

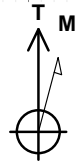


# SECTION DETAILS

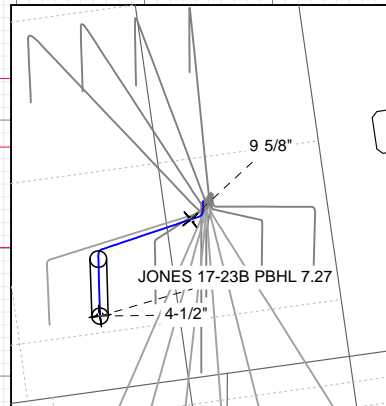
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	754.6	9.09	58.36	752.7	18.8	30.6	2.00	58.36	36.0	
4	6516.6	9.09	58.36	6442.3	496.6	805.8	0.00	0.00	946.5	
5	6971.2	0.00	0.00	6895.0	515.4	836.4	2.00	180.00	982.5	
6	9319.2	0.00	0.00	9243.0	515.4	836.4	0.00	0.00	982.5	

Project: Garfield County, CO (UTM 12N)  
 Site: S17-T7S-R94W  
 Well: JONES 17-23B  
 Wellbore: OH  
 Design: PLAN #3

TVDPath	MDPath	Formation
5675.0	5739.5	OHIO_CREEK.MBL (SSTVD)
6210.0	6281.3	WILLIAMS_FORK.MBL (SSTVD)
6995.0	7071.2	TOP_GAS.MBL (SSTVD)
9093.0	9169.2	ROLLINS.MBL (SSTVD)
9243.0	9319.2	TD.MBL (SSTVD)

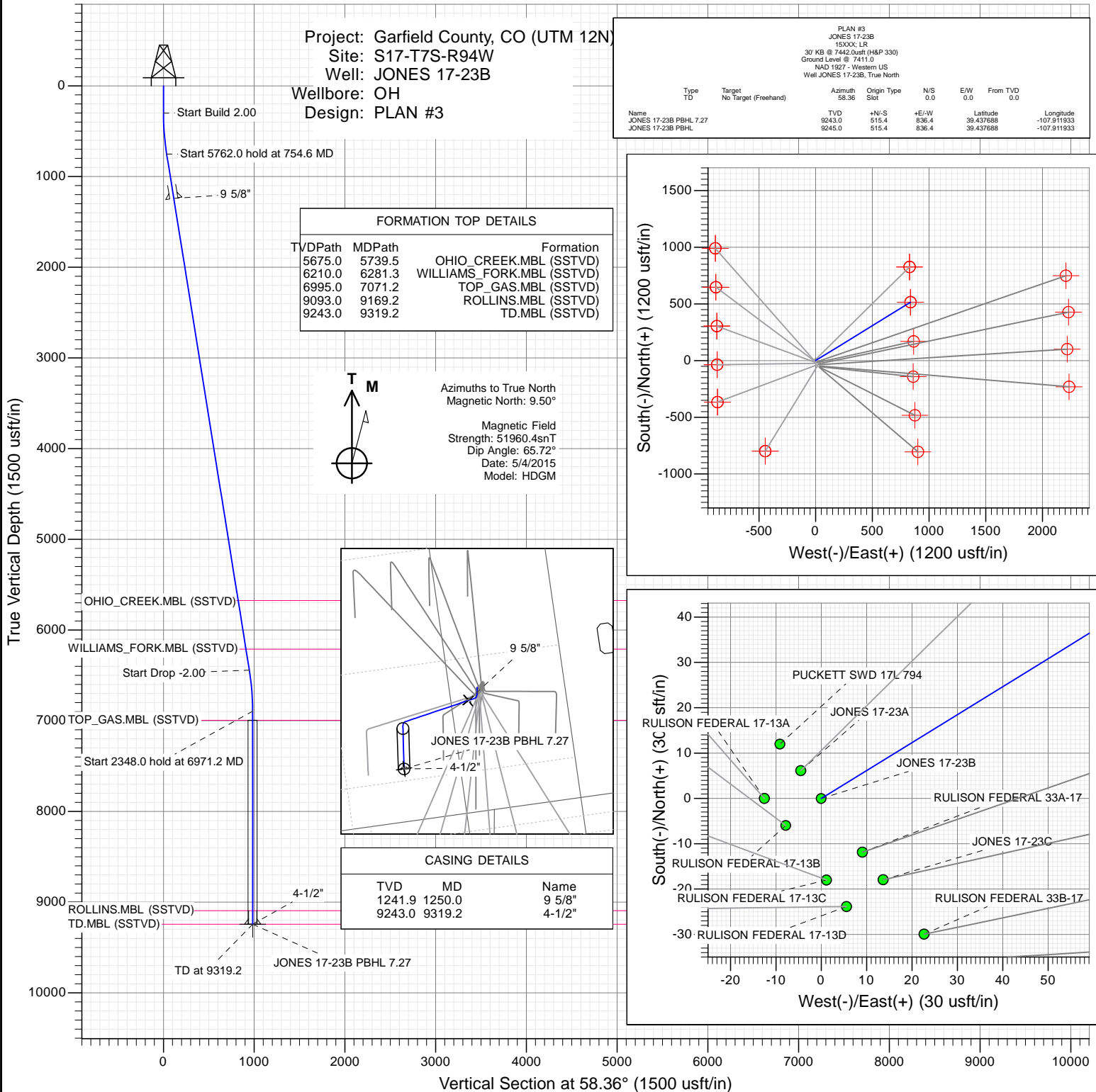
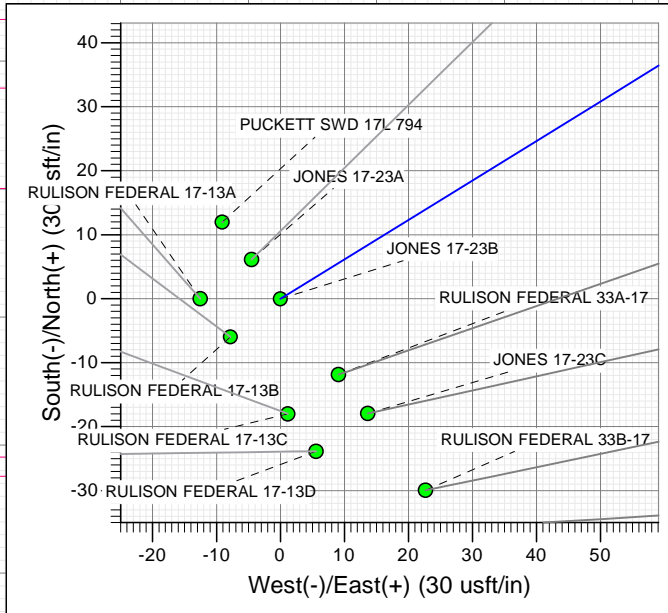
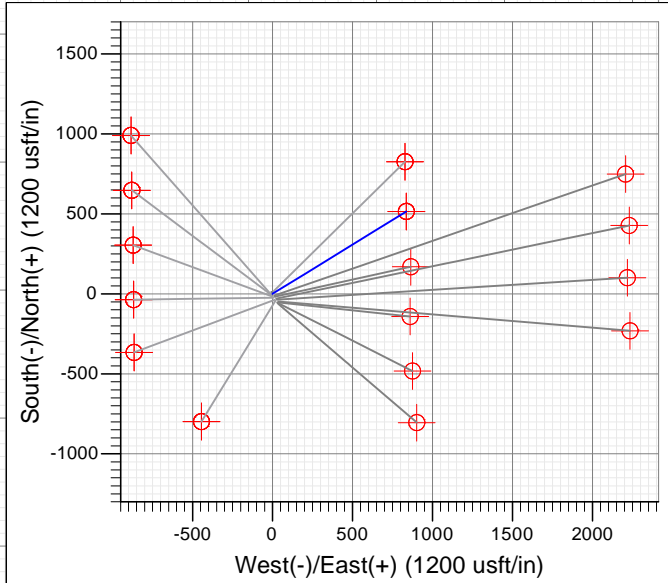


Azimuths to True North  
 Magnetic North: 9.50°  
 Magnetic Field  
 Strength: 51960.4snT  
 Dip Angle: 65.72°  
 Date: 5/4/2015  
 Model: HDGM



TVD	MD	Name
1241.9	1250.0	9 5/8"
9243.0	9319.2	4-1/2"

Name	Type	Target	From	Target	From	Target	From	Target	From	Target
JONES 17-23B PBHL 7.27	TD	No Target (Freehand)	58.36	Origin	Type	N/S	E/W	From	Target	From
JONES 17-23B PBHL	TD	No Target (Freehand)	58.36	Origin	Type	N/S	E/W	From	Target	From
	TVD		58.36	Origin	Type	N/S	E/W	From	Target	From
	9243.0		58.36	Origin	Type	N/S	E/W	From	Target	From
	9245.0		58.36	Origin	Type	N/S	E/W	From	Target	From
			58.36	Origin	Type	N/S	E/W	From	Target	From
			58.36	Origin	Type	N/S	E/W	From	Target	From
			58.36	Origin	Type	N/S	E/W	From	Target	From
			58.36	Origin	Type	N/S	E/W	From	Target	From
			58.36	Origin	Type	N/S	E/W	From	Target	From



## WELL DETAILS: JONES 17-23B

+N/-S	+E/-W	Northing	Ground Level:	7411.0	Latitude	Longitude
0.0	0.0	14335688.80	Easting	2511571.30	39.436274	-107.914893



## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well JONES 17-23B
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Site:</b>	S17-T7S-R94W	<b>North Reference:</b>	True
<b>Well:</b>	JONES 17-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #3		

<b>Project</b>	Garfield County, CO (UTM 12N)		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	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 17-23B					
Well Position	+N/-S	0.0 usft	Northing:	14,335,688.80 usft	Latitude:	39.436274
	+E/-W	0.0 usft	Easting:	2,511,571.30 usft	Longitude:	-107.914893
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	7,411.0 usft

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

<b>Design</b>	PLAN #3			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	58.36

<b>Plan Sections</b>										
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	
754.6	9.09	58.36	752.7	18.8	30.6	2.00	2.00	0.00	58.36	
6,516.6	9.09	58.36	6,442.3	496.6	805.8	0.00	0.00	0.00	0.00	
6,971.2	0.00	0.00	6,895.0	515.4	836.4	2.00	-2.00	0.00	180.00	
9,319.2	0.00	0.00	9,243.0	515.4	836.4	0.00	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well JONES 17-23B
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Site:</b>	S17-T7S-R94W	<b>North Reference:</b>	True
<b>Well:</b>	JONES 17-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	58.36	400.0	0.9	1.5	1.7	2.00	2.00	
500.0	4.00	58.36	499.8	3.6	5.9	7.0	2.00	2.00	
600.0	6.00	58.36	599.5	8.2	13.3	15.7	2.00	2.00	
700.0	8.00	58.36	698.7	14.6	23.7	27.9	2.00	2.00	
754.6	9.09	58.36	752.7	18.8	30.6	36.0	2.00	2.00	Start 5762.0 hold at 754.6 MD
800.0	9.09	58.36	797.5	22.6	36.7	43.2	0.00	0.00	
900.0	9.09	58.36	896.3	30.9	50.2	59.0	0.00	0.00	
1,000.0	9.09	58.36	995.0	39.2	63.6	74.8	0.00	0.00	
1,100.0	9.09	58.36	1,093.8	47.5	77.1	90.6	0.00	0.00	
1,200.0	9.09	58.36	1,192.5	55.8	90.5	106.4	0.00	0.00	
1,250.0	9.09	58.36	1,241.9	59.9	97.3	114.3	0.00	0.00	9 5/8"
1,300.0	9.09	58.36	1,291.2	64.1	104.0	122.2	0.00	0.00	
1,400.0	9.09	58.36	1,390.0	72.4	117.4	138.0	0.00	0.00	
1,500.0	9.09	58.36	1,488.7	80.6	130.9	153.8	0.00	0.00	
1,600.0	9.09	58.36	1,587.5	88.9	144.3	169.6	0.00	0.00	
1,700.0	9.09	58.36	1,686.2	97.2	157.8	185.4	0.00	0.00	
1,800.0	9.09	58.36	1,785.0	105.5	171.2	201.2	0.00	0.00	
1,900.0	9.09	58.36	1,883.7	113.8	184.7	217.0	0.00	0.00	
2,000.0	9.09	58.36	1,982.4	122.1	198.2	232.8	0.00	0.00	
2,100.0	9.09	58.36	2,081.2	130.4	211.6	248.6	0.00	0.00	
2,200.0	9.09	58.36	2,179.9	138.7	225.1	264.4	0.00	0.00	
2,300.0	9.09	58.36	2,278.7	147.0	238.5	280.2	0.00	0.00	
2,400.0	9.09	58.36	2,377.4	155.3	252.0	296.0	0.00	0.00	
2,500.0	9.09	58.36	2,476.2	163.6	265.4	311.8	0.00	0.00	
2,600.0	9.09	58.36	2,574.9	171.8	278.9	327.6	0.00	0.00	
2,700.0	9.09	58.36	2,673.7	180.1	292.3	343.4	0.00	0.00	
2,800.0	9.09	58.36	2,772.4	188.4	305.8	359.2	0.00	0.00	
2,900.0	9.09	58.36	2,871.1	196.7	319.2	375.0	0.00	0.00	
3,000.0	9.09	58.36	2,969.9	205.0	332.7	390.8	0.00	0.00	
3,100.0	9.09	58.36	3,068.6	213.3	346.1	406.6	0.00	0.00	
3,200.0	9.09	58.36	3,167.4	221.6	359.6	422.4	0.00	0.00	
3,300.0	9.09	58.36	3,266.1	229.9	373.0	438.2	0.00	0.00	
3,400.0	9.09	58.36	3,364.9	238.2	386.5	454.0	0.00	0.00	
3,500.0	9.09	58.36	3,463.6	246.5	399.9	469.8	0.00	0.00	
3,600.0	9.09	58.36	3,562.3	254.7	413.4	485.6	0.00	0.00	
3,700.0	9.09	58.36	3,661.1	263.0	426.8	501.4	0.00	0.00	
3,800.0	9.09	58.36	3,759.8	271.3	440.3	517.2	0.00	0.00	
3,900.0	9.09	58.36	3,858.6	279.6	453.8	533.0	0.00	0.00	
4,000.0	9.09	58.36	3,957.3	287.9	467.2	548.8	0.00	0.00	
4,100.0	9.09	58.36	4,056.1	296.2	480.7	564.6	0.00	0.00	
4,200.0	9.09	58.36	4,154.8	304.5	494.1	580.4	0.00	0.00	
4,300.0	9.09	58.36	4,253.5	312.8	507.6	596.2	0.00	0.00	
4,400.0	9.09	58.36	4,352.3	321.1	521.0	612.0	0.00	0.00	
4,500.0	9.09	58.36	4,451.0	329.4	534.5	627.9	0.00	0.00	
4,600.0	9.09	58.36	4,549.8	337.7	547.9	643.7	0.00	0.00	
4,700.0	9.09	58.36	4,648.5	345.9	561.4	659.5	0.00	0.00	
4,800.0	9.09	58.36	4,747.3	354.2	574.8	675.3	0.00	0.00	
4,900.0	9.09	58.36	4,846.0	362.5	588.3	691.1	0.00	0.00	

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well JONES 17-23B
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Site:</b>	S17-T7S-R94W	<b>North Reference:</b>	True
<b>Well:</b>	JONES 17-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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	9.09	58.36	4,944.8	370.8	601.7	706.9	0.00	0.00	
5,100.0	9.09	58.36	5,043.5	379.1	615.2	722.7	0.00	0.00	
5,200.0	9.09	58.36	5,142.2	387.4	628.6	738.5	0.00	0.00	
5,300.0	9.09	58.36	5,241.0	395.7	642.1	754.3	0.00	0.00	
5,400.0	9.09	58.36	5,339.7	404.0	655.5	770.1	0.00	0.00	
5,500.0	9.09	58.36	5,438.5	412.3	669.0	785.9	0.00	0.00	
5,600.0	9.09	58.36	5,537.2	420.6	682.4	801.7	0.00	0.00	
5,700.0	9.09	58.36	5,636.0	428.9	695.9	817.5	0.00	0.00	
5,739.5	9.09	58.36	5,675.0	432.1	701.2	823.7	0.00	0.00	OHIO_CREEK.MBL (SSTVD)
5,800.0	9.09	58.36	5,734.7	437.1	709.4	833.3	0.00	0.00	
5,900.0	9.09	58.36	5,833.4	445.4	722.8	849.1	0.00	0.00	
6,000.0	9.09	58.36	5,932.2	453.7	736.3	864.9	0.00	0.00	
6,100.0	9.09	58.36	6,030.9	462.0	749.7	880.7	0.00	0.00	
6,200.0	9.09	58.36	6,129.7	470.3	763.2	896.5	0.00	0.00	
6,281.3	9.09	58.36	6,210.0	477.1	774.1	909.3	0.00	0.00	WILLIAMS_FORK.MBL (SSTVD)
6,300.0	9.09	58.36	6,228.4	478.6	776.6	912.3	0.00	0.00	
6,400.0	9.09	58.36	6,327.2	486.9	790.1	928.1	0.00	0.00	
6,500.0	9.09	58.36	6,425.9	495.2	803.5	943.9	0.00	0.00	
6,516.6	9.09	58.36	6,442.3	496.6	805.8	946.5	0.00	0.00	Start Drop -2.00
6,600.0	7.42	58.36	6,524.8	502.8	816.0	958.5	2.00	-2.00	
6,700.0	5.42	58.36	6,624.2	508.7	825.5	969.7	2.00	-2.00	
6,800.0	3.42	58.36	6,723.9	512.8	832.0	977.4	2.00	-2.00	
6,900.0	1.42	58.36	6,823.8	515.0	835.6	981.6	2.00	-2.00	
6,971.2	0.00	0.00	6,895.0	515.4	836.4	982.5	2.00	-2.00	Start 2348.0 hold at 6971.2 MD
7,000.0	0.00	0.00	6,923.8	515.4	836.4	982.5	0.00	0.00	
7,071.2	0.00	0.00	6,995.0	515.4	836.4	982.5	0.00	0.00	TOP_GAS.MBL (SSTVD)
7,100.0	0.00	0.00	7,023.8	515.4	836.4	982.5	0.00	0.00	
7,200.0	0.00	0.00	7,123.8	515.4	836.4	982.5	0.00	0.00	
7,300.0	0.00	0.00	7,223.8	515.4	836.4	982.5	0.00	0.00	
7,400.0	0.00	0.00	7,323.8	515.4	836.4	982.5	0.00	0.00	
7,500.0	0.00	0.00	7,423.8	515.4	836.4	982.5	0.00	0.00	
7,600.0	0.00	0.00	7,523.8	515.4	836.4	982.5	0.00	0.00	
7,700.0	0.00	0.00	7,623.8	515.4	836.4	982.5	0.00	0.00	
7,800.0	0.00	0.00	7,723.8	515.4	836.4	982.5	0.00	0.00	
7,900.0	0.00	0.00	7,823.8	515.4	836.4	982.5	0.00	0.00	
8,000.0	0.00	0.00	7,923.8	515.4	836.4	982.5	0.00	0.00	
8,100.0	0.00	0.00	8,023.8	515.4	836.4	982.5	0.00	0.00	
8,200.0	0.00	0.00	8,123.8	515.4	836.4	982.5	0.00	0.00	
8,300.0	0.00	0.00	8,223.8	515.4	836.4	982.5	0.00	0.00	
8,400.0	0.00	0.00	8,323.8	515.4	836.4	982.5	0.00	0.00	
8,500.0	0.00	0.00	8,423.8	515.4	836.4	982.5	0.00	0.00	
8,600.0	0.00	0.00	8,523.8	515.4	836.4	982.5	0.00	0.00	
8,700.0	0.00	0.00	8,623.8	515.4	836.4	982.5	0.00	0.00	
8,800.0	0.00	0.00	8,723.8	515.4	836.4	982.5	0.00	0.00	
8,900.0	0.00	0.00	8,823.8	515.4	836.4	982.5	0.00	0.00	
9,000.0	0.00	0.00	8,923.8	515.4	836.4	982.5	0.00	0.00	
9,100.0	0.00	0.00	9,023.8	515.4	836.4	982.5	0.00	0.00	
9,169.2	0.00	0.00	9,093.0	515.4	836.4	982.5	0.00	0.00	ROLLINS.MBL (SSTVD)
9,200.0	0.00	0.00	9,123.8	515.4	836.4	982.5	0.00	0.00	
9,300.0	0.00	0.00	9,223.8	515.4	836.4	982.5	0.00	0.00	
9,319.2	0.00	0.00	9,243.0	515.4	836.4	982.5	0.00	0.00	TD at 9319.2 - TD.MBL (SSTVD) - 4-1/2"

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well JONES 17-23B
<b>Company:</b>	Caerus Oil & Gas	<b>TVD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Project:</b>	Garfield County, CO (UTM 12N)	<b>MD Reference:</b>	30' KB @ 7442.0usft (H&P 330)
<b>Site:</b>	S17-T7S-R94W	<b>North Reference:</b>	True
<b>Well:</b>	JONES 17-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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 17-23B PBHL	0.00	1.94	9,245.0	515.4	836.4	14,336,232.60	2,512,389.60	39.437688	-107.911933
- plan misses target center by 2.0usft at 9319.2usft MD (9243.0 TVD, 515.4 N, 836.4 E)									
- Circle (radius 50.0)									
JONES 17-23B PBHL 7.	0.00	1.94	9,243.0	515.4	836.4	14,336,232.60	2,512,389.60	39.437688	-107.911933
- plan hits target center									
- Circle (radius 50.0)									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(usft)	(usft)	Name	(")	(")
	1,250.0	1,241.9	9 5/8"	9-5/8	13-1/2
	9,319.2	9,243.0	4-1/2"	4-1/2	8-3/4

Formations					
	Measured Depth	Vertical Depth		Dip	Dip Direction
	(usft)	(usft)	Name	(°)	(°)
	5,739.5	5,675.0	OHIO_CREEK.MBL (SSTVD)	0.00	
	6,281.3	6,210.0	WILLIAMS_FORK.MBL (SSTVD)	0.00	
	7,071.2	6,995.0	TOP_GAS.MBL (SSTVD)	0.00	
	9,169.2	9,093.0	ROLLINS.MBL (SSTVD)	0.00	
	9,319.2	9,243.0	TD.MBL (SSTVD)	0.00	

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(usft)	(usft)	+N/-S	+E/-W	Comment
	(usft)	(usft)	(usft)	(usft)	
	300.0	300.0	0.0	0.0	Start Build 2.00
	754.6	752.7	18.8	30.6	Start 5762.0 hold at 754.6 MD
	6,516.6	6,442.3	496.6	805.8	Start Drop -2.00
	6,971.2	6,895.0	515.4	836.4	Start 2348.0 hold at 6971.2 MD
	9,319.2	9,243.0	515.4	836.4	TD at 9319.2