

Walsall to Rugeley Electrification Project, West Midlands



Project Overview

Van Elle's Geotechnical Division was selected to carry out an 'on track' ground investigation to provide design information for piled foundations required for new overhead line electrification (OLE) infrastructure associated with upgrading to electric propulsion on the Walsall to Rugeley Line.



'Type B' Super Heavy Duty Dynamic Sampling & Dynamic Probing Rig

The work undertaken consisted of dynamic sampling, dynamic probing, hand digging and rotary drilling.

Rotary drilling was completed in track side station areas, and off track areas adjacent to the Network Rail boundary fences. Van Elle was able to draw upon the experience of it's own rail division which was a huge benefit.

Works were carried out during 55 hour weekend night shift possessions, with multiple crews working on three consecutive days to complete the boreholes.

As requested by the client, the site work was fully supervised throughout this successful project.

When the team encountered difficult access, Van Elle's engineer discussed alternative exploratory hole locations with the client in order to come up with and agree on a suitable alternative.

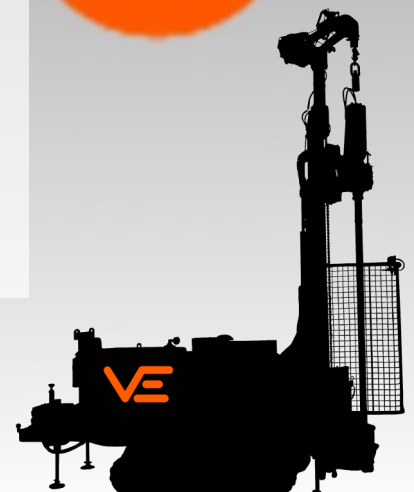
Along with the sampling, probing and drilling works that were carried out, Van Elle also undertook the following:

- Environmental and monitoring instruments were installed to monitor groundwater levels.
- Laboratory testing of soil and rock core samples.
- Provided all information in a factual report.



Plant and materials were moved to the work areas using road rail vehicles (RRVs) and trolleys

Client
ABC Electrification Ltd
Consulting Engineer
Atkins Consulting Engineers
Services Provided
Ground Investigation
Value to Van Elle
£98k
Year Completed
2015



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Key Challenges and Solutions

- A significant percentage of the exploratory holes were located at the crest of embankments or on the shoulder of the ballast. Therefore, alternative locations had to be identified and agreed during the works to maintain the agreed programme.
- The works needed to be carried out within the limited time allowed under the possessions to allow for engineering train movements & planned maintenance works (that had priority over the ground investigation works). This was a major challenge but the team achieved this with good organization, co-ordination and the right skillset.
- The team needed to complete each possessions work with enough time to clear site before the line was reopened - time was needed to allow for safety inspections and for track hand back procedures.
- The project involved working close to residential properties at night. Therefore, Van Elle had to carefully select the type of drilling method and model of rig used to avoid disrupting the residents.



Comacchio MC205 being used for rotary drilling



RRV towing the plant and materials on a trailer



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