



Site: Sec 4-T1N-R100W
Well: Fletcher Gulch Federal 4-44-2
Wellbore: Wellbore #1
Design: Plan #1

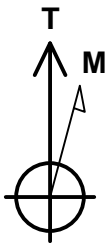
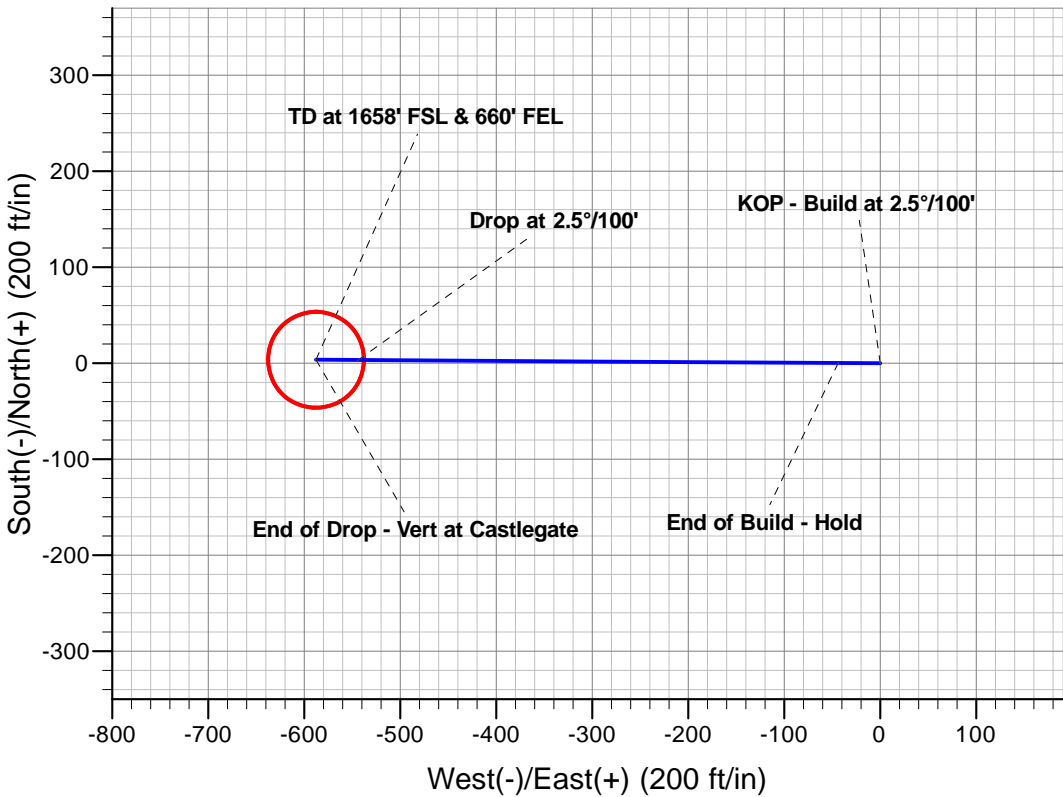
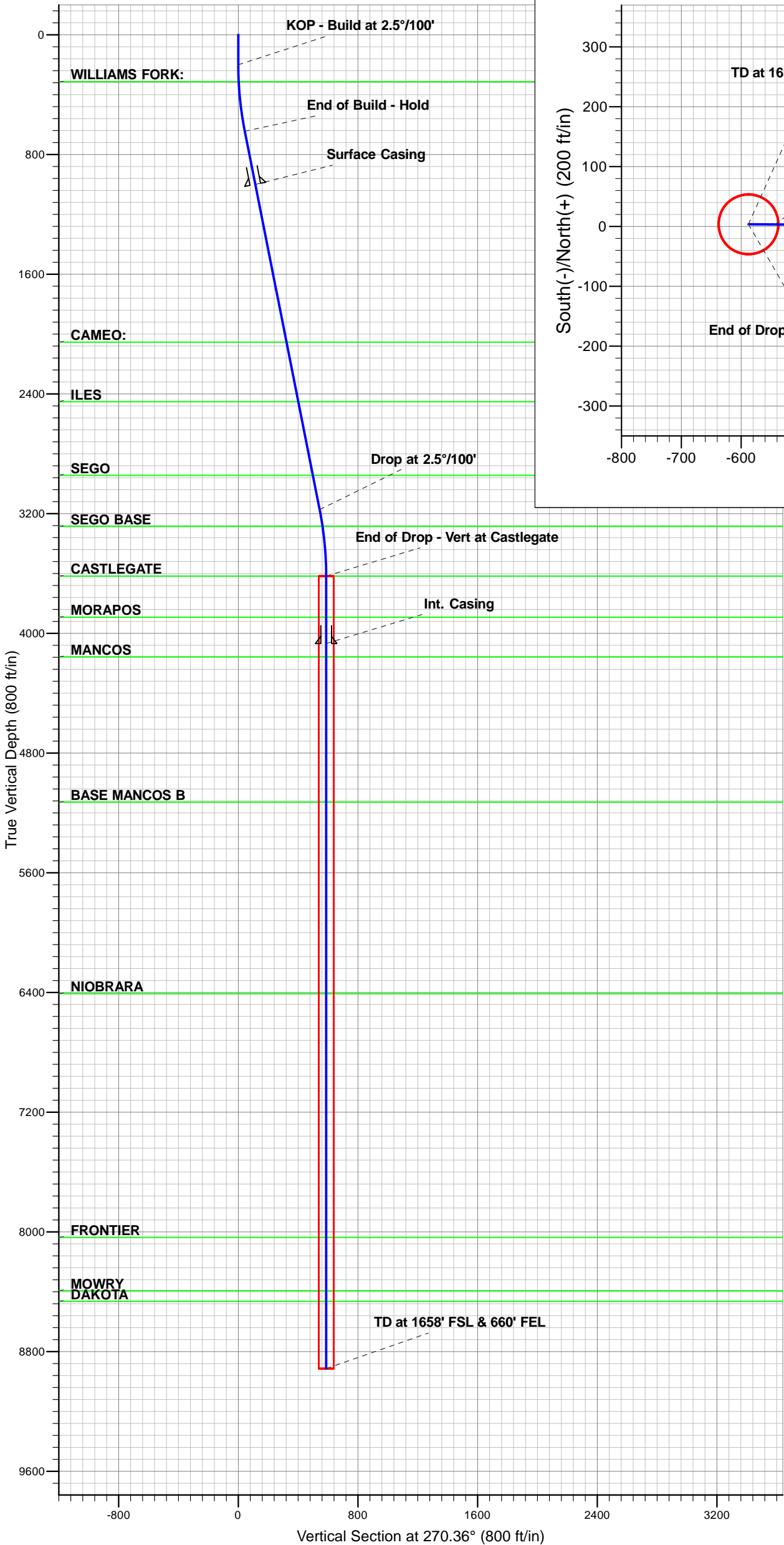
Reference Details - WELL CENTRE
Geodetic System: US State Plane 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
Northing: 1288048.65
Easting: 2129103.89
Latitude: 40.08211
Longitude: -108.61304
Grid Convergence: 2.01° East
Ground Elevation: 6492.00
KB Elevation: WELL @ 6513.00ft (Original Well Elev)



Departure
Energy Services (US) LP

Denver, Colorado
Phone: 303.542.2000

Casper, Wyoming
Phone: 307.265.2231
Fax: 307.472.5064
www.departureus.com



Azimuths to True North
Magnetic North: 10.69°

Magnetic Field
Strength: 52468.6snT
Dip Angle: 66.10°
Date: 08/03/2011
Model: IGRF2010

FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
314.00	314.05	WILLIAMS FORK:
2055.00	2085.20	CAMEO:
2452.00	2489.90	ILES
2944.00	2991.45	SEGO
3286.00	3339.57	SEGO BASE
3618.00	3672.74	CASTLEGATE
3892.00	3946.74	MORAPOS
4157.00	4211.74	MANCOS
5128.00	5182.74	BASE MANCOS B
6408.00	6462.74	NIOBRARA
8037.00	8091.74	FRONTIER
8394.00	8448.74	MOWRY
8464.00	8518.74	DAKOTA

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
200.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP - Build at 2.5°/100'
645.01	647.86	11.20	270.36	0.27	-43.62	43.62	43.62	End of Build - Hold
3172.99	3224.88	11.20	270.36	3.38	-544.00	544.01	544.01	Drop at 2.5°/100'
3618.00	3672.74	0.00	0.00	3.65	-587.62	587.63	587.63	End of Drop - Vert at Castlegate
8914.00	8968.74	0.00	0.00	3.65	-587.62	587.63	587.63	TD at 1658' FSL & 660' FEL



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Laramie Energy II, LLC

Rio Blanco County, Colorado

Sec 4 – T1N – R100W

Fletcher Gulch Federal 4-44-2

S- Well

Well Plan #1

Job Number: TBD

Well Plan Report

August 3, 2011

Database:	EDM Depart	Local Co-ordinate Reference:	Well Fletcher Gulch Federal 4-44-2
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6513.00ft (Original Well Elev)
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6513.00ft (Original Well Elev)
Site:	Sec 4-T1N-R100W	North Reference:	True
Well:	Fletcher Gulch Federal 4-44-2	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 Northern Zone		

Site	Sec 4-T1N-R100W			
Site Position:		Northing:	1,288,048.65 ft	Latitude: 40.08211
From:	Lat/Long	Easting:	2,129,103.89 ft	Longitude: -108.61304
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -2.01 °

Well	Fletcher Gulch Federal 4-44-2			
Well Position	+N/-S	0.00 ft	Northing:	1,288,048.65 ft
	+E/-W	0.00 ft	Easting:	2,129,103.89 ft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 6,492.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/03/11	10.69	66.10	52,469

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	270.36

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
647.86	11.20	270.36	645.01	0.27	-43.62	2.50	2.50	0.00	270.36	
3,224.88	11.20	270.36	3,172.99	3.38	-544.00	0.00	0.00	0.00	0.00	
3,672.74	0.00	0.00	3,618.00	3.65	-587.62	2.50	-2.50	0.00	180.00	FGF 4-44-2 Castlegat
8,968.74	0.00	0.00	8,914.00	3.65	-587.62	0.00	0.00	0.00	0.00	FGF 4-44-2 BHL

Database:	EDM Depart	Local Co-ordinate Reference:	Well Fletcher Gulch Federal 4-44-2
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6513.00ft (Original Well Elev)
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6513.00ft (Original Well Elev)
Site:	Sec 4-T1N-R100W	North Reference:	True
Well:	Fletcher Gulch Federal 4-44-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build at 2.5°/100'									
300.00	2.50	270.36	299.97	0.01	-2.18	2.18	2.50	2.50	0.00
314.05	2.85	270.36	314.00	0.02	-2.84	2.84	2.50	2.50	0.00
WILLIAMS FORK:									
400.00	5.00	270.36	399.75	0.05	-8.72	8.72	2.50	2.50	0.00
500.00	7.50	270.36	499.14	0.12	-19.61	19.61	2.50	2.50	0.00
600.00	10.00	270.36	597.97	0.22	-34.82	34.82	2.50	2.50	0.00
647.86	11.20	270.36	645.01	0.27	-43.62	43.62	2.50	2.50	0.00
End of Build - Hold									
700.00	11.20	270.36	696.16	0.33	-53.74	53.74	0.00	0.00	0.00
800.00	11.20	270.36	794.26	0.45	-73.16	73.16	0.00	0.00	0.00
900.00	11.20	270.36	892.36	0.58	-92.58	92.58	0.00	0.00	0.00
1,000.00	11.20	270.36	990.45	0.70	-111.99	112.00	0.00	0.00	0.00
1,009.73	11.20	270.36	1,000.00	0.71	-113.88	113.89	0.00	0.00	0.00
Surface Casing									
1,100.00	11.20	270.36	1,088.55	0.82	-131.41	131.41	0.00	0.00	0.00
1,200.00	11.20	270.36	1,186.65	0.94	-150.83	150.83	0.00	0.00	0.00
1,300.00	11.20	270.36	1,284.74	1.06	-170.24	170.25	0.00	0.00	0.00
1,400.00	11.20	270.36	1,382.84	1.18	-189.66	189.67	0.00	0.00	0.00
1,500.00	11.20	270.36	1,480.94	1.30	-209.08	209.08	0.00	0.00	0.00
1,600.00	11.20	270.36	1,579.03	1.42	-228.50	228.50	0.00	0.00	0.00
1,700.00	11.20	270.36	1,677.13	1.54	-247.91	247.92	0.00	0.00	0.00
1,800.00	11.20	270.36	1,775.23	1.66	-267.33	267.33	0.00	0.00	0.00
1,900.00	11.20	270.36	1,873.32	1.78	-286.75	286.75	0.00	0.00	0.00
2,000.00	11.20	270.36	1,971.42	1.90	-306.16	306.17	0.00	0.00	0.00
2,085.20	11.20	270.36	2,055.00	2.00	-322.71	322.71	0.00	0.00	0.00
CAMEO:									
2,100.00	11.20	270.36	2,069.52	2.02	-325.58	325.59	0.00	0.00	0.00
2,200.00	11.20	270.36	2,167.61	2.14	-345.00	345.00	0.00	0.00	0.00
2,300.00	11.20	270.36	2,265.71	2.26	-364.41	364.42	0.00	0.00	0.00
2,400.00	11.20	270.36	2,363.81	2.38	-383.83	383.84	0.00	0.00	0.00
2,489.90	11.20	270.36	2,452.00	2.49	-401.29	401.29	0.00	0.00	0.00
ILES									
2,500.00	11.20	270.36	2,461.90	2.50	-403.25	403.26	0.00	0.00	0.00
2,600.00	11.20	270.36	2,560.00	2.63	-422.66	422.67	0.00	0.00	0.00
2,700.00	11.20	270.36	2,658.10	2.75	-442.08	442.09	0.00	0.00	0.00
2,800.00	11.20	270.36	2,756.19	2.87	-461.50	461.51	0.00	0.00	0.00
2,900.00	11.20	270.36	2,854.29	2.99	-480.91	480.92	0.00	0.00	0.00
2,991.45	11.20	270.36	2,944.00	3.10	-498.67	498.68	0.00	0.00	0.00
SEGO									
3,000.00	11.20	270.36	2,952.39	3.11	-500.33	500.34	0.00	0.00	0.00
3,100.00	11.20	270.36	3,050.48	3.23	-519.75	519.76	0.00	0.00	0.00
3,200.00	11.20	270.36	3,148.58	3.35	-539.17	539.18	0.00	0.00	0.00
3,224.88	11.20	270.36	3,172.99	3.38	-544.00	544.01	0.00	0.00	0.00
Drop at 2.5°/100'									
3,300.00	9.32	270.36	3,246.90	3.46	-557.37	557.38	2.50	-2.50	0.00
3,339.57	8.33	270.36	3,286.00	3.50	-563.44	563.45	2.50	-2.50	0.00
SEGO BASE									
3,400.00	6.82	270.36	3,345.91	3.55	-571.41	571.42	2.50	-2.50	0.00
3,500.00	4.32	270.36	3,445.43	3.61	-581.11	581.12	2.50	-2.50	0.00
3,600.00	1.82	270.36	3,545.27	3.64	-586.46	586.47	2.50	-2.50	0.00
3,672.74	0.00	0.00	3,618.00	3.65	-587.62	587.63	2.50	-2.50	0.00

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Site:	Sec 4-T1N-R100W	North Reference:	True
Well:	Fletcher Gulch Federal 4-44-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
End of Drop - Vert at Castlegate - CASTLEGATE									
3,700.00	0.00	0.00	3,645.26	3.65	-587.62	587.63	0.00	0.00	0.00
3,800.00	0.00	0.00	3,745.26	3.65	-587.62	587.63	0.00	0.00	0.00
3,900.00	0.00	0.00	3,845.26	3.65	-587.62	587.63	0.00	0.00	0.00
3,946.74	0.00	0.00	3,892.00	3.65	-587.62	587.63	0.00	0.00	0.00
MORAPOS									
4,000.00	0.00	0.00	3,945.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,100.00	0.00	0.00	4,045.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,122.74	0.00	0.00	4,068.00	3.65	-587.62	587.63	0.00	0.00	0.00
Int. Casing									
4,200.00	0.00	0.00	4,145.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,211.74	0.00	0.00	4,157.00	3.65	-587.62	587.63	0.00	0.00	0.00
MANCOS									
4,300.00	0.00	0.00	4,245.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,400.00	0.00	0.00	4,345.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,500.00	0.00	0.00	4,445.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,600.00	0.00	0.00	4,545.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,700.00	0.00	0.00	4,645.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,800.00	0.00	0.00	4,745.26	3.65	-587.62	587.63	0.00	0.00	0.00
4,900.00	0.00	0.00	4,845.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,000.00	0.00	0.00	4,945.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,100.00	0.00	0.00	5,045.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,182.74	0.00	0.00	5,128.00	3.65	-587.62	587.63	0.00	0.00	0.00
BASE MANCOS B									
5,200.00	0.00	0.00	5,145.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,300.00	0.00	0.00	5,245.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,400.00	0.00	0.00	5,345.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,500.00	0.00	0.00	5,445.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,600.00	0.00	0.00	5,545.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,700.00	0.00	0.00	5,645.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,800.00	0.00	0.00	5,745.26	3.65	-587.62	587.63	0.00	0.00	0.00
5,900.00	0.00	0.00	5,845.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,000.00	0.00	0.00	5,945.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,100.00	0.00	0.00	6,045.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,200.00	0.00	0.00	6,145.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,300.00	0.00	0.00	6,245.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,400.00	0.00	0.00	6,345.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,462.74	0.00	0.00	6,408.00	3.65	-587.62	587.63	0.00	0.00	0.00
NIOBRARA									
6,500.00	0.00	0.00	6,445.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,600.00	0.00	0.00	6,545.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,700.00	0.00	0.00	6,645.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,800.00	0.00	0.00	6,745.26	3.65	-587.62	587.63	0.00	0.00	0.00
6,900.00	0.00	0.00	6,845.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,000.00	0.00	0.00	6,945.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,100.00	0.00	0.00	7,045.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,200.00	0.00	0.00	7,145.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,300.00	0.00	0.00	7,245.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,400.00	0.00	0.00	7,345.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,500.00	0.00	0.00	7,445.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,600.00	0.00	0.00	7,545.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,700.00	0.00	0.00	7,645.26	3.65	-587.62	587.63	0.00	0.00	0.00
7,800.00	0.00	0.00	7,745.26	3.65	-587.62	587.63	0.00	0.00	0.00

Database:	EDM Depart	Local Co-ordinate Reference:	Well Fletcher Gulch Federal 4-44-2
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6513.00ft (Original Well Elev)
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6513.00ft (Original Well Elev)
Site:	Sec 4-T1N-R100W	North Reference:	True
Well:	Fletcher Gulch Federal 4-44-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,900.00	0.00	0.00	7,845.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,000.00	0.00	0.00	7,945.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,091.74	0.00	0.00	8,037.00	3.65	-587.62	587.63	0.00	0.00	0.00
FRONTIER									
8,100.00	0.00	0.00	8,045.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,200.00	0.00	0.00	8,145.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,300.00	0.00	0.00	8,245.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,400.00	0.00	0.00	8,345.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,448.74	0.00	0.00	8,394.00	3.65	-587.62	587.63	0.00	0.00	0.00
MOWRY									
8,500.00	0.00	0.00	8,445.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,518.74	0.00	0.00	8,464.00	3.65	-587.62	587.63	0.00	0.00	0.00
DAKOTA									
8,600.00	0.00	0.00	8,545.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,700.00	0.00	0.00	8,645.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,800.00	0.00	0.00	8,745.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,900.00	0.00	0.00	8,845.26	3.65	-587.62	587.63	0.00	0.00	0.00
8,968.74	0.00	0.00	8,914.00	3.65	-587.62	587.63	0.00	0.00	0.00
TD at 1658' FSL & 660' FEL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
FGF 4-44-2 Castlegate	0.00	0.00	3,618.00	3.65	-587.62	1,288,072.92	2,128,516.76	40.08212	-108.61514
- plan hits target center									
- Point									
FGF 4-44-2 BHL	0.00	0.00	8,914.00	3.65	-587.62	1,288,072.92	2,128,516.76	40.08212	-108.61514
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,009.73	1,000.00	Surface Casing	0.000	0.000	
4,122.74	4,068.00	Int. Casing	0.000	0.000	

Database:	EDM Depart	Local Co-ordinate Reference:	Well Fletcher Gulch Federal 4-44-2
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6513.00ft (Original Well Elev)
Project:	Rio Blanco County, CO	MD Reference:	WELL @ 6513.00ft (Original Well Elev)
Site:	Sec 4-T1N-R100W	North Reference:	True
Well:	Fletcher Gulch Federal 4-44-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
314.05	314.00	WILLIAMS FORK:				
2,085.20	2,055.00	CAMEO:				
2,489.90	2,452.00	ILES				
2,991.45	2,944.00	SEGO				
3,339.57	3,286.00	SEGO BASE				
3,672.74	3,618.00	CASTLEGATE				
3,946.74	3,892.00	MORAPOS				
4,211.74	4,157.00	MANCOS				
5,182.74	5,128.00	BASE MANCOS B				
6,462.74	6,408.00	NIOBRARA				
8,091.74	8,037.00	FRONTIER				
8,448.74	8,394.00	MOWRY				
8,518.74	8,464.00	DAKOTA				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.00	200.00	0.00	0.00	KOP - Build at 2.5°/100'	
647.86	645.01	0.27	-43.62	End of Build - Hold	
3,224.88	3,172.99	3.38	-544.00	Drop at 2.5°/100'	
3,672.74	3,618.00	3.65	-587.62	End of Drop - Vert at Castlegate	
8,968.74	8,914.00	3.65	-587.62	TD at 1658' FSL & 660' FEL	