

PROJECT DETAILS: Rio Blanco County, CO

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Central Zone
 System Datum: Mean Sea Level

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
FED RGU 23-1-298 - VP	8286.00	1348.99	-2211.12	1766921.70	2202223.66	39.904732	-108.343963	Circle (Radius: 100.00)
FED RGU 23-1-298 - PBHL	12066.00	1348.99	-2211.12	1766921.70	2202223.66	39.904732	-108.343963	Point

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well FED RGU 23-1-298 - Slot FED RGU 23-1-298, True North
 Vertical (TVD) Reference: KB=30' @ 6308.00usft (H&P #329)
 Section (VS) Reference: Slot - FED RGU 23-1-298(0.00N, 0.00E)
 Measured Depth Reference: KB=30' @ 6308.00usft (H&P #329)
 Calculation Method: Minimum Curvature

ANNOTATIONS

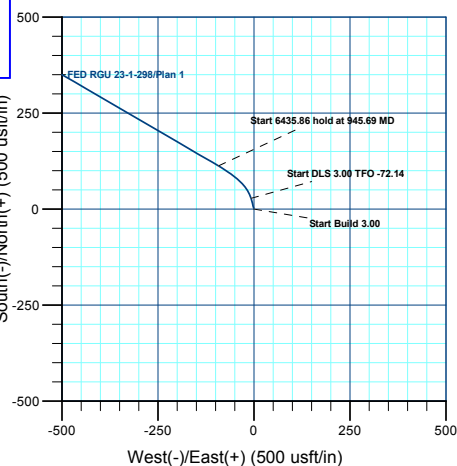
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	Start Build 3.00
453.33	10.00	345.00	451.64	28.03	-7.51	21.01	29.02	Start DLS 3.00 TFO -72.14
945.69	20.17	300.27	927.80	112.57	-92.35	137.46	151.72	Start 6435.86 hold at 945.69 MD
7381.55	20.17	300.27	6969.05	1230.95	-2008.84	2355.98	2370.66	Start Drop -1.50
8726.10	0.00	0.00	8286.00	1348.99	-2211.12	2590.14	2604.87	Start 3780.00 hold at 8726.10 MD
12506.10	0.00	0.00	12066.00	1348.99	-2211.12	2590.14	2604.87	TD at 12506.10

WELL DETAILS: FED RGU 23-1-298

+N/-S	+E/-W	Northing	Ground Elev:	Latitude	Longitude	Slot
0.00	0.00	1765504.35	6278.00	39.901029	-108.336082	FED RGU 23-1-298

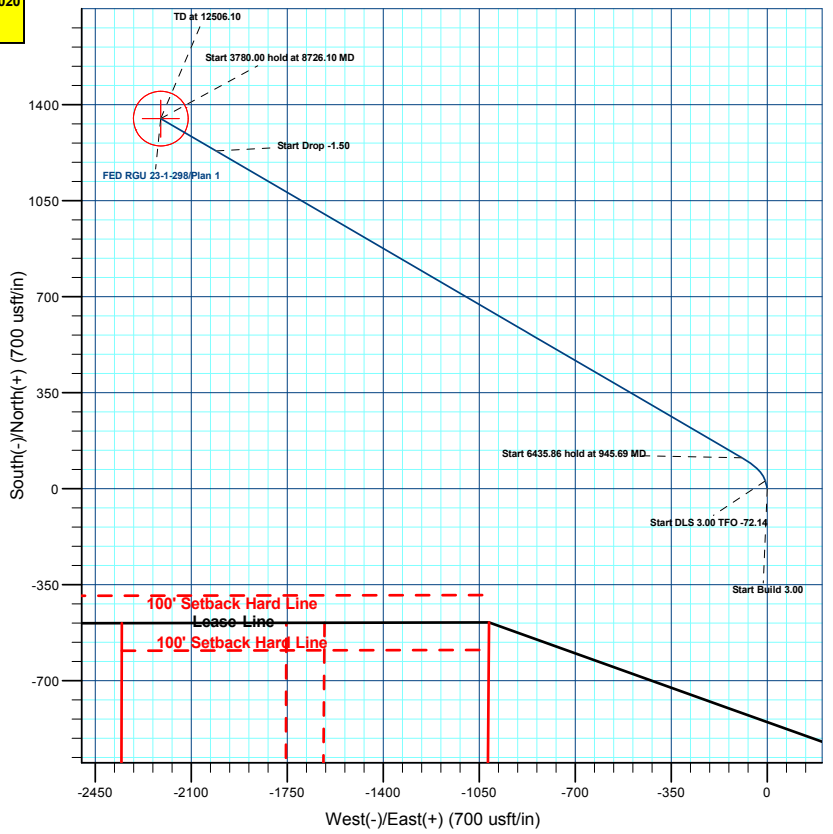
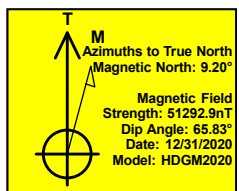
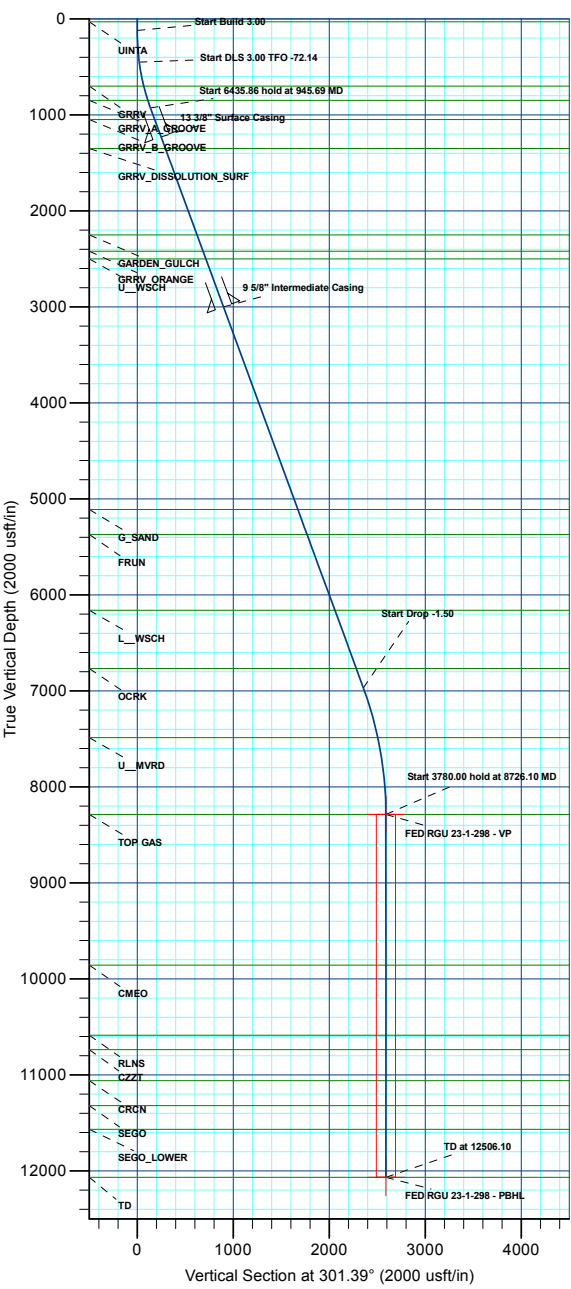
CASING DETAILS

TVD	MD	Name	Size
1230.00	1267.62	13 3/8" Surface Casing	13-3/8
3000.00	3153.24	5/8" Intermediate Casing	9-5/8



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
30.00	30.00	UINTA
700.00	707.18	GRRV
850.00	863.35	GRRV_A_GROOVE
1050.00	1075.87	GRRV_B_GROOVE
1350.00	1395.46	GRRV DISSOLUTION_SURF
2250.00	2354.25	GARDEN_GULCH
2420.00	2535.36	GRRV_ORANGE
2500.00	2620.58	U_WSCH
5110.00	5401.07	G_SAND
5370.00	5678.05	FRUN
6160.00	6519.66	L_WSCH
6766.00	7165.24	OCRK
7486.00	7920.13	U_MVRD
8286.00	8726.10	TOP GAS
9856.00	10296.10	CMEO
10586.00	11026.10	RLNS
10736.00	11176.10	CZZT
11061.00	11501.10	CRCN
11321.00	11761.10	SEGO
11566.00	12006.10	SEGO_LOWER
12066.00	12506.10	TD





Terra Energy Partners, LLP

Rio Blanco County, CO

RGU 44-1-298

FED RGU 23-1-298 - Slot FED RGU 23-1-298

Wellbore #1

Plan: Plan 1

KLX Well Planning Report

05 May, 2022



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FED RGU 23-1-298 - Slot FED RGU 23-1-298
Company:	Terra Energy Partners, LLP	TVD Reference:	KB=30' @ 6308.00usft (H&P #329)
Project:	Rio Blanco County, CO	MD Reference:	KB=30' @ 6308.00usft (H&P #329)
Site:	RGU 44-1-298	North Reference:	True
Well:	FED RGU 23-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Project	Rio Blanco County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	RGU 44-1-298				
Site Position:	Northing:	1,765,503.75 usft	Latitude:	39.901031	
From: Map	Easting:	2,204,429.08 usft	Longitude:	-108.335948	
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.79 °

Well	FED RGU 23-1-298 - Slot FED RGU 23-1-298					
Well Position	+N/-S	-0.57 usft	Northing:	1,765,504.35 usft	Latitude:	39.901029
	+E/-W	-37.48 usft	Easting:	2,204,391.60 usft	Longitude:	-108.336082
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level:	6,278.00 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2020	12/31/2020	9.20	65.83	51,292.90000000

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	301.39

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
453.33	10.00	345.00	451.64	28.03	-7.51	3.00	3.00	0.00	345.00	
945.69	20.17	300.27	927.80	112.57	-92.35	3.00	2.07	-9.09	-72.14	
7,381.55	20.17	300.27	6,969.05	1,230.95	-2,008.84	0.00	0.00	0.00	0.00	
8,726.10	0.00	0.00	8,286.00	1,348.99	-2,211.12	1.50	-1.50	0.00	180.00	FED RGU 23-1-298 -
12,506.10	0.00	0.00	12,066.00	1,348.99	-2,211.12	0.00	0.00	0.00	0.00	FED RGU 23-1-298 -

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Site:	RGU 44-1-298	North Reference:	True
Well:	FED RGU 23-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UINTA									
30.00	0.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2.40	345.00	199.98	1.62	-0.43	1.21	3.00	3.00	0.00
300.00	5.40	345.00	299.73	8.19	-2.19	6.14	3.00	3.00	0.00
400.00	8.40	345.00	399.00	19.79	-5.30	14.83	3.00	3.00	0.00
Start DLS 3.00 TFO -72.14									
453.33	10.00	345.00	451.64	28.03	-7.51	21.01	3.00	3.00	0.00
500.00	10.51	337.68	497.57	35.88	-10.18	27.37	3.00	1.10	-15.69
600.00	12.09	324.60	595.64	52.86	-19.71	44.36	3.00	1.58	-13.08
700.00	14.13	314.86	693.04	70.01	-34.43	65.86	3.00	2.04	-9.74
GRRV									
707.18	14.29	314.27	700.00	71.24	-35.69	67.57	3.00	2.22	-8.23
800.00	16.46	307.67	789.50	87.28	-54.30	91.81	3.00	2.34	-7.10
GRRV_A_GROOVE									
863.35	18.04	304.09	850.00	98.26	-69.53	110.53	3.00	2.49	-5.65
900.00	18.98	302.29	884.76	104.63	-79.27	122.16	3.00	2.56	-4.92
Start 6435.86 hold at 945.69 MD									
945.69	20.17	300.27	927.80	112.57	-92.35	137.46	3.00	2.61	-4.42
1,000.00	20.17	300.27	978.79	122.00	-108.52	156.19	0.00	0.00	0.00
GRRV_B_GROOVE									
1,075.87	20.17	300.27	1,050.00	135.19	-131.12	182.34	0.00	0.00	0.00
1,100.00	20.17	300.27	1,072.65	139.38	-138.30	190.66	0.00	0.00	0.00
1,200.00	20.17	300.27	1,166.52	156.76	-168.08	225.13	0.00	0.00	0.00
13 3/8" Surface Casing									
1,267.62	20.17	300.27	1,230.00	168.51	-188.22	248.44	0.00	0.00	0.00
1,300.00	20.17	300.27	1,260.39	174.14	-197.86	259.60	0.00	0.00	0.00
GRRV DISSOLUTION SURF									
1,395.46	20.17	300.27	1,350.00	190.72	-226.29	292.51	0.00	0.00	0.00
1,400.00	20.17	300.27	1,354.26	191.51	-227.64	294.07	0.00	0.00	0.00
1,500.00	20.17	300.27	1,448.13	208.89	-257.42	328.54	0.00	0.00	0.00
1,600.00	20.17	300.27	1,542.00	226.27	-287.19	363.01	0.00	0.00	0.00
1,700.00	20.17	300.27	1,635.86	243.64	-316.97	397.48	0.00	0.00	0.00
1,800.00	20.17	300.27	1,729.73	261.02	-346.75	431.96	0.00	0.00	0.00
1,900.00	20.17	300.27	1,823.60	278.40	-376.53	466.43	0.00	0.00	0.00
2,000.00	20.17	300.27	1,917.47	295.78	-406.31	500.90	0.00	0.00	0.00
2,100.00	20.17	300.27	2,011.34	313.15	-436.09	535.37	0.00	0.00	0.00
2,200.00	20.17	300.27	2,105.21	330.53	-465.86	569.84	0.00	0.00	0.00
2,300.00	20.17	300.27	2,199.08	347.91	-495.64	604.31	0.00	0.00	0.00
GARDEN_GULCH									
2,354.25	20.17	300.27	2,250.00	357.34	-511.80	623.01	0.00	0.00	0.00
2,400.00	20.17	300.27	2,292.94	365.29	-525.42	638.78	0.00	0.00	0.00
2,500.00	20.17	300.27	2,386.81	382.66	-555.20	673.25	0.00	0.00	0.00
GRRV_ORANGE									
2,535.36	20.17	300.27	2,420.00	388.81	-565.73	685.44	0.00	0.00	0.00
2,600.00	20.17	300.27	2,480.68	400.04	-584.98	707.72	0.00	0.00	0.00
U_WSCH									
2,620.58	20.17	300.27	2,500.00	403.62	-591.11	714.82	0.00	0.00	0.00
2,700.00	20.17	300.27	2,574.55	417.42	-614.76	742.20	0.00	0.00	0.00

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Project:	Rio Blanco County, CO	MD Reference:	KB=30' @ 6308.00usft (H&P #329)
Site:	RGU 44-1-298	North Reference:	True
Well:	FED RGU 23-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned 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)
2,800.00	20.17	300.27	2,668.42	434.80	-644.53	776.67	0.00	0.00	0.00
2,900.00	20.17	300.27	2,762.29	452.17	-674.31	811.14	0.00	0.00	0.00
3,000.00	20.17	300.27	2,856.15	469.55	-704.09	845.61	0.00	0.00	0.00
3,100.00	20.17	300.27	2,950.02	486.93	-733.87	880.08	0.00	0.00	0.00
9 5/8" Intermediate Casing									
3,153.24	20.17	300.27	3,000.00	496.18	-749.72	898.43	0.00	0.00	0.00
3,200.00	20.17	300.27	3,043.89	504.30	-763.65	914.55	0.00	0.00	0.00
3,300.00	20.17	300.27	3,137.76	521.68	-793.42	949.02	0.00	0.00	0.00
3,400.00	20.17	300.27	3,231.63	539.06	-823.20	983.49	0.00	0.00	0.00
3,500.00	20.17	300.27	3,325.50	556.44	-852.98	1,017.96	0.00	0.00	0.00
3,600.00	20.17	300.27	3,419.37	573.81	-882.76	1,052.44	0.00	0.00	0.00
3,700.00	20.17	300.27	3,513.23	591.19	-912.54	1,086.91	0.00	0.00	0.00
3,800.00	20.17	300.27	3,607.10	608.57	-942.32	1,121.38	0.00	0.00	0.00
3,900.00	20.17	300.27	3,700.97	625.95	-972.09	1,155.85	0.00	0.00	0.00
4,000.00	20.17	300.27	3,794.84	643.32	-1,001.87	1,190.32	0.00	0.00	0.00
4,100.00	20.17	300.27	3,888.71	660.70	-1,031.65	1,224.79	0.00	0.00	0.00
4,200.00	20.17	300.27	3,982.58	678.08	-1,061.43	1,259.26	0.00	0.00	0.00
4,300.00	20.17	300.27	4,076.44	695.46	-1,091.21	1,293.73	0.00	0.00	0.00
4,400.00	20.17	300.27	4,170.31	712.83	-1,120.99	1,328.21	0.00	0.00	0.00
4,500.00	20.17	300.27	4,264.18	730.21	-1,150.76	1,362.68	0.00	0.00	0.00
4,600.00	20.17	300.27	4,358.05	747.59	-1,180.54	1,397.15	0.00	0.00	0.00
4,700.00	20.17	300.27	4,451.92	764.96	-1,210.32	1,431.62	0.00	0.00	0.00
4,800.00	20.17	300.27	4,545.79	782.34	-1,240.10	1,466.09	0.00	0.00	0.00
4,900.00	20.17	300.27	4,639.65	799.72	-1,269.88	1,500.56	0.00	0.00	0.00
5,000.00	20.17	300.27	4,733.52	817.10	-1,299.66	1,535.03	0.00	0.00	0.00
5,100.00	20.17	300.27	4,827.39	834.47	-1,329.43	1,569.50	0.00	0.00	0.00
5,200.00	20.17	300.27	4,921.26	851.85	-1,359.21	1,603.97	0.00	0.00	0.00
5,300.00	20.17	300.27	5,015.13	869.23	-1,388.99	1,638.45	0.00	0.00	0.00
5,400.00	20.17	300.27	5,109.00	886.61	-1,418.77	1,672.92	0.00	0.00	0.00
G_SAND									
5,401.07	20.17	300.27	5,110.00	886.79	-1,419.09	1,673.29	0.00	0.00	0.00
5,500.00	20.17	300.27	5,202.87	903.98	-1,448.55	1,707.39	0.00	0.00	0.00
5,600.00	20.17	300.27	5,296.73	921.36	-1,478.32	1,741.86	0.00	0.00	0.00
FRUN									
5,678.05	20.17	300.27	5,370.00	934.92	-1,501.57	1,768.76	0.00	0.00	0.00
5,700.00	20.17	300.27	5,390.60	938.74	-1,508.10	1,776.33	0.00	0.00	0.00
5,800.00	20.17	300.27	5,484.47	956.12	-1,537.88	1,810.80	0.00	0.00	0.00
5,900.00	20.17	300.27	5,578.34	973.49	-1,567.66	1,845.27	0.00	0.00	0.00
6,000.00	20.17	300.27	5,672.21	990.87	-1,597.44	1,879.74	0.00	0.00	0.00
6,100.00	20.17	300.27	5,766.08	1,008.25	-1,627.22	1,914.22	0.00	0.00	0.00
6,200.00	20.17	300.27	5,859.94	1,025.62	-1,656.99	1,948.69	0.00	0.00	0.00
6,300.00	20.17	300.27	5,953.81	1,043.00	-1,686.77	1,983.16	0.00	0.00	0.00
6,400.00	20.17	300.27	6,047.68	1,060.38	-1,716.55	2,017.63	0.00	0.00	0.00
6,500.00	20.17	300.27	6,141.55	1,077.76	-1,746.33	2,052.10	0.00	0.00	0.00
L_WSCH									
6,519.66	20.17	300.27	6,160.00	1,081.17	-1,752.18	2,058.88	0.00	0.00	0.00
6,600.00	20.17	300.27	6,235.42	1,095.13	-1,776.11	2,086.57	0.00	0.00	0.00
6,700.00	20.17	300.27	6,329.29	1,112.51	-1,805.89	2,121.04	0.00	0.00	0.00
6,800.00	20.17	300.27	6,423.16	1,129.89	-1,835.66	2,155.51	0.00	0.00	0.00
6,900.00	20.17	300.27	6,517.02	1,147.27	-1,865.44	2,189.98	0.00	0.00	0.00
7,000.00	20.17	300.27	6,610.89	1,164.64	-1,895.22	2,224.46	0.00	0.00	0.00
7,100.00	20.17	300.27	6,704.76	1,182.02	-1,925.00	2,258.93	0.00	0.00	0.00

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Planned 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)
OCRK									
7,165.24	20.17	300.27	6,766.00	1,193.36	-1,944.43	2,281.42	0.00	0.00	0.00
7,200.00	20.17	300.27	6,798.63	1,199.40	-1,954.78	2,293.40	0.00	0.00	0.00
7,300.00	20.17	300.27	6,892.50	1,216.77	-1,984.56	2,327.87	0.00	0.00	0.00
Start Drop -1.50									
7,381.55	20.17	300.27	6,969.05	1,230.95	-2,008.84	2,355.98	0.00	0.00	0.00
7,400.00	19.89	300.27	6,986.38	1,234.13	-2,014.30	2,362.30	1.50	-1.50	0.00
7,500.00	18.39	300.27	7,080.85	1,250.66	-2,042.62	2,395.08	1.50	-1.50	0.00
7,600.00	16.89	300.27	7,176.14	1,265.93	-2,068.79	2,425.38	1.50	-1.50	0.00
7,700.00	15.39	300.27	7,272.20	1,279.94	-2,092.80	2,453.18	1.50	-1.50	0.00
7,800.00	13.89	300.27	7,368.95	1,292.68	-2,114.63	2,478.45	1.50	-1.50	0.00
7,900.00	12.39	300.27	7,466.33	1,304.14	-2,134.27	2,501.18	1.50	-1.50	0.00
U_MVRD									
7,920.13	12.09	300.27	7,486.00	1,306.29	-2,137.96	2,505.44	1.50	-1.50	0.00
8,000.00	10.89	300.27	7,564.27	1,314.31	-2,151.70	2,521.35	1.50	-1.50	0.00
8,100.00	9.39	300.27	7,662.70	1,323.19	-2,166.90	2,538.96	1.50	-1.50	0.00
8,200.00	7.89	300.27	7,761.56	1,330.76	-2,179.88	2,553.98	1.50	-1.50	0.00
8,300.00	6.39	300.27	7,860.79	1,337.02	-2,190.62	2,566.41	1.50	-1.50	0.00
8,400.00	4.89	300.27	7,960.30	1,341.98	-2,199.11	2,576.24	1.50	-1.50	0.00
8,500.00	3.39	300.27	8,060.03	1,345.62	-2,205.35	2,583.46	1.50	-1.50	0.00
8,600.00	1.89	300.27	8,159.93	1,347.94	-2,209.33	2,588.06	1.50	-1.50	0.00
8,700.00	0.39	300.27	8,259.90	1,348.95	-2,211.05	2,590.05	1.50	-1.50	0.00
Start 3780.00 hold at 8726.10 MD - TOP GAS									
8,726.10	0.00	0.00	8,286.00	1,348.99	-2,211.12	2,590.14	1.50	-1.50	0.00
8,800.00	0.00	0.00	8,359.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
8,900.00	0.00	0.00	8,459.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,000.00	0.00	0.00	8,559.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,100.00	0.00	0.00	8,659.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,200.00	0.00	0.00	8,759.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,300.00	0.00	0.00	8,859.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,400.00	0.00	0.00	8,959.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,500.00	0.00	0.00	9,059.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,600.00	0.00	0.00	9,159.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,700.00	0.00	0.00	9,259.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,800.00	0.00	0.00	9,359.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
9,900.00	0.00	0.00	9,459.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,000.00	0.00	0.00	9,559.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,100.00	0.00	0.00	9,659.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,200.00	0.00	0.00	9,759.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
CME0									
10,296.10	0.00	0.00	9,856.00	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,300.00	0.00	0.00	9,859.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,400.00	0.00	0.00	9,959.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,500.00	0.00	0.00	10,059.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,600.00	0.00	0.00	10,159.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,700.00	0.00	0.00	10,259.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,800.00	0.00	0.00	10,359.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
10,900.00	0.00	0.00	10,459.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
11,000.00	0.00	0.00	10,559.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
RLNS									
11,026.10	0.00	0.00	10,586.00	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00
11,100.00	0.00	0.00	10,659.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FED RGU 23-1-298 - Slot FED RGU 23-1-298
Company:	Terra Energy Partners, LLP	TVD Reference:	KB=30' @ 6308.00usft (H&P #329)
Project:	Rio Blanco County, CO	MD Reference:	KB=30' @ 6308.00usft (H&P #329)
Site:	RGU 44-1-298	North Reference:	True
Well:	FED RGU 23-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Planned 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)	
CZZT										
11,176.10	0.00	0.00	10,736.00	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,200.00	0.00	0.00	10,759.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,300.00	0.00	0.00	10,859.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,400.00	0.00	0.00	10,959.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,500.00	0.00	0.00	11,059.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
CRCN										
11,501.10	0.00	0.00	11,061.00	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,600.00	0.00	0.00	11,159.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,700.00	0.00	0.00	11,259.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
SEGO										
11,761.10	0.00	0.00	11,321.00	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,800.00	0.00	0.00	11,359.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
11,900.00	0.00	0.00	11,459.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
12,000.00	0.00	0.00	11,559.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
SEGO_LOWER										
12,006.10	0.00	0.00	11,566.00	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
12,100.00	0.00	0.00	11,659.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
12,200.00	0.00	0.00	11,759.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
12,300.00	0.00	0.00	11,859.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
12,400.00	0.00	0.00	11,959.90	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	
TD at 12506.10 - TD										
12,506.10	0.00	0.00	12,066.00	1,348.99	-2,211.12	2,590.14	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
FED RGU 23-1-298 - VF - hit/miss target - Shape - plan hits target center - Circle (radius 100.00)	0.00	0.00	8,286.00	1,348.99	-2,211.12	1,766,921.70	2,202,223.66	39.904732	-108.343963	
FED RGU 23-1-298 - PE - plan hits target center - Point	0.00	0.00	12,066.00	1,348.99	-2,211.12	1,766,921.70	2,202,223.66	39.904732	-108.343963	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,267.62	1,230.00	13 3/8" Surface Casing	13-3/8	17-1/2	
3,153.24	3,000.00	9 5/8" Intermediate Casing	9-5/8	12-1/4	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well FED RGU 23-1-298 - Slot FED RGU 23-1-298
Company:	Terra Energy Partners, LLP	TVD Reference:	KB=30' @ 6308.00usft (H&P #329)
Project:	Rio Blanco County, CO	MD Reference:	KB=30' @ 6308.00usft (H&P #329)
Site:	RGU 44-1-298	North Reference:	True
Well:	FED RGU 23-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
30.00	30.00	UINTA				
707.18	700.00	GRRV				
863.35	850.00	GRRV_A_GROOVE				
1,075.87	1,050.00	GRRV_B_GROOVE				
1,395.46	1,350.00	GRRV DISSOLUTION_SURF				
2,354.25	2,250.00	GARDEN_GULCH				
2,535.36	2,420.00	GRRV_ORANGE				
2,620.58	2,500.00	U_WSCH				
5,401.07	5,110.00	G_SAND				
5,678.05	5,370.00	FRUN				
6,519.66	6,160.00	L_WSCH				
7,165.24	6,766.00	OCRK				
7,920.13	7,486.00	U_MVRD				
8,726.10	8,286.00	TOP GAS				
10,296.10	9,856.00	CMEO				
11,026.10	10,586.00	RLNS				
11,176.10	10,736.00	CZZT				
11,501.10	11,061.00	CRCN				
11,761.10	11,321.00	SEGO				
12,006.10	11,566.00	SEGO_LOWER				
12,506.10	12,066.00	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
120.00	120.00	0.00	0.00	Start Build 3.00	
453.33	451.64	28.03	-7.51	Start DLS 3.00 TFO -72.14	
945.69	927.80	112.57	-92.35	Start 6435.86 hold at 945.69 MD	
7,381.55	6,969.05	1,230.95	-2,008.84	Start Drop -1.50	
8,726.10	8,286.00	1,348.99	-2,211.12	Start 3780.00 hold at 8726.10 MD	
12,506.10	12,066.00	1,348.99	-2,211.12	TD at 12506.10	