

# ORICA GROUND REMEDIATION HDD

OIL/GAS | **SEWER** | STORMWATER | POWER | WATER | TELCO

## PROJECT OVERVIEW

This part of Sydney had been predominantly an industrial area for many years with the knock-on effect that contamination had leached through the sandy ground to reach the water table. As a result of tidal and ground water movement the contamination plume had been making its way toward the open water of Botany Bay. To capture the plume, a number of vertical wells were drilled that were then linked using surface and underground pipes to a decontamination plant on the Orica site.



**LOCATION**  
Botany NSW



**CLIENT**  
KBR



**PIPE**  
250mm & 440mm  
SDR 11 polyethylene



**GEOLOGY**  
Water charged sand and peat



**LENGTH**  
480 metres



**TECHNIQUE**  
HDD

## SCOPE OF WORKS

UEA was engaged to carry out two bores as part of the project to link the wells to the plant:

- Bore 1 – 150 metres of 400mm diameter polyethylene carrier pipe and 4 x 110mm PVDF carrier pipes under a railway line
- Bore 2 – 520 metres from Foreshore Rd to Orica’s Southlands site and installation of 1 x 250mm poly carrier pipe and 4 x 63mm electrical conduits

## CHALLENGES

### Bore 1

The purpose of this bore was to install a connecting pipeline from the wells on the “Southlands” site to the decontamination plant on the Orica site. This involved horizontal directional drilling (HDD) under the main container terminal rail line, a transmission HV easement and two high pressure gas mains. Ausgrid also insisted that the HV run was further protected by ramming sheet piles up to four metres below the invert of the cables on the approach side of the bore to act as a barrier. Rail Infrastructure also required the rail line to be surveyed prior to the project starting and after each drilling or reaming pass.



## **Bore 2**

This bore linked the wells located along Foreshore Road back to the Southlands site for connection back into the main pipeline. HDD was the clear choice so as to reduce the impact on the local golf course whilst avoiding the many major utilities along the bore path.

## **COMPLETION**

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UEA completed this challenging and highly technical project ahead of time and on budget. Despite the highly technical nature of the HDD works all design criteria was met as part of the installation.