

VERDAD RESOURCES

WATTENBERG FIELD

8N-61W-29 GAFFNEY 2920 PAD

GAFFNEY 2920-08H

Plan B

Plan: Permit Rev-1

Standard Planning Report

07 June, 2024

Project: WATTENBERG FIELD
Site: 8N-61W-29 GAFFNEY 2920 PAD
Well: GAFFNEY 2920-08H
Wellbore: Plan B
Design: Permit Rev-1

VERDAD RESOURCES

CASING DETAILS

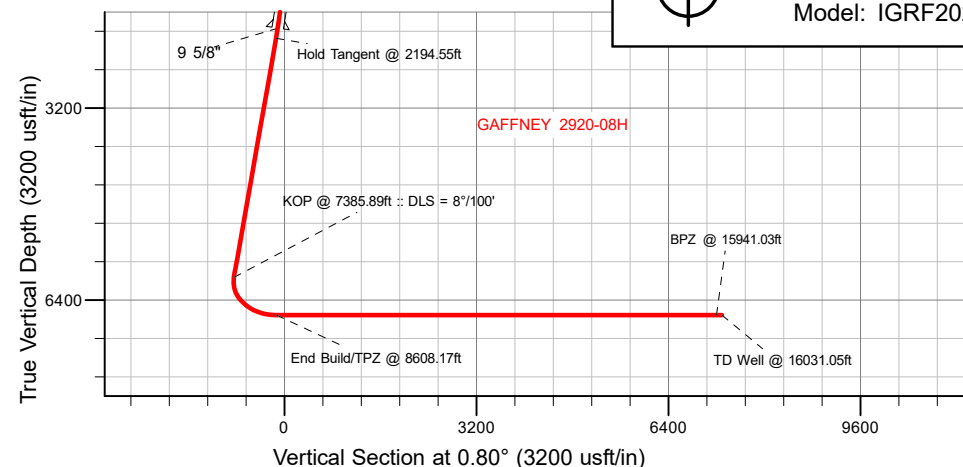
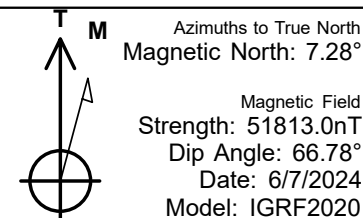
TVD	MD	Name	Size
1871.00	1983.98	9 5/8"	9-5/8

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	
200.55	0.00	0.00	200.55	0.00	0.00	0.00	0.00	0.00	
2194.55	39.88	102.99	2037.40	-149.79	649.33	2.00	102.99	-140.71	
7385.89	39.88	102.99	6021.18	-897.99	3892.74	0.00	0.00	-843.56	
8608.17	90.00	0.80	6651.00	-195.63	4416.95	8.00	-99.41	-133.94	
16031.05	90.00	0.80	6651.00	7226.53	4520.33	0.00	0.00	7288.94	GAFFNEY 2920-08H_BHL

DESIGN TARGET DETAILS

Name	TVD	Northing	Easting	Latitude	Longitude
GAFFNEY 2920-08H_SHL	0.00	1476296.95	3350313.64	40.633987	-104.237789
GAFFNEY 2920-08H_LP	6651.00	1476163.95	3354732.79	40.633449	-104.221876
GAFFNEY 2920-08H_BPZ	6651.00	1483497.07	3354730.68	40.653575	-104.221502
GAFFNEY 2920-08H_BHL	6651.00	1483587.09	3354730.65	40.653822	-104.221498



WELL DETAILS: GAFFNEY 2920-08H

GL = 4991'

RKB = 21' @ 5012.00usft (RIG)

Plan: Permit Rev-1 (GAFFNEY 2920-08H/Plan B)

Date: 6/7/2024

SHL
2098' FNL
575' FWL

LP/TPZ
2340' FNL
338' FEL

BPZ
300' FNL
338' FEL

BHL
210' FNL
338' FEL

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GAFFNEY 2920-08H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 21' @ 5012.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 21' @ 5012.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-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-61W-29 GAFFNEY 2920 PAD			
Site Position:		Northing:	1,476,229.35 usft	Latitude: 40.633806
From:	Map	Easting:	3,350,201.64 usft	Longitude: -104.238196
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	

Well	GAFFNEY 2920-08H			
Well Position	+N/-S	0.00 usft	Northing:	1,476,296.95 usft
	+E/-W	0.00 usft	Easting:	3,350,313.64 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft
Grid Convergence:		0.82 °	Ground Level:	4,991.00 usft

Wellbore	Plan B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	6/7/2024	7.28	66.78	51,812.97375402

Design	Permit Rev-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	0.80	

Plan Survey Tool Program		Date	6/6/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,871.00	Permit Rev-1 (Plan B)	ISCWSA MWD	Fixed:v2:standard declination
2	1,871.00	16,031.05	Permit Rev-1 (Plan B)	ISCWSA MWD	Fixed:v2:standard declination

Planning Report

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Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

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	
200.55	0.00	0.00	200.55	0.00	0.00	0.00	0.00	0.00	0.00	
2,194.55	39.88	102.99	2,037.40	-149.79	649.33	2.00	2.00	0.00	102.99	
7,385.89	39.88	102.99	6,021.18	-897.99	3,892.74	0.00	0.00	0.00	0.00	
8,608.17	90.00	0.80	6,651.00	-195.63	4,416.95	8.00	4.10	-8.36	-99.41	
16,031.05	90.00	0.80	6,651.00	7,226.53	4,520.33	0.00	0.00	0.00	0.00	GAFFNEY 2920-08H_

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 21' @ 5012.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 21' @ 5012.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-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
200.55	0.00	0.00	200.55	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 200.55ft									
300.00	1.99	102.99	299.98	-0.39	1.68	-0.36	2.00	2.00	0.00
400.00	3.99	102.99	399.84	-1.56	6.76	-1.47	2.00	2.00	0.00
500.00	5.99	102.99	499.46	-3.51	15.24	-3.30	2.00	2.00	0.00
600.00	7.99	102.99	598.71	-6.25	27.09	-5.87	2.00	2.00	0.00
700.00	9.99	102.99	697.47	-9.76	42.32	-9.17	2.00	2.00	0.00
800.00	11.99	102.99	795.64	-14.05	60.89	-13.19	2.00	2.00	0.00
900.00	13.99	102.99	893.07	-19.10	82.79	-17.94	2.00	2.00	0.00
1,000.00	15.99	102.99	989.66	-24.91	107.99	-23.40	2.00	2.00	0.00
1,100.00	17.99	102.99	1,085.30	-31.48	136.46	-29.57	2.00	2.00	0.00
1,200.00	19.99	102.99	1,179.85	-38.79	168.16	-36.44	2.00	2.00	0.00
1,300.00	21.99	102.99	1,273.21	-46.84	203.06	-44.00	2.00	2.00	0.00
1,400.00	23.99	102.99	1,365.26	-55.62	241.12	-52.25	2.00	2.00	0.00
1,500.00	25.99	102.99	1,455.90	-65.12	282.28	-61.17	2.00	2.00	0.00
1,600.00	27.99	102.99	1,545.00	-75.32	326.50	-70.75	2.00	2.00	0.00
1,700.00	29.99	102.99	1,632.47	-86.21	373.72	-80.98	2.00	2.00	0.00
1,800.00	31.99	102.99	1,718.19	-97.78	423.89	-91.86	2.00	2.00	0.00
1,900.00	33.99	102.99	1,802.06	-110.02	476.94	-103.35	2.00	2.00	0.00
1,983.98	35.67	102.99	1,871.00	-120.80	523.67	-113.48	2.00	2.00	0.00
9 5/8"									
2,000.00	35.99	102.99	1,883.99	-122.91	532.81	-115.46	2.00	2.00	0.00
2,100.00	37.99	102.99	1,963.86	-136.43	591.43	-128.16	2.00	2.00	0.00
2,194.55	39.88	102.99	2,037.40	-149.79	649.33	-140.71	2.00	2.00	0.00
Hold Tangent @ 2194.55ft									
2,200.00	39.88	102.99	2,041.58	-150.58	652.73	-141.45	0.00	0.00	0.00
2,300.00	39.88	102.99	2,118.32	-164.99	715.21	-154.99	0.00	0.00	0.00
2,400.00	39.88	102.99	2,195.06	-179.40	777.69	-168.52	0.00	0.00	0.00
2,500.00	39.88	102.99	2,271.80	-193.81	840.17	-182.06	0.00	0.00	0.00
2,600.00	39.88	102.99	2,348.54	-208.23	902.64	-195.60	0.00	0.00	0.00
2,700.00	39.88	102.99	2,425.28	-222.64	965.12	-209.14	0.00	0.00	0.00
2,800.00	39.88	102.99	2,502.02	-237.05	1,027.60	-222.68	0.00	0.00	0.00
2,900.00	39.88	102.99	2,578.76	-251.46	1,090.07	-236.22	0.00	0.00	0.00
3,000.00	39.88	102.99	2,655.49	-265.88	1,152.55	-249.76	0.00	0.00	0.00
3,100.00	39.88	102.99	2,732.23	-280.29	1,215.03	-263.30	0.00	0.00	0.00
3,200.00	39.88	102.99	2,808.97	-294.70	1,277.51	-276.84	0.00	0.00	0.00
3,300.00	39.88	102.99	2,885.71	-309.11	1,339.98	-290.37	0.00	0.00	0.00
3,400.00	39.88	102.99	2,962.45	-323.53	1,402.46	-303.91	0.00	0.00	0.00
3,500.00	39.88	102.99	3,039.19	-337.94	1,464.94	-317.45	0.00	0.00	0.00
3,600.00	39.88	102.99	3,115.93	-352.35	1,527.42	-330.99	0.00	0.00	0.00
3,700.00	39.88	102.99	3,192.67	-366.76	1,589.89	-344.53	0.00	0.00	0.00
3,800.00	39.88	102.99	3,269.41	-381.18	1,652.37	-358.07	0.00	0.00	0.00
3,900.00	39.88	102.99	3,346.14	-395.59	1,714.85	-371.61	0.00	0.00	0.00
4,000.00	39.88	102.99	3,422.88	-410.00	1,777.33	-385.15	0.00	0.00	0.00
4,100.00	39.88	102.99	3,499.62	-424.41	1,839.80	-398.68	0.00	0.00	0.00
4,200.00	39.88	102.99	3,576.36	-438.83	1,902.28	-412.22	0.00	0.00	0.00
4,300.00	39.88	102.99	3,653.10	-453.24	1,964.76	-425.76	0.00	0.00	0.00
4,400.00	39.88	102.99	3,729.84	-467.65	2,027.24	-439.30	0.00	0.00	0.00
4,500.00	39.88	102.99	3,806.58	-482.06	2,089.71	-452.84	0.00	0.00	0.00
4,600.00	39.88	102.99	3,883.32	-496.48	2,152.19	-466.38	0.00	0.00	0.00
4,700.00	39.88	102.99	3,960.06	-510.89	2,214.67	-479.92	0.00	0.00	0.00

Planning Report

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 21' @ 5012.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-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	39.88	102.99	4,036.79	-525.30	2,277.14	-493.46	0.00	0.00	0.00
4,900.00	39.88	102.99	4,113.53	-539.71	2,339.62	-507.00	0.00	0.00	0.00
5,000.00	39.88	102.99	4,190.27	-554.13	2,402.10	-520.53	0.00	0.00	0.00
5,100.00	39.88	102.99	4,267.01	-568.54	2,464.58	-534.07	0.00	0.00	0.00
5,200.00	39.88	102.99	4,343.75	-582.95	2,527.05	-547.61	0.00	0.00	0.00
5,300.00	39.88	102.99	4,420.49	-597.36	2,589.53	-561.15	0.00	0.00	0.00
5,400.00	39.88	102.99	4,497.23	-611.78	2,652.01	-574.69	0.00	0.00	0.00
5,500.00	39.88	102.99	4,573.97	-626.19	2,714.49	-588.23	0.00	0.00	0.00
5,600.00	39.88	102.99	4,650.71	-640.60	2,776.96	-601.77	0.00	0.00	0.00
5,700.00	39.88	102.99	4,727.44	-655.01	2,839.44	-615.31	0.00	0.00	0.00
5,800.00	39.88	102.99	4,804.18	-669.43	2,901.92	-628.84	0.00	0.00	0.00
5,900.00	39.88	102.99	4,880.92	-683.84	2,964.40	-642.38	0.00	0.00	0.00
6,000.00	39.88	102.99	4,957.66	-698.25	3,026.87	-655.92	0.00	0.00	0.00
6,100.00	39.88	102.99	5,034.40	-712.66	3,089.35	-669.46	0.00	0.00	0.00
6,200.00	39.88	102.99	5,111.14	-727.08	3,151.83	-683.00	0.00	0.00	0.00
6,300.00	39.88	102.99	5,187.88	-741.49	3,214.30	-696.54	0.00	0.00	0.00
6,400.00	39.88	102.99	5,264.62	-755.90	3,276.78	-710.08	0.00	0.00	0.00
6,500.00	39.88	102.99	5,341.36	-770.31	3,339.26	-723.62	0.00	0.00	0.00
6,600.00	39.88	102.99	5,418.09	-784.73	3,401.74	-737.16	0.00	0.00	0.00
6,700.00	39.88	102.99	5,494.83	-799.14	3,464.21	-750.69	0.00	0.00	0.00
6,800.00	39.88	102.99	5,571.57	-813.55	3,526.69	-764.23	0.00	0.00	0.00
6,900.00	39.88	102.99	5,648.31	-827.97	3,589.17	-777.77	0.00	0.00	0.00
7,000.00	39.88	102.99	5,725.05	-842.38	3,651.65	-791.31	0.00	0.00	0.00
7,100.00	39.88	102.99	5,801.79	-856.79	3,714.12	-804.85	0.00	0.00	0.00
7,200.00	39.88	102.99	5,878.53	-871.20	3,776.60	-818.39	0.00	0.00	0.00
7,300.00	39.88	102.99	5,955.27	-885.62	3,839.08	-831.93	0.00	0.00	0.00
7,385.89	39.88	102.99	6,021.18	-897.99	3,892.74	-843.56	0.00	0.00	0.00
KOP @ 7385.89ft :: DLS = 8°/100'									
7,400.00	39.71	101.25	6,032.02	-899.89	3,901.57	-845.33	8.00	-1.22	-12.35
7,450.00	39.31	94.99	6,070.61	-904.38	3,933.03	-849.38	8.00	-0.79	-12.52
7,500.00	39.26	88.67	6,109.33	-905.39	3,964.63	-849.95	8.00	-0.11	-12.64
7,550.00	39.54	82.38	6,147.98	-902.92	3,996.24	-847.03	8.00	0.57	-12.58
7,600.00	40.16	76.21	6,186.38	-896.96	4,027.69	-840.64	8.00	1.24	-12.34
7,650.00	41.10	70.24	6,224.34	-887.56	4,058.82	-830.80	8.00	1.87	-11.95
7,700.00	42.33	64.52	6,261.68	-874.76	4,089.50	-817.57	8.00	2.46	-11.44
7,750.00	43.83	59.09	6,298.21	-858.61	4,119.56	-801.01	8.00	3.00	-10.86
7,800.00	45.58	53.97	6,333.76	-839.21	4,148.87	-781.20	8.00	3.49	-10.24
7,850.00	47.54	49.17	6,368.15	-816.64	4,177.27	-758.23	8.00	3.92	-9.61
7,900.00	49.68	44.67	6,401.22	-791.01	4,204.63	-732.23	8.00	4.30	-9.00
7,950.00	51.99	40.45	6,432.80	-762.45	4,230.83	-703.31	8.00	4.62	-8.42
8,000.00	54.45	36.51	6,462.74	-731.10	4,255.72	-671.61	8.00	4.90	-7.89
8,050.00	57.02	32.80	6,490.90	-697.11	4,279.19	-637.30	8.00	5.15	-7.41
8,100.00	59.70	29.31	6,517.13	-660.65	4,301.13	-600.53	8.00	5.35	-6.99
8,150.00	62.46	26.00	6,541.31	-621.89	4,321.42	-561.49	8.00	5.53	-6.61
8,200.00	65.30	22.86	6,563.33	-581.02	4,339.97	-520.37	8.00	5.68	-6.28
8,250.00	68.20	19.87	6,583.07	-538.25	4,356.69	-477.36	8.00	5.80	-6.00
8,300.00	71.15	16.99	6,600.44	-493.77	4,371.49	-432.69	8.00	5.90	-5.76
8,350.00	74.15	14.21	6,615.35	-447.81	4,384.31	-386.55	8.00	5.99	-5.56
8,400.00	77.18	11.51	6,627.74	-400.59	4,395.09	-339.19	8.00	6.06	-5.39
8,450.00	80.23	8.88	6,637.53	-352.34	4,403.76	-290.82	8.00	6.11	-5.26
8,500.00	83.31	6.30	6,644.69	-303.30	4,410.29	-241.70	8.00	6.15	-5.17
8,550.00	86.40	3.75	6,649.17	-253.70	4,414.64	-192.04	8.00	6.18	-5.10
8,600.00	89.49	1.21	6,650.97	-203.79	4,416.80	-142.11	8.00	6.19	-5.07
8,608.17	90.00	0.80	6,651.00	-195.63	4,416.95	-133.94	8.00	6.20	-5.06

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 21' @ 5012.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 21' @ 5012.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-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)
End Build/TPZ @ 8608.17ft									
8,700.00	90.00	0.80	6,651.00	-103.80	4,418.22	-42.11	0.00	0.00	0.00
8,800.00	90.00	0.80	6,651.00	-3.81	4,419.62	57.89	0.00	0.00	0.00
8,900.00	90.00	0.80	6,651.00	96.18	4,421.01	157.89	0.00	0.00	0.00
9,000.00	90.00	0.80	6,651.00	196.17	4,422.40	257.89	0.00	0.00	0.00
9,100.00	90.00	0.80	6,651.00	296.16	4,423.80	357.89	0.00	0.00	0.00
9,200.00	90.00	0.80	6,651.00	396.15	4,425.19	457.89	0.00	0.00	0.00
9,300.00	90.00	0.80	6,651.00	496.14	4,426.58	557.89	0.00	0.00	0.00
9,400.00	90.00	0.80	6,651.00	596.13	4,427.97	657.89	0.00	0.00	0.00
9,500.00	90.00	0.80	6,651.00	696.12	4,429.37	757.89	0.00	0.00	0.00
9,600.00	90.00	0.80	6,651.00	796.11	4,430.76	857.89	0.00	0.00	0.00
9,700.00	90.00	0.80	6,651.00	896.10	4,432.15	957.89	0.00	0.00	0.00
9,800.00	90.00	0.80	6,651.00	996.09	4,433.54	1,057.89	0.00	0.00	0.00
9,900.00	90.00	0.80	6,651.00	1,096.08	4,434.94	1,157.89	0.00	0.00	0.00
10,000.00	90.00	0.80	6,651.00	1,196.07	4,436.33	1,257.89	0.00	0.00	0.00
10,100.00	90.00	0.80	6,651.00	1,296.06	4,437.72	1,357.89	0.00	0.00	0.00
10,200.00	90.00	0.80	6,651.00	1,396.05	4,439.12	1,457.89	0.00	0.00	0.00
10,300.00	90.00	0.80	6,651.00	1,496.04	4,440.51	1,557.89	0.00	0.00	0.00
10,400.00	90.00	0.80	6,651.00	1,596.03	4,441.90	1,657.89	0.00	0.00	0.00
10,500.00	90.00	0.80	6,651.00	1,696.02	4,443.29	1,757.89	0.00	0.00	0.00
10,600.00	90.00	0.80	6,651.00	1,796.01	4,444.69	1,857.89	0.00	0.00	0.00
10,700.00	90.00	0.80	6,651.00	1,896.00	4,446.08	1,957.89	0.00	0.00	0.00
10,800.00	90.00	0.80	6,651.00	1,995.99	4,447.47	2,057.89	0.00	0.00	0.00
10,900.00	90.00	0.80	6,651.00	2,095.98	4,448.87	2,157.89	0.00	0.00	0.00
11,000.00	90.00	0.80	6,651.00	2,195.97	4,450.26	2,257.89	0.00	0.00	0.00
11,100.00	90.00	0.80	6,651.00	2,295.96	4,451.65	2,357.89	0.00	0.00	0.00
11,200.00	90.00	0.80	6,651.00	2,395.95	4,453.04	2,457.89	0.00	0.00	0.00
11,300.00	90.00	0.80	6,651.00	2,495.94	4,454.44	2,557.89	0.00	0.00	0.00
11,400.00	90.00	0.80	6,651.00	2,595.93	4,455.83	2,657.89	0.00	0.00	0.00
11,500.00	90.00	0.80	6,651.00	2,695.92	4,457.22	2,757.89	0.00	0.00	0.00
11,600.00	90.00	0.80	6,651.00	2,795.91	4,458.61	2,857.89	0.00	0.00	0.00
11,700.00	90.00	0.80	6,651.00	2,895.90	4,460.01	2,957.89	0.00	0.00	0.00
11,800.00	90.00	0.80	6,651.00	2,995.90	4,461.40	3,057.89	0.00	0.00	0.00
11,900.00	90.00	0.80	6,651.00	3,095.89	4,462.79	3,157.89	0.00	0.00	0.00
12,000.00	90.00	0.80	6,651.00	3,195.88	4,464.19	3,257.89	0.00	0.00	0.00
12,100.00	90.00	0.80	6,651.00	3,295.87	4,465.58	3,357.89	0.00	0.00	0.00
12,200.00	90.00	0.80	6,651.00	3,395.86	4,466.97	3,457.89	0.00	0.00	0.00
12,300.00	90.00	0.80	6,651.00	3,495.85	4,468.36	3,557.89	0.00	0.00	0.00
12,400.00	90.00	0.80	6,651.00	3,595.84	4,469.76	3,657.89	0.00	0.00	0.00
12,500.00	90.00	0.80	6,651.00	3,695.83	4,471.15	3,757.89	0.00	0.00	0.00
12,600.00	90.00	0.80	6,651.00	3,795.82	4,472.54	3,857.89	0.00	0.00	0.00
12,700.00	90.00	0.80	6,651.00	3,895.81	4,473.93	3,957.89	0.00	0.00	0.00
12,800.00	90.00	0.80	6,651.00	3,995.80	4,475.33	4,057.89	0.00	0.00	0.00
12,900.00	90.00	0.80	6,651.00	4,095.79	4,476.72	4,157.89	0.00	0.00	0.00
13,000.00	90.00	0.80	6,651.00	4,195.78	4,478.11	4,257.89	0.00	0.00	0.00
13,100.00	90.00	0.80	6,651.00	4,295.77	4,479.51	4,357.89	0.00	0.00	0.00
13,200.00	90.00	0.80	6,651.00	4,395.76	4,480.90	4,457.89	0.00	0.00	0.00
13,300.00	90.00	0.80	6,651.00	4,495.75	4,482.29	4,557.89	0.00	0.00	0.00
13,400.00	90.00	0.80	6,651.00	4,595.74	4,483.68	4,657.89	0.00	0.00	0.00
13,500.00	90.00	0.80	6,651.00	4,695.73	4,485.08	4,757.89	0.00	0.00	0.00
13,600.00	90.00	0.80	6,651.00	4,795.72	4,486.47	4,857.89	0.00	0.00	0.00
13,700.00	90.00	0.80	6,651.00	4,895.71	4,487.86	4,957.89	0.00	0.00	0.00
13,800.00	90.00	0.80	6,651.00	4,995.70	4,489.26	5,057.89	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GAFFNEY 2920-08H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 21' @ 5012.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 21' @ 5012.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-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)
13,900.00	90.00	0.80	6,651.00	5,095.69	4,490.65	5,157.89	0.00	0.00	0.00
14,000.00	90.00	0.80	6,651.00	5,195.68	4,492.04	5,257.89	0.00	0.00	0.00
14,100.00	90.00	0.80	6,651.00	5,295.67	4,493.43	5,357.89	0.00	0.00	0.00
14,200.00	90.00	0.80	6,651.00	5,395.66	4,494.83	5,457.89	0.00	0.00	0.00
14,300.00	90.00	0.80	6,651.00	5,495.65	4,496.22	5,557.89	0.00	0.00	0.00
14,400.00	90.00	0.80	6,651.00	5,595.64	4,497.61	5,657.89	0.00	0.00	0.00
14,500.00	90.00	0.80	6,651.00	5,695.63	4,499.00	5,757.89	0.00	0.00	0.00
14,600.00	90.00	0.80	6,651.00	5,795.62	4,500.40	5,857.89	0.00	0.00	0.00
14,700.00	90.00	0.80	6,651.00	5,895.61	4,501.79	5,957.89	0.00	0.00	0.00
14,800.00	90.00	0.80	6,651.00	5,995.60	4,503.18	6,057.89	0.00	0.00	0.00
14,900.00	90.00	0.80	6,651.00	6,095.59	4,504.58	6,157.89	0.00	0.00	0.00
15,000.00	90.00	0.80	6,651.00	6,195.58	4,505.97	6,257.89	0.00	0.00	0.00
15,100.00	90.00	0.80	6,651.00	6,295.58	4,507.36	6,357.89	0.00	0.00	0.00
15,200.00	90.00	0.80	6,651.00	6,395.57	4,508.75	6,457.89	0.00	0.00	0.00
15,300.00	90.00	0.80	6,651.00	6,495.56	4,510.15	6,557.89	0.00	0.00	0.00
15,400.00	90.00	0.80	6,651.00	6,595.55	4,511.54	6,657.89	0.00	0.00	0.00
15,500.00	90.00	0.80	6,651.00	6,695.54	4,512.93	6,757.89	0.00	0.00	0.00
15,600.00	90.00	0.80	6,651.00	6,795.53	4,514.32	6,857.89	0.00	0.00	0.00
15,700.00	90.00	0.80	6,651.00	6,895.52	4,515.72	6,957.89	0.00	0.00	0.00
15,800.00	90.00	0.80	6,651.00	6,995.51	4,517.11	7,057.89	0.00	0.00	0.00
15,900.00	90.00	0.80	6,651.00	7,095.50	4,518.50	7,157.89	0.00	0.00	0.00
15,941.03	90.00	0.80	6,651.00	7,136.52	4,519.07	7,198.92	0.00	0.00	0.00
BPZ @ 15941.03ft									
16,000.00	90.00	0.80	6,651.00	7,195.49	4,519.90	7,257.89	0.00	0.00	0.00
16,031.05	90.00	0.80	6,651.00	7,226.53	4,520.33	7,288.94	0.00	0.00	0.00
TD Well @ 16031.05ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,983.98	1,871.00	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)	
200.55	200.55	0.00	0.00	Begin Nudge @ 200.55ft
2,194.55	2,037.40	-149.79	649.33	Hold Tangent @ 2194.55ft
7,385.89	6,021.18	-897.99	3,892.74	KOP @ 7385.89ft :: DLS = 8°/100'
8,608.17	6,651.00	-195.63	4,416.95	End Build/TPZ @ 8608.17ft
15,941.03	6,651.00	7,136.52	4,519.07	BPZ @ 15941.03ft
16,031.05	6,651.00	7,226.53	4,520.33	TD Well @ 16031.05ft