

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**8N-60W-11 SONIC STAR 1101 PAD**

**SONIC STAR 1101-13H**

**Plan B**

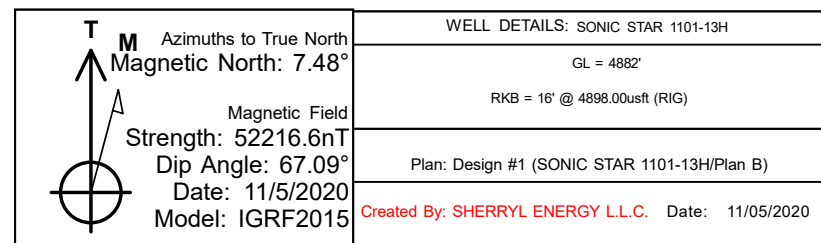
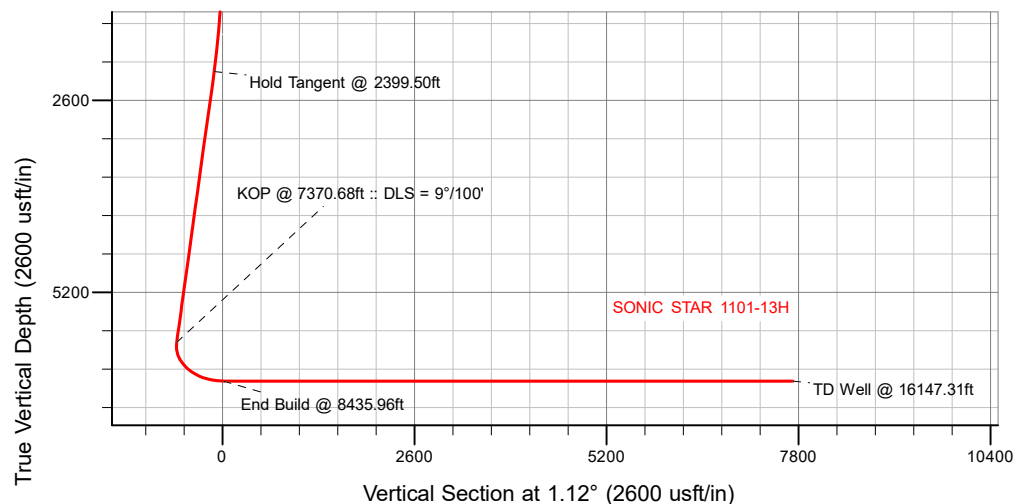
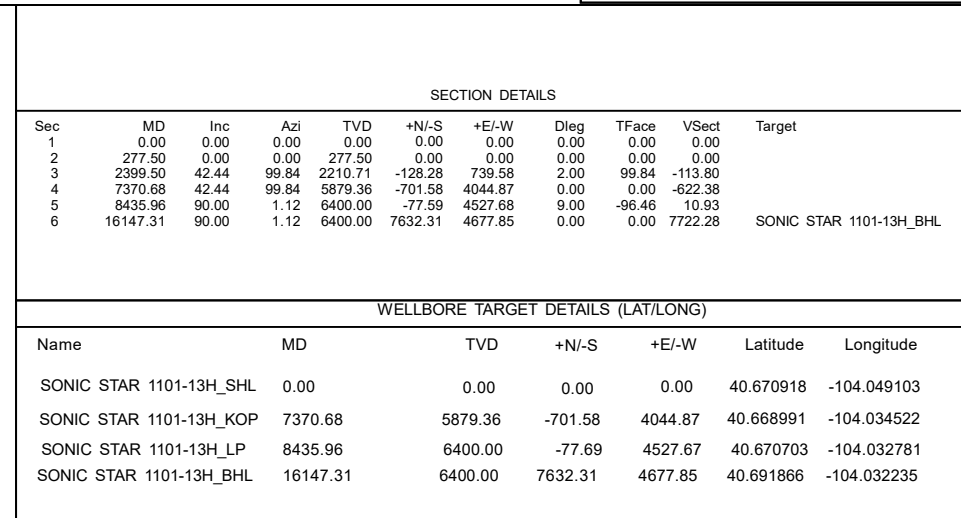
**Plan: Design #1**

## **Standard Planning Report**

**09 November, 2020**

# VERDAD RESOURCES

CASING DETAILS			
TVD	MD	Name	Size
1500.00	1540.52	9 5/8"	9-5/8



# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-13H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Design #1		

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

<b>Site</b>	8N-60W-11 SONIC STAR 1101 PAD			
<b>Site Position:</b>		<b>Northing:</b>	1,490,400.68 usft	<b>Latitude:</b> 40.670506
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,402,456.42 usft	<b>Longitude:</b> -104.049114
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	

<b>Well</b>	SONIC STAR 1101-13H			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,490,550.73 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	3,402,456.90 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>	usft
<b>Grid Convergence:</b>		0.94 °	<b>Ground Level:</b>	4,882.00 usft

<b>Wellbore</b>	Plan B				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	11/5/2020	7.48	67.09	52,216.62703360

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	1.12

<b>Plan Survey Tool Program</b>	<b>Date</b>	11/9/2020		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	1,500.00	Design #1 (Plan B)	ISCWSA MWD
				Fixed:v2:standard declination
2	1,500.00	16,147.31	Design #1 (Plan B)	ISCWSA MWD
				Fixed:v2:standard declination

HP  
Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-13H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	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	
277.50	0.00	0.00	277.50	0.00	0.00	0.00	0.00	0.00	0.00	
2,399.50	42.44	99.84	2,210.71	-128.28	739.58	2.00	2.00	0.00	99.84	
7,370.68	42.44	99.84	5,879.36	-701.58	4,044.87	0.00	0.00	0.00	0.00	
8,435.96	90.00	1.12	6,400.00	-77.59	4,527.68	9.00	4.46	-9.27	-96.46	
16,147.31	90.00	1.12	6,400.00	7,632.31	4,677.85	0.00	0.00	0.00	0.00	SONIC STAR 1101-13H

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-13H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	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
277.50	0.00	0.00	277.50	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 277.50ft</b>									
300.00	0.45	99.84	300.00	-0.02	0.09	-0.01	2.00	2.00	0.00
400.00	2.45	99.84	399.96	-0.45	2.58	-0.40	2.00	2.00	0.00
500.00	4.45	99.84	499.78	-1.48	8.51	-1.31	2.00	2.00	0.00
600.00	6.45	99.84	599.32	-3.10	17.87	-2.75	2.00	2.00	0.00
700.00	8.45	99.84	698.47	-5.31	30.64	-4.71	2.00	2.00	0.00
800.00	10.45	99.84	797.11	-8.12	46.82	-7.20	2.00	2.00	0.00
900.00	12.45	99.84	895.11	-11.51	66.38	-10.21	2.00	2.00	0.00
1,000.00	14.45	99.84	992.37	-15.49	89.29	-13.74	2.00	2.00	0.00
1,100.00	16.45	99.84	1,088.75	-20.04	115.54	-17.78	2.00	2.00	0.00
1,200.00	18.45	99.84	1,184.14	-25.16	145.08	-22.32	2.00	2.00	0.00
1,300.00	20.45	99.84	1,278.43	-30.85	177.89	-27.37	2.00	2.00	0.00
1,400.00	22.45	99.84	1,371.50	-37.10	213.92	-32.92	2.00	2.00	0.00
1,500.00	24.45	99.84	1,463.23	-43.90	253.13	-38.95	2.00	2.00	0.00
1,540.52	25.26	99.84	1,500.00	-46.82	269.91	-41.53	2.00	2.00	0.00
<b>9 5/8"</b>									
1,600.00	26.45	99.84	1,553.52	-51.25	295.46	-45.46	2.00	2.00	0.00
1,700.00	28.45	99.84	1,642.26	-59.13	340.88	-52.45	2.00	2.00	0.00
1,800.00	30.45	99.84	1,729.34	-67.53	389.32	-59.90	2.00	2.00	0.00
1,900.00	32.45	99.84	1,814.64	-76.44	440.73	-67.81	2.00	2.00	0.00
2,000.00	34.45	99.84	1,898.07	-85.86	495.03	-76.17	2.00	2.00	0.00
2,100.00	36.45	99.84	1,979.53	-95.77	552.18	-84.96	2.00	2.00	0.00
2,200.00	38.45	99.84	2,058.92	-106.17	612.09	-94.18	2.00	2.00	0.00
2,300.00	40.45	99.84	2,136.13	-117.02	674.69	-103.81	2.00	2.00	0.00
2,399.50	42.44	99.84	2,210.71	-128.28	739.58	-113.80	2.00	2.00	0.00
<b>Hold Tangent @ 2399.50ft</b>									
2,400.00	42.44	99.84	2,211.08	-128.34	739.91	-113.85	0.00	0.00	0.00
2,500.00	42.44	99.84	2,284.88	-139.87	806.40	-124.08	0.00	0.00	0.00
2,600.00	42.44	99.84	2,358.68	-151.40	872.89	-134.31	0.00	0.00	0.00
2,700.00	42.44	99.84	2,432.47	-162.93	939.38	-144.54	0.00	0.00	0.00
2,800.00	42.44	99.84	2,506.27	-174.47	1,005.87	-154.77	0.00	0.00	0.00
2,900.00	42.44	99.84	2,580.07	-186.00	1,072.35	-165.00	0.00	0.00	0.00
3,000.00	42.44	99.84	2,653.87	-197.53	1,138.84	-175.23	0.00	0.00	0.00
3,100.00	42.44	99.84	2,727.67	-209.06	1,205.33	-185.46	0.00	0.00	0.00
3,200.00	42.44	99.84	2,801.47	-220.60	1,271.82	-195.69	0.00	0.00	0.00
3,300.00	42.44	99.84	2,875.27	-232.13	1,338.31	-205.93	0.00	0.00	0.00
3,400.00	42.44	99.84	2,949.06	-243.66	1,404.80	-216.16	0.00	0.00	0.00
3,500.00	42.44	99.84	3,022.86	-255.19	1,471.29	-226.39	0.00	0.00	0.00
3,600.00	42.44	99.84	3,096.66	-266.73	1,537.78	-236.62	0.00	0.00	0.00
3,700.00	42.44	99.84	3,170.46	-278.26	1,604.27	-246.85	0.00	0.00	0.00
3,800.00	42.44	99.84	3,244.26	-289.79	1,670.76	-257.08	0.00	0.00	0.00
3,900.00	42.44	99.84	3,318.06	-301.32	1,737.24	-267.31	0.00	0.00	0.00
4,000.00	42.44	99.84	3,391.85	-312.86	1,803.73	-277.54	0.00	0.00	0.00
4,100.00	42.44	99.84	3,465.65	-324.39	1,870.22	-287.77	0.00	0.00	0.00
4,200.00	42.44	99.84	3,539.45	-335.92	1,936.71	-298.00	0.00	0.00	0.00
4,300.00	42.44	99.84	3,613.25	-347.45	2,003.20	-308.23	0.00	0.00	0.00
4,400.00	42.44	99.84	3,687.05	-358.99	2,069.69	-318.46	0.00	0.00	0.00
4,500.00	42.44	99.84	3,760.85	-370.52	2,136.18	-328.69	0.00	0.00	0.00
4,600.00	42.44	99.84	3,834.65	-382.05	2,202.67	-338.92	0.00	0.00	0.00

# HP

## Planning Report

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<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	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	42.44	99.84	3,908.44	-393.58	2,269.16	-349.15	0.00	0.00	0.00
4,800.00	42.44	99.84	3,982.24	-405.12	2,335.65	-359.38	0.00	0.00	0.00
4,900.00	42.44	99.84	4,056.04	-416.65	2,402.14	-369.62	0.00	0.00	0.00
5,000.00	42.44	99.84	4,129.84	-428.18	2,468.62	-379.85	0.00	0.00	0.00
5,100.00	42.44	99.84	4,203.64	-439.71	2,535.11	-390.08	0.00	0.00	0.00
5,200.00	42.44	99.84	4,277.44	-451.25	2,601.60	-400.31	0.00	0.00	0.00
5,300.00	42.44	99.84	4,351.23	-462.78	2,668.09	-410.54	0.00	0.00	0.00
5,400.00	42.44	99.84	4,425.03	-474.31	2,734.58	-420.77	0.00	0.00	0.00
5,500.00	42.44	99.84	4,498.83	-485.84	2,801.07	-431.00	0.00	0.00	0.00
5,600.00	42.44	99.84	4,572.63	-497.38	2,867.56	-441.23	0.00	0.00	0.00
5,700.00	42.44	99.84	4,646.43	-508.91	2,934.05	-451.46	0.00	0.00	0.00
5,800.00	42.44	99.84	4,720.23	-520.44	3,000.54	-461.69	0.00	0.00	0.00
5,900.00	42.44	99.84	4,794.03	-531.97	3,067.03	-471.92	0.00	0.00	0.00
6,000.00	42.44	99.84	4,867.82	-543.51	3,133.51	-482.15	0.00	0.00	0.00
6,100.00	42.44	99.84	4,941.62	-555.04	3,200.00	-492.38	0.00	0.00	0.00
6,200.00	42.44	99.84	5,015.42	-566.57	3,266.49	-502.61	0.00	0.00	0.00
6,300.00	42.44	99.84	5,089.22	-578.10	3,332.98	-512.84	0.00	0.00	0.00
6,400.00	42.44	99.84	5,163.02	-589.63	3,399.47	-523.07	0.00	0.00	0.00
6,500.00	42.44	99.84	5,236.82	-601.17	3,465.96	-533.31	0.00	0.00	0.00
6,600.00	42.44	99.84	5,310.61	-612.70	3,532.45	-543.54	0.00	0.00	0.00
6,700.00	42.44	99.84	5,384.41	-624.23	3,598.94	-553.77	0.00	0.00	0.00
6,800.00	42.44	99.84	5,458.21	-635.76	3,665.43	-564.00	0.00	0.00	0.00
6,900.00	42.44	99.84	5,532.01	-647.30	3,731.92	-574.23	0.00	0.00	0.00
7,000.00	42.44	99.84	5,605.81	-658.83	3,798.41	-584.46	0.00	0.00	0.00
7,100.00	42.44	99.84	5,679.61	-670.36	3,864.89	-594.69	0.00	0.00	0.00
7,200.00	42.44	99.84	5,753.40	-681.89	3,931.38	-604.92	0.00	0.00	0.00
7,300.00	42.44	99.84	5,827.20	-693.43	3,997.87	-615.15	0.00	0.00	0.00
7,370.68	42.44	99.84	5,879.36	-701.58	4,044.87	-622.38	0.00	0.00	0.00
KOP @ 7370.68ft :: DLS = 9°/100'									
7,400.00	42.21	95.94	5,901.05	-704.29	4,064.41	-624.71	9.00	-0.79	-13.32
7,500.00	42.43	82.55	5,975.14	-703.39	4,131.41	-622.50	9.00	0.22	-13.38
7,600.00	44.16	69.66	6,048.06	-686.88	4,197.66	-604.70	9.00	1.73	-12.90
7,700.00	47.24	57.83	6,118.03	-655.16	4,261.52	-571.73	9.00	3.08	-11.83
7,800.00	51.40	47.29	6,183.30	-609.01	4,321.43	-524.42	9.00	4.17	-10.53
7,900.00	56.40	38.02	6,242.29	-549.57	4,375.91	-463.93	9.00	5.00	-9.27
8,000.00	62.01	29.82	6,293.52	-478.31	4,423.61	-391.75	9.00	5.61	-8.20
8,100.00	68.06	22.46	6,335.75	-396.97	4,463.37	-309.65	9.00	6.05	-7.36
8,200.00	74.41	15.72	6,367.93	-307.57	4,494.21	-219.66	9.00	6.35	-6.74
8,300.00	80.95	9.39	6,389.27	-212.30	4,515.35	-124.00	9.00	6.54	-6.33
8,400.00	87.60	3.29	6,399.25	-113.50	4,526.30	-25.01	9.00	6.65	-6.10
8,435.96	90.00	1.12	6,400.00	-77.59	4,527.68	10.93	9.00	6.68	-6.04
End Build @ 8435.96ft									
8,500.00	90.00	1.12	6,400.00	-13.55	4,528.92	74.97	0.00	0.00	0.00
8,600.00	90.00	1.12	6,400.00	86.43	4,530.87	174.97	0.00	0.00	0.00
8,700.00	90.00	1.12	6,400.00	186.41	4,532.82	274.97	0.00	0.00	0.00
8,800.00	90.00	1.12	6,400.00	286.39	4,534.77	374.97	0.00	0.00	0.00
8,900.00	90.00	1.12	6,400.00	386.37	4,536.71	474.97	0.00	0.00	0.00
9,000.00	90.00	1.12	6,400.00	486.35	4,538.66	574.97	0.00	0.00	0.00
9,100.00	90.00	1.12	6,400.00	586.33	4,540.61	674.97	0.00	0.00	0.00
9,200.00	90.00	1.12	6,400.00	686.31	4,542.56	774.97	0.00	0.00	0.00
9,300.00	90.00	1.12	6,400.00	786.29	4,544.50	874.97	0.00	0.00	0.00
9,400.00	90.00	1.12	6,400.00	886.28	4,546.45	974.97	0.00	0.00	0.00
9,500.00	90.00	1.12	6,400.00	986.26	4,548.40	1,074.97	0.00	0.00	0.00
9,600.00	90.00	1.12	6,400.00	1,086.24	4,550.35	1,174.97	0.00	0.00	0.00

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## Planning Report

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<b>Well:</b>	SONIC STAR 1101-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	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)	
9,700.00	90.00	1.12	6,400.00	1,186.22	4,552.29	1,274.97	0.00	0.00	0.00	
9,800.00	90.00	1.12	6,400.00	1,286.20	4,554.24	1,374.97	0.00	0.00	0.00	
9,900.00	90.00	1.12	6,400.00	1,386.18	4,556.19	1,474.97	0.00	0.00	0.00	
10,000.00	90.00	1.12	6,400.00	1,486.16	4,558.14	1,574.97	0.00	0.00	0.00	
10,100.00	90.00	1.12	6,400.00	1,586.14	4,560.08	1,674.97	0.00	0.00	0.00	
10,200.00	90.00	1.12	6,400.00	1,686.12	4,562.03	1,774.97	0.00	0.00	0.00	
10,300.00	90.00	1.12	6,400.00	1,786.11	4,563.98	1,874.97	0.00	0.00	0.00	
10,400.00	90.00	1.12	6,400.00	1,886.09	4,565.93	1,974.97	0.00	0.00	0.00	
10,500.00	90.00	1.12	6,400.00	1,986.07	4,567.87	2,074.97	0.00	0.00	0.00	
10,600.00	90.00	1.12	6,400.00	2,086.05	4,569.82	2,174.97	0.00	0.00	0.00	
10,700.00	90.00	1.12	6,400.00	2,186.03	4,571.77	2,274.97	0.00	0.00	0.00	
10,800.00	90.00	1.12	6,400.00	2,286.01	4,573.72	2,374.97	0.00	0.00	0.00	
10,900.00	90.00	1.12	6,400.00	2,385.99	4,575.66	2,474.97	0.00	0.00	0.00	
11,000.00	90.00	1.12	6,400.00	2,485.97	4,577.61	2,574.97	0.00	0.00	0.00	
11,100.00	90.00	1.12	6,400.00	2,585.95	4,579.56	2,674.97	0.00	0.00	0.00	
11,200.00	90.00	1.12	6,400.00	2,685.93	4,581.51	2,774.97	0.00	0.00	0.00	
11,300.00	90.00	1.12	6,400.00	2,785.92	4,583.45	2,874.97	0.00	0.00	0.00	
11,400.00	90.00	1.12	6,400.00	2,885.90	4,585.40	2,974.97	0.00	0.00	0.00	
11,500.00	90.00	1.12	6,400.00	2,985.88	4,587.35	3,074.97	0.00	0.00	0.00	
11,600.00	90.00	1.12	6,400.00	3,085.86	4,589.30	3,174.97	0.00	0.00	0.00	
11,700.00	90.00	1.12	6,400.00	3,185.84	4,591.24	3,274.97	0.00	0.00	0.00	
11,800.00	90.00	1.12	6,400.00	3,285.82	4,593.19	3,374.97	0.00	0.00	0.00	
11,900.00	90.00	1.12	6,400.00	3,385.80	4,595.14	3,474.97	0.00	0.00	0.00	
12,000.00	90.00	1.12	6,400.00	3,485.78	4,597.09	3,574.97	0.00	0.00	0.00	
12,100.00	90.00	1.12	6,400.00	3,585.76	4,599.03	3,674.97	0.00	0.00	0.00	
12,200.00	90.00	1.12	6,400.00	3,685.74	4,600.98	3,774.97	0.00	0.00	0.00	
12,300.00	90.00	1.12	6,400.00	3,785.73	4,602.93	3,874.97	0.00	0.00	0.00	
12,400.00	90.00	1.12	6,400.00	3,885.71	4,604.88	3,974.97	0.00	0.00	0.00	
12,500.00	90.00	1.12	6,400.00	3,985.69	4,606.82	4,074.97	0.00	0.00	0.00	
12,600.00	90.00	1.12	6,400.00	4,085.67	4,608.77	4,174.97	0.00	0.00	0.00	
12,700.00	90.00	1.12	6,400.00	4,185.65	4,610.72	4,274.97	0.00	0.00	0.00	
12,800.00	90.00	1.12	6,400.00	4,285.63	4,612.67	4,374.97	0.00	0.00	0.00	
12,900.00	90.00	1.12	6,400.00	4,385.61	4,614.61	4,474.97	0.00	0.00	0.00	
13,000.00	90.00	1.12	6,400.00	4,485.59	4,616.56	4,574.97	0.00	0.00	0.00	
13,100.00	90.00	1.12	6,400.00	4,585.57	4,618.51	4,674.97	0.00	0.00	0.00	
13,200.00	90.00	1.12	6,400.00	4,685.56	4,620.45	4,774.97	0.00	0.00	0.00	
13,300.00	90.00	1.12	6,400.00	4,785.54	4,622.40	4,874.97	0.00	0.00	0.00	
13,400.00	90.00	1.12	6,400.00	4,885.52	4,624.35	4,974.97	0.00	0.00	0.00	
13,500.00	90.00	1.12	6,400.00	4,985.50	4,626.30	5,074.97	0.00	0.00	0.00	
13,600.00	90.00	1.12	6,400.00	5,085.48	4,628.24	5,174.97	0.00	0.00	0.00	
13,700.00	90.00	1.12	6,400.00	5,185.46	4,630.19	5,274.97	0.00	0.00	0.00	
13,800.00	90.00	1.12	6,400.00	5,285.44	4,632.14	5,374.97	0.00	0.00	0.00	
13,900.00	90.00	1.12	6,400.00	5,385.42	4,634.09	5,474.97	0.00	0.00	0.00	
14,000.00	90.00	1.12	6,400.00	5,485.40	4,636.03	5,574.97	0.00	0.00	0.00	
14,100.00	90.00	1.12	6,400.00	5,585.38	4,637.98	5,674.97	0.00	0.00	0.00	
14,200.00	90.00	1.12	6,400.00	5,685.37	4,639.93	5,774.97	0.00	0.00	0.00	
14,300.00	90.00	1.12	6,400.00	5,785.35	4,641.88	5,874.97	0.00	0.00	0.00	
14,400.00	90.00	1.12	6,400.00	5,885.33	4,643.82	5,974.97	0.00	0.00	0.00	
14,500.00	90.00	1.12	6,400.00	5,985.31	4,645.77	6,074.97	0.00	0.00	0.00	
14,600.00	90.00	1.12	6,400.00	6,085.29	4,647.72	6,174.97	0.00	0.00	0.00	
14,700.00	90.00	1.12	6,400.00	6,185.27	4,649.67	6,274.97	0.00	0.00	0.00	
14,800.00	90.00	1.12	6,400.00	6,285.25	4,651.61	6,374.97	0.00	0.00	0.00	
14,900.00	90.00	1.12	6,400.00	6,385.23	4,653.56	6,474.97	0.00	0.00	0.00	
15,000.00	90.00	1.12	6,400.00	6,485.21	4,655.51	6,574.97	0.00	0.00	0.00	

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-13H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4898.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	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)	
15,100.00	90.00	1.12	6,400.00	6,585.20	4,657.46	6,674.97	0.00	0.00	0.00	
15,200.00	90.00	1.12	6,400.00	6,685.18	4,659.40	6,774.97	0.00	0.00	0.00	
15,300.00	90.00	1.12	6,400.00	6,785.16	4,661.35	6,874.97	0.00	0.00	0.00	
15,400.00	90.00	1.12	6,400.00	6,885.14	4,663.30	6,974.97	0.00	0.00	0.00	
15,500.00	90.00	1.12	6,400.00	6,985.12	4,665.25	7,074.97	0.00	0.00	0.00	
15,600.00	90.00	1.12	6,400.00	7,085.10	4,667.19	7,174.97	0.00	0.00	0.00	
15,700.00	90.00	1.12	6,400.00	7,185.08	4,669.14	7,274.97	0.00	0.00	0.00	
15,800.00	90.00	1.12	6,400.00	7,285.06	4,671.09	7,374.97	0.00	0.00	0.00	
15,900.00	90.00	1.12	6,400.00	7,385.04	4,673.04	7,474.97	0.00	0.00	0.00	
16,000.00	90.00	1.12	6,400.00	7,485.02	4,674.98	7,574.97	0.00	0.00	0.00	
16,100.00	90.00	1.12	6,400.00	7,585.01	4,676.93	7,674.97	0.00	0.00	0.00	
16,147.31	90.00	1.12	6,400.00	7,632.31	4,677.85	7,722.28	0.00	0.00	0.00	
TD Well @ 16147.31ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,540.52	1,500.00	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)		
277.50	277.50	0.00	0.00	Begin Nudge @ 277.50ft	
2,399.50	2,210.71	-128.28	739.58	Hold Tangent @ 2399.50ft	
7,370.68	5,879.36	-701.58	4,044.87	KOP @ 7370.68ft :: DLS = 9°/100'	
8,435.96	6,400.00	-77.59	4,527.68	End Build @ 8435.96ft	
16,147.31	6,400.00	7,632.31	4,677.85	TD Well @ 16147.31ft	