.00	90.00	1.12	6,375.00	5,105.66	3,134.16	5,165.94	0.00	0.00	0.00
12,800.00	90.00	1.12	6,375.00	5,205.64	3,136.10	5,265.94	0.00	0.00	0.00
12,900.00	90.00	1.12	6,375.00	5,305.62	3,138.05	5,365.94	0.00	0.00	0.00
13,000.00	90.00	1.12	6,375.00	5,405.60	3,140.00	5,465.94	0.00	0.00	0.00
13,100.00	90.00	1.12	6,375.00	5,505.58	3,141.94	5,565.94	0.00	0.00	0.00
13,200.00	90.00	1.12	6,375.00	5,605.56	3,143.89	5,665.94	0.00	0.00	0.00
13,300.00	90.00	1.12	6,375.00	5,705.54	3,145.84	5,765.94	0.00	0.00	0.00
13,400.00	90.00	1.12	6,375.00	5,805.52	3,147.79	5,865.94	0.00	0.00	0.00
13,500.00	90.00	1.12	6,375.00	5,905.50	3,149.73	5,965.94	0.00	0.00	0.00
13,600.00	90.00	1.12	6,375.00	6,005.48	3,151.68	6,065.94	0.00	0.00	0.00
13,700.00	90.00	1.12	6,375.00	6,105.47	3,153.63	6,165.94	0.00	0.00	0.00
13,800.00	90.00	1.12	6,375.00	6,205.45	3,155.57	6,265.94	0.00	0.00	0.00
13,900.00	90.00	1.12	6,375.00	6,305.43	3,157.52	6,365.94	0.00	0.00	0.00
14,000.00	90.00	1.12	6,375.00	6,405.41	3,159.47	6,465.94	0.00	0.00	0.00

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SONIC STAR 1101-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4901.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4901.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #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	1.12	6,375.00	6,505.39	3,161.41	6,565.94	0.00	0.00	0.00
14,200.00	90.00	1.12	6,375.00	6,605.37	3,163.36	6,665.94	0.00	0.00	0.00
14,300.00	90.00	1.12	6,375.00	6,705.35	3,165.31	6,765.94	0.00	0.00	0.00
14,400.00	90.00	1.12	6,375.00	6,805.33	3,167.26	6,865.94	0.00	0.00	0.00
14,500.00	90.00	1.12	6,375.00	6,905.31	3,169.20	6,965.94	0.00	0.00	0.00
14,600.00	90.00	1.12	6,375.00	7,005.30	3,171.15	7,065.94	0.00	0.00	0.00
14,700.00	90.00	1.12	6,375.00	7,105.28	3,173.10	7,165.94	0.00	0.00	0.00
14,800.00	90.00	1.12	6,375.00	7,205.26	3,175.04	7,265.94	0.00	0.00	0.00
14,900.00	90.00	1.12	6,375.00	7,305.24	3,176.99	7,365.94	0.00	0.00	0.00
15,000.00	90.00	1.12	6,375.00	7,405.22	3,178.94	7,465.94	0.00	0.00	0.00
15,100.00	90.00	1.12	6,375.00	7,505.20	3,180.88	7,565.94	0.00	0.00	0.00
15,200.00	90.00	1.12	6,375.00	7,605.18	3,182.83	7,665.94	0.00	0.00	0.00
15,243.25	90.00	1.12	6,375.00	7,648.43	3,183.67	7,709.19	0.00	0.00	0.00
TD Well @ 15243.25'									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,770.36	1,700.00	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)	
250.00	250.00	0.00	0.00	Begin Tangent @ 250.00'
1,760.50	1,691.48	-95.97	377.05	End Tangent @ 1760.50'
6,465.79	5,757.73	-679.95	2,671.47	KOP @ 6465.79' :: DLS = 9°/100'
7,538.90	6,375.00	-54.46	3,033.67	End Build @ 7538.90'
15,243.25	6,375.00	7,648.43	3,183.67	TD Well @ 15243.25'