

VERDAD RESOURCES

**WATTENBERG FIELD
1N-65W-10 HDI KF PAD
HDI KF 10-5H**

Wellbore #1

Plan: Design #1

Standard Planning Report

18 January, 2018

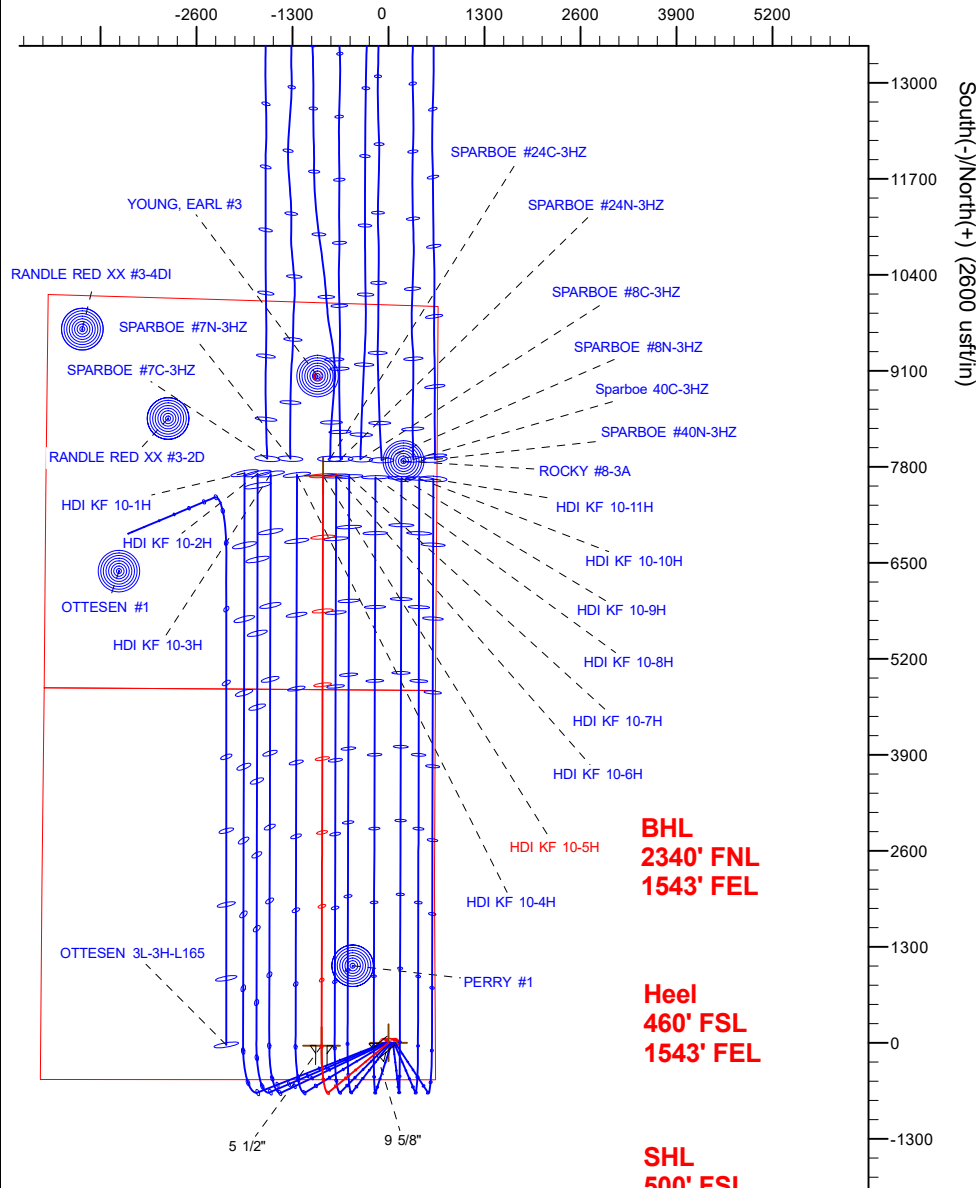
Project: WATTENBERG FIELD
Site: 1N-65W-10 HDI KF PAD
Well: HDI KF 10-5H
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1717.41	9 5/8"	9-5/8
7150.00	7611.57	5 1/2"	5-1/2

West(-)/East(+) (2600 usft/in)



BHL
2340' FNL
1543' FEL

Heel
460' FSL
1543' FEL

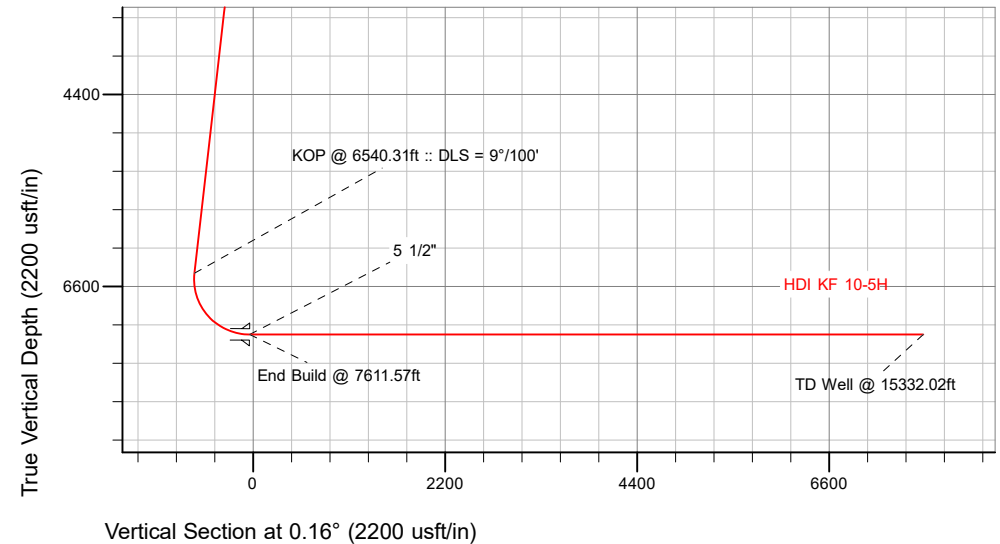
SHL
500' FSL
637' FEL

SECTION DETAILS

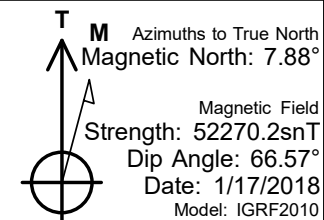
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	753.00	10.06	230.40	750.42	-28.08	-33.94	2.00	230.40	-28.17	
4	6540.31	10.06	230.40	6448.75	-672.46	-812.87	0.00	0.00	-674.73	
5	7611.57	90.00	0.16	7150.00	-39.57	-906.80	9.00	129.32	-42.10	
6	15332.02	90.00	0.16	7150.00	7680.85	-885.91	0.00	0.00	7678.34	HDI KF 10-5H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
HDI KF 10-5H_SHL	0.00	0.00	0.00	40.060105	-104.642765
HDI KF 10-5H_BHL	7150.00	7680.85	-885.91	40.081190	-104.645931



Vertical Section at 0.16° (2200 usft/in)



WELL DETAILS: HDI KF 10-5H

GL = 5013'

RKB = 20' @ 5033.00usft (RIG)

Plan: Design #1 (HDI KF 10-5H/Wellbore #1)

Created By: _____ Date: 1/18/2018
Reviewed: _____ Date: _____

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HDI KF 10-5H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5033.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5033.00usft (RIG)
Site:	1N-65W-10 HDI KF PAD	North Reference:	True
Well:	HDI KF 10-5H	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	1N-65W-10 HDI KF PAD			
Site Position:		Northing:	1,265,900.79 usft	Latitude: 40.060105
From:	Lat/Long	Easting:	3,239,881.89 usft	Longitude: -104.642980
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.55 °

Well	HDI KF 10-5H			
Well Position	+N/-S	-0.06 usft	Northing:	1,265,901.31 usft
	+E/-W	60.18 usft	Easting:	3,239,942.07 usft
Position Uncertainty	3.28 usft	Wellhead Elevation:		Ground Level: 5,013.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/17/2018	7.88	66.57	52,270.22959752

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	0.16

Plan Survey Tool Program	Date	1/18/2018		
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	15,332.02	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	
753.00	10.06	230.40	750.42	-28.08	-33.94	2.00	2.00	0.00	230.40	
6,540.31	10.06	230.40	6,448.75	-672.46	-812.87	0.00	0.00	0.00	0.00	
7,611.57	90.00	0.16	7,150.00	-39.57	-906.80	9.00	7.46	12.11	129.32	
15,332.02	90.00	0.16	7,150.00	7,680.85	-885.91	0.00	0.00	0.00	0.00	HDI KF 10-5H_BHL

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5033.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5033.00usft (RIG)
Site:	1N-65W-10 HDI KF PAD	North Reference:	True
Well:	HDI KF 10-5H	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 @ 250.00ft									
300.00	1.00	230.40	300.00	-0.28	-0.34	-0.28	2.00	2.00	0.00
400.00	3.00	230.40	399.93	-2.50	-3.03	-2.51	2.00	2.00	0.00
500.00	5.00	230.40	499.68	-6.95	-8.40	-6.97	2.00	2.00	0.00
600.00	7.00	230.40	599.13	-13.61	-16.45	-13.66	2.00	2.00	0.00
700.00	9.00	230.40	698.15	-22.48	-27.18	-22.56	2.00	2.00	0.00
753.00	10.06	230.40	750.42	-28.08	-33.94	-28.17	2.00	2.00	0.00
End Nudge @ 753.00ft									
800.00	10.06	230.40	796.70	-33.31	-40.26	-33.42	0.00	0.00	0.00
900.00	10.06	230.40	895.16	-44.44	-53.72	-44.59	0.00	0.00	0.00
1,000.00	10.06	230.40	993.62	-55.58	-67.18	-55.76	0.00	0.00	0.00
1,100.00	10.06	230.40	1,092.08	-66.71	-80.64	-66.94	0.00	0.00	0.00
1,200.00	10.06	230.40	1,190.55	-77.85	-94.10	-78.11	0.00	0.00	0.00
1,300.00	10.06	230.40	1,289.01	-88.98	-107.56	-89.28	0.00	0.00	0.00
1,400.00	10.06	230.40	1,387.47	-100.12	-121.02	-100.45	0.00	0.00	0.00
1,500.00	10.06	230.40	1,485.93	-111.25	-134.48	-111.63	0.00	0.00	0.00
1,600.00	10.06	230.40	1,584.40	-122.38	-147.94	-122.80	0.00	0.00	0.00
1,700.00	10.06	230.40	1,682.86	-133.52	-161.40	-133.97	0.00	0.00	0.00
1,717.41	10.06	230.40	1,700.00	-135.46	-163.74	-135.91	0.00	0.00	0.00
9 5/8"									
1,800.00	10.06	230.40	1,781.32	-144.65	-174.86	-145.14	0.00	0.00	0.00
1,900.00	10.06	230.40	1,879.78	-155.79	-188.32	-156.31	0.00	0.00	0.00
2,000.00	10.06	230.40	1,978.25	-166.92	-201.77	-167.49	0.00	0.00	0.00
2,100.00	10.06	230.40	2,076.71	-178.06	-215.23	-178.66	0.00	0.00	0.00
2,200.00	10.06	230.40	2,175.17	-189.19	-228.69	-189.83	0.00	0.00	0.00
2,300.00	10.06	230.40	2,273.64	-200.33	-242.15	-201.00	0.00	0.00	0.00
2,400.00	10.06	230.40	2,372.10	-211.46	-255.61	-212.17	0.00	0.00	0.00
2,500.00	10.06	230.40	2,470.56	-222.59	-269.07	-223.35	0.00	0.00	0.00
2,600.00	10.06	230.40	2,569.02	-233.73	-282.53	-234.52	0.00	0.00	0.00
2,700.00	10.06	230.40	2,667.49	-244.86	-295.99	-245.69	0.00	0.00	0.00
2,800.00	10.06	230.40	2,765.95	-256.00	-309.45	-256.86	0.00	0.00	0.00
2,900.00	10.06	230.40	2,864.41	-267.13	-322.91	-268.03	0.00	0.00	0.00
3,000.00	10.06	230.40	2,962.87	-278.27	-336.37	-279.21	0.00	0.00	0.00
3,100.00	10.06	230.40	3,061.34	-289.40	-349.83	-290.38	0.00	0.00	0.00
3,200.00	10.06	230.40	3,159.80	-300.54	-363.29	-301.55	0.00	0.00	0.00
3,300.00	10.06	230.40	3,258.26	-311.67	-376.75	-312.72	0.00	0.00	0.00
3,400.00	10.06	230.40	3,356.72	-322.81	-390.20	-323.89	0.00	0.00	0.00
3,500.00	10.06	230.40	3,455.19	-333.94	-403.66	-335.07	0.00	0.00	0.00
3,600.00	10.06	230.40	3,553.65	-345.07	-417.12	-346.24	0.00	0.00	0.00
3,700.00	10.06	230.40	3,652.11	-356.21	-430.58	-357.41	0.00	0.00	0.00
3,800.00	10.06	230.40	3,750.57	-367.34	-444.04	-368.58	0.00	0.00	0.00
3,900.00	10.06	230.40	3,849.04	-378.48	-457.50	-379.75	0.00	0.00	0.00
4,000.00	10.06	230.40	3,947.50	-389.61	-470.96	-390.93	0.00	0.00	0.00
4,100.00	10.06	230.40	4,045.96	-400.75	-484.42	-402.10	0.00	0.00	0.00
4,200.00	10.06	230.40	4,144.42	-411.88	-497.88	-413.27	0.00	0.00	0.00
4,300.00	10.06	230.40	4,242.89	-423.02	-511.34	-424.44	0.00	0.00	0.00
4,400.00	10.06	230.40	4,341.35	-434.15	-524.80	-435.61	0.00	0.00	0.00
4,500.00	10.06	230.40	4,439.81	-445.28	-538.26	-446.79	0.00	0.00	0.00
4,600.00	10.06	230.40	4,538.27	-456.42	-551.72	-457.96	0.00	0.00	0.00

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5033.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5033.00usft (RIG)
Site:	1N-65W-10 HDI KF PAD	North Reference:	True
Well:	HDI KF 10-5H	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	10.06	230.40	4,636.74	-467.55	-565.17	-469.13	0.00	0.00	0.00
4,800.00	10.06	230.40	4,735.20	-478.69	-578.63	-480.30	0.00	0.00	0.00
4,900.00	10.06	230.40	4,833.66	-489.82	-592.09	-491.47	0.00	0.00	0.00
5,000.00	10.06	230.40	4,932.12	-500.96	-605.55	-502.65	0.00	0.00	0.00
5,100.00	10.06	230.40	5,030.59	-512.09	-619.01	-513.82	0.00	0.00	0.00
5,200.00	10.06	230.40	5,129.05	-523.23	-632.47	-524.99	0.00	0.00	0.00
5,300.00	10.06	230.40	5,227.51	-534.36	-645.93	-536.16	0.00	0.00	0.00
5,400.00	10.06	230.40	5,325.97	-545.49	-659.39	-547.33	0.00	0.00	0.00
5,500.00	10.06	230.40	5,424.44	-556.63	-672.85	-558.51	0.00	0.00	0.00
5,600.00	10.06	230.40	5,522.90	-567.76	-686.31	-569.68	0.00	0.00	0.00
5,700.00	10.06	230.40	5,621.36	-578.90	-699.77	-580.85	0.00	0.00	0.00
5,800.00	10.06	230.40	5,719.82	-590.03	-713.23	-592.02	0.00	0.00	0.00
5,900.00	10.06	230.40	5,818.29	-601.17	-726.69	-603.19	0.00	0.00	0.00
6,000.00	10.06	230.40	5,916.75	-612.30	-740.15	-614.37	0.00	0.00	0.00
6,100.00	10.06	230.40	6,015.21	-623.44	-753.60	-625.54	0.00	0.00	0.00
6,200.00	10.06	230.40	6,113.67	-634.57	-767.06	-636.71	0.00	0.00	0.00
6,300.00	10.06	230.40	6,212.14	-645.71	-780.52	-647.88	0.00	0.00	0.00
6,400.00	10.06	230.40	6,310.60	-656.84	-793.98	-659.05	0.00	0.00	0.00
6,500.00	10.06	230.40	6,409.06	-667.97	-807.44	-670.23	0.00	0.00	0.00
6,540.31	10.06	230.40	6,448.75	-672.46	-812.87	-674.73	0.00	0.00	0.00
KOP @ 6540.31ft :: DLS = 9°/100'									
6,550.00	9.53	234.48	6,458.30	-673.47	-814.17	-675.74	9.00	-5.46	42.08
6,600.00	7.84	262.49	6,507.75	-676.32	-820.92	-678.61	9.00	-3.39	56.03
6,650.00	8.50	294.25	6,557.27	-675.25	-827.67	-677.56	9.00	1.32	63.51
6,700.00	11.10	316.13	6,606.55	-670.26	-834.38	-672.58	9.00	5.21	43.76
6,750.00	14.65	328.70	6,655.29	-661.38	-841.01	-663.73	9.00	7.09	25.15
6,800.00	18.60	336.25	6,703.20	-648.67	-847.51	-651.04	9.00	7.91	15.10
6,850.00	22.76	341.18	6,749.97	-632.21	-853.84	-634.59	9.00	8.31	9.86
6,900.00	27.02	344.64	6,795.32	-612.09	-859.97	-614.49	9.00	8.52	6.92
6,950.00	31.34	347.21	6,838.96	-588.45	-865.86	-590.86	9.00	8.65	5.14
7,000.00	35.70	349.21	6,880.64	-561.42	-871.47	-563.85	9.00	8.73	4.00
7,050.00	40.09	350.83	6,920.09	-531.18	-876.77	-533.63	9.00	8.78	3.23
7,100.00	44.50	352.18	6,957.06	-497.91	-881.72	-500.37	9.00	8.82	2.69
7,150.00	48.92	353.33	6,991.34	-461.81	-886.30	-464.29	9.00	8.84	2.30
7,200.00	53.35	354.33	7,022.70	-423.11	-890.47	-425.60	9.00	8.86	2.01
7,250.00	57.79	355.23	7,050.96	-382.05	-894.22	-384.55	9.00	8.88	1.79
7,300.00	62.24	356.04	7,075.95	-338.88	-897.51	-341.39	9.00	8.89	1.62
7,350.00	66.69	356.79	7,097.50	-293.87	-900.32	-296.38	9.00	8.90	1.50
7,400.00	71.14	357.48	7,115.48	-247.28	-902.65	-249.80	9.00	8.91	1.40
7,450.00	75.59	358.15	7,129.79	-199.42	-904.47	-201.95	9.00	8.91	1.33
7,500.00	80.05	358.78	7,140.33	-150.58	-905.78	-153.11	9.00	8.91	1.27
7,550.00	84.51	359.40	7,147.05	-101.05	-906.56	-103.58	9.00	8.92	1.24
7,600.00	88.97	0.01	7,149.89	-51.14	-906.81	-53.68	9.00	8.92	1.22
7,611.57	90.00	0.15	7,150.00	-39.58	-906.80	-42.11	9.00	8.92	1.22
End Build @ 7611.57ft - 5 1/2"									
7,700.00	90.00	0.16	7,150.00	48.85	-906.56	46.32	0.00	0.00	0.00
7,800.00	90.00	0.16	7,150.00	148.85	-906.29	146.32	0.00	0.00	0.00
7,900.00	90.00	0.16	7,150.00	248.85	-906.02	246.32	0.00	0.00	0.00
8,000.00	90.00	0.16	7,150.00	348.85	-905.75	346.32	0.00	0.00	0.00
8,100.00	90.00	0.16	7,150.00	448.85	-905.48	446.32	0.00	0.00	0.00
8,200.00	90.00	0.16	7,150.00	548.85	-905.20	546.32	0.00	0.00	0.00
8,300.00	90.00	0.16	7,150.00	648.85	-904.93	646.32	0.00	0.00	0.00
8,400.00	90.00	0.16	7,150.00	748.85	-904.66	746.32	0.00	0.00	0.00
8,500.00	90.00	0.16	7,150.00	848.85	-904.39	846.32	0.00	0.00	0.00

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5033.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5033.00usft (RIG)
Site:	1N-65W-10 HDI KF PAD	North Reference:	True
Well:	HDI KF 10-5H	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	0.16	7,150.00	948.85	-904.12	946.32	0.00	0.00	0.00	
8,700.00	90.00	0.16	7,150.00	1,048.85	-903.85	1,046.32	0.00	0.00	0.00	
8,800.00	90.00	0.16	7,150.00	1,148.85	-903.58	1,146.32	0.00	0.00	0.00	
8,900.00	90.00	0.16	7,150.00	1,248.85	-903.31	1,246.32	0.00	0.00	0.00	
9,000.00	90.00	0.16	7,150.00	1,348.85	-903.04	1,346.32	0.00	0.00	0.00	
9,100.00	90.00	0.16	7,150.00	1,448.85	-902.77	1,446.32	0.00	0.00	0.00	
9,200.00	90.00	0.16	7,150.00	1,548.85	-902.50	1,546.32	0.00	0.00	0.00	
9,300.00	90.00	0.16	7,150.00	1,648.85	-902.23	1,646.32	0.00	0.00	0.00	
9,400.00	90.00	0.16	7,150.00	1,748.85	-901.96	1,746.32	0.00	0.00	0.00	
9,500.00	90.00	0.16	7,150.00	1,848.85	-901.69	1,846.32	0.00	0.00	0.00	
9,600.00	90.00	0.16	7,150.00	1,948.85	-901.42	1,946.32	0.00	0.00	0.00	
9,700.00	90.00	0.16	7,150.00	2,048.85	-901.15	2,046.32	0.00	0.00	0.00	
9,800.00	90.00	0.16	7,150.00	2,148.85	-900.88	2,146.32	0.00	0.00	0.00	
9,900.00	90.00	0.16	7,150.00	2,248.85	-900.61	2,246.32	0.00	0.00	0.00	
10,000.00	90.00	0.16	7,150.00	2,348.85	-900.34	2,346.32	0.00	0.00	0.00	
10,100.00	90.00	0.16	7,150.00	2,448.85	-900.06	2,446.32	0.00	0.00	0.00	
10,200.00	90.00	0.16	7,150.00	2,548.85	-899.79	2,546.32	0.00	0.00	0.00	
10,300.00	90.00	0.16	7,150.00	2,648.84	-899.52	2,646.32	0.00	0.00	0.00	
10,400.00	90.00	0.16	7,150.00	2,748.84	-899.25	2,746.32	0.00	0.00	0.00	
10,500.00	90.00	0.16	7,150.00	2,848.84	-898.98	2,846.32	0.00	0.00	0.00	
10,600.00	90.00	0.16	7,150.00	2,948.84	-898.71	2,946.32	0.00	0.00	0.00	
10,700.00	90.00	0.16	7,150.00	3,048.84	-898.44	3,046.32	0.00	0.00	0.00	
10,800.00	90.00	0.16	7,150.00	3,148.84	-898.17	3,146.32	0.00	0.00	0.00	
10,900.00	90.00	0.16	7,150.00	3,248.84	-897.90	3,246.32	0.00	0.00	0.00	
11,000.00	90.00	0.16	7,150.00	3,348.84	-897.63	3,346.32	0.00	0.00	0.00	
11,100.00	90.00	0.16	7,150.00	3,448.84	-897.36	3,446.32	0.00	0.00	0.00	
11,200.00	90.00	0.16	7,150.00	3,548.84	-897.09	3,546.32	0.00	0.00	0.00	
11,300.00	90.00	0.16	7,150.00	3,648.84	-896.82	3,646.32	0.00	0.00	0.00	
11,400.00	90.00	0.16	7,150.00	3,748.84	-896.55	3,746.32	0.00	0.00	0.00	
11,500.00	90.00	0.16	7,150.00	3,848.84	-896.28	3,846.32	0.00	0.00	0.00	
11,600.00	90.00	0.16	7,150.00	3,948.84	-896.01	3,946.32	0.00	0.00	0.00	
11,700.00	90.00	0.16	7,150.00	4,048.84	-895.74	4,046.32	0.00	0.00	0.00	
11,800.00	90.00	0.16	7,150.00	4,148.84	-895.47	4,146.32	0.00	0.00	0.00	
11,900.00	90.00	0.16	7,150.00	4,248.84	-895.20	4,246.32	0.00	0.00	0.00	
12,000.00	90.00	0.16	7,150.00	4,348.84	-894.92	4,346.32	0.00	0.00	0.00	
12,100.00	90.00	0.16	7,150.00	4,448.84	-894.65	4,446.32	0.00	0.00	0.00	
12,200.00	90.00	0.16	7,150.00	4,548.84	-894.38	4,546.32	0.00	0.00	0.00	
12,300.00	90.00	0.16	7,150.00	4,648.84	-894.11	4,646.32	0.00	0.00	0.00	
12,400.00	90.00	0.16	7,150.00	4,748.84	-893.84	4,746.32	0.00	0.00	0.00	
12,500.00	90.00	0.16	7,150.00	4,848.84	-893.57	4,846.32	0.00	0.00	0.00	
12,600.00	90.00	0.16	7,150.00	4,948.84	-893.30	4,946.32	0.00	0.00	0.00	
12,700.00	90.00	0.16	7,150.00	5,048.84	-893.03	5,046.32	0.00	0.00	0.00	
12,800.00	90.00	0.16	7,150.00	5,148.84	-892.76	5,146.32	0.00	0.00	0.00	
12,900.00	90.00	0.16	7,150.00	5,248.84	-892.49	5,246.32	0.00	0.00	0.00	
13,000.00	90.00	0.16	7,150.00	5,348.83	-892.22	5,346.32	0.00	0.00	0.00	
13,100.00	90.00	0.16	7,150.00	5,448.83	-891.95	5,446.32	0.00	0.00	0.00	
13,200.00	90.00	0.16	7,150.00	5,548.83	-891.68	5,546.32	0.00	0.00	0.00	
13,300.00	90.00	0.16	7,150.00	5,648.83	-891.41	5,646.32	0.00	0.00	0.00	
13,400.00	90.00	0.16	7,150.00	5,748.83	-891.14	5,746.32	0.00	0.00	0.00	
13,500.00	90.00	0.16	7,150.00	5,848.83	-890.87	5,846.32	0.00	0.00	0.00	
13,600.00	90.00	0.16	7,150.00	5,948.83	-890.60	5,946.32	0.00	0.00	0.00	
13,700.00	90.00	0.16	7,150.00	6,048.83	-890.33	6,046.32	0.00	0.00	0.00	
13,800.00	90.00	0.16	7,150.00	6,148.83	-890.05	6,146.32	0.00	0.00	0.00	
13,900.00	90.00	0.16	7,150.00	6,248.83	-889.78	6,246.32	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HDI KF 10-5H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5033.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5033.00usft (RIG)
Site:	1N-65W-10 HDI KF PAD	North Reference:	True
Well:	HDI KF 10-5H	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	0.16	7,150.00	6,348.83	-889.51	6,346.32	0.00	0.00	0.00	
14,100.00	90.00	0.16	7,150.00	6,448.83	-889.24	6,446.32	0.00	0.00	0.00	
14,200.00	90.00	0.16	7,150.00	6,548.83	-888.97	6,546.32	0.00	0.00	0.00	
14,300.00	90.00	0.16	7,150.00	6,648.83	-888.70	6,646.32	0.00	0.00	0.00	
14,400.00	90.00	0.16	7,150.00	6,748.83	-888.43	6,746.32	0.00	0.00	0.00	
14,500.00	90.00	0.16	7,150.00	6,848.83	-888.16	6,846.32	0.00	0.00	0.00	
14,600.00	90.00	0.16	7,150.00	6,948.83	-887.89	6,946.32	0.00	0.00	0.00	
14,700.00	90.00	0.16	7,150.00	7,048.83	-887.62	7,046.32	0.00	0.00	0.00	
14,800.00	90.00	0.16	7,150.00	7,148.83	-887.35	7,146.32	0.00	0.00	0.00	
14,900.00	90.00	0.16	7,150.00	7,248.83	-887.08	7,246.32	0.00	0.00	0.00	
15,000.00	90.00	0.16	7,150.00	7,348.83	-886.81	7,346.32	0.00	0.00	0.00	
15,100.00	90.00	0.16	7,150.00	7,448.83	-886.54	7,446.32	0.00	0.00	0.00	
15,200.00	90.00	0.16	7,150.00	7,548.83	-886.27	7,546.32	0.00	0.00	0.00	
15,300.00	90.00	0.16	7,150.00	7,648.83	-886.00	7,646.32	0.00	0.00	0.00	
15,332.02	90.00	0.16	7,150.00	7,680.85	-885.91	7,678.34	0.00	0.00	0.00	
TD Well @ 15332.02ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,717.41	1,700.00	9 5/8"	9-5/8	13-1/2	
7,611.57	7,150.00	5 1/2"	5-1/2	8-1/2	

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 Nudge @ 250.00ft	
753.00	750.42	-28.08	-33.94	End Nudge @ 753.00ft	
6,540.31	6,448.75	-672.46	-812.87	KOP @ 6540.31ft :: DLS = 9°/100'	
7,611.57	7,150.00	-39.57	-906.80	End Build @ 7611.57ft	
15,332.02	7,150.00	7,680.85	-885.91	TD Well @ 15332.02ft	