



Sniffer Dogs find illegal taps



BP in Georgia use innovative pipeline check
BP in Georgia is using Alsatian-cross sniffer dogs to detect illegal taps and maintain pipeline integrity

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While **intelligent pigs** (pipeline inspection devices) have become an industry standard for monitoring the integrity of many pipelines around the world, the Georgia Operations pipeline team has successfully field-tested a promising additional new strategy for pipelines in areas with high risks for illegal taps: sniffer dogs.

More specifically, Alsatian-cross dogs that have been specially trained to detect minuscule traces of the specific kind of oil moving through the Western Route Export Pipeline (WREP).

Use of the sniffer dogs began as the Georgian Operations team was in the process of preparing for a restart of the WREP when it noticed an unexplained loss in pressure in the line.

“Because there wasn’t any product flowing in the line, we couldn’t run an intelligent pig so we decided to bring in the sniffer dogs,” says John Hotchkiss, Engineering Manager for BP’s Azerbaijan SPU Exports PU.

Discovering illegal pipelines

Within hours of their first on-the-job assignment in Georgia, the team of Nipon, Tacha and Kira located an illegal pipeline tap in a remote portion of the Western Route Export Pipeline in Georgia, says Hotchkiss.

After arriving on the scene, Tacha, one of the three specially trained sniffer dogs, immediately located a hole that was later confirmed to be a test drilled by BP for research purposes. But even more importantly, a few meters further down the route, Tacha also found a major illegal tap.

The team also had the other two dogs pass by the suspicious spot and both dogs confirmed the same spot independently.

“The next day, the sniffer dog teams identified yet another suspicious location that was confirmed to be an illegal tap in progress,” says Arvind Seth, senior integrity engineer for the line.

Monitoring the WREP

A number of strategies and technologies are used to monitor the remote areas of the WREP portion of the line in Georgia as part of the overall integrity management process, Hotchkiss says.

The team can also use direct-current voltage gradient (DCVG) technology from the ground surface to detect any bare metal on the pipeline caused by illegal taps. Unfortunately, however, the technology is not infallible, especially as some criminal groups realized this and began coating their tapping equipment so the survey could not detect the bare metal of the illegal taps.

To research the potential of a K-9 strategy, the Engineering team identified a Belgium company with experience in training sniffer dogs for specific purposes. Seth then oversaw a series of successful trials and made a recommendation to purchase two dogs and conduct training of local handlers.

The sniffer dogs will now be used to supplement the other integrity management programs.

Team

To keep the dogs fresh and alert in the rugged terrain, one dog will work its way down the line for an hour and then rest while the other dog works the line for the next hour.

The team of dogs and their Georgian handlers will patrol about 10-12 km of the route each day until they complete the transit and then return to the beginning and continuously repeat the process.



Norman Sanderson, Advisor - Pipeline Technology, had earlier used funding from the Innovation Board to perform a review of the use of sniffer dogs to detect pipeline leaks and illegal taps. The Innovation Board supports innovation awareness, competency and engagement within EPT by providing funding and support for individuals to develop their ideas into a portfolio of new opportunities in support of E&P business performance.

Sanderson had shared the findings with the WREP Engineering Team but did not expect such a quick response.

“This is a great testament to the willingness of the Onshore BU to look beyond electronic technologies in the drive to improve our integrity management processes,” says Sanderson.