

VERDAD RESOURCES

**WATTENBERG FIELD
1N-65W-10 HDI KF PAD
HDI KF 10-4H**

Wellbore #1

Plan: Design #1

Standard Planning Report

18 January, 2018

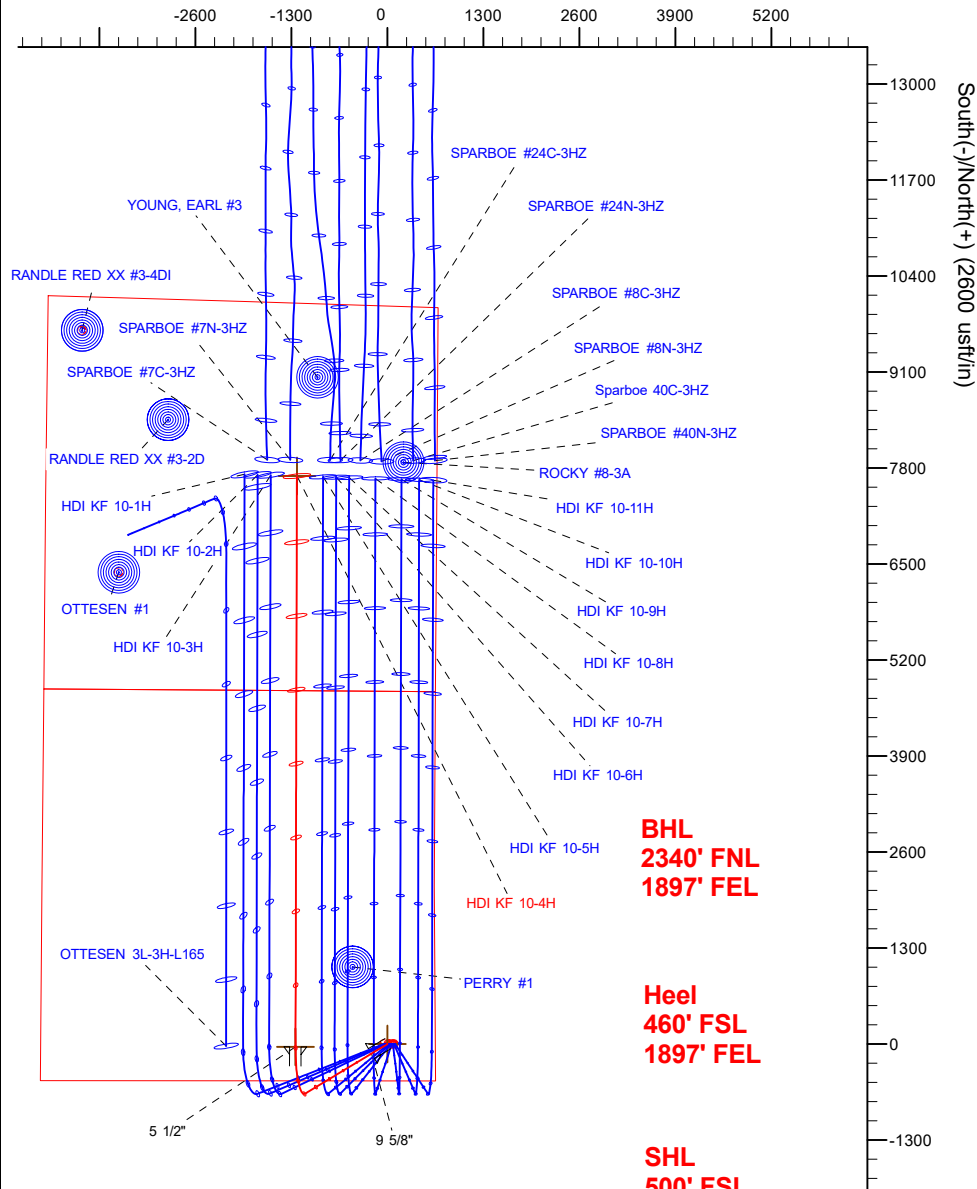
Project: WATTENBERG FIELD
Site: 1N-65W-10 HDI KF PAD
Well: HDI KF 10-4H
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1724.93	9 5/8"	9-5/8
7150.00	7665.24	5 1/2"	5-1/2

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



BHL
2340' FNL
1897' FEL

Heel
460' FSL
1897' FEL

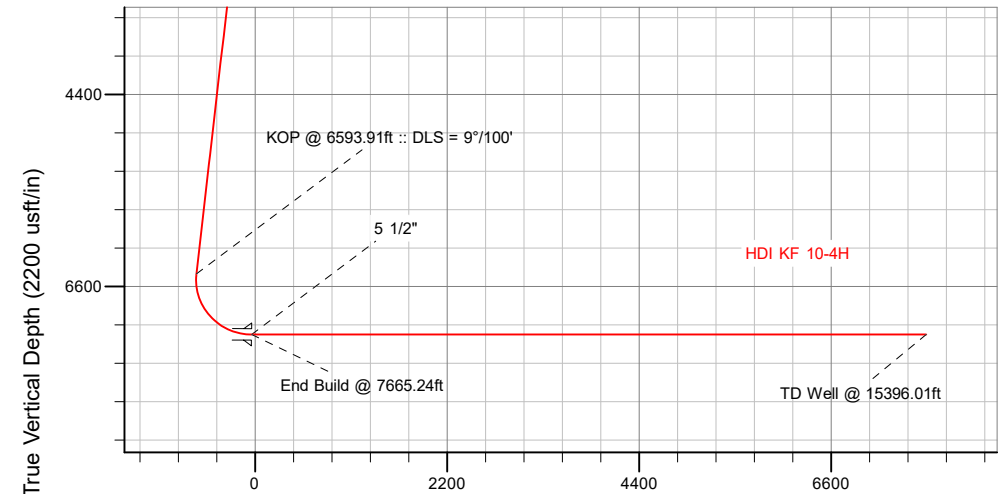
SHL
500' FSL
652' FEL

SECTION DETAILS

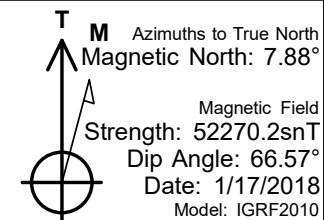
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	872.50	12.45	238.90	867.61	-34.80	-57.68	2.00	238.90	-34.94	
4	6593.91	12.45	238.90	6454.48	-671.92	-1113.86	0.00	0.00	-674.64	
5	7665.24	90.00	0.14	7150.00	-38.98	-1243.61	9.00	120.64	-42.02	
6	15396.01	90.00	0.14	7150.00	7691.77	-1224.77	0.00	0.00	7688.76	HDI KF 10-4H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
HDI KF 10-4H_SHL	0.00	0.00	0.00	40.060105	-104.642819
HDI KF 10-4H_BHL	7150.00	7691.77	-1224.77	40.081220	-104.647196



Vertical Section at 0.14° (2200 usft/in)



WELL DETAILS: HDI KF 10-4H

GL = 5013'

RKB = 20' @ 5033.00usft (RIG)

Plan: Design #1 (HDI KF 10-4H/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 10-4H
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 10-4H	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 10-4H			
Well Position	+N/-S	-0.04 usft	Northing:	1,265,901.18 usft
	+E/-W	45.06 usft	Easting:	3,239,926.95 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	52,270.22419659

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	0.14

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	15,396.01	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	
872.50	12.45	238.90	867.61	-34.80	-57.68	2.00	2.00	0.00	238.90	
6,593.91	12.45	238.90	6,454.48	-671.92	-1,113.86	0.00	0.00	0.00	0.00	
7,665.24	90.00	0.14	7,150.00	-38.98	-1,243.61	9.00	7.24	11.32	120.64	
15,396.01	90.00	0.14	7,150.00	7,691.77	-1,224.77	0.00	0.00	0.00	0.00	HDI KF 10-4H_BHL

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HDI KF 10-4H
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 10-4H	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	238.90	300.00	-0.23	-0.37	-0.23	2.00	2.00	0.00
400.00	3.00	238.90	399.93	-2.03	-3.36	-2.04	2.00	2.00	0.00
500.00	5.00	238.90	499.68	-5.63	-9.33	-5.65	2.00	2.00	0.00
600.00	7.00	238.90	599.13	-11.03	-18.28	-11.07	2.00	2.00	0.00
700.00	9.00	238.90	698.15	-18.22	-30.20	-18.29	2.00	2.00	0.00
800.00	11.00	238.90	796.63	-27.19	-45.07	-27.30	2.00	2.00	0.00
872.50	12.45	238.90	867.61	-34.80	-57.68	-34.94	2.00	2.00	0.00
End Nudge @ 872.50ft									
900.00	12.45	238.90	894.47	-37.86	-62.76	-38.01	0.00	0.00	0.00
1,000.00	12.45	238.90	992.11	-49.00	-81.22	-49.19	0.00	0.00	0.00
1,100.00	12.45	238.90	1,089.76	-60.13	-99.68	-60.37	0.00	0.00	0.00
1,200.00	12.45	238.90	1,187.41	-71.27	-118.14	-71.56	0.00	0.00	0.00
1,300.00	12.45	238.90	1,285.06	-82.40	-136.60	-82.74	0.00	0.00	0.00
1,400.00	12.45	238.90	1,382.71	-93.54	-155.06	-93.92	0.00	0.00	0.00
1,500.00	12.45	238.90	1,480.36	-104.67	-173.52	-105.10	0.00	0.00	0.00
1,600.00	12.45	238.90	1,578.01	-115.81	-191.98	-116.28	0.00	0.00	0.00
1,700.00	12.45	238.90	1,675.65	-126.95	-210.44	-127.46	0.00	0.00	0.00
1,724.93	12.45	238.90	1,700.00	-129.72	-215.04	-130.25	0.00	0.00	0.00
9 5/8"									
1,800.00	12.45	238.90	1,773.30	-138.08	-228.90	-138.64	0.00	0.00	0.00
1,900.00	12.45	238.90	1,870.95	-149.22	-247.36	-149.82	0.00	0.00	0.00
2,000.00	12.45	238.90	1,968.60	-160.35	-265.82	-161.00	0.00	0.00	0.00
2,100.00	12.45	238.90	2,066.25	-171.49	-284.28	-172.18	0.00	0.00	0.00
2,200.00	12.45	238.90	2,163.90	-182.63	-302.74	-183.36	0.00	0.00	0.00
2,300.00	12.45	238.90	2,261.54	-193.76	-321.20	-194.55	0.00	0.00	0.00
2,400.00	12.45	238.90	2,359.19	-204.90	-339.66	-205.73	0.00	0.00	0.00
2,500.00	12.45	238.90	2,456.84	-216.03	-358.12	-216.91	0.00	0.00	0.00
2,600.00	12.45	238.90	2,554.49	-227.17	-376.58	-228.09	0.00	0.00	0.00
2,700.00	12.45	238.90	2,652.14	-238.30	-395.04	-239.27	0.00	0.00	0.00
2,800.00	12.45	238.90	2,749.79	-249.44	-413.50	-250.45	0.00	0.00	0.00
2,900.00	12.45	238.90	2,847.44	-260.58	-431.96	-261.63	0.00	0.00	0.00
3,000.00	12.45	238.90	2,945.08	-271.71	-450.42	-272.81	0.00	0.00	0.00
3,100.00	12.45	238.90	3,042.73	-282.85	-468.88	-283.99	0.00	0.00	0.00
3,200.00	12.45	238.90	3,140.38	-293.98	-487.34	-295.17	0.00	0.00	0.00
3,300.00	12.45	238.90	3,238.03	-305.12	-505.80	-306.35	0.00	0.00	0.00
3,400.00	12.45	238.90	3,335.68	-316.25	-524.26	-317.54	0.00	0.00	0.00
3,500.00	12.45	238.90	3,433.33	-327.39	-542.72	-328.72	0.00	0.00	0.00
3,600.00	12.45	238.90	3,530.97	-338.53	-561.18	-339.90	0.00	0.00	0.00
3,700.00	12.45	238.90	3,628.62	-349.66	-579.64	-351.08	0.00	0.00	0.00
3,800.00	12.45	238.90	3,726.27	-360.80	-598.10	-362.26	0.00	0.00	0.00
3,900.00	12.45	238.90	3,823.92	-371.93	-616.56	-373.44	0.00	0.00	0.00
4,000.00	12.45	238.90	3,921.57	-383.07	-635.02	-384.62	0.00	0.00	0.00
4,100.00	12.45	238.90	4,019.22	-394.21	-653.48	-395.80	0.00	0.00	0.00
4,200.00	12.45	238.90	4,116.87	-405.34	-671.94	-406.98	0.00	0.00	0.00
4,300.00	12.45	238.90	4,214.51	-416.48	-690.40	-418.16	0.00	0.00	0.00
4,400.00	12.45	238.90	4,312.16	-427.61	-708.86	-429.34	0.00	0.00	0.00
4,500.00	12.45	238.90	4,409.81	-438.75	-727.32	-440.52	0.00	0.00	0.00
4,600.00	12.45	238.90	4,507.46	-449.88	-745.78	-451.71	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 10-4H	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	12.45	238.90	4,605.11	-461.02	-764.24	-462.89	0.00	0.00	0.00
4,800.00	12.45	238.90	4,702.76	-472.16	-782.70	-474.07	0.00	0.00	0.00
4,900.00	12.45	238.90	4,800.40	-483.29	-801.16	-485.25	0.00	0.00	0.00
5,000.00	12.45	238.90	4,898.05	-494.43	-819.62	-496.43	0.00	0.00	0.00
5,100.00	12.45	238.90	4,995.70	-505.56	-838.08	-507.61	0.00	0.00	0.00
5,200.00	12.45	238.90	5,093.35	-516.70	-856.54	-518.79	0.00	0.00	0.00
5,300.00	12.45	238.90	5,191.00	-527.84	-875.00	-529.97	0.00	0.00	0.00
5,400.00	12.45	238.90	5,288.65	-538.97	-893.46	-541.15	0.00	0.00	0.00
5,500.00	12.45	238.90	5,386.30	-550.11	-911.92	-552.33	0.00	0.00	0.00
5,600.00	12.45	238.90	5,483.94	-561.24	-930.38	-563.51	0.00	0.00	0.00
5,700.00	12.45	238.90	5,581.59	-572.38	-948.84	-574.70	0.00	0.00	0.00
5,800.00	12.45	238.90	5,679.24	-583.51	-967.30	-585.88	0.00	0.00	0.00
5,900.00	12.45	238.90	5,776.89	-594.65	-985.76	-597.06	0.00	0.00	0.00
6,000.00	12.45	238.90	5,874.54	-605.79	-1,004.22	-608.24	0.00	0.00	0.00
6,100.00	12.45	238.90	5,972.19	-616.92	-1,022.68	-619.42	0.00	0.00	0.00
6,200.00	12.45	238.90	6,069.83	-628.06	-1,041.14	-630.60	0.00	0.00	0.00
6,300.00	12.45	238.90	6,167.48	-639.19	-1,059.60	-641.78	0.00	0.00	0.00
6,400.00	12.45	238.90	6,265.13	-650.33	-1,078.06	-652.96	0.00	0.00	0.00
6,500.00	12.45	238.90	6,362.78	-661.47	-1,096.52	-664.14	0.00	0.00	0.00
6,593.91	12.45	238.90	6,454.48	-671.92	-1,113.86	-674.64	0.00	0.00	0.00
KOP @ 6593.91ft :: DLS = 9°/100'									
6,600.00	12.18	241.14	6,460.43	-672.57	-1,114.98	-675.29	9.00	-4.44	36.71
6,650.00	10.78	262.79	6,509.45	-675.71	-1,124.25	-678.45	9.00	-2.81	43.30
6,700.00	11.13	286.56	6,558.57	-674.92	-1,133.51	-677.69	9.00	0.71	47.55
6,750.00	13.11	305.97	6,607.47	-670.21	-1,142.73	-673.00	9.00	3.95	38.83
6,800.00	16.11	319.34	6,655.86	-661.61	-1,151.85	-664.42	9.00	6.01	26.74
6,850.00	19.69	328.30	6,703.44	-649.18	-1,160.80	-652.01	9.00	7.14	17.91
6,900.00	23.57	334.50	6,749.92	-632.98	-1,169.53	-635.84	9.00	7.76	12.41
6,950.00	27.63	339.00	6,795.01	-613.13	-1,178.00	-616.00	9.00	8.12	9.00
7,000.00	31.80	342.41	6,838.43	-589.73	-1,186.14	-592.63	9.00	8.34	6.83
7,050.00	36.04	345.10	6,879.91	-562.94	-1,193.90	-565.86	9.00	8.49	5.38
7,100.00	40.34	347.29	6,919.20	-532.93	-1,201.24	-535.86	9.00	8.58	4.38
7,150.00	44.66	349.13	6,956.06	-499.87	-1,208.12	-502.82	9.00	8.65	3.67
7,200.00	49.01	350.70	6,990.25	-463.97	-1,214.49	-466.93	9.00	8.70	3.14
7,250.00	53.38	352.08	7,021.58	-425.45	-1,220.31	-428.43	9.00	8.74	2.75
7,300.00	57.77	353.30	7,049.84	-384.55	-1,225.54	-387.54	9.00	8.77	2.46
7,350.00	62.16	354.42	7,074.86	-341.52	-1,230.16	-344.53	9.00	8.79	2.23
7,400.00	66.57	355.45	7,096.48	-296.63	-1,234.13	-299.65	9.00	8.81	2.06
7,450.00	70.98	356.41	7,114.58	-250.15	-1,237.44	-253.18	9.00	8.82	1.92
7,500.00	75.39	357.32	7,129.04	-202.37	-1,240.05	-205.40	9.00	8.83	1.82
7,550.00	79.81	358.20	7,139.78	-153.59	-1,241.96	-156.63	9.00	8.84	1.75
7,600.00	84.23	359.05	7,146.71	-104.10	-1,243.15	-107.14	9.00	8.84	1.70
7,650.00	88.65	359.89	7,149.82	-54.21	-1,243.61	-57.25	9.00	8.84	1.68
7,665.24	90.00	0.14	7,150.00	-38.97	-1,243.61	-42.01	9.00	8.84	1.67
End Build @ 7665.24ft - 5 1/2"									
7,700.00	90.00	0.14	7,150.00	-4.22	-1,243.52	-7.25	0.00	0.00	0.00
7,800.00	90.00	0.14	7,150.00	95.78	-1,243.28	92.75	0.00	0.00	0.00
7,900.00	90.00	0.14	7,150.00	195.78	-1,243.04	192.75	0.00	0.00	0.00
8,000.00	90.00	0.14	7,150.00	295.78	-1,242.79	292.75	0.00	0.00	0.00
8,100.00	90.00	0.14	7,150.00	395.78	-1,242.55	392.75	0.00	0.00	0.00
8,200.00	90.00	0.14	7,150.00	495.78	-1,242.31	492.75	0.00	0.00	0.00
8,300.00	90.00	0.14	7,150.00	595.78	-1,242.06	592.75	0.00	0.00	0.00
8,400.00	90.00	0.14	7,150.00	695.78	-1,241.82	692.75	0.00	0.00	0.00
8,500.00	90.00	0.14	7,150.00	795.78	-1,241.57	792.75	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 10-4H	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	0.14	7,150.00	895.78	-1,241.33	892.75	0.00	0.00	0.00	
8,700.00	90.00	0.14	7,150.00	995.78	-1,241.09	992.75	0.00	0.00	0.00	
8,800.00	90.00	0.14	7,150.00	1,095.78	-1,240.84	1,092.75	0.00	0.00	0.00	
8,900.00	90.00	0.14	7,150.00	1,195.78	-1,240.60	1,192.75	0.00	0.00	0.00	
9,000.00	90.00	0.14	7,150.00	1,295.78	-1,240.36	1,292.75	0.00	0.00	0.00	
9,100.00	90.00	0.14	7,150.00	1,395.78	-1,240.11	1,392.75	0.00	0.00	0.00	
9,200.00	90.00	0.14	7,150.00	1,495.78	-1,239.87	1,492.75	0.00	0.00	0.00	
9,300.00	90.00	0.14	7,150.00	1,595.78	-1,239.63	1,592.75	0.00	0.00	0.00	
9,400.00	90.00	0.14	7,150.00	1,695.78	-1,239.38	1,692.75	0.00	0.00	0.00	
9,500.00	90.00	0.14	7,150.00	1,795.78	-1,239.14	1,792.75	0.00	0.00	0.00	
9,600.00	90.00	0.14	7,150.00	1,895.78	-1,238.89	1,892.75	0.00	0.00	0.00	
9,700.00	90.00	0.14	7,150.00	1,995.78	-1,238.65	1,992.75	0.00	0.00	0.00	
9,800.00	90.00	0.14	7,150.00	2,095.78	-1,238.41	2,092.75	0.00	0.00	0.00	
9,900.00	90.00	0.14	7,150.00	2,195.78	-1,238.16	2,192.75	0.00	0.00	0.00	
10,000.00	90.00	0.14	7,150.00	2,295.78	-1,237.92	2,292.75	0.00	0.00	0.00	
10,100.00	90.00	0.14	7,150.00	2,395.78	-1,237.68	2,392.75	0.00	0.00	0.00	
10,200.00	90.00	0.14	7,150.00	2,495.78	-1,237.43	2,492.75	0.00	0.00	0.00	
10,300.00	90.00	0.14	7,150.00	2,595.78	-1,237.19	2,592.75	0.00	0.00	0.00	
10,400.00	90.00	0.14	7,150.00	2,695.78	-1,236.94	2,692.75	0.00	0.00	0.00	
10,500.00	90.00	0.14	7,150.00	2,795.78	-1,236.70	2,792.75	0.00	0.00	0.00	
10,600.00	90.00	0.14	7,150.00	2,895.78	-1,236.46	2,892.75	0.00	0.00	0.00	
10,700.00	90.00	0.14	7,150.00	2,995.78	-1,236.21	2,992.75	0.00	0.00	0.00	
10,800.00	90.00	0.14	7,150.00	3,095.78	-1,235.97	3,092.75	0.00	0.00	0.00	
10,900.00	90.00	0.14	7,150.00	3,195.78	-1,235.73	3,192.75	0.00	0.00	0.00	
11,000.00	90.00	0.14	7,150.00	3,295.78	-1,235.48	3,292.75	0.00	0.00	0.00	
11,100.00	90.00	0.14	7,150.00	3,395.77	-1,235.24	3,392.75	0.00	0.00	0.00	
11,200.00	90.00	0.14	7,150.00	3,495.77	-1,235.00	3,492.75	0.00	0.00	0.00	
11,300.00	90.00	0.14	7,150.00	3,595.77	-1,234.75	3,592.75	0.00	0.00	0.00	
11,400.00	90.00	0.14	7,150.00	3,695.77	-1,234.51	3,692.75	0.00	0.00	0.00	
11,500.00	90.00	0.14	7,150.00	3,795.77	-1,234.26	3,792.75	0.00	0.00	0.00	
11,600.00	90.00	0.14	7,150.00	3,895.77	-1,234.02	3,892.75	0.00	0.00	0.00	
11,700.00	90.00	0.14	7,150.00	3,995.77	-1,233.78	3,992.75	0.00	0.00	0.00	
11,800.00	90.00	0.14	7,150.00	4,095.77	-1,233.53	4,092.75	0.00	0.00	0.00	
11,900.00	90.00	0.14	7,150.00	4,195.77	-1,233.29	4,192.75	0.00	0.00	0.00	
12,000.00	90.00	0.14	7,150.00	4,295.77	-1,233.05	4,292.75	0.00	0.00	0.00	
12,100.00	90.00	0.14	7,150.00	4,395.77	-1,232.80	4,392.75	0.00	0.00	0.00	
12,200.00	90.00	0.14	7,150.00	4,495.77	-1,232.56	4,492.75	0.00	0.00	0.00	
12,300.00	90.00	0.14	7,150.00	4,595.77	-1,232.32	4,592.75	0.00	0.00	0.00	
12,400.00	90.00	0.14	7,150.00	4,695.77	-1,232.07	4,692.75	0.00	0.00	0.00	
12,500.00	90.00	0.14	7,150.00	4,795.77	-1,231.83	4,792.75	0.00	0.00	0.00	
12,600.00	90.00	0.14	7,150.00	4,895.77	-1,231.58	4,892.75	0.00	0.00	0.00	
12,700.00	90.00	0.14	7,150.00	4,995.77	-1,231.34	4,992.75	0.00	0.00	0.00	
12,800.00	90.00	0.14	7,150.00	5,095.77	-1,231.10	5,092.75	0.00	0.00	0.00	
12,900.00	90.00	0.14	7,150.00	5,195.77	-1,230.85	5,192.75	0.00	0.00	0.00	
13,000.00	90.00	0.14	7,150.00	5,295.77	-1,230.61	5,292.75	0.00	0.00	0.00	
13,100.00	90.00	0.14	7,150.00	5,395.77	-1,230.37	5,392.75	0.00	0.00	0.00	
13,200.00	90.00	0.14	7,150.00	5,495.77	-1,230.12	5,492.75	0.00	0.00	0.00	
13,300.00	90.00	0.14	7,150.00	5,595.77	-1,229.88	5,592.75	0.00	0.00	0.00	
13,400.00	90.00	0.14	7,150.00	5,695.77	-1,229.64	5,692.75	0.00	0.00	0.00	
13,500.00	90.00	0.14	7,150.00	5,795.77	-1,229.39	5,792.75	0.00	0.00	0.00	
13,600.00	90.00	0.14	7,150.00	5,895.77	-1,229.15	5,892.75	0.00	0.00	0.00	
13,700.00	90.00	0.14	7,150.00	5,995.77	-1,228.90	5,992.75	0.00	0.00	0.00	
13,800.00	90.00	0.14	7,150.00	6,095.77	-1,228.66	6,092.75	0.00	0.00	0.00	
13,900.00	90.00	0.14	7,150.00	6,195.77	-1,228.42	6,192.75	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well HDI KF 10-4H
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 10-4H	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	0.14	7,150.00	6,295.77	-1,228.17	6,292.75	0.00	0.00	0.00
14,100.00	90.00	0.14	7,150.00	6,395.77	-1,227.93	6,392.75	0.00	0.00	0.00
14,200.00	90.00	0.14	7,150.00	6,495.77	-1,227.69	6,492.75	0.00	0.00	0.00
14,300.00	90.00	0.14	7,150.00	6,595.77	-1,227.44	6,592.75	0.00	0.00	0.00
14,400.00	90.00	0.14	7,150.00	6,695.77	-1,227.20	6,692.75	0.00	0.00	0.00
14,500.00	90.00	0.14	7,150.00	6,795.76	-1,226.96	6,792.75	0.00	0.00	0.00
14,600.00	90.00	0.14	7,150.00	6,895.76	-1,226.71	6,892.75	0.00	0.00	0.00
14,700.00	90.00	0.14	7,150.00	6,995.76	-1,226.47	6,992.75	0.00	0.00	0.00
14,800.00	90.00	0.14	7,150.00	7,095.76	-1,226.22	7,092.75	0.00	0.00	0.00
14,900.00	90.00	0.14	7,150.00	7,195.76	-1,225.98	7,192.75	0.00	0.00	0.00
15,000.00	90.00	0.14	7,150.00	7,295.76	-1,225.74	7,292.75	0.00	0.00	0.00
15,100.00	90.00	0.14	7,150.00	7,395.76	-1,225.49	7,392.75	0.00	0.00	0.00
15,200.00	90.00	0.14	7,150.00	7,495.76	-1,225.25	7,492.75	0.00	0.00	0.00
15,300.00	90.00	0.14	7,150.00	7,595.76	-1,225.01	7,592.75	0.00	0.00	0.00
15,396.01	90.00	0.14	7,150.00	7,691.77	-1,224.77	7,688.76	0.00	0.00	0.00
TD Well @ 15396.01ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,724.93	1,700.00	9 5/8"	9-5/8	13-1/2	
7,665.24	7,150.00	5 1/2"	5-1/2	8-1/2	

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 Nudge @ 250.00ft
872.50	867.61	-34.80	-57.68	End Nudge @ 872.50ft
6,593.91	6,454.48	-671.92	-1,113.86	KOP @ 6593.91ft :: DLS = 9°/100'
7,665.24	7,150.00	-38.98	-1,243.61	End Build @ 7665.24ft
15,396.01	7,150.00	7,691.77	-1,224.77	TD Well @ 15396.01ft