

VERDAD RESOURCES

WATTENBERG FIELD

8N-60W-11 SONIC STAR 1101 PAD

SONIC STAR 1101-01H

Wellbore #1

Plan: Design #3

Standard Planning Report

12 August, 2020

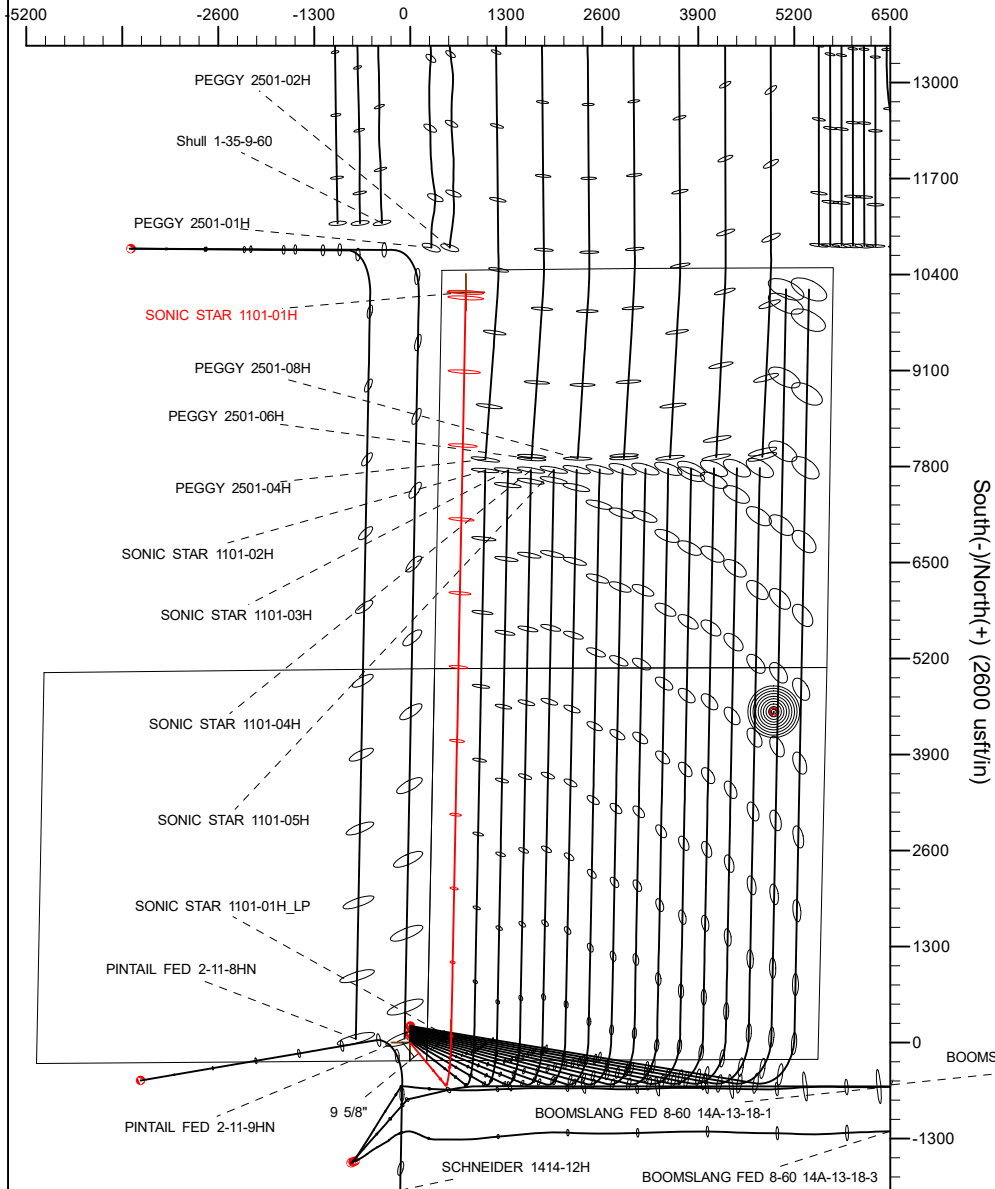
Project: WATTENBERG FIELD
Site: 8N-60W-11 SONIC STAR 1101 PAD
Well: SONIC STAR 1101-01H
Wellbore: Wellbore #1
Design: Design #3

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1712.91	9 5/8"	9-5/8

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



SHL
243' FSL
230' FEL

LP
300' FSL
325' FWL

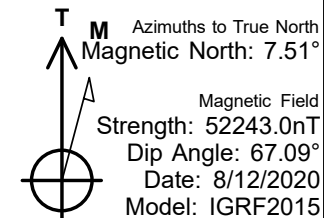
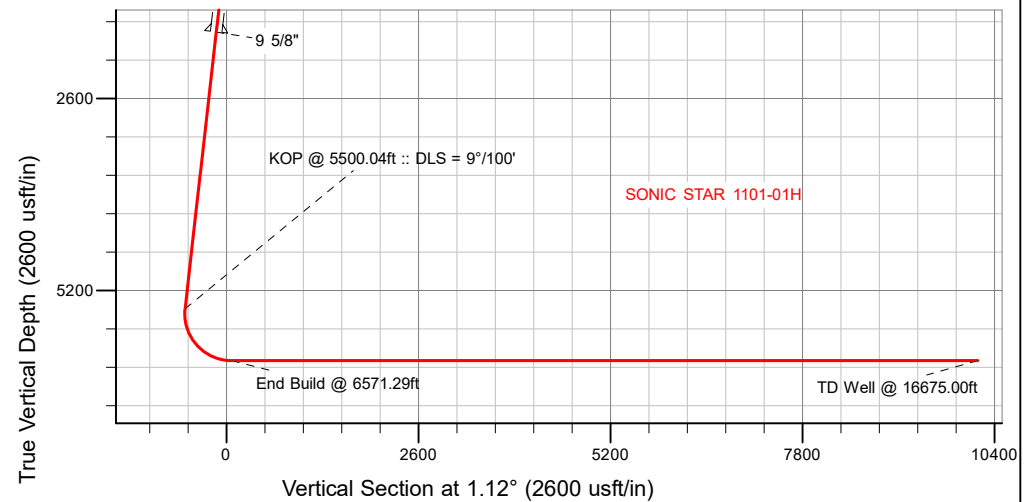
BHL
300' FNL
330' FWL

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	251.50	0.00	0.00	251.50	0.00	0.00	0.00	0.00	0.00	
3	676.00	8.49	140.28	674.45	-24.15	20.06	2.00	140.28	-23.75	
4	5500.04	8.49	140.28	5445.62	-571.96	475.19	0.00	0.00	-562.56	
5	6571.29	90.00	1.12	6150.00	59.21	556.34	9.00	-138.84	70.07	
6	16675.00	90.00	1.12	6150.00	10160.98	754.38	0.00	0.00	10173.78	SONIC STAR 1101-01H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SONIC STAR 1101-01H_SHL	0.00	0.00	0.00	40.670506	-104.049114
SONIC STAR 1101-01H_BHL	6150.00	10160.98	754.38	40.698396	-104.046393



WELL DETAILS: SONIC STAR 1101-01H

GL = 4878'

RKB = 20' @ 4898.00usft (RIG)

Plan: Design #3 (SONIC STAR 1101-01H/Wellbore #1)

Created By: **SHERRYL ENERGY L.L.C.** Date: 8/12/2020

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SONIC STAR 1101-01H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4898.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4898.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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 "	

Well	SONIC STAR 1101-01H			
Well Position	+N/-S	0.00 usft	Northing:	1,490,400.67 usft
	+E/-W	0.00 usft	Easting:	3,402,456.42 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft
Grid Convergence:		0.94 °	Ground Level:	4,878.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/12/2020	7.51	67.09	52,243.03173711

Design	Design #3				
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	8/12/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,700.00	Design #3 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination
2	1,700.00	16,675.00	Design #3 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4898.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	
251.50	0.00	0.00	251.50	0.00	0.00	0.00	0.00	0.00	0.00	
676.00	8.49	140.28	674.45	-24.15	20.06	2.00	2.00	0.00	140.28	
5,500.04	8.49	140.28	5,445.62	-571.96	475.19	0.00	0.00	0.00	0.00	
6,571.29	90.00	1.12	6,150.00	59.21	556.34	9.00	7.61	-12.99	-138.84	
16,675.00	90.00	1.12	6,150.00	10,160.98	754.38	0.00	0.00	0.00	0.00	SONIC STAR 1101-0'

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4898.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4898.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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
251.50	0.00	0.00	251.50	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 251.50ft									
300.00	0.97	140.28	300.00	-0.32	0.26	-0.31	2.00	2.00	0.00
400.00	2.97	140.28	399.93	-2.96	2.46	-2.91	2.00	2.00	0.00
500.00	4.97	140.28	499.69	-8.28	6.88	-8.15	2.00	2.00	0.00
600.00	6.97	140.28	599.14	-16.28	13.53	-16.02	2.00	2.00	0.00
676.00	8.49	140.28	674.45	-24.15	20.06	-23.75	2.00	2.00	0.00
Hold Tangent @ 676.00ft									
700.00	8.49	140.28	698.19	-26.87	22.33	-26.43	0.00	0.00	0.00
800.00	8.49	140.28	797.09	-38.23	31.76	-37.60	0.00	0.00	0.00
900.00	8.49	140.28	895.99	-49.58	41.19	-48.77	0.00	0.00	0.00
1,000.00	8.49	140.28	994.90	-60.94	50.63	-59.94	0.00	0.00	0.00
1,100.00	8.49	140.28	1,093.80	-72.30	60.06	-71.11	0.00	0.00	0.00
1,200.00	8.49	140.28	1,192.71	-83.65	69.50	-82.28	0.00	0.00	0.00
1,300.00	8.49	140.28	1,291.61	-95.01	78.93	-93.45	0.00	0.00	0.00
1,400.00	8.49	140.28	1,390.51	-106.36	88.37	-104.62	0.00	0.00	0.00
1,500.00	8.49	140.28	1,489.42	-117.72	97.80	-115.79	0.00	0.00	0.00
1,600.00	8.49	140.28	1,588.32	-129.08	107.24	-126.95	0.00	0.00	0.00
1,700.00	8.49	140.28	1,687.23	-140.43	116.67	-138.12	0.00	0.00	0.00
1,712.91	8.49	140.28	1,700.00	-141.90	117.89	-139.57	0.00	0.00	0.00
9 5/8"									
1,800.00	8.49	140.28	1,786.13	-151.79	126.11	-149.29	0.00	0.00	0.00
1,900.00	8.49	140.28	1,885.04	-163.14	135.54	-160.46	0.00	0.00	0.00
2,000.00	8.49	140.28	1,983.94	-174.50	144.97	-171.63	0.00	0.00	0.00
2,100.00	8.49	140.28	2,082.84	-185.85	154.41	-182.80	0.00	0.00	0.00
2,200.00	8.49	140.28	2,181.75	-197.21	163.84	-193.97	0.00	0.00	0.00
2,300.00	8.49	140.28	2,280.65	-208.57	173.28	-205.14	0.00	0.00	0.00
2,400.00	8.49	140.28	2,379.56	-219.92	182.71	-216.31	0.00	0.00	0.00
2,500.00	8.49	140.28	2,478.46	-231.28	192.15	-227.48	0.00	0.00	0.00
2,600.00	8.49	140.28	2,577.36	-242.63	201.58	-238.65	0.00	0.00	0.00
2,700.00	8.49	140.28	2,676.27	-253.99	211.02	-249.82	0.00	0.00	0.00
2,800.00	8.49	140.28	2,775.17	-265.35	220.45	-260.99	0.00	0.00	0.00
2,900.00	8.49	140.28	2,874.08	-276.70	229.89	-272.16	0.00	0.00	0.00
3,000.00	8.49	140.28	2,972.98	-288.06	239.32	-283.32	0.00	0.00	0.00
3,100.00	8.49	140.28	3,071.89	-299.41	248.75	-294.49	0.00	0.00	0.00
3,200.00	8.49	140.28	3,170.79	-310.77	258.19	-305.66	0.00	0.00	0.00
3,300.00	8.49	140.28	3,269.69	-322.13	267.62	-316.83	0.00	0.00	0.00
3,400.00	8.49	140.28	3,368.60	-333.48	277.06	-328.00	0.00	0.00	0.00
3,500.00	8.49	140.28	3,467.50	-344.84	286.49	-339.17	0.00	0.00	0.00
3,600.00	8.49	140.28	3,566.41	-356.19	295.93	-350.34	0.00	0.00	0.00
3,700.00	8.49	140.28	3,665.31	-367.55	305.36	-361.51	0.00	0.00	0.00
3,800.00	8.49	140.28	3,764.21	-378.90	314.80	-372.68	0.00	0.00	0.00
3,900.00	8.49	140.28	3,863.12	-390.26	324.23	-383.85	0.00	0.00	0.00
4,000.00	8.49	140.28	3,962.02	-401.62	333.67	-395.02	0.00	0.00	0.00
4,100.00	8.49	140.28	4,060.93	-412.97	343.10	-406.19	0.00	0.00	0.00
4,200.00	8.49	140.28	4,159.83	-424.33	352.53	-417.36	0.00	0.00	0.00
4,300.00	8.49	140.28	4,258.74	-435.68	361.97	-428.53	0.00	0.00	0.00
4,400.00	8.49	140.28	4,357.64	-447.04	371.40	-439.69	0.00	0.00	0.00
4,500.00	8.49	140.28	4,456.54	-458.40	380.84	-450.86	0.00	0.00	0.00
4,600.00	8.49	140.28	4,555.45	-469.75	390.27	-462.03	0.00	0.00	0.00

HP

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4898.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4898.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	8.49	140.28	4,654.35	-481.11	399.71	-473.20	0.00	0.00	0.00
4,800.00	8.49	140.28	4,753.26	-492.46	409.14	-484.37	0.00	0.00	0.00
4,900.00	8.49	140.28	4,852.16	-503.82	418.58	-495.54	0.00	0.00	0.00
5,000.00	8.49	140.28	4,951.06	-515.18	428.01	-506.71	0.00	0.00	0.00
5,100.00	8.49	140.28	5,049.97	-526.53	437.45	-517.88	0.00	0.00	0.00
5,200.00	8.49	140.28	5,148.87	-537.89	446.88	-529.05	0.00	0.00	0.00
5,300.00	8.49	140.28	5,247.78	-549.24	456.31	-540.22	0.00	0.00	0.00
5,400.00	8.49	140.28	5,346.68	-560.60	465.75	-551.39	0.00	0.00	0.00
5,500.00	8.49	140.28	5,445.59	-571.95	475.18	-562.56	0.00	0.00	0.00
5,500.04	8.49	140.28	5,445.62	-571.96	475.19	-562.56	0.00	0.00	0.00
KOP @ 5500.04ft :: DLS = 9°/100'									
5,600.00	6.14	66.21	5,544.95	-575.48	484.82	-565.90	9.00	-2.35	-74.10
5,700.00	12.84	26.48	5,643.62	-563.36	494.69	-553.58	9.00	6.70	-39.73
5,800.00	21.29	15.63	5,739.15	-535.87	504.55	-525.90	9.00	8.45	-10.86
5,900.00	30.06	10.84	5,829.20	-493.70	514.17	-483.55	9.00	8.76	-4.79
6,000.00	38.92	8.07	5,911.55	-437.88	523.31	-427.57	9.00	8.86	-2.77
6,100.00	47.83	6.20	5,984.16	-369.80	531.73	-359.33	9.00	8.91	-1.87
6,200.00	56.76	4.79	6,045.26	-291.12	539.24	-280.53	9.00	8.93	-1.40
6,300.00	65.71	3.65	6,093.33	-203.79	545.65	-193.08	9.00	8.94	-1.14
6,400.00	74.66	2.66	6,127.20	-109.95	550.79	-99.16	9.00	8.95	-0.99
6,500.00	83.61	1.75	6,146.03	-11.91	554.56	-1.07	9.00	8.96	-0.91
6,571.29	90.00	1.12	6,150.00	59.21	556.34	70.07	9.00	8.96	-0.88
End Build @ 6571.29ft									
6,600.00	90.00	1.12	6,150.00	87.91	556.90	98.78	0.00	0.00	0.00
6,700.00	90.00	1.12	6,150.00	187.89	558.86	198.78	0.00	0.00	0.00
6,800.00	90.00	1.12	6,150.00	287.87	560.82	298.78	0.00	0.00	0.00
6,900.00	90.00	1.12	6,150.00	387.85	562.78	398.78	0.00	0.00	0.00
7,000.00	90.00	1.12	6,150.00	487.83	564.74	498.78	0.00	0.00	0.00
7,100.00	90.00	1.12	6,150.00	587.82	566.70	598.78	0.00	0.00	0.00
7,200.00	90.00	1.12	6,150.00	687.80	568.66	698.78	0.00	0.00	0.00
7,300.00	90.00	1.12	6,150.00	787.78	570.62	798.78	0.00	0.00	0.00
7,400.00	90.00	1.12	6,150.00	887.76	572.58	898.78	0.00	0.00	0.00
7,500.00	90.00	1.12	6,150.00	987.74	574.54	998.78	0.00	0.00	0.00
7,600.00	90.00	1.12	6,150.00	1,087.72	576.50	1,098.78	0.00	0.00	0.00
7,700.00	90.00	1.12	6,150.00	1,187.70	578.46	1,198.78	0.00	0.00	0.00
7,800.00	90.00	1.12	6,150.00	1,287.68	580.42	1,298.78	0.00	0.00	0.00
7,900.00	90.00	1.12	6,150.00	1,387.66	582.38	1,398.78	0.00	0.00	0.00
8,000.00	90.00	1.12	6,150.00	1,487.64	584.34	1,498.78	0.00	0.00	0.00
8,100.00	90.00	1.12	6,150.00	1,587.62	586.30	1,598.78	0.00	0.00	0.00
8,200.00	90.00	1.12	6,150.00	1,687.60	588.26	1,698.78	0.00	0.00	0.00
8,300.00	90.00	1.12	6,150.00	1,787.58	590.22	1,798.78	0.00	0.00	0.00
8,400.00	90.00	1.12	6,150.00	1,887.57	592.18	1,898.78	0.00	0.00	0.00
8,500.00	90.00	1.12	6,150.00	1,987.55	594.14	1,998.78	0.00	0.00	0.00
8,600.00	90.00	1.12	6,150.00	2,087.53	596.10	2,098.78	0.00	0.00	0.00
8,700.00	90.00	1.12	6,150.00	2,187.51	598.06	2,198.78	0.00	0.00	0.00
8,800.00	90.00	1.12	6,150.00	2,287.49	600.02	2,298.78	0.00	0.00	0.00
8,900.00	90.00	1.12	6,150.00	2,387.47	601.98	2,398.78	0.00	0.00	0.00
9,000.00	90.00	1.12	6,150.00	2,487.45	603.94	2,498.78	0.00	0.00	0.00
9,100.00	90.00	1.12	6,150.00	2,587.43	605.90	2,598.78	0.00	0.00	0.00
9,200.00	90.00	1.12	6,150.00	2,687.41	607.86	2,698.78	0.00	0.00	0.00
9,300.00	90.00	1.12	6,150.00	2,787.39	609.82	2,798.78	0.00	0.00	0.00
9,400.00	90.00	1.12	6,150.00	2,887.37	611.78	2,898.78	0.00	0.00	0.00
9,500.00	90.00	1.12	6,150.00	2,987.35	613.74	2,998.78	0.00	0.00	0.00
9,600.00	90.00	1.12	6,150.00	3,087.34	615.70	3,098.78	0.00	0.00	0.00

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Planning Report

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Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)	
9,700.00	90.00	1.12	6,150.00	3,187.32	617.66	3,198.78	0.00	0.00	0.00	
9,800.00	90.00	1.12	6,150.00	3,287.30	619.62	3,298.78	0.00	0.00	0.00	
9,900.00	90.00	1.12	6,150.00	3,387.28	621.58	3,398.78	0.00	0.00	0.00	
10,000.00	90.00	1.12	6,150.00	3,487.26	623.54	3,498.78	0.00	0.00	0.00	
10,100.00	90.00	1.12	6,150.00	3,587.24	625.50	3,598.78	0.00	0.00	0.00	
10,200.00	90.00	1.12	6,150.00	3,687.22	627.46	3,698.78	0.00	0.00	0.00	
10,300.00	90.00	1.12	6,150.00	3,787.20	629.42	3,798.78	0.00	0.00	0.00	
10,400.00	90.00	1.12	6,150.00	3,887.18	631.38	3,898.78	0.00	0.00	0.00	
10,500.00	90.00	1.12	6,150.00	3,987.16	633.34	3,998.78	0.00	0.00	0.00	
10,600.00	90.00	1.12	6,150.00	4,087.14	635.30	4,098.78	0.00	0.00	0.00	
10,700.00	90.00	1.12	6,150.00	4,187.12	637.26	4,198.78	0.00	0.00	0.00	
10,800.00	90.00	1.12	6,150.00	4,287.10	639.22	4,298.78	0.00	0.00	0.00	
10,900.00	90.00	1.12	6,150.00	4,387.09	641.18	4,398.78	0.00	0.00	0.00	
11,000.00	90.00	1.12	6,150.00	4,487.07	643.14	4,498.78	0.00	0.00	0.00	
11,100.00	90.00	1.12	6,150.00	4,587.05	645.10	4,598.78	0.00	0.00	0.00	
11,200.00	90.00	1.12	6,150.00	4,687.03	647.06	4,698.78	0.00	0.00	0.00	
11,300.00	90.00	1.12	6,150.00	4,787.01	649.02	4,798.78	0.00	0.00	0.00	
11,400.00	90.00	1.12	6,150.00	4,886.99	650.98	4,898.78	0.00	0.00	0.00	
11,500.00	90.00	1.12	6,150.00	4,986.97	652.94	4,998.78	0.00	0.00	0.00	
11,600.00	90.00	1.12	6,150.00	5,086.95	654.90	5,098.78	0.00	0.00	0.00	
11,700.00	90.00	1.12	6,150.00	5,186.93	656.86	5,198.78	0.00	0.00	0.00	
11,800.00	90.00	1.12	6,150.00	5,286.91	658.83	5,298.78	0.00	0.00	0.00	
11,900.00	90.00	1.12	6,150.00	5,386.89	660.79	5,398.78	0.00	0.00	0.00	
12,000.00	90.00	1.12	6,150.00	5,486.87	662.75	5,498.78	0.00	0.00	0.00	
12,100.00	90.00	1.12	6,150.00	5,586.85	664.71	5,598.78	0.00	0.00	0.00	
12,200.00	90.00	1.12	6,150.00	5,686.84	666.67	5,698.78	0.00	0.00	0.00	
12,300.00	90.00	1.12	6,150.00	5,786.82	668.63	5,798.78	0.00	0.00	0.00	
12,400.00	90.00	1.12	6,150.00	5,886.80	670.59	5,898.78	0.00	0.00	0.00	
12,500.00	90.00	1.12	6,150.00	5,986.78	672.55	5,998.78	0.00	0.00	0.00	
12,600.00	90.00	1.12	6,150.00	6,086.76	674.51	6,098.78	0.00	0.00	0.00	
12,700.00	90.00	1.12	6,150.00	6,186.74	676.47	6,198.78	0.00	0.00	0.00	
12,800.00	90.00	1.12	6,150.00	6,286.72	678.43	6,298.78	0.00	0.00	0.00	
12,900.00	90.00	1.12	6,150.00	6,386.70	680.39	6,398.78	0.00	0.00	0.00	
13,000.00	90.00	1.12	6,150.00	6,486.68	682.35	6,498.78	0.00	0.00	0.00	
13,100.00	90.00	1.12	6,150.00	6,586.66	684.31	6,598.78	0.00	0.00	0.00	
13,200.00	90.00	1.12	6,150.00	6,686.64	686.27	6,698.78	0.00	0.00	0.00	
13,300.00	90.00	1.12	6,150.00	6,786.62	688.23	6,798.78	0.00	0.00	0.00	
13,400.00	90.00	1.12	6,150.00	6,886.61	690.19	6,898.78	0.00	0.00	0.00	
13,500.00	90.00	1.12	6,150.00	6,986.59	692.15	6,998.78	0.00	0.00	0.00	
13,600.00	90.00	1.12	6,150.00	7,086.57	694.11	7,098.78	0.00	0.00	0.00	
13,700.00	90.00	1.12	6,150.00	7,186.55	696.07	7,198.78	0.00	0.00	0.00	
13,800.00	90.00	1.12	6,150.00	7,286.53	698.03	7,298.78	0.00	0.00	0.00	
13,900.00	90.00	1.12	6,150.00	7,386.51	699.99	7,398.78	0.00	0.00	0.00	
14,000.00	90.00	1.12	6,150.00	7,486.49	701.95	7,498.78	0.00	0.00	0.00	
14,100.00	90.00	1.12	6,150.00	7,586.47	703.91	7,598.78	0.00	0.00	0.00	
14,200.00	90.00	1.12	6,150.00	7,686.45	705.87	7,698.78	0.00	0.00	0.00	
14,300.00	90.00	1.12	6,150.00	7,786.43	707.83	7,798.78	0.00	0.00	0.00	
14,400.00	90.00	1.12	6,150.00	7,886.41	709.79	7,898.78	0.00	0.00	0.00	
14,500.00	90.00	1.12	6,150.00	7,986.39	711.75	7,998.78	0.00	0.00	0.00	
14,600.00	90.00	1.12	6,150.00	8,086.37	713.71	8,098.78	0.00	0.00	0.00	
14,700.00	90.00	1.12	6,150.00	8,186.36	715.67	8,198.78	0.00	0.00	0.00	
14,800.00	90.00	1.12	6,150.00	8,286.34	717.63	8,298.78	0.00	0.00	0.00	
14,900.00	90.00	1.12	6,150.00	8,386.32	719.59	8,398.78	0.00	0.00	0.00	
15,000.00	90.00	1.12	6,150.00	8,486.30	721.55	8,498.78	0.00	0.00	0.00	

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well SONIC STAR 1101-01H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4898.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4898.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)	
15,100.00	90.00	1.12	6,150.00	8,586.28	723.51	8,598.78	0.00	0.00	0.00	
15,200.00	90.00	1.12	6,150.00	8,686.26	725.47	8,698.78	0.00	0.00	0.00	
15,300.00	90.00	1.12	6,150.00	8,786.24	727.43	8,798.78	0.00	0.00	0.00	
15,400.00	90.00	1.12	6,150.00	8,886.22	729.39	8,898.78	0.00	0.00	0.00	
15,500.00	90.00	1.12	6,150.00	8,986.20	731.35	8,998.78	0.00	0.00	0.00	
15,600.00	90.00	1.12	6,150.00	9,086.18	733.31	9,098.78	0.00	0.00	0.00	
15,700.00	90.00	1.12	6,150.00	9,186.16	735.27	9,198.78	0.00	0.00	0.00	
15,800.00	90.00	1.12	6,150.00	9,286.14	737.23	9,298.78	0.00	0.00	0.00	
15,900.00	90.00	1.12	6,150.00	9,386.13	739.19	9,398.78	0.00	0.00	0.00	
16,000.00	90.00	1.12	6,150.00	9,486.11	741.15	9,498.78	0.00	0.00	0.00	
16,100.00	90.00	1.12	6,150.00	9,586.09	743.11	9,598.78	0.00	0.00	0.00	
16,200.00	90.00	1.12	6,150.00	9,686.07	745.07	9,698.78	0.00	0.00	0.00	
16,300.00	90.00	1.12	6,150.00	9,786.05	747.03	9,798.78	0.00	0.00	0.00	
16,400.00	90.00	1.12	6,150.00	9,886.03	748.99	9,898.78	0.00	0.00	0.00	
16,500.00	90.00	1.12	6,150.00	9,986.01	750.95	9,998.78	0.00	0.00	0.00	
16,600.00	90.00	1.12	6,150.00	10,085.99	752.91	10,098.78	0.00	0.00	0.00	
16,675.00	90.00	1.12	6,150.00	10,160.98	754.38	10,173.78	0.00	0.00	0.00	
TD Well @ 16675.00ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,712.91	1,700.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
251.50	251.50	0.00	0.00	Begin Nudge @ 251.50ft	
676.00	674.45	-24.15	20.06	Hold Tangent @ 676.00ft	
5,500.04	5,445.62	-571.96	475.19	KOP @ 5500.04ft :: DLS = 9°/100'	
6,571.29	6,150.00	59.21	556.34	End Build @ 6571.29ft	
16,675.00	6,150.00	10,160.98	754.38	TD Well @ 16675.00ft	