

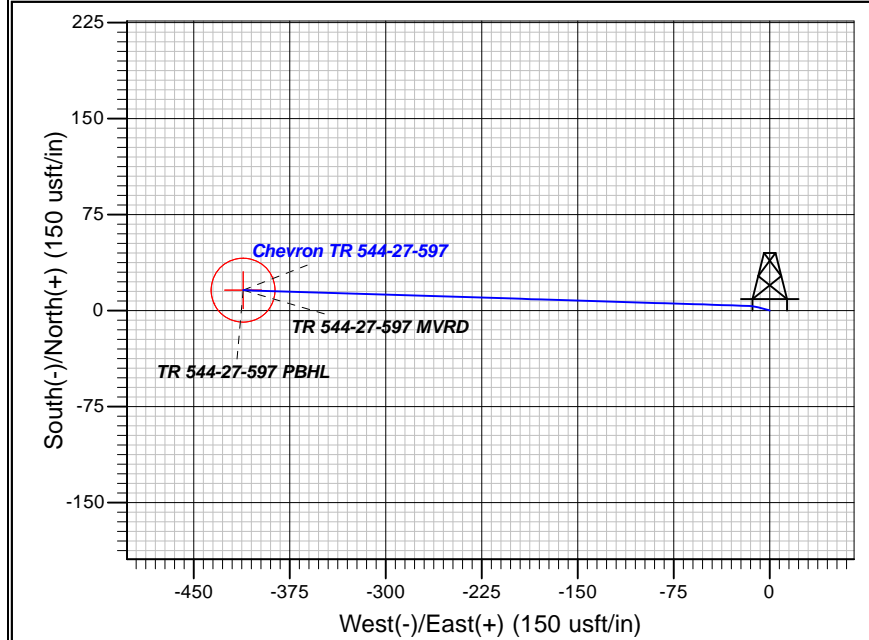
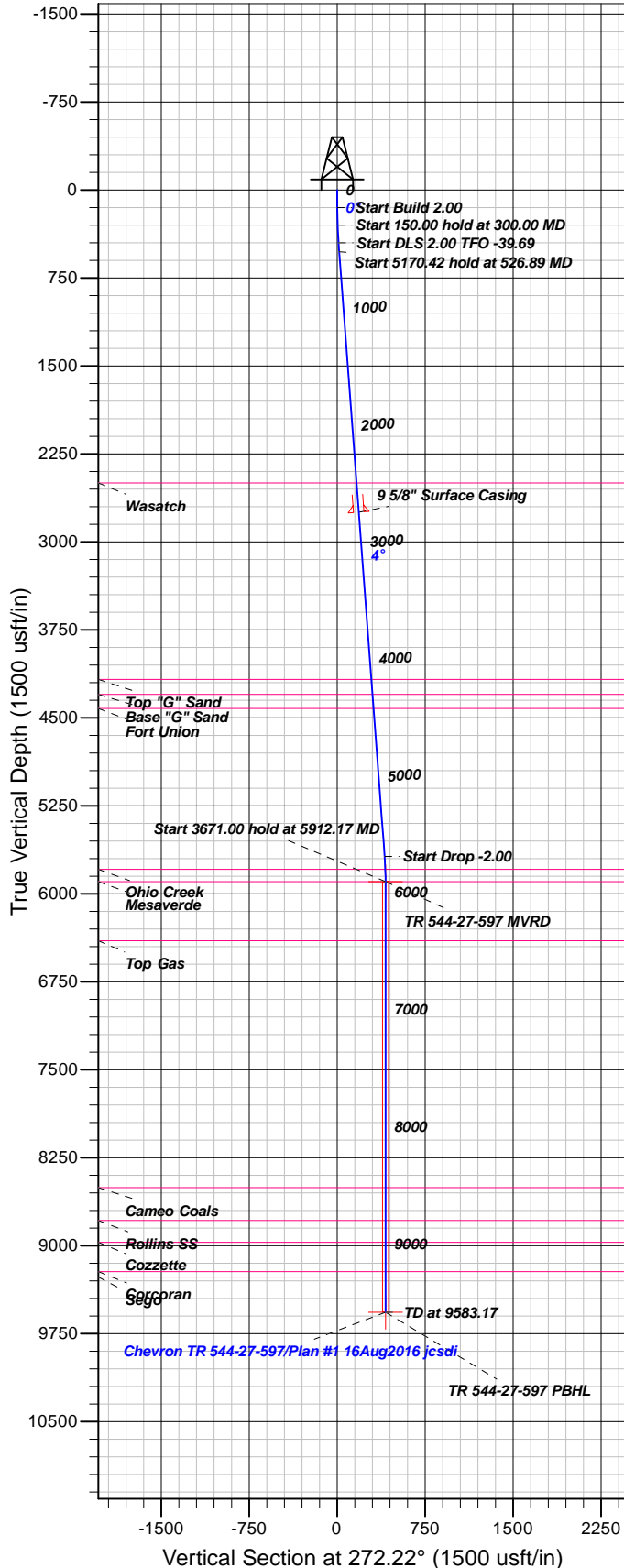
Well Details: Chevron TR 544-27-597

GL 8465' & RKB 24' @ 8489.00usft (H&P 318)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1647170.90	2223335.50	39.5779318	-108.2558030	A4

T M Azimuths to True North
 Magnetic North: 9.81°

Magnetic Field
 Strength: 51629.6snT
 Dip Angle: 65.66°
 Date: 8/16/2016
 Model: BGGM2016



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2498.00	2503.99	Wasatch
4173.00	4183.71	Top "G" Sand
4301.00	4312.07	Base "G" Sand
4420.00	4431.41	Fort Union
5791.00	5806.14	Ohio Creek
5897.00	5912.17	Mesaverde
6400.00	6415.17	Top Gas
8505.00	8520.17	Cameo Coals
8785.00	8800.17	Rollins SS
8971.00	8986.17	Cozzette
9222.00	9237.17	Corcoran
9268.00	9283.17	Sego

Plan: Plan #1 16Aug2016 jcsdi

12:46, August 25 2016
 Created By: Janie Collins

PROJECT DETAILS: Garfield County, CO NAD83

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

System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
2747.31	2754.09	5/8" Surface Casing	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	300.00	3.00	285.00	299.93	1.02	-3.79	2.00	285.00	3.83	
4	450.00	3.00	285.00	449.73	3.05	-11.38	0.00	0.00	11.48	
5	526.89	4.30	271.78	526.46	3.66	-16.20	2.00	-39.69	16.33	
6	5697.31	4.30	271.78	5682.35	15.68	-403.42	0.00	0.00	403.73	
7	5912.17	0.00	0.00	5897.00	15.93	-411.47	2.00	180.00	411.78	TR 544-27-597 MVRD
8	9583.17	0.00	0.00	9568.00	15.93	-411.47	0.00	0.00	411.78	TR 544-27-597 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TR 544-27-597 MVRD5897.00	15.93	-411.47	1647199.30	2222924.70	39.5779755	-108.2572628	Circle (Radius: 25.00)	
- plan hits target center								
TR 544-27-597 PBHL 9568.00	15.93	-411.47	1647199.30	2222924.70	39.5779755	-108.2572628	Point	
- plan hits target center								



Terra Energy Partners

Garfield County, CO NAD83

TR 44-24-597 Pad

Chevron TR 544-27-597 - Slot A4

OH

Plan: Plan #1 16Aug2016 jcsdi

Standard Planning Report

25 August, 2016



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Chevron TR 544-27-597 - Slot A4
Company:	Terra Energy Partners	TVD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Site:	TR 44-24-597 Pad	North Reference:	True
Well:	Chevron TR 544-27-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 16Aug2016 jcsdi		

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	TR 44-24-597 Pad			
Site Position:		Northing:	1,647,210.50 usft	Latitude: 39.5780433
From: Map		Easting:	2,223,369.90 usft	Longitude: -108.2556853
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.74 °

Well	Chevron TR 544-27-597 - Slot A4			
Well Position	+N/-S	-40.63 usft	Northing:	1,647,170.90 usft
	+E/-W	-33.18 usft	Easting:	2,223,335.50 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	8,465.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	8/16/2016	9.81	65.66	51,630

Design	Plan #1 16Aug2016 jcsdi			
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	272.22

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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	3.00	285.00	299.93	1.02	-3.79	2.00	2.00	0.00	285.00	
450.00	3.00	285.00	449.73	3.05	-11.38	0.00	0.00	0.00	0.00	
526.89	4.30	271.78	526.46	3.66	-16.20	2.00	1.69	-17.20	-39.69	
5,697.31	4.30	271.78	5,682.35	15.68	-403.42	0.00	0.00	0.00	0.00	
5,912.17	0.00	0.00	5,897.00	15.93	-411.47	2.00	-2.00	0.00	180.00	TR 544-27-597 MVR
9,583.17	0.00	0.00	9,568.00	15.93	-411.47	0.00	0.00	0.00	0.00	TR 544-27-597 PBHL

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Chevron TR 544-27-597 - Slot A4
Company:	Terra Energy Partners	TVD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Site:	TR 44-24-597 Pad	North Reference:	True
Well:	Chevron TR 544-27-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 16Aug2016 jcsdi		

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	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	1.00	285.00	200.00	0.11	-0.42	0.43	2.00	2.00	0.00	
300.00	3.00	285.00	299.93	1.02	-3.79	3.83	2.00	2.00	0.00	
400.00	3.00	285.00	399.79	2.37	-8.85	8.93	0.00	0.00	0.00	
450.00	3.00	285.00	449.73	3.05	-11.38	11.48	0.00	0.00	0.00	
500.00	3.82	275.38	499.64	3.54	-14.30	14.43	2.00	1.65	-19.24	
526.89	4.30	271.78	526.46	3.66	-16.20	16.33	2.00	1.76	-13.39	
600.00	4.30	271.78	599.36	3.83	-21.67	21.81	0.00	0.00	0.00	
700.00	4.30	271.78	699.08	4.06	-29.16	29.30	0.00	0.00	0.00	
800.00	4.30	271.78	798.80	4.29	-36.65	36.79	0.00	0.00	0.00	
900.00	4.30	271.78	898.52	4.53	-44.14	44.28	0.00	0.00	0.00	
1,000.00	4.30	271.78	998.24	4.76	-51.63	51.78	0.00	0.00	0.00	
1,100.00	4.30	271.78	1,097.96	4.99	-59.12	59.27	0.00	0.00	0.00	
1,200.00	4.30	271.78	1,197.68	5.22	-66.61	66.76	0.00	0.00	0.00	
1,300.00	4.30	271.78	1,297.40	5.46	-74.10	74.25	0.00	0.00	0.00	
1,400.00	4.30	271.78	1,397.12	5.69	-81.59	81.75	0.00	0.00	0.00	
1,500.00	4.30	271.78	1,496.83	5.92	-89.08	89.24	0.00	0.00	0.00	
1,600.00	4.30	271.78	1,596.55	6.15	-96.57	96.73	0.00	0.00	0.00	
1,700.00	4.30	271.78	1,696.27	6.39	-104.06	104.22	0.00	0.00	0.00	
1,800.00	4.30	271.78	1,795.99	6.62	-111.54	111.72	0.00	0.00	0.00	
1,900.00	4.30	271.78	1,895.71	6.85	-119.03	119.21	0.00	0.00	0.00	
2,000.00	4.30	271.78	1,995.43	7.08	-126.52	126.70	0.00	0.00	0.00	
2,100.00	4.30	271.78	2,095.15	7.32	-134.01	134.19	0.00	0.00	0.00	
2,200.00	4.30	271.78	2,194.87	7.55	-141.50	141.69	0.00	0.00	0.00	
2,300.00	4.30	271.78	2,294.59	7.78	-148.99	149.18	0.00	0.00	0.00	
2,400.00	4.30	271.78	2,394.30	8.01	-156.48	156.67	0.00	0.00	0.00	
2,500.00	4.30	271.78	2,494.02	8.24	-163.97	164.17	0.00	0.00	0.00	
2,503.99	4.30	271.78	2,498.00	8.25	-164.27	164.46	0.00	0.00	0.00	
Wasatch										
2,600.00	4.30	271.78	2,593.74	8.48	-171.46	171.66	0.00	0.00	0.00	
2,700.00	4.30	271.78	2,693.46	8.71	-178.95	179.15	0.00	0.00	0.00	
2,754.00	4.30	271.78	2,747.31	8.84	-182.99	183.20	0.00	0.00	0.00	
9 5/8" Surface Casing										
2,800.00	4.30	271.78	2,793.18	8.94	-186.44	186.64	0.00	0.00	0.00	
2,900.00	4.30	271.78	2,892.90	9.17	-193.93	194.14	0.00	0.00	0.00	
3,000.00	4.30	271.78	2,992.62	9.41	-201.42	201.63	0.00	0.00	0.00	
3,100.00	4.30	271.78	3,092.34	9.64	-208.90	209.12	0.00	0.00	0.00	
3,200.00	4.30	271.78	3,192.06	9.87	-216.39	216.61	0.00	0.00	0.00	
3,300.00	4.30	271.78	3,291.77	10.10	-223.88	224.11	0.00	0.00	0.00	
3,400.00	4.30	271.78	3,391.49	10.34	-231.37	231.60	0.00	0.00	0.00	
3,500.00	4.30	271.78	3,491.21	10.57	-238.86	239.09	0.00	0.00	0.00	
3,600.00	4.30	271.78	3,590.93	10.80	-246.35	246.58	0.00	0.00	0.00	
3,700.00	4.30	271.78	3,690.65	11.03	-253.84	254.08	0.00	0.00	0.00	
3,800.00	4.30	271.78	3,790.37	11.27	-261.33	261.57	0.00	0.00	0.00	
3,900.00	4.30	271.78	3,890.09	11.50	-268.82	269.06	0.00	0.00	0.00	
4,000.00	4.30	271.78	3,989.81	11.73	-276.31	276.55	0.00	0.00	0.00	
4,100.00	4.30	271.78	4,089.53	11.96	-283.80	284.05	0.00	0.00	0.00	
4,183.71	4.30	271.78	4,173.00	12.16	-290.07	290.32	0.00	0.00	0.00	
Top "G" Sand										
4,200.00	4.30	271.78	4,189.24	12.20	-291.29	291.54	0.00	0.00	0.00	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Chevron TR 544-27-597 - Slot A4
Company:	Terra Energy Partners	TVD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Site:	TR 44-24-597 Pad	North Reference:	True
Well:	Chevron TR 544-27-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 16Aug2016 jcsdi		

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)	
4,300.00	4.30	271.78	4,288.96	12.43	-298.78	299.03	0.00	0.00	0.00	
4,312.07	4.30	271.78	4,301.00	12.46	-299.68	299.94	0.00	0.00	0.00	
Base "G" Sand										
4,400.00	4.30	271.78	4,388.68	12.66	-306.26	306.53	0.00	0.00	0.00	
4,431.41	4.30	271.78	4,420.00	12.73	-308.62	308.88	0.00	0.00	0.00	
Fort Union										
4,500.00	4.30	271.78	4,488.40	12.89	-313.75	314.02	0.00	0.00	0.00	
4,600.00	4.30	271.78	4,588.12	13.13	-321.24	321.51	0.00	0.00	0.00	
4,700.00	4.30	271.78	4,687.84	13.36	-328.73	329.00	0.00	0.00	0.00	
4,800.00	4.30	271.78	4,787.56	13.59	-336.22	336.50	0.00	0.00	0.00	
4,900.00	4.30	271.78	4,887.28	13.82	-343.71	343.99	0.00	0.00	0.00	
5,000.00	4.30	271.78	4,987.00	14.06	-351.20	351.48	0.00	0.00	0.00	
5,100.00	4.30	271.78	5,086.71	14.29	-358.69	358.97	0.00	0.00	0.00	
5,200.00	4.30	271.78	5,186.43	14.52	-366.18	366.47	0.00	0.00	0.00	
5,300.00	4.30	271.78	5,286.15	14.75	-373.67	373.96	0.00	0.00	0.00	
5,400.00	4.30	271.78	5,385.87	14.99	-381.16	381.45	0.00	0.00	0.00	
5,500.00	4.30	271.78	5,485.59	15.22	-388.65	388.94	0.00	0.00	0.00	
5,600.00	4.30	271.78	5,585.31	15.45	-396.14	396.44	0.00	0.00	0.00	
5,697.31	4.30	271.78	5,682.35	15.68	-403.42	403.73	0.00	0.00	0.00	
5,700.00	4.24	271.78	5,685.03	15.68	-403.62	403.93	2.00	-2.00	0.00	
5,800.00	2.24	271.78	5,784.86	15.86	-409.28	409.59	2.00	-2.00	0.00	
5,806.14	2.12	271.78	5,791.00	15.87	-409.51	409.82	2.00	-2.00	0.00	
Ohio Creek										
5,900.00	0.24	271.78	5,884.83	15.93	-411.45	411.75	2.00	-2.00	0.00	
5,912.17	0.00	0.00	5,897.00	15.93	-411.47	411.78	2.00	-2.00	0.00	
Mesaverde - TR 544-27-597 MVRD										
6,000.00	0.00	0.00	5,984.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,084.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,184.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,284.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,384.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,415.17	0.00	0.00	6,400.00	15.93	-411.47	411.78	0.00	0.00	0.00	
Top Gas										
6,500.00	0.00	0.00	6,484.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,584.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,684.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,784.83	15.93	-411.47	411.78	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,884.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,984.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,084.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,184.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,284.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,384.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,484.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,584.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,684.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,784.83	15.93	-411.47	411.78	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,884.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,984.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,084.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,184.83	15.93	-411.47	411.78	0.00	0.00	0.00	

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Project:	Garfield County, CO NAD83	MD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Site:	TR 44-24-597 Pad	North Reference:	True
Well:	Chevron TR 544-27-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 16Aug2016 jcsdi		

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)	
8,300.00	0.00	0.00	8,284.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,384.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,484.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,520.17	0.00	0.00	8,505.00	15.93	-411.47	411.78	0.00	0.00	0.00	
Cameo Coals										
8,600.00	0.00	0.00	8,584.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,684.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,784.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,800.17	0.00	0.00	8,785.00	15.93	-411.47	411.78	0.00	0.00	0.00	
Rollins SS										
8,900.00	0.00	0.00	8,884.83	15.93	-411.47	411.78	0.00	0.00	0.00	
8,986.17	0.00	0.00	8,971.00	15.93	-411.47	411.78	0.00	0.00	0.00	
Cozzette										
9,000.00	0.00	0.00	8,984.83	15.93	-411.47	411.78	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,084.83	15.93	-411.47	411.78	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,184.83	15.93	-411.47	411.78	0.00	0.00	0.00	
9,237.17	0.00	0.00	9,222.00	15.93	-411.47	411.78	0.00	0.00	0.00	
Corcoran										
9,283.17	0.00	0.00	9,268.00	15.93	-411.47	411.78	0.00	0.00	0.00	
Sego										
9,300.00	0.00	0.00	9,284.83	15.93	-411.47	411.78	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,384.83	15.93	-411.47	411.78	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,484.83	15.93	-411.47	411.78	0.00	0.00	0.00	
9,583.17	0.00	0.00	9,568.00	15.93	-411.47	411.78	0.00	0.00	0.00	
TR 544-27-597 PBHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
TR 544-27-597 MVRD	0.00	0.00	5,897.00	15.93	-411.47	1,647,199.30	2,222,924.70	39.5779755	-108.2572629
- plan hits target center									
- Circle (radius 25.00)									
TR 544-27-597 PBHL	0.00	0.00	9,568.00	15.93	-411.47	1,647,199.30	2,222,924.70	39.5779755	-108.2572629
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,754.00	2,747.31	9 5/8" Surface Casing	9.62	13.50	

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Chevron TR 544-27-597 - Slot A4
Company:	Terra Energy Partners	TVD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Project:	Garfield County, CO NAD83	MD Reference:	GL 8465' & RKB 24' @ 8489.00usft (H&P 318)
Site:	TR 44-24-597 Pad	North Reference:	True
Well:	Chevron TR 544-27-597	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 16Aug2016 jcsdi		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,503.99	2,498.00	Wasatch		0.00	0.00	
4,183.71	4,173.00	Top "G" Sand		0.00	0.00	
4,312.07	4,301.00	Base "G" Sand		0.00	0.00	
4,431.41	4,420.00	Fort Union		0.00	0.00	
5,806.14	5,791.00	Ohio Creek		0.00	0.00	
5,912.17	5,897.00	Mesaverde		0.00	0.00	
6,415.17	6,400.00	Top Gas		0.00	0.00	
8,520.17	8,505.00	Cameo Coals		0.00	0.00	
8,800.17	8,785.00	Rollins SS		0.00	0.00	
8,986.17	8,971.00	Cozzette		0.00	0.00	
9,237.17	9,222.00	Corcoran		0.00	0.00	
9,283.17	9,268.00	Sego		0.00	0.00	