

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**1N-64W-19 ONION 1918 PAD**

**ONION 1918-12H**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**21 May, 2019**

Project: WATTENBERG FIELD  
Site: 1N-64W-19 ONION 1918 PAD  
Well: ONION 1918-12H  
Wellbore: Wellbore #1  
Design: Design #1

# VERDAD RESOURCES

## CASING DETAILS

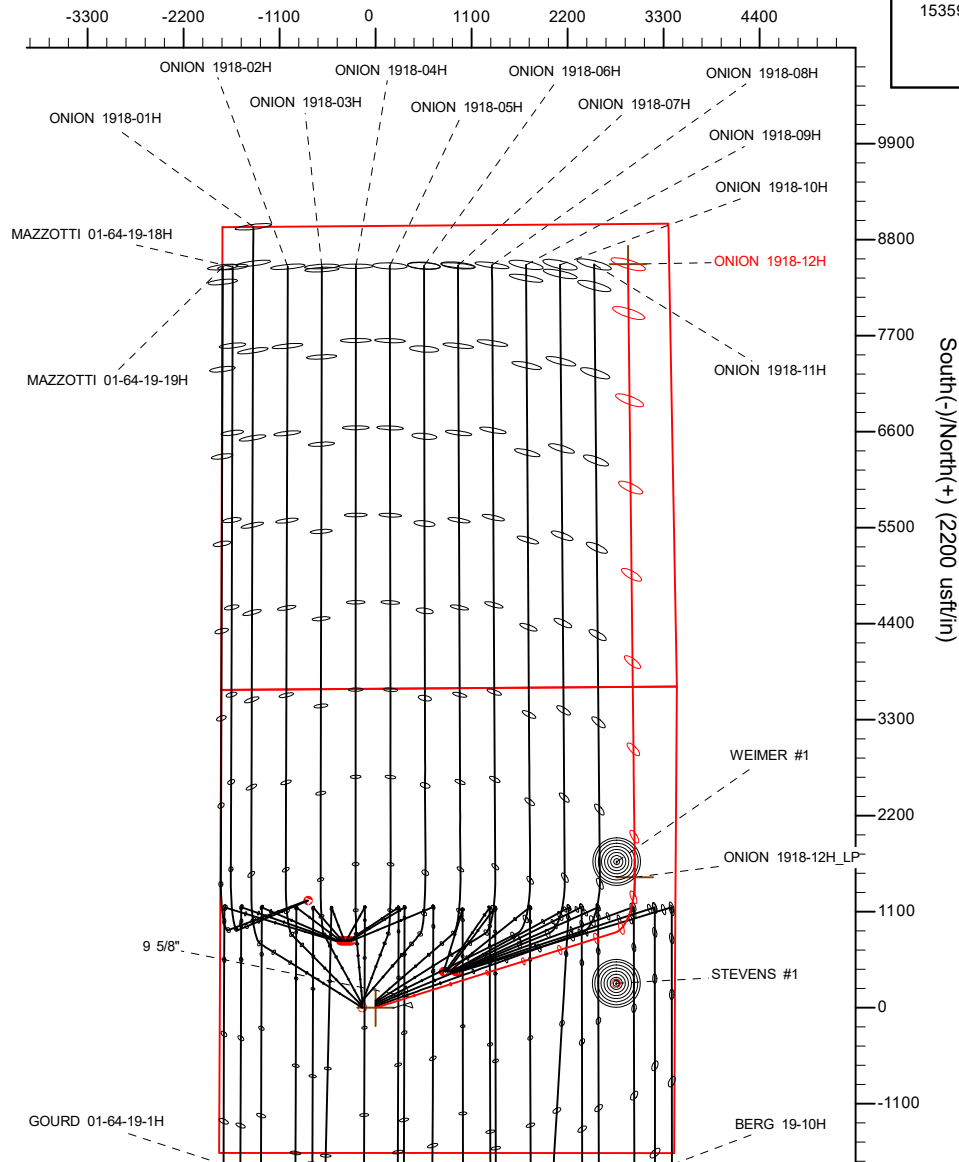
TVD	MD	Name	Size
1700.00	1771.44	9 5/8"	9-5/8

**SHL**  
**1665' FSL**  
**1785' FWL**

**LP**  
**2180' FNL**  
**470' FEL**

**BHL**  
**460' FNL**  
**470' FEL**

West(-)/East(+) (2200 usft/in)

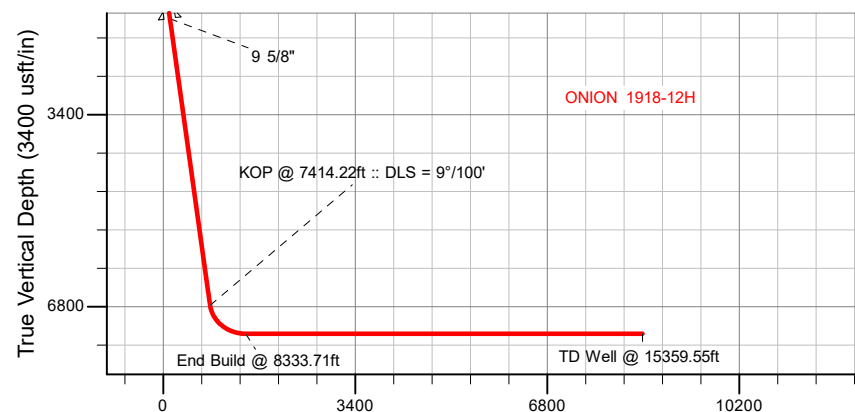


## SECTION DETAILS

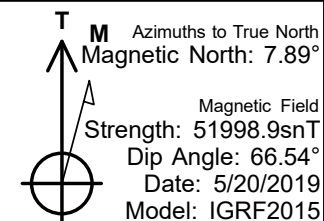
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
1495.50	25.91	72.60	1451.79	86.11	274.79	2.00	72.60	83.13	
7414.22	25.91	72.60	6775.57	859.50	2742.68	0.00	0.00	829.77	
8333.71	90.00	359.38	7280.00	1493.55	2970.42	9.00	-74.83	1461.32	
15359.55	90.00	359.38	7280.00	8518.98	2894.12	0.00	0.00	8487.17	ONION 1918-12H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
ONION 1918-12H_SHL	0.00	0.00	0.00	40.034126	-104.596441
ONION 1918-12H_BHL	7280.00	8518.98	2894.12	40.057511	-104.586102



Vertical Section at 359.38° (3400 usft/in)



## WELL DETAILS: ONION 1918-12H

GL = 5012'

RKB = 24' @ 5036.00usft (RIG)

Plan: Design #1 (ONION 1918-12H/Wellbore #1)

Date: 5/21/2019

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well ONION 1918-12H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Site:</b>	1N-64W-19 ONION 1918 PAD	<b>North Reference:</b>	True
<b>Well:</b>	ONION 1918-12H	<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		1N-64W-19 ONION 1918 PAD			
Site Position:		Northing:	1,256,565.51 usft	Latitude:	40.034126
From:	Lat/Long	Easting:	3,252,854.15 usft	Longitude:	-104.596977
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.58 °

Well	ONION 1918-12H					
Well Position	+N/-S	-0.04 usft	Northing:	1,256,566.99 usft	Latitude:	40.034126
	+E/-W	150.00 usft	Easting:	3,253,004.14 usft	Longitude:	-104.596442
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,012.00 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	5/20/2019	7.89	66.54	51,998.94265414

<b>Design</b>	Design #1			
<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	359.38

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/20/2019		
<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	15,359.55	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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,495.50	25.91	72.60	1,451.79	86.11	274.79	2.00	2.00	0.00	72.60	
7,414.22	25.91	72.60	6,775.57	859.50	2,742.68	0.00	0.00	0.00	0.00	
8,333.71	90.00	359.38	7,280.00	1,493.55	2,970.42	9.00	6.97	-7.96	-74.83	
15,359.55	90.00	359.38	7,280.00	8,518.98	2,894.12	0.00	0.00	0.00	0.00	ONION 1918-12H_BF

# Hewlett-Packard

## Planning Report

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<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Site:</b>	1N-64W-19 ONION 1918 PAD	<b>North Reference:</b>	True
<b>Well:</b>	ONION 1918-12H	<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
Begin Nudge @ 200.00ft									
300.00	2.00	72.60	299.98	0.52	1.67	0.50	2.00	2.00	0.00
400.00	4.00	72.60	399.84	2.09	6.66	2.01	2.00	2.00	0.00
500.00	6.00	72.60	499.45	4.69	14.98	4.53	2.00	2.00	0.00
600.00	8.00	72.60	598.70	8.34	26.60	8.05	2.00	2.00	0.00
700.00	10.00	72.60	697.47	13.02	41.53	12.56	2.00	2.00	0.00
800.00	12.00	72.60	795.62	18.72	59.74	18.07	2.00	2.00	0.00
900.00	14.00	72.60	893.06	25.45	81.20	24.57	2.00	2.00	0.00
1,000.00	16.00	72.60	989.64	33.19	105.90	32.04	2.00	2.00	0.00
1,100.00	18.00	72.60	1,085.27	41.93	133.80	40.48	2.00	2.00	0.00
1,200.00	20.00	72.60	1,179.82	51.66	164.86	49.88	2.00	2.00	0.00
1,300.00	22.00	72.60	1,273.17	62.38	199.06	60.22	2.00	2.00	0.00
1,400.00	24.00	72.60	1,365.21	74.06	236.34	71.50	2.00	2.00	0.00
1,495.50	25.91	72.60	1,451.79	86.11	274.79	83.13	2.00	2.00	0.00
Hold Tangent @ 1495.50ft									
1,500.00	25.91	72.60	1,455.84	86.70	276.66	83.70	0.00	0.00	0.00
1,600.00	25.91	72.60	1,545.79	99.77	318.36	96.32	0.00	0.00	0.00
1,700.00	25.91	72.60	1,635.74	112.83	360.06	108.93	0.00	0.00	0.00
1,771.44	25.91	72.60	1,700.00	122.17	389.85	117.94	0.00	0.00	0.00
9 5/8"									
1,800.00	25.91	72.60	1,725.69	125.90	401.75	121.55	0.00	0.00	0.00
1,900.00	25.91	72.60	1,815.64	138.97	443.45	134.16	0.00	0.00	0.00
2,000.00	25.91	72.60	1,905.58	152.04	485.15	146.78	0.00	0.00	0.00
2,100.00	25.91	72.60	1,995.53	165.10	526.84	159.39	0.00	0.00	0.00
2,200.00	25.91	72.60	2,085.48	178.17	568.54	172.01	0.00	0.00	0.00
2,300.00	25.91	72.60	2,175.43	191.24	610.23	184.62	0.00	0.00	0.00
2,400.00	25.91	72.60	2,265.38	204.30	651.93	197.24	0.00	0.00	0.00
2,500.00	25.91	72.60	2,355.32	217.37	693.63	209.85	0.00	0.00	0.00
2,600.00	25.91	72.60	2,445.27	230.44	735.32	222.47	0.00	0.00	0.00
2,700.00	25.91	72.60	2,535.22	243.50	777.02	235.08	0.00	0.00	0.00
2,800.00	25.91	72.60	2,625.17	256.57	818.72	247.70	0.00	0.00	0.00
2,900.00	25.91	72.60	2,715.12	269.64	860.41	260.31	0.00	0.00	0.00
3,000.00	25.91	72.60	2,805.06	282.70	902.11	272.93	0.00	0.00	0.00
3,100.00	25.91	72.60	2,895.01	295.77	943.81	285.54	0.00	0.00	0.00
3,200.00	25.91	72.60	2,984.96	308.84	985.50	298.16	0.00	0.00	0.00
3,300.00	25.91	72.60	3,074.91	321.90	1,027.20	310.77	0.00	0.00	0.00
3,400.00	25.91	72.60	3,164.86	334.97	1,068.89	323.39	0.00	0.00	0.00
3,500.00	25.91	72.60	3,254.81	348.04	1,110.59	336.00	0.00	0.00	0.00
3,600.00	25.91	72.60	3,344.75	361.10	1,152.29	348.62	0.00	0.00	0.00
3,700.00	25.91	72.60	3,434.70	374.17	1,193.98	361.23	0.00	0.00	0.00
3,800.00	25.91	72.60	3,524.65	387.24	1,235.68	373.84	0.00	0.00	0.00
3,900.00	25.91	72.60	3,614.60	400.31	1,277.38	386.46	0.00	0.00	0.00
4,000.00	25.91	72.60	3,704.55	413.37	1,319.07	399.07	0.00	0.00	0.00
4,100.00	25.91	72.60	3,794.49	426.44	1,360.77	411.69	0.00	0.00	0.00
4,200.00	25.91	72.60	3,884.44	439.51	1,402.47	424.30	0.00	0.00	0.00
4,300.00	25.91	72.60	3,974.39	452.57	1,444.16	436.92	0.00	0.00	0.00
4,400.00	25.91	72.60	4,064.34	465.64	1,485.86	449.53	0.00	0.00	0.00
4,500.00	25.91	72.60	4,154.29	478.71	1,527.55	462.15	0.00	0.00	0.00
4,600.00	25.91	72.60	4,244.24	491.77	1,569.25	474.76	0.00	0.00	0.00
4,700.00	25.91	72.60	4,334.18	504.84	1,610.95	487.38	0.00	0.00	0.00

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## Planning Report

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<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
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<b>Site:</b>	1N-64W-19 ONION 1918 PAD	<b>North Reference:</b>	True
<b>Well:</b>	ONION 1918-12H	<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)	
4,800.00	25.91	72.60	4,424.13	517.91	1,652.64	499.99	0.00	0.00	0.00	
4,900.00	25.91	72.60	4,514.08	530.97	1,694.34	512.61	0.00	0.00	0.00	
5,000.00	25.91	72.60	4,604.03	544.04	1,736.04	525.22	0.00	0.00	0.00	
5,100.00	25.91	72.60	4,693.98	557.11	1,777.73	537.84	0.00	0.00	0.00	
5,200.00	25.91	72.60	4,783.92	570.17	1,819.43	550.45	0.00	0.00	0.00	
5,300.00	25.91	72.60	4,873.87	583.24	1,861.13	563.07	0.00	0.00	0.00	
5,400.00	25.91	72.60	4,963.82	596.31	1,902.82	575.68	0.00	0.00	0.00	
5,500.00	25.91	72.60	5,053.77	609.38	1,944.52	588.30	0.00	0.00	0.00	
5,600.00	25.91	72.60	5,143.72	622.44	1,986.21	600.91	0.00	0.00	0.00	
5,700.00	25.91	72.60	5,233.66	635.51	2,027.91	613.53	0.00	0.00	0.00	
5,800.00	25.91	72.60	5,323.61	648.58	2,069.61	626.14	0.00	0.00	0.00	
5,900.00	25.91	72.60	5,413.56	661.64	2,111.30	638.76	0.00	0.00	0.00	
6,000.00	25.91	72.60	5,503.51	674.71	2,153.00	651.37	0.00	0.00	0.00	
6,100.00	25.91	72.60	5,593.46	687.78	2,194.70	663.99	0.00	0.00	0.00	
6,200.00	25.91	72.60	5,683.41	700.84	2,236.39	676.60	0.00	0.00	0.00	
6,300.00	25.91	72.60	5,773.35	713.91	2,278.09	689.22	0.00	0.00	0.00	
6,400.00	25.91	72.60	5,863.30	726.98	2,319.79	701.83	0.00	0.00	0.00	
6,500.00	25.91	72.60	5,953.25	740.04	2,361.48	714.45	0.00	0.00	0.00	
6,600.00	25.91	72.60	6,043.20	753.11	2,403.18	727.06	0.00	0.00	0.00	
6,700.00	25.91	72.60	6,133.15	766.18	2,444.87	739.68	0.00	0.00	0.00	
6,800.00	25.91	72.60	6,223.09	779.24	2,486.57	752.29	0.00	0.00	0.00	
6,900.00	25.91	72.60	6,313.04	792.31	2,528.27	764.91	0.00	0.00	0.00	
7,000.00	25.91	72.60	6,402.99	805.38	2,569.96	777.52	0.00	0.00	0.00	
7,100.00	25.91	72.60	6,492.94	818.44	2,611.66	790.14	0.00	0.00	0.00	
7,200.00	25.91	72.60	6,582.89	831.51	2,653.36	802.75	0.00	0.00	0.00	
7,300.00	25.91	72.60	6,672.84	844.58	2,695.05	815.37	0.00	0.00	0.00	
7,400.00	25.91	72.60	6,762.78	857.65	2,736.75	827.98	0.00	0.00	0.00	
7,414.22	25.91	72.60	6,775.57	859.50	2,742.68	829.77	0.00	0.00	0.00	
KOP @ 7414.22ft :: DLS = 9°/100'										
7,500.00	28.84	57.01	6,851.84	876.40	2,777.97	846.29	9.00	3.42	-18.18	
7,600.00	34.05	42.87	6,937.24	910.12	2,817.33	879.58	9.00	5.21	-14.14	
7,700.00	40.47	32.41	7,016.87	958.13	2,853.84	927.20	9.00	6.42	-10.46	
7,800.00	47.61	24.50	7,088.76	1,019.26	2,886.62	987.97	9.00	7.14	-7.91	
7,900.00	55.18	18.25	7,151.15	1,091.99	2,914.85	1,060.39	9.00	7.57	-6.25	
8,000.00	63.01	13.08	7,202.50	1,174.54	2,937.84	1,142.68	9.00	7.83	-5.17	
8,100.00	71.01	8.59	7,241.54	1,264.88	2,955.02	1,232.83	9.00	8.00	-4.49	
8,200.00	79.10	4.51	7,267.32	1,360.77	2,965.96	1,328.59	9.00	8.10	-4.07	
8,300.00	87.25	0.66	7,279.19	1,459.86	2,970.41	1,427.63	9.00	8.15	-3.86	
8,333.71	90.00	359.38	7,280.00	1,493.55	2,970.42	1,461.32	9.00	8.16	-3.80	
End Build @ 8333.71ft										
8,400.00	90.00	359.38	7,280.00	1,559.84	2,969.70	1,527.61	0.00	0.00	0.00	
8,500.00	90.00	359.38	7,280.00	1,659.83	2,968.62	1,627.61	0.00	0.00	0.00	
8,600.00	90.00	359.38	7,280.00	1,759.83	2,967.53	1,727.61	0.00	0.00	0.00	
8,700.00	90.00	359.38	7,280.00	1,859.82	2,966.44	1,827.61	0.00	0.00	0.00	
8,800.00	90.00	359.38	7,280.00	1,959.81	2,965.36	1,927.61	0.00	0.00	0.00	
8,900.00	90.00	359.38	7,280.00	2,059.81	2,964.27	2,027.61	0.00	0.00	0.00	
9,000.00	90.00	359.38	7,280.00	2,159.80	2,963.19	2,127.61	0.00	0.00	0.00	
9,100.00	90.00	359.38	7,280.00	2,259.80	2,962.10	2,227.61	0.00	0.00	0.00	
9,200.00	90.00	359.38	7,280.00	2,359.79	2,961.01	2,327.61	0.00	0.00	0.00	
9,300.00	90.00	359.38	7,280.00	2,459.79	2,959.93	2,427.61	0.00	0.00	0.00	
9,400.00	90.00	359.38	7,280.00	2,559.78	2,958.84	2,527.61	0.00	0.00	0.00	
9,500.00	90.00	359.38	7,280.00	2,659.77	2,957.76	2,627.61	0.00	0.00	0.00	
9,600.00	90.00	359.38	7,280.00	2,759.77	2,956.67	2,727.61	0.00	0.00	0.00	
9,700.00	90.00	359.38	7,280.00	2,859.76	2,955.58	2,827.61	0.00	0.00	0.00	

# Hewlett-Packard

## Planning Report

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<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Site:</b>	1N-64W-19 ONION 1918 PAD	<b>North Reference:</b>	True
<b>Well:</b>	ONION 1918-12H	<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)	
9,800.00	90.00	359.38	7,280.00	2,959.76	2,954.50	2,927.61	0.00	0.00	0.00	
9,900.00	90.00	359.38	7,280.00	3,059.75	2,953.41	3,027.61	0.00	0.00	0.00	
10,000.00	90.00	359.38	7,280.00	3,159.74	2,952.33	3,127.61	0.00	0.00	0.00	
10,100.00	90.00	359.38	7,280.00	3,259.74	2,951.24	3,227.61	0.00	0.00	0.00	
10,200.00	90.00	359.38	7,280.00	3,359.73	2,950.15	3,327.61	0.00	0.00	0.00	
10,300.00	90.00	359.38	7,280.00	3,459.73	2,949.07	3,427.61	0.00	0.00	0.00	
10,400.00	90.00	359.38	7,280.00	3,559.72	2,947.98	3,527.61	0.00	0.00	0.00	
10,500.00	90.00	359.38	7,280.00	3,659.71	2,946.90	3,627.61	0.00	0.00	0.00	
10,600.00	90.00	359.38	7,280.00	3,759.71	2,945.81	3,727.61	0.00	0.00	0.00	
10,700.00	90.00	359.38	7,280.00	3,859.70	2,944.72	3,827.61	0.00	0.00	0.00	
10,800.00	90.00	359.38	7,280.00	3,959.70	2,943.64	3,927.61	0.00	0.00	0.00	
10,900.00	90.00	359.38	7,280.00	4,059.69	2,942.55	4,027.61	0.00	0.00	0.00	
11,000.00	90.00	359.38	7,280.00	4,159.69	2,941.47	4,127.61	0.00	0.00	0.00	
11,100.00	90.00	359.38	7,280.00	4,259.68	2,940.38	4,227.61	0.00	0.00	0.00	
11,200.00	90.00	359.38	7,280.00	4,359.67	2,939.29	4,327.61	0.00	0.00	0.00	
11,300.00	90.00	359.38	7,280.00	4,459.67	2,938.21	4,427.61	0.00	0.00	0.00	
11,400.00	90.00	359.38	7,280.00	4,559.66	2,937.12	4,527.61	0.00	0.00	0.00	
11,500.00	90.00	359.38	7,280.00	4,659.66	2,936.04	4,627.61	0.00	0.00	0.00	
11,600.00	90.00	359.38	7,280.00	4,759.65	2,934.95	4,727.61	0.00	0.00	0.00	
11,700.00	90.00	359.38	7,280.00	4,859.64	2,933.86	4,827.61	0.00	0.00	0.00	
11,800.00	90.00	359.38	7,280.00	4,959.64	2,932.78	4,927.61	0.00	0.00	0.00	
11,900.00	90.00	359.38	7,280.00	5,059.63	2,931.69	5,027.61	0.00	0.00	0.00	
12,000.00	90.00	359.38	7,280.00	5,159.63	2,930.61	5,127.61	0.00	0.00	0.00	
12,100.00	90.00	359.38	7,280.00	5,259.62	2,929.52	5,227.61	0.00	0.00	0.00	
12,200.00	90.00	359.38	7,280.00	5,359.61	2,928.43	5,327.61	0.00	0.00	0.00	
12,300.00	90.00	359.38	7,280.00	5,459.61	2,927.35	5,427.61	0.00	0.00	0.00	
12,400.00	90.00	359.38	7,280.00	5,559.60	2,926.26	5,527.61	0.00	0.00	0.00	
12,500.00	90.00	359.38	7,280.00	5,659.60	2,925.18	5,627.61	0.00	0.00	0.00	
12,600.00	90.00	359.38	7,280.00	5,759.59	2,924.09	5,727.61	0.00	0.00	0.00	
12,700.00	90.00	359.38	7,280.00	5,859.58	2,923.00	5,827.61	0.00	0.00	0.00	
12,800.00	90.00	359.38	7,280.00	5,959.58	2,921.92	5,927.61	0.00	0.00	0.00	
12,900.00	90.00	359.38	7,280.00	6,059.57	2,920.83	6,027.61	0.00	0.00	0.00	
13,000.00	90.00	359.38	7,280.00	6,159.57	2,919.75	6,127.61	0.00	0.00	0.00	
13,100.00	90.00	359.38	7,280.00	6,259.56	2,918.66	6,227.61	0.00	0.00	0.00	
13,200.00	90.00	359.38	7,280.00	6,359.56	2,917.57	6,327.61	0.00	0.00	0.00	
13,300.00	90.00	359.38	7,280.00	6,459.55	2,916.49	6,427.61	0.00	0.00	0.00	
13,400.00	90.00	359.38	7,280.00	6,559.54	2,915.40	6,527.61	0.00	0.00	0.00	
13,500.00	90.00	359.38	7,280.00	6,659.54	2,914.32	6,627.61	0.00	0.00	0.00	
13,600.00	90.00	359.38	7,280.00	6,759.53	2,913.23	6,727.61	0.00	0.00	0.00	
13,700.00	90.00	359.38	7,280.00	6,859.53	2,912.14	6,827.61	0.00	0.00	0.00	
13,800.00	90.00	359.38	7,280.00	6,959.52	2,911.06	6,927.61	0.00	0.00	0.00	
13,900.00	90.00	359.38	7,280.00	7,059.51	2,909.97	7,027.61	0.00	0.00	0.00	
14,000.00	90.00	359.38	7,280.00	7,159.51	2,908.89	7,127.61	0.00	0.00	0.00	
14,100.00	90.00	359.38	7,280.00	7,259.50	2,907.80	7,227.61	0.00	0.00	0.00	
14,200.00	90.00	359.38	7,280.00	7,359.50	2,906.71	7,327.61	0.00	0.00	0.00	
14,300.00	90.00	359.38	7,280.00	7,459.49	2,905.63	7,427.61	0.00	0.00	0.00	
14,400.00	90.00	359.38	7,280.00	7,559.48	2,904.54	7,527.61	0.00	0.00	0.00	
14,500.00	90.00	359.38	7,280.00	7,659.48	2,903.46	7,627.61	0.00	0.00	0.00	
14,600.00	90.00	359.38	7,280.00	7,759.47	2,902.37	7,727.61	0.00	0.00	0.00	
14,700.00	90.00	359.38	7,280.00	7,859.47	2,901.28	7,827.61	0.00	0.00	0.00	
14,800.00	90.00	359.38	7,280.00	7,959.46	2,900.20	7,927.61	0.00	0.00	0.00	
14,900.00	90.00	359.38	7,280.00	8,059.46	2,899.11	8,027.61	0.00	0.00	0.00	
15,000.00	90.00	359.38	7,280.00	8,159.45	2,898.03	8,127.61	0.00	0.00	0.00	
15,100.00	90.00	359.38	7,280.00	8,259.44	2,896.94	8,227.61	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 ONION 1918-12H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5036.00usft (RIG)
<b>Site:</b>	1N-64W-19 ONION 1918 PAD	<b>North Reference:</b>	True
<b>Well:</b>	ONION 1918-12H	<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)
15,200.00	90.00	359.38	7,280.00	8,359.44	2,895.85	8,327.61	0.00	0.00	0.00
15,300.00	90.00	359.38	7,280.00	8,459.43	2,894.77	8,427.61	0.00	0.00	0.00
15,359.55	90.00	359.38	7,280.00	8,518.98	2,894.12	8,487.17	0.00	0.00	0.00
TD Well @ 15359.55ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,771.44	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)	
200.00	200.00	0.00	0.00	Begin Nudge @ 200.00ft
1,495.50	1,451.79	86.11	274.79	Hold Tangent @ 1495.50ft
7,414.22	6,775.57	859.50	2,742.68	KOP @ 7414.22ft :: DLS = 9°/100'
8,333.71	7,280.00	1,493.55	2,970.42	End Build @ 8333.71ft
15,359.55	7,280.00	8,518.98	2,894.12	TD Well @ 15359.55ft