

WMC 24-17 Pad
WMC 32-20
Q221158 & RM-221035
Plan 2

Company Name: Terra Energy Partners, LLP
WMC 32-20
Garfield County, CO (Nad 83)
Rig: KB=30' @ 8898.00usft
Created by: Chase Chambers
Date: 5:23, November 20 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

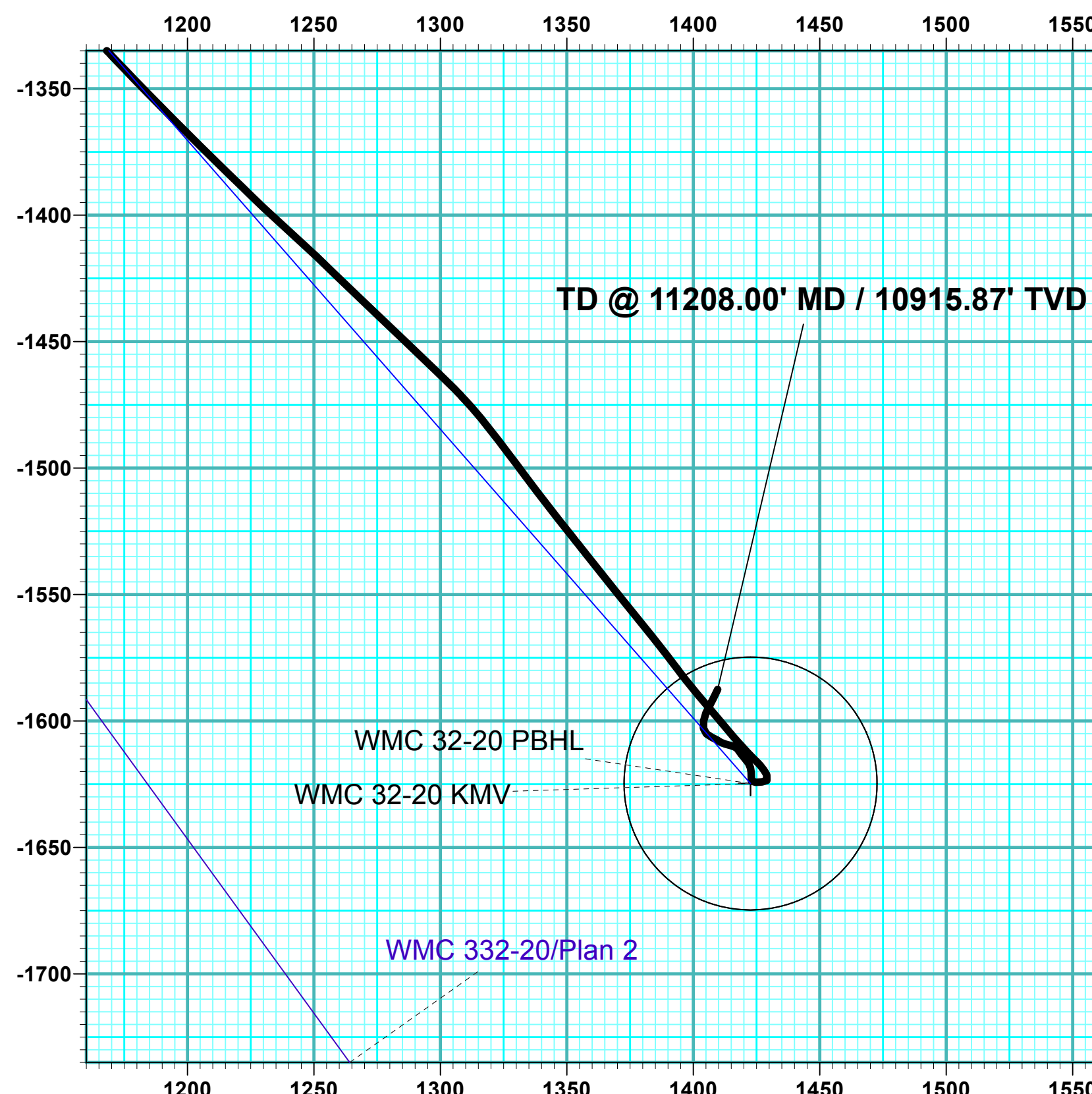
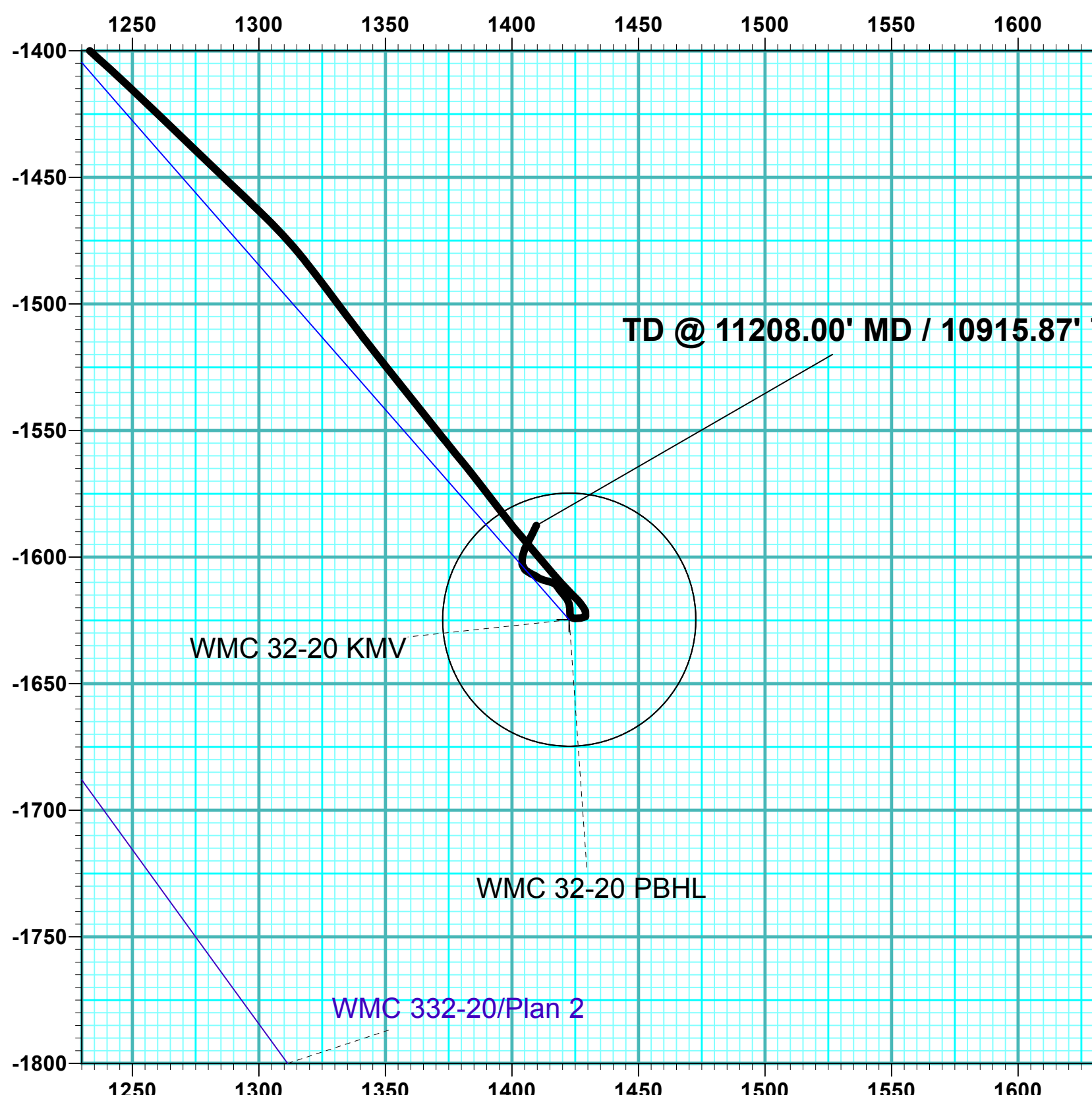
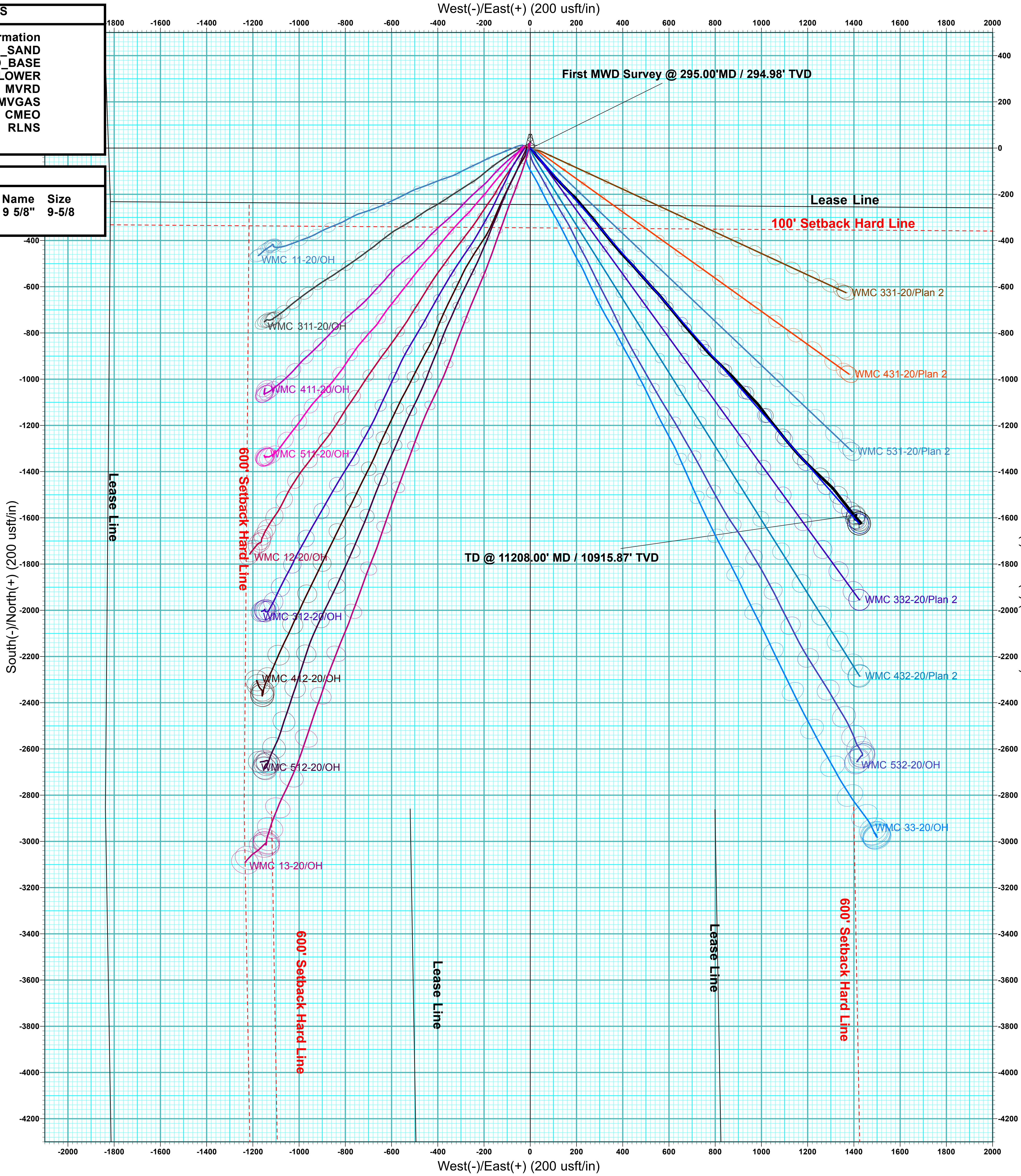
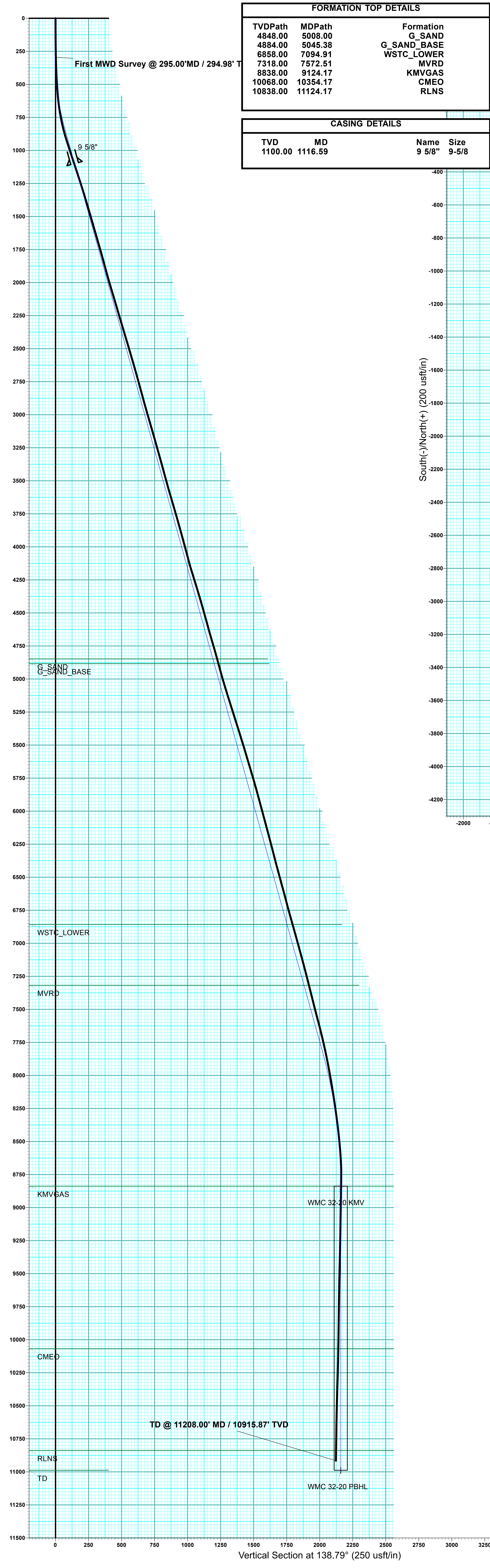
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Azimuths to True North
Magnetic North: 8.87°

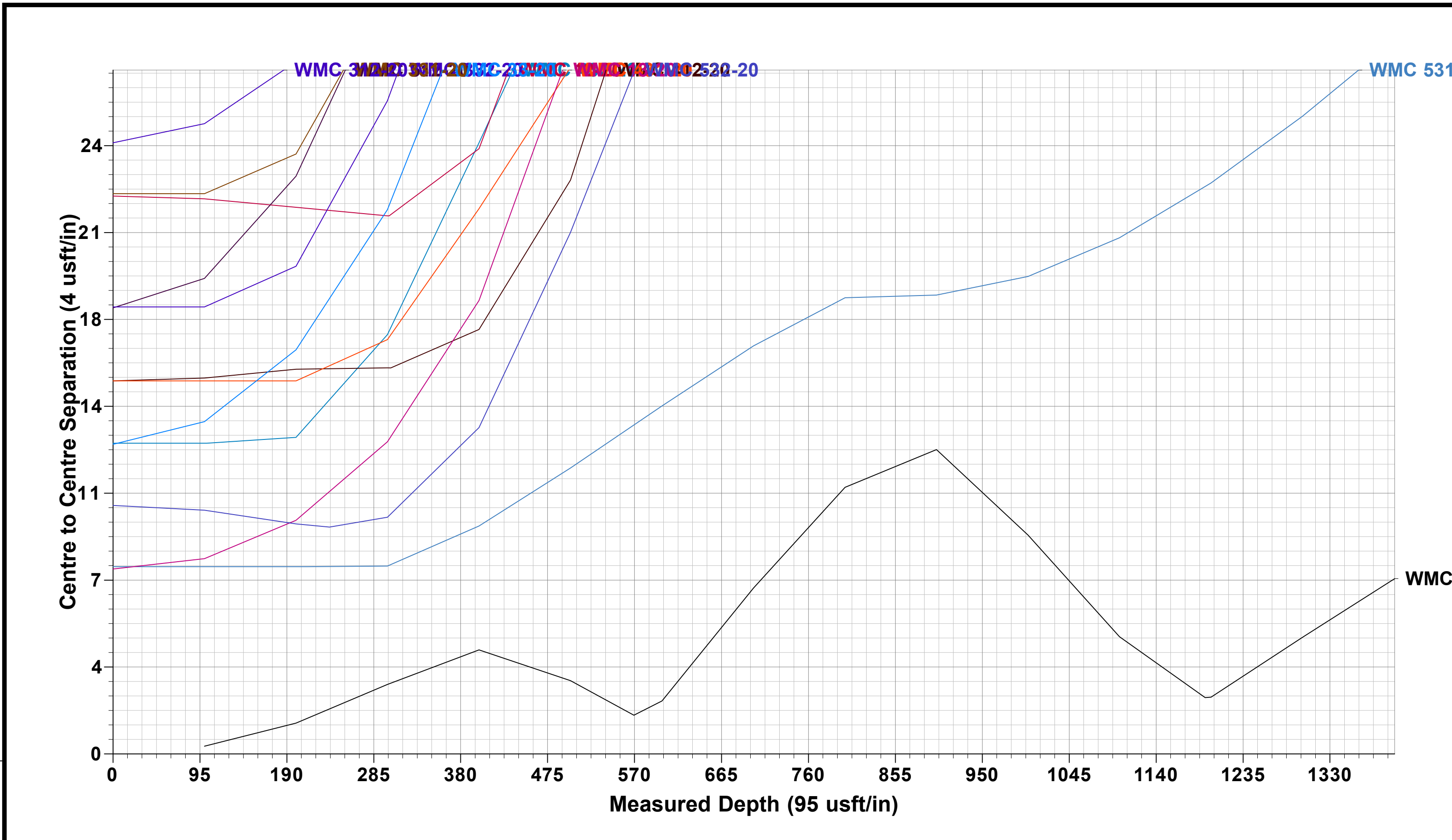
Magnetic Field
Strength: 51038.5nT
Dip Angle: 65.38°
Date: 11/11/2022
Model: HDGM2022

WELL DETAILS: WMC 32-20							
Ground Elevation:				8868.00			
+N/-S 0.00	+E/-W 0.00	Northing 1593027.80	Easting 2350631.70	Latitude 39.439065	Longitude -107.799474	WMC 32-20	
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WMC 32-20 KMV	8838.00	-1624.71	1422.68	1591367.60	2352012.80	39.434604	-107.794437
WMC 32-20 PBHL	10988.00	-1624.71	1422.68	1591367.60	2352012.80	39.434604	-107.794437
DESIGN ANNOTATIONS							
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSectDeparture	Annotation
320.00	0.00	0.00	320.00	0.00	0.00	0.00	Start Build 3.00
840.11	15.60	138.79	833.70	-52.95	46.37	70.38	Start 7243.84 hold at 840.11 MD
8083.95	15.60	138.79	7810.59	-1518.81	1329.94	2018.79	Start Drop -1.50
9124.17	0.00	0.00	8838.00	-1624.71	1422.68	2159.56	Start 2147.99 hold at 9124.17 MD
11272.16	0.00	0.00	10985.99	-1624.71	1422.68	2159.56	TD at 11272.16

SLOTS				
Slot Name	+N/-S	+E/-W	Northing	Easting
WMC 11-20	13.32	-35.05	1593042.00	2350597.00
WMC 12-20	7.97	-21.01	1593036.30	2350610.80
WMC 13-20	2.62	-6.97	1593030.60	2350624.80
WMC 311-20	3.92	-38.61	1593032.70	2350593.20
WMC 312-20	-1.42	-24.57	1593027.00	2350607.10
WMC 32-20	0.00	0.00	1593027.80	2350631.70
WMC 331-20	-7.97	21.11	1593019.30	2350652.60
WMC 33-20	-6.67	-10.53	1593021.40	2350621.00
WMC 332-20	-14.64	10.47	1593012.90	2350641.80
WMC 411-20	10.60	-27.98	1593039.10	2350604.00
WMC 412-20	5.35	-14.04	1593033.50	2350617.80
WMC 431-20	-5.35	14.04	1593022.10	2350645.60
WMC 432-20	-12.02	3.51	1593015.70	2350634.90
WMC 511-20	1.30	-31.54	1593029.90	2350600.20
WMC 512-20	-4.04	-17.50	1593024.20	2350614.10
WMC 531-20	-2.62	7.07	1593025.00	2350638.70
WMC 532-20	-9.39	-3.46	1593018.50	2350628.00



ANNOTATIONS							
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSectDeparture	Annotation
295.00	1.05	127.26	294.98	-1.64	2.15	2.65	First MWD Survey @ 295.00' MD / 294.98' TVD
11208.00	2.20	26.98	10915.87	-1587.54	1409.70	2123.10	TD @ 11208.00' MD / 10915.87' TVD





Terra Energy Partners, LLP

Garfield County, CO (Nad 83)

WMC 24-17 Pad

WMC 32-20 - Slot WMC 32-20

OH

Design: OH

KLX Survey Certification Report

20 November, 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-221035	11/20/2022

Lease	Well Name	County & State
SESW 17 7S93W 6	Federal #WMC 32-20	Garfield, CO

API No.	Survey Depth Range	Survey Type
05-045-24497	295 feet to 11208 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 Energy Services. 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 WMC 32-20 - Slot WMC 32-20
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 8898.00usft
Site:	WMC 24-17 Pad	MD Reference:	KB=30' @ 8898.00usft
Well:	WMC 32-20	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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		WMC 24-17 Pad			
Site Position:		Northing:	1,593,032.70 usft	Latitude:	39.439076
From:	Map	Easting:	2,350,593.20 usft	Longitude:	-107.799611
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.45 °

Well		WMC 32-20 - Slot WMC 32-20				
Well Position	+N/-S	0.00 usft	Northing:	1,593,027.80 usft	Latitude:	39.439065
	+E/-W	0.00 usft	Easting:	2,350,631.70 usft	Longitude:	-107.799474
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	8,868.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2022	11/11/2022	8.87	65.38	51,038.50000000

Design	OH				
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	138.40	

Survey Program	Date	11/20/2022			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
295.00	11,208.00	KLX MWD Surveys (OH)	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 (°)	
295.00	1.05	127.26	294.98	-1.64	2.15	2.70	127.26	
First MWD Survey @ 295.00' MD / 294.98' TVD								
481.00	3.38	131.74	480.83	-6.32	7.60	9.88	129.74	
574.00	4.88	144.49	573.59	-11.36	11.94	16.49	133.58	
666.00	7.60	148.09	665.04	-19.72	17.43	26.32	138.52	
760.00	10.99	141.41	757.79	-32.00	26.31	41.43	140.57	
853.00	14.63	138.95	848.46	-47.79	39.56	62.04	140.39	
946.00	17.97	139.56	937.71	-67.57	56.58	88.13	140.06	
1,040.00	18.24	139.12	1,027.06	-89.73	75.61	117.34	139.88	
1,071.00	18.06	139.21	1,056.51	-97.04	81.93	127.00	139.83	
1,159.00	18.37	138.68	1,140.10	-117.78	100.00	154.50	139.67	
1,249.00	18.02	136.40	1,225.61	-138.51	118.96	182.58	139.34	

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Well:	WMC 32-20	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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 (°)	
1,340.00	16.96	136.84	1,312.40	-158.39	137.75	209.91	138.99	
1,430.00	16.92	134.99	1,398.49	-177.22	155.99	236.09	138.65	
1,521.00	16.48	134.99	1,485.65	-195.71	174.48	262.19	138.28	
1,611.00	15.78	134.38	1,572.11	-213.29	192.26	287.15	137.97	
1,701.00	16.48	140.18	1,658.57	-231.66	209.18	312.12	137.92	
1,792.00	15.77	140.35	1,745.99	-251.09	225.34	337.38	138.09	
1,882.00	15.42	139.39	1,832.68	-269.59	240.93	361.56	138.21	
1,973.00	15.12	139.39	1,920.47	-287.79	256.53	385.52	138.29	
2,063.00	16.48	140.88	2,007.06	-306.60	272.22	410.01	138.40	
2,154.00	16.57	141.67	2,094.31	-326.80	288.41	435.87	138.57	
2,244.00	16.52	141.15	2,180.58	-346.83	304.40	461.47	138.73	
2,335.00	16.61	141.06	2,267.80	-367.02	320.69	487.39	138.85	
2,425.00	16.44	141.67	2,354.09	-387.02	336.67	512.96	138.98	
2,516.00	16.79	139.39	2,441.29	-407.10	353.22	538.97	139.05	
2,606.00	16.44	139.83	2,527.53	-426.70	369.89	564.70	139.08	
2,697.00	16.00	138.68	2,614.91	-445.96	386.48	590.12	139.09	
2,787.00	15.60	138.77	2,701.51	-464.37	402.64	614.63	139.07	
2,878.00	15.42	136.40	2,789.19	-482.34	419.05	638.95	139.02	
2,968.00	14.99	135.43	2,876.04	-499.29	435.47	662.52	138.91	
3,059.00	16.26	139.65	2,963.68	-517.39	451.98	687.01	138.86	
3,149.00	15.95	139.04	3,050.15	-536.33	468.24	711.97	138.88	
3,240.00	16.04	138.25	3,137.63	-555.15	484.81	737.04	138.87	
3,330.00	15.86	138.07	3,224.16	-573.58	501.31	761.77	138.85	
3,421.00	15.60	138.95	3,311.75	-592.05	517.65	786.44	138.84	
3,511.00	15.56	136.84	3,398.45	-609.99	533.86	810.61	138.81	
3,602.00	15.03	135.87	3,486.22	-627.36	550.42	834.59	138.74	
3,692.00	16.04	141.15	3,572.94	-645.42	566.35	858.67	138.73	
3,783.00	16.48	140.57	3,660.30	-665.18	582.43	884.13	138.79	
3,873.00	16.04	139.12	3,746.70	-684.44	598.68	909.33	138.82	
3,964.00	15.86	141.06	3,834.20	-703.62	614.72	934.32	138.86	
4,054.00	15.25	140.62	3,920.90	-722.33	629.96	958.45	138.91	
4,145.00	15.21	139.65	4,008.70	-740.68	645.28	982.34	138.94	
4,236.00	14.46	140.97	4,096.67	-758.60	660.17	1,005.64	138.97	
4,326.00	17.53	139.21	4,183.18	-777.60	676.10	1,030.43	138.99	
4,417.00	17.01	140.09	4,270.07	-798.19	693.60	1,057.44	139.01	
4,507.00	16.74	138.77	4,356.20	-818.03	710.58	1,083.56	139.02	
4,597.00	15.91	138.42	4,442.57	-837.01	727.31	1,108.86	139.01	
4,688.00	15.56	137.89	4,530.16	-855.39	743.78	1,133.53	138.99	
4,778.00	15.34	140.27	4,616.91	-873.50	759.48	1,157.50	138.99	
4,869.00	16.57	134.99	4,704.40	-891.94	776.35	1,182.49	138.96	
4,959.00	15.78	134.73	4,790.84	-909.62	794.12	1,207.49	138.88	
5,050.00	15.51	134.64	4,878.47	-926.88	811.57	1,231.97	138.79	
5,140.00	15.16	134.20	4,965.27	-943.54	828.57	1,255.70	138.71	
5,231.00	17.45	134.55	5,052.60	-961.41	846.83	1,281.18	138.63	

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Site:	WMC 24-17 Pad	MD Reference:	KB=30' @ 8898.00usft
Well:	WMC 32-20	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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 (°)	
5,321.00	17.14	133.67	5,138.53	-980.03	866.04	1,307.85	138.53	
5,412.00	17.53	139.39	5,225.40	-999.70	884.66	1,334.92	138.49	
5,502.00	17.67	137.28	5,311.19	-1,020.02	902.75	1,362.13	138.49	
5,593.00	17.49	137.72	5,397.94	-1,040.29	921.31	1,389.61	138.47	
5,683.00	17.09	137.63	5,483.87	-1,060.06	939.33	1,416.36	138.46	
5,774.00	16.35	137.01	5,571.03	-1,079.31	957.07	1,442.53	138.44	
5,864.00	16.83	135.70	5,657.28	-1,097.90	974.81	1,468.21	138.40	
5,955.00	16.30	142.29	5,744.51	-1,117.43	991.82	1,494.11	138.41	
6,046.00	15.64	143.96	5,832.00	-1,137.46	1,006.85	1,519.06	138.49	
6,136.00	15.21	142.90	5,918.76	-1,156.68	1,021.11	1,542.91	138.56	
6,227.00	14.99	141.58	6,006.62	-1,175.42	1,035.62	1,566.57	138.62	
6,317.00	15.07	140.88	6,093.54	-1,193.62	1,050.24	1,589.88	138.66	
6,408.00	14.94	140.97	6,181.43	-1,211.91	1,065.09	1,613.42	138.69	
6,498.00	14.77	141.58	6,268.43	-1,229.91	1,079.52	1,636.47	138.73	
6,589.00	14.11	142.20	6,356.55	-1,247.76	1,093.53	1,659.13	138.77	
6,679.00	15.47	139.39	6,443.57	-1,265.54	1,108.07	1,682.09	138.80	
6,770.00	15.07	139.90	6,531.35	-1,283.81	1,123.59	1,706.05	138.81	
6,860.00	15.16	139.39	6,618.24	-1,301.69	1,138.78	1,729.52	138.82	
6,951.00	14.59	139.12	6,706.19	-1,319.39	1,154.03	1,752.88	138.82	
7,041.00	16.04	136.31	6,792.99	-1,336.95	1,170.04	1,776.64	138.81	
7,132.00	15.56	135.70	6,880.56	-1,354.78	1,187.25	1,801.38	138.77	
7,222.00	15.38	134.47	6,967.30	-1,371.78	1,204.20	1,825.34	138.72	
7,313.00	15.51	134.38	7,055.01	-1,388.74	1,221.50	1,849.51	138.67	
7,403.00	15.07	132.27	7,141.82	-1,405.03	1,238.76	1,873.13	138.60	
7,494.00	14.50	133.67	7,229.81	-1,420.85	1,255.76	1,896.24	138.53	
7,584.00	14.41	133.94	7,316.96	-1,436.40	1,271.97	1,918.63	138.47	
7,675.00	13.84	133.32	7,405.21	-1,451.73	1,288.04	1,940.76	138.42	
7,765.00	14.50	134.55	7,492.47	-1,467.02	1,303.90	1,962.73	138.37	
7,856.00	14.85	142.02	7,580.51	-1,484.20	1,319.20	1,985.73	138.37	
7,946.00	14.02	143.43	7,667.67	-1,502.05	1,332.79	2,008.10	138.42	
8,037.00	12.96	141.76	7,756.16	-1,518.92	1,345.68	2,029.27	138.46	
8,127.00	11.91	141.41	7,844.04	-1,534.10	1,357.72	2,048.62	138.49	
8,218.00	10.63	141.50	7,933.29	-1,548.01	1,368.80	2,066.38	138.52	
8,308.00	9.93	140.71	8,021.84	-1,560.51	1,378.88	2,082.43	138.54	
8,399.00	9.18	142.38	8,111.58	-1,572.34	1,388.28	2,097.51	138.56	
8,490.00	8.48	142.20	8,201.50	-1,583.39	1,396.82	2,111.45	138.58	
8,580.00	7.78	139.04	8,290.60	-1,593.23	1,404.88	2,124.17	138.59	
8,671.00	7.21	140.18	8,380.82	-1,602.27	1,412.58	2,136.03	138.60	
8,761.00	5.58	137.72	8,470.26	-1,609.84	1,419.14	2,146.06	138.60	
8,852.00	4.83	134.64	8,560.88	-1,615.81	1,424.84	2,154.30	138.59	
8,943.00	3.12	152.22	8,651.66	-1,620.69	1,428.72	2,160.53	138.60	
9,033.00	1.23	230.79	8,741.61	-1,623.47	1,429.11	2,162.88	138.64	
9,124.00	1.41	270.78	8,832.58	-1,624.07	1,427.24	2,162.09	138.69	
9,214.00	1.80	263.14	8,922.55	-1,624.23	1,424.73	2,160.55	138.74	

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Design:	OH	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 (°)	
9,305.00	0.97	339.69	9,013.53	-1,623.68	1,423.04	2,159.02	138.77	
9,395.00	1.14	12.12	9,103.51	-1,622.09	1,422.97	2,157.77	138.74	
9,486.00	1.23	346.11	9,194.49	-1,620.25	1,422.92	2,156.37	138.71	
9,576.00	1.10	355.33	9,284.48	-1,618.45	1,422.62	2,154.82	138.68	
9,667.00	1.36	322.46	9,375.46	-1,616.73	1,421.89	2,153.04	138.67	
9,757.00	1.45	320.18	9,465.43	-1,615.01	1,420.51	2,150.83	138.67	
9,848.00	1.71	322.38	9,556.39	-1,613.05	1,418.94	2,148.33	138.66	
9,938.00	0.62	329.06	9,646.37	-1,611.56	1,417.87	2,146.51	138.66	
10,029.00	0.48	312.27	9,737.37	-1,610.89	1,417.34	2,145.65	138.66	
10,119.00	0.70	297.68	9,827.36	-1,610.38	1,416.57	2,144.76	138.66	
10,210.00	0.92	291.35	9,918.36	-1,609.85	1,415.40	2,143.59	138.68	
10,300.00	1.36	278.87	10,008.34	-1,609.42	1,413.67	2,142.13	138.70	
10,391.00	1.49	298.47	10,099.31	-1,608.69	1,411.56	2,140.19	138.73	
10,481.00	1.41	299.17	10,189.28	-1,607.60	1,409.57	2,138.05	138.76	
10,571.00	1.67	296.01	10,279.25	-1,606.48	1,407.42	2,135.80	138.78	
10,662.00	1.63	308.75	10,370.21	-1,605.09	1,405.22	2,133.30	138.80	
10,753.00	1.76	351.99	10,461.18	-1,602.90	1,404.02	2,130.86	138.78	
10,843.00	2.07	9.84	10,551.13	-1,599.93	1,404.10	2,128.68	138.73	
10,934.00	2.02	23.90	10,642.07	-1,596.84	1,405.03	2,126.97	138.66	
11,024.00	2.07	29.00	10,732.01	-1,593.97	1,406.46	2,125.77	138.58	
11,114.00	2.42	24.95	10,821.94	-1,590.82	1,408.05	2,124.46	138.49	
11,146.00	2.20	26.98	10,853.92	-1,589.66	1,408.62	2,123.97	138.46	
11,208.00	2.20	26.98	10,915.87	-1,587.54	1,409.70	2,123.10	138.40	
TD @ 11208.00' MD / 10915.87' TVD								

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
295.00	294.98	-1.64	2.15	First MWD Survey @ 295.00' MD / 294.98' TVD	
11,208.00	10,915.87	-1,587.54	1,409.70	TD @ 11208.00' MD / 10915.87' TVD	