

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

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

**SONIC STAR 1101-03H**

**Wellbore #1**

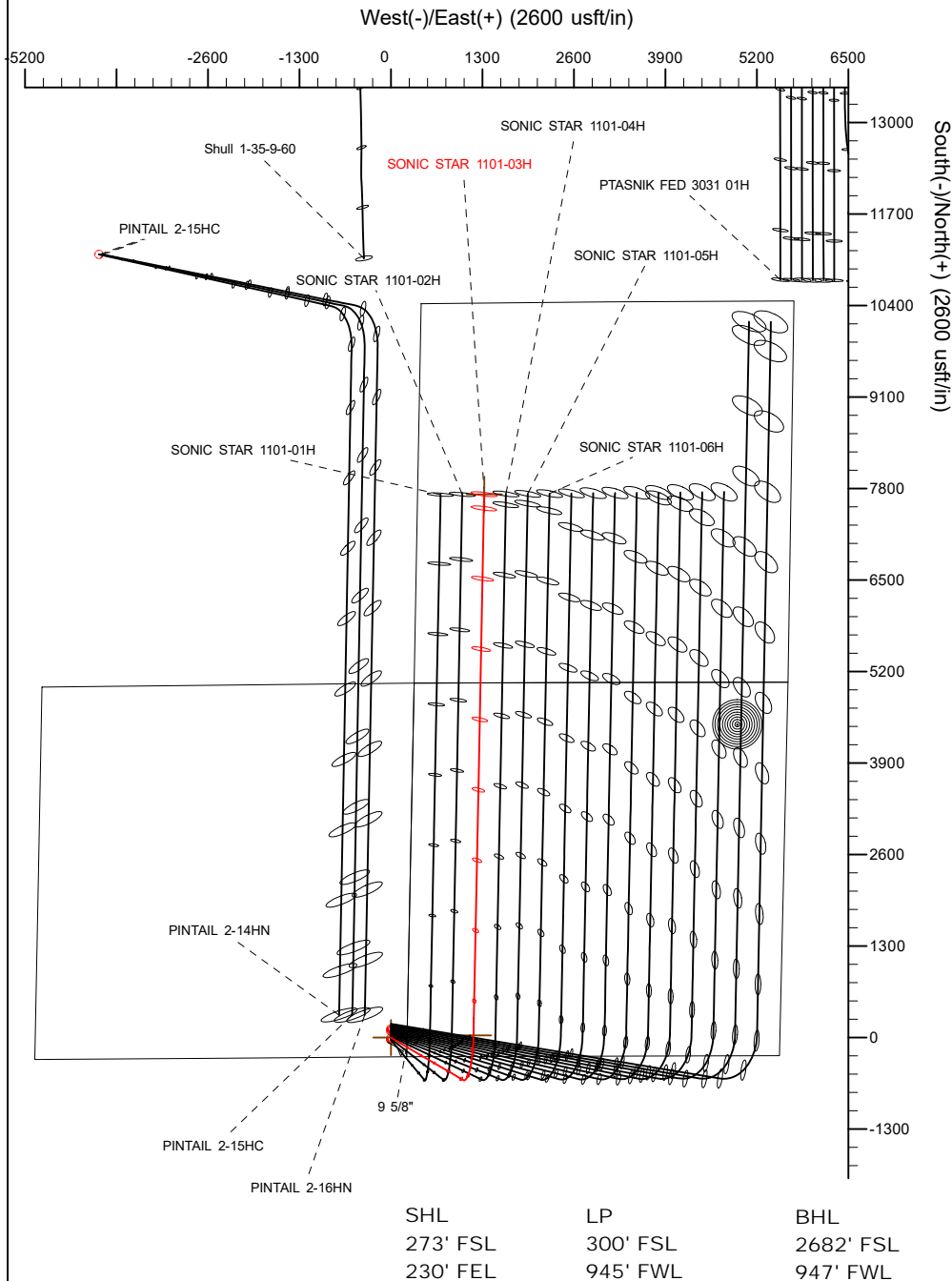
**Plan: Design #1**

## **Standard Planning Report**

**05 March, 2018**

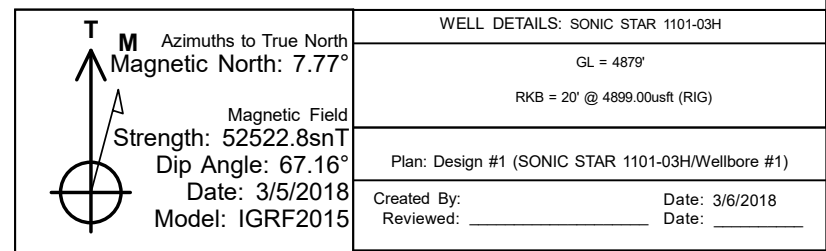
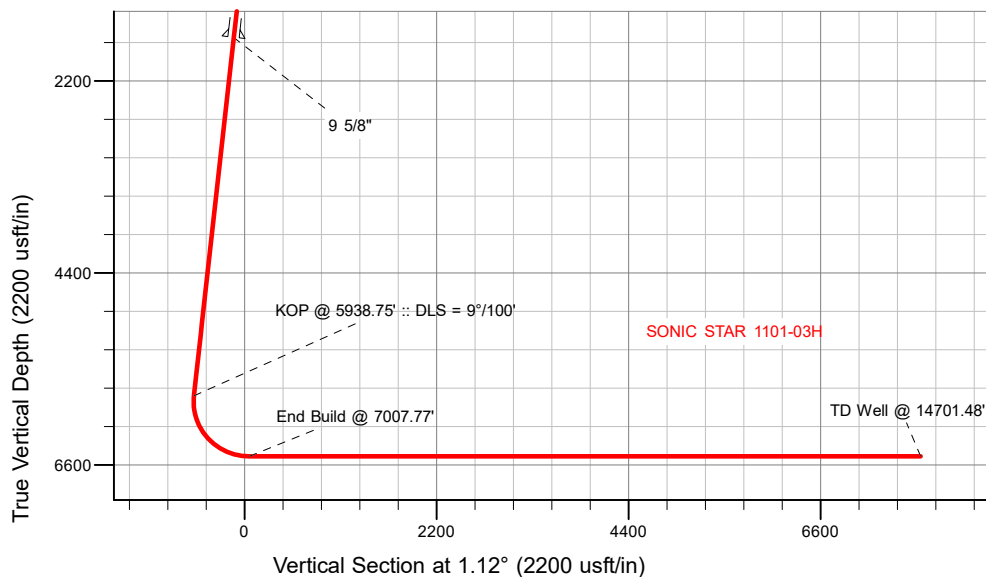
# VERDAD RESOURCES

CASING DETAILS			
TVD	MD	Name	Size
1700.00	1726.09	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	890.00	12.80	120.35	884.69	-35.97	61.44	2.00	120.35	-34.76	
4	5938.75	12.80	120.35	5807.98	-601.15	1026.69	0.00	0.00	-580.97	
5	7007.77	90.00	1.12	6500.00	28.94	1176.20	9.00	-118.62	51.92	
6	14701.48	90.00	1.12	6500.00	7721.19	1326.19	0.00	0.00	7745.64	SONIC STAR 1101-03H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)						
Name		TVD	+N/-S	+E/-W	Latitude	Longitude
SONIC STAR	1101-03H_SHL	0.00	0.00	0.00	40.670588	-104.049112
SONIC STAR	1101-03H_BHL	6500.00	7721.19	1326.19	40.691781	-104.044330



# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<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 "	Grid Convergence:	0.94 °

Well		SONIC STAR 1101-03H				
Well Position	+N/-S	30.01 usft	Northing:	1,490,430.70 usft	Latitude:	40.670588
	+E/-W	0.58 usft	Easting:	3,402,456.51 usft	Longitude:	-104.049112
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,879.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	3/5/2018	7.77	67.16	52,522.75832768

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	1.12

<b>Plan Survey Tool Program</b>	<b>Date</b>	3/5/2018			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	
2	1,700.00	14,701.48	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
890.00	12.80	120.35	884.69	-35.97	61.44	2.00	2.00	0.00	120.35	
5,938.75	12.80	120.35	5,807.98	-601.15	1,026.69	0.00	0.00	0.00	0.00	
7,007.77	90.00	1.12	6,500.00	28.94	1,176.20	9.00	7.22	-11.15	-118.62	
14,701.48	90.00	1.12	6,500.00	7,721.19	1,326.19	0.00	0.00	0.00	0.00	SONIC STAR 1101-03

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<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
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	120.35	300.00	-0.22	0.38	-0.21	2.00	2.00	0.00
400.00	3.00	120.35	399.93	-1.98	3.39	-1.92	2.00	2.00	0.00
500.00	5.00	120.35	499.68	-5.51	9.41	-5.32	2.00	2.00	0.00
600.00	7.00	120.35	599.13	-10.79	18.43	-10.43	2.00	2.00	0.00
700.00	9.00	120.35	698.15	-17.82	30.44	-17.22	2.00	2.00	0.00
800.00	11.00	120.35	796.63	-26.60	45.42	-25.70	2.00	2.00	0.00
890.00	12.80	120.35	884.69	-35.97	61.44	-34.76	2.00	2.00	0.00
End Tangent @ 890.00'									
900.00	12.80	120.35	894.44	-37.09	63.35	-35.85	0.00	0.00	0.00
1,000.00	12.80	120.35	991.96	-48.29	82.47	-46.66	0.00	0.00	0.00
1,100.00	12.80	120.35	1,089.47	-59.48	101.58	-57.48	0.00	0.00	0.00
1,200.00	12.80	120.35	1,186.99	-70.67	120.70	-68.30	0.00	0.00	0.00
1,300.00	12.80	120.35	1,284.50	-81.87	139.82	-79.12	0.00	0.00	0.00
1,400.00	12.80	120.35	1,382.02	-93.06	158.94	-89.94	0.00	0.00	0.00
1,500.00	12.80	120.35	1,479.53	-104.26	178.06	-100.76	0.00	0.00	0.00
1,600.00	12.80	120.35	1,577.05	-115.45	197.18	-111.58	0.00	0.00	0.00
1,700.00	12.80	120.35	1,674.56	-126.65	216.30	-122.39	0.00	0.00	0.00
1,726.09	12.80	120.35	1,700.00	-129.57	221.28	-125.22	0.00	0.00	0.00
9 5/8"									
1,800.00	12.80	120.35	1,772.08	-137.84	235.41	-133.21	0.00	0.00	0.00
1,900.00	12.80	120.35	1,869.59	-149.04	254.53	-144.03	0.00	0.00	0.00
2,000.00	12.80	120.35	1,967.11	-160.23	273.65	-154.85	0.00	0.00	0.00
2,100.00	12.80	120.35	2,064.62	-171.42	292.77	-165.67	0.00	0.00	0.00
2,200.00	12.80	120.35	2,162.14	-182.62	311.89	-176.49	0.00	0.00	0.00
2,300.00	12.80	120.35	2,259.65	-193.81	331.01	-187.31	0.00	0.00	0.00
2,400.00	12.80	120.35	2,357.17	-205.01	350.13	-198.12	0.00	0.00	0.00
2,500.00	12.80	120.35	2,454.68	-216.20	369.25	-208.94	0.00	0.00	0.00
2,600.00	12.80	120.35	2,552.20	-227.40	388.36	-219.76	0.00	0.00	0.00
2,700.00	12.80	120.35	2,649.71	-238.59	407.48	-230.58	0.00	0.00	0.00
2,800.00	12.80	120.35	2,747.23	-249.79	426.60	-241.40	0.00	0.00	0.00
2,900.00	12.80	120.35	2,844.74	-260.98	445.72	-252.22	0.00	0.00	0.00
3,000.00	12.80	120.35	2,942.25	-272.17	464.84	-263.04	0.00	0.00	0.00
3,100.00	12.80	120.35	3,039.77	-283.37	483.96	-273.85	0.00	0.00	0.00
3,200.00	12.80	120.35	3,137.28	-294.56	503.08	-284.67	0.00	0.00	0.00
3,300.00	12.80	120.35	3,234.80	-305.76	522.19	-295.49	0.00	0.00	0.00
3,400.00	12.80	120.35	3,332.31	-316.95	541.31	-306.31	0.00	0.00	0.00
3,500.00	12.80	120.35	3,429.83	-328.15	560.43	-317.13	0.00	0.00	0.00
3,600.00	12.80	120.35	3,527.34	-339.34	579.55	-327.95	0.00	0.00	0.00
3,700.00	12.80	120.35	3,624.86	-350.54	598.67	-338.77	0.00	0.00	0.00
3,800.00	12.80	120.35	3,722.37	-361.73	617.79	-349.58	0.00	0.00	0.00
3,900.00	12.80	120.35	3,819.89	-372.92	636.91	-360.40	0.00	0.00	0.00
4,000.00	12.80	120.35	3,917.40	-384.12	656.02	-371.22	0.00	0.00	0.00
4,100.00	12.80	120.35	4,014.92	-395.31	675.14	-382.04	0.00	0.00	0.00
4,200.00	12.80	120.35	4,112.43	-406.51	694.26	-392.86	0.00	0.00	0.00
4,300.00	12.80	120.35	4,209.95	-417.70	713.38	-403.68	0.00	0.00	0.00
4,400.00	12.80	120.35	4,307.46	-428.90	732.50	-414.50	0.00	0.00	0.00
4,500.00	12.80	120.35	4,404.98	-440.09	751.62	-425.31	0.00	0.00	0.00
4,600.00	12.80	120.35	4,502.49	-451.28	770.74	-436.13	0.00	0.00	0.00

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<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	12.80	120.35	4,600.01	-462.48	789.86	-446.95	0.00	0.00	0.00
4,800.00	12.80	120.35	4,697.52	-473.67	808.97	-457.77	0.00	0.00	0.00
4,900.00	12.80	120.35	4,795.04	-484.87	828.09	-468.59	0.00	0.00	0.00
5,000.00	12.80	120.35	4,892.55	-496.06	847.21	-479.41	0.00	0.00	0.00
5,100.00	12.80	120.35	4,990.07	-507.26	866.33	-490.23	0.00	0.00	0.00
5,200.00	12.80	120.35	5,087.58	-518.45	885.45	-501.05	0.00	0.00	0.00
5,300.00	12.80	120.35	5,185.10	-529.65	904.57	-511.86	0.00	0.00	0.00
5,400.00	12.80	120.35	5,282.61	-540.84	923.69	-522.68	0.00	0.00	0.00
5,500.00	12.80	120.35	5,380.13	-552.03	942.80	-533.50	0.00	0.00	0.00
5,600.00	12.80	120.35	5,477.64	-563.23	961.92	-544.32	0.00	0.00	0.00
5,700.00	12.80	120.35	5,575.16	-574.42	981.04	-555.14	0.00	0.00	0.00
5,800.00	12.80	120.35	5,672.67	-585.62	1,000.16	-565.96	0.00	0.00	0.00
5,900.00	12.80	120.35	5,770.19	-596.81	1,019.28	-576.78	0.00	0.00	0.00
5,938.75	12.80	120.35	5,807.98	-601.15	1,026.69	-580.97	0.00	0.00	0.00
<b>KOP @ 5938.75' :: DLS = 9°/100'</b>									
5,950.00	12.35	116.19	5,818.96	-602.31	1,028.84	-582.09	9.00	-4.03	-36.98
6,000.00	11.24	94.71	5,867.92	-605.07	1,038.50	-584.66	9.00	-2.22	-42.97
6,050.00	11.83	72.25	5,916.94	-603.91	1,048.24	-583.30	9.00	1.19	-44.90
6,100.00	13.92	54.24	5,965.70	-598.83	1,058.01	-578.03	9.00	4.18	-36.03
6,150.00	16.96	41.68	6,013.90	-589.86	1,067.74	-568.88	9.00	6.07	-25.12
6,200.00	20.52	33.10	6,061.25	-577.07	1,077.38	-555.90	9.00	7.13	-17.16
6,250.00	24.39	27.05	6,107.46	-560.52	1,086.87	-539.17	9.00	7.73	-12.10
6,300.00	28.43	22.60	6,152.23	-540.33	1,096.14	-518.80	9.00	8.09	-8.90
6,350.00	32.59	19.18	6,195.30	-516.61	1,105.14	-494.90	9.00	8.31	-6.82
6,400.00	36.82	16.47	6,236.40	-489.51	1,113.82	-467.64	9.00	8.46	-5.42
6,450.00	41.10	14.25	6,275.28	-459.20	1,122.12	-437.18	9.00	8.56	-4.44
6,500.00	45.41	12.39	6,311.68	-425.86	1,129.99	-403.69	9.00	8.63	-3.74
6,550.00	49.75	10.78	6,345.41	-389.71	1,137.38	-367.40	9.00	8.68	-3.22
6,600.00	54.11	9.36	6,376.23	-350.96	1,144.25	-328.53	9.00	8.72	-2.83
6,650.00	58.49	8.10	6,403.96	-309.86	1,150.55	-287.31	9.00	8.75	-2.53
6,700.00	62.87	6.95	6,428.44	-266.65	1,156.25	-243.99	9.00	8.77	-2.30
6,750.00	67.27	5.88	6,449.51	-221.60	1,161.30	-198.86	9.00	8.79	-2.13
6,800.00	71.67	4.88	6,467.04	-174.99	1,165.69	-152.17	9.00	8.80	-2.00
6,850.00	76.08	3.93	6,480.93	-127.11	1,169.38	-104.23	9.00	8.81	-1.90
6,900.00	80.49	3.02	6,491.08	-78.26	1,172.34	-55.33	9.00	8.82	-1.83
6,950.00	84.90	2.13	6,497.44	-28.73	1,174.57	-5.76	9.00	8.83	-1.78
7,000.00	89.31	1.25	6,499.96	21.17	1,176.04	44.16	9.00	8.83	-1.76
7,007.77	90.00	1.12	6,500.00	28.94	1,176.20	51.92	9.00	8.83	-1.75
<b>End Build @ 7007.77'</b>									
7,100.00	90.00	1.12	6,500.00	121.16	1,178.00	144.16	0.00	0.00	0.00
7,200.00	90.00	1.12	6,500.00	221.14	1,179.95	244.16	0.00	0.00	0.00
7,300.00	90.00	1.12	6,500.00	321.12	1,181.90	344.16	0.00	0.00	0.00
7,400.00	90.00	1.12	6,500.00	421.10	1,183.85	444.16	0.00	0.00	0.00
7,500.00	90.00	1.12	6,500.00	521.08	1,185.80	544.16	0.00	0.00	0.00
7,600.00	90.00	1.12	6,500.00	621.06	1,187.75	644.16	0.00	0.00	0.00
7,700.00	90.00	1.12	6,500.00	721.04	1,189.70	744.16	0.00	0.00	0.00
7,800.00	90.00	1.12	6,500.00	821.02	1,191.65	844.16	0.00	0.00	0.00
7,900.00	90.00	1.12	6,500.00	921.00	1,193.59	944.16	0.00	0.00	0.00
8,000.00	90.00	1.12	6,500.00	1,020.98	1,195.54	1,044.16	0.00	0.00	0.00
8,100.00	90.00	1.12	6,500.00	1,120.97	1,197.49	1,144.16	0.00	0.00	0.00
8,200.00	90.00	1.12	6,500.00	1,220.95	1,199.44	1,244.16	0.00	0.00	0.00
8,300.00	90.00	1.12	6,500.00	1,320.93	1,201.39	1,344.16	0.00	0.00	0.00
8,400.00	90.00	1.12	6,500.00	1,420.91	1,203.34	1,444.16	0.00	0.00	0.00
8,500.00	90.00	1.12	6,500.00	1,520.89	1,205.29	1,544.16	0.00	0.00	0.00

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<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)	
8,600.00	90.00	1.12	6,500.00	1,620.87	1,207.24	1,644.16	0.00	0.00	0.00	
8,700.00	90.00	1.12	6,500.00	1,720.85	1,209.19	1,744.16	0.00	0.00	0.00	
8,800.00	90.00	1.12	6,500.00	1,820.83	1,211.14	1,844.16	0.00	0.00	0.00	
8,900.00	90.00	1.12	6,500.00	1,920.81	1,213.09	1,944.16	0.00	0.00	0.00	
9,000.00	90.00	1.12	6,500.00	2,020.79	1,215.04	2,044.16	0.00	0.00	0.00	
9,100.00	90.00	1.12	6,500.00	2,120.78	1,216.99	2,144.16	0.00	0.00	0.00	
9,200.00	90.00	1.12	6,500.00	2,220.76	1,218.94	2,244.16	0.00	0.00	0.00	
9,300.00	90.00	1.12	6,500.00	2,320.74	1,220.89	2,344.16	0.00	0.00	0.00	
9,400.00	90.00	1.12	6,500.00	2,420.72	1,222.84	2,444.16	0.00	0.00	0.00	
9,500.00	90.00	1.12	6,500.00	2,520.70	1,224.79	2,544.16	0.00	0.00	0.00	
9,600.00	90.00	1.12	6,500.00	2,620.68	1,226.74	2,644.16	0.00	0.00	0.00	
9,700.00	90.00	1.12	6,500.00	2,720.66	1,228.69	2,744.16	0.00	0.00	0.00	
9,800.00	90.00	1.12	6,500.00	2,820.64	1,230.63	2,844.16	0.00	0.00	0.00	
9,900.00	90.00	1.12	6,500.00	2,920.62	1,232.58	2,944.16	0.00	0.00	0.00	
10,000.00	90.00	1.12	6,500.00	3,020.60	1,234.53	3,044.16	0.00	0.00	0.00	
10,100.00	90.00	1.12	6,500.00	3,120.59	1,236.48	3,144.16	0.00	0.00	0.00	
10,200.00	90.00	1.12	6,500.00	3,220.57	1,238.43	3,244.16	0.00	0.00	0.00	
10,300.00	90.00	1.12	6,500.00	3,320.55	1,240.38	3,344.16	0.00	0.00	0.00	
10,400.00	90.00	1.12	6,500.00	3,420.53	1,242.33	3,444.16	0.00	0.00	0.00	
10,500.00	90.00	1.12	6,500.00	3,520.51	1,244.28	3,544.16	0.00	0.00	0.00	
10,600.00	90.00	1.12	6,500.00	3,620.49	1,246.23	3,644.16	0.00	0.00	0.00	
10,700.00	90.00	1.12	6,500.00	3,720.47	1,248.18	3,744.16	0.00	0.00	0.00	
10,800.00	90.00	1.12	6,500.00	3,820.45	1,250.13	3,844.16	0.00	0.00	0.00	
10,900.00	90.00	1.12	6,500.00	3,920.43	1,252.08	3,944.16	0.00	0.00	0.00	
11,000.00	90.00	1.12	6,500.00	4,020.41	1,254.03	4,044.16	0.00	0.00	0.00	
11,100.00	90.00	1.12	6,500.00	4,120.39	1,255.98	4,144.16	0.00	0.00	0.00	
11,200.00	90.00	1.12	6,500.00	4,220.38	1,257.93	4,244.16	0.00	0.00	0.00	
11,300.00	90.00	1.12	6,500.00	4,320.36	1,259.88	4,344.16	0.00	0.00	0.00	
11,400.00	90.00	1.12	6,500.00	4,420.34	1,261.83	4,444.16	0.00	0.00	0.00	
11,500.00	90.00	1.12	6,500.00	4,520.32	1,263.78	4,544.16	0.00	0.00	0.00	
11,600.00	90.00	1.12	6,500.00	4,620.30	1,265.72	4,644.16	0.00	0.00	0.00	
11,700.00	90.00	1.12	6,500.00	4,720.28	1,267.67	4,744.16	0.00	0.00	0.00	
11,800.00	90.00	1.12	6,500.00	4,820.26	1,269.62	4,844.16	0.00	0.00	0.00	
11,900.00	90.00	1.12	6,500.00	4,920.24	1,271.57	4,944.16	0.00	0.00	0.00	
12,000.00	90.00	1.12	6,500.00	5,020.22	1,273.52	5,044.16	0.00	0.00	0.00	
12,100.00	90.00	1.12	6,500.00	5,120.20	1,275.47	5,144.16	0.00	0.00	0.00	
12,200.00	90.00	1.12	6,500.00	5,220.19	1,277.42	5,244.16	0.00	0.00	0.00	
12,300.00	90.00	1.12	6,500.00	5,320.17	1,279.37	5,344.16	0.00	0.00	0.00	
12,400.00	90.00	1.12	6,500.00	5,420.15	1,281.32	5,444.16	0.00	0.00	0.00	
12,500.00	90.00	1.12	6,500.00	5,520.13	1,283.27	5,544.16	0.00	0.00	0.00	
12,600.00	90.00	1.12	6,500.00	5,620.11	1,285.22	5,644.16	0.00	0.00	0.00	
12,700.00	90.00	1.12	6,500.00	5,720.09	1,287.17	5,744.16	0.00	0.00	0.00	
12,800.00	90.00	1.12	6,500.00	5,820.07	1,289.12	5,844.16	0.00	0.00	0.00	
12,900.00	90.00	1.12	6,500.00	5,920.05	1,291.07	5,944.16	0.00	0.00	0.00	
13,000.00	90.00	1.12	6,500.00	6,020.03	1,293.02	6,044.16	0.00	0.00	0.00	
13,100.00	90.00	1.12	6,500.00	6,120.01	1,294.97	6,144.16	0.00	0.00	0.00	
13,200.00	90.00	1.12	6,500.00	6,220.00	1,296.92	6,244.16	0.00	0.00	0.00	
13,300.00	90.00	1.12	6,500.00	6,319.98	1,298.87	6,344.16	0.00	0.00	0.00	
13,400.00	90.00	1.12	6,500.00	6,419.96	1,300.82	6,444.16	0.00	0.00	0.00	
13,500.00	90.00	1.12	6,500.00	6,519.94	1,302.76	6,544.16	0.00	0.00	0.00	
13,600.00	90.00	1.12	6,500.00	6,619.92	1,304.71	6,644.16	0.00	0.00	0.00	
13,700.00	90.00	1.12	6,500.00	6,719.90	1,306.66	6,744.16	0.00	0.00	0.00	
13,800.00	90.00	1.12	6,500.00	6,819.88	1,308.61	6,844.16	0.00	0.00	0.00	
13,900.00	90.00	1.12	6,500.00	6,919.86	1,310.56	6,944.16	0.00	0.00	0.00	

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SONIC STAR 1101-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4899.00usft (RIG)
<b>Site:</b>	8N-60W-11 SONIC STAR 1101 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SONIC STAR 1101-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<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)	
14,000.00	90.00	1.12	6,500.00	7,019.84	1,312.51	7,044.16	0.00	0.00	0.00	
14,100.00	90.00	1.12	6,500.00	7,119.82	1,314.46	7,144.16	0.00	0.00	0.00	
14,200.00	90.00	1.12	6,500.00	7,219.81	1,316.41	7,244.16	0.00	0.00	0.00	
14,300.00	90.00	1.12	6,500.00	7,319.79	1,318.36	7,344.16	0.00	0.00	0.00	
14,400.00	90.00	1.12	6,500.00	7,419.77	1,320.31	7,444.16	0.00	0.00	0.00	
14,500.00	90.00	1.12	6,500.00	7,519.75	1,322.26	7,544.16	0.00	0.00	0.00	
14,600.00	90.00	1.12	6,500.00	7,619.73	1,324.21	7,644.16	0.00	0.00	0.00	
14,701.48	90.00	1.12	6,500.00	7,721.19	1,326.19	7,745.64	0.00	0.00	0.00	
TD Well @ 14701.48'										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,726.09	1,700.00	9 5/8"	9-5/8	13-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Begin Tangent @ 250.00'	
890.00	884.69	-35.97	61.44	End Tangent @ 890.00'	
5,938.75	5,807.98	-601.15	1,026.69	KOP @ 5938.75' :: DLS = 9°/100'	
7,007.77	6,500.00	28.94	1,176.20	End Build @ 7007.77'	
14,701.48	6,500.00	7,721.19	1,326.19	TD Well @ 14701.48'	