

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**1N-65W-30 JOHNSON PAD**

**JOHNSON 01N-65W-30-5H**

**Wellbore #1**

**Plan: Design #2**

## **Standard Planning Report**

**05 June, 2018**

Project: WATTENBERG FIELD  
Site: 1N-65W-30 JOHNSON PAD  
Well: JOHNSON 01N-65W-30-5H  
Wellbore: Wellbore #1  
Design: Design #2

# VERDAD RESOURCES

## CASING DETAILS

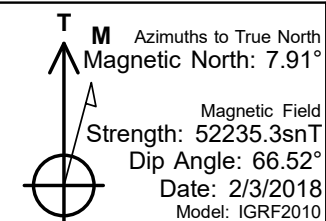
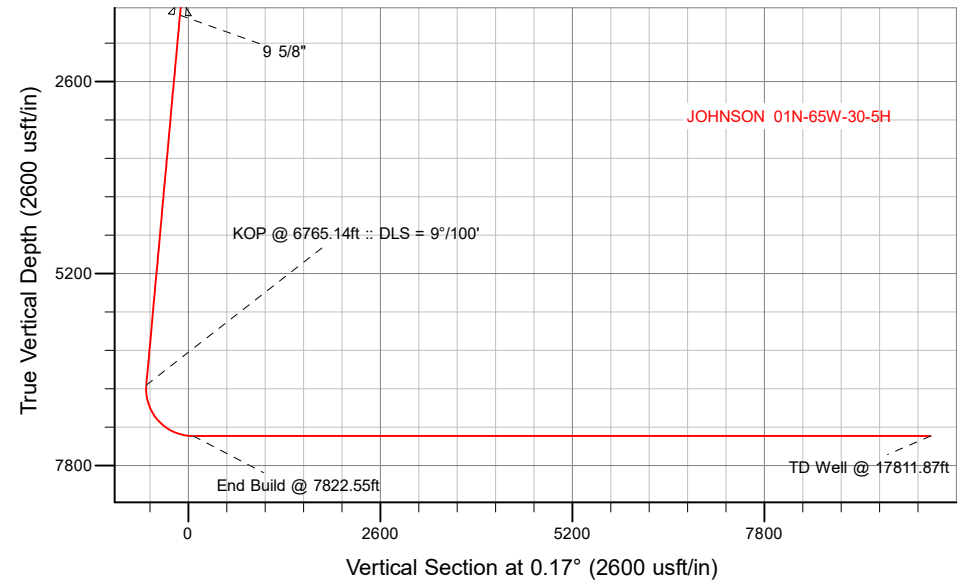
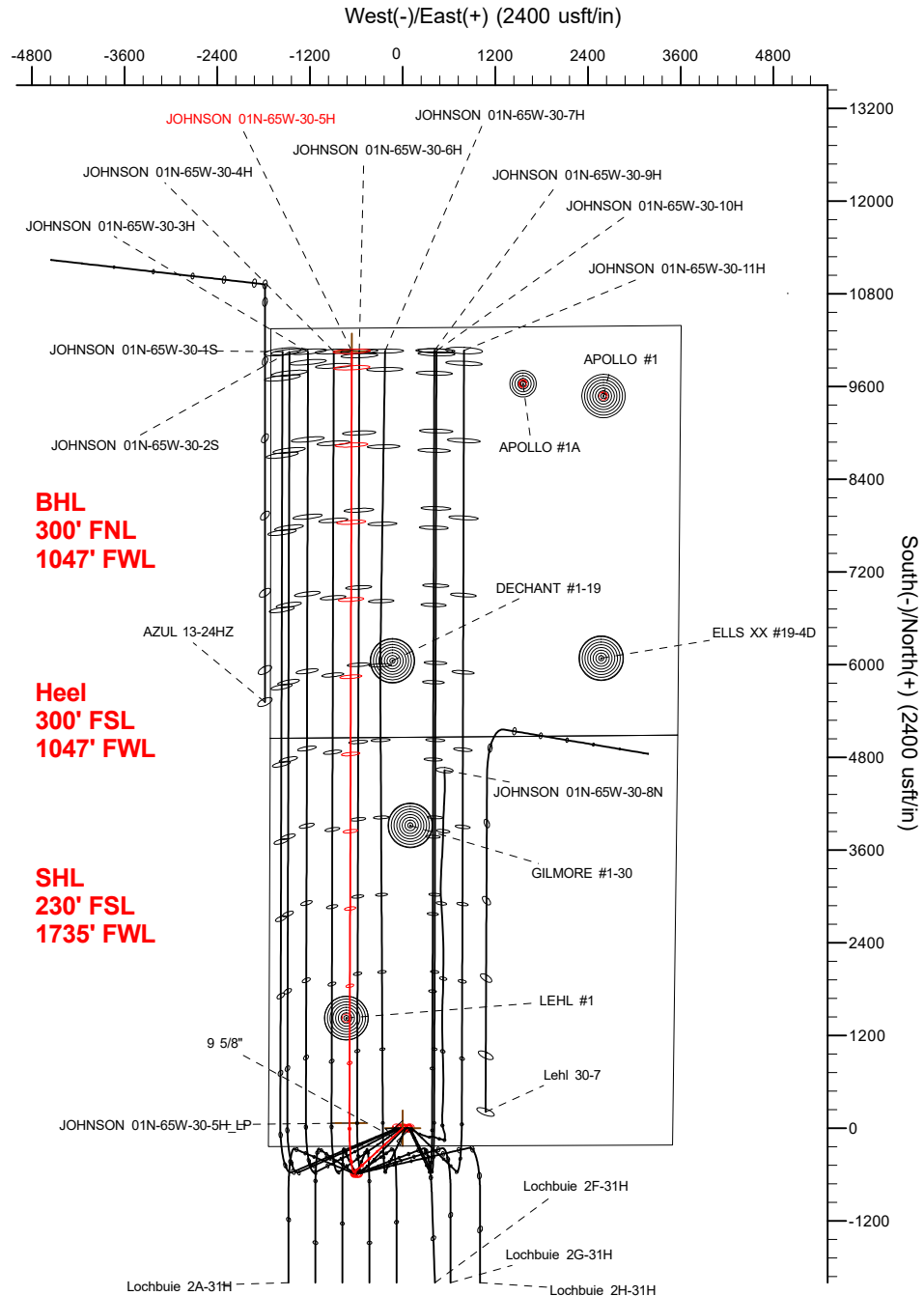
TVD	MD	Name	Size
1700.00	1710.73	9 5/8"	9-5/8

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	632.50	7.65	227.60	631.36	-17.19	-18.83	2.00	227.60	-17.25	
4	6765.14	7.65	227.60	6709.42	-567.68	-621.69	0.00	0.00	-569.53	
5	7822.55	90.00	0.17	7400.00	66.55	-688.11	9.00	132.32	64.51	
6	17811.87	90.00	0.17	7400.00	10055.83	-658.22	0.00	0.00	10053.83	JOHNSON 01N-65W-30-5H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
JOHNSON 01N-65W-30-5H_SHL	0.00	0.00	0.00	40.015685	-104.709955
JOHNSON 01N-65W-30-5H_BHL	7400.00	10055.83	-658.22	40.043290	-104.712306



## WELL DETAILS: JOHNSON 01N-65W-30-5H

GL = 5000'

RKB = 20' @ 5020.00usft (RIG)

Plan: Design #2 (JOHNSON 01N-65W-30-5H/Wellbore #1)

Date: 6/5/2018

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well JOHNSON 01N-65W-30-5H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Site:</b>	1N-65W-30 JOHNSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	JOHNSON 01N-65W-30-5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

<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>	1N-65W-30 JOHNSON PAD			
<b>Site Position:</b>		<b>Northing:</b>	1,249,544.93 usft	<b>Latitude:</b> 40.015680
<b>From:</b>	Map	<b>Easting:</b>	3,221,340.35 usft	<b>Longitude:</b> -104.709740
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.51 °

<b>Well</b>	JOHNSON 01N-65W-30-5H			
<b>Well Position</b>	<b>+N/-S</b>	1.81 usft	<b>Northing:</b>	1,249,546.21 usft
	<b>+E/-W</b>	-60.22 usft	<b>Easting:</b>	3,221,280.11 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 5,000.00 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>
	IGRF2010	2/3/2018	7.91	66.52	52,235.32688231

<b>Design</b>	Design #2			
<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	0.17

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/5/2018		
<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 #2 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination
2	1,700.00	17,811.87	Design #2 (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	
632.50	7.65	227.60	631.36	-17.19	-18.83	2.00	2.00	0.00	227.60	
6,765.14	7.65	227.60	6,709.42	-567.68	-621.69	0.00	0.00	0.00	0.00	
7,822.55	90.00	0.17	7,400.00	66.55	-688.11	9.00	7.79	12.54	132.32	
17,811.87	90.00	0.17	7,400.00	10,055.83	-658.22	0.00	0.00	0.00	0.00	JOHNSON 01N-65W-

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well JOHNSON 01N-65W-30-5H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Site:</b>	1N-65W-30 JOHNSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	JOHNSON 01N-65W-30-5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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 @ 250.00ft									
300.00	1.00	227.60	300.00	-0.29	-0.32	-0.30	2.00	2.00	0.00
400.00	3.00	227.60	399.93	-2.65	-2.90	-2.66	2.00	2.00	0.00
500.00	5.00	227.60	499.68	-7.35	-8.05	-7.37	2.00	2.00	0.00
600.00	7.00	227.60	599.13	-14.40	-15.77	-14.45	2.00	2.00	0.00
632.50	7.65	227.60	631.36	-17.19	-18.83	-17.25	2.00	2.00	0.00
End Tangent @ 632.50ft									
700.00	7.65	227.60	698.26	-23.25	-25.46	-23.33	0.00	0.00	0.00
800.00	7.65	227.60	797.37	-32.23	-35.29	-32.33	0.00	0.00	0.00
900.00	7.65	227.60	896.48	-41.20	-45.13	-41.34	0.00	0.00	0.00
1,000.00	7.65	227.60	995.59	-50.18	-54.96	-50.34	0.00	0.00	0.00
1,100.00	7.65	227.60	1,094.70	-59.16	-64.79	-59.35	0.00	0.00	0.00
1,200.00	7.65	227.60	1,193.81	-68.13	-74.62	-68.36	0.00	0.00	0.00
1,300.00	7.65	227.60	1,292.92	-77.11	-84.45	-77.36	0.00	0.00	0.00
1,400.00	7.65	227.60	1,392.03	-86.09	-94.28	-86.37	0.00	0.00	0.00
1,500.00	7.65	227.60	1,491.14	-95.06	-104.11	-95.37	0.00	0.00	0.00
1,600.00	7.65	227.60	1,590.25	-104.04	-113.94	-104.38	0.00	0.00	0.00
1,700.00	7.65	227.60	1,689.36	-113.02	-123.77	-113.38	0.00	0.00	0.00
1,710.73	7.65	227.60	1,700.00	-113.98	-124.82	-114.35	0.00	0.00	0.00
9 5/8"									
1,800.00	7.65	227.60	1,788.47	-121.99	-133.60	-122.39	0.00	0.00	0.00
1,900.00	7.65	227.60	1,887.58	-130.97	-143.43	-131.39	0.00	0.00	0.00
2,000.00	7.65	227.60	1,986.69	-139.95	-153.26	-140.40	0.00	0.00	0.00
2,100.00	7.65	227.60	2,085.80	-148.92	-163.09	-149.40	0.00	0.00	0.00
2,200.00	7.65	227.60	2,184.91	-157.90	-172.92	-158.41	0.00	0.00	0.00
2,300.00	7.65	227.60	2,284.02	-166.87	-182.75	-167.42	0.00	0.00	0.00
2,400.00	7.65	227.60	2,383.13	-175.85	-192.58	-176.42	0.00	0.00	0.00
2,500.00	7.65	227.60	2,482.24	-184.83	-202.41	-185.43	0.00	0.00	0.00
2,600.00	7.65	227.60	2,581.35	-193.80	-212.24	-194.43	0.00	0.00	0.00
2,700.00	7.65	227.60	2,680.46	-202.78	-222.07	-203.44	0.00	0.00	0.00
2,800.00	7.65	227.60	2,779.57	-211.76	-231.90	-212.44	0.00	0.00	0.00
2,900.00	7.65	227.60	2,878.68	-220.73	-241.73	-221.45	0.00	0.00	0.00
3,000.00	7.65	227.60	2,977.79	-229.71	-251.56	-230.45	0.00	0.00	0.00
3,100.00	7.65	227.60	3,076.90	-238.69	-261.39	-239.46	0.00	0.00	0.00
3,200.00	7.65	227.60	3,176.01	-247.66	-271.22	-248.47	0.00	0.00	0.00
3,300.00	7.65	227.60	3,275.12	-256.64	-281.06	-257.47	0.00	0.00	0.00
3,400.00	7.65	227.60	3,374.23	-265.61	-290.89	-266.48	0.00	0.00	0.00
3,500.00	7.65	227.60	3,473.34	-274.59	-300.72	-275.48	0.00	0.00	0.00
3,600.00	7.65	227.60	3,572.45	-283.57	-310.55	-284.49	0.00	0.00	0.00
3,700.00	7.65	227.60	3,671.56	-292.54	-320.38	-293.49	0.00	0.00	0.00
3,800.00	7.65	227.60	3,770.67	-301.52	-330.21	-302.50	0.00	0.00	0.00
3,900.00	7.65	227.60	3,869.78	-310.50	-340.04	-311.50	0.00	0.00	0.00
4,000.00	7.65	227.60	3,968.89	-319.47	-349.87	-320.51	0.00	0.00	0.00
4,100.00	7.65	227.60	4,068.00	-328.45	-359.70	-329.52	0.00	0.00	0.00
4,200.00	7.65	227.60	4,167.11	-337.43	-369.53	-338.52	0.00	0.00	0.00
4,300.00	7.65	227.60	4,266.22	-346.40	-379.36	-347.53	0.00	0.00	0.00
4,400.00	7.65	227.60	4,365.33	-355.38	-389.19	-356.53	0.00	0.00	0.00
4,500.00	7.65	227.60	4,464.44	-364.36	-399.02	-365.54	0.00	0.00	0.00
4,600.00	7.65	227.60	4,563.55	-373.33	-408.85	-374.54	0.00	0.00	0.00

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## Planning Report

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<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Site:</b>	1N-65W-30 JOHNSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	JOHNSON 01N-65W-30-5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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	7.65	227.60	4,662.66	-382.31	-418.68	-383.55	0.00	0.00	0.00
4,800.00	7.65	227.60	4,761.77	-391.28	-428.51	-392.55	0.00	0.00	0.00
4,900.00	7.65	227.60	4,860.88	-400.26	-438.34	-401.56	0.00	0.00	0.00
5,000.00	7.65	227.60	4,959.99	-409.24	-448.17	-410.57	0.00	0.00	0.00
5,100.00	7.65	227.60	5,059.10	-418.21	-458.00	-419.57	0.00	0.00	0.00
5,200.00	7.65	227.60	5,158.21	-427.19	-467.83	-428.58	0.00	0.00	0.00
5,300.00	7.65	227.60	5,257.32	-436.17	-477.66	-437.58	0.00	0.00	0.00
5,400.00	7.65	227.60	5,356.43	-445.14	-487.49	-446.59	0.00	0.00	0.00
5,500.00	7.65	227.60	5,455.54	-454.12	-497.32	-455.59	0.00	0.00	0.00
5,600.00	7.65	227.60	5,554.65	-463.10	-507.15	-464.60	0.00	0.00	0.00
5,700.00	7.65	227.60	5,653.76	-472.07	-516.99	-473.60	0.00	0.00	0.00
5,800.00	7.65	227.60	5,752.87	-481.05	-526.82	-482.61	0.00	0.00	0.00
5,900.00	7.65	227.60	5,851.98	-490.02	-536.65	-491.62	0.00	0.00	0.00
6,000.00	7.65	227.60	5,951.09	-499.00	-546.48	-500.62	0.00	0.00	0.00
6,100.00	7.65	227.60	6,050.20	-507.98	-556.31	-509.63	0.00	0.00	0.00
6,200.00	7.65	227.60	6,149.31	-516.95	-566.14	-518.63	0.00	0.00	0.00
6,300.00	7.65	227.60	6,248.42	-525.93	-575.97	-527.64	0.00	0.00	0.00
6,400.00	7.65	227.60	6,347.53	-534.91	-585.80	-536.64	0.00	0.00	0.00
6,500.00	7.65	227.60	6,446.64	-543.88	-595.63	-545.65	0.00	0.00	0.00
6,600.00	7.65	227.60	6,545.75	-552.86	-605.46	-554.65	0.00	0.00	0.00
6,700.00	7.65	227.60	6,644.86	-561.84	-615.29	-563.66	0.00	0.00	0.00
6,765.14	7.65	227.60	6,709.42	-567.68	-621.69	-569.53	0.00	0.00	0.00
KOP @ 6765.14ft :: DLS = 9°/100'									
6,800.00	6.00	250.37	6,744.04	-569.86	-625.12	-571.71	9.00	-4.73	65.33
6,900.00	8.96	321.33	6,843.36	-565.53	-634.93	-567.41	9.00	2.96	70.96
7,000.00	16.92	341.19	6,940.79	-545.63	-644.51	-547.54	9.00	7.95	19.86
7,100.00	25.56	348.24	7,033.92	-510.67	-653.62	-512.60	9.00	8.65	7.05
7,200.00	34.38	351.86	7,120.47	-461.49	-662.03	-463.46	9.00	8.82	3.62
7,300.00	43.27	354.14	7,198.30	-399.32	-669.55	-401.31	9.00	8.89	2.28
7,400.00	52.19	355.77	7,265.50	-325.69	-675.97	-327.69	9.00	8.92	1.63
7,500.00	61.12	357.04	7,320.41	-242.40	-681.16	-244.42	9.00	8.94	1.28
7,600.00	70.07	358.12	7,361.69	-151.50	-684.97	-153.54	9.00	8.95	1.07
7,700.00	79.02	359.07	7,388.30	-55.25	-687.31	-57.29	9.00	8.95	0.96
7,800.00	87.98	359.97	7,399.61	44.01	-688.13	41.96	9.00	8.96	0.90
7,822.55	90.00	0.17	7,400.00	66.55	-688.11	64.51	9.00	8.96	0.89
End Build @ 7822.55ft									
7,900.00	90.00	0.17	7,400.00	144.00	-687.87	141.96	0.00	0.00	0.00
8,000.00	90.00	0.17	7,400.00	244.00	-687.57	241.96	0.00	0.00	0.00
8,100.00	90.00	0.17	7,400.00	344.00	-687.28	341.96	0.00	0.00	0.00
8,200.00	90.00	0.17	7,400.00	444.00	-686.98	441.96	0.00	0.00	0.00
8,300.00	90.00	0.17	7,400.00	544.00	-686.68	541.96	0.00	0.00	0.00
8,400.00	90.00	0.17	7,400.00	644.00	-686.38	641.96	0.00	0.00	0.00
8,500.00	90.00	0.17	7,400.00	744.00	-686.08	741.96	0.00	0.00	0.00
8,600.00	90.00	0.17	7,400.00	844.00	-685.78	841.96	0.00	0.00	0.00
8,700.00	90.00	0.17	7,400.00	944.00	-685.48	941.96	0.00	0.00	0.00
8,800.00	90.00	0.17	7,400.00	1,044.00	-685.18	1,041.96	0.00	0.00	0.00
8,900.00	90.00	0.17	7,400.00	1,144.00	-684.88	1,141.96	0.00	0.00	0.00
9,000.00	90.00	0.17	7,400.00	1,244.00	-684.58	1,241.96	0.00	0.00	0.00
9,100.00	90.00	0.17	7,400.00	1,343.99	-684.28	1,341.96	0.00	0.00	0.00
9,200.00	90.00	0.17	7,400.00	1,443.99	-683.98	1,441.96	0.00	0.00	0.00
9,300.00	90.00	0.17	7,400.00	1,543.99	-683.69	1,541.96	0.00	0.00	0.00
9,400.00	90.00	0.17	7,400.00	1,643.99	-683.39	1,641.96	0.00	0.00	0.00
9,500.00	90.00	0.17	7,400.00	1,743.99	-683.09	1,741.96	0.00	0.00	0.00
9,600.00	90.00	0.17	7,400.00	1,843.99	-682.79	1,841.96	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 JOHNSON 01N-65W-30-5H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Site:</b>	1N-65W-30 JOHNSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	JOHNSON 01N-65W-30-5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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	0.17	7,400.00	1,943.99	-682.49	1,941.96	0.00	0.00	0.00	
9,800.00	90.00	0.17	7,400.00	2,043.99	-682.19	2,041.96	0.00	0.00	0.00	
9,900.00	90.00	0.17	7,400.00	2,143.99	-681.89	2,141.96	0.00	0.00	0.00	
10,000.00	90.00	0.17	7,400.00	2,243.99	-681.59	2,241.96	0.00	0.00	0.00	
10,100.00	90.00	0.17	7,400.00	2,343.99	-681.29	2,341.96	0.00	0.00	0.00	
10,200.00	90.00	0.17	7,400.00	2,443.99	-680.99	2,441.96	0.00	0.00	0.00	
10,300.00	90.00	0.17	7,400.00	2,543.99	-680.69	2,541.96	0.00	0.00	0.00	
10,400.00	90.00	0.17	7,400.00	2,643.99	-680.39	2,641.96	0.00	0.00	0.00	
10,500.00	90.00	0.17	7,400.00	2,743.99	-680.10	2,741.96	0.00	0.00	0.00	
10,600.00	90.00	0.17	7,400.00	2,843.99	-679.80	2,841.96	0.00	0.00	0.00	
10,700.00	90.00	0.17	7,400.00	2,943.99	-679.50	2,941.96	0.00	0.00	0.00	
10,800.00	90.00	0.17	7,400.00	3,043.99	-679.20	3,041.96	0.00	0.00	0.00	
10,900.00	90.00	0.17	7,400.00	3,143.99	-678.90	3,141.96	0.00	0.00	0.00	
11,000.00	90.00	0.17	7,400.00	3,243.99	-678.60	3,241.96	0.00	0.00	0.00	
11,100.00	90.00	0.17	7,400.00	3,343.99	-678.30	3,341.96	0.00	0.00	0.00	
11,200.00	90.00	0.17	7,400.00	3,443.99	-678.00	3,441.96	0.00	0.00	0.00	
11,300.00	90.00	0.17	7,400.00	3,543.99	-677.70	3,541.96	0.00	0.00	0.00	
11,400.00	90.00	0.17	7,400.00	3,643.98	-677.40	3,641.96	0.00	0.00	0.00	
11,500.00	90.00	0.17	7,400.00	3,743.98	-677.10	3,741.96	0.00	0.00	0.00	
11,600.00	90.00	0.17	7,400.00	3,843.98	-676.81	3,841.96	0.00	0.00	0.00	
11,700.00	90.00	0.17	7,400.00	3,943.98	-676.51	3,941.96	0.00	0.00	0.00	
11,800.00	90.00	0.17	7,400.00	4,043.98	-676.21	4,041.96	0.00	0.00	0.00	
11,900.00	90.00	0.17	7,400.00	4,143.98	-675.91	4,141.96	0.00	0.00	0.00	
12,000.00	90.00	0.17	7,400.00	4,243.98	-675.61	4,241.96	0.00	0.00	0.00	
12,100.00	90.00	0.17	7,400.00	4,343.98	-675.31	4,341.96	0.00	0.00	0.00	
12,200.00	90.00	0.17	7,400.00	4,443.98	-675.01	4,441.96	0.00	0.00	0.00	
12,300.00	90.00	0.17	7,400.00	4,543.98	-674.71	4,541.96	0.00	0.00	0.00	
12,400.00	90.00	0.17	7,400.00	4,643.98	-674.41	4,641.96	0.00	0.00	0.00	
12,500.00	90.00	0.17	7,400.00	4,743.98	-674.11	4,741.96	0.00	0.00	0.00	
12,600.00	90.00	0.17	7,400.00	4,843.98	-673.81	4,841.96	0.00	0.00	0.00	
12,700.00	90.00	0.17	7,400.00	4,943.98	-673.51	4,941.96	0.00	0.00	0.00	
12,800.00	90.00	0.17	7,400.00	5,043.98	-673.22	5,041.96	0.00	0.00	0.00	
12,900.00	90.00	0.17	7,400.00	5,143.98	-672.92	5,141.96	0.00	0.00	0.00	
13,000.00	90.00	0.17	7,400.00	5,243.98	-672.62	5,241.96	0.00	0.00	0.00	
13,100.00	90.00	0.17	7,400.00	5,343.98	-672.32	5,341.96	0.00	0.00	0.00	
13,200.00	90.00	0.17	7,400.00	5,443.98	-672.02	5,441.96	0.00	0.00	0.00	
13,300.00	90.00	0.17	7,400.00	5,543.98	-671.72	5,541.96	0.00	0.00	0.00	
13,400.00	90.00	0.17	7,400.00	5,643.98	-671.42	5,641.96	0.00	0.00	0.00	
13,500.00	90.00	0.17	7,400.00	5,743.98	-671.12	5,741.96	0.00	0.00	0.00	
13,600.00	90.00	0.17	7,400.00	5,843.97	-670.82	5,841.96	0.00	0.00	0.00	
13,700.00	90.00	0.17	7,400.00	5,943.97	-670.52	5,941.96	0.00	0.00	0.00	
13,800.00	90.00	0.17	7,400.00	6,043.97	-670.22	6,041.96	0.00	0.00	0.00	
13,900.00	90.00	0.17	7,400.00	6,143.97	-669.93	6,141.96	0.00	0.00	0.00	
14,000.00	90.00	0.17	7,400.00	6,243.97	-669.63	6,241.96	0.00	0.00	0.00	
14,100.00	90.00	0.17	7,400.00	6,343.97	-669.33	6,341.96	0.00	0.00	0.00	
14,200.00	90.00	0.17	7,400.00	6,443.97	-669.03	6,441.96	0.00	0.00	0.00	
14,300.00	90.00	0.17	7,400.00	6,543.97	-668.73	6,541.96	0.00	0.00	0.00	
14,400.00	90.00	0.17	7,400.00	6,643.97	-668.43	6,641.96	0.00	0.00	0.00	
14,500.00	90.00	0.17	7,400.00	6,743.97	-668.13	6,741.96	0.00	0.00	0.00	
14,600.00	90.00	0.17	7,400.00	6,843.97	-667.83	6,841.96	0.00	0.00	0.00	
14,700.00	90.00	0.17	7,400.00	6,943.97	-667.53	6,941.96	0.00	0.00	0.00	
14,800.00	90.00	0.17	7,400.00	7,043.97	-667.23	7,041.96	0.00	0.00	0.00	
14,900.00	90.00	0.17	7,400.00	7,143.97	-666.93	7,141.96	0.00	0.00	0.00	
15,000.00	90.00	0.17	7,400.00	7,243.97	-666.63	7,241.96	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 JOHNSON 01N-65W-30-5H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5020.00usft (RIG)
<b>Site:</b>	1N-65W-30 JOHNSON PAD	<b>North Reference:</b>	True
<b>Well:</b>	JOHNSON 01N-65W-30-5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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	0.17	7,400.00	7,343.97	-666.34	7,341.96	0.00	0.00	0.00	
15,200.00	90.00	0.17	7,400.00	7,443.97	-666.04	7,441.96	0.00	0.00	0.00	
15,300.00	90.00	0.17	7,400.00	7,543.97	-665.74	7,541.96	0.00	0.00	0.00	
15,400.00	90.00	0.17	7,400.00	7,643.97	-665.44	7,641.96	0.00	0.00	0.00	
15,500.00	90.00	0.17	7,400.00	7,743.97	-665.14	7,741.96	0.00	0.00	0.00	
15,600.00	90.00	0.17	7,400.00	7,843.97	-664.84	7,841.96	0.00	0.00	0.00	
15,700.00	90.00	0.17	7,400.00	7,943.97	-664.54	7,941.96	0.00	0.00	0.00	
15,800.00	90.00	0.17	7,400.00	8,043.97	-664.24	8,041.96	0.00	0.00	0.00	
15,900.00	90.00	0.17	7,400.00	8,143.96	-663.94	8,141.96	0.00	0.00	0.00	
16,000.00	90.00	0.17	7,400.00	8,243.96	-663.64	8,241.96	0.00	0.00	0.00	
16,100.00	90.00	0.17	7,400.00	8,343.96	-663.34	8,341.96	0.00	0.00	0.00	
16,200.00	90.00	0.17	7,400.00	8,443.96	-663.04	8,441.96	0.00	0.00	0.00	
16,300.00	90.00	0.17	7,400.00	8,543.96	-662.75	8,541.96	0.00	0.00	0.00	
16,400.00	90.00	0.17	7,400.00	8,643.96	-662.45	8,641.96	0.00	0.00	0.00	
16,500.00	90.00	0.17	7,400.00	8,743.96	-662.15	8,741.96	0.00	0.00	0.00	
16,600.00	90.00	0.17	7,400.00	8,843.96	-661.85	8,841.96	0.00	0.00	0.00	
16,700.00	90.00	0.17	7,400.00	8,943.96	-661.55	8,941.96	0.00	0.00	0.00	
16,800.00	90.00	0.17	7,400.00	9,043.96	-661.25	9,041.96	0.00	0.00	0.00	
16,900.00	90.00	0.17	7,400.00	9,143.96	-660.95	9,141.96	0.00	0.00	0.00	
17,000.00	90.00	0.17	7,400.00	9,243.96	-660.65	9,241.96	0.00	0.00	0.00	
17,100.00	90.00	0.17	7,400.00	9,343.96	-660.35	9,341.96	0.00	0.00	0.00	
17,200.00	90.00	0.17	7,400.00	9,443.96	-660.05	9,441.96	0.00	0.00	0.00	
17,300.00	90.00	0.17	7,400.00	9,543.96	-659.75	9,541.96	0.00	0.00	0.00	
17,400.00	90.00	0.17	7,400.00	9,643.96	-659.46	9,641.96	0.00	0.00	0.00	
17,500.00	90.00	0.17	7,400.00	9,743.96	-659.16	9,741.96	0.00	0.00	0.00	
17,600.00	90.00	0.17	7,400.00	9,843.96	-658.86	9,841.96	0.00	0.00	0.00	
17,700.00	90.00	0.17	7,400.00	9,943.96	-658.56	9,941.96	0.00	0.00	0.00	
17,800.00	90.00	0.17	7,400.00	10,043.96	-658.26	10,041.96	0.00	0.00	0.00	
17,811.87	90.00	0.17	7,400.00	10,055.83	-658.22	10,053.83	0.00	0.00	0.00	
TD Well @ 17811.87ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,710.73	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 Tangent @ 250.00ft	
632.50	631.36	-17.19	-18.83	End Tangent @ 632.50ft	
6,765.14	6,709.42	-567.68	-621.69	KOP @ 6765.14ft :: DLS = 9°/100'	
7,822.55	7,400.00	66.55	-688.11	End Build @ 7822.55ft	
17,811.87	7,400.00	10,055.83	-658.22	TD Well @ 17811.87ft	