

VERDAD RESOURCES

WATTENBERG FIELD

8N-61W-29 GAFFNEY 2920 PAD

GAFFNEY 2920-07H

Plan A

Plan: Permit Rev-1

Standard Planning Report

27 September, 2022

Project: WATTENBERG FIELD
Site: 8N-61W-29 GAFFNEY 2920 PAD
Well: GAFFNEY 2920-07H
Wellbore: Plan A
Design: Permit Rev-1

VERDAD RESOURCES

CASING DETAILS

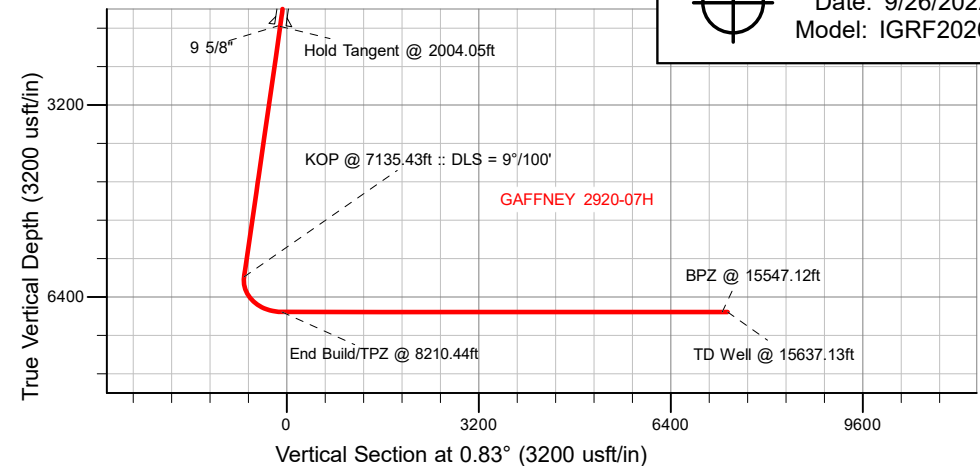
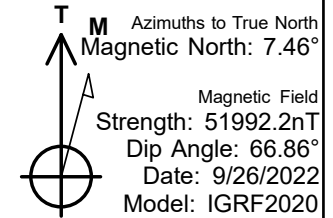
TVD	MD	Name	Size
1870.00	1976.89	9 5/8"	9-5/8

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	
226.55	0.00	0.00	226.55	0.00	0.00	0.00	0.00	0.00	
2004.05	35.55	102.49	1892.18	-115.48	521.34	2.00	102.49	-107.92	
7135.43	35.55	102.49	6067.11	-760.71	3434.18	0.00	0.00	-710.88	
8210.44	90.00	0.83	6650.00	-134.45	3851.18	9.00	-99.53	-78.64	
15637.13	90.00	0.83	6650.00	7291.47	3958.13	0.00	0.00	7348.04	GAFFNEY 2920-07H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
GAFFNEY 2920-07H_SHL	0.00	1476229.34	3350297.64	40.633802	-104.237850
GAFFNEY 2920-07H_LP	6650.00	1476149.52	3354150.28	40.633432	-104.223975
GAFFNEY 2920-07H_BPZ	6650.00	1483486.40	3354151.57	40.653569	-104.223590
GAFFNEY 2920-07H_BHL	6650.00	1483576.41	3354151.59	40.653816	-104.223585



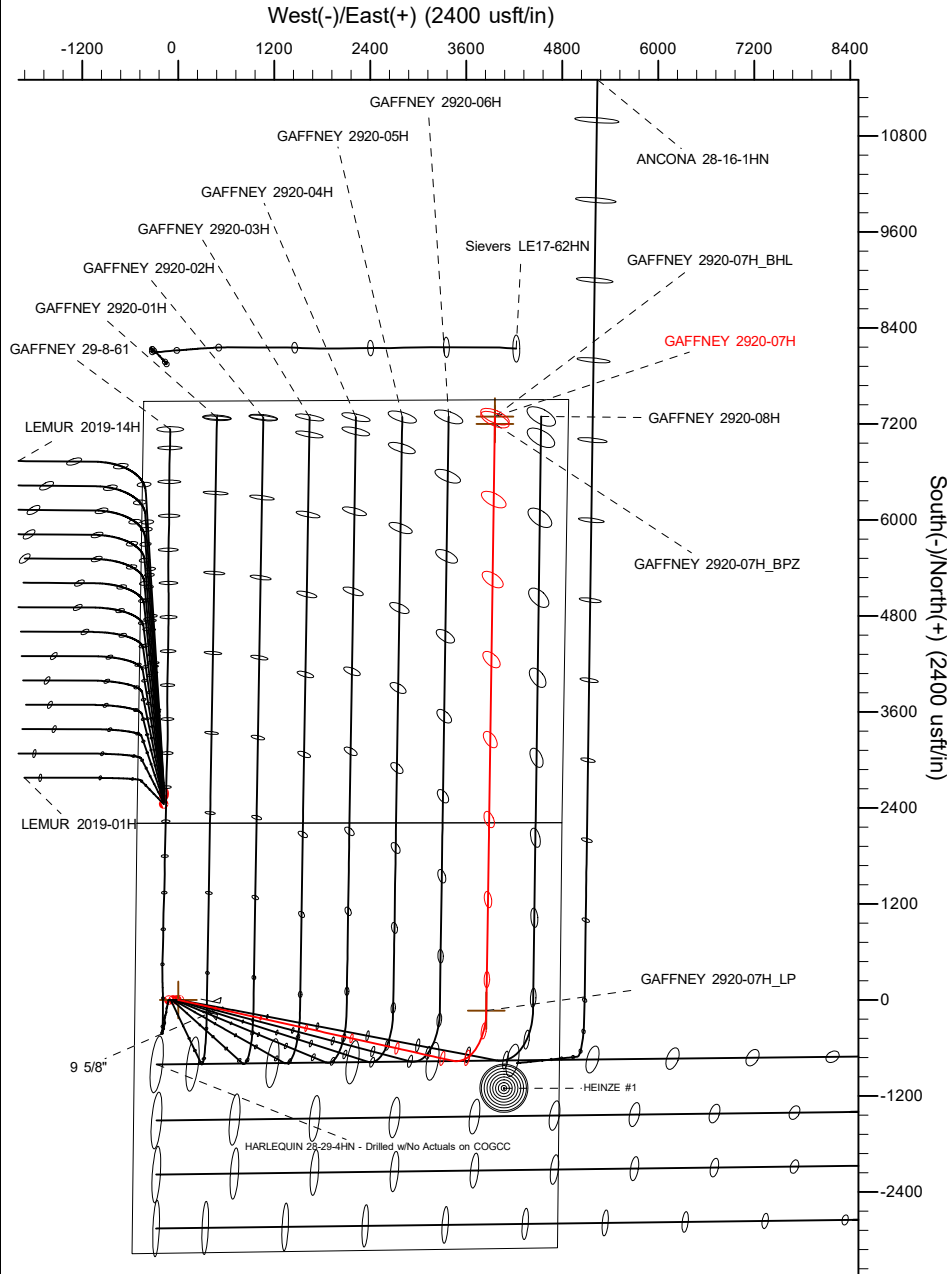
WELL DETAILS: GAFFNEY 2920-07H

GL = 4991'

RKB = 20' @ 5011.00usft (RIG)

Plan: Permit Rev-1 (GAFFNEY 2920-07H/Plan A)

Date: 9/27/2022



SHL
2165' FNL
559' FWL

LP
2340' FNL
920' FEL

BPZ
300' FNL
917' FEL

BHL
210' FNL
917' FEL

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GAFFNEY 2920-07H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5011.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5011.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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 2920-07H			
Well Position	+N/-S	0.00 usft	Northing:	1,476,229.34 usft
	+E/-W	0.00 usft	Easting:	3,350,297.64 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft
Grid Convergence:		0.82 °	Ground Level:	4,991.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	9/26/2022	7.46	66.86	51,992.17958447

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	0.83

Plan Survey Tool Program		Date	9/27/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,870.00	Permit Rev-1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination
2	1,870.00	15,637.13	Permit Rev-1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination

Planning Report

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Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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	
226.55	0.00	0.00	226.55	0.00	0.00	0.00	0.00	0.00	0.00	
2,004.05	35.55	102.49	1,892.18	-115.48	521.34	2.00	2.00	0.00	102.49	
7,135.43	35.55	102.49	6,067.11	-760.71	3,434.18	0.00	0.00	0.00	0.00	
8,210.44	90.00	0.83	6,650.00	-134.45	3,851.18	9.00	5.07	-9.46	-99.53	
15,637.13	90.00	0.83	6,650.00	7,291.47	3,958.13	0.00	0.00	0.00	0.00	GAFFNEY 2920-07H_

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5011.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5011.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
226.55	0.00	0.00	226.55	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 226.55ft									
300.00	1.47	102.49	299.99	-0.20	0.92	-0.19	2.00	2.00	0.00
400.00	3.47	102.49	399.89	-1.14	5.12	-1.06	2.00	2.00	0.00
500.00	5.47	102.49	499.58	-2.82	12.73	-2.64	2.00	2.00	0.00
600.00	7.47	102.49	598.94	-5.26	23.73	-4.91	2.00	2.00	0.00
700.00	9.47	102.49	697.85	-8.44	38.11	-7.89	2.00	2.00	0.00
800.00	11.47	102.49	796.18	-12.37	55.85	-11.56	2.00	2.00	0.00
900.00	13.47	102.49	893.81	-17.04	76.93	-15.92	2.00	2.00	0.00
1,000.00	15.47	102.49	990.64	-22.44	101.32	-20.97	2.00	2.00	0.00
1,100.00	17.47	102.49	1,086.53	-28.57	129.00	-26.70	2.00	2.00	0.00
1,200.00	19.47	102.49	1,181.38	-35.43	159.93	-33.11	2.00	2.00	0.00
1,300.00	21.47	102.49	1,275.06	-42.99	194.07	-40.17	2.00	2.00	0.00
1,400.00	23.47	102.49	1,367.46	-51.25	231.38	-47.90	2.00	2.00	0.00
1,500.00	25.47	102.49	1,458.47	-60.21	271.82	-56.27	2.00	2.00	0.00
1,600.00	27.47	102.49	1,547.99	-69.85	315.33	-65.27	2.00	2.00	0.00
1,700.00	29.47	102.49	1,635.89	-80.16	361.87	-74.91	2.00	2.00	0.00
1,800.00	31.47	102.49	1,722.08	-91.12	411.37	-85.16	2.00	2.00	0.00
1,900.00	33.47	102.49	1,806.44	-102.73	463.78	-96.00	2.00	2.00	0.00
1,976.89	35.01	102.49	1,870.00	-112.09	506.02	-104.75	2.00	2.00	0.00
9 5/8"									
2,004.05	35.55	102.49	1,892.18	-115.48	521.34	-107.92	2.00	2.00	0.00
Hold Tangent @ 2004.05ft									
2,100.00	35.55	102.49	1,970.24	-127.55	575.80	-119.19	0.00	0.00	0.00
2,200.00	35.55	102.49	2,051.60	-140.12	632.57	-130.94	0.00	0.00	0.00
2,300.00	35.55	102.49	2,132.96	-152.70	689.33	-142.69	0.00	0.00	0.00
2,400.00	35.55	102.49	2,214.32	-165.27	746.10	-154.44	0.00	0.00	0.00
2,500.00	35.55	102.49	2,295.69	-177.84	802.86	-166.19	0.00	0.00	0.00
2,600.00	35.55	102.49	2,377.05	-190.42	859.63	-177.95	0.00	0.00	0.00
2,700.00	35.55	102.49	2,458.41	-202.99	916.39	-189.70	0.00	0.00	0.00
2,800.00	35.55	102.49	2,539.77	-215.57	973.16	-201.45	0.00	0.00	0.00
2,900.00	35.55	102.49	2,621.13	-228.14	1,029.92	-213.20	0.00	0.00	0.00
3,000.00	35.55	102.49	2,702.49	-240.71	1,086.69	-224.95	0.00	0.00	0.00
3,100.00	35.55	102.49	2,783.85	-253.29	1,143.46	-236.70	0.00	0.00	0.00
3,200.00	35.55	102.49	2,865.21	-265.86	1,200.22	-248.45	0.00	0.00	0.00
3,300.00	35.55	102.49	2,946.57	-278.44	1,256.99	-260.20	0.00	0.00	0.00
3,400.00	35.55	102.49	3,027.93	-291.01	1,313.75	-271.95	0.00	0.00	0.00
3,500.00	35.55	102.49	3,109.29	-303.59	1,370.52	-283.70	0.00	0.00	0.00
3,600.00	35.55	102.49	3,190.65	-316.16	1,427.28	-295.45	0.00	0.00	0.00
3,700.00	35.55	102.49	3,272.02	-328.73	1,484.05	-307.20	0.00	0.00	0.00
3,800.00	35.55	102.49	3,353.38	-341.31	1,540.81	-318.95	0.00	0.00	0.00
3,900.00	35.55	102.49	3,434.74	-353.88	1,597.58	-330.70	0.00	0.00	0.00
4,000.00	35.55	102.49	3,516.10	-366.46	1,654.34	-342.45	0.00	0.00	0.00
4,100.00	35.55	102.49	3,597.46	-379.03	1,711.11	-354.20	0.00	0.00	0.00
4,200.00	35.55	102.49	3,678.82	-391.60	1,767.87	-365.95	0.00	0.00	0.00
4,300.00	35.55	102.49	3,760.18	-404.18	1,824.64	-377.71	0.00	0.00	0.00
4,400.00	35.55	102.49	3,841.54	-416.75	1,881.40	-389.46	0.00	0.00	0.00
4,500.00	35.55	102.49	3,922.90	-429.33	1,938.17	-401.21	0.00	0.00	0.00
4,600.00	35.55	102.49	4,004.26	-441.90	1,994.94	-412.96	0.00	0.00	0.00
4,700.00	35.55	102.49	4,085.62	-454.48	2,051.70	-424.71	0.00	0.00	0.00

Planning Report

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5011.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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	35.55	102.49	4,166.98	-467.05	2,108.47	-436.46	0.00	0.00	0.00
4,900.00	35.55	102.49	4,248.35	-479.62	2,165.23	-448.21	0.00	0.00	0.00
5,000.00	35.55	102.49	4,329.71	-492.20	2,222.00	-459.96	0.00	0.00	0.00
5,100.00	35.55	102.49	4,411.07	-504.77	2,278.76	-471.71	0.00	0.00	0.00
5,200.00	35.55	102.49	4,492.43	-517.35	2,335.53	-483.46	0.00	0.00	0.00
5,300.00	35.55	102.49	4,573.79	-529.92	2,392.29	-495.21	0.00	0.00	0.00
5,400.00	35.55	102.49	4,655.15	-542.49	2,449.06	-506.96	0.00	0.00	0.00
5,500.00	35.55	102.49	4,736.51	-555.07	2,505.82	-518.71	0.00	0.00	0.00
5,600.00	35.55	102.49	4,817.87	-567.64	2,562.59	-530.46	0.00	0.00	0.00
5,700.00	35.55	102.49	4,899.23	-580.22	2,619.35	-542.21	0.00	0.00	0.00
5,800.00	35.55	102.49	4,980.59	-592.79	2,676.12	-553.96	0.00	0.00	0.00
5,900.00	35.55	102.49	5,061.95	-605.37	2,732.88	-565.71	0.00	0.00	0.00
6,000.00	35.55	102.49	5,143.31	-617.94	2,789.65	-577.46	0.00	0.00	0.00
6,100.00	35.55	102.49	5,224.68	-630.51	2,846.42	-589.22	0.00	0.00	0.00
6,200.00	35.55	102.49	5,306.04	-643.09	2,903.18	-600.97	0.00	0.00	0.00
6,300.00	35.55	102.49	5,387.40	-655.66	2,959.95	-612.72	0.00	0.00	0.00
6,400.00	35.55	102.49	5,468.76	-668.24	3,016.71	-624.47	0.00	0.00	0.00
6,500.00	35.55	102.49	5,550.12	-680.81	3,073.48	-636.22	0.00	0.00	0.00
6,600.00	35.55	102.49	5,631.48	-693.38	3,130.24	-647.97	0.00	0.00	0.00
6,700.00	35.55	102.49	5,712.84	-705.96	3,187.01	-659.72	0.00	0.00	0.00
6,800.00	35.55	102.49	5,794.20	-718.53	3,243.77	-671.47	0.00	0.00	0.00
6,900.00	35.55	102.49	5,875.56	-731.11	3,300.54	-683.22	0.00	0.00	0.00
7,000.00	35.55	102.49	5,956.92	-743.68	3,357.30	-694.97	0.00	0.00	0.00
7,100.00	35.55	102.49	6,038.28	-756.26	3,414.07	-706.72	0.00	0.00	0.00
7,135.43	35.55	102.49	6,067.11	-760.71	3,434.18	-710.88	0.00	0.00	0.00
KOP @ 7135.43ft :: DLS = 9°/100'									
7,150.00	35.35	100.25	6,078.98	-762.38	3,442.46	-712.43	9.00	-1.35	-15.34
7,200.00	35.00	92.46	6,119.87	-765.57	3,471.04	-715.21	9.00	-0.71	-15.58
7,250.00	35.14	84.63	6,160.81	-764.84	3,499.71	-714.06	9.00	0.29	-15.66
7,300.00	35.79	76.95	6,201.56	-760.19	3,528.29	-709.00	9.00	1.29	-15.36
7,350.00	36.90	69.59	6,241.85	-751.65	3,556.61	-700.05	9.00	2.23	-14.72
7,400.00	38.44	62.67	6,281.44	-739.27	3,584.51	-687.27	9.00	3.08	-13.84
7,450.00	40.36	56.25	6,320.09	-723.13	3,611.79	-670.74	9.00	3.84	-12.83
7,500.00	42.61	50.36	6,357.56	-703.33	3,638.30	-650.56	9.00	4.49	-11.78
7,550.00	45.13	44.98	6,393.62	-679.99	3,663.87	-626.85	9.00	5.04	-10.76
7,600.00	47.88	40.08	6,428.04	-653.26	3,688.35	-599.76	9.00	5.51	-9.82
7,650.00	50.83	35.59	6,460.61	-623.29	3,711.58	-569.46	9.00	5.89	-8.97
7,700.00	53.93	31.47	6,491.14	-590.28	3,733.42	-536.13	9.00	6.21	-8.23
7,750.00	57.16	27.67	6,519.42	-554.42	3,753.74	-499.99	9.00	6.47	-7.60
7,800.00	60.50	24.15	6,545.30	-515.94	3,772.40	-461.24	9.00	6.68	-7.05
7,850.00	63.93	20.85	6,568.61	-475.08	3,789.31	-420.14	9.00	6.85	-6.60
7,900.00	67.43	17.74	6,589.21	-432.08	3,804.34	-376.93	9.00	6.99	-6.22
7,950.00	70.98	14.79	6,606.96	-387.22	3,817.41	-331.88	9.00	7.11	-5.91
8,000.00	74.58	11.96	6,621.76	-340.77	3,828.44	-285.27	9.00	7.20	-5.66
8,050.00	78.21	9.22	6,633.52	-293.01	3,837.36	-237.39	9.00	7.27	-5.46
8,100.00	81.87	6.56	6,642.17	-244.24	3,844.12	-188.53	9.00	7.32	-5.32
8,150.00	85.55	3.95	6,647.65	-194.77	3,848.67	-138.99	9.00	7.35	-5.23
8,200.00	89.23	1.36	6,649.93	-144.88	3,850.98	-89.08	9.00	7.37	-5.17
8,210.44	90.00	0.83	6,650.00	-134.45	3,851.18	-78.64	9.00	7.37	-5.16
End Build/TPZ @ 8210.44ft									
8,300.00	90.00	0.83	6,650.00	-44.90	3,852.47	10.92	0.00	0.00	0.00
8,400.00	90.00	0.83	6,650.00	55.09	3,853.91	110.92	0.00	0.00	0.00
8,500.00	90.00	0.83	6,650.00	155.08	3,855.35	210.92	0.00	0.00	0.00
8,600.00	90.00	0.83	6,650.00	255.07	3,856.79	310.92	0.00	0.00	0.00

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5011.00usft (RIG)
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Well:	GAFFNEY 2920-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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)	
8,700.00	90.00	0.83	6,650.00	355.06	3,858.23	410.92	0.00	0.00	0.00	
8,800.00	90.00	0.83	6,650.00	455.05	3,859.67	510.92	0.00	0.00	0.00	
8,900.00	90.00	0.83	6,650.00	555.04	3,861.11	610.92	0.00	0.00	0.00	
9,000.00	90.00	0.83	6,650.00	655.03	3,862.55	710.92	0.00	0.00	0.00	
9,100.00	90.00	0.83	6,650.00	755.02	3,863.99	810.92	0.00	0.00	0.00	
9,200.00	90.00	0.83	6,650.00	855.01	3,865.43	910.92	0.00	0.00	0.00	
9,300.00	90.00	0.83	6,650.00	955.00	3,866.87	1,010.92	0.00	0.00	0.00	
9,400.00	90.00	0.83	6,650.00	1,054.99	3,868.31	1,110.92	0.00	0.00	0.00	
9,500.00	90.00	0.83	6,650.00	1,154.98	3,869.75	1,210.92	0.00	0.00	0.00	
9,600.00	90.00	0.83	6,650.00	1,254.97	3,871.19	1,310.92	0.00	0.00	0.00	
9,700.00	90.00	0.83	6,650.00	1,354.96	3,872.63	1,410.92	0.00	0.00	0.00	
9,800.00	90.00	0.83	6,650.00	1,454.95	3,874.07	1,510.92	0.00	0.00	0.00	
9,900.00	90.00	0.83	6,650.00	1,554.94	3,875.51	1,610.92	0.00	0.00	0.00	
10,000.00	90.00	0.83	6,650.00	1,654.93	3,876.95	1,710.92	0.00	0.00	0.00	
10,100.00	90.00	0.83	6,650.00	1,754.92	3,878.39	1,810.92	0.00	0.00	0.00	
10,200.00	90.00	0.83	6,650.00	1,854.91	3,879.83	1,910.92	0.00	0.00	0.00	
10,300.00	90.00	0.83	6,650.00	1,954.90	3,881.27	2,010.92	0.00	0.00	0.00	
10,400.00	90.00	0.83	6,650.00	2,054.89	3,882.71	2,110.92	0.00	0.00	0.00	
10,500.00	90.00	0.83	6,650.00	2,154.88	3,884.15	2,210.92	0.00	0.00	0.00	
10,600.00	90.00	0.83	6,650.00	2,254.87	3,885.59	2,310.92	0.00	0.00	0.00	
10,700.00	90.00	0.83	6,650.00	2,354.86	3,887.03	2,410.92	0.00	0.00	0.00	
10,800.00	90.00	0.83	6,650.00	2,454.85	3,888.47	2,510.92	0.00	0.00	0.00	
10,900.00	90.00	0.83	6,650.00	2,554.84	3,889.91	2,610.92	0.00	0.00	0.00	
11,000.00	90.00	0.83	6,650.00	2,654.83	3,891.35	2,710.92	0.00	0.00	0.00	
11,100.00	90.00	0.83	6,650.00	2,754.81	3,892.79	2,810.92	0.00	0.00	0.00	
11,200.00	90.00	0.83	6,650.00	2,854.80	3,894.23	2,910.92	0.00	0.00	0.00	
11,300.00	90.00	0.83	6,650.00	2,954.79	3,895.67	3,010.92	0.00	0.00	0.00	
11,400.00	90.00	0.83	6,650.00	3,054.78	3,897.11	3,110.92	0.00	0.00	0.00	
11,500.00	90.00	0.83	6,650.00	3,154.77	3,898.55	3,210.92	0.00	0.00	0.00	
11,600.00	90.00	0.83	6,650.00	3,254.76	3,899.99	3,310.92	0.00	0.00	0.00	
11,700.00	90.00	0.83	6,650.00	3,354.75	3,901.43	3,410.92	0.00	0.00	0.00	
11,800.00	90.00	0.83	6,650.00	3,454.74	3,902.87	3,510.92	0.00	0.00	0.00	
11,900.00	90.00	0.83	6,650.00	3,554.73	3,904.31	3,610.92	0.00	0.00	0.00	
12,000.00	90.00	0.83	6,650.00	3,654.72	3,905.75	3,710.92	0.00	0.00	0.00	
12,100.00	90.00	0.83	6,650.00	3,754.71	3,907.19	3,810.92	0.00	0.00	0.00	
12,200.00	90.00	0.83	6,650.00	3,854.70	3,908.63	3,910.92	0.00	0.00	0.00	
12,300.00	90.00	0.83	6,650.00	3,954.69	3,910.07	4,010.92	0.00	0.00	0.00	
12,400.00	90.00	0.83	6,650.00	4,054.68	3,911.51	4,110.92	0.00	0.00	0.00	
12,500.00	90.00	0.83	6,650.00	4,154.67	3,912.95	4,210.92	0.00	0.00	0.00	
12,600.00	90.00	0.83	6,650.00	4,254.66	3,914.39	4,310.92	0.00	0.00	0.00	
12,700.00	90.00	0.83	6,650.00	4,354.65	3,915.83	4,410.92	0.00	0.00	0.00	
12,800.00	90.00	0.83	6,650.00	4,454.64	3,917.27	4,510.92	0.00	0.00	0.00	
12,900.00	90.00	0.83	6,650.00	4,554.63	3,918.71	4,610.92	0.00	0.00	0.00	
13,000.00	90.00	0.83	6,650.00	4,654.62	3,920.15	4,710.92	0.00	0.00	0.00	
13,100.00	90.00	0.83	6,650.00	4,754.61	3,921.59	4,810.92	0.00	0.00	0.00	
13,200.00	90.00	0.83	6,650.00	4,854.60	3,923.03	4,910.92	0.00	0.00	0.00	
13,300.00	90.00	0.83	6,650.00	4,954.59	3,924.47	5,010.92	0.00	0.00	0.00	
13,400.00	90.00	0.83	6,650.00	5,054.58	3,925.91	5,110.92	0.00	0.00	0.00	
13,500.00	90.00	0.83	6,650.00	5,154.57	3,927.35	5,210.92	0.00	0.00	0.00	
13,600.00	90.00	0.83	6,650.00	5,254.56	3,928.79	5,310.92	0.00	0.00	0.00	
13,700.00	90.00	0.83	6,650.00	5,354.55	3,930.23	5,410.92	0.00	0.00	0.00	
13,800.00	90.00	0.83	6,650.00	5,454.53	3,931.67	5,510.92	0.00	0.00	0.00	
13,900.00	90.00	0.83	6,650.00	5,554.52	3,933.11	5,610.92	0.00	0.00	0.00	
14,000.00	90.00	0.83	6,650.00	5,654.51	3,934.55	5,710.92	0.00	0.00	0.00	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well GAFFNEY 2920-07H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5011.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5011.00usft (RIG)
Site:	8N-61W-29 GAFFNEY 2920 PAD	North Reference:	True
Well:	GAFFNEY 2920-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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)
14,100.00	90.00	0.83	6,650.00	5,754.50	3,935.99	5,810.92	0.00	0.00	0.00
14,200.00	90.00	0.83	6,650.00	5,854.49	3,937.43	5,910.92	0.00	0.00	0.00
14,300.00	90.00	0.83	6,650.00	5,954.48	3,938.87	6,010.92	0.00	0.00	0.00
14,400.00	90.00	0.83	6,650.00	6,054.47	3,940.31	6,110.92	0.00	0.00	0.00
14,500.00	90.00	0.83	6,650.00	6,154.46	3,941.75	6,210.92	0.00	0.00	0.00
14,600.00	90.00	0.83	6,650.00	6,254.45	3,943.19	6,310.92	0.00	0.00	0.00
14,700.00	90.00	0.83	6,650.00	6,354.44	3,944.63	6,410.92	0.00	0.00	0.00
14,800.00	90.00	0.83	6,650.00	6,454.43	3,946.07	6,510.92	0.00	0.00	0.00
14,900.00	90.00	0.83	6,650.00	6,554.42	3,947.51	6,610.92	0.00	0.00	0.00
15,000.00	90.00	0.83	6,650.00	6,654.41	3,948.96	6,710.92	0.00	0.00	0.00
15,100.00	90.00	0.83	6,650.00	6,754.40	3,950.40	6,810.92	0.00	0.00	0.00
15,200.00	90.00	0.83	6,650.00	6,854.39	3,951.84	6,910.92	0.00	0.00	0.00
15,300.00	90.00	0.83	6,650.00	6,954.38	3,953.28	7,010.92	0.00	0.00	0.00
15,400.00	90.00	0.83	6,650.00	7,054.37	3,954.72	7,110.92	0.00	0.00	0.00
15,500.00	90.00	0.83	6,650.00	7,154.36	3,956.16	7,210.92	0.00	0.00	0.00
15,547.12	90.00	0.83	6,650.00	7,201.47	3,956.83	7,258.04	0.00	0.00	0.00
BPZ @ 15547.12ft									
15,600.00	90.00	0.83	6,650.00	7,254.35	3,957.60	7,310.92	0.00	0.00	0.00
15,637.13	90.00	0.83	6,650.00	7,291.47	3,958.13	7,348.04	0.00	0.00	0.00
TD Well @ 15637.13ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,976.89	1,870.00	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)	
226.55	226.55	0.00	0.00	Begin Nudge @ 226.55ft
2,004.05	1,892.18	-115.48	521.34	Hold Tangent @ 2004.05ft
7,135.43	6,067.11	-760.71	3,434.18	KOP @ 7135.43ft :: DLS = 9°/100'
8,210.44	6,650.00	-134.45	3,851.18	End Build/TPZ @ 8210.44ft
15,547.12	6,650.00	7,201.47	3,956.83	BPZ @ 15547.12ft
15,637.13	6,650.00	7,291.47	3,958.13	TD Well @ 15637.13ft