

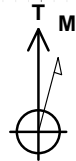


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	741.9	8.84	116.83	740.1	-15.4	30.4	2.00	116.83	34.0	
4	6474.7	8.84	116.83	6404.9	-412.9	816.3	0.00	0.00	914.8	
5	6916.6	0.00	0.00	6845.0	-428.2	846.6	2.00	180.00	948.8	
6	9217.6	0.00	0.00	9146.0	-428.2	846.6	0.00	0.00	948.8	

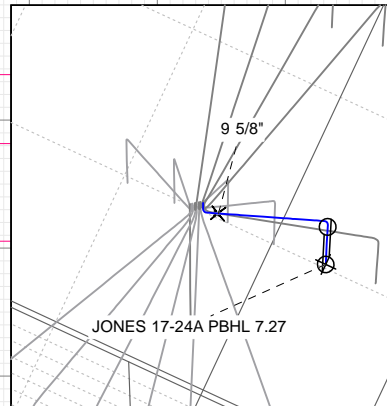
Project: Garfield County, CO (UTM 12N)
Site: S17-T7S-R94W
Well: JONES 17-24A
Wellbore: OH
Design: PLAN #3

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
5645.0	5705.7	OHIO_CREEK.MBL (SSTVD)
6183.0	6250.1	WILLIAMS_FORK.MBL (SSTVD)
6945.0	7016.6	TOP_GAS.MBL (SSTVD)
9045.0	9116.6	ROLLINS.MBL (SSTVD)
9146.0	9217.6	TD.MBL (SSTVD)



Azimuths to True North
Magnetic North: 9.50°

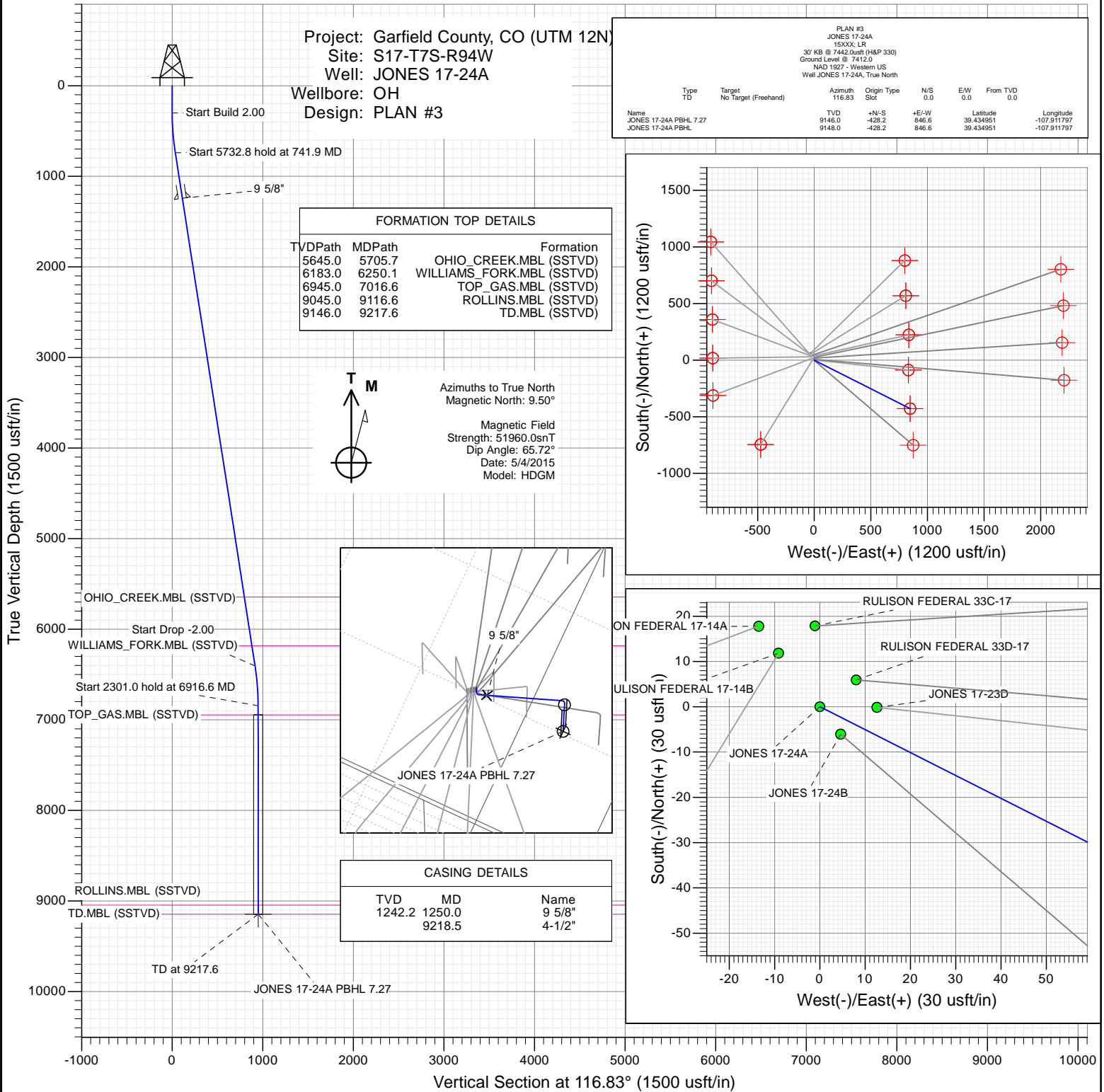
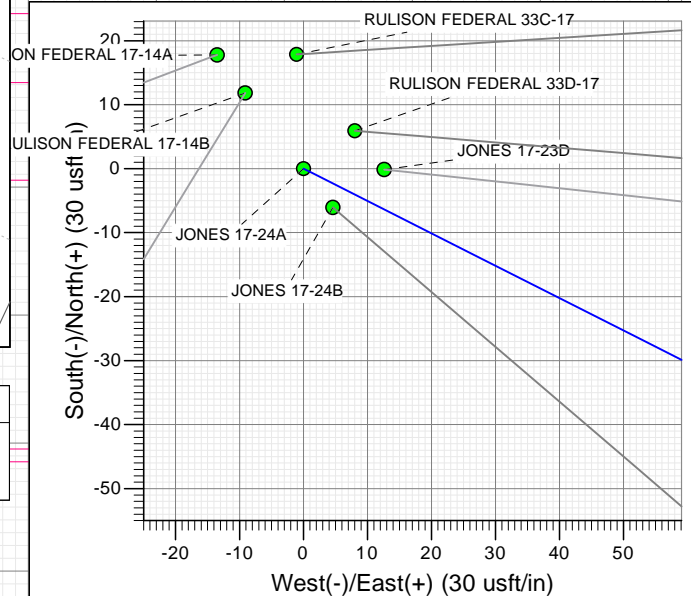
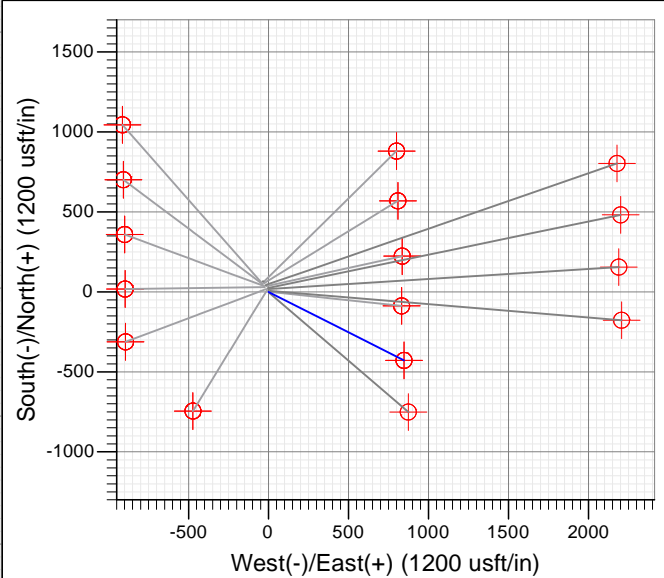
Magnetic Field
Strength: 51960.0nT
Dip Angle: 65.72°
Date: 5/4/2015
Model: HDGM



CASING DETAILS

TVD	MD	Name
1242.2	1250.0	9 5/8"
	9218.5	4-1/2"

PLAN #3												
JONES 17-24A												
15XXX; LR												
30' KB @ 7442.0usft (H&P 330)												
Ground Level @ 7412.0												
NAD 1927 - Western US												
Well JONES 17-24A, True North												
Type	Target	Azimuth	Origin	Type	N/S	E/W	From	TVD				
TD	No Target (Freehand)	116.83	Slot		0.0	0.0	0.0					
Name		TVD	+N/-S	+E/-W		Latitude		Longitude				
JONES 17-24A PBHL 7.27		9146.0	-428.2	846.6		39.434951		-107.911797				
JONES 17-24A PBHL		9148.0	-428.2	846.6		39.434951		-107.911797				



WELL DETAILS: JONES 17-24A

Ground Level: 7412.0		Northing		Easting		Latitude		Longitude	
+N/-S	+E/-W	0.0	0.0	14335636.10	2511601.40	39.436126	-107.914792		

CATHEDRAL



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 17-24A
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:	JONES 17-24A	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	JONES 17-24A					
Well Position	+N/-S	0.0 usft	Northing:	14,335,636.10 usft	Latitude:	39.436126
	+E/-W	0.0 usft	Easting:	2,511,601.40 usft	Longitude:	-107.914792
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
			(°)	(°)	(nT)
	HDGM	5/4/2015	9.50	65.72	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	116.83

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	
741.9	8.84	116.83	740.1	-15.4	30.4	2.00	2.00	0.00	116.83	
6,474.7	8.84	116.83	6,404.9	-412.9	816.3	0.00	0.00	0.00	0.00	
6,916.6	0.00	0.00	6,845.0	-428.2	846.6	2.00	-2.00	0.00	180.00	
9,217.6	0.00	0.00	9,146.0	-428.2	846.6	0.00	0.00	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 17-24A
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:	JONES 17-24A	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 2.00
400.0	2.00	116.83	400.0	-0.8	1.6	1.7	2.00	2.00	
500.0	4.00	116.83	499.8	-3.1	6.2	7.0	2.00	2.00	
600.0	6.00	116.83	599.5	-7.1	14.0	15.7	2.00	2.00	
700.0	8.00	116.83	698.7	-12.6	24.9	27.9	2.00	2.00	
741.9	8.84	116.83	740.1	-15.4	30.4	34.0	2.00	2.00	Start 5732.8 hold at 741.9 MD
800.0	8.84	116.83	797.6	-19.4	38.3	42.9	0.00	0.00	
900.0	8.84	116.83	896.4	-26.3	52.0	58.3	0.00	0.00	
1,000.0	8.84	116.83	995.2	-33.2	65.7	73.7	0.00	0.00	
1,100.0	8.84	116.83	1,094.0	-40.2	79.4	89.0	0.00	0.00	
1,200.0	8.84	116.83	1,192.8	-47.1	93.2	104.4	0.00	0.00	
1,250.0	8.84	116.83	1,242.2	-50.6	100.0	112.1	0.00	0.00	9 5/8"
1,300.0	8.84	116.83	1,291.6	-54.1	106.9	119.8	0.00	0.00	
1,400.0	8.84	116.83	1,390.4	-61.0	120.6	135.1	0.00	0.00	
1,500.0	8.84	116.83	1,489.2	-67.9	134.3	150.5	0.00	0.00	
1,600.0	8.84	116.83	1,588.1	-74.9	148.0	165.8	0.00	0.00	
1,700.0	8.84	116.83	1,686.9	-81.8	161.7	181.2	0.00	0.00	
1,800.0	8.84	116.83	1,785.7	-88.7	175.4	196.6	0.00	0.00	
1,900.0	8.84	116.83	1,884.5	-95.7	189.1	211.9	0.00	0.00	
2,000.0	8.84	116.83	1,983.3	-102.6	202.8	227.3	0.00	0.00	
2,100.0	8.84	116.83	2,082.1	-109.5	216.5	242.7	0.00	0.00	
2,200.0	8.84	116.83	2,180.9	-116.5	230.3	258.0	0.00	0.00	
2,300.0	8.84	116.83	2,279.8	-123.4	244.0	273.4	0.00	0.00	
2,400.0	8.84	116.83	2,378.6	-130.3	257.7	288.8	0.00	0.00	
2,500.0	8.84	116.83	2,477.4	-137.3	271.4	304.1	0.00	0.00	
2,600.0	8.84	116.83	2,576.2	-144.2	285.1	319.5	0.00	0.00	
2,700.0	8.84	116.83	2,675.0	-151.1	298.8	334.8	0.00	0.00	
2,800.0	8.84	116.83	2,773.8	-158.1	312.5	350.2	0.00	0.00	
2,900.0	8.84	116.83	2,872.6	-165.0	326.2	365.6	0.00	0.00	
3,000.0	8.84	116.83	2,971.4	-171.9	339.9	380.9	0.00	0.00	
3,100.0	8.84	116.83	3,070.3	-178.9	353.6	396.3	0.00	0.00	
3,200.0	8.84	116.83	3,169.1	-185.8	367.3	411.7	0.00	0.00	
3,300.0	8.84	116.83	3,267.9	-192.7	381.1	427.0	0.00	0.00	
3,400.0	8.84	116.83	3,366.7	-199.7	394.8	442.4	0.00	0.00	
3,500.0	8.84	116.83	3,465.5	-206.6	408.5	457.8	0.00	0.00	
3,600.0	8.84	116.83	3,564.3	-213.5	422.2	473.1	0.00	0.00	
3,700.0	8.84	116.83	3,663.1	-220.5	435.9	488.5	0.00	0.00	
3,800.0	8.84	116.83	3,761.9	-227.4	449.6	503.8	0.00	0.00	
3,900.0	8.84	116.83	3,860.8	-234.3	463.3	519.2	0.00	0.00	
4,000.0	8.84	116.83	3,959.6	-241.3	477.0	534.6	0.00	0.00	
4,100.0	8.84	116.83	4,058.4	-248.2	490.7	549.9	0.00	0.00	
4,200.0	8.84	116.83	4,157.2	-255.1	504.4	565.3	0.00	0.00	
4,300.0	8.84	116.83	4,256.0	-262.1	518.2	580.7	0.00	0.00	
4,400.0	8.84	116.83	4,354.8	-269.0	531.9	596.0	0.00	0.00	
4,500.0	8.84	116.83	4,453.6	-275.9	545.6	611.4	0.00	0.00	
4,600.0	8.84	116.83	4,552.4	-282.9	559.3	626.8	0.00	0.00	
4,700.0	8.84	116.83	4,651.3	-289.8	573.0	642.1	0.00	0.00	
4,800.0	8.84	116.83	4,750.1	-296.7	586.7	657.5	0.00	0.00	
4,900.0	8.84	116.83	4,848.9	-303.7	600.4	672.8	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 17-24A
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:	JONES 17-24A	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	8.84	116.83	4,947.7	-310.6	614.1	688.2	0.00	0.00	
5,100.0	8.84	116.83	5,046.5	-317.5	627.8	703.6	0.00	0.00	
5,200.0	8.84	116.83	5,145.3	-324.5	641.5	718.9	0.00	0.00	
5,300.0	8.84	116.83	5,244.1	-331.4	655.2	734.3	0.00	0.00	
5,400.0	8.84	116.83	5,342.9	-338.4	669.0	749.7	0.00	0.00	
5,500.0	8.84	116.83	5,441.8	-345.3	682.7	765.0	0.00	0.00	
5,600.0	8.84	116.83	5,540.6	-352.2	696.4	780.4	0.00	0.00	
5,700.0	8.84	116.83	5,639.4	-359.2	710.1	795.7	0.00	0.00	
5,705.7	8.84	116.83	5,645.0	-359.5	710.9	796.6	0.00	0.00	OHIO_CREEK.MBL (SSTVD)
5,800.0	8.84	116.83	5,738.2	-366.1	723.8	811.1	0.00	0.00	
5,900.0	8.84	116.83	5,837.0	-373.0	737.5	826.5	0.00	0.00	
6,000.0	8.84	116.83	5,935.8	-380.0	751.2	841.8	0.00	0.00	
6,100.0	8.84	116.83	6,034.6	-386.9	764.9	857.2	0.00	0.00	
6,200.0	8.84	116.83	6,133.5	-393.8	778.6	872.6	0.00	0.00	
6,250.1	8.84	116.83	6,183.0	-397.3	785.5	880.3	0.00	0.00	WILLIAMS_FORK.MBL (SSTVD)
6,300.0	8.84	116.83	6,232.3	-400.8	792.3	887.9	0.00	0.00	
6,400.0	8.84	116.83	6,331.1	-407.7	806.1	903.3	0.00	0.00	
6,474.7	8.84	116.83	6,404.9	-412.9	816.3	914.8	0.00	0.00	Start Drop -2.00
6,500.0	8.33	116.83	6,429.9	-414.6	819.7	918.5	2.00	-2.00	
6,600.0	6.33	116.83	6,529.1	-420.3	831.1	931.3	2.00	-2.00	
6,700.0	4.33	116.83	6,628.6	-424.5	839.3	940.6	2.00	-2.00	
6,800.0	2.33	116.83	6,728.5	-427.2	844.5	946.4	2.00	-2.00	
6,900.0	0.33	116.83	6,828.4	-428.2	846.6	948.7	2.00	-2.00	
6,916.6	0.00	0.00	6,845.0	-428.2	846.6	948.8	2.00	-2.00	Start 2301.0 hold at 6916.6 MD
7,000.0	0.00	0.00	6,928.4	-428.2	846.6	948.8	0.00	0.00	
7,016.6	0.00	0.00	6,945.0	-428.2	846.6	948.8	0.00	0.00	TOP_GAS.MBL (SSTVD)
7,100.0	0.00	0.00	7,028.4	-428.2	846.6	948.8	0.00	0.00	
7,200.0	0.00	0.00	7,128.4	-428.2	846.6	948.8	0.00	0.00	
7,300.0	0.00	0.00	7,228.4	-428.2	846.6	948.8	0.00	0.00	
7,400.0	0.00	0.00	7,328.4	-428.2	846.6	948.8	0.00	0.00	
7,500.0	0.00	0.00	7,428.4	-428.2	846.6	948.8	0.00	0.00	
7,600.0	0.00	0.00	7,528.4	-428.2	846.6	948.8	0.00	0.00	
7,700.0	0.00	0.00	7,628.4	-428.2	846.6	948.8	0.00	0.00	
7,800.0	0.00	0.00	7,728.4	-428.2	846.6	948.8	0.00	0.00	
7,900.0	0.00	0.00	7,828.4	-428.2	846.6	948.8	0.00	0.00	
8,000.0	0.00	0.00	7,928.4	-428.2	846.6	948.8	0.00	0.00	
8,100.0	0.00	0.00	8,028.4	-428.2	846.6	948.8	0.00	0.00	
8,200.0	0.00	0.00	8,128.4	-428.2	846.6	948.8	0.00	0.00	
8,300.0	0.00	0.00	8,228.4	-428.2	846.6	948.8	0.00	0.00	
8,400.0	0.00	0.00	8,328.4	-428.2	846.6	948.8	0.00	0.00	
8,500.0	0.00	0.00	8,428.4	-428.2	846.6	948.8	0.00	0.00	
8,600.0	0.00	0.00	8,528.4	-428.2	846.6	948.8	0.00	0.00	
8,700.0	0.00	0.00	8,628.4	-428.2	846.6	948.8	0.00	0.00	
8,800.0	0.00	0.00	8,728.4	-428.2	846.6	948.8	0.00	0.00	
8,900.0	0.00	0.00	8,828.4	-428.2	846.6	948.8	0.00	0.00	
9,000.0	0.00	0.00	8,928.4	-428.2	846.6	948.8	0.00	0.00	
9,100.0	0.00	0.00	9,028.4	-428.2	846.6	948.8	0.00	0.00	
9,116.6	0.00	0.00	9,045.0	-428.2	846.6	948.8	0.00	0.00	ROLLINS.MBL (SSTVD)
9,200.0	0.00	0.00	9,128.4	-428.2	846.6	948.8	0.00	0.00	
9,217.6	0.00	0.00	9,146.0	-428.2	846.6	948.8	0.00	0.00	TD at 9217.6 - TD.MBL (SSTVD)

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well JONES 17-24A
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:	JONES 17-24A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #3		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
JONES 17-24A PBHL	0.00	1.94	9,148.0	-428.2	846.6	14,335,237.10	2,512,462.20	39.434951	-107.911797
- plan misses target center by 2.0usft at 9217.6usft MD (9146.0 TVD, -428.2 N, 846.6 E)									
- Circle (radius 50.0)									
JONES 17-24A PBHL 7.	0.00	1.94	9,146.0	-428.2	846.6	14,335,237.10	2,512,462.20	39.434951	-107.911797
- plan hits target center									
- Circle (radius 50.0)									

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	9,218.5		4-1/2"	4-1/2	8-3/4
	1,250.0	1,242.2	9 5/8"	9-5/8	13-1/2

Formations					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)
	5,705.7	5,645.0	OHIO_CREEK.MBL (SSTVD)		0.00
	6,250.1	6,183.0	WILLIAMS_FORK.MBL (SSTVD)		0.00
	7,016.6	6,945.0	TOP_GAS.MBL (SSTVD)		0.00
	9,116.6	9,045.0	ROLLINS.MBL (SSTVD)		0.00
	9,217.6	9,146.0	TD.MBL (SSTVD)		0.00

Plan Annotations					
	Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		
			+N/-S (usft)	+E/-W (usft)	Comment
	300.0	300.0	0.0	0.0	Start Build 2.00
	741.9	740.1	-15.4	30.4	Start 5732.8 hold at 741.9 MD
	6,474.7	6,404.9	-412.9	816.3	Start Drop -2.00
	6,916.6	6,845.0	-428.2	846.6	Start 2301.0 hold at 6916.6 MD
	9,217.6	9,146.0	-428.2	846.6	TD at 9217.6