

WELL DETAILS: WMC 414-18-793						
+N/-S	+E/-W	Northing	Ground Level: Easting	8007.00 Latitude	Longitude	Slot
0.00	0.00	1591982.900	2342265.300	39.435612	-107.828993	WMC 414-18-793

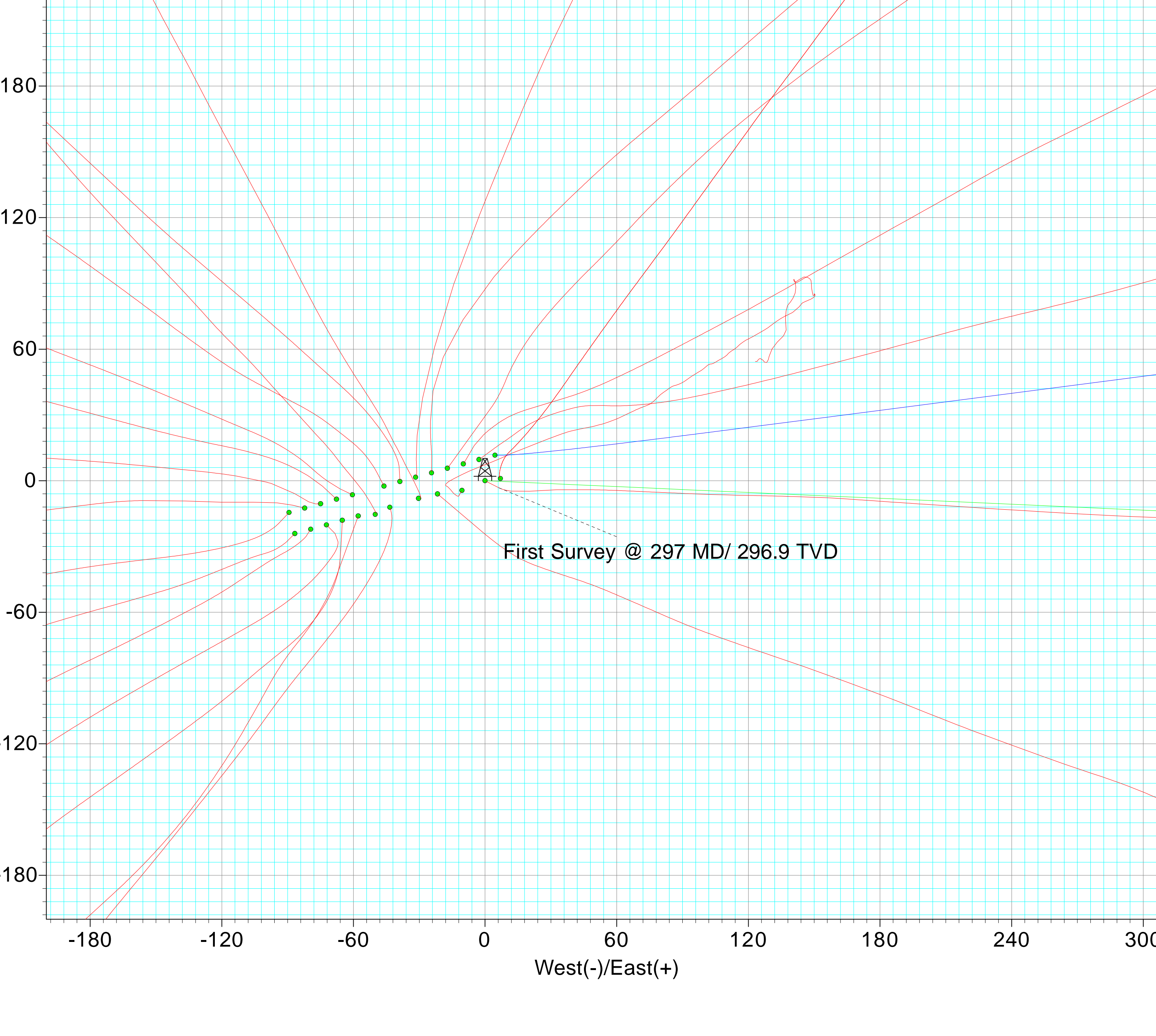
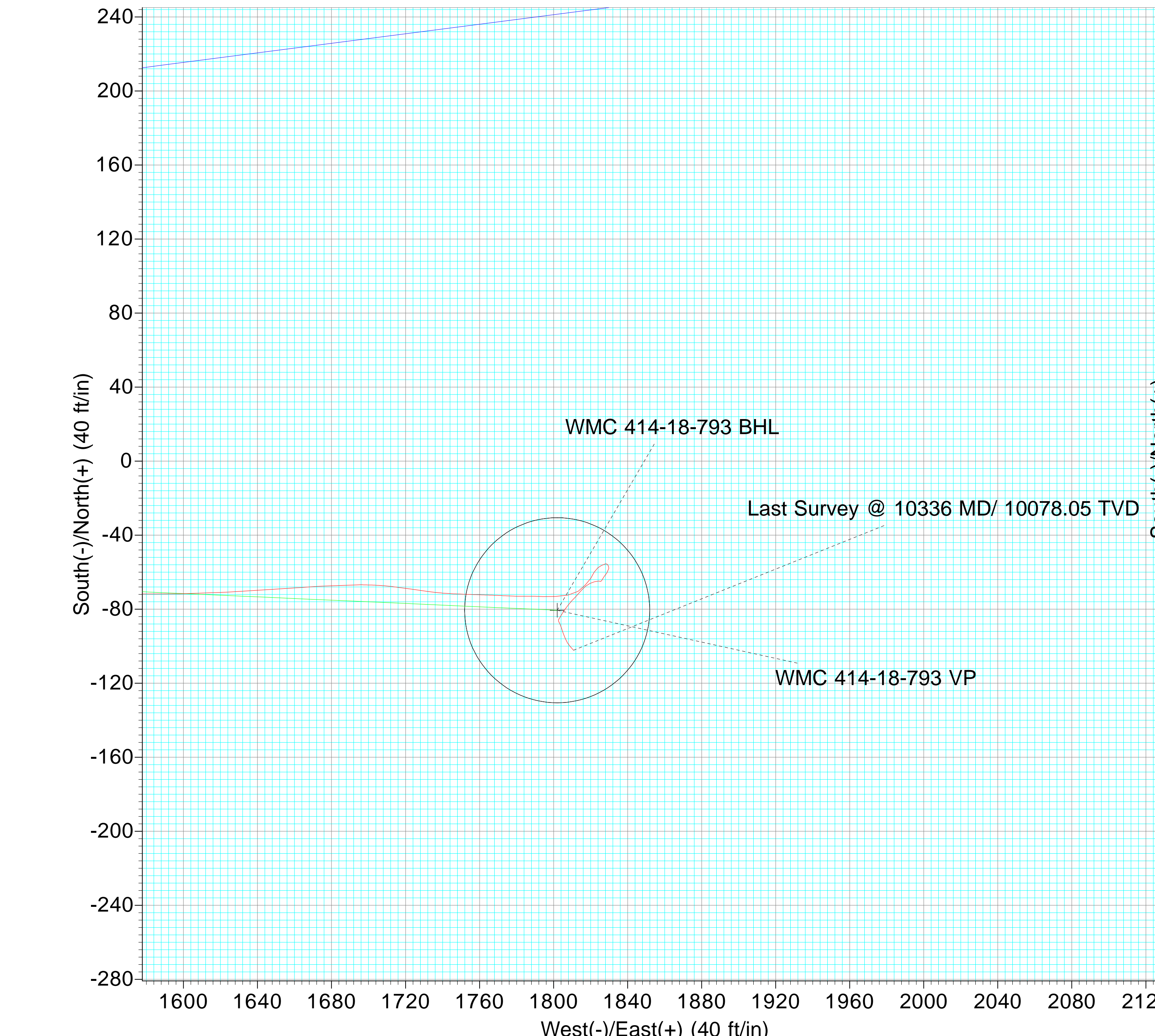
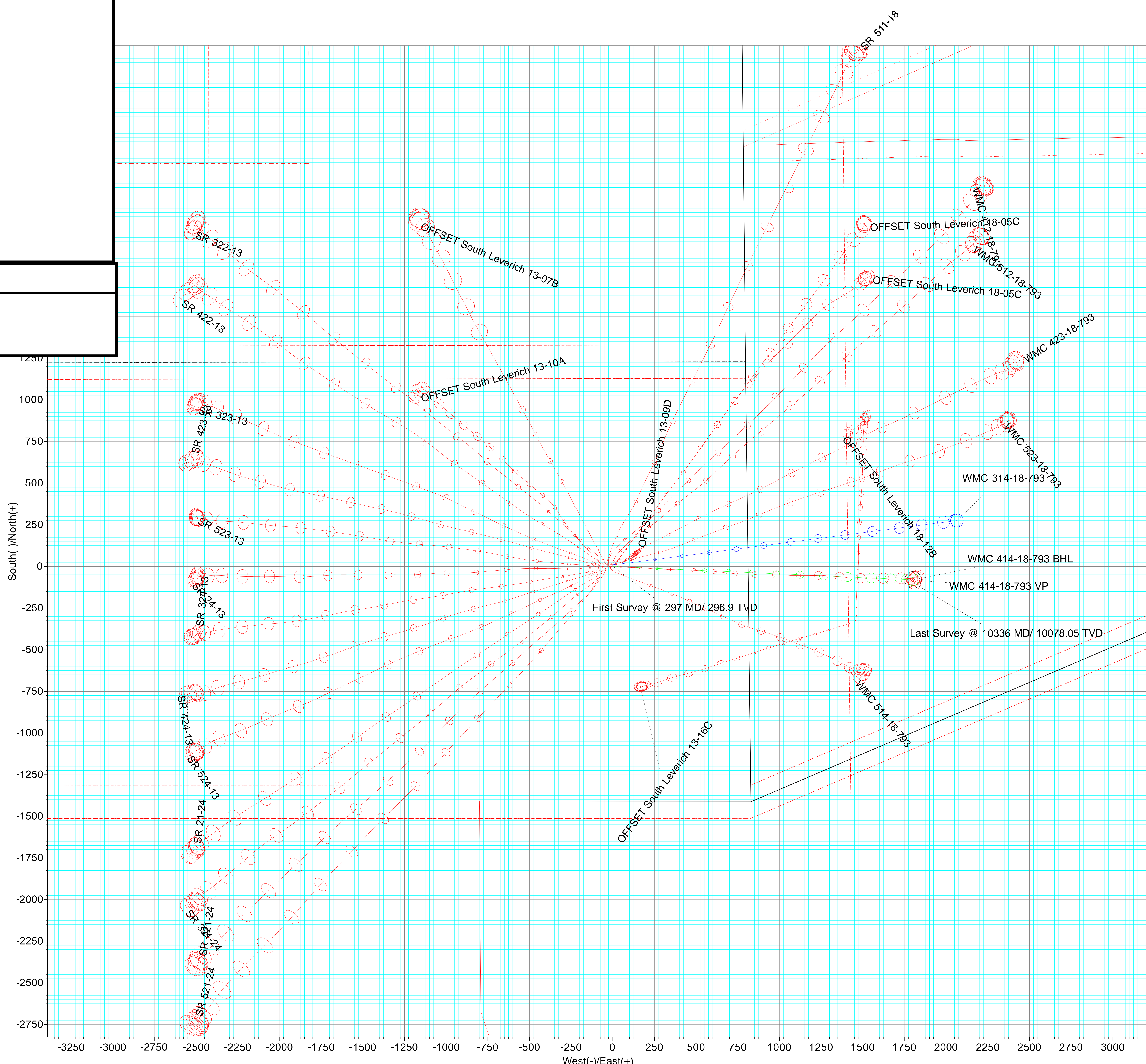
DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
VP	7071.00	-80.54	1801.94	1591856.200	2344064.580	39.435391	-107.822613
BHL	10356.00	-80.54	1801.94	1591856.200	2344064.580	39.435391	-107.822613

ANNOTATIONS								
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
296.89	297.00	2.72	117.29	-3.23	6.26	6.40	7.05	First Survey @ 297 MD/ 296.9 TVD
10078.05	10336.00	2.37	139.35	-102.14	1810.72	1813.48	1903.76	Last Survey @ 10336 MD/ 10078.05 TVD

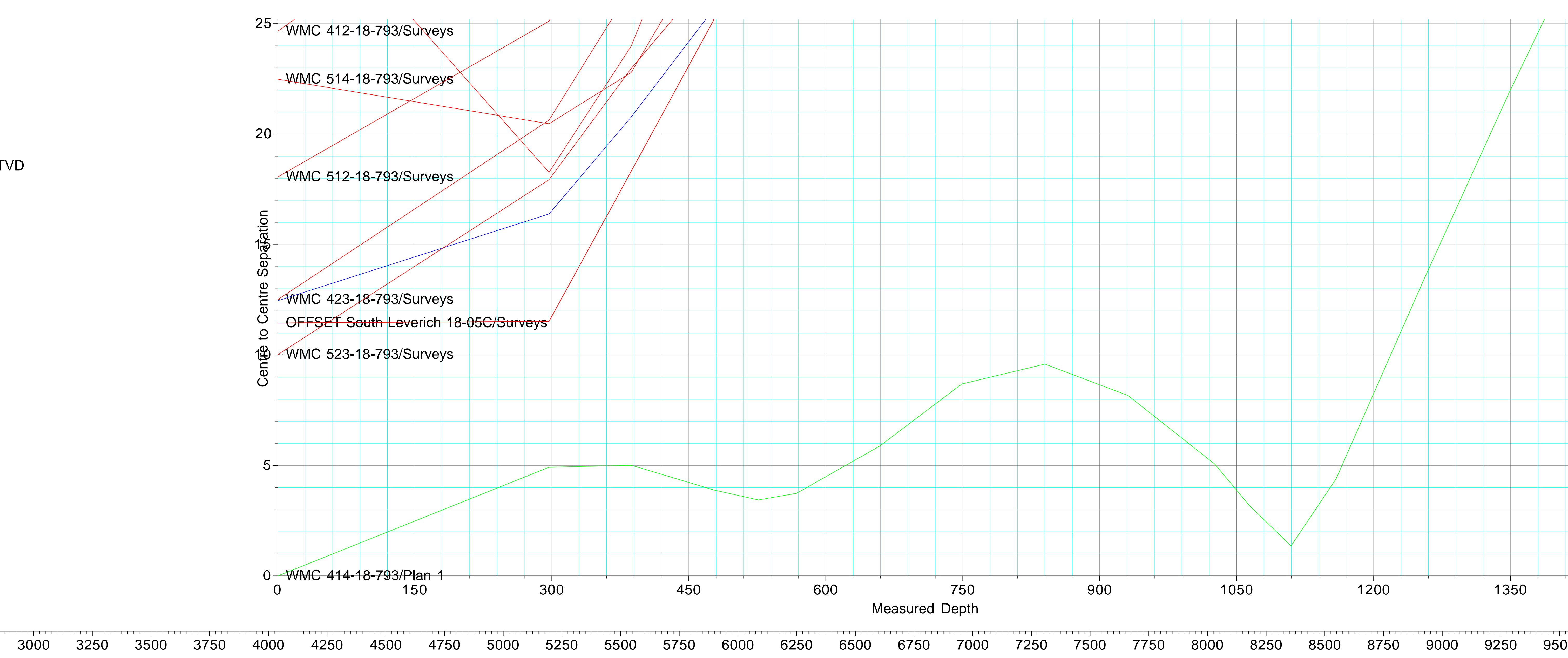
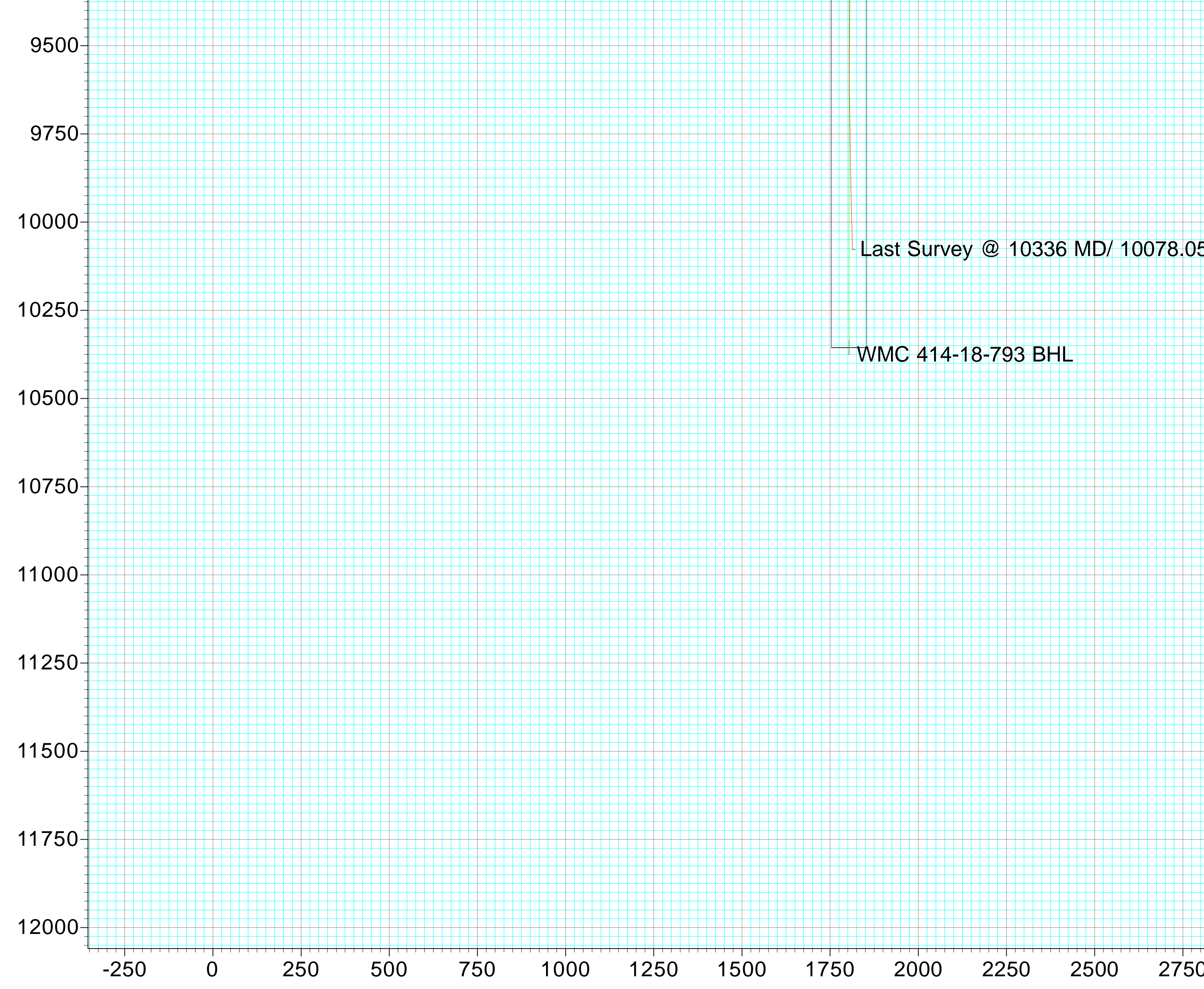
SLOTS				
Slot Name	+N/-S	+E/-W	Northing	Easting
OFFSET South Leverich 13-07B	-8.08	-30.28	1591975.598	2342234.824
OFFSET South Leverich 13-09D	-4.44	-10.51	1591978.733	2342254.682
OFFSET South Leverich 13-10A	-15.37	-50.05	1591968.823	2342214.873
OFFSET South Leverich 13-16C	-339.49	1438.44	1591606.646	2343694.566
OFFSET South Leverich 18-05C	1.01	7.01	1591983.730	2342272.330
OFFSET South Leverich 18-12B	-324.92	1452.57	1591620.850	2343709.057
SR 21-24	-20.16	-72.31	1591964.600	2342192.500
SR 24-13	-12.51	-82.21	1591972.500	2342182.800
SR 321-24	-18.07	-65.06	1591966.500	2342199.800
SR 322-13	-0.39	-38.80	1591983.500	2342226.500
SR 323-13	-6.45	-60.45	1591978.000	2342204.700
SR 324-13	-14.50	-89.36	1591970.700	2342175.600
SR 421-24	-16.09	-57.81	1591968.300	2342207.100
SR 422-13	-2.48	-46.05	1591981.600	2342219.200
SR 423-13	-8.44	-67.71	1591976.200	2342197.400
SR 424-13	-24.13	-86.71	1591961.000	2342178.000
SR 511-18	1.59	-31.65	1591985.300	2342233.700
SR 521-24	-12.12	-43.40	1591971.900	2342221.600
SR 523-13	-10.52	-74.95	1591974.300	2342190.100
SR 524-13	-22.14	-79.46	1591962.800	2342185.300
WMC 314-18-793	1.62	4.50	1591994.400	2342270.100
WMC 412-18-793	3.58	-24.40	1591987.100	2342241.000
WMC 414-18-793	0.00	0.00	1591982.900	2342265.300
WMC 423-18-793	7.65	-9.90	1591990.800	2342255.600
WMC 512-18-793	5.66	-17.15	1591989.000	2342248.300
WMC 514-18-793	6.06	-21.65	1591977.400	2342243.500
WMC 523-18-793	9.63	-2.75	1591992.600	2342262.800

FORMATION TOP DETAILS		
TVDPATH	MDPATH	FORMATION
4056.00	4208.51	G_SAND
4556.00	4730.38	FRUN
6041.00	6280.16	L_WSCH
6481.00	6730.70	OCRK
7071.00	7323.07	TGAS
7071.00	7323.07	U_MVRD
9137.00	9389.07	CME0
10006.00	10258.07	RLNS

CASING DETAILS	
No casing data is available	



ANNOTATIONS								
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
296.89	297.00	2.72	117.29	-3.23	6.26	6.40	7.05	First Survey @ 297 MD/ 296.9 TVD
10078.05	10336.00	2.37	139.35	-102.14	1810.72	1813.48	1903.76	Last Survey @ 10336 MD/ 10078.05 TVD





Directional Survey Certification

Survey Company: Native Navigation Survey Company Job #: 23092849

Well Name: WMC 414-18-793 A.P.I.# 05-045-24562 Operator Terra Energy Partners

Latitude: 40.217433 Longitude: -107.828993 County, State: Garfield County, CO

Legal Description (S,TS,R): Sec 13, T7S, R94W

Final Report 11/1/2023 Date of First Survey 10/1/2023 Date of Last Survey: 10/6/2023

Datum: NAD83 Survey MD From: 297.00 To: 10271 FT. Tool Type: MWD + HRGM

Bit to Sensor: 65 FT. Rig (Company & Number): HP 329 RKB Height: 30.00 FT.

Ground Elevation: 8007.00 Northings: 1591982.9 Eastings: 2342265.3

Surveyor Kyle Temple Depth of Final Projection: 10336 FT.

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by Native Navigation. I am authorized and qualified to review the data, calculations and this report, and that the report represents a true and correct Directional Survey of this well, based on the original data corrected to True North and obtained at the well site. Wellbore coordinates are calculated using the minimum curvature method.


Signature

Well Planner
Title

Native Navigation
Company

11/1/23
Date



Terra Energy Partners, LLP

Garfield County, CO (Nad 83)

S. Leverich 13-09 Pad

WMC 414-18-793 - Slot WMC 414-18-793

OWB

Design: Surveys

Survey Certification Report

01 November, 2023



Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well WMC 414-18-793 - Slot WMC 414-18-793
Project:	Garfield County, CO (Nad 83)	TVD Reference:	RKB @ 30' @ 8037.00ft
Site:	S. Leverich 13-09 Pad	MD Reference:	RKB @ 30' @ 8037.00ft
Well:	WMC 414-18-793	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	NN

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	S. Leverich 13-09 Pad				
Site Position:		Northing:	1,591,962.800 usft	Latitude:	39.435551
From:	Map	Easting:	2,342,185.300 usft	Longitude:	-107.829274
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16"	Grid Convergence:	-1.47 °

Well	WMC 414-18-793 - Slot WMC 414-18-793					
Well Position	+N/-S	0.00 ft	Northing:	1,591,982.900 usft	Latitude:	39.435612
	+E/-W	0.00 ft	Easting:	2,342,265.300 usft	Longitude:	-107.828993
Position Uncertainty		0.00 ft	Wellhead Elevation:	8,037.00 ft	Ground Level:	8,007.00 ft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/5/2023	8.83	65.37	50,996

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
		0.00	0.00	0.00	92.56

Survey Program	Date	10/5/2023			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
297.00	10,336.00	Surveys (OWB)	OWSG (REV5) MWD HDGM	OWSG MWD - Standard	

Survey									
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
297.00	2.72	117.29	296.89	-3.23	6.26	7.05	117.29		
First Survey @ 297 MD/ 296.9 TVD									
387.00	4.57	98.21	386.71	-4.72	11.71	12.63	111.96		
477.00	6.42	84.94	476.29	-4.79	20.27	20.83	103.30		
568.00	9.27	88.46	566.43	-4.15	32.67	32.93	97.23		
659.00	11.87	91.18	655.88	-4.14	49.36	49.53	94.80		
749.00	14.59	92.77	743.48	-4.88	69.94	70.11	93.99		
840.00	17.53	92.33	830.92	-5.99	95.08	95.27	93.61		
931.00	17.49	91.01	917.71	-6.79	122.45	122.64	93.17		
1,026.00	19.51	92.24	1,007.79	-7.66	152.58	152.77	92.87		
1,064.00	19.69	94.00	1,043.59	-8.36	165.31	165.52	92.89		

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well WMC 414-18-793 - Slot WMC 414-18-793
Project:	Garfield County, CO (Nad 83)	TVD Reference:	RKB @ 30' @ 8037.00ft
Site:	S. Leverich 13-09 Pad	MD Reference:	RKB @ 30' @ 8037.00ft
Well:	WMC 414-18-793	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	NN

Survey								
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	
1,159.00	22.15	93.82	1,132.32	-10.67	199.15	199.43	93.07	
1,254.00	22.10	93.64	1,220.33	-12.99	234.85	235.21	93.17	
1,348.00	21.62	93.21	1,307.57	-15.09	269.79	270.21	93.20	
1,443.00	21.58	92.15	1,395.90	-16.72	304.72	305.18	93.14	
1,537.00	21.01	91.89	1,483.48	-17.93	338.83	339.31	93.03	
1,632.00	18.94	91.89	1,572.76	-19.00	371.27	371.75	92.93	
1,727.00	19.07	91.36	1,662.58	-19.87	402.19	402.68	92.83	
1,821.00	18.02	89.69	1,751.70	-20.16	432.08	432.55	92.67	
1,915.00	16.13	94.52	1,841.56	-21.11	459.64	460.13	92.63	
2,009.00	16.00	92.94	1,931.88	-22.80	485.60	486.13	92.69	
2,103.00	15.95	94.26	2,022.25	-24.43	511.42	512.00	92.73	
2,198.00	15.51	92.33	2,113.70	-25.91	537.13	537.75	92.76	
2,289.00	15.29	92.68	2,201.43	-26.97	561.27	561.92	92.75	
2,379.00	14.81	92.41	2,288.34	-28.01	584.61	585.28	92.74	
2,470.00	16.26	96.54	2,376.02	-29.95	608.89	609.63	92.82	
2,560.00	16.17	96.90	2,462.44	-32.89	633.85	634.70	92.97	
2,651.00	15.73	96.02	2,549.94	-35.70	658.70	659.67	93.10	
2,741.00	16.00	95.58	2,636.51	-38.19	683.18	684.24	93.20	
2,832.00	15.60	95.31	2,724.07	-40.54	707.84	709.00	93.28	
2,922.00	14.81	95.49	2,810.92	-42.76	731.34	732.59	93.35	
3,014.00	15.60	91.36	2,899.70	-44.18	755.41	756.70	93.35	
3,106.00	15.21	90.22	2,988.39	-44.52	779.85	781.12	93.27	
3,198.00	14.72	89.16	3,077.27	-44.39	803.61	804.83	93.16	
3,289.00	15.73	96.11	3,165.09	-45.54	827.43	828.69	93.15	
3,381.00	16.70	96.28	3,253.42	-48.31	852.97	854.34	93.24	
3,472.00	16.22	95.67	3,340.70	-51.00	878.62	880.10	93.32	
3,564.00	16.35	88.81	3,429.01	-52.00	904.35	905.85	93.29	
3,656.00	15.95	89.87	3,517.38	-51.70	929.94	931.37	93.18	
3,747.00	15.34	88.55	3,605.01	-51.37	954.48	955.86	93.08	
3,839.00	15.82	89.34	3,693.63	-50.91	979.18	980.50	92.98	
3,931.00	15.16	89.69	3,782.29	-50.71	1,003.75	1,005.03	92.89	
4,023.00	16.44	94.61	3,870.81	-51.69	1,028.76	1,030.06	92.88	
4,115.00	16.13	93.47	3,959.12	-53.51	1,054.49	1,055.85	92.90	
4,208.00	16.57	90.13	4,048.36	-54.32	1,080.65	1,082.01	92.88	
4,298.00	15.51	90.13	4,134.86	-54.37	1,105.51	1,106.85	92.82	
4,391.00	16.39	89.07	4,224.28	-54.19	1,131.07	1,132.37	92.74	
4,483.00	17.45	90.57	4,312.29	-54.12	1,157.84	1,159.11	92.68	
4,575.00	16.61	90.92	4,400.26	-54.47	1,184.78	1,186.03	92.63	
4,667.00	15.86	89.25	4,488.59	-54.51	1,210.50	1,211.73	92.58	
4,758.00	15.42	87.67	4,576.22	-53.86	1,235.02	1,236.20	92.50	
4,850.00	16.44	93.64	4,664.69	-54.19	1,260.24	1,261.40	92.46	
4,943.00	16.22	94.44	4,753.94	-56.03	1,286.32	1,287.54	92.49	
5,034.00	16.00	93.82	4,841.37	-57.85	1,311.51	1,312.78	92.53	
5,126.00	15.56	94.44	4,929.90	-59.65	1,336.46	1,337.79	92.56	

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well WMC 414-18-793 - Slot WMC 414-18-793
Project:	Garfield County, CO (Nad 83)	TVD Reference:	RKB @ 30' @ 8037.00ft
Site:	S. Leverich 13-09 Pad	M/R Reference:	RKB @ 30' @ 8037.00ft
Well:	WMC 414-18-793	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	NN

MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)
5,218.00	15.47	95.31	5,018.55	-61.74	1,360.98	1,362.38	92.60
5,310.00	15.07	95.49	5,107.30	-64.02	1,385.10	1,386.58	92.65
5,402.00	14.81	99.18	5,196.19	-67.04	1,408.62	1,410.21	92.72
5,494.00	16.44	91.54	5,284.80	-69.26	1,433.24	1,434.91	92.77
5,585.00	16.26	91.62	5,372.12	-69.97	1,458.85	1,460.53	92.75
5,677.00	18.46	90.74	5,459.92	-70.52	1,486.29	1,487.96	92.72
5,769.00	18.33	90.57	5,547.22	-70.85	1,515.32	1,516.98	92.68
5,860.00	17.89	91.18	5,633.71	-71.28	1,543.60	1,545.25	92.64
5,952.00	17.09	90.66	5,721.46	-71.73	1,571.25	1,572.89	92.61
6,044.00	16.52	89.25	5,809.53	-71.72	1,597.85	1,599.45	92.57
6,135.00	16.44	86.53	5,896.79	-70.77	1,623.64	1,625.18	92.50
6,227.00	16.22	86.44	5,985.08	-69.18	1,649.46	1,650.91	92.40
6,319.00	14.63	86.00	6,073.77	-67.57	1,673.87	1,675.24	92.31
6,411.00	13.01	90.22	6,163.10	-66.80	1,695.82	1,697.13	92.26
6,504.00	10.85	97.86	6,254.09	-68.04	1,714.96	1,716.31	92.27
6,595.00	10.72	97.69	6,343.49	-70.34	1,731.83	1,733.26	92.33
6,687.00	9.58	92.06	6,434.05	-71.76	1,747.96	1,749.44	92.35
6,779.00	8.35	91.80	6,524.92	-72.25	1,762.29	1,763.77	92.35
6,874.00	6.59	92.94	6,619.11	-72.74	1,774.63	1,776.12	92.35
6,968.00	6.15	89.51	6,712.53	-72.98	1,785.05	1,786.55	92.34
7,063.00	4.39	93.21	6,807.13	-73.14	1,793.77	1,795.26	92.33
7,158.00	4.17	85.47	6,901.86	-73.07	1,800.85	1,802.33	92.32
7,252.00	4.26	82.48	6,995.61	-72.34	1,807.72	1,809.16	92.29
7,348.00	3.08	51.81	7,091.42	-70.28	1,813.28	1,814.64	92.22
7,443.00	3.30	46.10	7,186.27	-66.81	1,817.25	1,818.48	92.11
7,539.00	2.15	27.64	7,282.16	-63.30	1,820.08	1,821.18	91.99
7,633.00	2.59	29.04	7,376.08	-59.88	1,821.93	1,822.91	91.88
7,727.00	1.27	65.70	7,470.03	-57.59	1,823.91	1,824.82	91.81
7,822.00	1.63	51.19	7,565.00	-56.31	1,825.92	1,826.79	91.77
7,916.00	1.19	88.90	7,658.97	-55.45	1,827.94	1,828.78	91.74
8,010.00	1.05	149.37	7,752.96	-56.18	1,829.35	1,830.22	91.76
8,104.00	1.27	179.16	7,846.94	-57.96	1,829.81	1,830.73	91.81
8,199.00	1.98	216.87	7,941.90	-60.32	1,828.84	1,829.83	91.89
8,293.00	1.54	217.31	8,035.86	-62.63	1,827.10	1,828.17	91.96
8,388.00	1.01	202.54	8,130.83	-64.42	1,826.01	1,827.14	92.02
8,482.00	0.40	318.64	8,224.83	-64.94	1,825.47	1,826.63	92.04
8,576.00	1.14	266.26	8,318.82	-64.75	1,824.32	1,825.47	92.03
8,670.00	1.67	255.01	8,412.79	-65.17	1,822.06	1,823.23	92.05
8,765.00	1.58	243.15	8,507.76	-66.12	1,819.56	1,820.76	92.08
8,859.00	1.71	231.98	8,601.72	-67.57	1,817.30	1,818.55	92.13
8,953.00	1.80	221.09	8,695.67	-69.54	1,815.22	1,816.55	92.19
9,048.00	1.49	221.70	8,790.63	-71.59	1,813.42	1,814.83	92.26
9,142.00	1.54	223.90	8,884.60	-73.41	1,811.73	1,813.22	92.32
9,236.00	1.93	222.76	8,978.56	-75.48	1,809.78	1,811.35	92.39
9,331.00	1.85	217.31	9,073.51	-77.88	1,807.77	1,809.44	92.47

Company:	Terra Energy Partners, LLP	Local Co-ordinate Reference:	Well WMC 414-18-793 - Slot WMC 414-18-793
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Site:	S. Leverich 13-09 Pad	MD Reference:	RKB @ 30' @ 8037.00ft
Well:	WMC 414-18-793	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	NN

Survey								
MD (ft)	Inc (°)	Azi (azimuth) (°)	TVD (ft)	N/S (ft)	E/W (ft)	Closure Distance (ft)	Closure Azimuth (°)	
9,425.00	1.45	215.90	9,167.47	-80.05	1,806.15	1,807.92	92.54	
9,519.00	1.05	211.51	9,261.44	-81.75	1,805.00	1,806.85	92.59	
9,613.00	1.23	209.31	9,355.43	-83.36	1,804.06	1,805.98	92.65	
9,707.00	0.75	212.30	9,449.41	-84.76	1,803.23	1,805.22	92.69	
9,802.00	0.57	210.71	9,544.40	-85.69	1,802.66	1,804.70	92.72	
9,896.00	1.41	150.86	9,638.39	-87.10	1,802.98	1,805.09	92.77	
9,991.00	1.80	161.67	9,733.35	-89.54	1,804.02	1,806.24	92.84	
10,085.00	2.55	161.14	9,827.29	-92.92	1,805.16	1,807.55	92.95	
10,180.00	2.59	153.15	9,922.19	-96.84	1,806.82	1,809.41	93.07	
10,271.00	2.37	139.35	10,013.11	-100.10	1,808.97	1,811.74	93.17	
10,336.00	2.37	139.35	10,078.05	-102.14	1,810.72	1,813.60	93.23	
Last Survey @ 10336 MD/ 10078.05 TVD								

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
297.00	296.89	-3.23	6.26	First Survey @ 297 MD/ 296.9 TVD	
10,336.00	10,078.05	-102.14	1,810.72	Last Survey @ 10336 MD/ 10078.05 TVD	

Checked By: _____ Approved By: _____ Date: _____