

Case Study – BP Refinery Pipeline Decommissioning



Scope of work, equipment & service requirement

Initial Response – 16 pipes over a distance of 1.5 miles long

Following on from the decommissioning of the BP refinery at llandarcy near Swansea, a range of pipeline believed to be product free was required to be removed to allow a feeder road to be completed. The range of pipelines were buried beneath the surface to prevent world war two air raids from destroying important fuel supplies to the British naval vessels. This made the condition of the steel work unknown and potentially dangerous if disturbed whilst holding harmful product. Braemar Howells were asked to remove the product from the pipeline and make safe prior to the removal. All products were therefore treated as low flash with some containing Lead and therefore full PPE & procedures were set in place to deal with all eventualities.



Phase 1 Excavation And Vacuum Extraction

The initial phase of work was to excavate a pit that would allow the team to totally expose the pipework. Using a 360 degree track excavator the bulk of the material was removed allowing the top of the pipes to be exposed. From this point forward Braemar Howells High Airflow vacuum extraction equipment was used remove the sand from around the pipes in a safe manor. This then allowed the next phase of the operation to be undertaken.

Phase 2 Hot Tapping and product pumping

Now that the pipes were uncovered the hot tapping system was enabled allowing the range of pipes to be drilled under pressure. The Tapping system has an inline ball valve allowing controlled release of any residual pressure before pumping into IBC's using intrinsically safe pumps and methods of operation.



Phase 3 Cold Cutting & Isolation

Once the product had been pumped down, air powered reciprocating saws were installed using cold cutting methods to cut the pipes into sectional pieces in an intrinsically safe manor. The pipes were then blanked prior to being transported onto a stock pile reducing the risk of any residual leakage.

Removal Of Pipework from under- ground water level

Using a constant dewatering system which fed through the specialist Separator systems allowed the removal of the pipework to be carried out in a controlled and environmentally safe manor. The specialist **Vertical Gravity Separator (VGS)** pulls water and oil from the standard separator and produces an oil output that allows the normal separator to work at its highest capacity. Once the water level has fallen below the pipework it was a race against time to remove the sections to against the adverse weather conditions that West Wales can provide

