

Case study: Bakersfield, California

AMT section mill delivered one-trip casing cutting solution, returned stalled P&A job back on schedule

A California-based customer was using a third-party oilfield service company to section mill the casing as part of a plug and abandonment (P&A) project with limited results. The competitor was taking two trips and up to seven hours per trip to complete section milling and suffered multiple failures. Due to slow progress, the customer reached out to the local Baker Hughes team for an alternative to improve performance.

Baker Hughes recommended the **AMT™ section mill**, an inside cutter and a section mill capable of milling selective casing for P&A, as well as for milling perforated casing in production zones, loose joints of pipe, and old casing for cementing new smaller casing to the formation.

The knives of the AMT section mill were dressed with **METAL MUNCHER™ Advanced Milling Technology (AMT) cutters** which achieve greater

efficiency and longer runs than conventional cutters. The durable technology increases milling penetration rates, extends effective time on the bottom in high-volume milling applications, improves swarf removal, and enables greater flexibility during the milling process.

Field personnel deployed the AMT section mill into the 5 ½-in., 20# casing and ran it to the required depth. The entire section mill operation lasted only 1.5 hours, and Baker Hughes completed the job with a rate of penetration (ROP) of 6 ft/hr (1.8 m/hr).

The one-trip Baker Hughes solution helped the customer to get back on its P&A schedule. By using the AMT section mill and METAL MUNCHER AMT knives for milling, Baker Hughes saved the customer 5.5 hours and improved operational efficiency.

After the successful operation, the customer selected Baker Hughes for the future work based on its experience, expertise, and operational excellence.

Challenges

- Cut a section of 5 ½-in. 20 lb/ft casing
- Drive operational efficiency after competitor regularly took 7 hours, two trips, and suffered multiple failures
- Return stalled P&A operation back on schedule

Results

- Milled casing section in 1.5 hours and one trip
- Saved 5.5 hours rig time
- Experienced no health, safety and environmental (HSE) issues or nonproductive time (NPT)



The AMT technology improved ROP and increased operational efficiency.



The AMT section mill is hydraulically operated and it has hinged AMT knives, which are flush with the body outside diameter (OD) when closed.