

VERDAD RESOURCES

**WATTENBERG FIELD
8N-59W-09 DELAND FED 0907 PAD
DELAND FED 0907-15H**

Wellbore #1

Plan: Design #1

Standard Planning Report

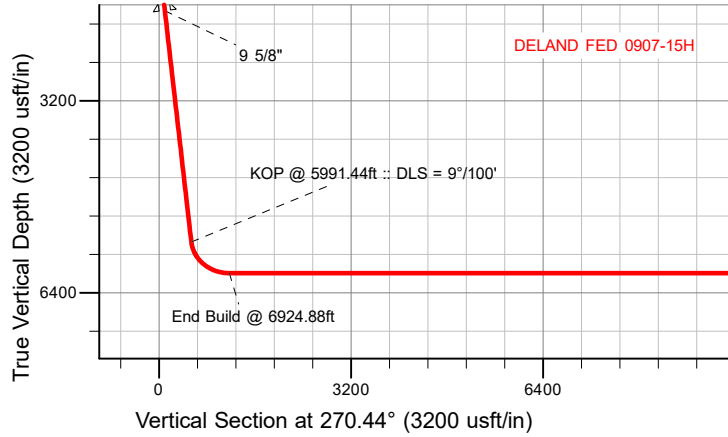
02 August, 2018

Project: WATTENBERG FIELD
 Site: 8N-59W-09 DELAND FED 0907 PAD
 Well: DELAND FED 0907-15H
 Wellbore: Wellbore #1
 Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1762.57	9 5/8"	9-5/8

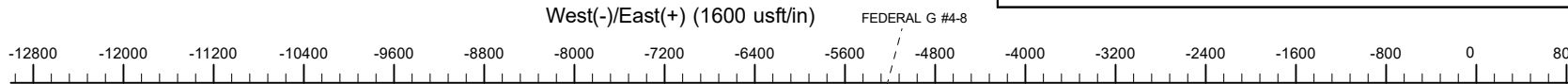


SECTION DETAILS

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	1467.50	24.35	195.10	1431.18	-246.04	-66.39	2.00	195.10	64.50	
4	5991.44	24.35	195.10	5552.69	-2046.90	-552.30	0.00	0.00	536.56	
5	6924.88	90.00	270.44	6075.00	-2270.74	-1187.17	9.00	76.59	1169.70	
6	16922.71	90.00	270.44	6075.00	-2194.32	-11184.71	0.00	0.00	11167.53	DELAND FED 0907-15H_BHL

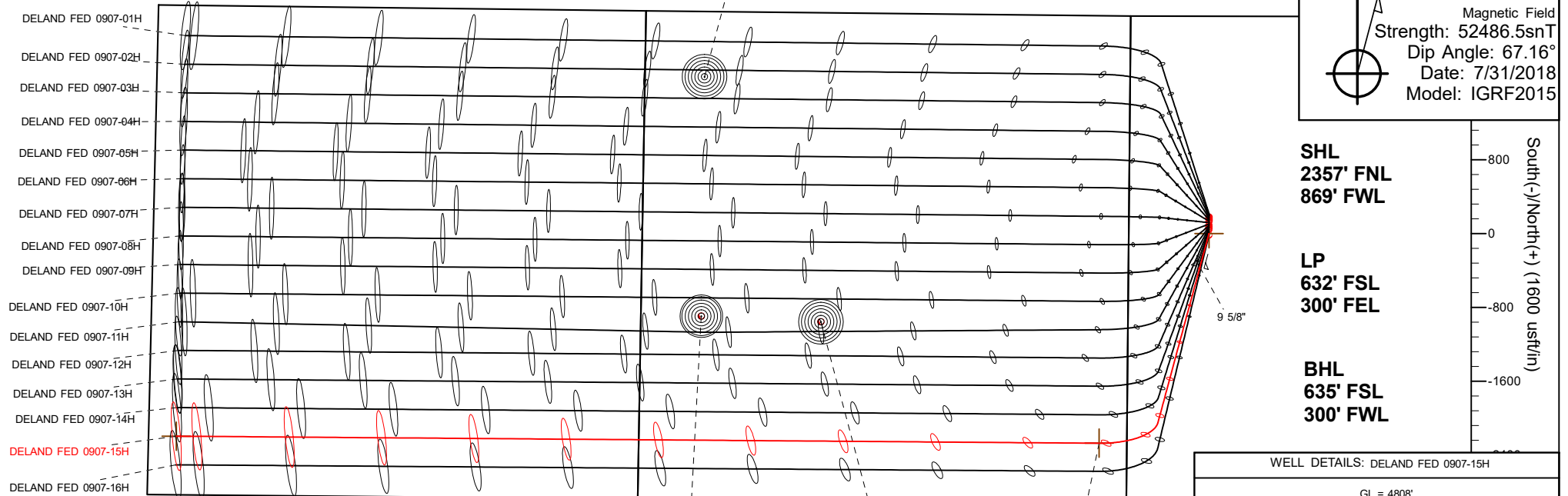
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
DELAND FED 0907-15H_SHL	0.00	0.00	0.00	40.677655	-103.987750
DELAND FED 0907-15H_BHL	6075.00	-2194.32	-11184.71	40.671625	-104.028070



T Azimuths to True North
M Magnetic North: 7.69°

Magnetic Field
 Strength: 52486.5snT
 Dip Angle: 67.16°
 Date: 7/31/2018
 Model: IGRF2015



FEDERAL PC #LG08-12

WELD PAWNEE #11-8

DELAND FED 0907-15H_LP

WELL DETAILS: DELAND FED 0907-15H

GL = 4808'

RKB = 20' @ 4828.00usft (RIG)

Plan: Design #1 (DELAND FED 0907-15H/Wellbore #1)

Date: 8/2/2018

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well DELAND FED 0907-15H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4828.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4828.00usft (RIG)
Site:	8N-59W-09 DELAND FED 0907 PAD	North Reference:	True
Well:	DELAND FED 0907-15H	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	8N-59W-09 DELAND FED 0907 PAD				
Site Position:		Northing:	1,493,484.36 usft	Latitude:	40.678191
From:	Lat/Long	Easting:	3,419,432.00 usft	Longitude:	-103.987738
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.98 °

Well	DELAND FED 0907-15H					
Well Position	+N/-S	-194.99 usft	Northing:	1,493,289.34 usft	Latitude:	40.677655
	+E/-W	-3.33 usft	Easting:	3,419,431.99 usft	Longitude:	-103.987750
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,808.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/31/2018	7.69	67.16	52,486.51240563

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	270.44

Plan Survey Tool Program	Date	8/1/2018			
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	16,922.71	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	
1,467.50	24.35	195.10	1,431.18	-246.04	-66.39	2.00	2.00	0.00	195.10	
5,991.44	24.35	195.10	5,552.69	-2,046.90	-552.30	0.00	0.00	0.00	0.00	
6,924.88	90.00	270.44	6,075.00	-2,270.74	-1,187.17	9.00	7.03	8.07	76.59	
16,922.71	90.00	270.44	6,075.00	-2,194.32	-11,184.71	0.00	0.00	0.00	0.00	DELAND FED 0907-1

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Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4828.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4828.00usft (RIG)
Site:	8N-59W-09 DELAND FED 0907 PAD	North Reference:	True
Well:	DELAND FED 0907-15H	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 Tangent @ 250.00ft									
300.00	1.00	195.10	300.00	-0.42	-0.11	0.11	2.00	2.00	0.00
400.00	3.00	195.10	399.93	-3.79	-1.02	0.99	2.00	2.00	0.00
500.00	5.00	195.10	499.68	-10.52	-2.84	2.76	2.00	2.00	0.00
600.00	7.00	195.10	599.13	-20.62	-5.56	5.40	2.00	2.00	0.00
700.00	9.00	195.10	698.15	-34.05	-9.19	8.93	2.00	2.00	0.00
800.00	11.00	195.10	796.63	-50.82	-13.71	13.32	2.00	2.00	0.00
900.00	13.00	195.10	894.44	-70.89	-19.13	18.58	2.00	2.00	0.00
1,000.00	15.00	195.10	991.46	-94.24	-25.43	24.70	2.00	2.00	0.00
1,100.00	17.00	195.10	1,087.58	-120.86	-32.61	31.68	2.00	2.00	0.00
1,200.00	19.00	195.10	1,182.68	-150.69	-40.66	39.50	2.00	2.00	0.00
1,300.00	21.00	195.10	1,276.65	-183.71	-49.57	48.16	2.00	2.00	0.00
1,400.00	23.00	195.10	1,369.36	-219.87	-59.33	57.64	2.00	2.00	0.00
1,467.50	24.35	195.10	1,431.18	-246.04	-66.39	64.50	2.00	2.00	0.00
End Tangent @ 1467.50ft									
1,500.00	24.35	195.10	1,460.79	-258.98	-69.88	67.89	0.00	0.00	0.00
1,600.00	24.35	195.10	1,551.89	-298.79	-80.62	78.32	0.00	0.00	0.00
1,700.00	24.35	195.10	1,643.00	-338.59	-91.36	88.76	0.00	0.00	0.00
1,762.57	24.35	195.10	1,700.00	-363.50	-98.08	95.29	0.00	0.00	0.00
9 5/8"									
1,800.00	24.35	195.10	1,734.10	-378.40	-102.10	99.19	0.00	0.00	0.00
1,900.00	24.35	195.10	1,825.21	-418.21	-112.84	109.63	0.00	0.00	0.00
2,000.00	24.35	195.10	1,916.31	-458.02	-123.58	120.06	0.00	0.00	0.00
2,100.00	24.35	195.10	2,007.42	-497.82	-134.32	130.50	0.00	0.00	0.00
2,200.00	24.35	195.10	2,098.52	-537.63	-145.06	140.93	0.00	0.00	0.00
2,300.00	24.35	195.10	2,189.62	-577.44	-155.80	151.37	0.00	0.00	0.00
2,400.00	24.35	195.10	2,280.73	-617.25	-166.55	161.80	0.00	0.00	0.00
2,500.00	24.35	195.10	2,371.83	-657.05	-177.29	172.24	0.00	0.00	0.00
2,600.00	24.35	195.10	2,462.94	-696.86	-188.03	182.67	0.00	0.00	0.00
2,700.00	24.35	195.10	2,554.04	-736.67	-198.77	193.11	0.00	0.00	0.00
2,800.00	24.35	195.10	2,645.15	-776.47	-209.51	203.54	0.00	0.00	0.00
2,900.00	24.35	195.10	2,736.25	-816.28	-220.25	213.97	0.00	0.00	0.00
3,000.00	24.35	195.10	2,827.35	-856.09	-230.99	224.41	0.00	0.00	0.00
3,100.00	24.35	195.10	2,918.46	-895.90	-241.73	234.84	0.00	0.00	0.00
3,200.00	24.35	195.10	3,009.56	-935.70	-252.47	245.28	0.00	0.00	0.00
3,300.00	24.35	195.10	3,100.67	-975.51	-263.21	255.71	0.00	0.00	0.00
3,400.00	24.35	195.10	3,191.77	-1,015.32	-273.95	266.15	0.00	0.00	0.00
3,500.00	24.35	195.10	3,282.88	-1,055.13	-284.69	276.58	0.00	0.00	0.00
3,600.00	24.35	195.10	3,373.98	-1,094.93	-295.44	287.02	0.00	0.00	0.00
3,700.00	24.35	195.10	3,465.09	-1,134.74	-306.18	297.45	0.00	0.00	0.00
3,800.00	24.35	195.10	3,556.19	-1,174.55	-316.92	307.89	0.00	0.00	0.00
3,900.00	24.35	195.10	3,647.29	-1,214.36	-327.66	318.32	0.00	0.00	0.00
4,000.00	24.35	195.10	3,738.40	-1,254.16	-338.40	328.76	0.00	0.00	0.00
4,100.00	24.35	195.10	3,829.50	-1,293.97	-349.14	339.19	0.00	0.00	0.00
4,200.00	24.35	195.10	3,920.61	-1,333.78	-359.88	349.63	0.00	0.00	0.00
4,300.00	24.35	195.10	4,011.71	-1,373.59	-370.62	360.06	0.00	0.00	0.00
4,400.00	24.35	195.10	4,102.82	-1,413.39	-381.36	370.50	0.00	0.00	0.00
4,500.00	24.35	195.10	4,193.92	-1,453.20	-392.10	380.93	0.00	0.00	0.00
4,600.00	24.35	195.10	4,285.02	-1,493.01	-402.84	391.37	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well DELAND FED 0907-15H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4828.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4828.00usft (RIG)
Site:	8N-59W-09 DELAND FED 0907 PAD	North Reference:	True
Well:	DELAND FED 0907-15H	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	24.35	195.10	4,376.13	-1,532.81	-413.59	401.80	0.00	0.00	0.00
4,800.00	24.35	195.10	4,467.23	-1,572.62	-424.33	412.24	0.00	0.00	0.00
4,900.00	24.35	195.10	4,558.34	-1,612.43	-435.07	422.67	0.00	0.00	0.00
5,000.00	24.35	195.10	4,649.44	-1,652.24	-445.81	433.11	0.00	0.00	0.00
5,100.00	24.35	195.10	4,740.55	-1,692.04	-456.55	443.54	0.00	0.00	0.00
5,200.00	24.35	195.10	4,831.65	-1,731.85	-467.29	453.98	0.00	0.00	0.00
5,300.00	24.35	195.10	4,922.76	-1,771.66	-478.03	464.41	0.00	0.00	0.00
5,400.00	24.35	195.10	5,013.86	-1,811.47	-488.77	474.85	0.00	0.00	0.00
5,500.00	24.35	195.10	5,104.96	-1,851.27	-499.51	485.28	0.00	0.00	0.00
5,600.00	24.35	195.10	5,196.07	-1,891.08	-510.25	495.72	0.00	0.00	0.00
5,700.00	24.35	195.10	5,287.17	-1,930.89	-520.99	506.15	0.00	0.00	0.00
5,800.00	24.35	195.10	5,378.28	-1,970.70	-531.73	516.59	0.00	0.00	0.00
5,900.00	24.35	195.10	5,469.38	-2,010.50	-542.48	527.02	0.00	0.00	0.00
5,991.44	24.35	195.10	5,552.69	-2,046.90	-552.30	536.56	0.00	0.00	0.00
KOP @ 5991.44ft :: DLS = 9°/100'									
6,000.00	24.54	196.90	5,560.48	-2,050.31	-553.27	537.51	9.00	2.21	21.08
6,100.00	28.16	215.57	5,650.23	-2,089.45	-573.08	557.02	9.00	3.62	18.67
6,200.00	33.71	229.43	5,736.08	-2,126.77	-607.96	591.61	9.00	5.55	13.86
6,300.00	40.40	239.47	5,815.91	-2,161.35	-657.05	640.44	9.00	6.68	10.05
6,400.00	47.74	246.99	5,887.77	-2,192.34	-719.15	702.30	9.00	7.34	7.52
6,500.00	55.46	252.90	5,949.87	-2,218.97	-792.73	775.67	9.00	7.72	5.91
6,600.00	63.42	257.78	6,000.70	-2,240.59	-875.97	858.74	9.00	7.96	4.89
6,700.00	71.52	262.03	6,038.99	-2,256.66	-966.82	949.47	9.00	8.10	4.24
6,800.00	79.72	265.88	6,063.82	-2,266.79	-1,063.06	1,045.62	9.00	8.19	3.85
6,900.00	87.95	269.54	6,074.55	-2,270.74	-1,162.30	1,144.82	9.00	8.23	3.66
6,924.88	90.00	270.44	6,075.00	-2,270.74	-1,187.17	1,169.70	9.00	8.24	3.61
End Build @ 6924.88ft									
7,000.00	90.00	270.44	6,075.00	-2,270.17	-1,262.29	1,244.82	0.00	0.00	0.00
7,100.00	90.00	270.44	6,075.00	-2,269.40	-1,362.29	1,344.82	0.00	0.00	0.00
7,200.00	90.00	270.44	6,075.00	-2,268.64	-1,462.28	1,444.82	0.00	0.00	0.00
7,300.00	90.00	270.44	6,075.00	-2,267.87	-1,562.28	1,544.82	0.00	0.00	0.00
7,400.00	90.00	270.44	6,075.00	-2,267.11	-1,662.28	1,644.82	0.00	0.00	0.00
7,500.00	90.00	270.44	6,075.00	-2,266.34	-1,762.27	1,744.82	0.00	0.00	0.00
7,600.00	90.00	270.44	6,075.00	-2,265.58	-1,862.27	1,844.82	0.00	0.00	0.00
7,700.00	90.00	270.44	6,075.00	-2,264.82	-1,962.27	1,944.82	0.00	0.00	0.00
7,800.00	90.00	270.44	6,075.00	-2,264.05	-2,062.26	2,044.82	0.00	0.00	0.00
7,900.00	90.00	270.44	6,075.00	-2,263.29	-2,162.26	2,144.82	0.00	0.00	0.00
8,000.00	90.00	270.44	6,075.00	-2,262.52	-2,262.26	2,244.82	0.00	0.00	0.00
8,100.00	90.00	270.44	6,075.00	-2,261.76	-2,362.26	2,344.82	0.00	0.00	0.00
8,200.00	90.00	270.44	6,075.00	-2,260.99	-2,462.25	2,444.82	0.00	0.00	0.00
8,300.00	90.00	270.44	6,075.00	-2,260.23	-2,562.25	2,544.82	0.00	0.00	0.00
8,400.00	90.00	270.44	6,075.00	-2,259.46	-2,662.25	2,644.82	0.00	0.00	0.00
8,500.00	90.00	270.44	6,075.00	-2,258.70	-2,762.24	2,744.82	0.00	0.00	0.00
8,600.00	90.00	270.44	6,075.00	-2,257.94	-2,862.24	2,844.82	0.00	0.00	0.00
8,700.00	90.00	270.44	6,075.00	-2,257.17	-2,962.24	2,944.82	0.00	0.00	0.00
8,800.00	90.00	270.44	6,075.00	-2,256.41	-3,062.24	3,044.82	0.00	0.00	0.00
8,900.00	90.00	270.44	6,075.00	-2,255.64	-3,162.23	3,144.82	0.00	0.00	0.00
9,000.00	90.00	270.44	6,075.00	-2,254.88	-3,262.23	3,244.82	0.00	0.00	0.00
9,100.00	90.00	270.44	6,075.00	-2,254.11	-3,362.23	3,344.82	0.00	0.00	0.00
9,200.00	90.00	270.44	6,075.00	-2,253.35	-3,462.22	3,444.82	0.00	0.00	0.00
9,300.00	90.00	270.44	6,075.00	-2,252.58	-3,562.22	3,544.82	0.00	0.00	0.00
9,400.00	90.00	270.44	6,075.00	-2,251.82	-3,662.22	3,644.82	0.00	0.00	0.00
9,500.00	90.00	270.44	6,075.00	-2,251.06	-3,762.21	3,744.82	0.00	0.00	0.00
9,600.00	90.00	270.44	6,075.00	-2,250.29	-3,862.21	3,844.82	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well DELAND FED 0907-15H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4828.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4828.00usft (RIG)
Site:	8N-59W-09 DELAND FED 0907 PAD	North Reference:	True
Well:	DELAND FED 0907-15H	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)
9,700.00	90.00	270.44	6,075.00	-2,249.53	-3,962.21	3,944.82	0.00	0.00	0.00
9,800.00	90.00	270.44	6,075.00	-2,248.76	-4,062.21	4,044.82	0.00	0.00	0.00
9,900.00	90.00	270.44	6,075.00	-2,248.00	-4,162.20	4,144.82	0.00	0.00	0.00
10,000.00	90.00	270.44	6,075.00	-2,247.23	-4,262.20	4,244.82	0.00	0.00	0.00
10,100.00	90.00	270.44	6,075.00	-2,246.47	-4,362.20	4,344.82	0.00	0.00	0.00
10,200.00	90.00	270.44	6,075.00	-2,245.71	-4,462.19	4,444.82	0.00	0.00	0.00
10,300.00	90.00	270.44	6,075.00	-2,244.94	-4,562.19	4,544.82	0.00	0.00	0.00
10,400.00	90.00	270.44	6,075.00	-2,244.18	-4,662.19	4,644.82	0.00	0.00	0.00
10,500.00	90.00	270.44	6,075.00	-2,243.41	-4,762.19	4,744.82	0.00	0.00	0.00
10,600.00	90.00	270.44	6,075.00	-2,242.65	-4,862.18	4,844.82	0.00	0.00	0.00
10,700.00	90.00	270.44	6,075.00	-2,241.88	-4,962.18	4,944.82	0.00	0.00	0.00
10,800.00	90.00	270.44	6,075.00	-2,241.12	-5,062.18	5,044.82	0.00	0.00	0.00
10,900.00	90.00	270.44	6,075.00	-2,240.35	-5,162.17	5,144.82	0.00	0.00	0.00
11,000.00	90.00	270.44	6,075.00	-2,239.59	-5,262.17	5,244.82	0.00	0.00	0.00
11,100.00	90.00	270.44	6,075.00	-2,238.83	-5,362.17	5,344.82	0.00	0.00	0.00
11,200.00	90.00	270.44	6,075.00	-2,238.06	-5,462.17	5,444.82	0.00	0.00	0.00
11,300.00	90.00	270.44	6,075.00	-2,237.30	-5,562.16	5,544.82	0.00	0.00	0.00
11,400.00	90.00	270.44	6,075.00	-2,236.53	-5,662.16	5,644.82	0.00	0.00	0.00
11,500.00	90.00	270.44	6,075.00	-2,235.77	-5,762.16	5,744.82	0.00	0.00	0.00
11,600.00	90.00	270.44	6,075.00	-2,235.00	-5,862.15	5,844.82	0.00	0.00	0.00
11,700.00	90.00	270.44	6,075.00	-2,234.24	-5,962.15	5,944.82	0.00	0.00	0.00
11,800.00	90.00	270.44	6,075.00	-2,233.47	-6,062.15	6,044.82	0.00	0.00	0.00
11,900.00	90.00	270.44	6,075.00	-2,232.71	-6,162.14	6,144.82	0.00	0.00	0.00
12,000.00	90.00	270.44	6,075.00	-2,231.95	-6,262.14	6,244.82	0.00	0.00	0.00
12,100.00	90.00	270.44	6,075.00	-2,231.18	-6,362.14	6,344.82	0.00	0.00	0.00
12,200.00	90.00	270.44	6,075.00	-2,230.42	-6,462.14	6,444.82	0.00	0.00	0.00
12,300.00	90.00	270.44	6,075.00	-2,229.65	-6,562.13	6,544.82	0.00	0.00	0.00
12,400.00	90.00	270.44	6,075.00	-2,228.89	-6,662.13	6,644.82	0.00	0.00	0.00
12,500.00	90.00	270.44	6,075.00	-2,228.12	-6,762.13	6,744.82	0.00	0.00	0.00
12,600.00	90.00	270.44	6,075.00	-2,227.36	-6,862.12	6,844.82	0.00	0.00	0.00
12,700.00	90.00	270.44	6,075.00	-2,226.60	-6,962.12	6,944.82	0.00	0.00	0.00
12,800.00	90.00	270.44	6,075.00	-2,225.83	-7,062.12	7,044.82	0.00	0.00	0.00
12,900.00	90.00	270.44	6,075.00	-2,225.07	-7,162.12	7,144.82	0.00	0.00	0.00
13,000.00	90.00	270.44	6,075.00	-2,224.30	-7,262.11	7,244.82	0.00	0.00	0.00
13,100.00	90.00	270.44	6,075.00	-2,223.54	-7,362.11	7,344.82	0.00	0.00	0.00
13,200.00	90.00	270.44	6,075.00	-2,222.77	-7,462.11	7,444.82	0.00	0.00	0.00
13,300.00	90.00	270.44	6,075.00	-2,222.01	-7,562.10	7,544.82	0.00	0.00	0.00
13,400.00	90.00	270.44	6,075.00	-2,221.24	-7,662.10	7,644.82	0.00	0.00	0.00
13,500.00	90.00	270.44	6,075.00	-2,220.48	-7,762.10	7,744.82	0.00	0.00	0.00
13,600.00	90.00	270.44	6,075.00	-2,219.72	-7,862.10	7,844.82	0.00	0.00	0.00
13,700.00	90.00	270.44	6,075.00	-2,218.95	-7,962.09	7,944.82	0.00	0.00	0.00
13,800.00	90.00	270.44	6,075.00	-2,218.19	-8,062.09	8,044.82	0.00	0.00	0.00
13,900.00	90.00	270.44	6,075.00	-2,217.42	-8,162.09	8,144.82	0.00	0.00	0.00
14,000.00	90.00	270.44	6,075.00	-2,216.66	-8,262.08	8,244.82	0.00	0.00	0.00
14,100.00	90.00	270.44	6,075.00	-2,215.89	-8,362.08	8,344.82	0.00	0.00	0.00
14,200.00	90.00	270.44	6,075.00	-2,215.13	-8,462.08	8,444.82	0.00	0.00	0.00
14,300.00	90.00	270.44	6,075.00	-2,214.36	-8,562.07	8,544.82	0.00	0.00	0.00
14,400.00	90.00	270.44	6,075.00	-2,213.60	-8,662.07	8,644.82	0.00	0.00	0.00
14,500.00	90.00	270.44	6,075.00	-2,212.84	-8,762.07	8,744.82	0.00	0.00	0.00
14,600.00	90.00	270.44	6,075.00	-2,212.07	-8,862.07	8,844.82	0.00	0.00	0.00
14,700.00	90.00	270.44	6,075.00	-2,211.31	-8,962.06	8,944.82	0.00	0.00	0.00
14,800.00	90.00	270.44	6,075.00	-2,210.54	-9,062.06	9,044.82	0.00	0.00	0.00
14,900.00	90.00	270.44	6,075.00	-2,209.78	-9,162.06	9,144.82	0.00	0.00	0.00
15,000.00	90.00	270.44	6,075.00	-2,209.01	-9,262.05	9,244.82	0.00	0.00	0.00

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well DELAND FED 0907-15H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4828.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4828.00usft (RIG)
Site:	8N-59W-09 DELAND FED 0907 PAD	North Reference:	True
Well:	DELAND FED 0907-15H	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)	
15,100.00	90.00	270.44	6,075.00	-2,208.25	-9,362.05	9,344.82	0.00	0.00	0.00	
15,200.00	90.00	270.44	6,075.00	-2,207.49	-9,462.05	9,444.82	0.00	0.00	0.00	
15,300.00	90.00	270.44	6,075.00	-2,206.72	-9,562.05	9,544.82	0.00	0.00	0.00	
15,400.00	90.00	270.44	6,075.00	-2,205.96	-9,662.04	9,644.82	0.00	0.00	0.00	
15,500.00	90.00	270.44	6,075.00	-2,205.19	-9,762.04	9,744.82	0.00	0.00	0.00	
15,600.00	90.00	270.44	6,075.00	-2,204.43	-9,862.04	9,844.82	0.00	0.00	0.00	
15,700.00	90.00	270.44	6,075.00	-2,203.66	-9,962.03	9,944.82	0.00	0.00	0.00	
15,800.00	90.00	270.44	6,075.00	-2,202.90	-10,062.03	10,044.82	0.00	0.00	0.00	
15,900.00	90.00	270.44	6,075.00	-2,202.13	-10,162.03	10,144.82	0.00	0.00	0.00	
16,000.00	90.00	270.44	6,075.00	-2,201.37	-10,262.03	10,244.82	0.00	0.00	0.00	
16,100.00	90.00	270.44	6,075.00	-2,200.61	-10,362.02	10,344.82	0.00	0.00	0.00	
16,200.00	90.00	270.44	6,075.00	-2,199.84	-10,462.02	10,444.82	0.00	0.00	0.00	
16,300.00	90.00	270.44	6,075.00	-2,199.08	-10,562.02	10,544.82	0.00	0.00	0.00	
16,400.00	90.00	270.44	6,075.00	-2,198.31	-10,662.01	10,644.82	0.00	0.00	0.00	
16,500.00	90.00	270.44	6,075.00	-2,197.55	-10,762.01	10,744.82	0.00	0.00	0.00	
16,600.00	90.00	270.44	6,075.00	-2,196.78	-10,862.01	10,844.82	0.00	0.00	0.00	
16,700.00	90.00	270.44	6,075.00	-2,196.02	-10,962.00	10,944.82	0.00	0.00	0.00	
16,800.00	90.00	270.44	6,075.00	-2,195.25	-11,062.00	11,044.82	0.00	0.00	0.00	
16,900.00	90.00	270.44	6,075.00	-2,194.49	-11,162.00	11,144.82	0.00	0.00	0.00	
16,922.71	90.00	270.44	6,075.00	-2,194.32	-11,184.71	11,167.53	0.00	0.00	0.00	
TD Well @ 16922.71ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,762.57	1,700.00	9 5/8"	9-5/8	13-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Begin Tangent @ 250.00ft	
1,467.50	1,431.18	-246.04	-66.39	End Tangent @ 1467.50ft	
5,991.44	5,552.69	-2,046.90	-552.30	KOP @ 5991.44ft :: DLS = 9°/100'	
6,924.88	6,075.00	-2,270.74	-1,187.17	End Build @ 6924.88ft	
16,922.71	6,075.00	-2,194.32	-11,184.71	TD Well @ 16922.71ft	