

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

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

**JOHNSON 01N-65W-30-3H**

**Wellbore #1**

**Plan: Design #2**

## **Standard Planning Report**

**05 June, 2018**

Project: WATTENBERG FIELD  
Site: 1N-65W-30 JOHNSON PAD  
Well: JOHNSON 01N-65W-30-3H  
Wellbore: Wellbore #1  
Design: Design #2

# VERDAD RESOURCES

## CASING DETAILS

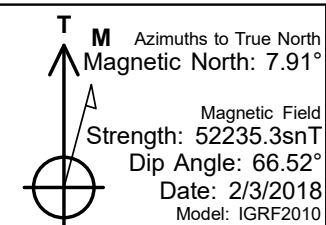
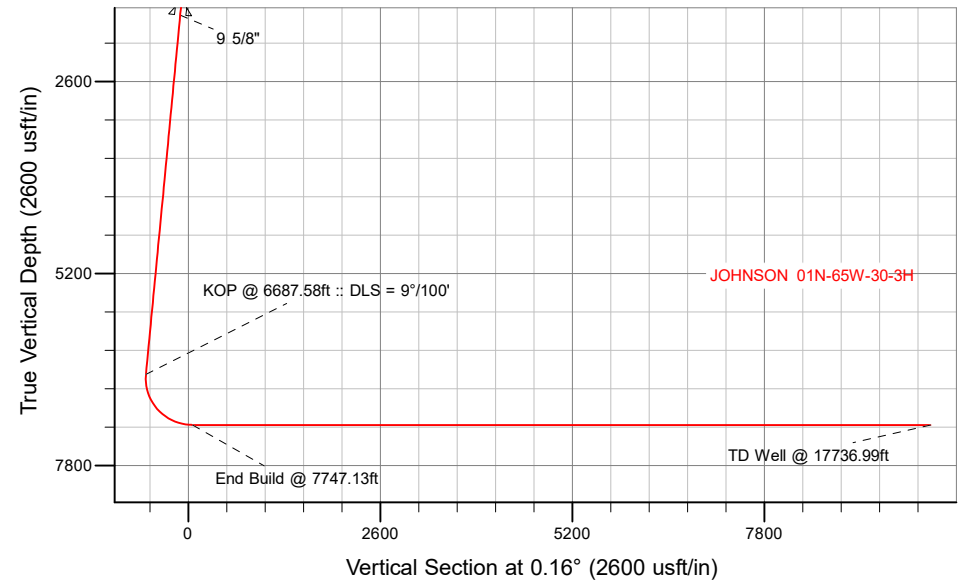
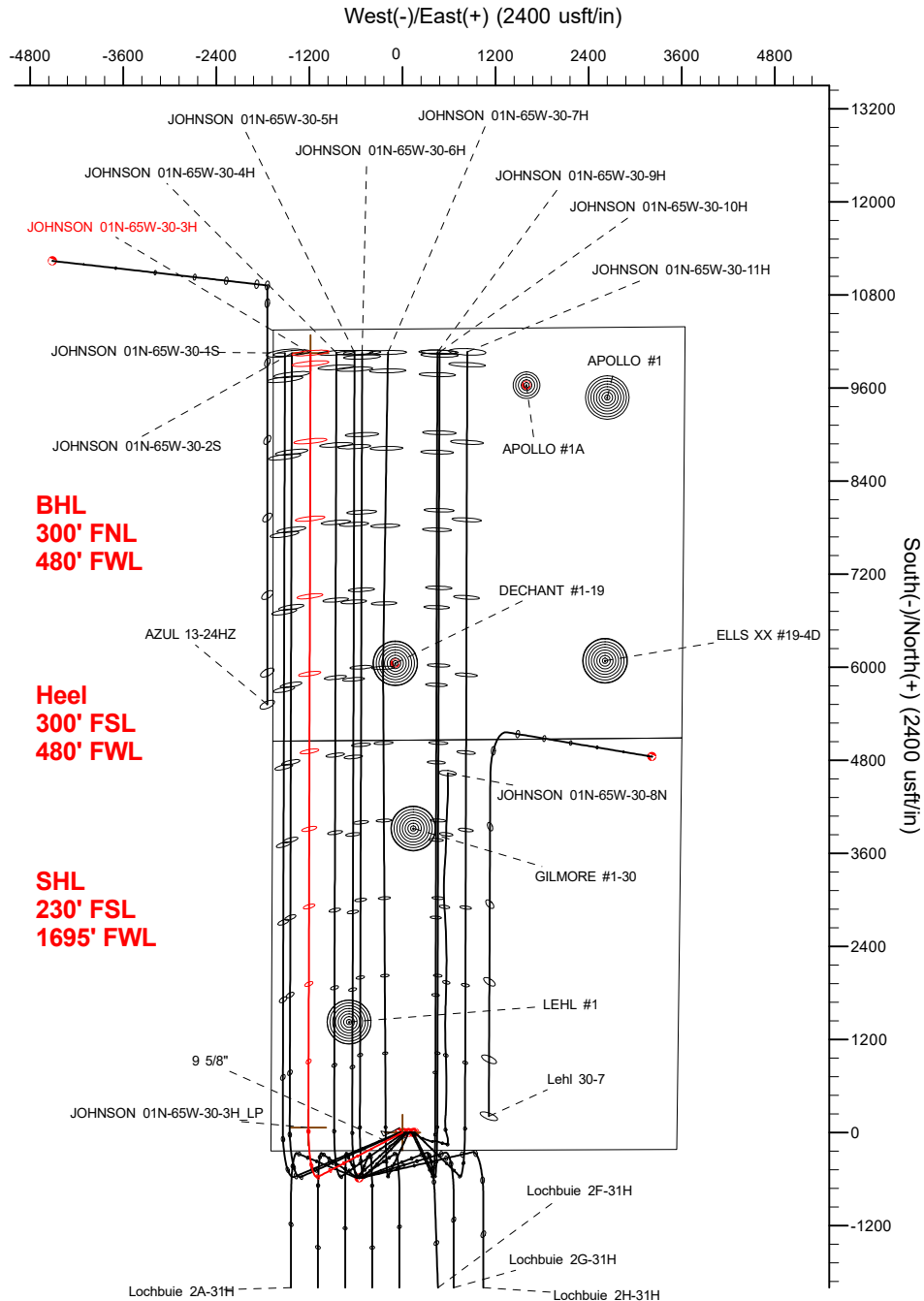
TVD	MD	Name	Size
1700.00	1722.02	9 5/8"	9-5/8

## 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	827.50	11.55	242.35	823.60	-26.92	-51.39	2.00	242.35	-27.06	
4	6687.58	11.55	242.35	6565.01	-571.42	-1090.71	0.00	0.00	-574.47	
5	7747.13	90.00	0.16	7250.00	62.75	-1212.78	9.00	117.33	59.37	
6	17736.99	90.00	0.16	7250.00	10052.57	-1185.14	0.00	0.00	10049.22	JOHNSON 01N-65W-30-3H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
JOHNSON 01N-65W-30-3H_SHL	0.00	0.00	0.00	40.015684	-104.710098
JOHNSON 01N-65W-30-3H_BHL	7250.00	10052.57	-1185.14	40.043280	-104.714331



## WELL DETAILS: JOHNSON 01N-65W-30-3H

GL = 500'

RKB = 20' @ 5020.00usft (RIG)

Plan: Design #2 (JOHNSON 01N-65W-30-3H/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-30-3H
<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-30-3H	<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		

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

Well	JOHNSON 01N-65W-30-3H					
Well Position	+N/-S	1.45 usft	Northing:	1,249,545.49 usft	Latitude:	40.015684
	+E/-W	-100.27 usft	Easting:	3,221,240.07 usft	Longitude:	-104.710098
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	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	52,235.31191587

<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	0.16

<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	17,736.99	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	
827.50	11.55	242.35	823.60	-26.92	-51.39	2.00	2.00	0.00	242.35	
6,687.58	11.55	242.35	6,565.01	-571.42	-1,090.71	0.00	0.00	0.00	0.00	
7,747.13	90.00	0.16	7,250.00	62.75	-1,212.78	9.00	7.40	11.12	117.33	
17,736.99	90.00	0.16	7,250.00	10,052.57	-1,185.14	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-30-3H
<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-30-3H	<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	242.35	300.00	-0.20	-0.39	-0.20	2.00	2.00	0.00
400.00	3.00	242.35	399.93	-1.82	-3.48	-1.83	2.00	2.00	0.00
500.00	5.00	242.35	499.68	-5.06	-9.66	-5.09	2.00	2.00	0.00
600.00	7.00	242.35	599.13	-9.91	-18.92	-9.96	2.00	2.00	0.00
700.00	9.00	242.35	698.15	-16.37	-31.24	-16.46	2.00	2.00	0.00
800.00	11.00	242.35	796.63	-24.43	-46.62	-24.56	2.00	2.00	0.00
827.50	11.55	242.35	823.60	-26.92	-51.39	-27.06	2.00	2.00	0.00
End Tangent @ 827.50ft									
900.00	11.55	242.35	894.63	-33.66	-64.24	-33.84	0.00	0.00	0.00
1,000.00	11.55	242.35	992.60	-42.95	-81.98	-43.18	0.00	0.00	0.00
1,100.00	11.55	242.35	1,090.58	-52.24	-99.72	-52.52	0.00	0.00	0.00
1,200.00	11.55	242.35	1,188.55	-61.53	-117.45	-61.86	0.00	0.00	0.00
1,300.00	11.55	242.35	1,286.53	-70.82	-135.19	-71.20	0.00	0.00	0.00
1,400.00	11.55	242.35	1,384.50	-80.12	-152.92	-80.54	0.00	0.00	0.00
1,500.00	11.55	242.35	1,482.48	-89.41	-170.66	-89.88	0.00	0.00	0.00
1,600.00	11.55	242.35	1,580.45	-98.70	-188.39	-99.23	0.00	0.00	0.00
1,700.00	11.55	242.35	1,678.43	-107.99	-206.13	-108.57	0.00	0.00	0.00
1,722.02	11.55	242.35	1,700.00	-110.04	-210.04	-110.62	0.00	0.00	0.00
9 5/8"									
1,800.00	11.55	242.35	1,776.40	-117.28	-223.87	-117.91	0.00	0.00	0.00
1,900.00	11.55	242.35	1,874.38	-126.57	-241.60	-127.25	0.00	0.00	0.00
2,000.00	11.55	242.35	1,972.35	-135.87	-259.34	-136.59	0.00	0.00	0.00
2,100.00	11.55	242.35	2,070.33	-145.16	-277.07	-145.93	0.00	0.00	0.00
2,200.00	11.55	242.35	2,168.30	-154.45	-294.81	-155.27	0.00	0.00	0.00
2,300.00	11.55	242.35	2,266.28	-163.74	-312.54	-164.61	0.00	0.00	0.00
2,400.00	11.55	242.35	2,364.25	-173.03	-330.28	-173.96	0.00	0.00	0.00
2,500.00	11.55	242.35	2,462.23	-182.33	-348.02	-183.30	0.00	0.00	0.00
2,600.00	11.55	242.35	2,560.20	-191.62	-365.75	-192.64	0.00	0.00	0.00
2,700.00	11.55	242.35	2,658.18	-200.91	-383.49	-201.98	0.00	0.00	0.00
2,800.00	11.55	242.35	2,756.15	-210.20	-401.22	-211.32	0.00	0.00	0.00
2,900.00	11.55	242.35	2,854.13	-219.49	-418.96	-220.66	0.00	0.00	0.00
3,000.00	11.55	242.35	2,952.10	-228.78	-436.69	-230.00	0.00	0.00	0.00
3,100.00	11.55	242.35	3,050.08	-238.08	-454.43	-239.34	0.00	0.00	0.00
3,200.00	11.55	242.35	3,148.05	-247.37	-472.17	-248.69	0.00	0.00	0.00
3,300.00	11.55	242.35	3,246.03	-256.66	-489.90	-258.03	0.00	0.00	0.00
3,400.00	11.55	242.35	3,344.00	-265.95	-507.64	-267.37	0.00	0.00	0.00
3,500.00	11.55	242.35	3,441.98	-275.24	-525.37	-276.71	0.00	0.00	0.00
3,600.00	11.55	242.35	3,539.95	-284.53	-543.11	-286.05	0.00	0.00	0.00
3,700.00	11.55	242.35	3,637.93	-293.83	-560.84	-295.39	0.00	0.00	0.00
3,800.00	11.55	242.35	3,735.90	-303.12	-578.58	-304.73	0.00	0.00	0.00
3,900.00	11.55	242.35	3,833.88	-312.41	-596.32	-314.07	0.00	0.00	0.00
4,000.00	11.55	242.35	3,931.85	-321.70	-614.05	-323.41	0.00	0.00	0.00
4,100.00	11.55	242.35	4,029.83	-330.99	-631.79	-332.76	0.00	0.00	0.00
4,200.00	11.55	242.35	4,127.80	-340.28	-649.52	-342.10	0.00	0.00	0.00
4,300.00	11.55	242.35	4,225.78	-349.58	-667.26	-351.44	0.00	0.00	0.00
4,400.00	11.55	242.35	4,323.75	-358.87	-685.00	-360.78	0.00	0.00	0.00
4,500.00	11.55	242.35	4,421.73	-368.16	-702.73	-370.12	0.00	0.00	0.00
4,600.00	11.55	242.35	4,519.70	-377.45	-720.47	-379.46	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-30-3H
<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-30-3H	<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	11.55	242.35	4,617.68	-386.74	-738.20	-388.80	0.00	0.00	0.00
4,800.00	11.55	242.35	4,715.66	-396.04	-755.94	-398.14	0.00	0.00	0.00
4,900.00	11.55	242.35	4,813.63	-405.33	-773.67	-407.49	0.00	0.00	0.00
5,000.00	11.55	242.35	4,911.61	-414.62	-791.41	-416.83	0.00	0.00	0.00
5,100.00	11.55	242.35	5,009.58	-423.91	-809.15	-426.17	0.00	0.00	0.00
5,200.00	11.55	242.35	5,107.56	-433.20	-826.88	-435.51	0.00	0.00	0.00
5,300.00	11.55	242.35	5,205.53	-442.49	-844.62	-444.85	0.00	0.00	0.00
5,400.00	11.55	242.35	5,303.51	-451.79	-862.35	-454.19	0.00	0.00	0.00
5,500.00	11.55	242.35	5,401.48	-461.08	-880.09	-463.53	0.00	0.00	0.00
5,600.00	11.55	242.35	5,499.46	-470.37	-897.82	-472.87	0.00	0.00	0.00
5,700.00	11.55	242.35	5,597.43	-479.66	-915.56	-482.22	0.00	0.00	0.00
5,800.00	11.55	242.35	5,695.41	-488.95	-933.30	-491.56	0.00	0.00	0.00
5,900.00	11.55	242.35	5,793.38	-498.24	-951.03	-500.90	0.00	0.00	0.00
6,000.00	11.55	242.35	5,891.36	-507.54	-968.77	-510.24	0.00	0.00	0.00
6,100.00	11.55	242.35	5,989.33	-516.83	-986.50	-519.58	0.00	0.00	0.00
6,200.00	11.55	242.35	6,087.31	-526.12	-1,004.24	-528.92	0.00	0.00	0.00
6,300.00	11.55	242.35	6,185.28	-535.41	-1,021.97	-538.26	0.00	0.00	0.00
6,400.00	11.55	242.35	6,283.26	-544.70	-1,039.71	-547.60	0.00	0.00	0.00
6,500.00	11.55	242.35	6,381.23	-553.99	-1,057.45	-556.95	0.00	0.00	0.00
6,600.00	11.55	242.35	6,479.21	-563.29	-1,075.18	-566.29	0.00	0.00	0.00
6,687.58	11.55	242.35	6,565.01	-571.42	-1,090.71	-574.47	0.00	0.00	0.00
<b>KOP @ 6687.58ft :: DLS = 9°/100'</b>									
6,700.00	11.08	247.52	6,577.19	-572.46	-1,092.92	-575.51	9.00	-3.78	41.66
6,800.00	11.29	295.24	6,675.49	-571.96	-1,110.69	-575.06	9.00	0.21	47.71
6,900.00	17.10	324.16	6,772.52	-555.84	-1,128.18	-558.99	9.00	5.81	28.93
7,000.00	24.85	337.18	6,865.87	-524.49	-1,144.97	-527.69	9.00	7.75	13.02
7,100.00	33.20	344.13	6,953.26	-478.70	-1,160.64	-481.94	9.00	8.36	6.95
7,200.00	41.81	348.50	7,032.53	-419.58	-1,174.80	-422.86	9.00	8.60	4.37
7,300.00	50.53	351.60	7,101.73	-348.59	-1,187.11	-351.90	9.00	8.72	3.10
7,400.00	59.31	354.00	7,159.15	-267.48	-1,197.27	-270.82	9.00	8.78	2.40
7,500.00	68.13	356.00	7,203.38	-178.24	-1,205.02	-181.61	9.00	8.82	2.00
7,600.00	76.97	357.76	7,233.34	-83.08	-1,210.17	-86.46	9.00	8.84	1.76
7,700.00	85.83	359.40	7,248.28	15.66	-1,212.60	12.28	9.00	8.85	1.64
7,747.13	90.00	0.16	7,250.00	62.75	-1,212.78	59.37	9.00	8.86	1.60
<b>End Build @ 7747.13ft</b>									
7,800.00	90.00	0.16	7,250.00	115.62	-1,212.63	112.23	0.00	0.00	0.00
7,900.00	90.00	0.16	7,250.00	215.62	-1,212.35	212.23	0.00	0.00	0.00
8,000.00	90.00	0.16	7,250.00	315.62	-1,212.08	312.23	0.00	0.00	0.00
8,100.00	90.00	0.16	7,250.00	415.62	-1,211.80	412.23	0.00	0.00	0.00
8,200.00	90.00	0.16	7,250.00	515.62	-1,211.52	512.23	0.00	0.00	0.00
8,300.00	90.00	0.16	7,250.00	615.62	-1,211.25	612.23	0.00	0.00	0.00
8,400.00	90.00	0.16	7,250.00	715.62	-1,210.97	712.23	0.00	0.00	0.00
8,500.00	90.00	0.16	7,250.00	815.62	-1,210.69	812.23	0.00	0.00	0.00
8,600.00	90.00	0.16	7,250.00	915.62	-1,210.42	912.23	0.00	0.00	0.00
8,700.00	90.00	0.16	7,250.00	1,015.62	-1,210.14	1,012.23	0.00	0.00	0.00
8,800.00	90.00	0.16	7,250.00	1,115.62	-1,209.86	1,112.23	0.00	0.00	0.00
8,900.00	90.00	0.16	7,250.00	1,215.62	-1,209.59	1,212.23	0.00	0.00	0.00
9,000.00	90.00	0.16	7,250.00	1,315.62	-1,209.31	1,312.23	0.00	0.00	0.00
9,100.00	90.00	0.16	7,250.00	1,415.62	-1,209.03	1,412.23	0.00	0.00	0.00
9,200.00	90.00	0.16	7,250.00	1,515.61	-1,208.76	1,512.23	0.00	0.00	0.00
9,300.00	90.00	0.16	7,250.00	1,615.61	-1,208.48	1,612.23	0.00	0.00	0.00
9,400.00	90.00	0.16	7,250.00	1,715.61	-1,208.20	1,712.23	0.00	0.00	0.00
9,500.00	90.00	0.16	7,250.00	1,815.61	-1,207.93	1,812.23	0.00	0.00	0.00
9,600.00	90.00	0.16	7,250.00	1,915.61	-1,207.65	1,912.23	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-30-3H
<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-30-3H	<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	0.16	7,250.00	2,015.61	-1,207.37	2,012.23	0.00	0.00	0.00	
9,800.00	90.00	0.16	7,250.00	2,115.61	-1,207.10	2,112.23	0.00	0.00	0.00	
9,900.00	90.00	0.16	7,250.00	2,215.61	-1,206.82	2,212.23	0.00	0.00	0.00	
10,000.00	90.00	0.16	7,250.00	2,315.61	-1,206.54	2,312.23	0.00	0.00	0.00	
10,100.00	90.00	0.16	7,250.00	2,415.61	-1,206.27	2,412.23	0.00	0.00	0.00	
10,200.00	90.00	0.16	7,250.00	2,515.61	-1,205.99	2,512.23	0.00	0.00	0.00	
10,300.00	90.00	0.16	7,250.00	2,615.61	-1,205.71	2,612.23	0.00	0.00	0.00	
10,400.00	90.00	0.16	7,250.00	2,715.61	-1,205.44	2,712.23	0.00	0.00	0.00	
10,500.00	90.00	0.16	7,250.00	2,815.61	-1,205.16	2,812.23	0.00	0.00	0.00	
10,600.00	90.00	0.16	7,250.00	2,915.61	-1,204.88	2,912.23	0.00	0.00	0.00	
10,700.00	90.00	0.16	7,250.00	3,015.61	-1,204.61	3,012.23	0.00	0.00	0.00	
10,800.00	90.00	0.16	7,250.00	3,115.61	-1,204.33	3,112.23	0.00	0.00	0.00	
10,900.00	90.00	0.16	7,250.00	3,215.61	-1,204.05	3,212.23	0.00	0.00	0.00	
11,000.00	90.00	0.16	7,250.00	3,315.61	-1,203.78	3,312.23	0.00	0.00	0.00	
11,100.00	90.00	0.16	7,250.00	3,415.61	-1,203.50	3,412.23	0.00	0.00	0.00	
11,200.00	90.00	0.16	7,250.00	3,515.61	-1,203.22	3,512.23	0.00	0.00	0.00	
11,300.00	90.00	0.16	7,250.00	3,615.61	-1,202.95	3,612.23	0.00	0.00	0.00	
11,400.00	90.00	0.16	7,250.00	3,715.61	-1,202.67	3,712.23	0.00	0.00	0.00	
11,500.00	90.00	0.16	7,250.00	3,815.61	-1,202.39	3,812.23	0.00	0.00	0.00	
11,600.00	90.00	0.16	7,250.00	3,915.61	-1,202.12	3,912.23	0.00	0.00	0.00	
11,700.00	90.00	0.16	7,250.00	4,015.61	-1,201.84	4,012.23	0.00	0.00	0.00	
11,800.00	90.00	0.16	7,250.00	4,115.61	-1,201.56	4,112.23	0.00	0.00	0.00	
11,900.00	90.00	0.16	7,250.00	4,215.60	-1,201.29	4,212.23	0.00	0.00	0.00	
12,000.00	90.00	0.16	7,250.00	4,315.60	-1,201.01	4,312.23	0.00	0.00	0.00	
12,100.00	90.00	0.16	7,250.00	4,415.60	-1,200.73	4,412.23	0.00	0.00	0.00	
12,200.00	90.00	0.16	7,250.00	4,515.60	-1,200.46	4,512.23	0.00	0.00	0.00	
12,300.00	90.00	0.16	7,250.00	4,615.60	-1,200.18	4,612.23	0.00	0.00	0.00	
12,400.00	90.00	0.16	7,250.00	4,715.60	-1,199.90	4,712.23	0.00	0.00	0.00	
12,500.00	90.00	0.16	7,250.00	4,815.60	-1,199.63	4,812.23	0.00	0.00	0.00	
12,600.00	90.00	0.16	7,250.00	4,915.60	-1,199.35	4,912.23	0.00	0.00	0.00	
12,700.00	90.00	0.16	7,250.00	5,015.60	-1,199.07	5,012.23	0.00	0.00	0.00	
12,800.00	90.00	0.16	7,250.00	5,115.60	-1,198.80	5,112.23	0.00	0.00	0.00	
12,900.00	90.00	0.16	7,250.00	5,215.60	-1,198.52	5,212.23	0.00	0.00	0.00	
13,000.00	90.00	0.16	7,250.00	5,315.60	-1,198.24	5,312.23	0.00	0.00	0.00	
13,100.00	90.00	0.16	7,250.00	5,415.60	-1,197.97	5,412.23	0.00	0.00	0.00	
13,200.00	90.00	0.16	7,250.00	5,515.60	-1,197.69	5,512.23	0.00	0.00	0.00	
13,300.00	90.00	0.16	7,250.00	5,615.60	-1,197.41	5,612.23	0.00	0.00	0.00	
13,400.00	90.00	0.16	7,250.00	5,715.60	-1,197.14	5,712.23	0.00	0.00	0.00	
13,500.00	90.00	0.16	7,250.00	5,815.60	-1,196.86	5,812.23	0.00	0.00	0.00	
13,600.00	90.00	0.16	7,250.00	5,915.60	-1,196.58	5,912.23	0.00	0.00	0.00	
13,700.00	90.00	0.16	7,250.00	6,015.60	-1,196.31	6,012.23	0.00	0.00	0.00	
13,800.00	90.00	0.16	7,250.00	6,115.60	-1,196.03	6,112.23	0.00	0.00	0.00	
13,900.00	90.00	0.16	7,250.00	6,215.60	-1,195.75	6,212.23	0.00	0.00	0.00	
14,000.00	90.00	0.16	7,250.00	6,315.60	-1,195.48	6,312.23	0.00	0.00	0.00	
14,100.00	90.00	0.16	7,250.00	6,415.60	-1,195.20	6,412.23	0.00	0.00	0.00	
14,200.00	90.00	0.16	7,250.00	6,515.60	-1,194.92	6,512.23	0.00	0.00	0.00	
14,300.00	90.00	0.16	7,250.00	6,615.60	-1,194.65	6,612.23	0.00	0.00	0.00	
14,400.00	90.00	0.16	7,250.00	6,715.60	-1,194.37	6,712.23	0.00	0.00	0.00	
14,500.00	90.00	0.16	7,250.00	6,815.59	-1,194.09	6,812.23	0.00	0.00	0.00	
14,600.00	90.00	0.16	7,250.00	6,915.59	-1,193.82	6,912.23	0.00	0.00	0.00	
14,700.00	90.00	0.16	7,250.00	7,015.59	-1,193.54	7,012.23	0.00	0.00	0.00	
14,800.00	90.00	0.16	7,250.00	7,115.59	-1,193.26	7,112.23	0.00	0.00	0.00	
14,900.00	90.00	0.16	7,250.00	7,215.59	-1,192.99	7,212.23	0.00	0.00	0.00	
15,000.00	90.00	0.16	7,250.00	7,315.59	-1,192.71	7,312.23	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-30-3H
<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-30-3H	<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	0.16	7,250.00	7,415.59	-1,192.43	7,412.23	0.00	0.00	0.00	
15,200.00	90.00	0.16	7,250.00	7,515.59	-1,192.16	7,512.23	0.00	0.00	0.00	
15,300.00	90.00	0.16	7,250.00	7,615.59	-1,191.88	7,612.23	0.00	0.00	0.00	
15,400.00	90.00	0.16	7,250.00	7,715.59	-1,191.60	7,712.23	0.00	0.00	0.00	
15,500.00	90.00	0.16	7,250.00	7,815.59	-1,191.33	7,812.23	0.00	0.00	0.00	
15,600.00	90.00	0.16	7,250.00	7,915.59	-1,191.05	7,912.23	0.00	0.00	0.00	
15,700.00	90.00	0.16	7,250.00	8,015.59	-1,190.77	8,012.23	0.00	0.00	0.00	
15,800.00	90.00	0.16	7,250.00	8,115.59	-1,190.50	8,112.23	0.00	0.00	0.00	
15,900.00	90.00	0.16	7,250.00	8,215.59	-1,190.22	8,212.23	0.00	0.00	0.00	
16,000.00	90.00	0.16	7,250.00	8,315.59	-1,189.94	8,312.23	0.00	0.00	0.00	
16,100.00	90.00	0.16	7,250.00	8,415.59	-1,189.67	8,412.23	0.00	0.00	0.00	
16,200.00	90.00	0.16	7,250.00	8,515.59	-1,189.39	8,512.23	0.00	0.00	0.00	
16,300.00	90.00	0.16	7,250.00	8,615.59	-1,189.11	8,612.23	0.00	0.00	0.00	
16,400.00	90.00	0.16	7,250.00	8,715.59	-1,188.84	8,712.23	0.00	0.00	0.00	
16,500.00	90.00	0.16	7,250.00	8,815.59	-1,188.56	8,812.23	0.00	0.00	0.00	
16,600.00	90.00	0.16	7,250.00	8,915.59	-1,188.28	8,912.23	0.00	0.00	0.00	
16,700.00	90.00	0.16	7,250.00	9,015.59	-1,188.01	9,012.23	0.00	0.00	0.00	
16,800.00	90.00	0.16	7,250.00	9,115.59	-1,187.73	9,112.23	0.00	0.00	0.00	
16,900.00	90.00	0.16	7,250.00	9,215.59	-1,187.45	9,212.23	0.00	0.00	0.00	
17,000.00	90.00	0.16	7,250.00	9,315.59	-1,187.18	9,312.23	0.00	0.00	0.00	
17,100.00	90.00	0.16	7,250.00	9,415.58	-1,186.90	9,412.23	0.00	0.00	0.00	
17,200.00	90.00	0.16	7,250.00	9,515.58	-1,186.62	9,512.23	0.00	0.00	0.00	
17,300.00	90.00	0.16	7,250.00	9,615.58	-1,186.35	9,612.23	0.00	0.00	0.00	
17,400.00	90.00	0.16	7,250.00	9,715.58	-1,186.07	9,712.23	0.00	0.00	0.00	
17,500.00	90.00	0.16	7,250.00	9,815.58	-1,185.79	9,812.23	0.00	0.00	0.00	
17,600.00	90.00	0.16	7,250.00	9,915.58	-1,185.52	9,912.23	0.00	0.00	0.00	
17,700.00	90.00	0.16	7,250.00	10,015.58	-1,185.24	10,012.23	0.00	0.00	0.00	
17,736.99	90.00	0.16	7,250.00	10,052.57	-1,185.14	10,049.22	0.00	0.00	0.00	
TD Well @ 17736.99ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,722.02	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	
827.50	823.60	-26.92	-51.39	End Tangent @ 827.50ft	
6,687.58	6,565.01	-571.42	-1,090.71	KOP @ 6687.58ft :: DLS = 9°/100'	
7,747.13	7,250.00	62.75	-1,212.78	End Build @ 7747.13ft	
17,736.99	7,250.00	10,052.57	-1,185.14	TD Well @ 17736.99ft	