

Sec 3, T6S, R94W
NR 432-4
Q220738 & RM-220668
Plan 5

Company Name: Terra Energy Partners, LLP
NR 432-4
Garfield County, CO (Nad 83)
Rig: KB=30' @ 6760.00usft (H&P #329)
Created by: Chase Chambers
Date: 23:39, August 03 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

TERRA
ENERGY PARTNERS

KLX
Directional Drilling

T

M

Azimuths to True North
Magnetic North: 9.10'

Magnetic Field
Strength: 51132.5nT
Dip Angle: 65.57'
Date: 7/28/2022
Model: HDGM2022

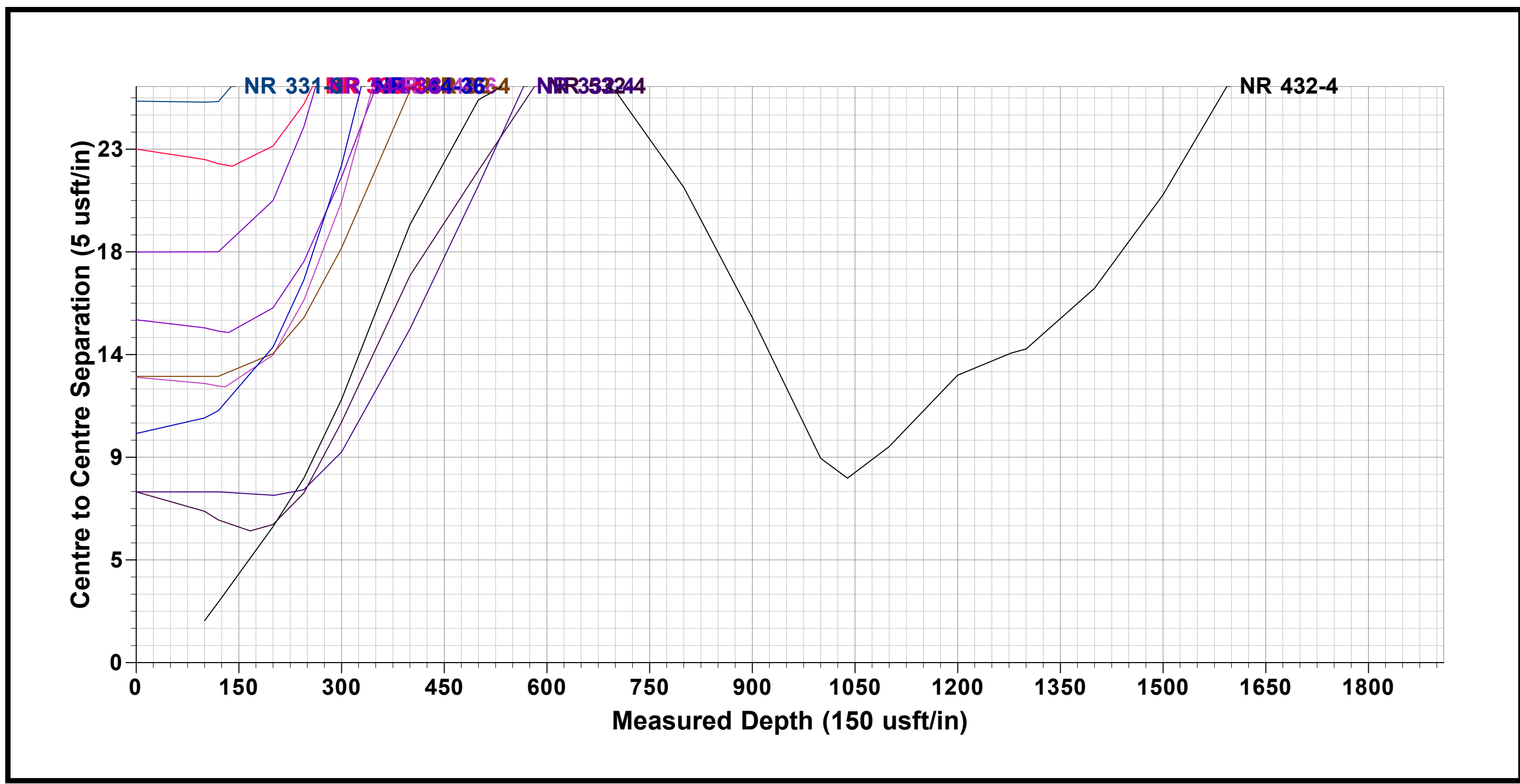
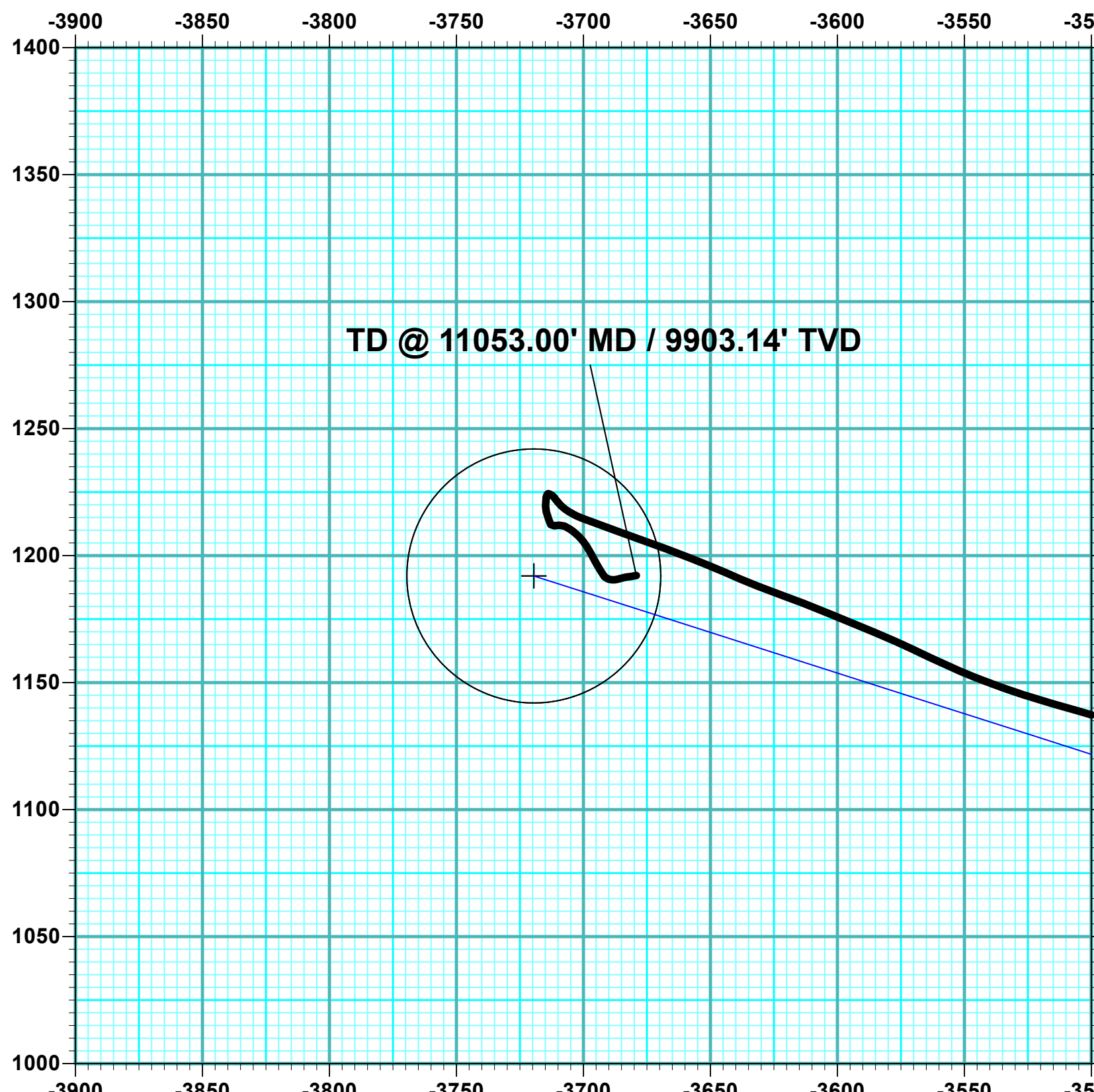
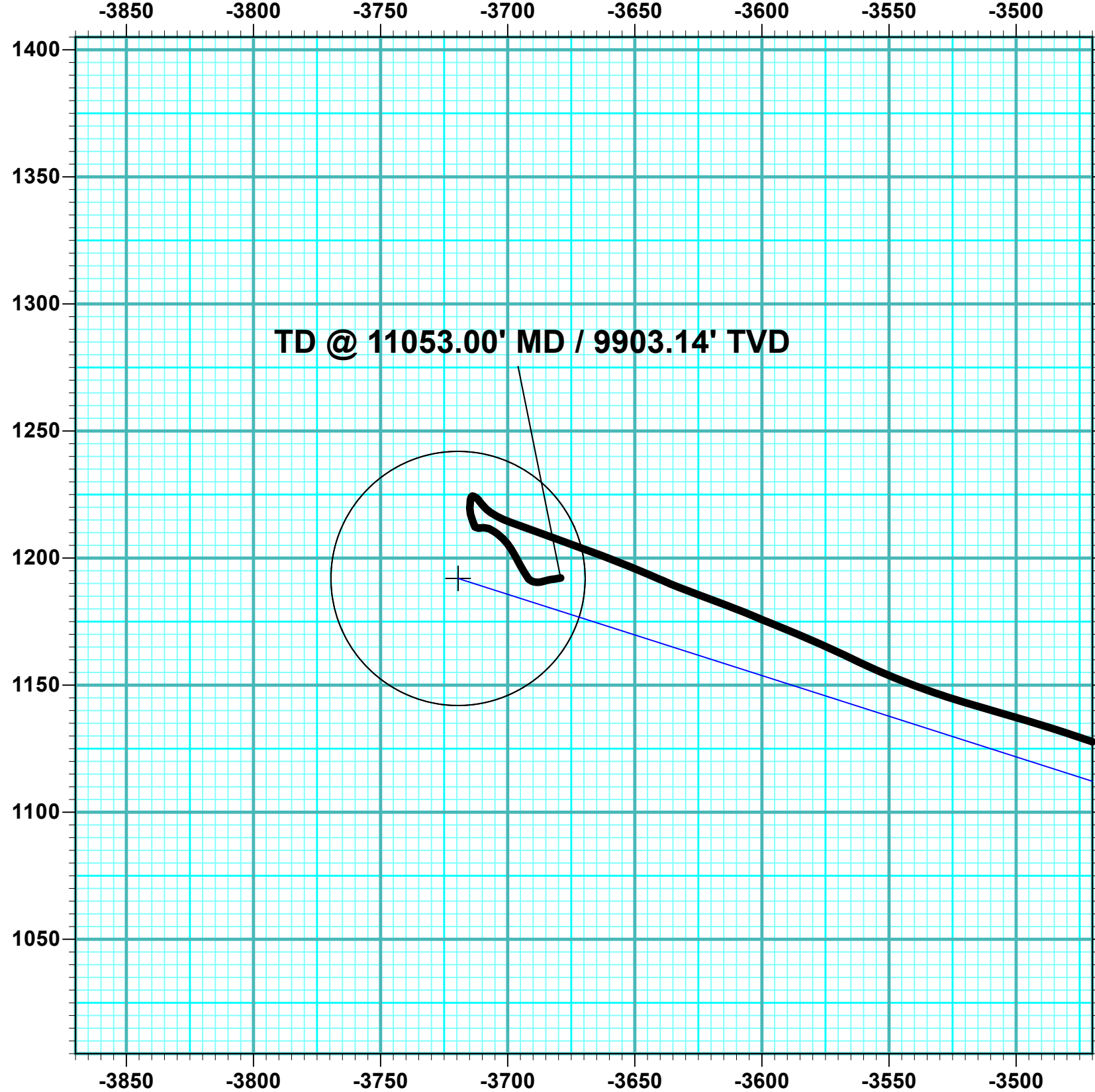
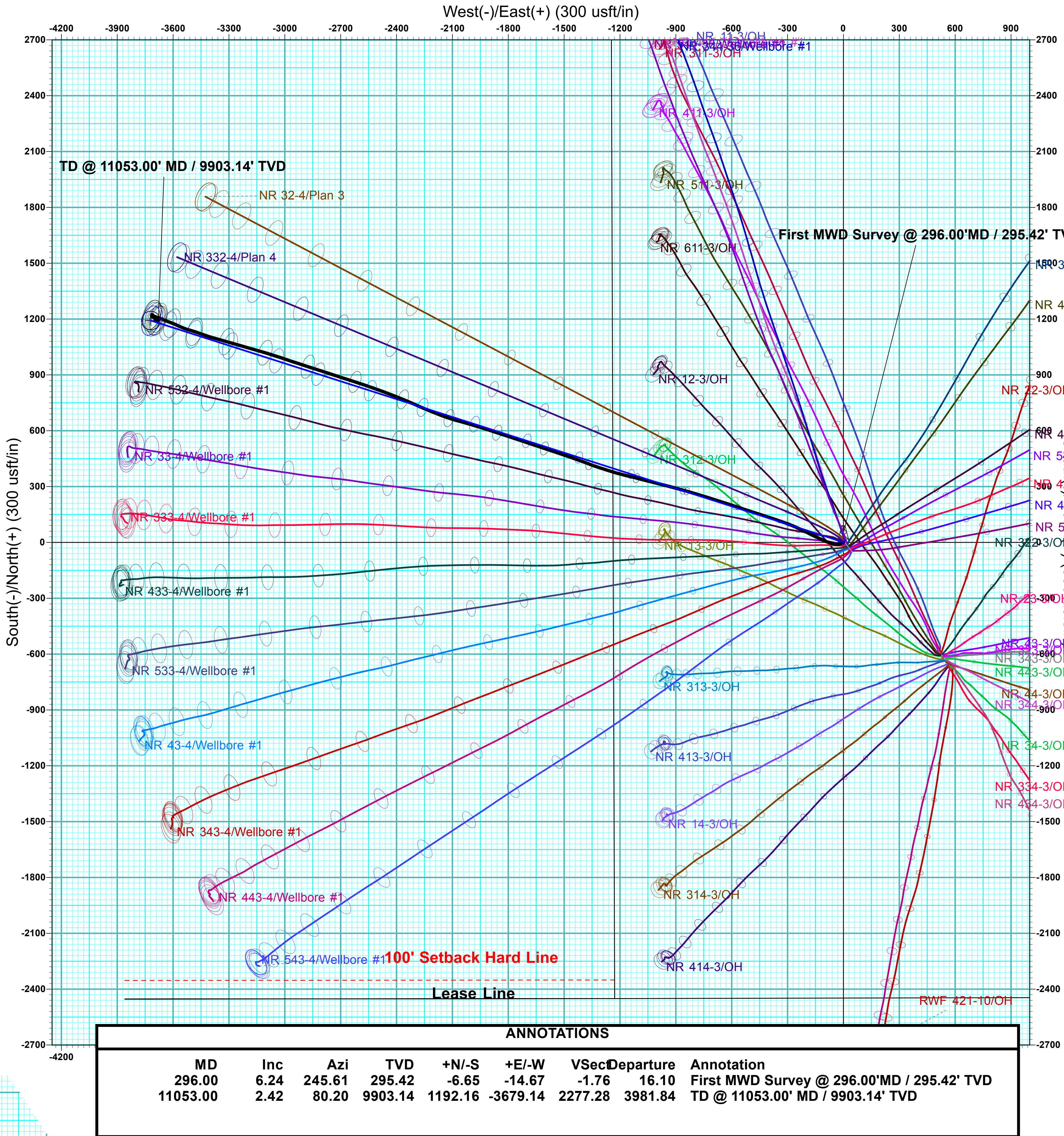
WELL DETAILS: NR 432-4							
Ground Elevation:		6730.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	NR 432-4	
0.00	0.00	1635547.80	2329233.80	39.554250	-107.879155		

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
NR 432-4 - VP	7320.00	1192.01	-3719.49	1636836.80	2325546.80	39.557522	-107.892346
NR 432-4 - PBHL	9985.00	1192.01	-3719.49	1636836.80	2325546.80	39.557522	-107.892346

DESIGN ANNOTATIONS							
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00
245.00	5.00	290.00	244.84	1.86	-5.12	5.45	5.45
1278.15	35.99	287.74	1200.85	112.47	-344.88	362.75	362.77
6066.71	35.99	287.74	5075.37	969.86	-3025.05	3176.72	3176.73
8466.04	0.00	0.00	7320.00	1192.01	-3719.49	3905.83	3905.84
11131.04	0.00	0.00	9985.00	1192.01	-3719.49	3905.83	3905.84
				Annotation			
				Start Build 4.00			
				Start DLS 3.00 TFO -2.58			
				Start Drop -1.50			
				Start 2665.00 hold at 8466.04 MD			
				TD at 11131.04			

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
3560.00	4193.85	Wasatch G	
5560.00	6636.93	LWSTC	
6140.00	7266.42	MVRD	
7320.00	8466.04	KMGAS	
8970.00	10116.04	CMEO	
9835.00	10981.04	RLNS	
9985.00	11131.04	TD	

CASING DETAILS			
TVD	MD	Name	Size
1052.03	1100.00	9 5/8" Surface Casing	9-5/8





Terra Energy Partners, LLP

Garfield County, CO (Nad 83)

Sec 3, T6S, R94W

NR 432-4 - Slot NR 432-4

Wellbore #1

Design: Wellbore #1

KLX Survey Certification Report

03 August, 2022



KLX Directional Drilling, INC.

11390 FM 830
Willis, TX 77318
Phone: (936) 856-4332
Fax: (936) 856-8678

**Survey Certification Sheet**

Company	Job Number	Date
TEP Rocky Mountain LLC	RM-220669	08/03/2022

Lease	Well Name	County & State
NWSW 3 6S94W 6	Federal #NR 432-4	Garfield County, CO

API No.	Survey Depth Range	Survey Type
05-045-24465	296 feet to 11053 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
Click here to enter text.	Robert Cuevas

Certification Statement

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by KLX Directional Drilling. This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature.

Kristopher Ray
Regulatory Compliance Manager
KLX Directional Drilling, Inc.

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well NR 432-4 - Slot NR 432-4
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 6760.00usft (H&P #329)
Site:	Sec 3, T6S, R94W	MD Reference:	KB=30' @ 6760.00usft (H&P #329)
Well:	NR 432-4	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 3, T6S, R94W			
Site Position:		Northing:	1,635,500.80 usft	Latitude:	39.554125
From:	Map	Easting:	2,329,283.20 usft	Longitude:	-107.878975
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.50 °

Well	NR 432-4 - Slot NR 432-4					
Well Position	+N/-S	0.00 usft	Northing:	1,635,547.80 usft	Latitude:	39.554250
	+E/-W	0.00 usft	Easting:	2,329,233.80 usft	Longitude:	-107.879155
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	6,730.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2022	7/28/2022	9.10	65.57	51,132.50000000

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	341.88	

Survey Program	Date	8/3/2022			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
296.00	11,053.00	KLX MWD Survey (Wellbore #1)	OWSG (REV5) MWD HDGM	OWSG MWD - Standard	

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
296.00	6.24	245.61	295.42	-6.65	-14.67	16.10	245.61	
First MWD Survey @ 296.00'MD / 295.42' TVD								
389.00	8.66	258.36	387.63	-10.15	-26.13	28.03	248.77	
482.00	11.07	277.17	479.27	-10.45	-41.85	43.14	255.98	
573.00	14.50	286.48	568.01	-6.12	-61.45	61.76	264.31	
666.00	18.15	290.97	657.25	2.37	-86.15	86.18	271.57	
760.00	21.66	294.83	745.62	14.89	-115.58	116.53	277.34	
854.00	25.40	295.18	831.79	30.76	-149.58	152.71	281.62	
949.00	28.39	297.12	916.51	49.73	-188.13	194.59	284.81	
1,043.00	32.34	295.62	997.60	70.80	-230.70	241.32	287.06	
1,170.00	34.19	290.53	1,103.81	98.01	-294.77	310.63	288.39	

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
1,264.00	35.68	289.30	1,180.87	116.33	-345.38	364.44	288.61	
1,359.00	37.79	288.24	1,257.00	134.60	-399.18	421.26	288.63	
1,453.00	38.41	287.71	1,330.97	152.50	-454.35	479.26	288.55	
1,547.00	39.11	287.98	1,404.27	170.53	-510.36	538.10	288.48	
1,641.00	38.58	288.33	1,477.48	188.90	-566.39	597.06	288.44	
1,735.00	38.10	288.06	1,551.21	207.11	-621.78	655.37	288.42	
1,829.00	37.88	287.89	1,625.29	224.97	-676.82	713.23	288.39	
1,923.00	37.79	287.27	1,699.53	242.38	-731.78	770.88	288.33	
2,016.00	37.70	286.66	1,773.07	258.99	-786.23	827.79	288.23	
2,110.00	37.79	285.69	1,847.40	275.02	-841.50	885.30	288.10	
2,204.00	37.57	285.08	1,921.79	290.27	-896.89	942.70	287.93	
2,295.00	37.70	284.90	1,993.86	304.64	-950.57	998.19	287.77	
2,386.00	37.79	284.20	2,065.82	318.63	-1,004.49	1,053.81	287.60	
2,475.00	38.10	283.67	2,136.00	331.81	-1,057.60	1,108.43	287.42	
2,566.00	37.57	284.81	2,207.87	345.54	-1,111.71	1,164.17	287.27	
2,656.00	37.18	283.49	2,279.40	358.90	-1,164.68	1,218.72	287.13	
2,746.00	35.99	285.60	2,351.67	372.35	-1,216.60	1,272.30	287.02	
2,837.00	34.89	288.24	2,425.81	387.69	-1,267.07	1,325.06	287.01	
2,928.00	34.67	287.63	2,500.55	403.67	-1,316.46	1,376.96	287.05	
3,019.00	34.01	291.23	2,575.70	420.73	-1,364.85	1,428.23	287.13	
3,110.00	33.71	290.17	2,651.26	438.65	-1,412.28	1,478.83	287.25	
3,200.00	34.01	289.21	2,726.00	455.55	-1,459.49	1,528.93	287.33	
3,291.00	34.28	288.77	2,801.31	472.17	-1,507.79	1,579.99	287.39	
3,383.00	34.50	288.50	2,877.23	488.77	-1,557.03	1,631.94	287.43	
3,474.00	34.01	288.06	2,952.45	504.84	-1,605.66	1,683.16	287.45	
3,564.00	35.77	288.94	3,026.27	521.18	-1,654.48	1,734.63	287.49	
3,655.00	35.60	287.89	3,100.18	537.95	-1,704.84	1,787.70	287.51	
3,745.00	36.87	288.94	3,172.78	554.76	-1,755.31	1,840.89	287.54	
3,837.00	37.00	288.50	3,246.31	572.50	-1,807.67	1,896.16	287.57	
3,927.00	37.09	287.98	3,318.15	589.47	-1,859.16	1,950.38	287.59	
4,018.00	36.69	287.63	3,390.93	606.18	-1,911.17	2,005.00	287.60	
4,110.00	37.00	286.92	3,464.55	622.56	-1,963.85	2,060.17	287.59	
4,201.00	35.99	286.04	3,537.71	637.92	-2,015.75	2,114.28	287.56	
4,293.00	35.20	285.16	3,612.52	652.32	-2,067.32	2,167.80	287.51	
4,385.00	35.20	288.33	3,687.70	667.60	-2,118.09	2,220.81	287.49	
4,477.00	35.38	291.67	3,762.80	685.77	-2,168.02	2,273.89	287.55	
4,568.00	34.98	291.40	3,837.18	705.02	-2,216.79	2,326.20	287.64	
4,660.00	36.21	293.78	3,911.99	725.60	-2,266.21	2,379.54	287.75	
4,752.00	35.90	293.60	3,986.37	747.35	-2,315.79	2,433.40	287.89	
4,843.00	37.09	292.37	4,059.53	768.48	-2,365.62	2,487.31	288.00	
4,934.00	36.87	291.76	4,132.22	789.04	-2,416.35	2,541.92	288.08	
5,026.00	37.31	290.00	4,205.61	808.81	-2,468.19	2,597.33	288.14	
5,118.00	36.78	289.30	4,279.04	827.45	-2,520.38	2,652.73	288.18	
5,210.00	36.39	289.03	4,352.92	845.45	-2,572.17	2,707.56	288.20	

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Site:	Sec 3, T6S, R94W	MD Reference:	KB=30' @ 6760.00usft (H&P #329)
Well:	NR 432-4	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
5,301.00	36.30	288.06	4,426.21	862.61	-2,623.30	2,761.49	288.20	
5,393.00	36.47	287.71	4,500.28	879.37	-2,675.24	2,816.06	288.20	
5,484.00	35.77	287.98	4,573.79	895.80	-2,726.30	2,869.70	288.19	
5,576.00	35.38	287.98	4,648.62	912.33	-2,777.21	2,923.22	288.19	
5,666.00	35.20	288.06	4,722.08	928.41	-2,826.66	2,975.22	288.18	
5,758.00	33.88	287.80	4,797.86	944.47	-2,876.28	3,027.38	288.18	
5,849.00	33.00	288.33	4,873.79	960.02	-2,923.96	3,077.53	288.18	
5,941.00	31.99	288.42	4,951.39	975.60	-2,970.86	3,126.95	288.18	
6,031.00	31.90	288.33	5,027.76	990.61	-3,016.05	3,174.57	288.18	
6,124.00	31.20	287.71	5,107.01	1,005.66	-3,062.33	3,223.23	288.18	
6,214.00	30.10	286.48	5,184.44	1,019.16	-3,106.18	3,269.10	288.17	
6,306.00	29.31	286.13	5,264.35	1,031.96	-3,149.93	3,314.66	288.14	
6,396.00	28.78	286.13	5,343.03	1,044.10	-3,191.90	3,358.33	288.11	
6,487.00	27.91	285.43	5,423.12	1,055.85	-3,233.48	3,401.50	288.08	
6,578.00	27.69	286.39	5,503.62	1,067.48	-3,274.29	3,443.91	288.06	
6,670.00	25.31	286.22	5,585.94	1,079.01	-3,313.69	3,484.94	288.04	
6,760.00	24.87	285.16	5,667.45	1,089.33	-3,350.43	3,523.07	288.01	
6,851.00	24.39	286.39	5,750.17	1,099.64	-3,386.92	3,560.96	287.99	
6,942.00	22.98	288.77	5,833.51	1,110.66	-3,421.77	3,597.51	287.98	
7,034.00	21.18	290.26	5,918.76	1,122.19	-3,454.37	3,632.08	288.00	
7,124.00	19.91	287.63	6,003.03	1,132.46	-3,484.23	3,663.65	288.01	
7,215.00	19.12	285.69	6,088.81	1,141.19	-3,513.34	3,694.04	287.99	
7,305.00	17.18	290.61	6,174.33	1,149.85	-3,539.98	3,722.05	287.99	
7,396.00	15.78	295.89	6,261.59	1,159.99	-3,563.69	3,747.73	288.03	
7,488.00	14.59	292.64	6,350.38	1,169.91	-3,585.64	3,771.67	288.07	
7,579.00	13.10	292.11	6,438.73	1,178.21	-3,605.78	3,793.39	288.10	
7,669.00	11.69	289.91	6,526.63	1,185.15	-3,623.80	3,812.68	288.11	
7,760.00	10.41	293.69	6,615.95	1,191.59	-3,640.00	3,830.08	288.13	
7,851.00	9.10	291.67	6,705.63	1,197.55	-3,654.21	3,845.44	288.14	
7,943.00	8.61	290.70	6,796.53	1,202.67	-3,667.42	3,859.58	288.16	
8,033.00	7.60	289.30	6,885.63	1,207.02	-3,679.34	3,872.26	288.16	
8,125.00	6.02	290.70	6,976.98	1,210.74	-3,689.59	3,883.17	288.17	
8,216.00	5.10	288.94	7,067.55	1,213.74	-3,697.88	3,891.98	288.17	
8,307.00	4.31	299.31	7,158.25	1,216.73	-3,704.69	3,899.38	288.18	
8,399.00	2.90	318.91	7,250.06	1,220.17	-3,709.23	3,904.77	288.21	
8,490.00	1.19	323.66	7,341.00	1,222.67	-3,711.31	3,907.52	288.23	
8,581.00	0.70	302.30	7,431.99	1,223.73	-3,712.34	3,908.83	288.24	
8,673.00	0.62	298.00	7,523.99	1,224.26	-3,713.25	3,909.87	288.25	
8,764.00	0.31	246.67	7,614.98	1,224.39	-3,713.91	3,910.54	288.25	
8,854.00	0.62	203.60	7,704.98	1,223.85	-3,714.33	3,910.76	288.24	
8,945.00	0.62	189.28	7,795.97	1,222.91	-3,714.61	3,910.73	288.22	
9,037.00	1.01	181.19	7,887.96	1,221.61	-3,714.70	3,910.42	288.20	
9,129.00	1.49	187.61	7,979.94	1,219.62	-3,714.88	3,909.96	288.18	
9,220.00	1.58	158.34	8,070.91	1,217.28	-3,714.57	3,908.94	288.14	
9,312.00	2.02	166.60	8,162.87	1,214.52	-3,713.73	3,907.28	288.11	

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
9,404.00	1.10	142.34	8,254.83	1,212.24	-3,712.81	3,905.70	288.08	
9,495.00	1.10	75.46	8,345.82	1,211.77	-3,711.44	3,904.25	288.08	
9,586.00	1.32	90.22	8,436.80	1,211.99	-3,709.54	3,902.51	288.09	
9,677.00	1.41	109.30	8,527.77	1,211.61	-3,707.44	3,900.40	288.10	
9,769.00	1.80	126.70	8,619.74	1,210.38	-3,705.21	3,897.90	288.09	
9,859.00	2.20	129.69	8,709.68	1,208.43	-3,702.75	3,894.95	288.07	
9,949.00	2.02	141.46	8,799.62	1,206.08	-3,700.43	3,892.02	288.05	
10,041.00	2.11	147.09	8,891.56	1,203.39	-3,698.50	3,889.35	288.02	
10,132.00	2.20	154.91	8,982.50	1,200.41	-3,696.85	3,886.86	287.99	
10,224.00	2.59	146.74	9,074.42	1,197.07	-3,694.96	3,884.03	287.95	
10,316.00	2.11	151.66	9,166.34	1,193.84	-3,693.02	3,881.19	287.91	
10,407.00	1.01	141.64	9,257.31	1,191.74	-3,691.72	3,879.31	287.89	
10,497.00	1.01	105.16	9,347.29	1,190.91	-3,690.46	3,877.86	287.88	
10,587.00	0.88	101.91	9,437.28	1,190.56	-3,689.02	3,876.38	287.89	
10,678.00	0.62	80.12	9,528.27	1,190.50	-3,687.85	3,875.25	287.89	
10,771.00	0.70	83.37	9,621.27	1,190.65	-3,686.79	3,874.29	287.90	
10,863.00	1.19	67.28	9,713.25	1,191.08	-3,685.35	3,873.05	287.91	
10,954.00	1.80	86.09	9,804.22	1,191.55	-3,683.06	3,871.01	287.93	
10,993.00	2.42	80.20	9,843.20	1,191.73	-3,681.63	3,869.71	287.94	
11,053.00	2.42	80.20	9,903.14	1,192.16	-3,679.14	3,867.47	287.95	
TD @ 11053.00' MD / 9903.14' TVD								

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
296.00	295.42	-6.65	-14.67	First MWD Survey @ 296.00' MD / 295.42' TVD	
11,053.00	9,903.14	1,192.16	-3,679.14	TD @ 11053.00' MD / 9903.14' TVD	

Checked By: _____ Approved By: _____ Date: _____