BEK Geo-Environmental Consulting
No.2 Landwick Court, Metcalf Drive, Altham Business Park,
Lancashire BB5 5GY

mbuckley@bekenviro.co.uk
bekenviro.co.uk
01254 377622

Ref: BEK-25178-1

11th November 2025

FAO EDWARD CHESELDINE
Planner – Development Management
Planning and Development Service
Place Directorate
PO Box 1720,
Huddersfield,
HD1 9EL

Owler Lane, Birstall, Leeds WF17 9BW – Intrusive Site Investigation – Proposals
Planning Ref: 2025/91844

BEK Enviro (BEK) has been commissioned to carry out the site investigation works required at the Owler Lane site, Leeds.

We understand that planning permission has been granted (Ref 2025/91844) to demolish three redundant agricultural buildings and replace them with three small light industrial units together with new offices and the creation of a small Waste Transfer Station building.

The existing site layout and the proposed layout are presented below:

***Figure 1**: Existing Layout*

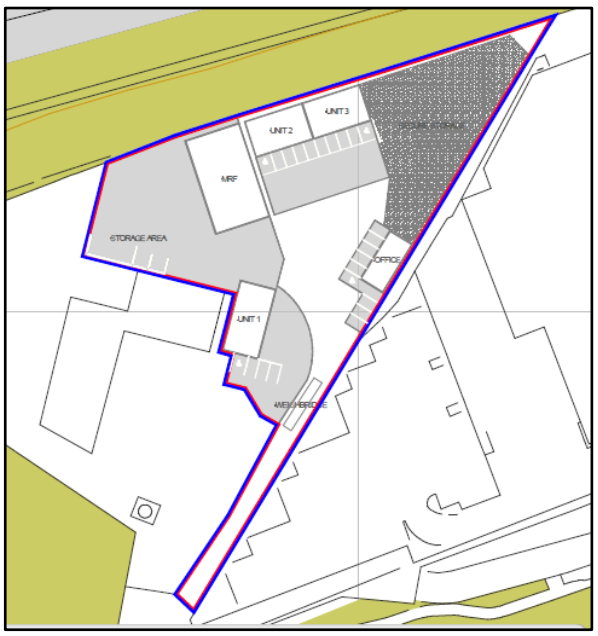


***Figure 2**: Proposed Layout*

To support the works required, BEK has reviewed the following reports prepared for the site:

- Foxham Environmental Ltd - Phase 1 Preliminary Risk Assessment – Status: Draft, dated April 2025
- Enviro Solution – Coal Mining Risk Assessment – Document ES03661, dated May 2025
- Kirklees Council - Consultation Response from KC Environmental Health (Pollution & Noise Control) – Ref: WK202526287, dated September 2025

Phase 1 Assessment

The preliminary risk assessment included a review of the potential sources of contamination. Potential source identified include storage and treatment of waste, possible spillages from vehicles, possible leaching of hazardous substances from the waste, and spread of dust and litter. Part of the site has been used for shot blasting operations which has the potential to lead to contaminated soil from the accumulation of lead, chromium, cadmium, zinc and copper residues.

Further to the above, information on the Phase 1 Assessment suggests that whilst the area has a long history of industrial use, the site itself has mainly been in agricultural use with some storage/parking of vehicles. An area of the site has been used for waste management purposes for over 15 years, but this is limited to dry waste only which has been retained in containers rather than open storage.

The conclusions presented in the Phase 1 Assessment state that there is a low residual risk from contamination with respect to impact on controlled waters, local ecology, workers on the proposed development and end users.

Coal Mining Risk Assessment

The Coal Mining Risk Assessment for the site at Foxhall Environmental has concluded that the potential risk associated with coal mining related issues cannot be ruled out based on information from the Coal Authority and geological interpretation. The principal risks to the development arise from:

- The potential presence of unrecorded workings associated with coal seams of workable thickness that are expected to be present beneath the site area at shallow depth; Evidence of these has been shown by historic borehole records. There is also anecdotal evidence that the full IKEA footprint was treated by shallow drill and grout works.
- Unrecorded mine entries.

It is therefore recommended that further intrusive ground investigations are undertaken. These might include the drilling of at least 4 no. rotary probe boreholes to a minimum depth of 30m bgl, located close to the proposed development to determine the superficial thickness along with obtaining evidence of potential unrecorded coal mine workings.

Prior to the commencement of intrusive works, a Coal Authority Permit will be required for drilling activities, that will disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits). The scope of works for the investigation will need to be submitted and approved by the local authority prior to the commencement of the intrusive works.

Kirklees Council - Consultation Response (Ref: WK202526287)

Kirklees Council state that the site is identified on their mapping system as potentially contaminated land (our site ref: 225/2, Transport depot, Waste oil burner EPA E9). It has also been identified as a coal mining high risk development area and is being used as a waste transfer site and shot blasting facility.

Kirklees Council has reviewed the Phase 1 Assessment and the Coal Mining Risk Assessment and provided the following comments:

Phase 1 Assessment- We do not accept the Phase 1 report provided; several potential source-pathway-receptor linkages have been identified within the preliminary conceptual site model, but these have been described in Section 7 as low risk. The preliminary conceptual site model has not included the coal risk identified within the Coal Mining Risk Assessment. The report has not detailed an intrusive site appraisal.

Coal Mining Risk Assessment- It would appear there is potential for shallow coal to exist below the site surface, Environmental Health consider mine gas and combustion risk only. Section 4 of the report discusses mitigation, we believe the 4no rotary boreholes suggested should form part of an intrusive site investigation to characterise the site. Moving forward any future phase 2 site intrusive investigation should assess results from the borehole data, including any relevant gas monitoring data.

BEK Comments

From the above, it appears that the Phase 1 Assessment has not been approved by Kirklees Council as the conceptual model needs to be updated to include the coal mining risks and the report needs to include specific proposals for the site investigation. In addition, the risk level described as 'very low' or 'low' for all pollutant linkages needs to be reviewed.

BEK has reviewed the conceptual model presented in the Phase 1 Assessment and made some amendments to identify the key pollutant linkages (with risk level adjustments) that require interrogation:

Source	Pathway	Receptor	Potential Impact	Risk Level
Asbestos containing materials (ACMs) in buildings	Inhalation of airborne fibres during demolition / removal	Construction workers, site users, neighbouring receptors	Chronic health effects (e.g. mesothelioma, asbestosis)	Low (specialist contractor use)
Made Ground (e.g. from previous industrial use)	Dermal contact, ingestion, inhalation of dust	Construction workers, site users	Health risks from heavy metals, hydrocarbons, PAHs & asbestos	Medium
Construction/demolition waste mishandling	Surface runoff, dust dispersion	Adjacent land, off-site receptors	Nuisance, localised pollution	Low (waste management plan required)
Historical spills or leaks (e.g. fuel/oil tanks)	Migration through soil To groundwater	Groundwater, aquatic ecosystems	Water pollution, Ecological impact	Low (due to hardstanding)
Site surface water run-off	Run-off into drainage or watercourses	Surface waters (e.g. ditch or stream)	Sediment or contaminant input to water	Low (water management plan required)
Dust and Litter	Air, windblown	Adjacent land, off-site receptors	Local ecology, land	Low
Subsidence associated with historic mining	Subsidence at surface	Damage to structures	Human health risks, buildings and infrastructure	Medium (existing buildings etc unaffected)

Proposals for the site investigation will be included herein consider the comments raised by Kirklees Council.

The site investigation proposed are to support a geo-environmental assessment and provide sufficient information to support a quantitative contamination and ground gas risk assessment and a geotechnical assessment to identify potential issues with subsidence associated with historic coal mining and to provide information for foundation.

Site Investigation Proposals

It is proposed to drill a series of window sample boreholes across the site (up to 6) to provide information on shallow ground conditions (max depth of 5 m). Borehole locations will be determined based on site history and the proposed development layout.

A corer will be required to break through the overlying concrete to facilitate the drilling.

The ground conditions will be recorded by an experienced engineer who will also recover sample for laboratory testing. Gas monitoring wells will be installed in 3 x boreholes.

In addition, 4 x 30 m rotary open hole boreholes will be drilled to determine presence worked ground/voids associated with historic coal mine workings. Prior to carrying out this work, a Permit to Drill will be acquired from the Coal Authority. Please note that this can take up to 4 weeks to arrive.

Representative samples will be recovered foe chemical testing to support the contamination assessment.

The boreholes will need to be monitored on 6 occasions over a 3 month period. BEK initially recommends the guidance in the CL:AIRE Good Practice for Risk Assessment for Coal Mine Gas Emissions is followed. To this end we initially recommend each borehole well is monitored for twenty (20) minutes monitoring periods to characterise the risks from coal mine gas given the potential risks identified.

A breakdown of the works recommended and the associated costs is presented below:

WORK
Acquisition of below ground services
Preparation for site works including risk assessment and method statement.
Acquisition of Permit to Drill from the Coal Authority
Site Investigation – drilling 4 x 30 m rotary boreholes using water flush
Site Investigation – drilling a series of WS boreholes over 2 days. Ground conditions will be recorded by an experienced engineer. In-situ testing (SPTs) every 1 m and representative samples recovered for laboratory testing. Corer allowed for and basic reinstatement
Site Investigation – installation of 3 x gas monitoring wells with flush covers
Preparation of borehole records and scheduling samples for laboratory testing
Chemical Testing – we have allowed for 8 samples to be recovered and tested for a wide range of contaminants of concern- heavy metals (9), cyanide, phenols, PAHs (16), TPHCWG, asbestos. We have also allowed for 3 samples to be tested for VOCs and SVOCs. Note that if any sample proves positive for the presence of asbestos then the quantification test will be requested
Gas Monitoring - monitoring each gas monitoring well for gas flow rates, gas concentrations and water levels on 6 occasions over 3 months
Assessment – review of site investigation information and laboratory test data as part of a quantitative risk assessment
Assessment – review of site investigation information as part of a geotechnical assessment to inform foundation design options. Includes review of rotary borehole information for coal mining risk assessment
Review of information and preparation of Site Investigation & Ground Assessment Report detailing works undertaken, assessment, conclusions and recommendations
Preparation of a Ground Gas Risk Assessment

NOTES

- If risks remain following the intrusive site investigation works, there will be costs associated with further site investigation/the design and implementation of remedial works to ensure the site is stable and safe for the development works and subsequent verification of any required remedial works to ensure the site is safe and stable for the proposed development.
- The above assumes that there are no access issues Boreholes locations will be made safe – this is not reinstatement

The proposed exploratory location are presented in Annex A.

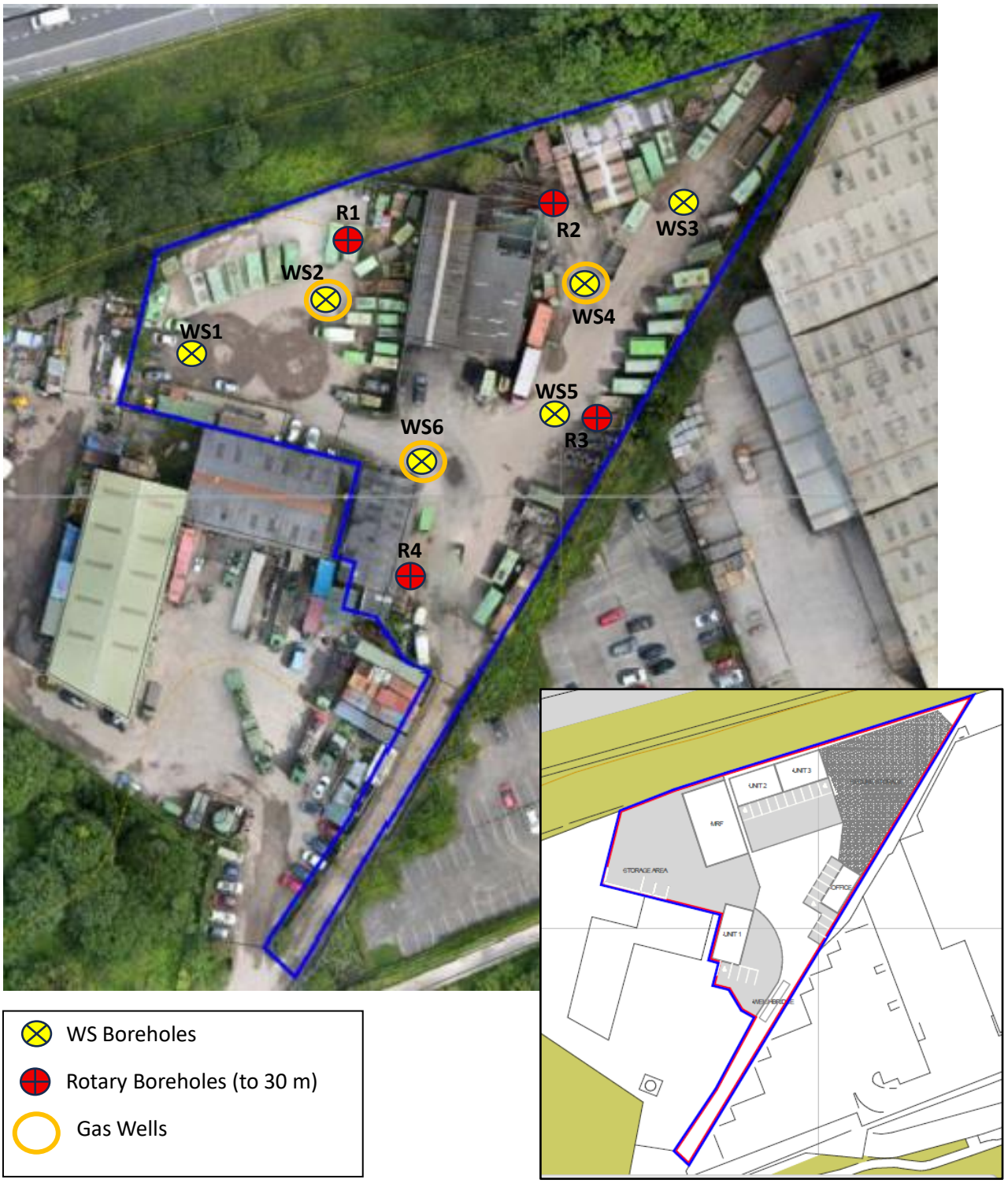
I trust that you find this useful and look forward to hearing from you.

Yours sincerely

Michael Buckley
BSc (Hons) MSc MIEnvSc CEnv
Director

ANNEX A

Proposed Borehole Locations


R1
R2
WS3
WS2
WS4
WS1
WS5
R3
WS6
R4
WS Boreholes
Rotary Boreholes (to 30 m)
Gas Wells
UNIT 2
UNIT 3
MRF
STORAGE AREA
OFFICE
UNIT 1
WEIGHBRIDGE