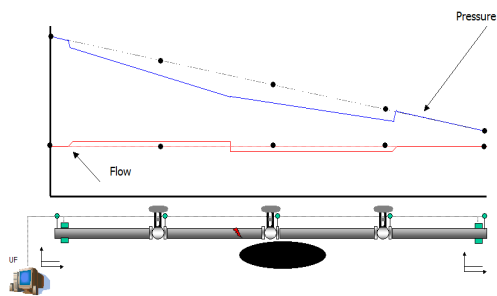


## Saldanha Bay to Milnerton Pipeline Leak Detection System

- System** : Saldanha to Milnerton
- Location** : South Africa
- Scope** : Leak Detection
- End User** : Chevron  
(formally Caltex)
- Installation Date** : 1999
- Pipe Length** : 108km
- Fluid** : Crude Oil



### Simulator Scope

The scope of supply includes for a simulator that models the entire oil pipeline from Saldanha to Milnerton. Initially, this simulator was used in an engineering assessment to determine the effects of surge on the pipeline. Product tracking functions are incorporated that account for the variation in fluid properties and drag reducing agents. The leak detection system utilises a volumetric balance approach that corrects for changes in the pipeline inventory.

### System Benefits

The storage facility at Saldanha is the largest facility of its kind in the world. The 108 km long pipeline links these oil storage facilities with the Chevron refinery at Milnerton and passes through environmentally sensitive regions. The analysis study used the simulator to ensure that operating pressures would remain within safe operating limits. The leak detection system installed detects leaks and locates them to help protect and mitigate any damage that could arise from any oil spillage. In addition to the leak detection function, the system



tracks variations in the product fluid and tracks the progress of pigs throughout the pipeline. This helps the operator estimate the pig's arrival time and minimise product wastage.

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