

VERDAD RESOURCES

WATTENBERG FIELD

1N-65W-30 JOHNSON PAD

JOHNSON 01N-65W-30-7H

Wellbore #1

Plan: Design #2

Standard Planning Report

05 June, 2018

Project: WATTENBERG FIELD
Site: 1N-65W-30 JOHNSON PAD
Well: JOHNSON 01N-65W-30-7H
Wellbore: Wellbore #1
Design: Design #2

VERDAD RESOURCES

CASING DETAILS

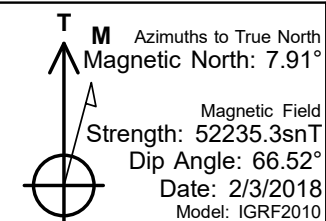
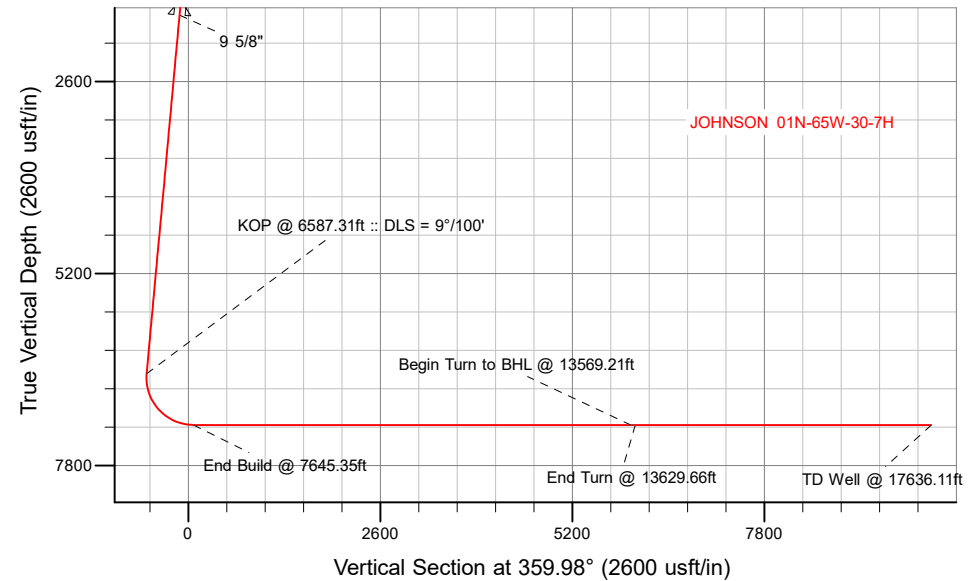
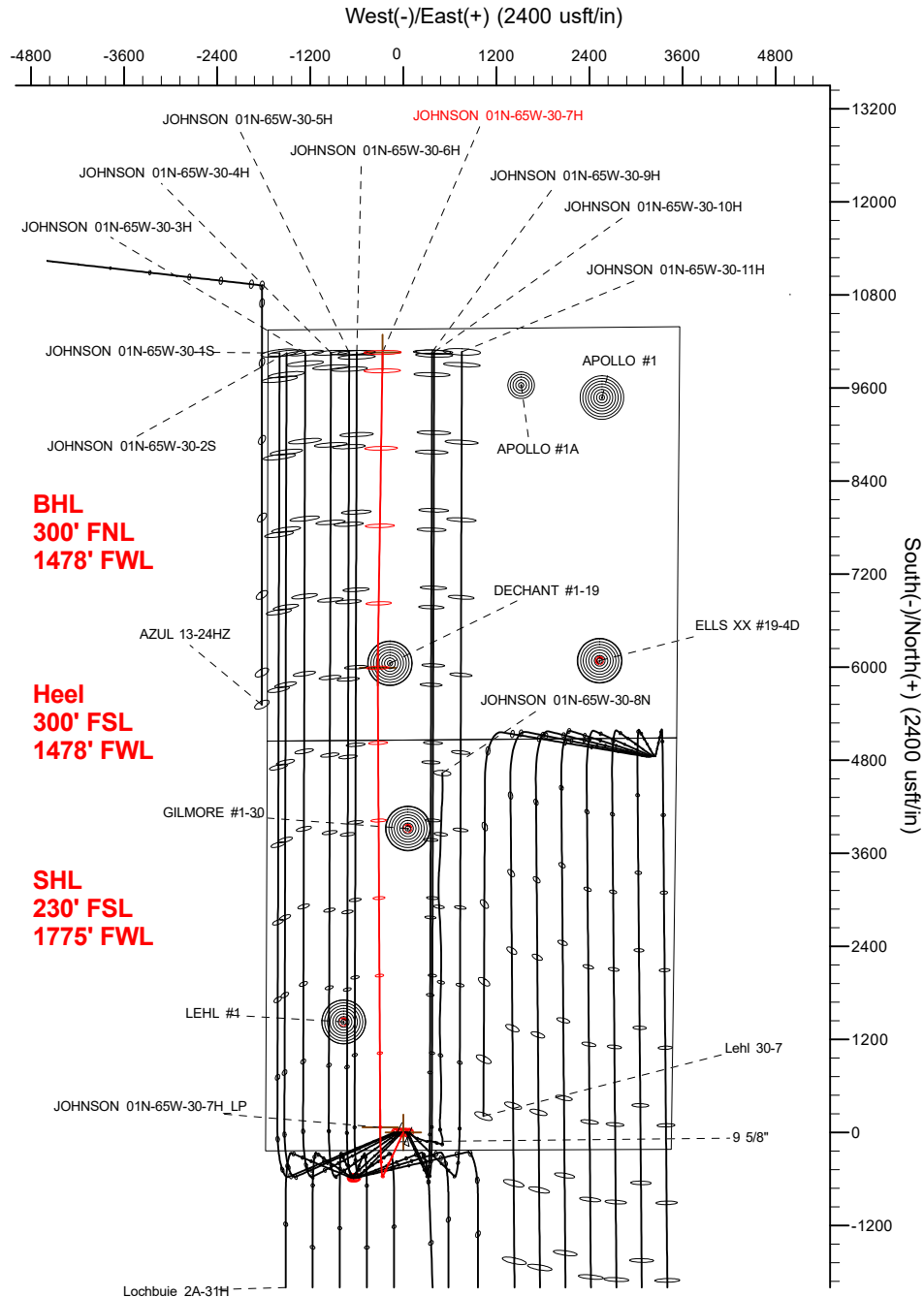
TVD	MD	Name	Size
1700.00	1706.43	9 5/8"	9-5/8

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	539.00	5.78	205.00	538.51	-13.20	-6.16	2.00	205.00	-13.20	
4	6587.31	5.78	205.00	6556.07	-565.25	-263.58	0.00	0.00	-565.16	
5	7645.35	90.00	359.68	7250.00	68.55	-297.14	9.00	154.57	68.65	
6	13569.21	90.00	359.68	7250.00	5992.32	-330.00	0.00	0.00	5992.43	JOHNSON 01N-65W-30-7H_tgt
7	13629.66	90.00	0.89	7250.00	6052.78	-329.70	2.00	90.00	6052.89	
8	17636.11	90.00	0.89	7250.00	10058.73	-267.38	0.00	0.00	10058.83	JOHNSON 01N-65W-30-7H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
JOHNSON 01N-65W-30-7H_SHL	0.00	0.00	0.00	40.015685	-104.709812
JOHNSON 01N-65W-30-7H_BHL	7250.00	10058.73	-267.38	40.043298	-104.710767



WELL DETAILS: JOHNSON 01N-65W-30-7H

GL = 5000'

RKB = 20' @ 5020.00usft (RIG)

Plan: Design #2 (JOHNSON 01N-65W-30-7H/Wellbore #1)

Date: 6/5/2018

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well JOHNSON 01N-65W-30-7H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5020.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5020.00usft (RIG)
Site:	1N-65W-30 JOHNSON PAD	North Reference:	True
Well:	JOHNSON 01N-65W-30-7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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		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-30-7H					
Well Position	+N/-S	1.81 usft	Northing:	1,249,546.57 usft	Latitude:	40.015685
	+E/-W	-20.17 usft	Easting:	3,221,320.16 usft	Longitude:	-104.709812
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,000.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/3/2018	7.91	66.52	52,235.34132259

Design	Design #2				
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	359.98	

Plan Survey Tool Program	Date	6/5/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,700.00	Design #2 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	
2	1,700.00	17,636.11	Design #2 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5020.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5020.00usft (RIG)
Site:	1N-65W-30 JOHNSON PAD	North Reference:	True
Well:	JOHNSON 01N-65W-30-7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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	
539.00	5.78	205.00	538.51	-13.20	-6.16	2.00	2.00	0.00	205.00	
6,587.31	5.78	205.00	6,556.07	-565.25	-263.58	0.00	0.00	0.00	0.00	
7,645.35	90.00	359.68	7,250.00	68.55	-297.14	9.00	7.96	14.62	154.57	
13,569.21	90.00	359.68	7,250.00	5,992.32	-330.00	0.00	0.00	0.00	0.00	JOHNSON 01N-65W-
13,629.66	90.00	0.89	7,250.00	6,052.78	-329.70	2.00	0.00	2.00	90.00	
17,636.11	90.00	0.89	7,250.00	10,058.73	-267.38	0.00	0.00	0.00	0.00	JOHNSON 01N-65W-

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well JOHNSON 01N-65W-30-7H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5020.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5020.00usft (RIG)
Site:	1N-65W-30 JOHNSON PAD	North Reference:	True
Well:	JOHNSON 01N-65W-30-7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	205.00	300.00	-0.40	-0.18	-0.40	2.00	2.00	0.00
400.00	3.00	205.00	399.93	-3.56	-1.66	-3.56	2.00	2.00	0.00
500.00	5.00	205.00	499.68	-9.88	-4.61	-9.88	2.00	2.00	0.00
539.00	5.78	205.00	538.51	-13.20	-6.16	-13.20	2.00	2.00	0.00
End Tangent @ 539.00ft									
600.00	5.78	205.00	599.20	-18.77	-8.75	-18.76	0.00	0.00	0.00
700.00	5.78	205.00	698.69	-27.90	-13.01	-27.89	0.00	0.00	0.00
800.00	5.78	205.00	798.18	-37.02	-17.26	-37.02	0.00	0.00	0.00
900.00	5.78	205.00	897.67	-46.15	-21.52	-46.14	0.00	0.00	0.00
1,000.00	5.78	205.00	997.17	-55.28	-25.78	-55.27	0.00	0.00	0.00
1,100.00	5.78	205.00	1,096.66	-64.40	-30.03	-64.39	0.00	0.00	0.00
1,200.00	5.78	205.00	1,196.15	-73.53	-34.29	-73.52	0.00	0.00	0.00
1,300.00	5.78	205.00	1,295.64	-82.66	-38.54	-82.65	0.00	0.00	0.00
1,400.00	5.78	205.00	1,395.13	-91.79	-42.80	-91.77	0.00	0.00	0.00
1,500.00	5.78	205.00	1,494.62	-100.91	-47.06	-100.90	0.00	0.00	0.00
1,600.00	5.78	205.00	1,594.12	-110.04	-51.31	-110.02	0.00	0.00	0.00
1,700.00	5.78	205.00	1,693.61	-119.17	-55.57	-119.15	0.00	0.00	0.00
1,706.43	5.78	205.00	1,700.00	-119.76	-55.84	-119.74	0.00	0.00	0.00
9 5/8"									
1,800.00	5.78	205.00	1,793.10	-128.30	-59.83	-128.28	0.00	0.00	0.00
1,900.00	5.78	205.00	1,892.59	-137.42	-64.08	-137.40	0.00	0.00	0.00
2,000.00	5.78	205.00	1,992.08	-146.55	-68.34	-146.53	0.00	0.00	0.00
2,100.00	5.78	205.00	2,091.57	-155.68	-72.59	-155.65	0.00	0.00	0.00
2,200.00	5.78	205.00	2,191.07	-164.81	-76.85	-164.78	0.00	0.00	0.00
2,300.00	5.78	205.00	2,290.56	-173.93	-81.11	-173.90	0.00	0.00	0.00
2,400.00	5.78	205.00	2,390.05	-183.06	-85.36	-183.03	0.00	0.00	0.00
2,500.00	5.78	205.00	2,489.54	-192.19	-89.62	-192.16	0.00	0.00	0.00
2,600.00	5.78	205.00	2,589.03	-201.31	-93.87	-201.28	0.00	0.00	0.00
2,700.00	5.78	205.00	2,688.52	-210.44	-98.13	-210.41	0.00	0.00	0.00
2,800.00	5.78	205.00	2,788.02	-219.57	-102.39	-219.53	0.00	0.00	0.00
2,900.00	5.78	205.00	2,887.51	-228.70	-106.64	-228.66	0.00	0.00	0.00
3,000.00	5.78	205.00	2,987.00	-237.82	-110.90	-237.79	0.00	0.00	0.00
3,100.00	5.78	205.00	3,086.49	-246.95	-115.16	-246.91	0.00	0.00	0.00
3,200.00	5.78	205.00	3,185.98	-256.08	-119.41	-256.04	0.00	0.00	0.00
3,300.00	5.78	205.00	3,285.47	-265.21	-123.67	-265.16	0.00	0.00	0.00
3,400.00	5.78	205.00	3,384.96	-274.33	-127.92	-274.29	0.00	0.00	0.00
3,500.00	5.78	205.00	3,484.46	-283.46	-132.18	-283.41	0.00	0.00	0.00
3,600.00	5.78	205.00	3,583.95	-292.59	-136.44	-292.54	0.00	0.00	0.00
3,700.00	5.78	205.00	3,683.44	-301.72	-140.69	-301.67	0.00	0.00	0.00
3,800.00	5.78	205.00	3,782.93	-310.84	-144.95	-310.79	0.00	0.00	0.00
3,900.00	5.78	205.00	3,882.42	-319.97	-149.20	-319.92	0.00	0.00	0.00
4,000.00	5.78	205.00	3,981.91	-329.10	-153.46	-329.04	0.00	0.00	0.00
4,100.00	5.78	205.00	4,081.41	-338.22	-157.72	-338.17	0.00	0.00	0.00
4,200.00	5.78	205.00	4,180.90	-347.35	-161.97	-347.30	0.00	0.00	0.00
4,300.00	5.78	205.00	4,280.39	-356.48	-166.23	-356.42	0.00	0.00	0.00
4,400.00	5.78	205.00	4,379.88	-365.61	-170.49	-365.55	0.00	0.00	0.00
4,500.00	5.78	205.00	4,479.37	-374.73	-174.74	-374.67	0.00	0.00	0.00
4,600.00	5.78	205.00	4,578.86	-383.86	-179.00	-383.80	0.00	0.00	0.00

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5020.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5020.00usft (RIG)
Site:	1N-65W-30 JOHNSON PAD	North Reference:	True
Well:	JOHNSON 01N-65W-30-7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	5.78	205.00	4,678.36	-392.99	-183.25	-392.92	0.00	0.00	0.00
4,800.00	5.78	205.00	4,777.85	-402.12	-187.51	-402.05	0.00	0.00	0.00
4,900.00	5.78	205.00	4,877.34	-411.24	-191.77	-411.18	0.00	0.00	0.00
5,000.00	5.78	205.00	4,976.83	-420.37	-196.02	-420.30	0.00	0.00	0.00
5,100.00	5.78	205.00	5,076.32	-429.50	-200.28	-429.43	0.00	0.00	0.00
5,200.00	5.78	205.00	5,175.81	-438.63	-204.53	-438.55	0.00	0.00	0.00
5,300.00	5.78	205.00	5,275.30	-447.75	-208.79	-447.68	0.00	0.00	0.00
5,400.00	5.78	205.00	5,374.80	-456.88	-213.05	-456.81	0.00	0.00	0.00
5,500.00	5.78	205.00	5,474.29	-466.01	-217.30	-465.93	0.00	0.00	0.00
5,600.00	5.78	205.00	5,573.78	-475.13	-221.56	-475.06	0.00	0.00	0.00
5,700.00	5.78	205.00	5,673.27	-484.26	-225.82	-484.18	0.00	0.00	0.00
5,800.00	5.78	205.00	5,772.76	-493.39	-230.07	-493.31	0.00	0.00	0.00
5,900.00	5.78	205.00	5,872.25	-502.52	-234.33	-502.43	0.00	0.00	0.00
6,000.00	5.78	205.00	5,971.75	-511.64	-238.58	-511.56	0.00	0.00	0.00
6,100.00	5.78	205.00	6,071.24	-520.77	-242.84	-520.69	0.00	0.00	0.00
6,200.00	5.78	205.00	6,170.73	-529.90	-247.10	-529.81	0.00	0.00	0.00
6,300.00	5.78	205.00	6,270.22	-539.03	-251.35	-538.94	0.00	0.00	0.00
6,400.00	5.78	205.00	6,369.71	-548.15	-255.61	-548.06	0.00	0.00	0.00
6,500.00	5.78	205.00	6,469.20	-557.28	-259.86	-557.19	0.00	0.00	0.00
6,587.31	5.78	205.00	6,556.07	-565.25	-263.58	-565.16	0.00	0.00	0.00
KOP @ 6587.31ft :: DLS = 9°/100'									
6,600.00	4.77	210.90	6,568.71	-566.28	-264.12	-566.19	9.00	-7.93	46.52
6,700.00	5.51	333.00	6,668.51	-565.58	-268.45	-565.48	9.00	0.73	122.10
6,800.00	14.13	349.78	6,766.97	-549.25	-272.80	-549.16	9.00	8.63	16.78
6,900.00	23.05	353.84	6,861.66	-517.71	-277.07	-517.61	9.00	8.91	4.06
7,000.00	32.00	355.71	6,950.25	-471.73	-281.16	-471.63	9.00	8.96	1.87
7,100.00	40.98	356.83	7,030.56	-412.44	-284.97	-412.34	9.00	8.98	1.12
7,200.00	49.96	357.60	7,100.61	-341.31	-288.39	-341.21	9.00	8.98	0.77
7,300.00	58.95	358.19	7,158.69	-260.08	-291.36	-259.98	9.00	8.99	0.59
7,400.00	67.94	358.68	7,203.34	-170.75	-293.79	-170.65	9.00	8.99	0.49
7,500.00	76.93	359.11	7,233.49	-75.53	-295.62	-75.43	9.00	8.99	0.43
7,600.00	85.92	359.51	7,248.38	23.24	-296.81	23.35	9.00	8.99	0.40
7,645.35	90.00	359.68	7,250.00	68.55	-297.14	68.65	9.00	8.99	0.39
End Build @ 7645.35ft									
7,700.00	90.00	359.68	7,250.00	123.20	-297.44	123.31	0.00	0.00	0.00
7,800.00	90.00	359.68	7,250.00	223.20	-297.99	223.31	0.00	0.00	0.00
7,900.00	90.00	359.68	7,250.00	323.20	-298.55	323.30	0.00	0.00	0.00
8,000.00	90.00	359.68	7,250.00	423.20	-299.10	423.30	0.00	0.00	0.00
8,100.00	90.00	359.68	7,250.00	523.20	-299.66	523.30	0.00	0.00	0.00
8,200.00	90.00	359.68	7,250.00	623.20	-300.21	623.30	0.00	0.00	0.00
8,300.00	90.00	359.68	7,250.00	723.19	-300.77	723.30	0.00	0.00	0.00
8,400.00	90.00	359.68	7,250.00	823.19	-301.32	823.30	0.00	0.00	0.00
8,500.00	90.00	359.68	7,250.00	923.19	-301.88	923.30	0.00	0.00	0.00
8,600.00	90.00	359.68	7,250.00	1,023.19	-302.43	1,023.30	0.00	0.00	0.00
8,700.00	90.00	359.68	7,250.00	1,123.19	-302.99	1,123.29	0.00	0.00	0.00
8,800.00	90.00	359.68	7,250.00	1,223.19	-303.54	1,223.29	0.00	0.00	0.00
8,900.00	90.00	359.68	7,250.00	1,323.19	-304.10	1,323.29	0.00	0.00	0.00
9,000.00	90.00	359.68	7,250.00	1,423.18	-304.65	1,423.29	0.00	0.00	0.00
9,100.00	90.00	359.68	7,250.00	1,523.18	-305.21	1,523.29	0.00	0.00	0.00
9,200.00	90.00	359.68	7,250.00	1,623.18	-305.76	1,623.29	0.00	0.00	0.00
9,300.00	90.00	359.68	7,250.00	1,723.18	-306.31	1,723.29	0.00	0.00	0.00
9,400.00	90.00	359.68	7,250.00	1,823.18	-306.87	1,823.28	0.00	0.00	0.00
9,500.00	90.00	359.68	7,250.00	1,923.18	-307.42	1,923.28	0.00	0.00	0.00
9,600.00	90.00	359.68	7,250.00	2,023.17	-307.98	2,023.28	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well JOHNSON 01N-65W-30-7H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5020.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5020.00usft (RIG)
Site:	1N-65W-30 JOHNSON PAD	North Reference:	True
Well:	JOHNSON 01N-65W-30-7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	359.68	7,250.00	2,123.17	-308.53	2,123.28	0.00	0.00	0.00
9,800.00	90.00	359.68	7,250.00	2,223.17	-309.09	2,223.28	0.00	0.00	0.00
9,900.00	90.00	359.68	7,250.00	2,323.17	-309.64	2,323.28	0.00	0.00	0.00
10,000.00	90.00	359.68	7,250.00	2,423.17	-310.20	2,423.28	0.00	0.00	0.00
10,100.00	90.00	359.68	7,250.00	2,523.17	-310.75	2,523.28	0.00	0.00	0.00
10,200.00	90.00	359.68	7,250.00	2,623.17	-311.31	2,623.27	0.00	0.00	0.00
10,300.00	90.00	359.68	7,250.00	2,723.16	-311.86	2,723.27	0.00	0.00	0.00
10,400.00	90.00	359.68	7,250.00	2,823.16	-312.42	2,823.27	0.00	0.00	0.00
10,500.00	90.00	359.68	7,250.00	2,923.16	-312.97	2,923.27	0.00	0.00	0.00
10,600.00	90.00	359.68	7,250.00	3,023.16	-313.53	3,023.27	0.00	0.00	0.00
10,700.00	90.00	359.68	7,250.00	3,123.16	-314.08	3,123.27	0.00	0.00	0.00
10,800.00	90.00	359.68	7,250.00	3,223.16	-314.64	3,223.27	0.00	0.00	0.00
10,900.00	90.00	359.68	7,250.00	3,323.15	-315.19	3,323.26	0.00	0.00	0.00
11,000.00	90.00	359.68	7,250.00	3,423.15	-315.75	3,423.26	0.00	0.00	0.00
11,100.00	90.00	359.68	7,250.00	3,523.15	-316.30	3,523.26	0.00	0.00	0.00
11,200.00	90.00	359.68	7,250.00	3,623.15	-316.86	3,623.26	0.00	0.00	0.00
11,300.00	90.00	359.68	7,250.00	3,723.15	-317.41	3,723.26	0.00	0.00	0.00
11,400.00	90.00	359.68	7,250.00	3,823.15	-317.97	3,823.26	0.00	0.00	0.00
11,500.00	90.00	359.68	7,250.00	3,923.15	-318.52	3,923.26	0.00	0.00	0.00
11,600.00	90.00	359.68	7,250.00	4,023.14	-319.08	4,023.25	0.00	0.00	0.00
11,700.00	90.00	359.68	7,250.00	4,123.14	-319.63	4,123.25	0.00	0.00	0.00
11,800.00	90.00	359.68	7,250.00	4,223.14	-320.18	4,223.25	0.00	0.00	0.00
11,900.00	90.00	359.68	7,250.00	4,323.14	-320.74	4,323.25	0.00	0.00	0.00
12,000.00	90.00	359.68	7,250.00	4,423.14	-321.29	4,423.25	0.00	0.00	0.00
12,100.00	90.00	359.68	7,250.00	4,523.14	-321.85	4,523.25	0.00	0.00	0.00
12,200.00	90.00	359.68	7,250.00	4,623.13	-322.40	4,623.25	0.00	0.00	0.00
12,300.00	90.00	359.68	7,250.00	4,723.13	-322.96	4,723.25	0.00	0.00	0.00
12,400.00	90.00	359.68	7,250.00	4,823.13	-323.51	4,823.24	0.00	0.00	0.00
12,500.00	90.00	359.68	7,250.00	4,923.13	-324.07	4,923.24	0.00	0.00	0.00
12,600.00	90.00	359.68	7,250.00	5,023.13	-324.62	5,023.24	0.00	0.00	0.00
12,700.00	90.00	359.68	7,250.00	5,123.13	-325.18	5,123.24	0.00	0.00	0.00
12,800.00	90.00	359.68	7,250.00	5,223.13	-325.73	5,223.24	0.00	0.00	0.00
12,900.00	90.00	359.68	7,250.00	5,323.12	-326.29	5,323.24	0.00	0.00	0.00
13,000.00	90.00	359.68	7,250.00	5,423.12	-326.84	5,423.24	0.00	0.00	0.00
13,100.00	90.00	359.68	7,250.00	5,523.12	-327.40	5,523.23	0.00	0.00	0.00
13,200.00	90.00	359.68	7,250.00	5,623.12	-327.95	5,623.23	0.00	0.00	0.00
13,300.00	90.00	359.68	7,250.00	5,723.12	-328.51	5,723.23	0.00	0.00	0.00
13,400.00	90.00	359.68	7,250.00	5,823.12	-329.06	5,823.23	0.00	0.00	0.00
13,500.00	90.00	359.68	7,250.00	5,923.11	-329.62	5,923.23	0.00	0.00	0.00
13,569.21	90.00	359.68	7,250.00	5,992.32	-330.00	5,992.43	0.00	0.00	0.00
Begin Turn to BHL @ 13569.21ft									
13,600.00	90.00	0.30	7,250.00	6,023.11	-330.01	6,023.23	2.00	0.00	2.00
13,629.66	90.00	0.89	7,250.00	6,052.78	-329.70	6,052.89	2.00	0.00	2.00
End Turn @ 13629.66ft									
13,700.00	90.00	0.89	7,250.00	6,123.10	-328.60	6,123.22	0.00	0.00	0.00
13,800.00	90.00	0.89	7,250.00	6,223.09	-327.05	6,223.20	0.00	0.00	0.00
13,900.00	90.00	0.89	7,250.00	6,323.08	-325.49	6,323.19	0.00	0.00	0.00
14,000.00	90.00	0.89	7,250.00	6,423.07	-323.94	6,423.18	0.00	0.00	0.00
14,100.00	90.00	0.89	7,250.00	6,523.05	-322.38	6,523.17	0.00	0.00	0.00
14,200.00	90.00	0.89	7,250.00	6,623.04	-320.83	6,623.15	0.00	0.00	0.00
14,300.00	90.00	0.89	7,250.00	6,723.03	-319.27	6,723.14	0.00	0.00	0.00
14,400.00	90.00	0.89	7,250.00	6,823.02	-317.71	6,823.13	0.00	0.00	0.00
14,500.00	90.00	0.89	7,250.00	6,923.01	-316.16	6,923.12	0.00	0.00	0.00
14,600.00	90.00	0.89	7,250.00	7,022.99	-314.60	7,023.10	0.00	0.00	0.00

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well JOHNSON 01N-65W-30-7H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5020.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5020.00usft (RIG)
Site:	1N-65W-30 JOHNSON PAD	North Reference:	True
Well:	JOHNSON 01N-65W-30-7H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)	
14,700.00	90.00	0.89	7,250.00	7,122.98	-313.05	7,123.09	0.00	0.00	0.00	
14,800.00	90.00	0.89	7,250.00	7,222.97	-311.49	7,223.08	0.00	0.00	0.00	
14,900.00	90.00	0.89	7,250.00	7,322.96	-309.94	7,323.07	0.00	0.00	0.00	
15,000.00	90.00	0.89	7,250.00	7,422.95	-308.38	7,423.05	0.00	0.00	0.00	
15,100.00	90.00	0.89	7,250.00	7,522.93	-306.83	7,523.04	0.00	0.00	0.00	
15,200.00	90.00	0.89	7,250.00	7,622.92	-305.27	7,623.03	0.00	0.00	0.00	
15,300.00	90.00	0.89	7,250.00	7,722.91	-303.72	7,723.02	0.00	0.00	0.00	
15,400.00	90.00	0.89	7,250.00	7,822.90	-302.16	7,823.00	0.00	0.00	0.00	
15,500.00	90.00	0.89	7,250.00	7,922.89	-300.60	7,922.99	0.00	0.00	0.00	
15,600.00	90.00	0.89	7,250.00	8,022.87	-299.05	8,022.98	0.00	0.00	0.00	
15,700.00	90.00	0.89	7,250.00	8,122.86	-297.49	8,122.96	0.00	0.00	0.00	
15,800.00	90.00	0.89	7,250.00	8,222.85	-295.94	8,222.95	0.00	0.00	0.00	
15,900.00	90.00	0.89	7,250.00	8,322.84	-294.38	8,322.94	0.00	0.00	0.00	
16,000.00	90.00	0.89	7,250.00	8,422.82	-292.83	8,422.93	0.00	0.00	0.00	
16,100.00	90.00	0.89	7,250.00	8,522.81	-291.27	8,522.91	0.00	0.00	0.00	
16,200.00	90.00	0.89	7,250.00	8,622.80	-289.72	8,622.90	0.00	0.00	0.00	
16,300.00	90.00	0.89	7,250.00	8,722.79	-288.16	8,722.89	0.00	0.00	0.00	
16,400.00	90.00	0.89	7,250.00	8,822.78	-286.60	8,822.88	0.00	0.00	0.00	
16,500.00	90.00	0.89	7,250.00	8,922.76	-285.05	8,922.86	0.00	0.00	0.00	
16,600.00	90.00	0.89	7,250.00	9,022.75	-283.49	9,022.85	0.00	0.00	0.00	
16,700.00	90.00	0.89	7,250.00	9,122.74	-281.94	9,122.84	0.00	0.00	0.00	
16,800.00	90.00	0.89	7,250.00	9,222.73	-280.38	9,222.83	0.00	0.00	0.00	
16,900.00	90.00	0.89	7,250.00	9,322.72	-278.83	9,322.81	0.00	0.00	0.00	
17,000.00	90.00	0.89	7,250.00	9,422.70	-277.27	9,422.80	0.00	0.00	0.00	
17,100.00	90.00	0.89	7,250.00	9,522.69	-275.72	9,522.79	0.00	0.00	0.00	
17,200.00	90.00	0.89	7,250.00	9,622.68	-274.16	9,622.77	0.00	0.00	0.00	
17,300.00	90.00	0.89	7,250.00	9,722.67	-272.61	9,722.76	0.00	0.00	0.00	
17,400.00	90.00	0.89	7,250.00	9,822.66	-271.05	9,822.75	0.00	0.00	0.00	
17,500.00	90.00	0.89	7,250.00	9,922.64	-269.49	9,922.74	0.00	0.00	0.00	
17,600.00	90.00	0.89	7,250.00	10,022.63	-267.94	10,022.72	0.00	0.00	0.00	
17,636.11	90.00	0.89	7,250.00	10,058.73	-267.38	10,058.83	0.00	0.00	0.00	
TD Well @ 17636.11ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,706.43	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 @ 250.00ft	
539.00	538.51	-13.20	-6.16	End Tangent @ 539.00ft	
6,587.31	6,556.07	-565.25	-263.58	KOP @ 6587.31ft :: DLS = 9°/100'	
7,645.35	7,250.00	68.55	-297.14	End Build @ 7645.35ft	
13,569.21	7,250.00	5,992.32	-330.00	Begin Turn to BHL @ 13569.21ft	
13,629.66	7,250.00	6,052.78	-329.70	End Turn @ 13629.66ft	
17,636.11	7,250.00	10,058.73	-267.38	TD Well @ 17636.11ft	