Case study

Chemical Plant, Bradford

LOCATION	BASF, Bradford
REQUIREMENT	Consolidation of mineral workings and bearing piles
TECHNIQUES	Rotary Percussive
MAIN CONTRACTOR	Technik Ground Solutions Limited

Project Overview

Technik Ground Solutions (TGS) normally operates as a specialist geotechnical sub-contractor but has recently completed a five month project acting as the Principal Contractor for a world's leading chemical company.

On this project a 35 metre by 25 metre building, within the existing plant required to be adapted; extended vertically by two storeys to accommodate new much heavier sensitive processing machinery. TGS were responsible for the geotechnical design and the project focused on achieving a fast-track programme with the most cost effective solution. Technical and financial feasibility advice was provided well in advance of the project commencement on site.

TGS were responsible for the sub-structure works, including the removal of 500 cubic metres of existing slab and foundation, excavation, extensive drilling and grouting of collapsed mine workings. High capacity mini-piles, micropiles, tower crane base, pad foundations, ground beams and suspended slabs were also installed.

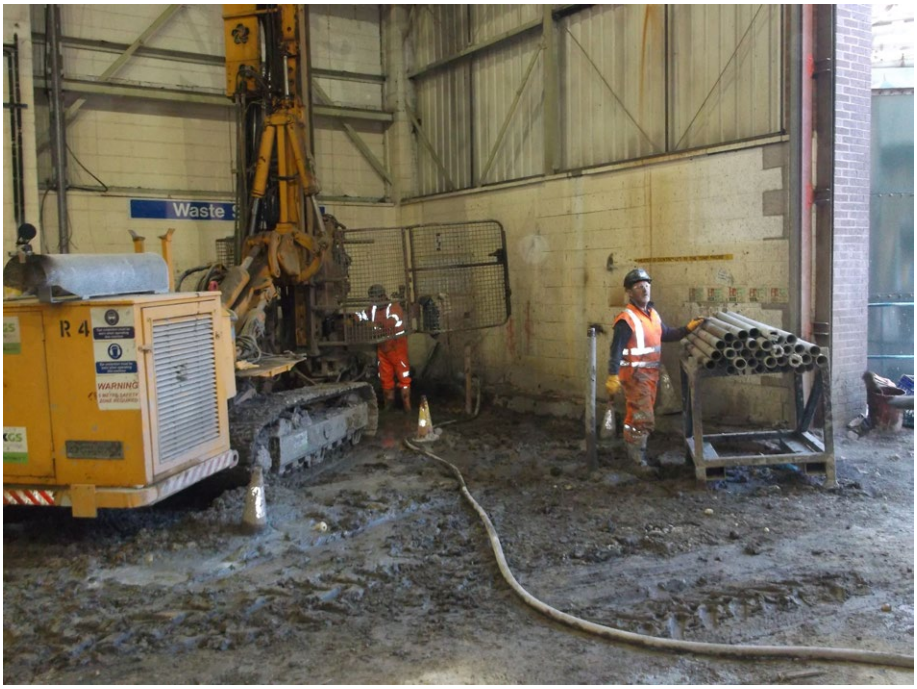
Chemical Plant, Bradford

Case study

Project Challenges

- Programme restrictions and substantial penalties.
- Rigorous restrictions on dust, noise and vibration.
- Careful planning of storage and material deliveries.
- Working within one of the largest chemical works in the UK.
- Management of a strict Permit to Work within the project area.

Solution Delivered



Consolidation of the mine workings involved grids of primary and secondary drilling, together with the comprehensive treatment of an extensive bell pit encountered on the site, using two Boart DB102 drill rigs. The drilled mini-piles were then installed using two powerful Hutte 205 rigs, incorporating high capacity rock sockets below the treated coal workings. The piles were installed to depths of up to 22m to support compression and tension loads of 1200kN and 800kN respectively. A maintained load test, to maximum load of 1800kN, was carried out in accordance with the ICE specification. Pile deflections at 1200kN (SWL) and 1800kN (1.5xSWL) were 3.93mm and 6.82mm respectively.

Due to the importance of the programme, the critical geotechnical works were carried out using multiple rigs/crews throughout day and night shifts. All of the works onsite were managed carefully and gas monitoring was carried out throughout.

info@technikgs.com

Northern Office 01928 579464
Southern Office 0207 559 3425
Scottish Office 0141 637 2826

TechnikGS
GROUND SOLUTIONS