

Sec 9, T6S, R94W  
RWF 432-9  
Q220161 & RM-220152  
Plan 3

Company Name: Terra Energy Partners, LLP  
RWF 432-9  
Garfield County, CO (Nad 83)  
Rig: KB=30' @ 6399.40usft (H&P #329)  
Created by: Chase Chambers  
Date: 12:18, February 22 2022

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



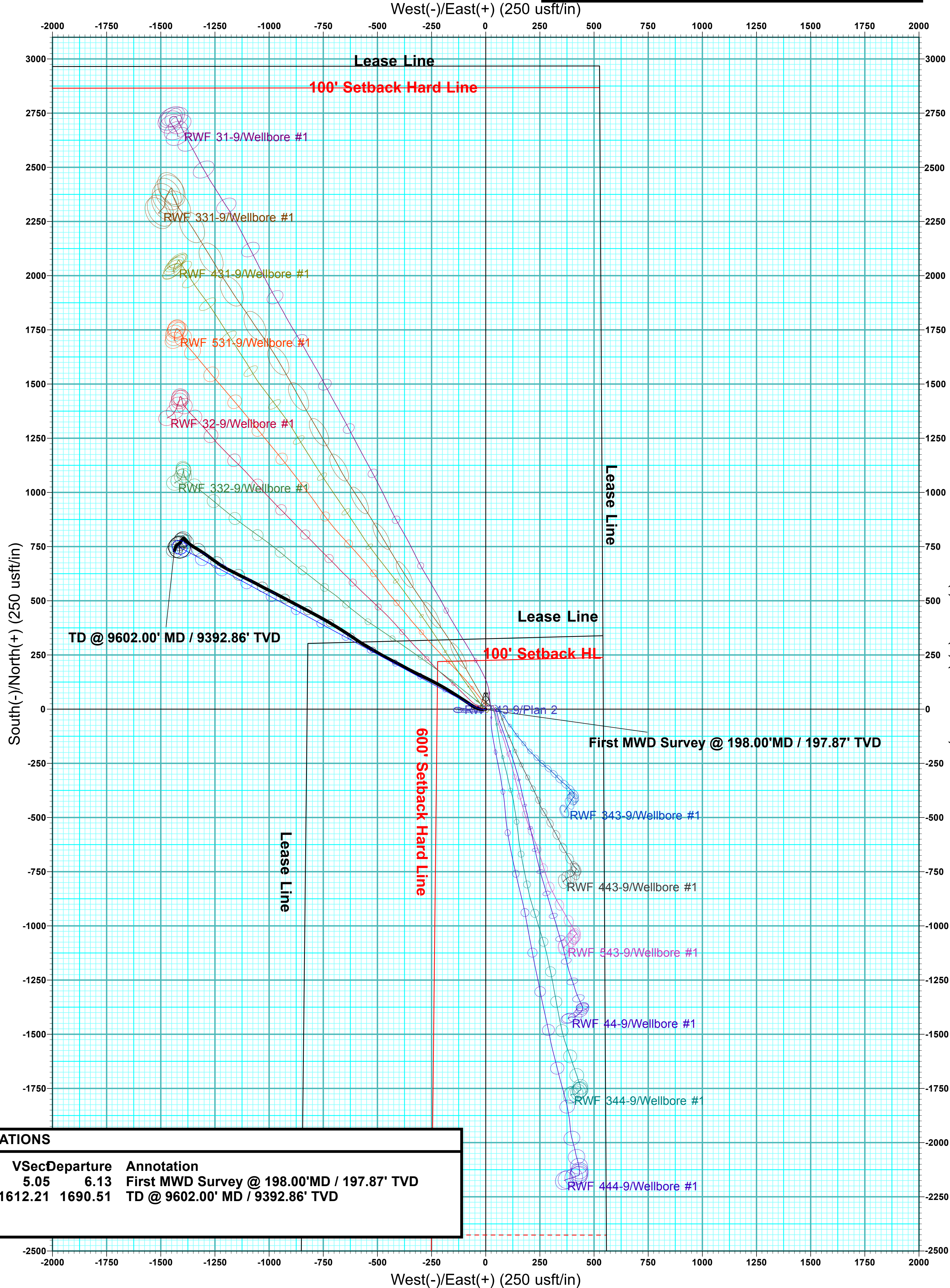
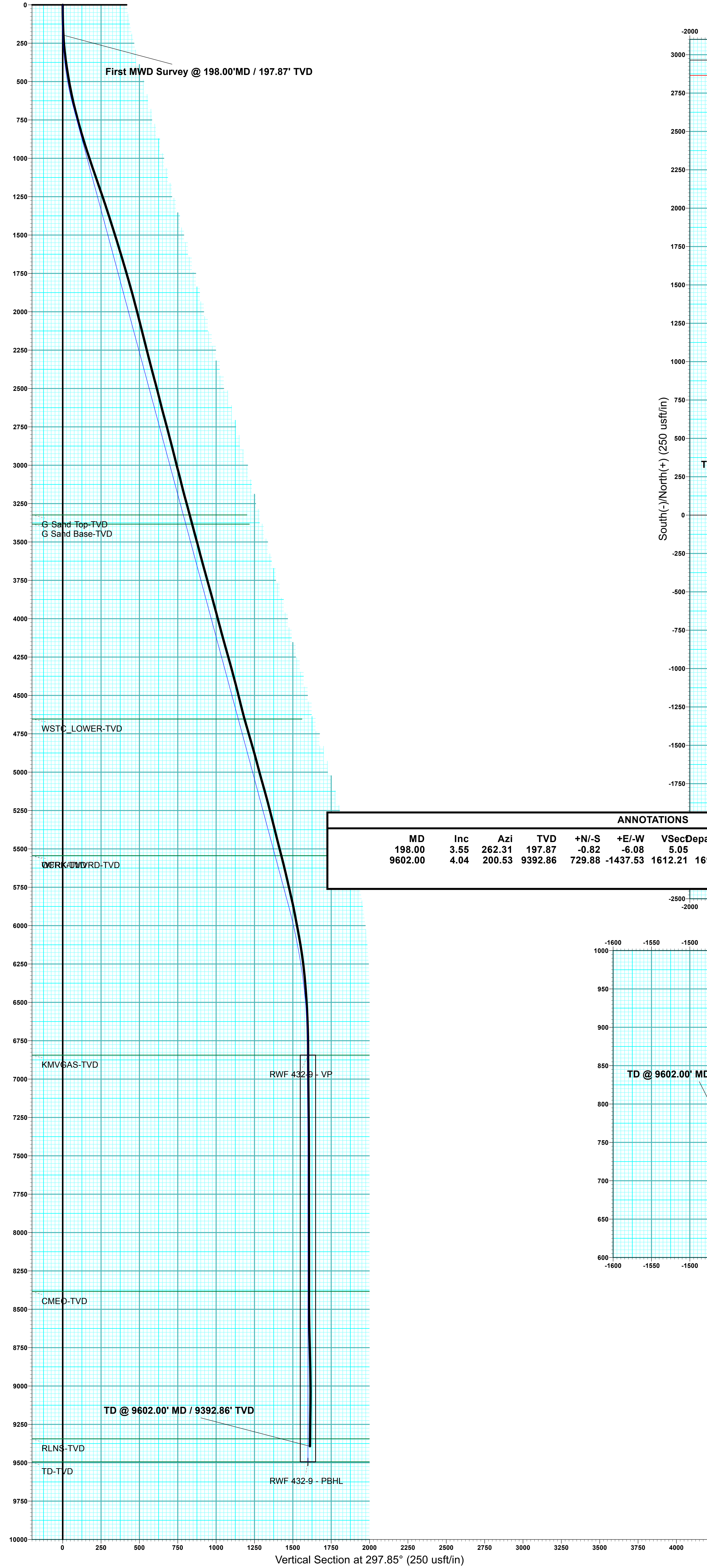
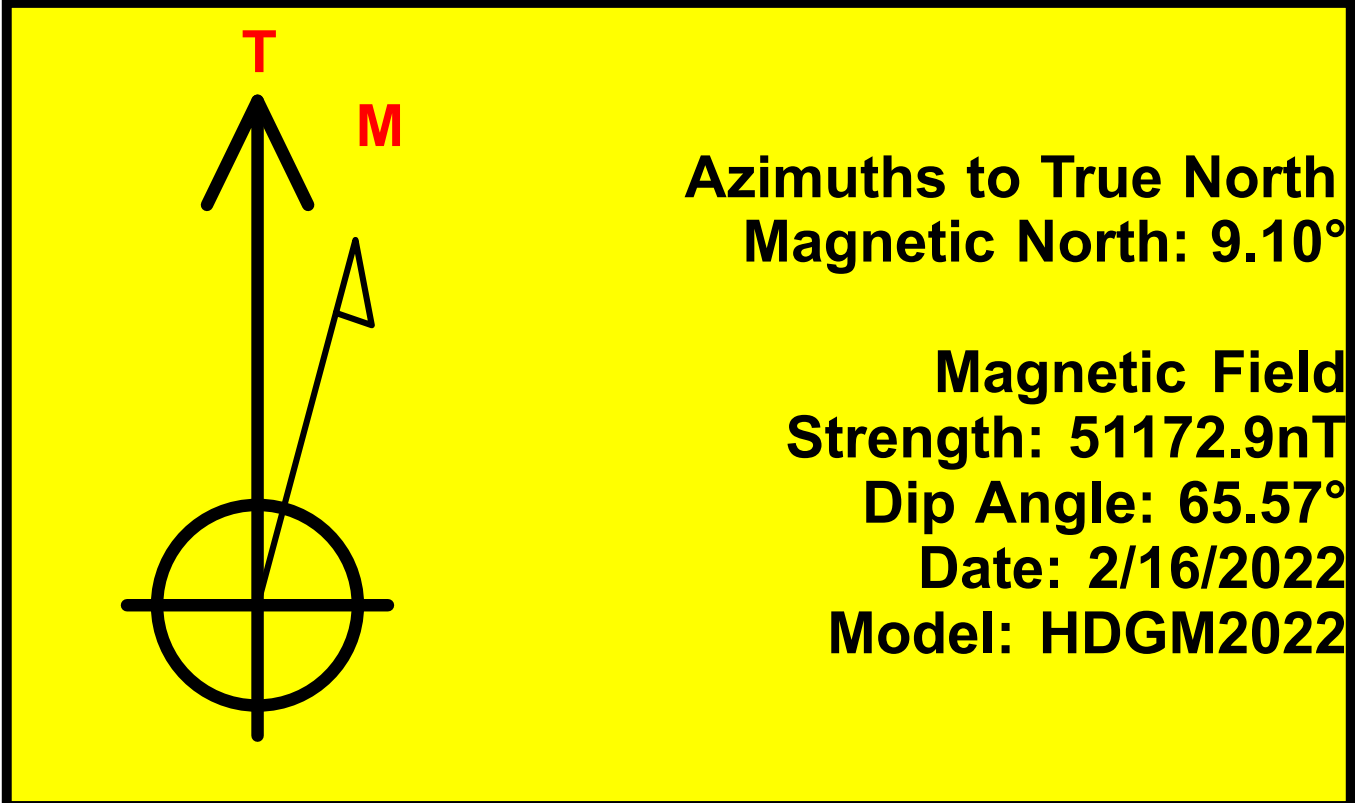
WELL DETAILS: RWF 432-9						
Ground Elevation: 6369.40						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	RWF 432-9
0.00	0.00	1630177.30	2327338.30	39.539375	-107.885375	

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RWF 432-9 - VP	6844.00	746.85	-1413.40	1630961.00	2325945.00	39.541425	-107.890386
RWF 432-9 - PBHL	9494.00	746.85	-1413.40	1630961.00	2325945.00	39.541425	-107.890386

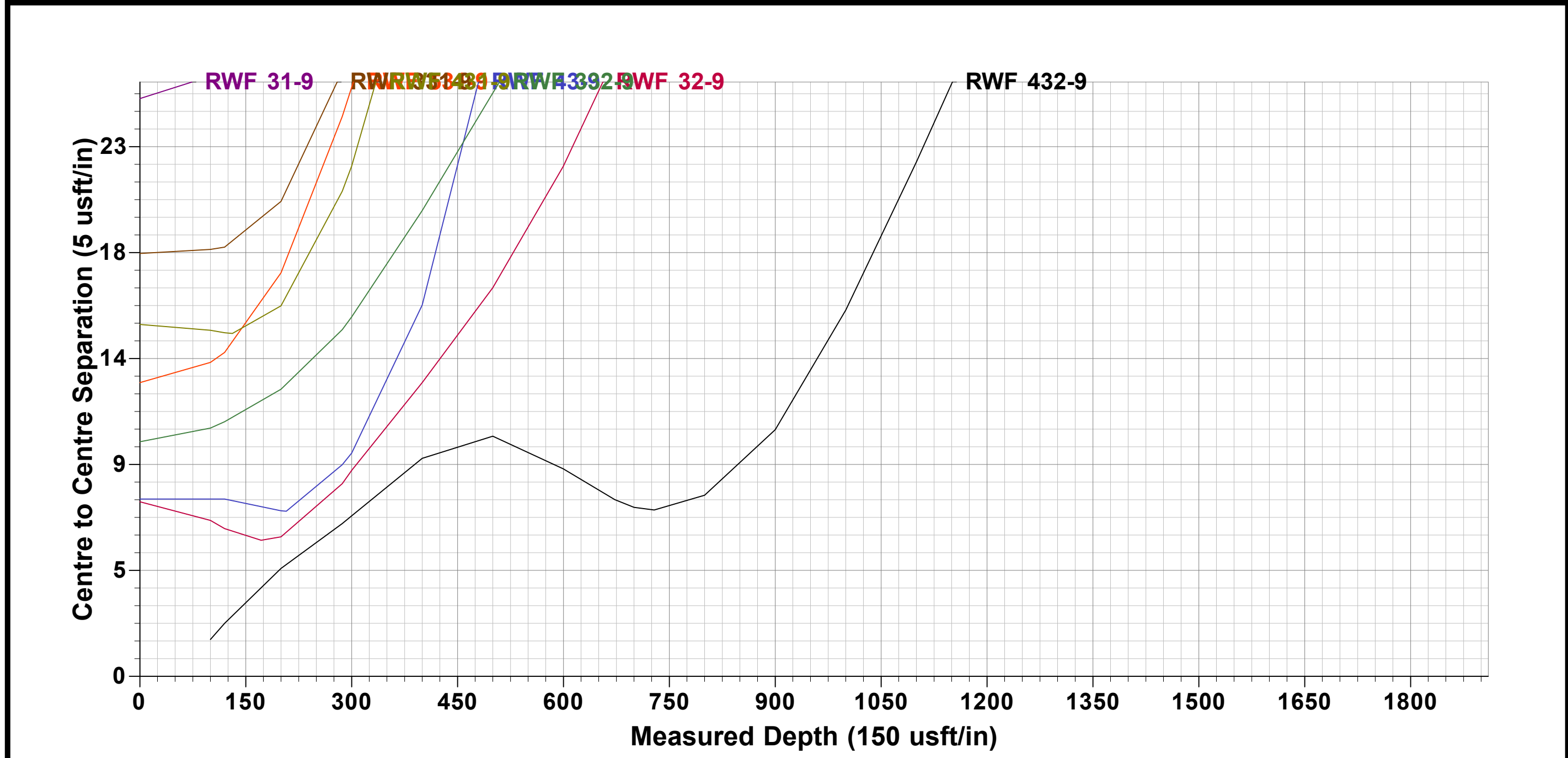
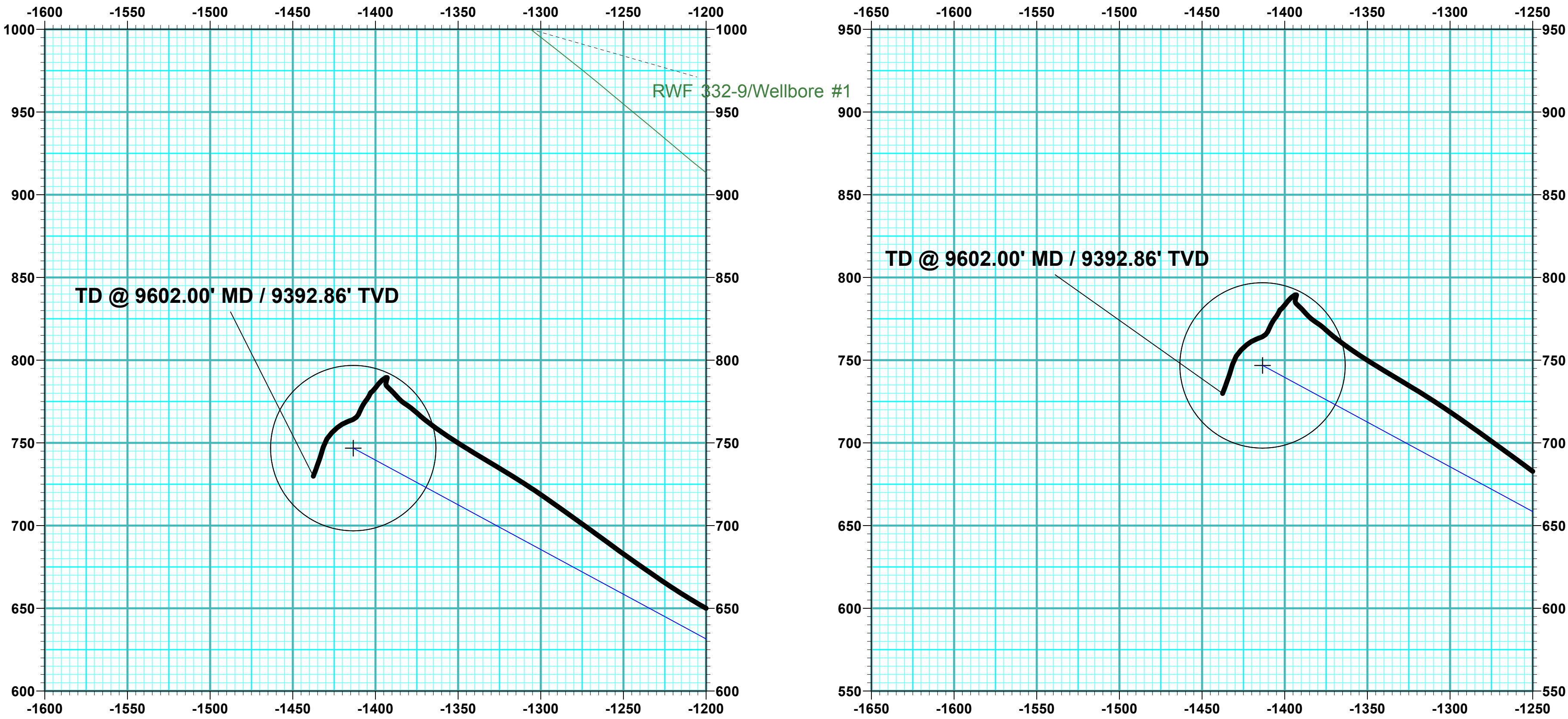
DESIGN ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	Start Build 3.00	
286.67	5.00	260.00	286.46	-1.26	-7.16	5.74	7.27	Start DLS 3.00 TFO 53.62	
672.80	15.09	298.39	666.49	19.78	-68.15	69.50	72.75	Start 5368.25 hold at 672.80 MD	
6041.04	15.09	298.39	5849.65	684.23	-1297.54	1466.90	1470.21	Start Drop -1.50	
7046.98	0.00	0.00	6844.00	746.85	-1413.40	1598.58	1601.90	Start 2650.00 hold at 7046.98 MD	
9696.98	0.00	0.00	9494.00	746.85	-1413.40	1598.58	1601.90	TD at 9696.98	

SLOTS				
Slot Name	+N/-S	+E/-W	Northing	Easting
RWF 31-9	14.33	19.93	1630191.10	2327358.60
RWF 32-9	1.49	7.26	1630178.60	2327345.60
RWF 331-9	12.83	12.57	1630189.80	2327351.20
RWF 332-9	9.75	-2.06	1630187.10	2327336.50
RWF 343-9	19.01	41.92	1630195.20	2327380.70
RWF 344-9	6.17	29.35	1630182.70	2327367.80
RWF 431-9	3.09	14.62	1630180.00	2327353.00
RWF 432-9	0.00	0.00	1630177.30	2327338.30
RWF 43-9	-1.59	-7.36	1630175.90	2327330.90
RWF 443-9	9.16	43.97	1630185.30	2327382.50
RWF 444-9	15.92	27.29	1630192.50	2327366.00
RWF 44-9	7.66	36.61	1630184.00	2327375.10
RWF 531-9	11.34	5.20	1630188.50	2327343.80
RWF 543-9	17.42	34.65	1630193.80	2327373.40

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3324.00	3425.20	G Sand Top-TVD
3384.00	3487.35	G Sand Base-TVD
4654.00	4802.70	WSTC_LOWER-TVD
5544.00	5724.48	OCRK-TVD
5544.00	5724.48	WFRK/UMVRD-TVD
6844.00	7046.98	KMVGAS-TVD
8384.00	8586.98	CMEQ-TVD
9344.00	9546.98	RLNS-TVD
9494.00	9696.98	TD-TVD



ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation	
198.00	3.55	262.31	197.87	-0.82	-6.08	5.05	6.13	First MWD Survey @ 198.00' MD / 197.87' TVD	
9602.00	4.04	200.53	9392.86	729.88	-1437.53	1612.21	1690.51	TD @ 9602.00' MD / 9392.86' TVD	





## **Terra Energy Partners, LLP**

**Garfield County, CO (Nad 83)**

**Sec 9, T6S, R94W**

**RWF 432-9 - Slot RWF 432-9**

**Wellbore #1**

**Design: Wellbore #1**

## **KLX Survey Report**

**22 February, 2022**



<b>Company:</b>	Terra Energy Partners, LLP	<b>Local Co-ordinate Reference:</b>	Well RWF 432-9 - Slot RWF 432-9
<b>Project:</b>	Garfield County, CO (Nad 83)	<b>TVD Reference:</b>	KB=30' @ 6399.40usft (H&P #329)
<b>Site:</b>	Sec 9, T6S, R94W	<b>MD Reference:</b>	KB=30' @ 6399.40usft (H&P #329)
<b>Well:</b>	RWF 432-9	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Single User Db

<b>Project</b>	Garfield County, CO (Nad 83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 432-9 - Slot RWF 432-9					
Well Position	+N/-S	0.00 usft	Northing:	1,630,177.30 usft	Latitude:	39.539375
	+E/-W	0.00 usft	Easting:	2,327,338.30 usft	Longitude:	-107.885375
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	6,369.40 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM2022	2/16/2022	9.10	65.57	51,172.90000000

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	296.92	

<b>Survey Program</b>	<b>Date</b>	2/22/2022			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
198.00	9,602.00	KLX MWD Surveys (Wellbore #1)	OWSG (REV5) MWD HDGM	OWSG MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>First MWD Survey @ 198.00' MD / 197.87' TVD</b>									
198.00	3.55	262.31	197.87	-0.82	-6.08	5.05	1.79	1.79	0.00
295.00	6.55	271.28	294.49	-1.10	-14.59	12.51	3.19	3.09	9.25
389.00	8.61	280.68	387.66	0.33	-26.86	24.10	2.55	2.19	10.00
483.00	9.93	291.84	480.44	4.64	-41.30	38.93	2.37	1.40	11.87
576.00	11.38	301.51	571.84	12.42	-56.57	56.06	2.47	1.56	10.40
669.00	14.06	304.59	662.55	23.63	-73.69	76.41	2.97	2.88	3.31
764.00	15.12	303.27	754.49	36.98	-93.55	100.16	1.17	1.12	-1.39
858.00	16.39	302.39	844.96	50.81	-115.00	125.55	1.37	1.35	-0.94
952.00	17.84	303.27	934.79	65.82	-138.24	153.06	1.57	1.54	0.94

<b>Company:</b>	Terra Energy Partners, LLP	<b>Local Co-ordinate Reference:</b>	Well RWF 432-9 - Slot RWF 432-9
<b>Project:</b>	Garfield County, CO (Nad 83)	<b>TVD Reference:</b>	KB=30' @ 6399.40usft (H&P #329)
<b>Site:</b>	Sec 9, T6S, R94W	<b>MD Reference:</b>	KB=30' @ 6399.40usft (H&P #329)
<b>Well:</b>	RWF 432-9	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,046.00	18.72	301.86	1,024.05	81.68	-163.09	182.40	1.05	0.94	-1.50
1,172.00	19.20	299.40	1,143.21	102.52	-198.32	223.25	0.74	0.38	-1.95
1,265.00	18.85	298.79	1,231.13	117.27	-224.81	253.54	0.43	-0.38	-0.66
1,360.00	18.41	297.12	1,321.16	131.50	-251.61	283.88	0.73	-0.46	-1.76
1,454.00	17.62	296.50	1,410.55	144.61	-277.55	312.95	0.86	-0.84	-0.66
1,548.00	17.05	296.59	1,500.28	157.13	-302.61	340.96	0.61	-0.61	0.10
1,642.00	17.23	295.01	1,590.10	169.18	-327.55	368.65	0.53	0.19	-1.68
1,736.00	16.57	298.88	1,680.05	181.54	-351.90	395.96	1.39	-0.70	4.12
1,830.00	16.04	298.52	1,770.26	194.22	-375.05	422.34	0.57	-0.56	-0.38
1,924.00	15.47	297.64	1,860.73	206.23	-397.57	447.86	0.66	-0.61	-0.94
2,018.00	14.55	295.98	1,951.52	217.22	-419.29	472.20	1.08	-0.98	-1.77
2,112.00	14.68	298.96	2,042.48	228.16	-440.32	495.91	0.81	0.14	3.17
2,206.00	13.75	296.94	2,133.61	238.99	-460.71	518.98	1.12	-0.99	-2.15
2,300.00	14.46	300.11	2,224.77	249.94	-480.82	541.87	1.12	0.76	3.37
2,394.00	14.11	299.75	2,315.87	261.51	-500.92	565.04	0.38	-0.37	-0.38
2,488.00	15.21	301.60	2,406.80	273.66	-521.37	588.77	1.27	1.17	1.97
2,583.00	14.68	300.55	2,498.59	286.31	-542.35	613.20	0.63	-0.56	-1.11
2,677.00	13.84	299.05	2,589.69	297.82	-562.44	636.33	0.98	-0.89	-1.60
2,771.00	15.34	304.32	2,680.66	310.29	-582.54	659.89	2.13	1.60	5.61
2,865.00	15.03	304.06	2,771.38	324.13	-602.90	684.32	0.34	-0.33	-0.28
2,956.00	14.46	302.83	2,859.39	336.90	-622.22	707.33	0.71	-0.63	-1.35
3,046.00	13.89	303.62	2,946.65	348.97	-640.66	729.23	0.67	-0.63	0.88
3,137.00	14.94	302.83	3,034.78	361.38	-659.61	751.75	1.17	1.15	-0.87
3,229.00	13.67	301.69	3,123.92	373.52	-678.83	774.38	1.41	-1.38	-1.24
3,320.00	15.29	300.63	3,212.03	385.28	-698.31	797.07	1.80	1.78	-1.16
3,409.00	15.34	301.25	3,297.87	397.37	-718.47	820.52	0.19	0.06	0.70
3,501.00	14.68	300.55	3,386.73	409.60	-738.91	844.29	0.74	-0.72	-0.76
3,592.00	15.38	298.26	3,474.62	421.18	-759.47	867.86	1.01	0.77	-2.52
3,681.00	14.33	298.26	3,560.64	431.98	-779.57	890.67	1.18	-1.18	0.00
3,771.00	15.73	298.00	3,647.56	442.98	-800.15	914.00	1.56	1.56	-0.29
3,862.00	15.56	298.26	3,735.19	454.55	-821.79	938.54	0.20	-0.19	0.29
3,952.00	15.25	297.47	3,821.96	465.73	-842.93	962.44	0.42	-0.34	-0.88
4,042.00	14.94	297.56	3,908.85	476.56	-863.71	985.88	0.35	-0.34	0.10
4,133.00	15.12	297.56	3,996.74	487.48	-884.64	1,009.48	0.20	0.20	0.00
4,224.00	14.81	299.05	4,084.65	498.61	-905.32	1,032.97	0.54	-0.34	1.64
4,316.00	15.95	297.29	4,173.36	510.12	-926.84	1,057.36	1.34	1.24	-1.91
4,408.00	15.51	297.39	4,261.91	521.57	-948.99	1,082.30	0.48	-0.48	0.11
4,499.00	15.12	298.08	4,349.68	532.76	-970.27	1,106.33	0.47	-0.43	0.76
4,589.00	14.63	296.94	4,436.66	543.43	-990.76	1,129.43	0.63	-0.54	-1.27
4,681.00	13.67	295.98	4,525.87	553.46	-1,010.89	1,151.92	1.07	-1.04	-1.04
4,771.00	14.63	298.88	4,613.14	563.61	-1,030.40	1,173.92	1.33	1.07	3.22
4,863.00	16.17	297.82	4,701.83	575.20	-1,051.91	1,198.34	1.70	1.67	-1.15
4,954.00	16.26	297.12	4,789.21	586.92	-1,074.45	1,223.75	0.24	0.10	-0.77

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<b>Well:</b>	RWF 432-9	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
5,046.00	15.60	296.41	4,877.68	598.29	-1,096.99	1,249.00	0.75	-0.72	-0.77
5,137.00	14.68	295.62	4,965.52	608.72	-1,118.35	1,272.76	1.04	-1.01	-0.87
5,229.00	15.86	297.64	5,054.27	619.59	-1,140.00	1,296.99	1.41	1.28	2.20
5,320.00	15.47	296.94	5,141.89	630.86	-1,161.83	1,321.56	0.48	-0.43	-0.77
5,411.00	14.37	295.54	5,229.82	641.23	-1,182.84	1,344.98	1.27	-1.21	-1.54
5,502.00	14.15	299.58	5,318.02	651.59	-1,202.71	1,367.38	1.12	-0.24	4.44
5,593.00	14.06	303.80	5,406.28	663.23	-1,221.57	1,389.47	1.13	-0.10	4.64
5,685.00	14.68	304.85	5,495.40	676.11	-1,240.42	1,412.11	0.73	0.67	1.14
5,776.00	14.37	306.43	5,583.49	689.40	-1,258.97	1,434.67	0.55	-0.34	1.74
5,868.00	13.05	305.47	5,672.87	702.21	-1,276.61	1,456.20	1.46	-1.43	-1.04
5,959.00	13.27	305.47	5,761.48	714.23	-1,293.49	1,476.69	0.24	0.24	0.00
6,050.00	12.52	302.48	5,850.19	725.59	-1,310.31	1,496.83	1.10	-0.82	-3.29
6,142.00	10.63	301.16	5,940.31	735.34	-1,325.99	1,515.22	2.07	-2.05	-1.43
6,235.00	10.85	300.90	6,031.68	744.27	-1,340.84	1,532.51	0.24	0.24	-0.28
6,326.00	9.36	303.45	6,121.27	752.75	-1,354.36	1,548.40	1.71	-1.64	2.80
6,419.00	8.13	306.61	6,213.19	760.84	-1,365.95	1,562.40	1.42	-1.32	3.40
6,510.00	5.71	312.59	6,303.52	767.74	-1,374.45	1,573.10	2.77	-2.66	6.57
6,602.00	5.05	303.18	6,395.11	773.05	-1,381.21	1,581.54	1.20	-0.72	-10.23
6,693.00	3.52	319.18	6,485.86	777.36	-1,386.39	1,588.10	2.12	-1.68	17.58
6,786.00	2.77	314.61	6,578.72	781.10	-1,389.85	1,592.89	0.85	-0.81	-4.91
6,878.00	1.98	313.82	6,670.64	783.76	-1,392.58	1,596.52	0.86	-0.86	-0.86
6,970.00	1.19	3.04	6,762.61	785.81	-1,393.68	1,598.43	1.63	-0.86	53.50
7,062.00	1.23	19.91	6,854.59	787.70	-1,393.29	1,598.94	0.39	0.04	18.34
7,153.00	0.92	9.98	6,945.57	789.33	-1,392.83	1,599.27	0.40	-0.34	-10.91
7,246.00	1.49	241.33	7,038.56	789.49	-1,393.77	1,600.17	2.35	0.61	-138.33
7,337.00	1.93	228.39	7,129.52	787.90	-1,395.95	1,601.40	0.64	0.48	-14.22
7,429.00	1.76	219.42	7,221.47	785.78	-1,398.00	1,602.28	0.36	-0.18	-9.75
7,521.00	2.15	217.75	7,313.42	783.33	-1,399.96	1,602.91	0.43	0.42	-1.82
7,613.00	1.45	224.34	7,405.37	781.13	-1,401.83	1,603.58	0.79	-0.76	7.16
7,705.00	0.22	358.38	7,497.36	780.48	-1,402.65	1,604.01	1.75	-1.34	145.70
7,796.00	0.09	205.36	7,588.36	780.59	-1,402.68	1,604.09	0.33	-0.14	-168.15
7,886.00	0.22	225.31	7,678.36	780.40	-1,402.84	1,604.15	0.15	0.14	22.17
7,977.00	0.79	203.16	7,769.36	779.70	-1,403.21	1,604.16	0.65	0.63	-24.34
8,069.00	1.27	206.06	7,861.34	778.20	-1,403.90	1,604.10	0.52	0.52	3.15
8,158.00	1.63	218.98	7,950.32	776.33	-1,405.13	1,604.35	0.54	0.40	14.52
8,249.00	1.27	213.89	8,041.29	774.49	-1,406.51	1,604.74	0.42	-0.40	-5.59
8,341.00	1.36	210.19	8,133.26	772.70	-1,407.63	1,604.93	0.13	0.10	-4.02
8,431.00	1.54	205.62	8,223.23	770.68	-1,408.69	1,604.96	0.24	0.20	-5.08
8,522.00	1.14	202.28	8,314.21	768.74	-1,409.56	1,604.86	0.45	-0.44	-3.67
8,612.00	1.10	206.94	8,404.19	767.15	-1,410.29	1,604.79	0.11	-0.04	5.18
8,702.00	1.41	224.43	8,494.17	765.58	-1,411.46	1,605.12	0.54	0.34	19.43
8,792.00	1.76	244.47	8,584.14	764.20	-1,413.48	1,606.30	0.72	0.39	22.27
8,884.00	2.46	250.18	8,676.07	762.92	-1,416.61	1,608.51	0.79	0.76	6.21

<b>Company:</b>	Terra Energy Partners, LLP	<b>Local Co-ordinate Reference:</b>	Well RWF 432-9 - Slot RWF 432-9
<b>Project:</b>	Garfield County, CO (Nad 83)	<b>TVD Reference:</b>	KB=30' @ 6399.40usft (H&P #329)
<b>Site:</b>	Sec 9, T6S, R94W	<b>MD Reference:</b>	KB=30' @ 6399.40usft (H&P #329)
<b>Well:</b>	RWF 432-9	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
8,974.00	2.42	239.72	8,765.99	761.31	-1,420.07	1,610.87	0.50	-0.04	-11.62
9,064.00	2.42	229.62	8,855.91	759.12	-1,423.16	1,612.63	0.47	0.00	-11.22
9,154.00	2.99	225.14	8,945.81	756.23	-1,426.27	1,614.10	0.68	0.63	-4.98
9,246.00	3.03	212.65	9,037.69	752.49	-1,429.28	1,615.09	0.71	0.04	-13.58
9,338.00	3.96	196.75	9,129.52	747.40	-1,431.51	1,614.77	1.45	1.01	-17.28
9,429.00	4.17	198.06	9,220.29	741.25	-1,433.44	1,613.71	0.25	0.23	1.44
9,520.00	3.82	200.26	9,311.07	735.26	-1,435.52	1,612.85	0.42	-0.38	2.42
9,538.00	4.04	200.53	9,329.02	734.10	-1,435.95	1,612.71	1.23	1.22	1.50
TD @ 9602.00' MD / 9392.86' TVD									
9,602.00	4.04	200.53	9,392.86	729.88	-1,437.53	1,612.21	0.00	0.00	0.00

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
198.00	197.87	-0.82	-6.08	First MWD Survey @ 198.00'MD / 197.87' TVD
9,602.00	9,392.86	729.88	-1,437.53	TD @ 9602.00' MD / 9392.86' TVD

Checked By: _____	Approved By: _____	Date: _____
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