

VERDAD RESOURCES

**WATTENBERG FIELD
8N-60W-11 SONIC STAR 1101 PAD
SONIC STAR 1101-01H**

Wellbore #1

Plan: Design #1

Standard Planning Report

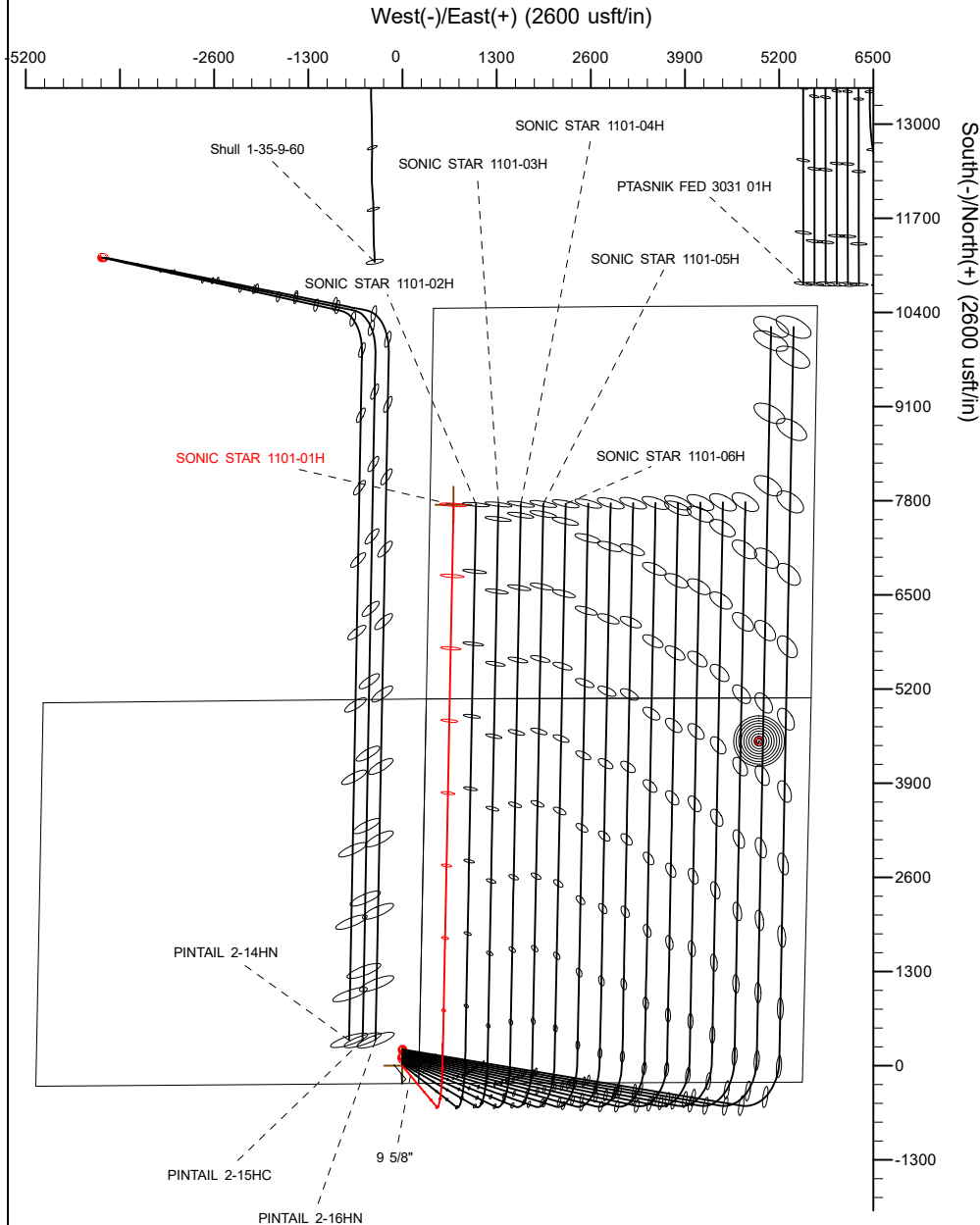
05 March, 2018

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

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1712.00	9 5/8"	9-5/8



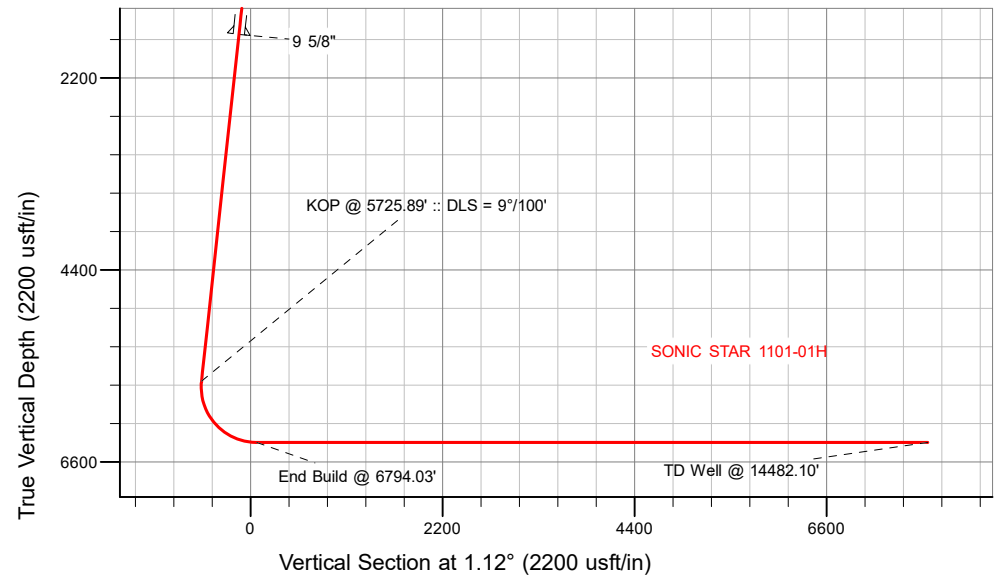
SHL	LP	BHL
243' FSL	300' FSL	2678' FSL
230' FEL	325' FWL	328' FWL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	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	657.00	8.14	140.10	655.63	-22.14	18.51	2.00	140.10	-21.78	
4	5725.89	8.14	140.10	5673.45	-572.75	478.89	0.00	0.00	-563.28	
5	6794.03	90.00	1.12	6375.00	58.82	557.08	9.00	-138.70	69.70	
6	14482.10	90.00	1.12	6375.00	7745.43	707.01	0.00	0.00	7757.77	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	6375.00	7745.43	707.01	40.691766	-104.046564



T
M Azimuths to True North
 Magnetic North: 7.77°

Magnetic Field
 Strength: 52522.7snT
 Dip Angle: 67.16°
 Date: 3/5/2018
 Model: IGRF2015

WELL DETAILS: SONIC STAR 1101-01H	
GL = 4878'	
RKB = 20' @ 4898.00usft (RIG)	
Plan: Design #1 (SONIC STAR 1101-01H/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 1101-01H
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 #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 1101-01H					
Well Position	+N/-S	0.00 usft	Northing:	1,490,400.67 usft	Latitude:	40.670506
	+E/-W	0.00 usft	Easting:	3,402,456.42 usft	Longitude:	-104.049114
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,878.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/5/2018	7.77	67.16	52,522.72398381

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

Plan Survey Tool Program	Date	3/5/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination	
2	1,700.00	14,482.10	Design #1 (Wellbore #1)	ISCWSA 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	
657.00	8.14	140.10	655.63	-22.14	18.51	2.00	2.00	0.00	140.10	
5,725.89	8.14	140.10	5,673.45	-572.75	478.89	0.00	0.00	0.00	0.00	
6,794.03	90.00	1.12	6,375.00	58.82	557.08	9.00	7.66	-13.01	-138.70	
14,482.10	90.00	1.12	6,375.00	7,745.43	707.01	0.00	0.00	0.00	0.00	SONIC STAR 1101-01

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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 #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 Nudge @ 250.00'									
300.00	1.00	140.10	300.00	-0.33	0.28	-0.33	2.00	2.00	0.00
400.00	3.00	140.10	399.93	-3.01	2.52	-2.96	2.00	2.00	0.00
500.00	5.00	140.10	499.68	-8.36	6.99	-8.22	2.00	2.00	0.00
600.00	7.00	140.10	599.13	-16.38	13.70	-16.11	2.00	2.00	0.00
657.00	8.14	140.10	655.63	-22.14	18.51	-21.78	2.00	2.00	0.00
End Nudge @ 657.00'									
700.00	8.14	140.10	698.20	-26.81	22.42	-26.37	0.00	0.00	0.00
800.00	8.14	140.10	797.19	-37.68	31.50	-37.05	0.00	0.00	0.00
900.00	8.14	140.10	896.18	-48.54	40.58	-47.74	0.00	0.00	0.00
1,000.00	8.14	140.10	995.18	-59.40	49.67	-58.42	0.00	0.00	0.00
1,100.00	8.14	140.10	1,094.17	-70.26	58.75	-69.10	0.00	0.00	0.00
1,200.00	8.14	140.10	1,193.16	-81.13	67.83	-79.78	0.00	0.00	0.00
1,300.00	8.14	140.10	1,292.15	-91.99	76.91	-90.47	0.00	0.00	0.00
1,400.00	8.14	140.10	1,391.15	-102.85	86.00	-101.15	0.00	0.00	0.00
1,500.00	8.14	140.10	1,490.14	-113.71	95.08	-111.83	0.00	0.00	0.00
1,600.00	8.14	140.10	1,589.13	-124.58	104.16	-122.52	0.00	0.00	0.00
1,700.00	8.14	140.10	1,688.12	-135.44	113.24	-133.20	0.00	0.00	0.00
1,712.00	8.14	140.10	1,700.00	-136.74	114.33	-134.48	0.00	0.00	0.00
9 5/8"									
1,800.00	8.14	140.10	1,787.12	-146.30	122.33	-143.88	0.00	0.00	0.00
1,900.00	8.14	140.10	1,886.11	-157.16	131.41	-154.56	0.00	0.00	0.00
2,000.00	8.14	140.10	1,985.10	-168.03	140.49	-165.25	0.00	0.00	0.00
2,100.00	8.14	140.10	2,084.09	-178.89	149.57	-175.93	0.00	0.00	0.00
2,200.00	8.14	140.10	2,183.09	-189.75	158.66	-186.61	0.00	0.00	0.00
2,300.00	8.14	140.10	2,282.08	-200.61	167.74	-197.30	0.00	0.00	0.00
2,400.00	8.14	140.10	2,381.07	-211.48	176.82	-207.98	0.00	0.00	0.00
2,500.00	8.14	140.10	2,480.06	-222.34	185.90	-218.66	0.00	0.00	0.00
2,600.00	8.14	140.10	2,579.06	-233.20	194.99	-229.34	0.00	0.00	0.00
2,700.00	8.14	140.10	2,678.05	-244.06	204.07	-240.03	0.00	0.00	0.00
2,800.00	8.14	140.10	2,777.04	-254.93	213.15	-250.71	0.00	0.00	0.00
2,900.00	8.14	140.10	2,876.03	-265.79	222.23	-261.39	0.00	0.00	0.00
3,000.00	8.14	140.10	2,975.03	-276.65	231.32	-272.08	0.00	0.00	0.00
3,100.00	8.14	140.10	3,074.02	-287.51	240.40	-282.76	0.00	0.00	0.00
3,200.00	8.14	140.10	3,173.01	-298.38	249.48	-293.44	0.00	0.00	0.00
3,300.00	8.14	140.10	3,272.00	-309.24	258.56	-304.12	0.00	0.00	0.00
3,400.00	8.14	140.10	3,371.00	-320.10	267.65	-314.81	0.00	0.00	0.00
3,500.00	8.14	140.10	3,469.99	-330.96	276.73	-325.49	0.00	0.00	0.00
3,600.00	8.14	140.10	3,568.98	-341.82	285.81	-336.17	0.00	0.00	0.00
3,700.00	8.14	140.10	3,667.97	-352.69	294.89	-346.86	0.00	0.00	0.00
3,800.00	8.14	140.10	3,766.97	-363.55	303.97	-357.54	0.00	0.00	0.00
3,900.00	8.14	140.10	3,865.96	-374.41	313.06	-368.22	0.00	0.00	0.00
4,000.00	8.14	140.10	3,964.95	-385.27	322.14	-378.90	0.00	0.00	0.00
4,100.00	8.14	140.10	4,063.94	-396.14	331.22	-389.59	0.00	0.00	0.00
4,200.00	8.14	140.10	4,162.94	-407.00	340.30	-400.27	0.00	0.00	0.00
4,300.00	8.14	140.10	4,261.93	-417.86	349.39	-410.95	0.00	0.00	0.00
4,400.00	8.14	140.10	4,360.92	-428.72	358.47	-421.64	0.00	0.00	0.00
4,500.00	8.14	140.10	4,459.91	-439.59	367.55	-432.32	0.00	0.00	0.00
4,600.00	8.14	140.10	4,558.91	-450.45	376.63	-443.00	0.00	0.00	0.00

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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 #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	8.14	140.10	4,657.90	-461.31	385.72	-453.68	0.00	0.00	0.00
4,800.00	8.14	140.10	4,756.89	-472.17	394.80	-464.37	0.00	0.00	0.00
4,900.00	8.14	140.10	4,855.88	-483.04	403.88	-475.05	0.00	0.00	0.00
5,000.00	8.14	140.10	4,954.88	-493.90	412.96	-485.73	0.00	0.00	0.00
5,100.00	8.14	140.10	5,053.87	-504.76	422.05	-496.42	0.00	0.00	0.00
5,200.00	8.14	140.10	5,152.86	-515.62	431.13	-507.10	0.00	0.00	0.00
5,300.00	8.14	140.10	5,251.85	-526.49	440.21	-517.78	0.00	0.00	0.00
5,400.00	8.14	140.10	5,350.85	-537.35	449.29	-528.46	0.00	0.00	0.00
5,500.00	8.14	140.10	5,449.84	-548.21	458.38	-539.15	0.00	0.00	0.00
5,600.00	8.14	140.10	5,548.83	-559.07	467.46	-549.83	0.00	0.00	0.00
5,700.00	8.14	140.10	5,647.82	-569.94	476.54	-560.51	0.00	0.00	0.00
5,725.89	8.14	140.10	5,673.45	-572.75	478.89	-563.28	0.00	0.00	0.00
KOP @ 5725.89' :: DLS = 9°/100'									
5,750.00	6.66	127.66	5,697.36	-574.91	481.10	-565.40	9.00	-6.12	-51.58
5,800.00	5.39	85.39	5,747.11	-576.50	485.74	-566.89	9.00	-2.55	-84.55
5,850.00	7.35	47.80	5,796.82	-574.16	490.45	-564.46	9.00	3.93	-75.19
5,900.00	10.93	30.20	5,846.19	-567.91	495.20	-558.12	9.00	7.15	-35.18
5,950.00	15.01	21.61	5,894.90	-557.79	499.98	-547.91	9.00	8.16	-17.18
6,000.00	19.27	16.69	5,942.68	-543.86	504.73	-533.89	9.00	8.53	-9.84
6,050.00	23.62	13.51	5,989.20	-526.21	509.45	-516.15	9.00	8.70	-6.36
6,100.00	28.01	11.28	6,034.20	-504.94	514.09	-494.80	9.00	8.79	-4.47
6,150.00	32.44	9.61	6,077.40	-480.20	518.62	-469.97	9.00	8.84	-3.34
6,200.00	36.87	8.31	6,118.52	-452.12	523.03	-441.81	9.00	8.88	-2.61
6,250.00	41.32	7.25	6,157.31	-420.88	527.28	-410.49	9.00	8.90	-2.12
6,300.00	45.78	6.36	6,193.54	-386.68	531.35	-376.22	9.00	8.92	-1.78
6,350.00	50.25	5.60	6,226.98	-349.72	535.21	-339.20	9.00	8.93	-1.53
6,400.00	54.72	4.93	6,257.42	-310.24	538.84	-299.65	9.00	8.94	-1.34
6,450.00	59.19	4.33	6,284.68	-268.48	542.21	-257.83	9.00	8.94	-1.20
6,500.00	63.66	3.78	6,308.59	-224.69	545.31	-213.99	9.00	8.95	-1.09
6,550.00	68.14	3.28	6,329.00	-179.15	548.12	-168.40	9.00	8.95	-1.01
6,600.00	72.62	2.80	6,345.79	-132.13	550.61	-121.34	9.00	8.96	-0.95
6,650.00	77.09	2.35	6,358.85	-83.93	552.78	-73.11	9.00	8.96	-0.90
6,700.00	81.57	1.91	6,368.10	-34.84	554.60	-23.99	9.00	8.96	-0.87
6,750.00	86.05	1.49	6,373.49	14.84	556.08	25.70	9.00	8.96	-0.85
6,794.03	90.00	1.12	6,375.00	58.82	557.08	69.70	9.00	8.96	-0.84
End Build @ 6794.03'									
6,800.00	90.00	1.12	6,375.00	64.79	557.20	75.67	0.00	0.00	0.00
6,900.00	90.00	1.12	6,375.00	164.77	559.15	175.67	0.00	0.00	0.00
7,000.00	90.00	1.12	6,375.00	264.75	561.10	275.67	0.00	0.00	0.00
7,100.00	90.00	1.12	6,375.00	364.73	563.05	375.67	0.00	0.00	0.00
7,200.00	90.00	1.12	6,375.00	464.71	565.00	475.67	0.00	0.00	0.00
7,300.00	90.00	1.12	6,375.00	564.69	566.95	575.67	0.00	0.00	0.00
7,400.00	90.00	1.12	6,375.00	664.68	568.90	675.67	0.00	0.00	0.00
7,500.00	90.00	1.12	6,375.00	764.66	570.85	775.67	0.00	0.00	0.00
7,600.00	90.00	1.12	6,375.00	864.64	572.80	875.67	0.00	0.00	0.00
7,700.00	90.00	1.12	6,375.00	964.62	574.75	975.67	0.00	0.00	0.00
7,800.00	90.00	1.12	6,375.00	1,064.60	576.70	1,075.67	0.00	0.00	0.00
7,900.00	90.00	1.12	6,375.00	1,164.58	578.65	1,175.67	0.00	0.00	0.00
8,000.00	90.00	1.12	6,375.00	1,264.56	580.60	1,275.67	0.00	0.00	0.00
8,100.00	90.00	1.12	6,375.00	1,364.54	582.55	1,375.67	0.00	0.00	0.00
8,200.00	90.00	1.12	6,375.00	1,464.52	584.50	1,475.67	0.00	0.00	0.00
8,300.00	90.00	1.12	6,375.00	1,564.50	586.45	1,575.67	0.00	0.00	0.00
8,400.00	90.00	1.12	6,375.00	1,664.49	588.40	1,675.67	0.00	0.00	0.00
8,500.00	90.00	1.12	6,375.00	1,764.47	590.35	1,775.67	0.00	0.00	0.00

Hewlett-Packard

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 #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	6,375.00	1,864.45	592.30	1,875.67	0.00	0.00	0.00	
8,700.00	90.00	1.12	6,375.00	1,964.43	594.25	1,975.67	0.00	0.00	0.00	
8,800.00	90.00	1.12	6,375.00	2,064.41	596.20	2,075.67	0.00	0.00	0.00	
8,900.00	90.00	1.12	6,375.00	2,164.39	598.15	2,175.67	0.00	0.00	0.00	
9,000.00	90.00	1.12	6,375.00	2,264.37	600.10	2,275.67	0.00	0.00	0.00	
9,100.00	90.00	1.12	6,375.00	2,364.35	602.05	2,375.67	0.00	0.00	0.00	
9,200.00	90.00	1.12	6,375.00	2,464.33	604.00	2,475.67	0.00	0.00	0.00	
9,300.00	90.00	1.12	6,375.00	2,564.31	605.95	2,575.67	0.00	0.00	0.00	
9,400.00	90.00	1.12	6,375.00	2,664.30	607.90	2,675.67	0.00	0.00	0.00	
9,500.00	90.00	1.12	6,375.00	2,764.28	609.85	2,775.67	0.00	0.00	0.00	
9,600.00	90.00	1.12	6,375.00	2,864.26	611.80	2,875.67	0.00	0.00	0.00	
9,700.00	90.00	1.12	6,375.00	2,964.24	613.75	2,975.67	0.00	0.00	0.00	
9,800.00	90.00	1.12	6,375.00	3,064.22	615.70	3,075.67	0.00	0.00	0.00	
9,900.00	90.00	1.12	6,375.00	3,164.20	617.65	3,175.67	0.00	0.00	0.00	
10,000.00	90.00	1.12	6,375.00	3,264.18	619.60	3,275.67	0.00	0.00	0.00	
10,100.00	90.00	1.12	6,375.00	3,364.16	621.55	3,375.67	0.00	0.00	0.00	
10,200.00	90.00	1.12	6,375.00	3,464.14	623.50	3,475.67	0.00	0.00	0.00	
10,300.00	90.00	1.12	6,375.00	3,564.12	625.45	3,575.67	0.00	0.00	0.00	
10,400.00	90.00	1.12	6,375.00	3,664.10	627.40	3,675.67	0.00	0.00	0.00	
10,500.00	90.00	1.12	6,375.00	3,764.09	629.35	3,775.67	0.00	0.00	0.00	
10,600.00	90.00	1.12	6,375.00	3,864.07	631.30	3,875.67	0.00	0.00	0.00	
10,700.00	90.00	1.12	6,375.00	3,964.05	633.25	3,975.67	0.00	0.00	0.00	
10,800.00	90.00	1.12	6,375.00	4,064.03	635.20	4,075.67	0.00	0.00	0.00	
10,900.00	90.00	1.12	6,375.00	4,164.01	637.15	4,175.67	0.00	0.00	0.00	
11,000.00	90.00	1.12	6,375.00	4,263.99	639.10	4,275.67	0.00	0.00	0.00	
11,100.00	90.00	1.12	6,375.00	4,363.97	641.05	4,375.67	0.00	0.00	0.00	
11,200.00	90.00	1.12	6,375.00	4,463.95	643.00	4,475.67	0.00	0.00	0.00	
11,300.00	90.00	1.12	6,375.00	4,563.93	644.95	4,575.67	0.00	0.00	0.00	
11,400.00	90.00	1.12	6,375.00	4,663.91	646.90	4,675.67	0.00	0.00	0.00	
11,500.00	90.00	1.12	6,375.00	4,763.90	648.85	4,775.67	0.00	0.00	0.00	
11,600.00	90.00	1.12	6,375.00	4,863.88	650.80	4,875.67	0.00	0.00	0.00	
11,700.00	90.00	1.12	6,375.00	4,963.86	652.75	4,975.67	0.00	0.00	0.00	
11,800.00	90.00	1.12	6,375.00	5,063.84	654.70	5,075.67	0.00	0.00	0.00	
11,900.00	90.00	1.12	6,375.00	5,163.82	656.65	5,175.67	0.00	0.00	0.00	
12,000.00	90.00	1.12	6,375.00	5,263.80	658.60	5,275.67	0.00	0.00	0.00	
12,100.00	90.00	1.12	6,375.00	5,363.78	660.55	5,375.67	0.00	0.00	0.00	
12,200.00	90.00	1.12	6,375.00	5,463.76	662.50	5,475.67	0.00	0.00	0.00	
12,300.00	90.00	1.12	6,375.00	5,563.74	664.45	5,575.67	0.00	0.00	0.00	
12,400.00	90.00	1.12	6,375.00	5,663.72	666.40	5,675.67	0.00	0.00	0.00	
12,500.00	90.00	1.12	6,375.00	5,763.71	668.35	5,775.67	0.00	0.00	0.00	
12,600.00	90.00	1.12	6,375.00	5,863.69	670.30	5,875.67	0.00	0.00	0.00	
12,700.00	90.00	1.12	6,375.00	5,963.67	672.25	5,975.67	0.00	0.00	0.00	
12,800.00	90.00	1.12	6,375.00	6,063.65	674.20	6,075.67	0.00	0.00	0.00	
12,900.00	90.00	1.12	6,375.00	6,163.63	676.15	6,175.67	0.00	0.00	0.00	
13,000.00	90.00	1.12	6,375.00	6,263.61	678.10	6,275.67	0.00	0.00	0.00	
13,100.00	90.00	1.12	6,375.00	6,363.59	680.05	6,375.67	0.00	0.00	0.00	
13,200.00	90.00	1.12	6,375.00	6,463.57	682.00	6,475.67	0.00	0.00	0.00	
13,300.00	90.00	1.12	6,375.00	6,563.55	683.95	6,575.67	0.00	0.00	0.00	
13,400.00	90.00	1.12	6,375.00	6,663.53	685.90	6,675.67	0.00	0.00	0.00	
13,500.00	90.00	1.12	6,375.00	6,763.52	687.85	6,775.67	0.00	0.00	0.00	
13,600.00	90.00	1.12	6,375.00	6,863.50	689.80	6,875.67	0.00	0.00	0.00	
13,700.00	90.00	1.12	6,375.00	6,963.48	691.75	6,975.67	0.00	0.00	0.00	
13,800.00	90.00	1.12	6,375.00	7,063.46	693.70	7,075.67	0.00	0.00	0.00	
13,900.00	90.00	1.12	6,375.00	7,163.44	695.65	7,175.67	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SONIC STAR 1101-01H
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 #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	6,375.00	7,263.42	697.60	7,275.67	0.00	0.00	0.00
14,100.00	90.00	1.12	6,375.00	7,363.40	699.55	7,375.67	0.00	0.00	0.00
14,200.00	90.00	1.12	6,375.00	7,463.38	701.50	7,475.67	0.00	0.00	0.00
14,300.00	90.00	1.12	6,375.00	7,563.36	703.45	7,575.67	0.00	0.00	0.00
14,400.00	90.00	1.12	6,375.00	7,663.34	705.41	7,675.67	0.00	0.00	0.00
14,482.10	90.00	1.12	6,375.00	7,745.43	707.01	7,757.77	0.00	0.00	0.00
TD Well @ 14482.10'									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,712.00	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 Nudge @ 250.00'
657.00	655.63	-22.14	18.51	End Nudge @ 657.00'
5,725.89	5,673.45	-572.75	478.89	KOP @ 5725.89' :: DLS = 9°/100'
6,794.03	6,375.00	58.82	557.08	End Build @ 6794.03'
14,482.10	6,375.00	7,745.43	707.01	TD Well @ 14482.10'