

Sec 9, T6S, R94W
RWF 31-9
Q211001 & RM-210861
Plan 3

Company Name: Terra Energy Partners, LLP
RWF 31-9
Garfield County, CO (Nad 83)
Rig: KB=30' @ 6399.40usft (H&P #329)
Created by: Chase Chambers
Date: 3:40, December 22 2021

PROJECT DETAILS: Garfield County, CO (Nad 83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone
System Datum: Mean Sea Level



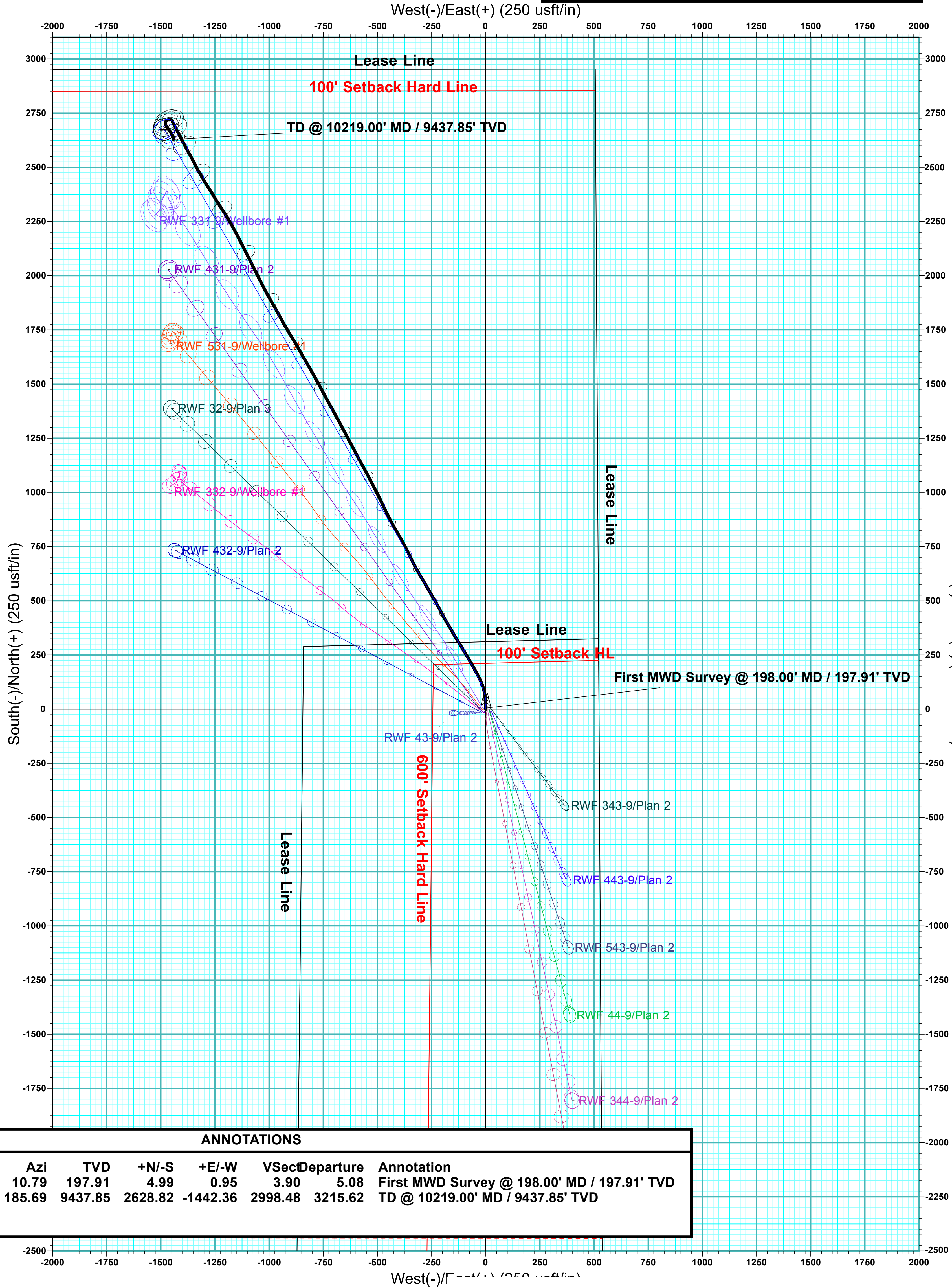
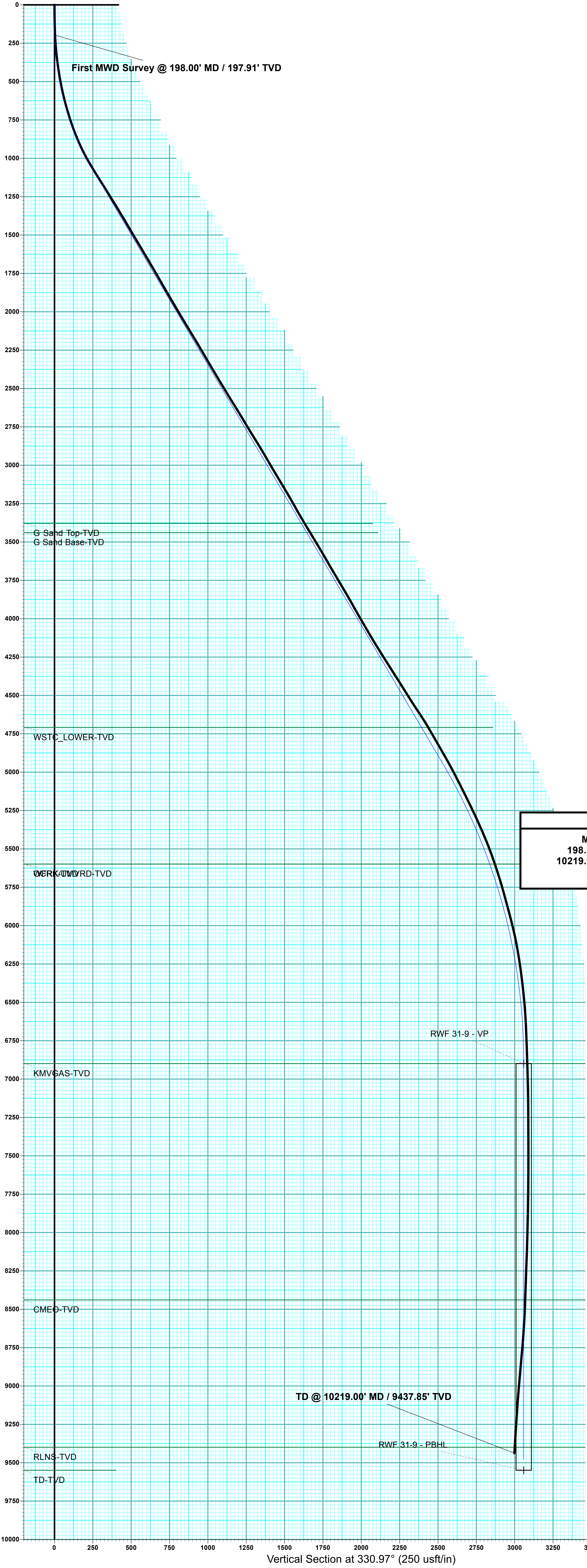
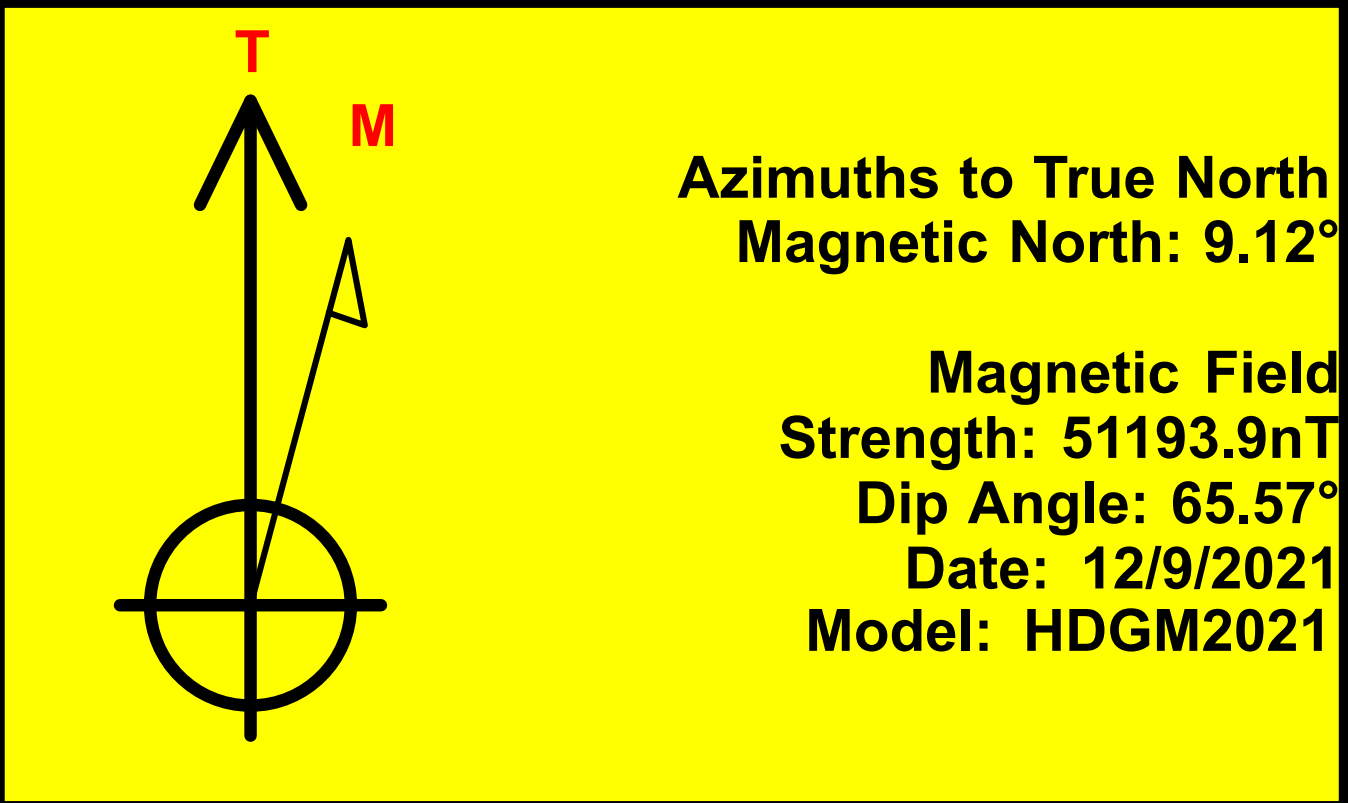
WELL DETAILS: RWF 31-9							
Ground Elevation:				6369.40			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	RWF 31-9	
0.00	0.00	1630191.10	2327358.60	39.539414	-107.885304		

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RWF 31-9 - VP	6899.00	2674.85	-1484.34	1632904.00	2325945.00	39.546757	-107.890568
RWF 31-9 - PBHL	9549.00	2674.85	-1484.34	1632904.00	2325945.00	39.546757	-107.890568

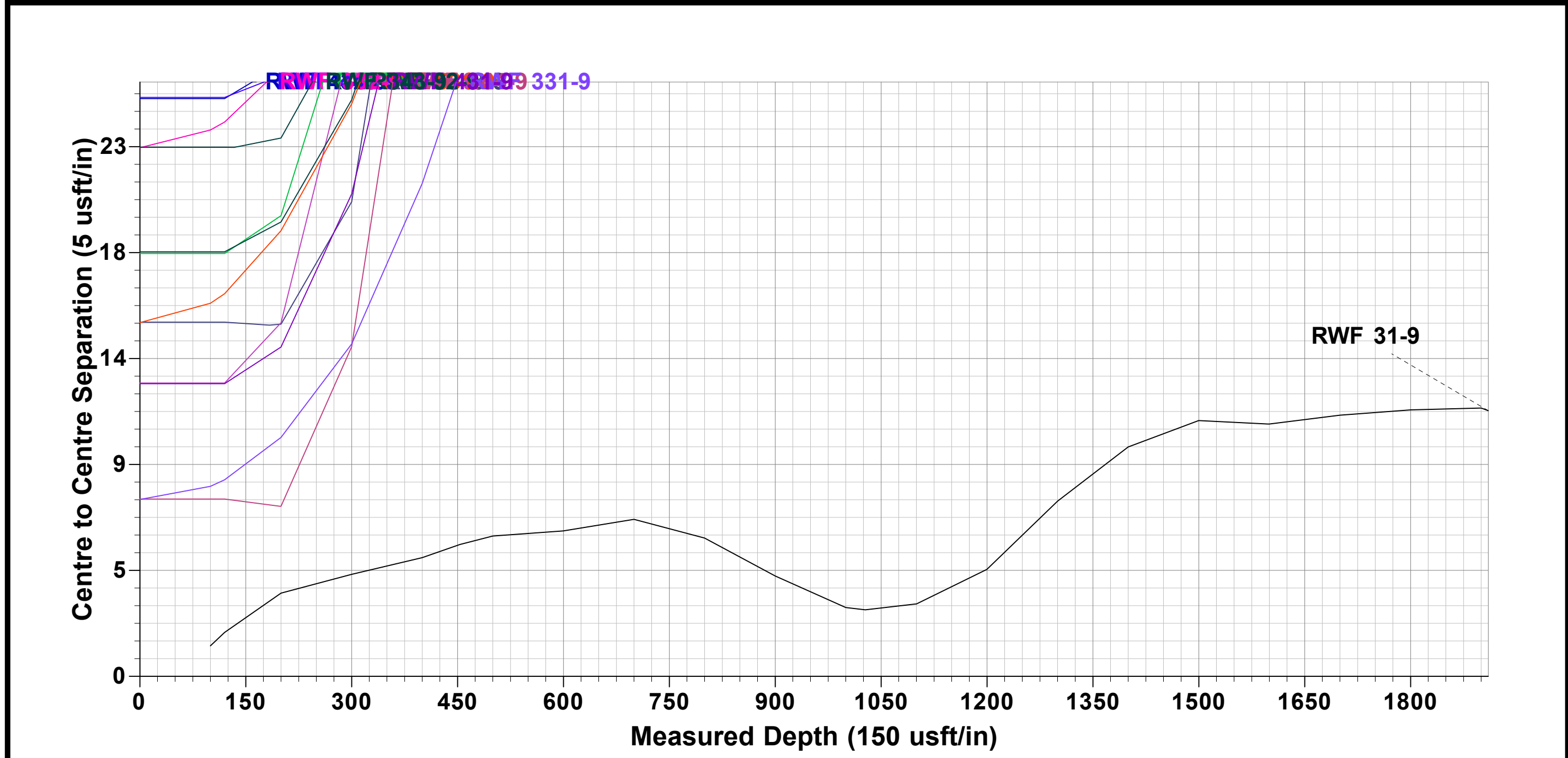
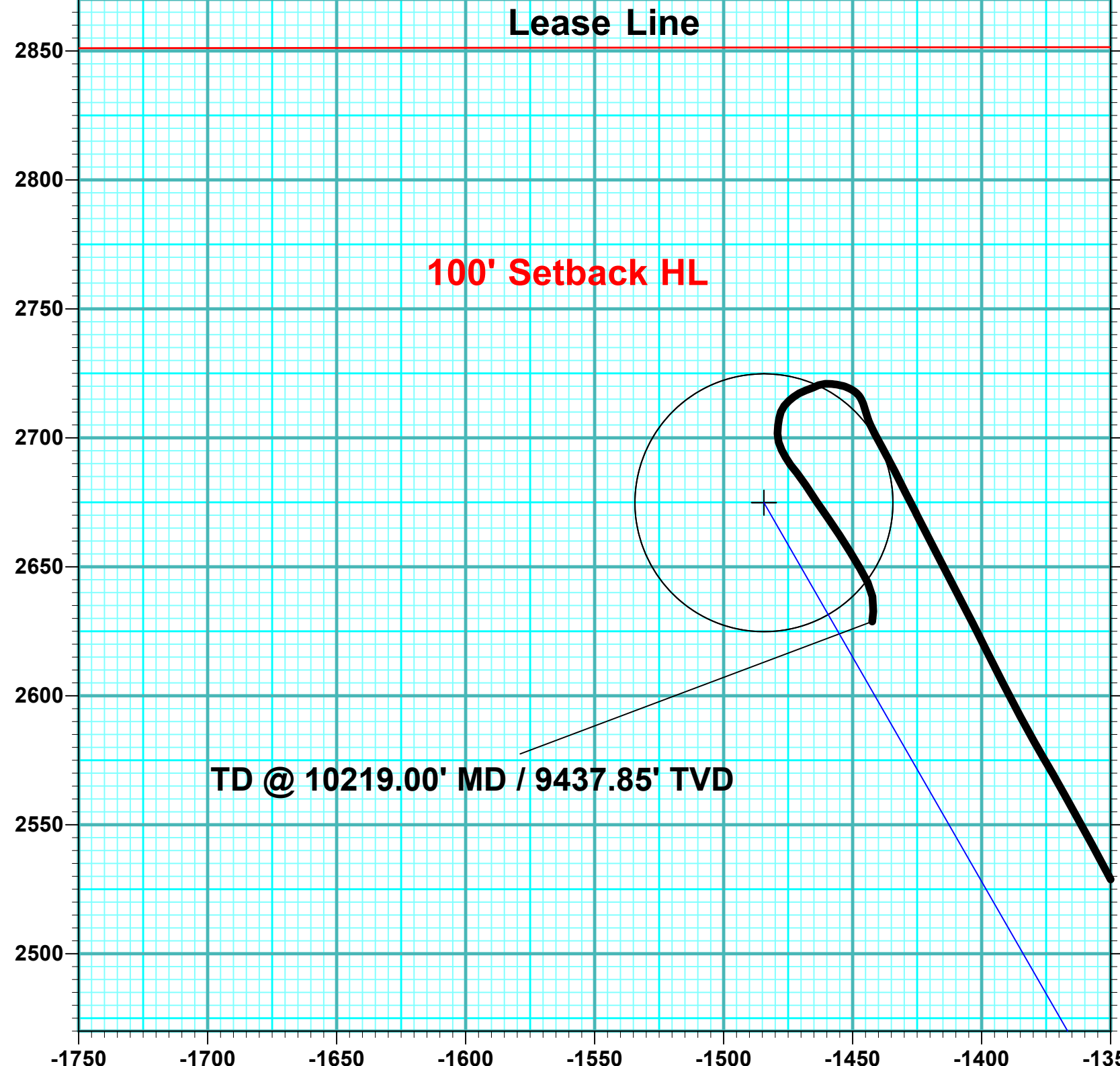
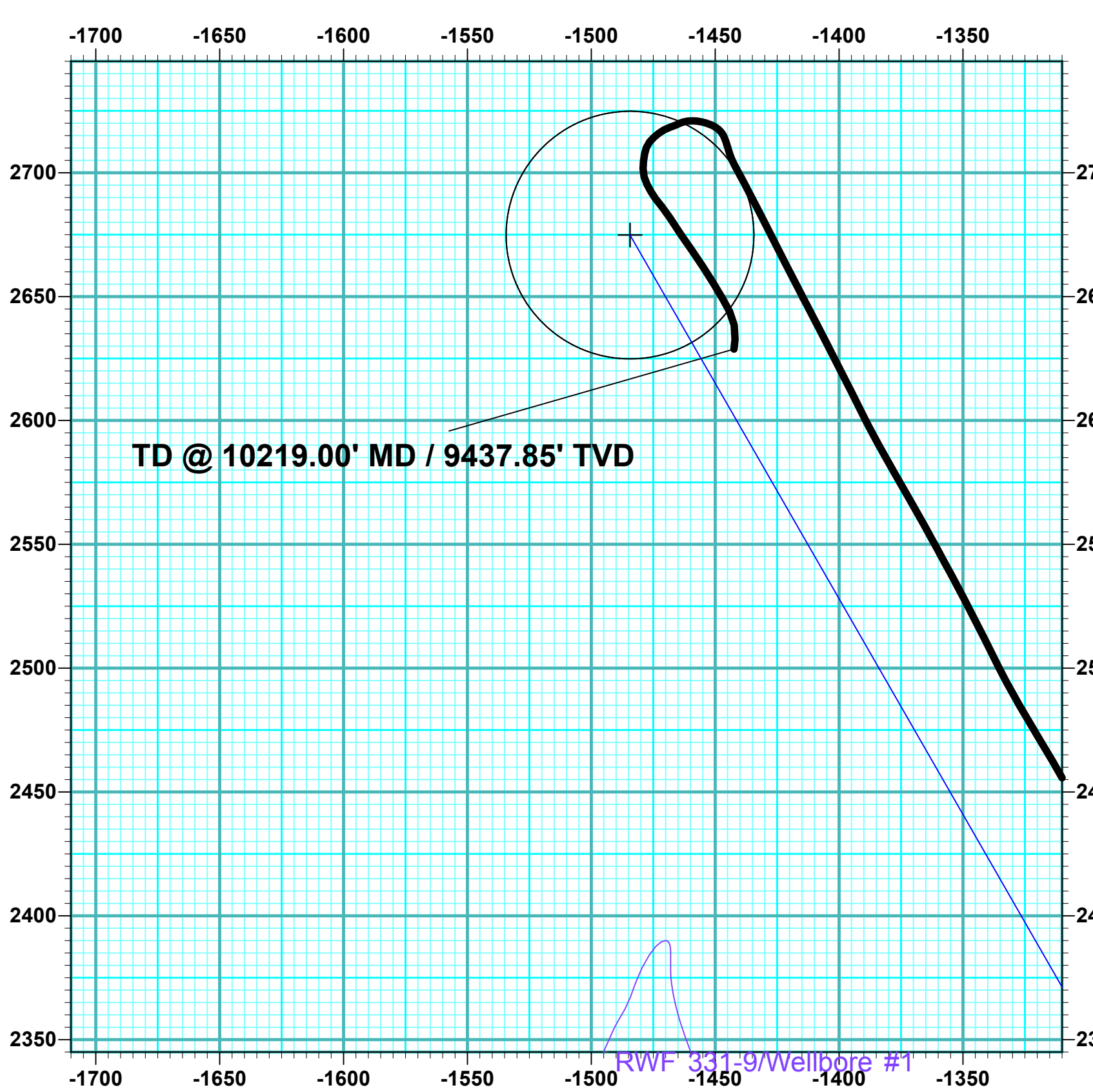
DESIGN ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	Start Build 3.00	
453.33	10.00	2.00	451.64	29.00	1.01	24.86	29.02	Start DLS 3.50 TFO -44.27	
1098.84	30.52	330.12	1055.37	229.74	-79.72	239.56	247.37	Start 4510.81 hold at 1098.84 MD	
5609.65	30.52	330.12	4941.27	2216.00	-1220.75	2529.99	2538.05	Start Drop -1.50	
7644.23	0.00	0.00	6881.00	2674.85	-1484.34	3059.10	3067.22	Start 2598.00 hold at 7644.23 MD	
10242.23	0.00	0.00	9479.00	2674.85	-1484.34	3059.10	3067.22	TD at 10242.23	

SLOTS				
Slot Name	+N/-S	+E/-W	Northing	Easting
RWF 31-9	0.00	0.00	1630191.10	2327358.60
RWF 32-9	-12.84	-12.67	1630178.60	2327345.60
RWF 331-9	-1.49	-7.36	1630189.80	2327351.20
RWF 332-9	-4.58	-21.99	1630187.10	2327336.50
RWF 343-9	4.68	21.98	1630195.20	2327380.70
RWF 344-9	-8.16	9.42	1630182.70	2327367.80
RWF 431-9	-11.24	-5.31	1630180.00	2327353.00
RWF 432-9	-14.33	-19.93	1630177.30	2327338.30
RWF 43-9	-15.92	-27.29	1630175.90	2327330.90
RWF 443-9	-5.17	24.04	1630185.30	2327382.50
RWF 444-9	1.59	7.36	1630192.50	2327366.00
RWF 44-9	-6.66	16.68	1630184.00	2327375.10
RWF 531-9	-2.99	-14.73	1630188.50	2327343.80
RWF 543-9	3.09	14.72	1630193.80	2327373.40

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3379.00	3796.14	G Sand Top-TVD
3439.00	3865.79	G Sand Base-TVD
4709.00	5340.02	WSTC_LOWER-TVD
5599.00	6336.85	OCRK-TVD
5599.00	6336.85	WFRK/UMVRD-TVD
6899.00	7662.23	KMV GAS-TVD
8439.00	9202.23	CMEO-TVD
9399.00	10162.23	RLNS-TVD



ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation	
198.00	2.94	10.79	197.91	4.99	0.95	3.90	5.08	First MWD Survey @ 198.00' MD / 197.91' TVD	
10219.00	4.04	185.69	9437.85	2628.82	-1442.36	2998.48	3215.62	TD @ 10219.00' MD / 9437.85' TVD	





Terra Energy Partners, LLP

Garfield County, CO (Nad 83)

Sec 9, T6S, R94W

RWF 31-9 - Slot RWF 31-9

Wellbore #1

Design: Wellbore #1

KLX Survey Report

13 April, 2022



Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well RWF 31-9 - Slot RWF 31-9
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 6399.40usft (H&P #329)
Site:	Sec 9, T6S, R94W	MD Reference:	KB=30' @ 6399.40usft (H&P #329)
Well:	RWF 31-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Garfield County, CO (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		Sec 9, T6S, R94W			
Site Position:		Northing:	1,630,177.30 usft	Latitude:	39.539375
From:	Map	Easting:	2,327,338.30 usft	Longitude:	-107.885375
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.50 °

Well		RWF 31-9 - Slot RWF 31-9				
Well Position	+N/-S	0.00 usft	Northing:	1,630,191.10 usft	Latitude:	39.539414
	+E/-W	0.00 usft	Easting:	2,327,358.60 usft	Longitude:	-107.885304
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	6,369.40 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021	12/9/2021	9.12	65.57	51,193.90000000

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	330.97	

Survey Program	Date	12/22/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
198.00	10,219.00	KLX MWD Surveys (Wellbore #1)	OWSG (REV5) MWD HDGM	OWSG MWD - Standard	

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	
First MWD Survey @ 198.00' MD / 197.91' TVD										
198.00	2.94	10.79	197.91	4.99	0.95	3.90	1.48	1.48	0.00	
295.00	5.76	353.83	294.63	12.27	0.89	10.30	3.16	2.91	-17.48	
389.00	8.35	352.86	387.91	23.74	-0.46	20.98	2.76	2.76	-1.03	
483.00	11.12	357.25	480.55	39.57	-1.75	35.44	3.05	2.95	4.67	
577.00	13.75	354.00	572.33	59.74	-3.35	53.86	2.89	2.80	-3.46	
671.00	16.44	347.59	663.09	83.84	-7.38	76.89	3.36	2.86	-6.82	
765.00	18.24	339.50	752.83	110.62	-15.39	104.19	3.20	1.91	-8.61	
859.00	21.49	333.96	841.23	139.88	-28.10	135.94	3.99	3.46	-5.89	
953.00	25.18	331.24	927.53	172.89	-45.29	173.15	4.09	3.93	-2.89	

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well RWF 31-9 - Slot RWF 31-9
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 6399.40usft (H&P #329)
Site:	Sec 9, T6S, R94W	MD Reference:	KB=30' @ 6399.40usft (H&P #329)
Well:	RWF 31-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
1,047.00	29.75	330.18	1,010.91	210.68	-66.52	216.49	4.89	4.86	-1.13
1,182.00	32.30	329.22	1,126.59	270.73	-101.64	286.04	1.92	1.89	-0.71
1,276.00	32.30	327.46	1,206.05	313.48	-128.00	336.21	1.00	0.00	-1.87
1,371.00	31.68	330.54	1,286.63	356.60	-153.92	386.50	1.84	-0.65	3.24
1,465.00	30.98	328.51	1,366.92	398.73	-178.70	435.35	1.35	-0.74	-2.16
1,559.00	30.41	333.08	1,447.76	440.58	-202.11	483.30	2.55	-0.61	4.86
1,653.00	30.81	331.24	1,528.66	482.89	-224.47	531.15	1.08	0.43	-1.96
1,747.00	30.63	328.87	1,609.48	524.50	-248.43	579.16	1.30	-0.19	-2.52
1,841.00	30.76	330.45	1,690.31	565.91	-272.67	627.13	0.87	0.14	1.68
1,935.00	29.71	328.69	1,771.52	606.72	-296.63	674.44	1.46	-1.12	-1.87
2,029.00	30.19	331.50	1,852.97	647.39	-320.01	721.35	1.58	0.51	2.99
2,123.00	30.59	333.79	1,934.06	689.63	-341.85	768.88	1.30	0.43	2.44
2,217.00	30.50	333.26	2,015.02	732.39	-363.15	816.60	0.30	-0.10	-0.56
2,311.00	31.20	331.06	2,095.72	775.00	-385.67	864.78	1.41	0.74	-2.34
2,405.00	31.25	329.48	2,176.10	817.31	-409.83	913.51	0.87	0.05	-1.68
2,500.00	30.37	331.85	2,257.70	859.72	-433.68	962.16	1.58	-0.93	2.49
2,594.00	30.37	333.52	2,338.80	901.94	-455.48	1,009.65	0.90	0.00	1.78
2,688.00	31.29	335.28	2,419.52	945.38	-476.29	1,057.74	1.37	0.98	1.87
2,782.00	30.54	332.73	2,500.17	988.79	-497.44	1,105.95	1.61	-0.80	-2.71
2,874.00	32.08	332.73	2,578.77	1,031.28	-519.34	1,153.74	1.67	1.67	0.00
2,965.00	31.38	332.29	2,656.16	1,073.74	-541.43	1,201.58	0.81	-0.77	-0.48
3,056.00	30.72	330.80	2,734.13	1,115.00	-563.79	1,248.51	1.11	-0.73	-1.64
3,147.00	32.12	332.12	2,811.78	1,156.68	-586.44	1,295.94	1.71	1.54	1.45
3,238.00	31.07	331.94	2,889.29	1,198.79	-608.80	1,343.61	1.16	-1.15	-0.20
3,330.00	30.06	332.12	2,968.51	1,240.10	-630.74	1,390.38	1.10	-1.10	0.20
3,420.00	30.63	331.68	3,046.18	1,280.21	-652.16	1,435.85	0.68	0.63	-0.49
3,511.00	31.20	331.85	3,124.25	1,321.40	-674.28	1,482.59	0.63	0.63	0.19
3,602.00	30.19	331.24	3,202.50	1,362.24	-696.41	1,529.04	1.16	-1.11	-0.67
3,693.00	29.09	330.62	3,281.59	1,401.58	-718.27	1,574.05	1.25	-1.21	-0.68
3,784.00	30.81	331.94	3,360.44	1,441.42	-740.09	1,619.47	2.02	1.89	1.45
3,875.00	31.25	332.12	3,438.41	1,482.85	-762.09	1,666.37	0.49	0.48	0.20
3,967.00	30.81	331.06	3,517.25	1,524.57	-784.65	1,713.79	0.76	-0.48	-1.15
4,058.00	30.50	330.01	3,595.53	1,564.96	-807.47	1,760.19	0.68	-0.34	-1.15
4,149.00	29.88	329.92	3,674.19	1,604.58	-830.37	1,805.94	0.68	-0.68	-0.10
4,242.00	31.03	330.80	3,754.36	1,645.55	-853.68	1,853.08	1.33	1.24	0.95
4,334.00	30.41	329.39	3,833.45	1,686.29	-877.10	1,900.06	1.03	-0.67	-1.53
4,425.00	29.09	327.99	3,912.45	1,724.87	-900.56	1,945.18	1.64	-1.45	-1.54
4,516.00	29.97	329.92	3,991.63	1,763.30	-923.68	1,990.00	1.42	0.97	2.12
4,607.00	30.37	331.85	4,070.31	1,803.25	-945.92	2,035.73	1.15	0.44	2.12
4,699.00	30.89	330.36	4,149.47	1,844.29	-968.58	2,082.60	1.00	0.57	-1.62
4,791.00	32.52	330.36	4,227.74	1,886.31	-992.49	2,130.94	1.77	1.77	0.00
4,883.00	31.99	331.59	4,305.54	1,929.24	-1,016.31	2,180.04	0.92	-0.58	1.34
4,975.00	33.00	333.61	4,383.14	1,973.12	-1,039.04	2,229.44	1.61	1.10	2.20

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Site:	Sec 9, T6S, R94W	MD Reference:	KB=30' @ 6399.40usft (H&P #329)
Well:	RWF 31-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
5,067.00	31.60	333.44	4,460.90	2,017.12	-1,060.96	2,278.55	1.52	-1.52	-0.18
5,160.00	32.78	332.82	4,539.61	2,061.31	-1,083.35	2,328.06	1.32	1.27	-0.67
5,252.00	33.88	333.17	4,616.47	2,106.35	-1,106.30	2,378.57	1.21	1.20	0.38
5,344.00	31.03	332.82	4,694.10	2,150.34	-1,128.71	2,427.91	3.10	-3.10	-0.38
5,435.00	29.71	332.82	4,772.61	2,191.26	-1,149.73	2,473.89	1.45	-1.45	0.00
5,527.00	30.10	330.80	4,852.36	2,231.68	-1,171.40	2,519.75	1.17	0.42	-2.20
5,618.00	29.09	328.51	4,931.49	2,270.47	-1,194.09	2,564.67	1.67	-1.11	-2.52
5,710.00	27.42	326.05	5,012.53	2,307.11	-1,217.60	2,608.12	2.21	-1.82	-2.67
5,802.00	26.93	328.60	5,094.37	2,342.47	-1,240.29	2,650.05	1.37	-0.53	2.77
5,894.00	26.19	328.16	5,176.66	2,377.50	-1,261.85	2,691.14	0.83	-0.80	-0.48
5,986.00	25.44	326.58	5,259.48	2,411.24	-1,283.45	2,731.12	1.11	-0.82	-1.72
6,078.00	24.30	330.98	5,342.96	2,444.29	-1,303.51	2,769.76	2.36	-1.24	4.78
6,169.00	22.59	328.78	5,426.44	2,475.61	-1,321.66	2,805.95	2.11	-1.88	-2.42
6,262.00	20.65	333.79	5,512.90	2,505.61	-1,338.16	2,840.18	2.88	-2.09	5.39
6,353.00	18.63	331.94	5,598.61	2,532.83	-1,352.09	2,870.75	2.32	-2.22	-2.03
6,445.00	17.53	330.89	5,686.06	2,557.91	-1,365.74	2,899.30	1.25	-1.20	-1.14
6,537.00	15.47	329.83	5,774.27	2,580.62	-1,378.65	2,925.42	2.26	-2.24	-1.15
6,629.00	15.12	333.35	5,863.01	2,601.95	-1,390.20	2,949.68	1.08	-0.38	3.83
6,721.00	14.77	333.08	5,951.90	2,623.14	-1,400.89	2,973.39	0.39	-0.38	-0.29
6,812.00	12.83	332.47	6,040.27	2,642.44	-1,410.81	2,995.08	2.14	-2.13	-0.67
6,905.00	10.46	333.00	6,131.35	2,659.12	-1,419.42	3,013.84	2.55	-2.55	0.57
6,996.00	9.01	332.82	6,221.04	2,672.82	-1,426.42	3,029.22	1.59	-1.59	-0.20
7,087.00	7.47	333.44	6,311.09	2,684.45	-1,432.33	3,042.25	1.70	-1.69	0.68
7,178.00	6.28	331.33	6,401.44	2,694.11	-1,437.36	3,053.14	1.34	-1.31	-2.32
7,268.00	5.54	332.38	6,490.96	2,702.28	-1,441.73	3,062.41	0.83	-0.82	1.17
7,360.00	3.65	344.77	6,582.66	2,709.04	-1,444.56	3,069.69	2.31	-2.05	13.47
7,450.00	2.50	338.97	6,672.53	2,713.63	-1,446.02	3,074.42	1.32	-1.28	-6.44
7,541.00	2.02	318.41	6,763.46	2,716.69	-1,447.80	3,077.95	1.03	-0.53	-22.59
7,630.00	2.29	299.69	6,852.40	2,718.74	-1,450.38	3,081.00	0.84	0.30	-21.03
RWF 31-9 - VP									
7,677.14	2.25	292.34	6,899.50	2,719.56	-1,452.05	3,082.52	0.62	-0.09	-15.60
7,722.00	2.24	285.18	6,944.33	2,720.12	-1,453.71	3,083.82	0.62	-0.01	-15.95
7,811.00	2.20	276.75	7,033.26	2,720.78	-1,457.09	3,086.03	0.37	-0.04	-9.47
7,902.00	2.15	268.92	7,124.20	2,720.95	-1,460.53	3,087.85	0.33	-0.05	-8.60
7,993.00	1.36	242.70	7,215.15	2,720.42	-1,463.20	3,088.69	1.22	-0.87	-28.81
8,085.00	1.71	249.06	7,307.12	2,719.43	-1,465.45	3,088.91	0.42	0.38	6.91
8,176.00	1.85	250.03	7,398.08	2,718.45	-1,468.10	3,089.34	0.16	0.15	1.07
8,267.00	1.80	241.59	7,489.03	2,717.26	-1,470.74	3,089.58	0.30	-0.05	-9.27
8,357.00	1.54	231.13	7,578.99	2,715.83	-1,472.92	3,089.39	0.44	-0.29	-11.62
8,447.00	1.45	228.49	7,668.96	2,714.32	-1,474.71	3,088.94	0.13	-0.10	-2.93
8,537.00	1.85	217.68	7,758.93	2,712.41	-1,476.45	3,088.12	0.56	0.44	-12.01
8,627.00	1.63	200.19	7,848.88	2,710.06	-1,477.78	3,086.71	0.64	-0.24	-19.43
8,717.00	1.67	191.23	7,938.85	2,707.58	-1,478.48	3,084.87	0.29	0.04	-9.96

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well RWF 31-9 - Slot RWF 31-9
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 6399.40usft (H&P #329)
Site:	Sec 9, T6S, R94W	MD Reference:	KB=30' @ 6399.40usft (H&P #329)
Well:	RWF 31-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
8,808.00	1.80	184.81	8,029.81	2,704.85	-1,478.86	3,082.67	0.26	0.14	-7.05	
8,899.00	2.20	182.79	8,120.75	2,701.68	-1,479.06	3,080.00	0.45	0.44	-2.22	
8,989.00	2.11	163.72	8,210.69	2,698.37	-1,478.68	3,076.92	0.80	-0.10	-21.19	
9,079.00	2.11	154.14	8,300.63	2,695.29	-1,477.50	3,073.65	0.39	0.00	-10.64	
9,169.00	2.07	147.81	8,390.57	2,692.42	-1,475.91	3,070.37	0.26	-0.04	-7.03	
9,260.00	2.24	146.41	8,481.50	2,689.55	-1,474.05	3,066.96	0.20	0.19	-1.54	
9,352.00	2.86	137.44	8,573.41	2,686.36	-1,471.50	3,062.93	0.80	0.67	-9.75	
9,443.00	4.48	149.13	8,664.22	2,681.63	-1,468.14	3,057.17	1.95	1.78	12.85	
9,535.00	5.10	144.65	8,755.90	2,675.22	-1,463.93	3,049.52	0.79	0.67	-4.87	
9,625.00	5.05	145.70	8,845.55	2,668.68	-1,459.39	3,041.60	0.12	-0.06	1.17	
9,714.00	4.97	145.70	8,934.21	2,662.26	-1,455.01	3,033.86	0.09	-0.09	0.00	
9,806.00	4.92	149.48	9,025.87	2,655.57	-1,450.76	3,025.94	0.36	-0.05	4.11	
9,896.00	4.17	149.57	9,115.58	2,649.42	-1,447.14	3,018.81	0.83	-0.83	0.10	
9,987.00	3.60	153.44	9,206.37	2,644.01	-1,444.19	3,012.65	0.69	-0.63	4.25	
10,078.00	3.82	167.85	9,297.19	2,638.50	-1,442.27	3,006.90	1.05	0.24	15.84	
10,163.00	4.04	185.69	9,381.99	2,632.75	-1,441.97	3,001.73	1.46	0.26	20.99	
TD @ 10219.00' MD / 9437.85' TVD - RWF 31-9 - PBHL										
10,219.00	4.04	185.69	9,437.85	2,628.82	-1,442.36	2,998.48	0.00	0.00	0.00	

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
10,219.00	9,437.85	2,628.82	-1,442.36	TD @ 10219.00' MD / 9437.85' TVD	

Checked By: _____ Approved By: _____ Date: _____