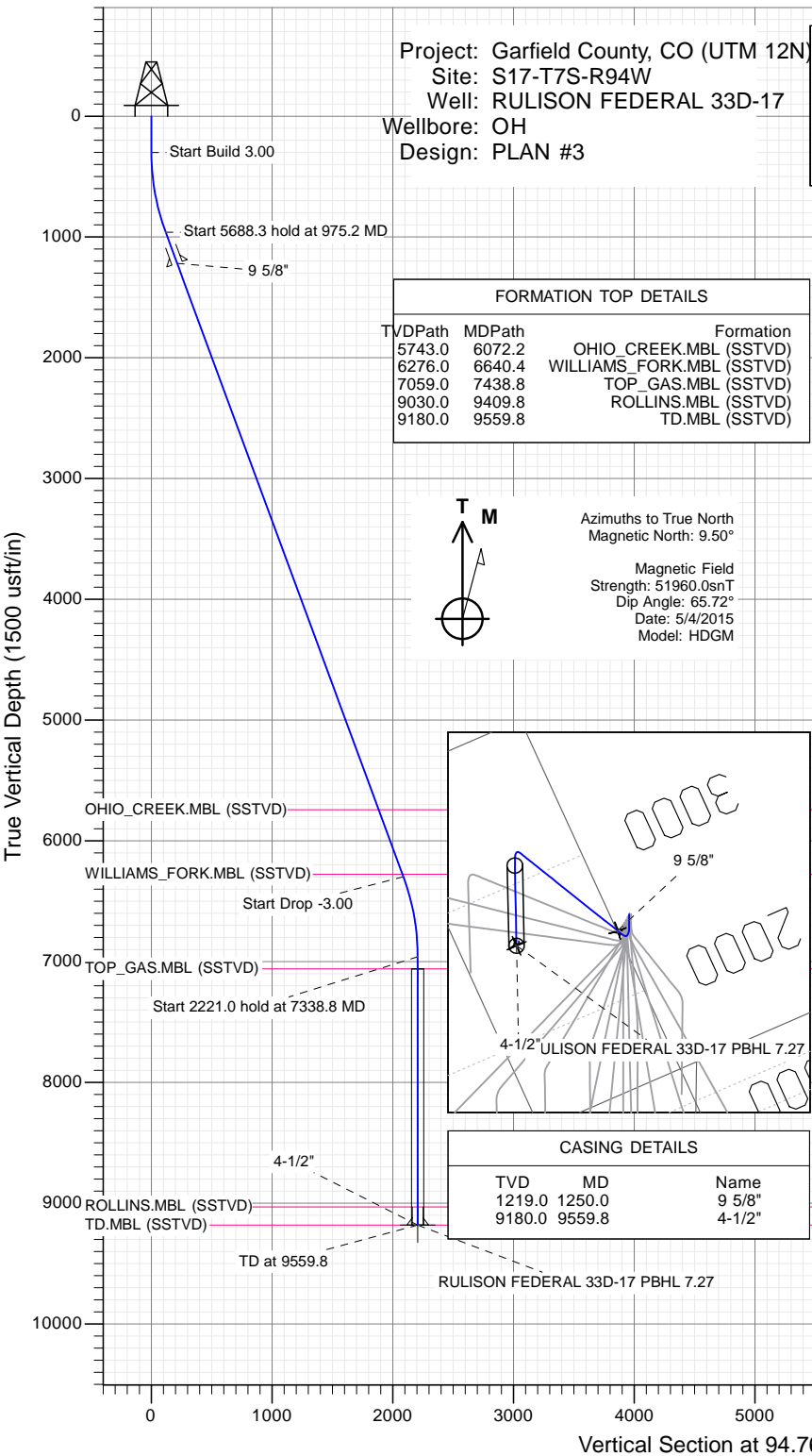




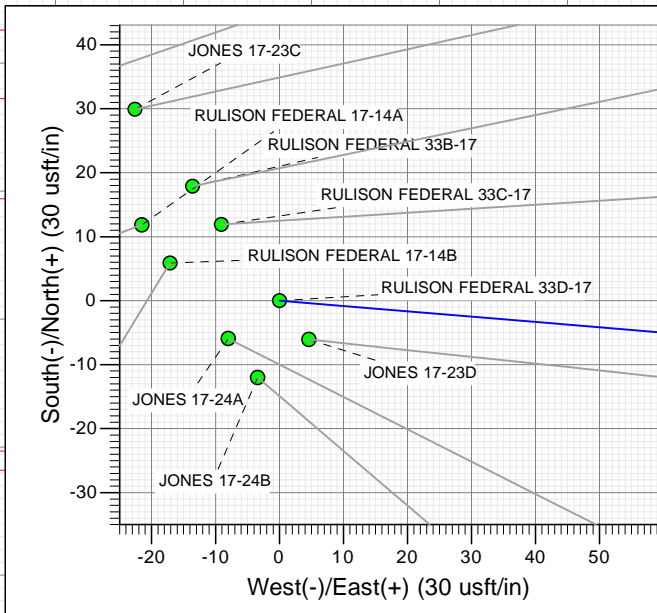
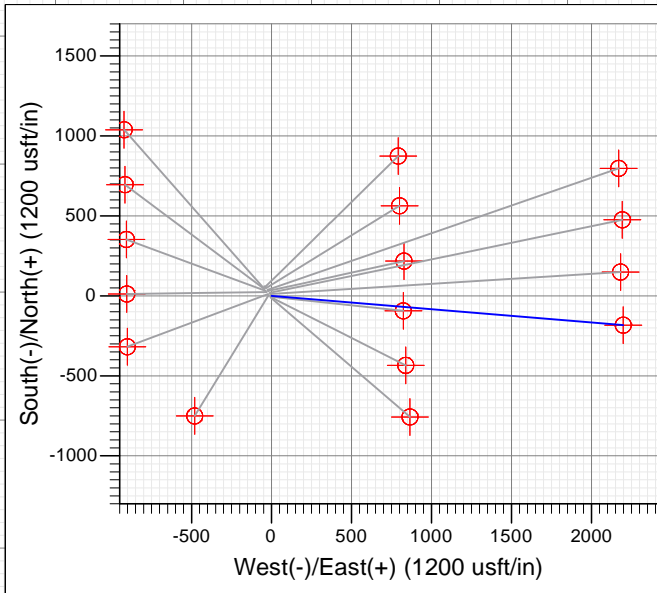
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	975.2	20.26	94.76	961.3	-9.8	117.7	3.00	94.76	118.1	
4	6663.6	20.26	94.76	6297.7	-173.2	2080.4	0.00	0.00	2087.6	
5	7338.8	0.00	0.00	6959.0	-183.0	2198.1	3.00	180.00	2205.7	
6	9559.8	0.00	0.00	9180.0	-183.0	2198.1	0.00	0.00	2205.7	RULISON FEDERAL 33D-17 PBHL 7.27



PLAN #3
 RULISON FEDERAL 33D-17
 15XXX LR
 30' KB @ 7442.0usft (H&P 330)
 Ground Level @ 7412.0
 NAD 1927 - Western US
 Well RULISON FEDERAL 33D-17, True North

Name	Type	Target	No Target (Freehand)	Azimuth	Origin	Type	N/S	E/W	From	TVD	+N/-S	+E/-W	Latitude	Longitude
RULISON FEDERAL 33D-17 PBHL				94.76		Slot	0.0	0.0	0.0	9151.0	-183.0	2198.1	39.435640	-107.906986
RULISON FEDERAL 33D-17 PBHL 7.27				94.76		Slot	0.0	0.0	0.0	9180.0	-183.0	2198.1	39.435640	-107.906986



WELL DETAILS: RULISON FEDERAL 33D-17

Ground Level: 7412.0		Northing: 14335642.30		Easting: 2511609.20		Latitude: 39.436142		Longitude: -107.914764	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude				
0.0	0.0	14335642.30	2511609.20	39.436142	-107.914764				



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well RULISON FEDERAL 33D-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.0usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.0usft (H&P 330)
Site:	S17-T7S-R94W	North Reference:	True
Well:	RULISON FEDERAL 33D-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

Project	Garfield County, CO (UTM 12N)		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	S17-T7S-R94W				
Site Position:		Northing:	14,335,694.75 usft	Latitude:	39.436290
From:	Map	Easting:	2,511,566.57 usft	Longitude:	-107.914909
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	1.96 °

Well	RULISON FEDERAL 33D-17					
Well Position	+N/-S	0.0 usft	Northing:	14,335,642.30 usft	Latitude:	39.436142
	+E/-W	0.0 usft	Easting:	2,511,609.20 usft	Longitude:	-107.914764
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	7,412.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	HDGM	5/4/2015	(°) 9.50	(°) 65.72	(nT) 51,960

Design	PLAN #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	94.76

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
975.2	20.26	94.76	961.3	-9.8	117.7	3.00	3.00	0.00	94.76	
6,663.6	20.26	94.76	6,297.7	-173.2	2,080.4	0.00	0.00	0.00	0.00	
7,338.8	0.00	0.00	6,959.0	-183.0	2,198.1	3.00	-3.00	0.00	180.00	
9,559.8	0.00	0.00	9,180.0	-183.0	2,198.1	0.00	0.00	0.00	0.00	RULISON FEDERAL

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well RULISON FEDERAL 33D-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.0usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.0usft (H&P 330)
Site:	S17-T7S-R94W	North Reference:	True
Well:	RULISON FEDERAL 33D-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	Start Build 3.00
400.0	3.00	94.76	400.0	-0.2	2.6	2.6	3.00	3.00	
500.0	6.00	94.76	499.6	-0.9	10.4	10.5	3.00	3.00	
600.0	9.00	94.76	598.8	-2.0	23.4	23.5	3.00	3.00	
700.0	12.00	94.76	697.1	-3.5	41.6	41.7	3.00	3.00	
800.0	15.00	94.76	794.3	-5.4	64.9	65.1	3.00	3.00	
900.0	18.00	94.76	890.2	-7.8	93.2	93.5	3.00	3.00	
975.2	20.26	94.76	961.3	-9.8	117.7	118.1	3.00	3.00	Start 5688.3 hold at 975.2 MD
1,000.0	20.26	94.76	984.5	-10.5	126.3	126.7	0.00	0.00	
1,100.0	20.26	94.76	1,078.3	-13.4	160.8	161.3	0.00	0.00	
1,200.0	20.26	94.76	1,172.1	-16.3	195.3	195.9	0.00	0.00	
1,250.0	20.26	94.76	1,219.0	-17.7	212.5	213.3	0.00	0.00	9 5/8"
1,300.0	20.26	94.76	1,265.9	-19.1	229.8	230.6	0.00	0.00	
1,400.0	20.26	94.76	1,359.7	-22.0	264.3	265.2	0.00	0.00	
1,500.0	20.26	94.76	1,453.6	-24.9	298.8	299.8	0.00	0.00	
1,600.0	20.26	94.76	1,547.4	-27.8	333.3	334.4	0.00	0.00	
1,700.0	20.26	94.76	1,641.2	-30.6	367.8	369.1	0.00	0.00	
1,800.0	20.26	94.76	1,735.0	-33.5	402.3	403.7	0.00	0.00	
1,900.0	20.26	94.76	1,828.8	-36.4	436.8	438.3	0.00	0.00	
2,000.0	20.26	94.76	1,922.6	-39.2	471.3	472.9	0.00	0.00	
2,100.0	20.26	94.76	2,016.5	-42.1	505.8	507.6	0.00	0.00	
2,200.0	20.26	94.76	2,110.3	-45.0	540.3	542.2	0.00	0.00	
2,300.0	20.26	94.76	2,204.1	-47.9	574.8	576.8	0.00	0.00	
2,400.0	20.26	94.76	2,297.9	-50.7	609.3	611.4	0.00	0.00	
2,500.0	20.26	94.76	2,391.7	-53.6	643.8	646.0	0.00	0.00	
2,600.0	20.26	94.76	2,485.5	-56.5	678.3	680.7	0.00	0.00	
2,700.0	20.26	94.76	2,579.3	-59.4	712.8	715.3	0.00	0.00	
2,800.0	20.26	94.76	2,673.2	-62.2	747.3	749.9	0.00	0.00	
2,900.0	20.26	94.76	2,767.0	-65.1	781.8	784.5	0.00	0.00	
3,000.0	20.26	94.76	2,860.8	-68.0	816.3	819.2	0.00	0.00	
3,100.0	20.26	94.76	2,954.6	-70.8	850.8	853.8	0.00	0.00	
3,200.0	20.26	94.76	3,048.4	-73.7	885.3	888.4	0.00	0.00	
3,300.0	20.26	94.76	3,142.2	-76.6	919.9	923.0	0.00	0.00	
3,400.0	20.26	94.76	3,236.0	-79.5	954.4	957.7	0.00	0.00	
3,500.0	20.26	94.76	3,329.9	-82.3	988.9	992.3	0.00	0.00	
3,600.0	20.26	94.76	3,423.7	-85.2	1,023.4	1,026.9	0.00	0.00	
3,700.0	20.26	94.76	3,517.5	-88.1	1,057.9	1,061.5	0.00	0.00	
3,800.0	20.26	94.76	3,611.3	-91.0	1,092.4	1,096.2	0.00	0.00	
3,900.0	20.26	94.76	3,705.1	-93.8	1,126.9	1,130.8	0.00	0.00	
4,000.0	20.26	94.76	3,798.9	-96.7	1,161.4	1,165.4	0.00	0.00	
4,100.0	20.26	94.76	3,892.8	-99.6	1,195.9	1,200.0	0.00	0.00	
4,200.0	20.26	94.76	3,986.6	-102.4	1,230.4	1,234.6	0.00	0.00	
4,300.0	20.26	94.76	4,080.4	-105.3	1,264.9	1,269.3	0.00	0.00	
4,400.0	20.26	94.76	4,174.2	-108.2	1,299.4	1,303.9	0.00	0.00	
4,500.0	20.26	94.76	4,268.0	-111.1	1,333.9	1,338.5	0.00	0.00	
4,600.0	20.26	94.76	4,361.8	-113.9	1,368.4	1,373.1	0.00	0.00	
4,700.0	20.26	94.76	4,455.6	-116.8	1,402.9	1,407.8	0.00	0.00	
4,800.0	20.26	94.76	4,549.5	-119.7	1,437.4	1,442.4	0.00	0.00	
4,900.0	20.26	94.76	4,643.3	-122.6	1,471.9	1,477.0	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well RULISON FEDERAL 33D-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.0usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.0usft (H&P 330)
Site:	S17-T7S-R94W	North Reference:	True
Well:	RULISON FEDERAL 33D-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
5,000.0	20.26	94.76	4,737.1	-125.4	1,506.4	1,511.6	0.00	0.00	
5,100.0	20.26	94.76	4,830.9	-128.3	1,540.9	1,546.3	0.00	0.00	
5,200.0	20.26	94.76	4,924.7	-131.2	1,575.4	1,580.9	0.00	0.00	
5,300.0	20.26	94.76	5,018.5	-134.1	1,609.9	1,615.5	0.00	0.00	
5,400.0	20.26	94.76	5,112.3	-136.9	1,644.4	1,650.1	0.00	0.00	
5,500.0	20.26	94.76	5,206.2	-139.8	1,678.9	1,684.7	0.00	0.00	
5,600.0	20.26	94.76	5,300.0	-142.7	1,713.4	1,719.4	0.00	0.00	
5,700.0	20.26	94.76	5,393.8	-145.5	1,747.9	1,754.0	0.00	0.00	
5,800.0	20.26	94.76	5,487.6	-148.4	1,782.4	1,788.6	0.00	0.00	
5,900.0	20.26	94.76	5,581.4	-151.3	1,816.9	1,823.2	0.00	0.00	
6,000.0	20.26	94.76	5,675.2	-154.2	1,851.5	1,857.9	0.00	0.00	
6,072.2	20.26	94.76	5,743.0	-156.2	1,876.4	1,882.9	0.00	0.00	OHIO_CREEK.MBL (SSTVD)
6,100.0	20.26	94.76	5,769.0	-157.0	1,886.0	1,892.5	0.00	0.00	
6,200.0	20.26	94.76	5,862.9	-159.9	1,920.5	1,927.1	0.00	0.00	
6,300.0	20.26	94.76	5,956.7	-162.8	1,955.0	1,961.7	0.00	0.00	
6,400.0	20.26	94.76	6,050.5	-165.7	1,989.5	1,996.4	0.00	0.00	
6,500.0	20.26	94.76	6,144.3	-168.5	2,024.0	2,031.0	0.00	0.00	
6,600.0	20.26	94.76	6,238.1	-171.4	2,058.5	2,065.6	0.00	0.00	
6,640.4	20.26	94.76	6,276.0	-172.6	2,072.4	2,079.6	0.00	0.00	WILLIAMS_FORK.MBL (SSTVD)
6,663.6	20.26	94.76	6,297.7	-173.2	2,080.4	2,087.6	0.00	0.00	Start Drop -3.00
6,700.0	19.16	94.76	6,332.1	-174.2	2,092.7	2,099.9	3.00	-3.00	
6,800.0	16.16	94.76	6,427.3	-176.8	2,122.9	2,130.2	3.00	-3.00	
6,900.0	13.16	94.76	6,524.1	-178.9	2,148.1	2,155.5	3.00	-3.00	
7,000.0	10.16	94.76	6,622.0	-180.5	2,168.3	2,175.8	3.00	-3.00	
7,100.0	7.16	94.76	6,720.8	-181.8	2,183.3	2,190.8	3.00	-3.00	
7,200.0	4.16	94.76	6,820.3	-182.6	2,193.1	2,200.7	3.00	-3.00	
7,300.0	1.16	94.76	6,920.2	-183.0	2,197.7	2,205.3	3.00	-3.00	
7,338.8	0.00	0.00	6,959.0	-183.0	2,198.1	2,205.7	3.00	-3.00	Start 2221.0 hold at 7338.8 MD
7,400.0	0.00	0.00	7,020.2	-183.0	2,198.1	2,205.7	0.00	0.00	
7,438.8	0.00	0.00	7,059.0	-183.0	2,198.1	2,205.7	0.00	0.00	TOP_GAS.MBL (SSTVD)
7,500.0	0.00	0.00	7,120.2	-183.0	2,198.1	2,205.7	0.00	0.00	
7,600.0	0.00	0.00	7,220.2	-183.0	2,198.1	2,205.7	0.00	0.00	
7,700.0	0.00	0.00	7,320.2	-183.0	2,198.1	2,205.7	0.00	0.00	
7,800.0	0.00	0.00	7,420.2	-183.0	2,198.1	2,205.7	0.00	0.00	
7,900.0	0.00	0.00	7,520.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,000.0	0.00	0.00	7,620.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,100.0	0.00	0.00	7,720.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,200.0	0.00	0.00	7,820.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,300.0	0.00	0.00	7,920.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,400.0	0.00	0.00	8,020.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,500.0	0.00	0.00	8,120.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,600.0	0.00	0.00	8,220.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,700.0	0.00	0.00	8,320.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,800.0	0.00	0.00	8,420.2	-183.0	2,198.1	2,205.7	0.00	0.00	
8,900.0	0.00	0.00	8,520.2	-183.0	2,198.1	2,205.7	0.00	0.00	
9,000.0	0.00	0.00	8,620.2	-183.0	2,198.1	2,205.7	0.00	0.00	
9,100.0	0.00	0.00	8,720.2	-183.0	2,198.1	2,205.7	0.00	0.00	
9,200.0	0.00	0.00	8,820.2	-183.0	2,198.1	2,205.7	0.00	0.00	
9,300.0	0.00	0.00	8,920.2	-183.0	2,198.1	2,205.7	0.00	0.00	
9,400.0	0.00	0.00	9,020.2	-183.0	2,198.1	2,205.7	0.00	0.00	
9,409.8	0.00	0.00	9,030.0	-183.0	2,198.1	2,205.7	0.00	0.00	ROLLINS.MBL (SSTVD)
9,500.0	0.00	0.00	9,120.2	-183.0	2,198.1	2,205.7	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well RULISON FEDERAL 33D-17
Company:	Caerus Oil & Gas	TVD Reference:	30' KB @ 7442.0usft (H&P 330)
Project:	Garfield County, CO (UTM 12N)	MD Reference:	30' KB @ 7442.0usft (H&P 330)
Site:	S17-T7S-R94W	North Reference:	True
Well:	RULISON FEDERAL 33D-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
9,559.8	0.00	0.00	9,180.0	-183.0	2,198.1	2,205.7	0.00	0.00	TD at 9559.8 - TD.MBL (SSTVD)

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
RULISON FEDERAL 33 - plan hits target center - Circle (radius 50.0)	0.00	1.94	9,180.0	-183.0	2,198.1	14,335,534.60	2,513,812.30	39.435640	-107.906986
RULISON FEDERAL 33 - plan hits target center - Circle (radius 50.0)	0.00	1.94	9,151.0	-183.0	2,198.1	14,335,534.60	2,513,812.30	39.435640	-107.906986

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,250.0	1,219.0	9 5/8"	9-5/8	13-1/2	
9,559.8	9,180.0	4-1/2"	4-1/2	8-3/4	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,072.2	5,743.0	OHIO_CREEK.MBL (SSTVD)		0.00	
6,640.4	6,276.0	WILLIAMS_FORK.MBL (SSTVD)		0.00	
7,438.8	7,059.0	TOP_GAS.MBL (SSTVD)		0.00	
9,409.8	9,030.0	ROLLINS.MBL (SSTVD)		0.00	
9,559.8	9,180.0	TD.MBL (SSTVD)		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
300.0	300.0	0.0	0.0	Start Build 3.00
975.2	961.3	-9.8	117.7	Start 5688.3 hold at 975.2 MD
6,663.6	6,297.7	-173.2	2,080.4	Start Drop -3.00
7,338.8	6,959.0	-183.0	2,198.1	Start 2221.0 hold at 7338.8 MD
9,559.8	9,180.0	-183.0	2,198.1	TD at 9559.8