



## CASE STUDY.

### PROJECT PROFILE:

# Revolution Drill<sup>®</sup> 1018 Oil Field Industry

The end-user is machining 1018 part for the fuel transfer industry on a boring mill, with water soluble flood coolant. Each part requires 8 drilled holes.

#### + CHALLENGE:

Previously the customer was using two drills and a boring bar to complete a 6" (152,40 mm) deep hole. First, they would drill a starter hole to a 0.750" (19,05 mm) diameter, primarily due to low horsepower conditions, then opened the hole to 2.5" (63,5 mm) with a Kennametal IC drill, running at 400 RPM 0.009 IPR (0,23 mm) which resulted in 3.6 IPM (91,44 mm/min). Then the finishing touch was done with a boring bar to true it to 2.8" (71,12 mm) in diameter. The multiple tool operation took just over 10 minutes to complete a single hole while providing a tool life of 75 holes.

The end-user was getting in more work and needed to speed up operations. Looking for performance improvements, the customer asked if Allied could improve their process and increase throughput.

#### + OUR SOLUTION:

Allied recommended the Revolution Drill<sup>®</sup>, R46X22-150L, with insert item OP-05T308-H. The tooling ran at a speed of 800 RPM, 0.0035 IPR (0,089 mm/rev) which resulted in 2.8 IPM (71,12 mm/min). Allied was able to drill the finished 6" (152,40 mm) hole in just 2 minutes and 47 seconds. The inserts had a tool life of 795 holes. Allied and the Revolution Drill<sup>®</sup> delivered over 10 times the previous tool life!

#### + PROJECT DATA:

By switching to the Revolution Drill<sup>®</sup>, the end-user was able to enjoy the benefits of a single tool doing the work of three tools. The cycle time offered by Revolution Drill<sup>®</sup> was much shorter than the competition's.

The Revolution Drill<sup>®</sup> reduced tooling cost and increased production by eliminating two tools, and the final boring tool as well. That's three tools down to just one, and with far better results. Allied provided a superior finish and sped up operations, freeing up the equipment for other jobs. The cost per hole, extended out over the 795 drilled holes, dropped significantly from \$22.43 to \$4.14, for a huge cost savings of 82%.



## INCREASED PRODUCTIVITY