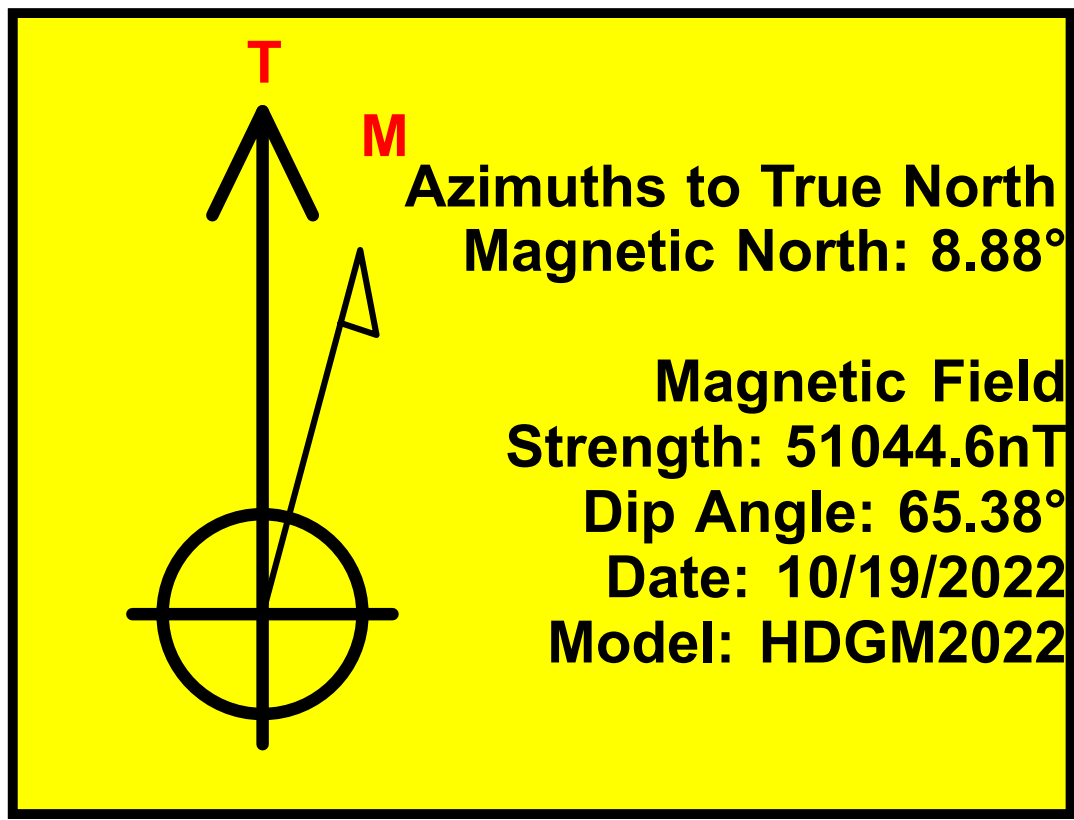


WMC 24-17 Pad
WMC 13-20
Q221055 & RM-220938
Plan 3

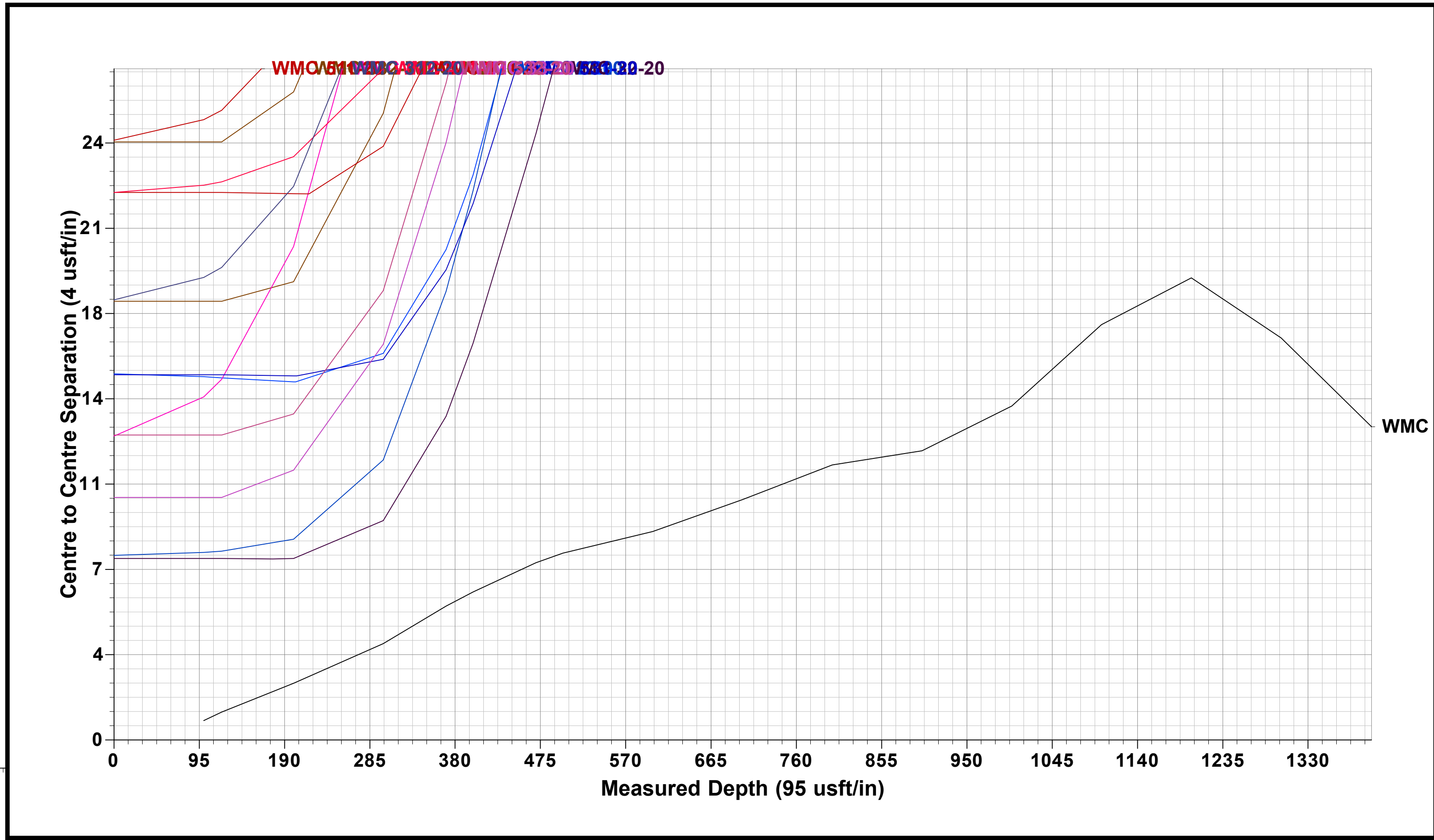
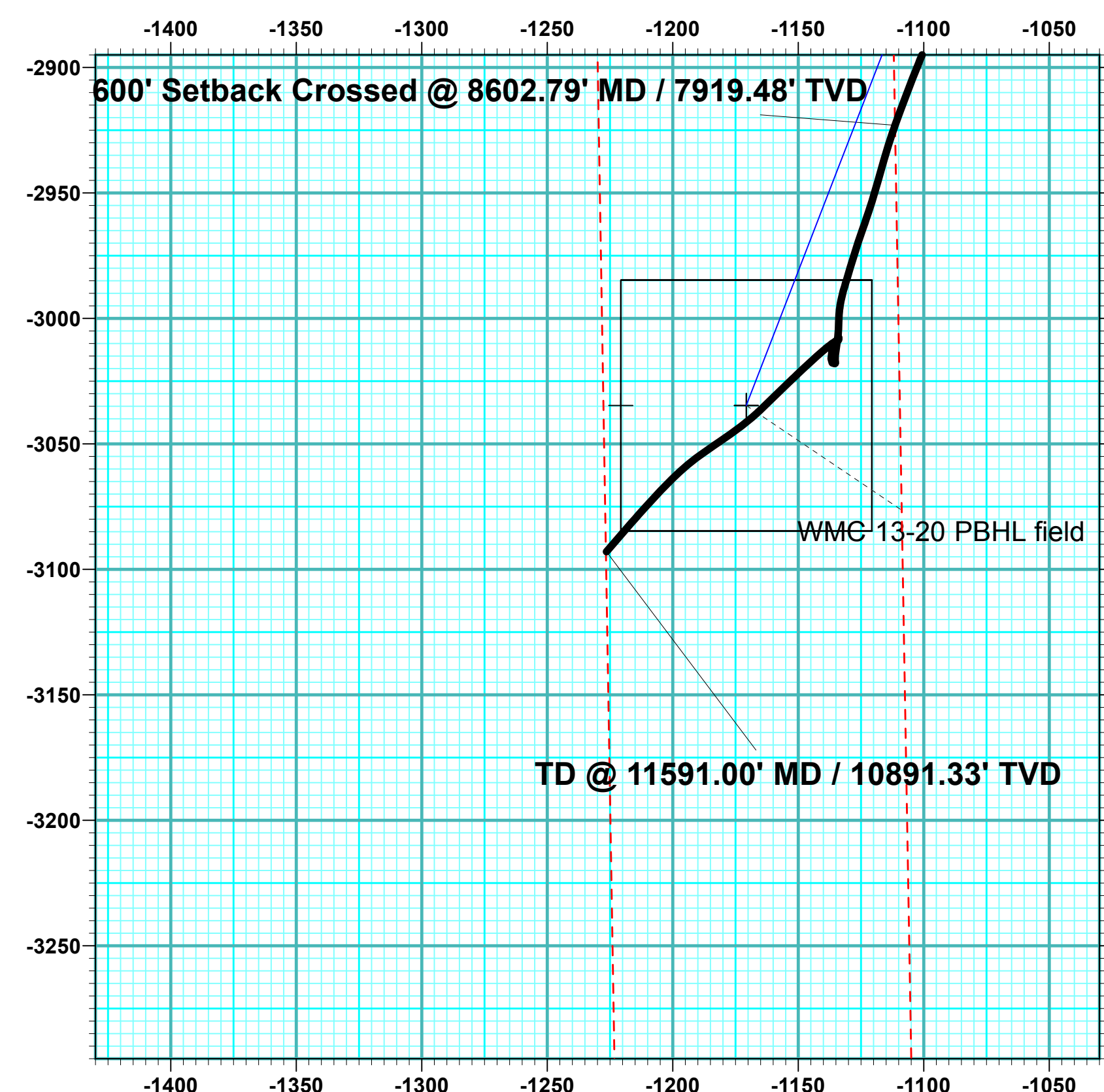
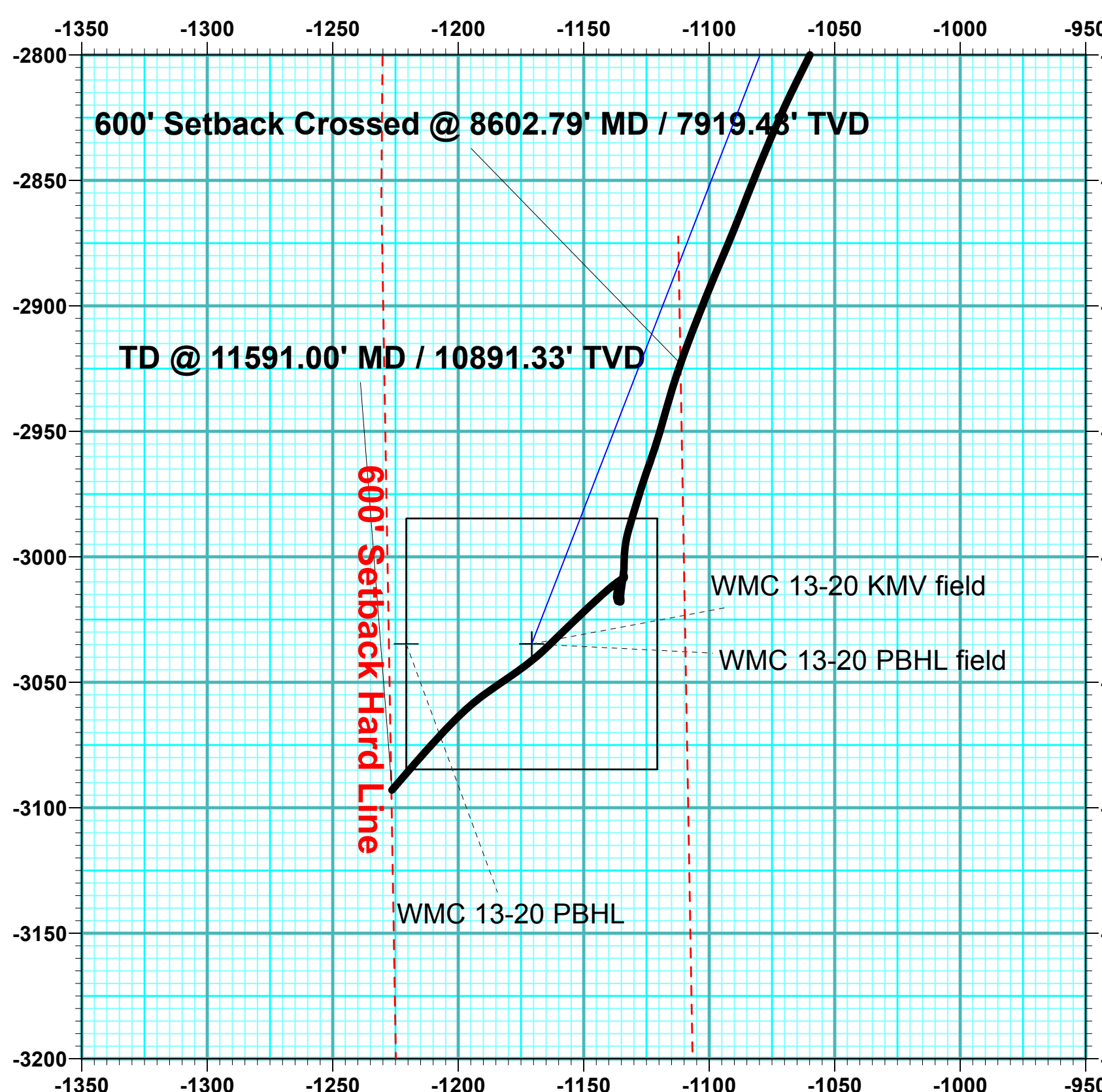
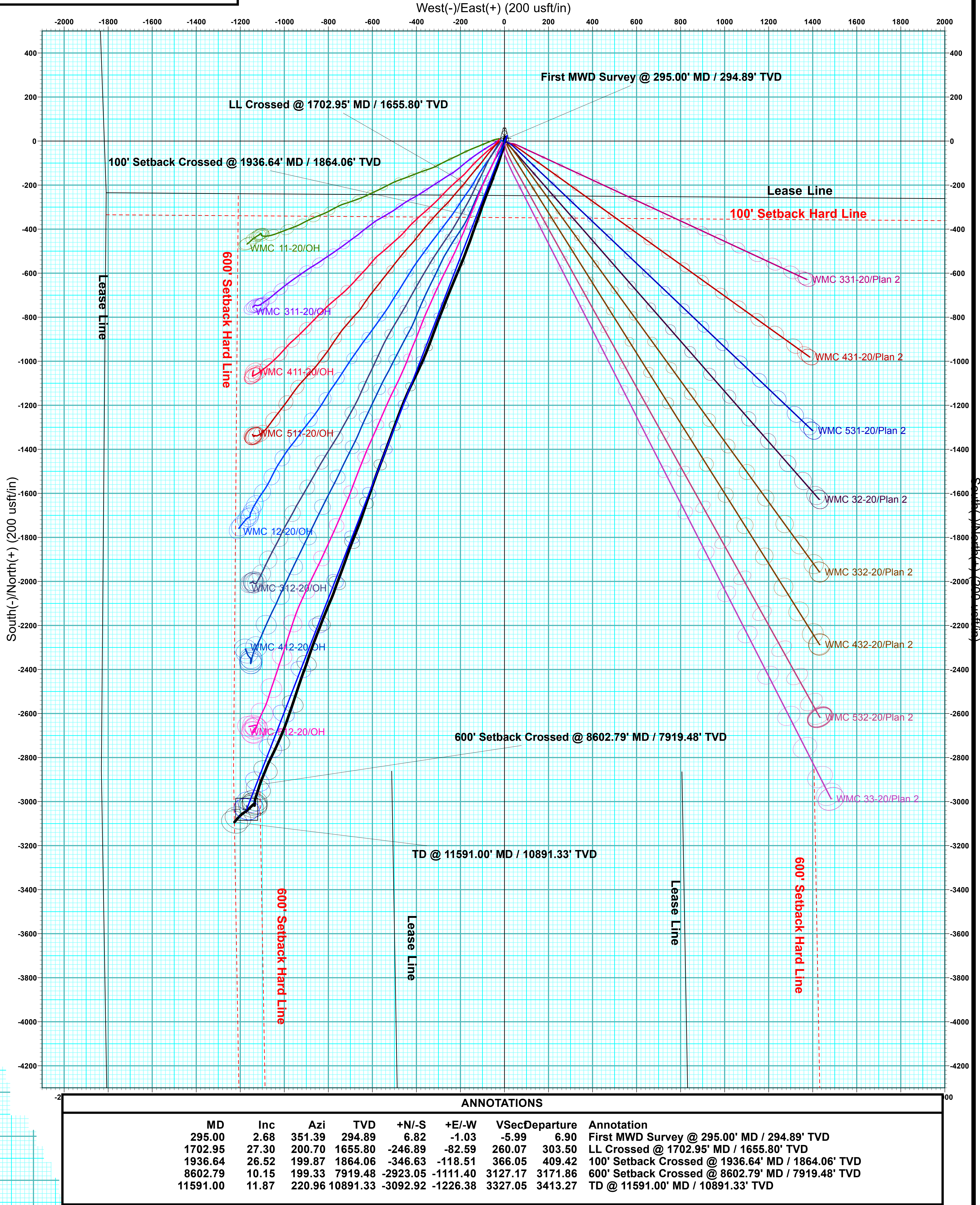
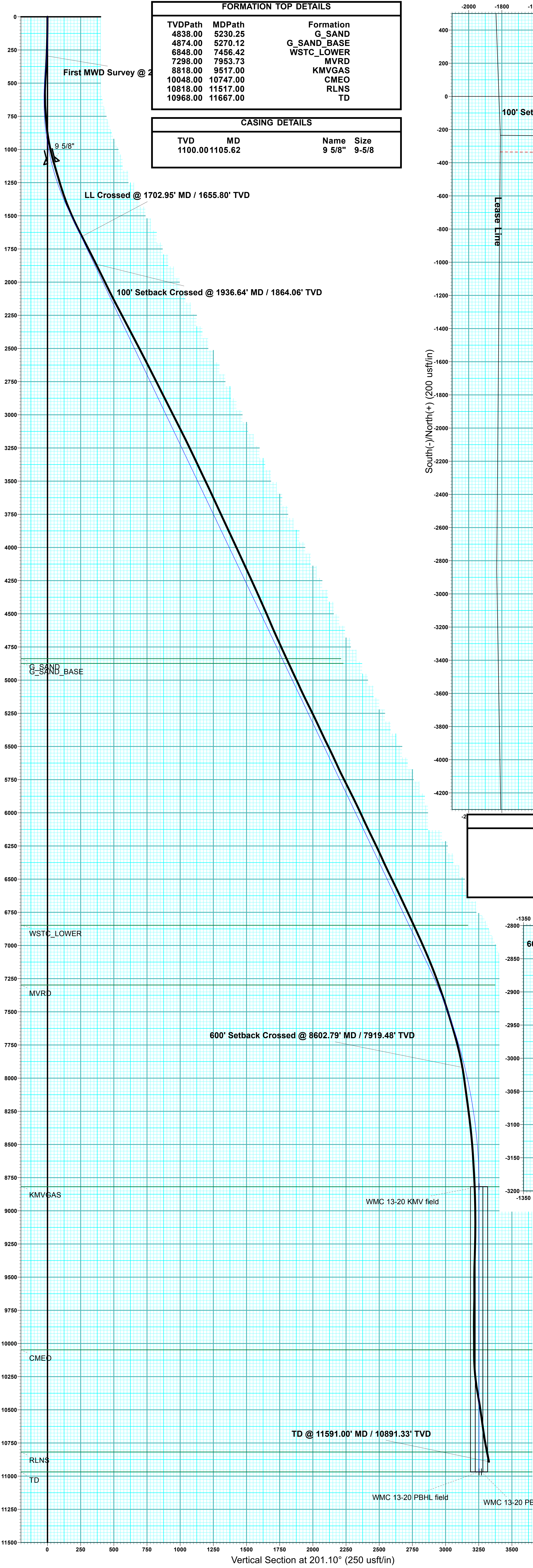
Company Name: Terra Energy Partners, LLP
WMC 13-20
Garfield County, CO (Nad 83)
Rig: KB=30' @ 8898.00usft (H&P #329)
Created by: Chase Chambers
Date: 17:28, October 26 2022

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: WMC 13-20							
Ground Elevation:				8868.00			
+N/-S 0.00	+E/-W 0.00	Northing 1593030.60	Easting 2350624.80	Latitude 39.439072	Longitude -107.799499	WMC 13-20	
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
WMC 13-20 KMV field	8818.00	-3034.67	-1170.69	1590026.53	2349377.68	39.430741	-107.803644
WMC 13-20 PBHL	10968.00	-3034.67	-1220.69	1590027.80	2349327.70	39.430741	-107.803821
WMC 13-20 PBHL field	10968.00	-3034.67	-1170.69	1590026.53	2349377.68	39.430741	-107.803644
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
370.00	5.00	25.00	369.68	9.88	4.61	-10.88	10.90
470.00	5.00	25.00	469.30	17.78	8.29	-19.57	19.62
1484.98	25.46	201.17	1456.41	-149.52	-53.26	158.66	213.67
7819.76	25.46	201.17	7176.05	-2688.79	-1036.73	2881.74	2936.74
9517.00	0.00	0.00	8818.00	-3034.67	-1170.69	3252.65	3307.65
11667.00	0.00	0.00	10968.00	-3034.67	-1170.69	3252.65	3307.65
Start Build 2.00							
Start 100.00 hold at 370.00 MD							
Start DLS 3.00 TFO 176.75							
Start 6334.78 hold at 1484.98 MD							
Start Drop -1.50							
Start 2150.00 hold at 9517.00 MD							
TD at 11667.00							

SLOTS				
Slot Name	+N/-S	+E/-W	Northing	Easting
WMC 11-20	10.69	-28.08	1593042.00	2350597.00
WMC 12-20	5.35	-14.04	1593036.30	2350610.90
WMC 13-20	0.00	0.00	1593030.60	2350624.80
WMC 311-20	1.30	-31.64	1593032.70	2350593.20
WMC 312-20	-4.05	-17.60	1593027.00	2350607.10
WMC 32-20	-2.62	6.97	1593027.80	2350631.70
WMC 331-20	-10.59	28.08	1593019.30	2350652.60
WMC 33-20	-9.29	-3.57	1593021.40	2350621.00
WMC 332-20	-17.26	17.44	1593012.90	2350641.80
WMC 411-20	7.97	-21.01	1593039.10	2350604.00
WMC 412-20	2.72	-7.07	1593033.50	2350617.80
WMC 431-20	-7.97	21.01	1593022.10	2350645.60
WMC 432-20	-14.64	10.47	1593015.70	2350634.90
WMC 511-20	-1.32	-24.57	1593029.90	2350600.20
WMC 512-20	-6.67	-10.53	1593024.20	2350614.10
WMC 531-20	-5.25	14.04	1593025.00	2350638.70
WMC 532-20	-12.02	3.51	1593018.50	2350628.00





Terra Energy Partners, LLP

Garfield County, CO (Nad 83)

WMC 24-17 Pad

WMC 13-20 - Slot WMC 13-20

OH

Design: OH

KLX Survey Certification Report

26 October, 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-220938	10/26/2022

Lease	Well Name	County & State
SESW 17 7S93W 6	Federal #WMC 13-20	Garfield, CO

API No.	Survey Depth Range	Survey Type
05-045-24496	295 feet to 11591 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 13-20 - Slot WMC 13-20
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 8898.00usft (H&P #329)
Site:	WMC 24-17 Pad	MD Reference:	KB=30' @ 8898.00usft (H&P #329)
Well:	WMC 13-20	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 13-20 - Slot WMC 13-20					
Well Position	+N/-S	0.00 usft	Northing:	1,593,030.60 usft	Latitude:	39.439072
	+E/-W	0.00 usft	Easting:	2,350,624.80 usft	Longitude:	-107.799499
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	10/19/2022	8.88	65.38	51,044.60000000

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	201.10	

Survey Program	Date	10/26/2022			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
295.00	11,591.00	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 (°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
295.00	2.68	351.39	294.89	6.82	-1.03	6.90	351.39	
First MWD Survey @ 295.00' MD / 294.89' TVD								
388.00	3.43	16.44	387.76	11.64	-0.57	11.65	357.19	
480.00	3.25	30.06	479.61	16.54	1.51	16.60	5.23	
574.00	1.45	87.28	573.54	18.90	4.04	19.32	12.06	
666.00	3.08	160.84	665.48	16.62	6.01	17.67	19.89	
760.00	4.61	194.68	759.27	10.58	5.88	12.10	29.08	
853.00	6.72	197.49	851.81	1.77	3.30	3.75	61.77	
946.00	10.41	192.66	943.76	-11.62	-0.18	11.62	180.87	
1,039.00	14.24	196.88	1,034.60	-30.77	-5.34	31.23	189.85	
1,070.00	14.90	196.44	1,064.61	-38.24	-7.58	38.99	191.21	

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well WMC 13-20 - Slot WMC 13-20
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 8898.00usft (H&P #329)
Site:	WMC 24-17 Pad	MD Reference:	KB=30' @ 8898.00usft (H&P #329)
Well:	WMC 13-20	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 (°)	
1,153.00	16.83	198.72	1,144.44	-59.86	-14.45	61.58	193.58	
1,244.00	16.22	196.97	1,231.68	-84.49	-22.39	87.41	194.84	
1,334.00	18.54	199.25	1,317.57	-110.03	-30.78	114.25	195.63	
1,425.00	21.01	201.89	1,403.20	-138.83	-41.63	144.94	196.69	
1,515.00	23.42	198.72	1,486.51	-170.74	-53.39	178.90	197.36	
1,606.00	25.97	202.15	1,569.19	-206.33	-66.71	216.85	197.92	
1,696.00	27.33	200.75	1,649.63	-243.91	-81.46	257.15	198.47	
1,787.00	26.98	200.13	1,730.60	-282.82	-95.97	298.66	198.74	
1,877.00	26.98	198.90	1,810.80	-321.31	-109.60	339.49	198.84	
1,968.00	26.28	200.39	1,892.15	-359.72	-123.31	380.27	198.92	
2,058.00	26.19	199.60	1,972.88	-397.11	-136.91	420.05	199.02	
2,149.00	26.32	198.55	2,054.49	-435.15	-150.07	460.30	199.03	
2,239.00	27.51	201.18	2,134.74	-473.45	-163.93	501.03	199.10	
2,330.00	27.64	199.78	2,215.41	-512.91	-178.66	543.14	199.20	
2,420.00	27.77	203.29	2,295.09	-551.82	-194.02	584.93	199.37	
2,511.00	27.95	202.50	2,375.55	-590.99	-210.56	627.38	199.61	
2,601.00	27.42	202.68	2,455.24	-629.60	-226.62	669.14	199.80	
2,692.00	27.25	202.68	2,536.08	-668.15	-242.74	710.88	199.97	
2,782.00	27.16	201.62	2,616.13	-706.26	-258.25	752.00	200.09	
2,873.00	26.98	200.83	2,697.16	-744.86	-273.24	793.40	200.14	
2,964.00	26.85	202.24	2,778.30	-783.18	-288.36	834.58	200.21	
3,055.00	26.67	200.04	2,859.56	-821.39	-303.14	875.54	200.26	
3,145.00	26.81	200.75	2,939.93	-859.34	-317.25	916.03	200.26	
3,236.00	27.03	199.87	3,021.07	-897.98	-331.55	957.23	200.26	
3,326.00	26.59	201.89	3,101.40	-935.90	-346.01	997.82	200.29	
3,417.00	26.72	201.45	3,182.73	-973.84	-361.08	1,038.63	200.34	
3,507.00	25.44	205.40	3,263.57	-1,010.14	-376.78	1,078.12	200.46	
3,598.00	25.66	204.61	3,345.67	-1,045.71	-393.37	1,117.25	200.61	
3,688.00	25.53	205.84	3,426.84	-1,080.88	-409.93	1,156.01	200.77	
3,778.00	25.62	205.93	3,508.02	-1,115.84	-426.90	1,194.71	200.94	
3,869.00	24.87	202.85	3,590.33	-1,151.17	-442.93	1,233.44	201.05	
3,959.00	24.96	202.68	3,671.96	-1,186.13	-457.60	1,271.34	201.10	
4,050.00	24.70	200.75	3,754.55	-1,221.62	-471.74	1,309.54	201.11	
4,140.00	25.14	200.83	3,836.17	-1,257.07	-485.20	1,347.46	201.11	
4,230.00	25.05	200.13	3,917.67	-1,292.83	-498.56	1,385.63	201.09	
4,321.00	24.87	200.48	4,000.17	-1,328.85	-511.88	1,424.03	201.07	
4,411.00	24.79	200.39	4,081.85	-1,364.26	-525.08	1,461.82	201.05	
4,502.00	24.65	200.31	4,164.51	-1,399.94	-538.31	1,499.87	201.03	
4,593.00	24.57	200.13	4,247.25	-1,435.50	-551.41	1,537.76	201.01	
4,683.00	24.35	201.36	4,329.17	-1,470.35	-564.61	1,575.03	201.01	
4,774.00	24.08	199.87	4,412.16	-1,505.28	-577.75	1,612.35	201.00	
4,864.00	23.60	199.78	4,494.48	-1,539.50	-590.09	1,648.72	200.97	
4,955.00	22.81	198.81	4,578.12	-1,573.34	-601.94	1,684.56	200.94	
5,045.00	24.52	199.69	4,660.55	-1,607.44	-613.86	1,720.66	200.90	

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well WMC 13-20 - Slot WMC 13-20
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 8898.00usft (H&P #329)
Site:	WMC 24-17 Pad	KD Reference:	KB=30' @ 8898.00usft (H&P #329)
Well:	WMC 13-20	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 (°)	
5,136.00	24.35	198.81	4,743.40	-1,642.98	-626.27	1,758.29	200.87	
5,226.00	25.00	198.64	4,825.18	-1,678.56	-638.33	1,795.84	200.82	
5,317.00	24.57	198.55	4,907.80	-1,714.72	-650.49	1,833.96	200.77	
5,407.00	25.44	201.80	4,989.37	-1,750.41	-663.63	1,871.98	200.76	
5,498.00	24.35	201.54	5,071.91	-1,786.01	-677.77	1,910.29	200.78	
5,588.00	26.67	201.54	5,153.13	-1,822.06	-692.00	1,949.04	200.80	
5,678.00	26.10	199.60	5,233.76	-1,859.50	-706.06	1,989.03	200.79	
5,769.00	25.49	199.51	5,315.69	-1,896.81	-719.31	2,028.62	200.77	
5,860.00	24.65	200.13	5,398.11	-1,933.09	-732.38	2,067.17	200.75	
5,950.00	26.54	200.13	5,479.28	-1,969.59	-745.77	2,106.05	200.74	
6,041.00	25.40	200.75	5,561.09	-2,006.93	-759.68	2,145.90	200.73	
6,131.00	24.35	198.81	5,642.74	-2,042.54	-772.50	2,183.74	200.72	
6,222.00	26.54	202.94	5,724.91	-2,079.03	-786.47	2,222.82	200.72	
6,312.00	26.98	203.03	5,805.28	-2,116.34	-802.30	2,263.31	200.76	
6,403.00	26.24	201.62	5,886.64	-2,154.04	-817.79	2,304.05	200.79	
6,493.00	25.49	200.92	5,967.62	-2,190.62	-832.03	2,343.31	200.80	
6,584.00	24.52	201.36	6,050.09	-2,226.50	-845.90	2,381.78	200.80	
6,675.00	26.10	200.92	6,132.35	-2,262.79	-859.93	2,420.68	200.81	
6,765.00	25.88	199.95	6,213.25	-2,299.74	-873.70	2,460.12	200.80	
6,855.00	25.05	198.55	6,294.51	-2,336.27	-886.46	2,498.79	200.78	
6,946.00	24.35	198.46	6,377.18	-2,372.33	-898.53	2,536.79	200.74	
7,036.00	26.15	201.10	6,458.58	-2,408.44	-911.55	2,575.17	200.73	
7,127.00	26.19	198.37	6,540.26	-2,446.20	-925.10	2,615.29	200.72	
7,217.00	25.31	198.55	6,621.32	-2,483.29	-937.48	2,654.35	200.68	
7,308.00	25.36	198.02	6,703.57	-2,520.27	-949.69	2,693.26	200.65	
7,398.00	24.92	198.64	6,785.04	-2,556.56	-961.71	2,731.46	200.62	
7,489.00	24.65	199.25	6,867.66	-2,592.64	-974.10	2,769.60	200.59	
7,579.00	24.57	198.50	6,949.48	-2,628.11	-986.22	2,807.06	200.57	
7,670.00	23.38	201.54	7,032.63	-2,662.84	-998.86	2,844.02	200.56	
7,760.00	22.85	202.59	7,115.41	-2,695.59	-1,012.13	2,879.34	200.58	
7,851.00	20.74	204.17	7,199.90	-2,726.61	-1,025.51	2,913.08	200.61	
7,941.00	20.08	204.17	7,284.25	-2,755.24	-1,038.36	2,944.41	200.65	
8,032.00	19.20	206.37	7,369.96	-2,782.90	-1,051.41	2,974.89	200.70	
8,122.00	17.58	206.28	7,455.36	-2,808.35	-1,064.00	3,003.15	200.75	
8,213.00	17.23	203.12	7,542.19	-2,833.07	-1,075.37	3,030.30	200.79	
8,303.00	16.39	201.10	7,628.35	-2,857.17	-1,085.18	3,056.31	200.80	
8,394.00	14.99	203.03	7,715.95	-2,879.98	-1,094.41	3,080.91	200.81	
8,485.00	13.36	201.71	7,804.18	-2,900.58	-1,102.90	3,103.19	200.82	
8,575.00	10.94	200.13	7,892.16	-2,918.26	-1,109.69	3,122.12	200.82	
8,666.00	8.35	196.97	7,981.86	-2,932.69	-1,114.59	3,137.35	200.81	
8,756.00	7.29	195.12	8,071.03	-2,944.46	-1,117.98	3,149.56	200.79	
8,847.00	8.04	198.37	8,161.21	-2,956.07	-1,121.50	3,161.66	200.78	
8,937.00	7.34	198.90	8,250.40	-2,967.48	-1,125.34	3,173.70	200.77	
9,028.00	6.50	196.61	8,340.74	-2,977.92	-1,128.70	3,184.64	200.76	
9,118.00	5.89	196.88	8,430.21	-2,987.22	-1,131.49	3,194.33	200.75	

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well WMC 13-20 - Slot WMC 13-20
Project:	Garfield County, CO (Nad 83)	TVD Reference:	KB=30' @ 8898.00usft (H&P #329)
Site:	WMC 24-17 Pad	MD Reference:	KB=30' @ 8898.00usft (H&P #329)
Well:	WMC 13-20	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 (°)
9,209.00	4.39	188.09	8,520.85	-2,995.13	-1,133.34	3,202.39	200.73
9,299.00	3.65	180.18	8,610.62	-3,001.41	-1,133.83	3,208.43	200.69
9,390.00	3.34	187.12	8,701.46	-3,006.94	-1,134.17	3,213.72	200.67
9,480.00	2.64	188.44	8,791.33	-3,011.59	-1,134.80	3,218.30	200.65
9,571.00	1.67	186.33	8,882.27	-3,014.98	-1,135.26	3,221.63	200.63
9,661.00	1.05	167.70	8,972.24	-3,017.09	-1,135.22	3,223.59	200.62
9,752.00	0.62	260.07	9,063.24	-3,017.99	-1,135.53	3,224.54	200.62
9,842.00	0.75	315.27	9,153.23	-3,017.65	-1,136.43	3,224.55	200.64
9,933.00	1.49	359.39	9,244.21	-3,016.05	-1,136.86	3,223.20	200.65
10,023.00	2.07	12.57	9,334.17	-3,013.29	-1,136.52	3,220.50	200.66
10,114.00	1.49	11.25	9,425.13	-3,010.53	-1,135.93	3,217.70	200.67
10,204.00	0.57	147.57	9,515.12	-3,009.76	-1,135.46	3,216.82	200.67
10,295.00	0.22	212.26	9,606.11	-3,010.29	-1,135.31	3,217.26	200.66
10,385.00	1.36	32.52	9,696.11	-3,009.53	-1,134.83	3,216.38	200.66
10,476.00	0.92	24.17	9,787.09	-3,007.95	-1,133.95	3,214.60	200.66
10,566.00	0.53	194.86	9,877.09	-3,007.70	-1,133.76	3,214.29	200.65
10,657.00	0.40	179.74	9,968.08	-3,008.42	-1,133.87	3,215.00	200.65
10,748.00	0.26	338.65	10,059.08	-3,008.55	-1,133.94	3,215.15	200.65
10,838.00	2.94	236.17	10,149.04	-3,009.64	-1,135.93	3,216.88	200.68
10,929.00	6.37	228.69	10,239.73	-3,014.28	-1,141.66	3,223.24	200.74
11,019.00	9.67	226.41	10,328.84	-3,022.79	-1,150.89	3,234.47	200.84
11,110.00	11.34	225.62	10,418.31	-3,034.31	-1,162.82	3,249.49	200.97
11,200.00	9.62	234.67	10,506.81	-3,044.85	-1,175.28	3,263.80	201.11
11,291.00	9.40	235.55	10,596.56	-3,053.45	-1,187.61	3,276.28	201.25
11,382.00	9.32	225.71	10,686.35	-3,062.80	-1,199.02	3,289.13	201.38
11,472.00	11.60	222.28	10,774.85	-3,074.59	-1,210.32	3,304.24	201.49
11,518.00	11.87	220.96	10,819.89	-3,081.58	-1,216.54	3,313.02	201.54
11,591.00	11.87	220.96	10,891.33	-3,092.92	-1,226.38	3,327.19	201.63
TD @ 11591.00' MD / 10891.33' TVD							

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
295.00	294.89	6.82	-1.03	First MWD Survey @ 295.00' MD / 294.89' TVD
11,591.00	10,891.33	-3,092.92	-1,226.38	TD @ 11591.00' MD / 10891.33' TVD