



## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well JONES 17-24B
<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 17-24B	<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 17-24B					
Well Position	+N/-S	0.0 usft	Northing:	14,335,630.20 usft	Latitude:	39.436110
	+E/-W	0.0 usft	Easting:	2,511,606.20 usft	Longitude:	-107.914776
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	7,412.0 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	130.61

<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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
731.8	10.64	130.61	728.7	-32.0	37.4	2.00	2.00	0.00	130.61	
6,397.7	10.64	130.61	6,297.3	-712.6	831.3	0.00	0.00	0.00	0.00	
6,929.4	0.00	0.00	6,826.0	-744.7	868.6	2.00	-2.00	0.00	180.00	
9,285.4	0.00	0.00	9,182.0	-744.7	868.6	0.00	0.00	0.00	0.00	

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<b>Well:</b>	JONES 17-24B	<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	Start Build 2.00
300.0	2.00	130.61	300.0	-1.1	1.3	1.7	2.00	2.00	
400.0	4.00	130.61	399.8	-4.5	5.3	7.0	2.00	2.00	
500.0	6.00	130.61	499.5	-10.2	11.9	15.7	2.00	2.00	
600.0	8.00	130.61	598.7	-18.1	21.2	27.9	2.00	2.00	
700.0	10.00	130.61	697.5	-28.3	33.0	43.5	2.00	2.00	
731.8	10.64	130.61	728.7	-32.0	37.4	49.2	2.00	2.00	Start 5665.9 hold at 731.8 MD
800.0	10.64	130.61	795.8	-40.2	46.9	61.8	0.00	0.00	
900.0	10.64	130.61	894.1	-52.2	60.9	80.3	0.00	0.00	
1,000.0	10.64	130.61	992.3	-64.3	74.9	98.7	0.00	0.00	
1,100.0	10.64	130.61	1,090.6	-76.3	89.0	117.2	0.00	0.00	
1,200.0	10.64	130.61	1,188.9	-88.3	103.0	135.6	0.00	0.00	
1,250.0	10.64	130.61	1,238.0	-94.3	110.0	144.9	0.00	0.00	9 5/8"
1,300.0	10.64	130.61	1,287.2	-100.3	117.0	154.1	0.00	0.00	
1,400.0	10.64	130.61	1,385.5	-112.3	131.0	172.5	0.00	0.00	
1,500.0	10.64	130.61	1,483.8	-124.3	145.0	191.0	0.00	0.00	
1,600.0	10.64	130.61	1,582.0	-136.3	159.0	209.5	0.00	0.00	
1,700.0	10.64	130.61	1,680.3	-148.3	173.0	227.9	0.00	0.00	
1,800.0	10.64	130.61	1,778.6	-160.3	187.0	246.4	0.00	0.00	
1,900.0	10.64	130.61	1,876.9	-172.4	201.1	264.8	0.00	0.00	
2,000.0	10.64	130.61	1,975.2	-184.4	215.1	283.3	0.00	0.00	
2,100.0	10.64	130.61	2,073.4	-196.4	229.1	301.7	0.00	0.00	
2,200.0	10.64	130.61	2,171.7	-208.4	243.1	320.2	0.00	0.00	
2,300.0	10.64	130.61	2,270.0	-220.4	257.1	338.6	0.00	0.00	
2,400.0	10.64	130.61	2,368.3	-232.4	271.1	357.1	0.00	0.00	
2,500.0	10.64	130.61	2,466.6	-244.4	285.1	375.6	0.00	0.00	
2,600.0	10.64	130.61	2,564.9	-256.4	299.1	394.0	0.00	0.00	
2,700.0	10.64	130.61	2,663.1	-268.5	313.1	412.5	0.00	0.00	
2,800.0	10.64	130.61	2,761.4	-280.5	327.2	430.9	0.00	0.00	
2,900.0	10.64	130.61	2,859.7	-292.5	341.2	449.4	0.00	0.00	
3,000.0	10.64	130.61	2,958.0	-304.5	355.2	467.8	0.00	0.00	
3,100.0	10.64	130.61	3,056.3	-316.5	369.2	486.3	0.00	0.00	
3,200.0	10.64	130.61	3,154.5	-328.5	383.2	504.8	0.00	0.00	
3,300.0	10.64	130.61	3,252.8	-340.5	397.2	523.2	0.00	0.00	
3,400.0	10.64	130.61	3,351.1	-352.5	411.2	541.7	0.00	0.00	
3,500.0	10.64	130.61	3,449.4	-364.6	425.2	560.1	0.00	0.00	
3,600.0	10.64	130.61	3,547.7	-376.6	439.3	578.6	0.00	0.00	
3,700.0	10.64	130.61	3,646.0	-388.6	453.3	597.0	0.00	0.00	
3,800.0	10.64	130.61	3,744.2	-400.6	467.3	615.5	0.00	0.00	
3,900.0	10.64	130.61	3,842.5	-412.6	481.3	633.9	0.00	0.00	
4,000.0	10.64	130.61	3,940.8	-424.6	495.3	652.4	0.00	0.00	
4,100.0	10.64	130.61	4,039.1	-436.6	509.3	670.9	0.00	0.00	
4,200.0	10.64	130.61	4,137.4	-448.6	523.3	689.3	0.00	0.00	
4,300.0	10.64	130.61	4,235.7	-460.7	537.3	707.8	0.00	0.00	
4,400.0	10.64	130.61	4,333.9	-472.7	551.4	726.2	0.00	0.00	
4,500.0	10.64	130.61	4,432.2	-484.7	565.4	744.7	0.00	0.00	
4,600.0	10.64	130.61	4,530.5	-496.7	579.4	763.1	0.00	0.00	
4,700.0	10.64	130.61	4,628.8	-508.7	593.4	781.6	0.00	0.00	
4,800.0	10.64	130.61	4,727.1	-520.7	607.4	800.1	0.00	0.00	
4,900.0	10.64	130.61	4,825.3	-532.7	621.4	818.5	0.00	0.00	

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<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 17-24B	<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	10.64	130.61	4,923.6	-544.7	635.4	837.0	0.00	0.00	
5,100.0	10.64	130.61	5,021.9	-556.8	649.4	855.4	0.00	0.00	
5,200.0	10.64	130.61	5,120.2	-568.8	663.4	873.9	0.00	0.00	
5,300.0	10.64	130.61	5,218.5	-580.8	677.5	892.3	0.00	0.00	
5,400.0	10.64	130.61	5,316.8	-592.8	691.5	910.8	0.00	0.00	
5,500.0	10.64	130.61	5,415.0	-604.8	705.5	929.2	0.00	0.00	
5,600.0	10.64	130.61	5,513.3	-616.8	719.5	947.7	0.00	0.00	
5,700.0	10.64	130.61	5,611.6	-628.8	733.5	966.2	0.00	0.00	
5,724.8	10.64	130.61	5,636.0	-631.8	737.0	970.7	0.00	0.00	OHIO_CREEK.MBL (SSTVD)
5,800.0	10.64	130.61	5,709.9	-640.8	747.5	984.6	0.00	0.00	
5,900.0	10.64	130.61	5,808.2	-652.9	761.5	1,003.1	0.00	0.00	
6,000.0	10.64	130.61	5,906.4	-664.9	775.5	1,021.5	0.00	0.00	
6,100.0	10.64	130.61	6,004.7	-676.9	789.6	1,040.0	0.00	0.00	
6,200.0	10.64	130.61	6,103.0	-688.9	803.6	1,058.4	0.00	0.00	
6,272.2	10.64	130.61	6,174.0	-697.6	813.7	1,071.8	0.00	0.00	WILLIAMS_FORK.MBL (SSTVD)
6,300.0	10.64	130.61	6,201.3	-700.9	817.6	1,076.9	0.00	0.00	
6,397.7	10.64	130.61	6,297.3	-712.6	831.3	1,094.9	0.00	0.00	Start Drop -2.00
6,400.0	10.59	130.61	6,299.6	-712.9	831.6	1,095.3	2.00	-2.00	
6,500.0	8.59	130.61	6,398.2	-723.8	844.2	1,112.0	2.00	-2.00	
6,600.0	6.59	130.61	6,497.3	-732.3	854.3	1,125.2	2.00	-2.00	
6,700.0	4.59	130.61	6,596.8	-738.7	861.7	1,134.9	2.00	-2.00	
6,800.0	2.59	130.61	6,696.6	-742.8	866.4	1,141.2	2.00	-2.00	
6,900.0	0.59	130.61	6,796.6	-744.6	868.5	1,144.0	2.00	-2.00	
6,929.4	0.00	0.00	6,826.0	-744.7	868.6	1,144.1	2.00	-2.00	Start 2356.0 hold at 6929.4 MD
7,000.0	0.00	0.00	6,896.6	-744.7	868.6	1,144.1	0.00	0.00	
7,029.4	0.00	0.00	6,926.0	-744.7	868.6	1,144.1	0.00	0.00	TOP_GAS.MBL (SSTVD)
7,100.0	0.00	0.00	6,996.6	-744.7	868.6	1,144.1	0.00	0.00	
7,200.0	0.00	0.00	7,096.6	-744.7	868.6	1,144.1	0.00	0.00	
7,300.0	0.00	0.00	7,196.6	-744.7	868.6	1,144.1	0.00	0.00	
7,400.0	0.00	0.00	7,296.6	-744.7	868.6	1,144.1	0.00	0.00	
7,500.0	0.00	0.00	7,396.6	-744.7	868.6	1,144.1	0.00	0.00	
7,600.0	0.00	0.00	7,496.6	-744.7	868.6	1,144.1	0.00	0.00	
7,700.0	0.00	0.00	7,596.6	-744.7	868.6	1,144.1	0.00	0.00	
7,800.0	0.00	0.00	7,696.6	-744.7	868.6	1,144.1	0.00	0.00	
7,900.0	0.00	0.00	7,796.6	-744.7	868.6	1,144.1	0.00	0.00	
8,000.0	0.00	0.00	7,896.6	-744.7	868.6	1,144.1	0.00	0.00	
8,100.0	0.00	0.00	7,996.6	-744.7	868.6	1,144.1	0.00	0.00	
8,200.0	0.00	0.00	8,096.6	-744.7	868.6	1,144.1	0.00	0.00	
8,300.0	0.00	0.00	8,196.6	-744.7	868.6	1,144.1	0.00	0.00	
8,400.0	0.00	0.00	8,296.6	-744.7	868.6	1,144.1	0.00	0.00	
8,500.0	0.00	0.00	8,396.6	-744.7	868.6	1,144.1	0.00	0.00	
8,600.0	0.00	0.00	8,496.6	-744.7	868.6	1,144.1	0.00	0.00	
8,700.0	0.00	0.00	8,596.6	-744.7	868.6	1,144.1	0.00	0.00	
8,800.0	0.00	0.00	8,696.6	-744.7	868.6	1,144.1	0.00	0.00	
8,900.0	0.00	0.00	8,796.6	-744.7	868.6	1,144.1	0.00	0.00	
9,000.0	0.00	0.00	8,896.6	-744.7	868.6	1,144.1	0.00	0.00	
9,100.0	0.00	0.00	8,996.6	-744.7	868.6	1,144.1	0.00	0.00	
9,135.4	0.00	0.00	9,032.0	-744.7	868.6	1,144.1	0.00	0.00	ROLLINS.MBL (SSTVD)
9,200.0	0.00	0.00	9,096.6	-744.7	868.6	1,144.1	0.00	0.00	
9,285.4	0.00	0.00	9,182.0	-744.7	868.6	1,144.1	0.00	0.00	TD at 9285.4 - TD.MBL (SSTVD) - 4-1/2"

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<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #3		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
JONES 17-24B PBHL 7. - plan hits target center - Circle (radius 50.0)	0.00	1.94	9,182.0	-744.7	868.6	14,334,915.70	2,512,499.80	39.434066	-107.911703
JONES 17-24B PBHL - plan misses target center by 1.0usft at 9285.4usft MD (9182.0 TVD, -744.7 N, 868.6 E) - Circle (radius 50.0)	0.00	1.94	9,183.0	-744.7	868.6	14,334,915.70	2,512,499.80	39.434066	-107.911703

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(")	(")
9,285.4	9,182.0	4-1/2"		4-1/2	8-3/4
1,250.0	1,238.0	9 5/8"		9-5/8	13-1/2

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(°)
5,724.8	5,636.0	OHIO_CREEK.MBL (SSTVD)		0.00	
6,272.2	6,174.0	WILLIAMS_FORK.MBL (SSTVD)		0.00	
7,029.4	6,926.0	TOP_GAS.MBL (SSTVD)		0.00	
9,135.4	9,032.0	ROLLINS.MBL (SSTVD)		0.00	
9,285.4	9,182.0	TD.MBL (SSTVD)		0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
200.0	200.0	0.0	0.0	Start Build 2.00	
731.8	728.7	-32.0	37.4	Start 5665.9 hold at 731.8 MD	
6,397.7	6,297.3	-712.6	831.3	Start Drop -2.00	
6,929.4	6,826.0	-744.7	868.6	Start 2356.0 hold at 6929.4 MD	
9,285.4	9,182.0	-744.7	868.6	TD at 9285.4	