

Petroleum Joint Depot identifies jet fuel leak on 24-inch pipeline in Egypt

INLINE CONFIRMATION OF CONTAINMENT TOOL USED TO PINPOINT LEAK LOCATION

Challenge

After a reduction in its jet fuel supply due to a suspected leak, Petroleum Joint Depot performed isolated hydro tests on its 24-inch carbon steel pipeline to narrow down which section had experienced the leak. Only one section failed the hydro test, which prompted the pipeline owner to look for a more precise solution to identify the suspected leak.

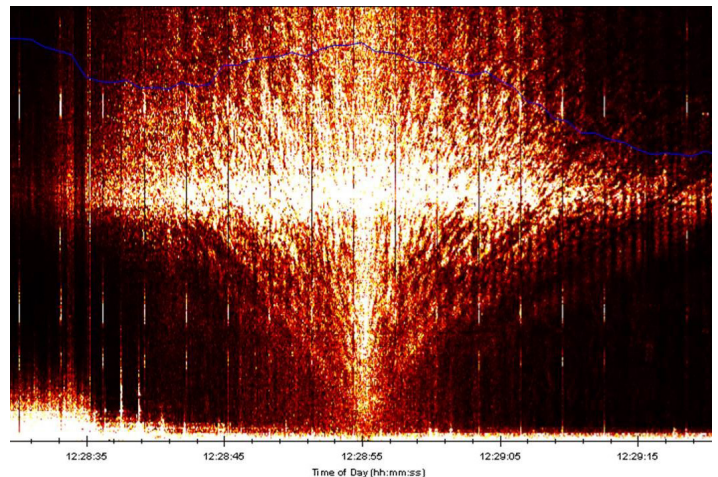
Solution

After consulting with Cairo Water Company - who is well-versed in inline leak detection on water pipelines - Petroleum Joint Depot contacted PureHM to identify the leak using its SmartBall® inline confirmation of containment technology. In order to identify leaks, the SmartBall tool traverses a live pipeline and uses an acoustic sensor to distinguish the unique sound of product leaving the pipeline from other sounds. This makes the tool significantly more sensitive than conventional CPM leak detection systems because the acoustic sensor directly passes the source of the leak. The lowest documented leak located with SmartBall technology is 0.03 GPM with a pressure of 15 psi.

Result

The SmartBall tool was inserted into the pipeline using a 14-inch tee spool for the 0.8-mile inspection. The entire inspection was completed in less than an hour with the pipeline operating with a flow of roughly 1.6 feet per second at 190 psi. After on-site review of the data, a suspected leak was identified. After pinpointing the location within 5-feet, the operator was able to excavate, verify and repair the leak.

- The leak location was within 5-feet from the location predicted by the SmartBall tool.
- Repair of the leak allowed Petroleum Joint Depot to return the pipeline to regular operation without a lengthy shutdown
- The SmartBall tool was able to precisely locate the leak, while the completed Hydro Test was only able to narrow down its location to the section of pipeline



This image shows the acoustic signature of the leak identified on the jet fuel line, which is clearly distinguishable from other sounds.

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