

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

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

**SONIC STAR 1101-05H**

**Plan B**

**Plan: Design #1**

## **Standard Planning Report**

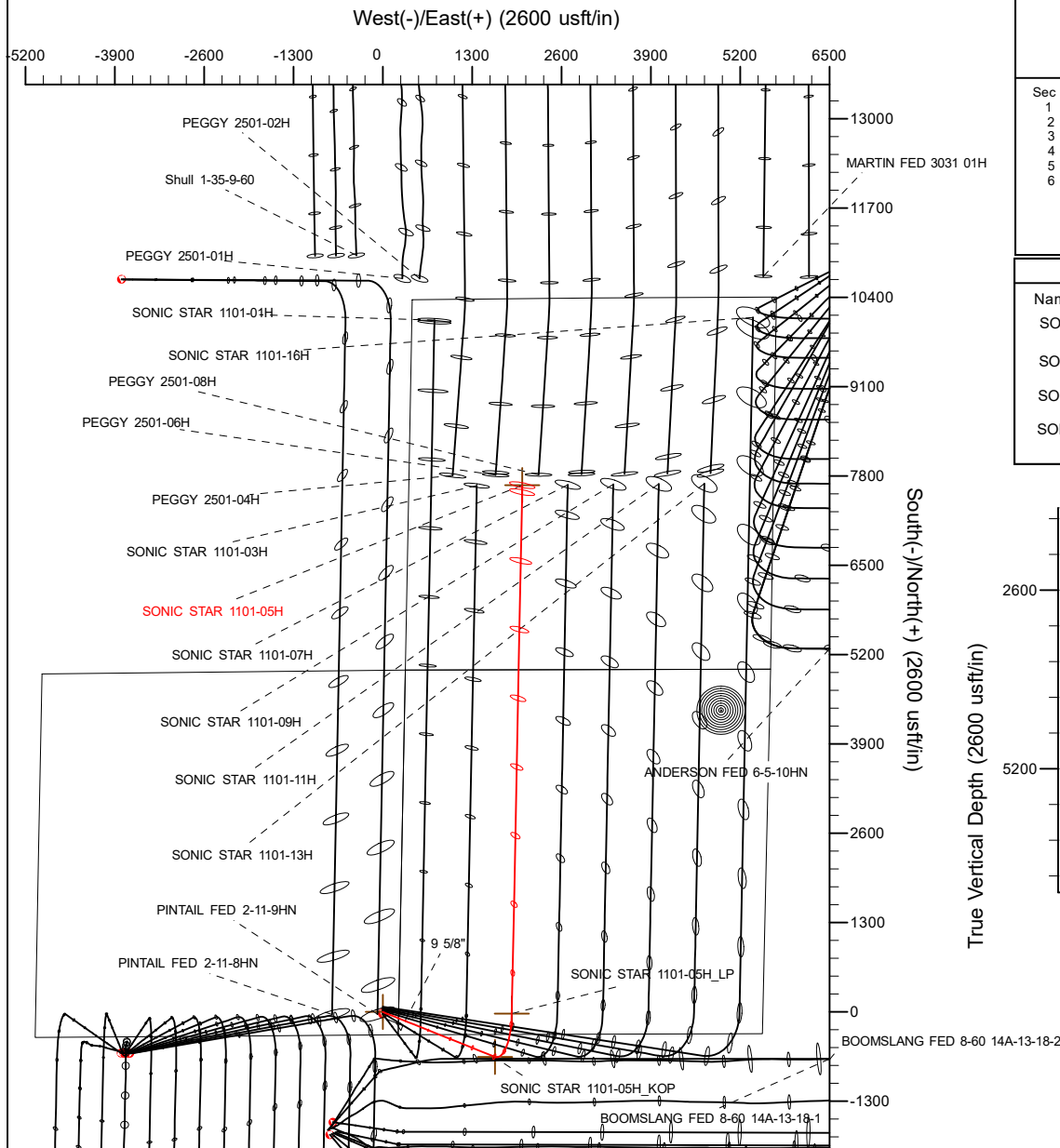
**09 November, 2020**

Project: WATTENBERG FIELD  
Site: 8N-60W-11 SONIC STAR 1101 PAD  
Well: SONIC STAR 1101-05H  
Wellbore: Plan B  
Design: Design #1

# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
1500.00	1538.61	9 5/8"	9-5/8



**SHL**  
333' FSL  
230' FEL

**KOP**  
325' FNL  
1410' FWL

**LP**  
300' FSL  
1649' FWL

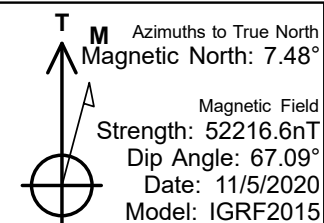
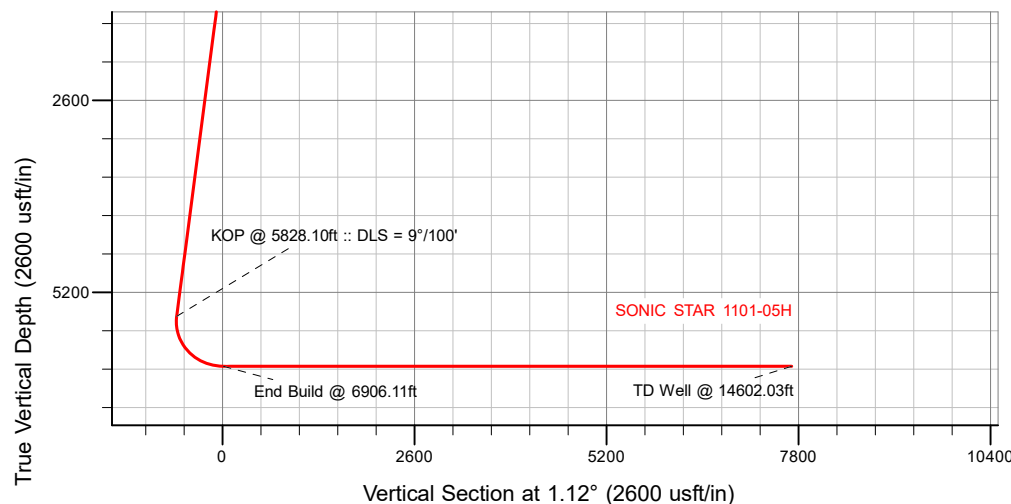
**BHL**  
2715' FNL  
1652' FWL

## 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	240.00	0.00	0.00	240.00	0.00	0.00	0.00	0.00	0.00	
3	1252.00	20.24	111.81	1231.08	-65.72	164.23	2.00	111.81	-62.50	
4	5828.10	20.24	111.81	5524.62	-653.90	1634.03	0.00	0.00	-621.83	
5	6906.11	90.00	1.12	6200.00	-26.73	1879.32	9.00	-109.51	10.01	
6	14602.03	90.00	1.12	6200.00	7667.72	2029.86	0.00	0.00	7705.93	SONIC STAR 1101-05H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	MD	TVD	+N/-S	+E/-W	Latitude	Longitude
SONIC STAR 1101-05H_SHL	0.00	0.00	0.00	0.00	40.670753	-104.049108
SONIC STAR 1101-05H_KOP	5828.10	5524.62	-653.90	1634.03	40.668958	-104.043217
SONIC STAR 1101-05H_LP	6906.11	6200.00	-26.52	1879.29	40.670680	-104.042333
SONIC STAR 1101-05H_BHL	14602.03	6200.00	7667.72	2029.86	40.691799	-104.041788



## WELL DETAILS: SONIC STAR 1101-05H

GL = 4880'

RKB = 16' @ 4896.00usft (RIG)

Plan: Design #1 (SONIC STAR 1101-05H/Plan B)

Created By: SHERRYL ENERGY L.L.C. Date: 11/05/2020

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-05H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-05H	<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		

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 1101-05H				
Well Position	+N/-S	0.00 usft	Northing:	1,490,490.71 usft	Latitude:	40.670753
	+E/-W	0.00 usft	Easting:	3,402,456.69 usft	Longitude:	-104.049108
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,880.00 usft
Grid Convergence:		0.94 °				

<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	52,216.55872022

<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	14,602.03	Design #1 (Plan B)	ISCWSA MWD	
				Fixed:v2:standard declination	

HP  
Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 16' @ 4896.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 16' @ 4896.00usft (RIG)
Site:	8N-60W-11 SONIC STAR 1101 PAD	North Reference:	True
Well:	SONIC STAR 1101-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
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	
240.00	0.00	0.00	240.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,252.00	20.24	111.81	1,231.08	-65.72	164.23	2.00	2.00	0.00	111.81	
5,828.10	20.24	111.81	5,524.62	-653.90	1,634.03	0.00	0.00	0.00	0.00	
6,906.11	90.00	1.12	6,200.00	-26.73	1,879.32	9.00	6.47	-10.27	-109.51	
14,602.03	90.00	1.12	6,200.00	7,667.72	2,029.87	0.00	0.00	0.00	0.00	SONIC STAR 1101-05H

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-05H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-05H	<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
240.00	0.00	0.00	240.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 240.00ft									
300.00	1.20	111.81	300.00	-0.23	0.58	-0.22	2.00	2.00	0.00
400.00	3.20	111.81	399.92	-1.66	4.15	-1.58	2.00	2.00	0.00
500.00	5.20	111.81	499.64	-4.38	10.95	-4.17	2.00	2.00	0.00
600.00	7.20	111.81	599.05	-8.39	20.97	-7.98	2.00	2.00	0.00
700.00	9.20	111.81	698.03	-13.69	34.21	-13.02	2.00	2.00	0.00
800.00	11.20	111.81	796.44	-20.27	50.65	-19.28	2.00	2.00	0.00
900.00	13.20	111.81	894.18	-28.12	70.27	-26.74	2.00	2.00	0.00
1,000.00	15.20	111.81	991.12	-37.23	93.05	-35.41	2.00	2.00	0.00
1,100.00	17.20	111.81	1,087.14	-47.60	118.95	-45.27	2.00	2.00	0.00
1,200.00	19.20	111.81	1,182.13	-59.20	147.94	-56.30	2.00	2.00	0.00
1,252.00	20.24	111.81	1,231.08	-65.72	164.23	-62.50	2.00	2.00	0.00
Hold Tangent @ 1252.00ft									
1,300.00	20.24	111.81	1,276.12	-71.89	179.65	-68.37	0.00	0.00	0.00
1,400.00	20.24	111.81	1,369.94	-84.74	211.77	-80.59	0.00	0.00	0.00
1,500.00	20.24	111.81	1,463.77	-97.60	243.89	-92.81	0.00	0.00	0.00
1,538.61	20.24	111.81	1,500.00	-102.56	256.29	-97.53	0.00	0.00	0.00
9 5/8"									
1,600.00	20.24	111.81	1,557.59	-110.45	276.01	-105.04	0.00	0.00	0.00
1,700.00	20.24	111.81	1,651.42	-123.30	308.13	-117.26	0.00	0.00	0.00
1,800.00	20.24	111.81	1,745.25	-136.16	340.25	-129.48	0.00	0.00	0.00
1,900.00	20.24	111.81	1,839.07	-149.01	372.37	-141.70	0.00	0.00	0.00
2,000.00	20.24	111.81	1,932.90	-161.86	404.48	-153.93	0.00	0.00	0.00
2,100.00	20.24	111.81	2,026.72	-174.72	436.60	-166.15	0.00	0.00	0.00
2,200.00	20.24	111.81	2,120.55	-187.57	468.72	-178.37	0.00	0.00	0.00
2,300.00	20.24	111.81	2,214.37	-200.42	500.84	-190.60	0.00	0.00	0.00
2,400.00	20.24	111.81	2,308.20	-213.28	532.96	-202.82	0.00	0.00	0.00
2,500.00	20.24	111.81	2,402.02	-226.13	565.08	-215.04	0.00	0.00	0.00
2,600.00	20.24	111.81	2,495.85	-238.98	597.20	-227.26	0.00	0.00	0.00
2,700.00	20.24	111.81	2,589.67	-251.84	629.32	-239.49	0.00	0.00	0.00
2,800.00	20.24	111.81	2,683.50	-264.69	661.44	-251.71	0.00	0.00	0.00
2,900.00	20.24	111.81	2,777.32	-277.54	693.56	-263.93	0.00	0.00	0.00
3,000.00	20.24	111.81	2,871.15	-290.40	725.67	-276.16	0.00	0.00	0.00
3,100.00	20.24	111.81	2,964.97	-303.25	757.79	-288.38	0.00	0.00	0.00
3,200.00	20.24	111.81	3,058.80	-316.10	789.91	-300.60	0.00	0.00	0.00
3,300.00	20.24	111.81	3,152.62	-328.96	822.03	-312.82	0.00	0.00	0.00
3,400.00	20.24	111.81	3,246.45	-341.81	854.15	-325.05	0.00	0.00	0.00
3,500.00	20.24	111.81	3,340.27	-354.66	886.27	-337.27	0.00	0.00	0.00
3,600.00	20.24	111.81	3,434.10	-367.52	918.39	-349.49	0.00	0.00	0.00
3,700.00	20.24	111.81	3,527.92	-380.37	950.51	-361.72	0.00	0.00	0.00
3,800.00	20.24	111.81	3,621.75	-393.22	982.63	-373.94	0.00	0.00	0.00
3,900.00	20.24	111.81	3,715.57	-406.07	1,014.75	-386.16	0.00	0.00	0.00
4,000.00	20.24	111.81	3,809.40	-418.93	1,046.86	-398.39	0.00	0.00	0.00
4,100.00	20.24	111.81	3,903.22	-431.78	1,078.98	-410.61	0.00	0.00	0.00
4,200.00	20.24	111.81	3,997.05	-444.63	1,111.10	-422.83	0.00	0.00	0.00
4,300.00	20.24	111.81	4,090.87	-457.49	1,143.22	-435.05	0.00	0.00	0.00
4,400.00	20.24	111.81	4,184.70	-470.34	1,175.34	-447.28	0.00	0.00	0.00
4,500.00	20.24	111.81	4,278.52	-483.19	1,207.46	-459.50	0.00	0.00	0.00
4,600.00	20.24	111.81	4,372.35	-496.05	1,239.58	-471.72	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 1101-05H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-05H	<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	20.24	111.81	4,466.18	-508.90	1,271.70	-483.95	0.00	0.00	0.00	
4,800.00	20.24	111.81	4,560.00	-521.75	1,303.82	-496.17	0.00	0.00	0.00	
4,900.00	20.24	111.81	4,653.83	-534.61	1,335.94	-508.39	0.00	0.00	0.00	
5,000.00	20.24	111.81	4,747.65	-547.46	1,368.06	-520.61	0.00	0.00	0.00	
5,100.00	20.24	111.81	4,841.48	-560.31	1,400.17	-532.84	0.00	0.00	0.00	
5,200.00	20.24	111.81	4,935.30	-573.17	1,432.29	-545.06	0.00	0.00	0.00	
5,300.00	20.24	111.81	5,029.13	-586.02	1,464.41	-557.28	0.00	0.00	0.00	
5,400.00	20.24	111.81	5,122.95	-598.87	1,496.53	-569.51	0.00	0.00	0.00	
5,500.00	20.24	111.81	5,216.78	-611.73	1,528.65	-581.73	0.00	0.00	0.00	
5,600.00	20.24	111.81	5,310.60	-624.58	1,560.77	-593.95	0.00	0.00	0.00	
5,700.00	20.24	111.81	5,404.43	-637.43	1,592.89	-606.18	0.00	0.00	0.00	
5,800.00	20.24	111.81	5,498.25	-650.29	1,625.01	-618.40	0.00	0.00	0.00	
5,828.10	20.24	111.81	5,524.62	-653.90	1,634.03	-621.83	0.00	0.00	0.00	
KOP @ 5828.10ft :: DLS = 9°/100'										
5,900.00	19.04	92.81	5,592.40	-659.10	1,657.32	-626.58	9.00	-1.67	-26.43	
6,000.00	20.76	66.63	5,686.62	-652.85	1,689.94	-619.70	9.00	1.72	-26.18	
6,100.00	25.60	47.17	5,778.65	-631.09	1,722.12	-597.31	9.00	4.84	-19.46	
6,200.00	32.18	34.36	5,866.24	-594.35	1,753.06	-559.97	9.00	6.58	-12.81	
6,300.00	39.64	25.73	5,947.23	-543.53	1,782.00	-508.59	9.00	7.46	-8.64	
6,400.00	47.56	19.51	6,019.63	-479.88	1,808.22	-444.44	9.00	7.92	-6.22	
6,500.00	55.74	14.71	6,081.64	-404.98	1,831.08	-369.11	9.00	8.18	-4.80	
6,600.00	64.07	10.78	6,131.76	-320.66	1,850.02	-284.44	9.00	8.33	-3.94	
6,700.00	72.50	7.37	6,168.73	-229.00	1,864.57	-192.51	9.00	8.43	-3.41	
6,800.00	80.98	4.26	6,191.66	-132.27	1,874.37	-95.60	9.00	8.48	-3.10	
6,900.00	89.48	1.30	6,199.97	-32.83	1,879.19	3.90	9.00	8.50	-2.96	
6,906.11	90.00	1.12	6,200.00	-26.73	1,879.32	10.01	9.00	8.51	-2.93	
End Build @ 6906.11ft										
7,000.00	90.00	1.12	6,200.00	67.15	1,881.15	103.90	0.00	0.00	0.00	
7,100.00	90.00	1.12	6,200.00	167.13	1,883.11	203.90	0.00	0.00	0.00	
7,200.00	90.00	1.12	6,200.00	267.11	1,885.06	303.90	0.00	0.00	0.00	
7,300.00	90.00	1.12	6,200.00	367.09	1,887.02	403.90	0.00	0.00	0.00	
7,400.00	90.00	1.12	6,200.00	467.07	1,888.98	503.90	0.00	0.00	0.00	
7,500.00	90.00	1.12	6,200.00	567.05	1,890.93	603.90	0.00	0.00	0.00	
7,600.00	90.00	1.12	6,200.00	667.03	1,892.89	703.90	0.00	0.00	0.00	
7,700.00	90.00	1.12	6,200.00	767.01	1,894.85	803.90	0.00	0.00	0.00	
7,800.00	90.00	1.12	6,200.00	866.99	1,896.80	903.90	0.00	0.00	0.00	
7,900.00	90.00	1.12	6,200.00	966.98	1,898.76	1,003.90	0.00	0.00	0.00	
8,000.00	90.00	1.12	6,200.00	1,066.96	1,900.71	1,103.90	0.00	0.00	0.00	
8,100.00	90.00	1.12	6,200.00	1,166.94	1,902.67	1,203.90	0.00	0.00	0.00	
8,200.00	90.00	1.12	6,200.00	1,266.92	1,904.63	1,303.90	0.00	0.00	0.00	
8,300.00	90.00	1.12	6,200.00	1,366.90	1,906.58	1,403.90	0.00	0.00	0.00	
8,400.00	90.00	1.12	6,200.00	1,466.88	1,908.54	1,503.90	0.00	0.00	0.00	
8,500.00	90.00	1.12	6,200.00	1,566.86	1,910.50	1,603.90	0.00	0.00	0.00	
8,600.00	90.00	1.12	6,200.00	1,666.84	1,912.45	1,703.90	0.00	0.00	0.00	
8,700.00	90.00	1.12	6,200.00	1,766.82	1,914.41	1,803.90	0.00	0.00	0.00	
8,800.00	90.00	1.12	6,200.00	1,866.80	1,916.36	1,903.90	0.00	0.00	0.00	
8,900.00	90.00	1.12	6,200.00	1,966.78	1,918.32	2,003.90	0.00	0.00	0.00	
9,000.00	90.00	1.12	6,200.00	2,066.77	1,920.28	2,103.90	0.00	0.00	0.00	
9,100.00	90.00	1.12	6,200.00	2,166.75	1,922.23	2,203.90	0.00	0.00	0.00	
9,200.00	90.00	1.12	6,200.00	2,266.73	1,924.19	2,303.90	0.00	0.00	0.00	
9,300.00	90.00	1.12	6,200.00	2,366.71	1,926.15	2,403.90	0.00	0.00	0.00	
9,400.00	90.00	1.12	6,200.00	2,466.69	1,928.10	2,503.90	0.00	0.00	0.00	
9,500.00	90.00	1.12	6,200.00	2,566.67	1,930.06	2,603.90	0.00	0.00	0.00	
9,600.00	90.00	1.12	6,200.00	2,666.65	1,932.01	2,703.90	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 1101-05H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 16' @ 4896.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-05H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Design #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,538.61	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)	
240.00	240.00	0.00	0.00	Begin Nudge @ 240.00ft
1,252.00	1,231.08	-65.72	164.23	Hold Tangent @ 1252.00ft
5,828.10	5,524.62	-653.90	1,634.03	KOP @ 5828.10ft :: DLS = 9°/100'
6,906.11	6,200.00	-26.73	1,879.32	End Build @ 6906.11ft
14,602.03	6,200.00	7,667.72	2,029.87	TD Well @ 14602.03ft