CHRISTIE GILLESPIE
CONSULTING ENGINEERS LTD.

# PROPOSED AUTOPORT EXTENSION, 675 PAISLEY ROAD WEST, PAISLEY

## COAL MINING RISK ASSESSMENT REPORT

## CLIENT: GHSL LTD

PROJECT Nº 2019-764
Revision: 0
Date of Issue: 8 January 2020

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**Confidential**

# QUALITY MANAGEMENT

| Issue/revision | First issue | Revision 1 | Revision 2 | Revision 3 |
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| **Prepared by** | R Gillespie | | | |
| **Signature** | | | | |
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## APPENDICES

# 1 INTRODUCTION

## 1.1 BACKGROUND

A planning application has been submitted to Glasgow City Council on behalf of our client, GHSL Ltd, for the proposed extension to an existing automotive commercial property at 675 Paisley Road West, Glasgow. The planning application reference is 19/02854/FUL.

Christie Gillespie Consulting Engineers Ltd has been commissioned to prepare a Coal Mining Risk Assessment Report of the proposed development site, in order to provide the Local Planning Authority with information on historical coal mining and a risk based assessment of its potential impact on land stability in relation to the proposals.

The report is based on the Coal Authority document entitled “Risk Based Approach to Development Management”, Version 4, dated 2017.

The report has been prepared by Richard Gillespie, a Chartered Engineer with both The Institution of Structural Engineers and The Engineering Council.

## 1.2 SITE LOCATION AND DESCRIPTION

The site is located at 675 Paisley Road West (A761). The plan dimensions of the existing site is 110m East-West and is circa 55m wide at the Eastern end and circa 20m wide at the West side. The site forms a wedge shape, constrained on its boundaries by Paisley Road West to the North, a live railway to the South and existing commercial buildings to the East. Refer to Figure 1 below, which defines the existing site boundary in red;

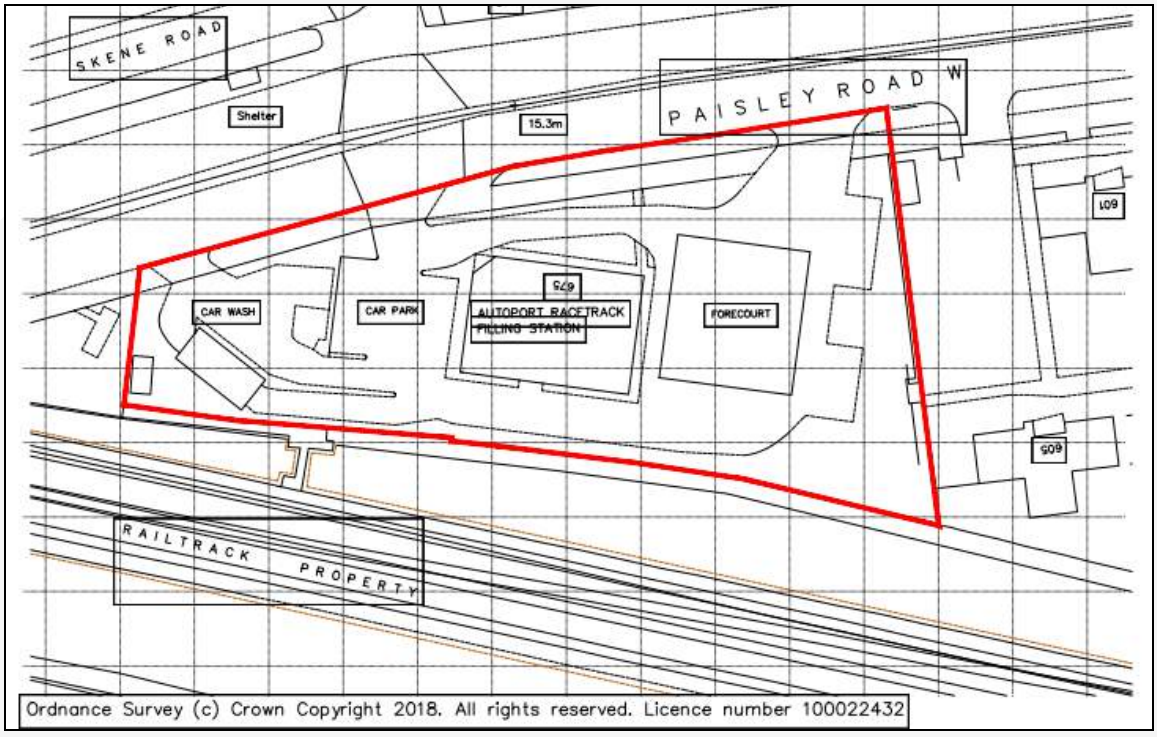



**Figure 1 - Site Location plan**

Site topography is relatively flat, with level vehicular and pedestrian access/egress via Paisley Road West. The area of land between the southern boundary and the railway encompasses the railway embankment and which now comprises of mature woodland. A localised bank of mature trees are also located on the Northern site boundary. The site is currently in use as a petrol station with 8 pumps, a small convenience store and car wash facilities.

Refer to aerial photo in Figure 2 below;

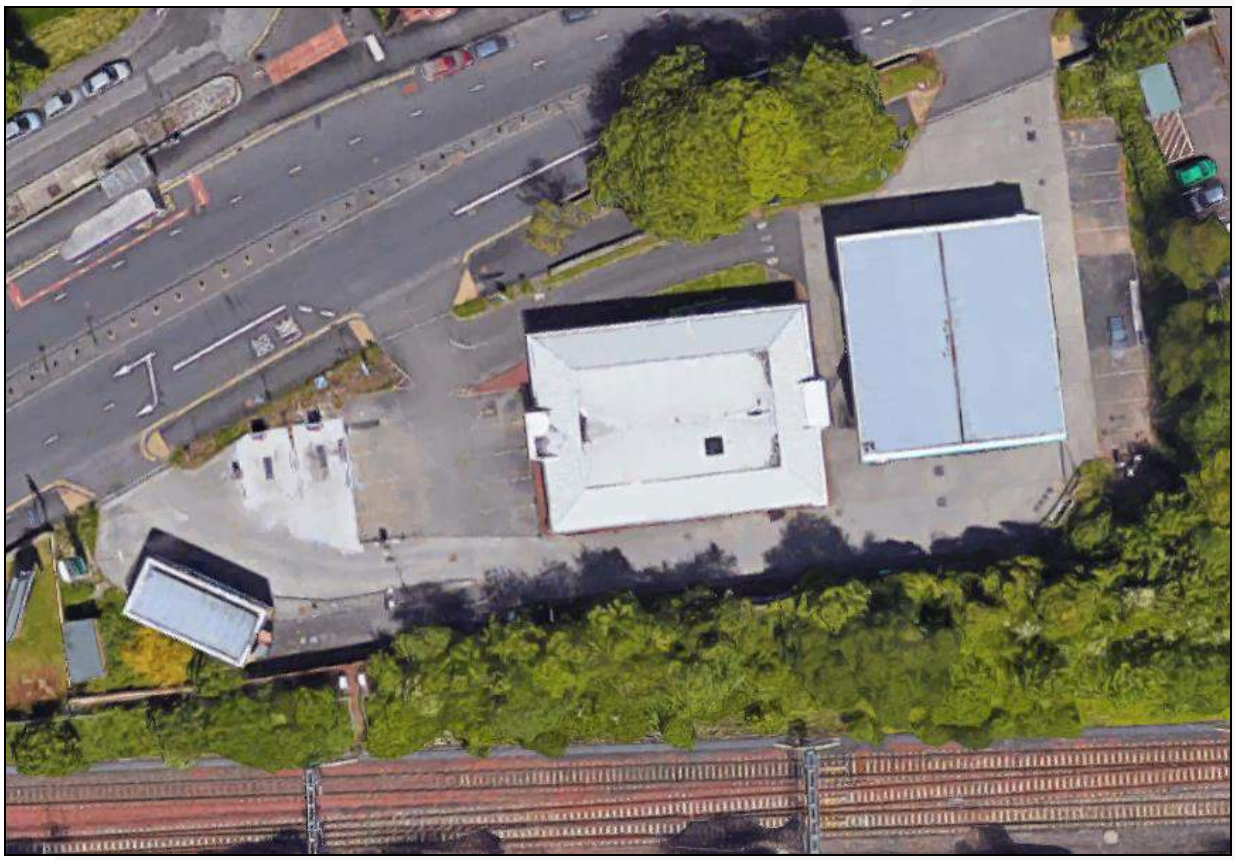


**Figure 2 - Site Aerial Photo**

Review of historical mapping records highlight the following historical development of the site;

Pre-1860 : Undeveloped.

1860-1893 : Large residential villa, with associated garden grounds appears for the first time in the middle of the site. Additional residential premises are located to the East of the site.

1914-1934 : Garages are erected to the West of the Western Boundary.

1966-1966 : The residential villa is replaced by an office building, cited as being for The Ministry of Social Security. A new larger garage building appears to the west of the Western site boundary.

1981-2002 : New Petrol station, convenience store and car wash facility appear on the site. Previous building to the West of the Western site boundary are no longer present, leaving this area as waste/scrub land.

2002-Present : Unchanged since 2002.

## 1.3 DESCRIPTION AND LAYOUT OF PROPOSED DEVELOPMENT

The proposed development comprises the formation of an extension to the existing convenience store building to accommodate increased retail space, cafeteria. An additional store extension will also be provided to the existing car wash building.

The proposed Extensions are shaded green in the proposed plan illustrated in Figure 3 below.

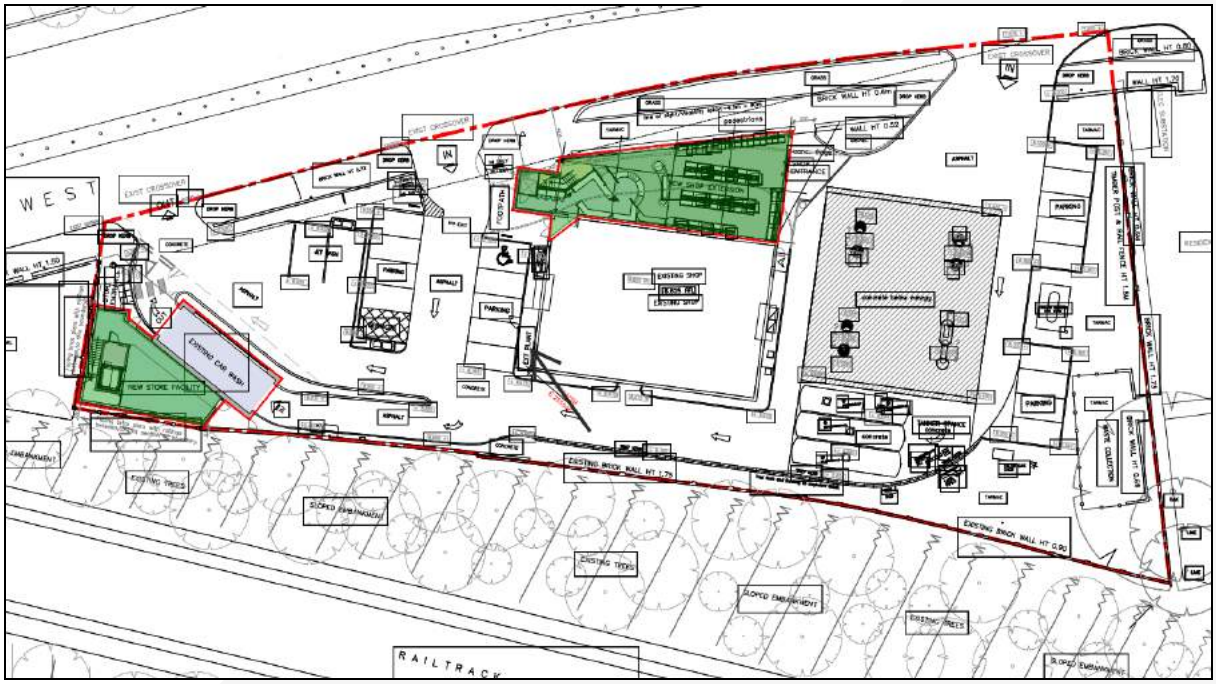



**Figure 3 - Proposed Development Plan**

The full development plan is contained within Appendix A.

## 1.4 SCOPE OF THE COAL MINING RISK ASSESSMENT DEVELOPMENT

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues;
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development; and
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.

# 2 SOURCES OF INFORMATION USED

## 2.1 SCOPE OF THE COAL MINING RISK ASSESSMENT DEVELOPMENT

The following information has been obtained and reviewed upon which the risk assessment of coal mining issues has been based:

- Geological information obtained from the British Geological Survey website,
- Results of past intrusive site investigation works undertaken to assess ground conditions for the application site or adjacent/nearby sites.
- Coal Authority mining report for the site.
- Electronic Abandoned Mine Plans for the area from The Coal Authority.

# 3 IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING RISKS

## 3.1 IDENTIFIED RISKS

The following information was obtained and reviewed in order to assess the risk of the site being affected by previous coal mining:

1. British Geological Survey(BGS) geological solid and drift maps of the area.
2. Borehole records held by BGS.
3. Coal Authority Mining Report for the site dated 24 December 2019.
4. Coal Authority mining record drawings.

### BGS MAPS

The BGS maps for the site generally indicate Raised Tidal Flat Deposits, Late Devensian - Gravel, sand and silt. Sedimentary superficial deposit formed between 116 and 11.8 thousand years ago during the Quaternary period.

The solid geology underling the soils is the **Limestone Coal Formation**, a sedimentary rock formed during the Carboniferous period.

The extent of these geological makeups are as presented in **Orange** in Figure 4 below.

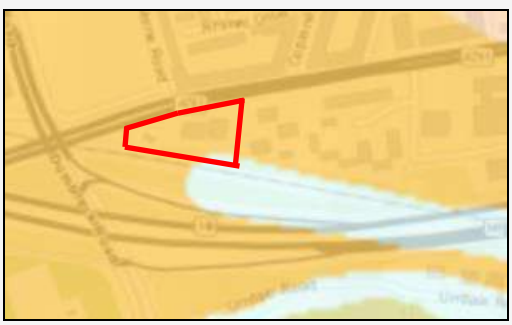


**Figure 4 - Development Site - BGS Reported Geological Conditions**

Figure 4 also highlights the presence of differing geological conditions in the Southeast corner of the site, denoted in blue. These conditions are reported as follows;

Superficial deposits comprising of Till, Devensian – Diamicton, formed between 116 and 11.8 thousand years ago during the Quaternary period.

Solid geology comprising of **Limestone Coal Formation**. Sedimentary rock cycles, Clackmannan group type. Sedimentary bedrock formed between 329 and 328 million years ago during the Carboniferous period.

## BGS BOREHOLE REORDS

From review of BGS records, there are no historical borehole logs available within the boundaries of the development site. Refer to Borehole Location plan below in Figure 5.

There are a number of borehole records to the East side of the site, located within a small residential development. These Boreholes were sunk to between 4m and 17m. Ground conditions are reported to consist of Firm and Stiff Gravely Clay on the surface, sandstone is found below 7.3m, with the presence of coal layers noted at circa 9m and 13.4m. Packed waste is noted at a depth of 27 feet. Borehole records are contained within Appendix C of this report


**Figure 5 - Historical Borehole and Trial Pit Location Plan**

## COAL AUTHORITY MINING REPORT

A Non-residential CON29M report was obtained from the Coal Authority for the proposed development site which in summary confirmed the following:

- The property is not within a surface area that could be affected by any past recorded underground coal mining. The property is in a surface area that could be affected by underground mining in 1 seam of ironstone at 70m to 100m depth, and last worked in 1884.
- However the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk.

- The site is not in an area affected by present underground mining.
- The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.
- The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.
- The property is not in an area likely to be affected from any planned future underground coal mining.
- However, reserves of coal exist in the local area which could be worked at some time in the future.
- No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.
- There are no known coal mine entries within, or within 20 metres of, the boundary of the property.
- The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.
- The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.
- The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.
- There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.
- The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.
- The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31st October 1994.
- The Coal Authority has no record of a mine gas emission requiring action.
- The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.
- The property is not in an area where a notice to withdraw support has been given.

The Coal Authority CON29M report is contained within Appendix B of this report.

## COAL AUTHORITY MINING RECORDS

The proposed development area lies within a zone designated by the Coal Authority as being within a High Risk Development Area.

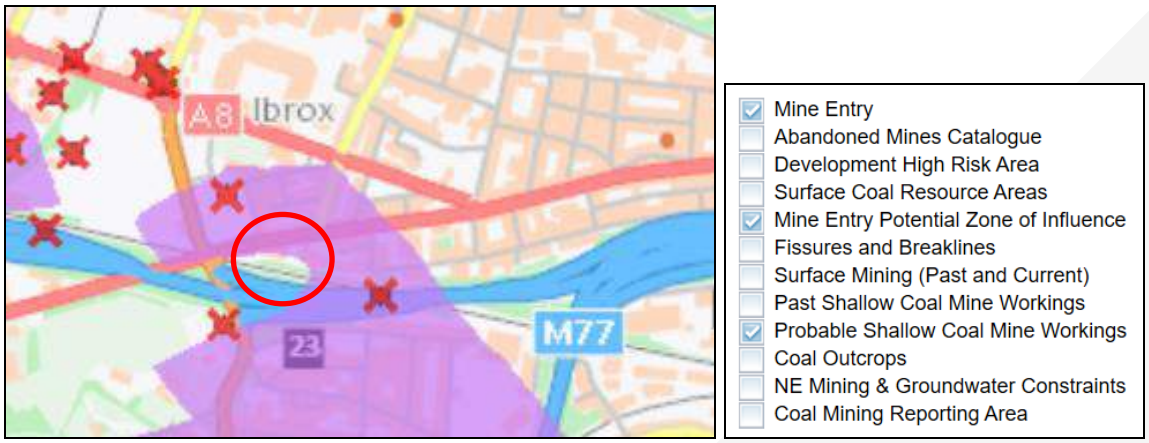



**Figure 6 - Coal Authority Mapping Records**

The records indicate the presence of probable shallow mineworking within, or in the immediate vicinity of the development site, in addition to a number of mine entries located to the North and Southern boundaries of the site. It has been conjectured that one of the mine entries to the South, may have been capped as part of previous development of the site,

### IDENTIFIED RISKS

Whilst the abandonment plan does not confirm with certainty that historical mine workings exist below the development site, it is nevertheless noted that significant mining activity has taken place within the within vicinity of the application site.

Furthermore, the possibility of unrecorded workings below the development site cannot be discounted BGS records indicate the Coal Formation extending below the site, whilst historical boreholes to the East of the site confirm the presence of coal measures at shallow depth.

It is considered that there is a risk posed by historic unrecorded underground coal mining activity and which may have taken place beneath the development site at shallow depth.

# 4 MITIGATION STRATEGY PROPOSED

Taking all of the above into account, we consider that further investigation will be required to confirm the presence, or otherwise, of any abandoned mine workings underlying the development site. This investigation will be scoped and carried out by an experienced and accredited Geotechnical Contractor. During the investigation, both indirect and direct methods of normal ground exploration may be used.

Indirect methods are particularly useful when the location of possible features is not precisely known, and therefore they can be used to plan subsequent detailed investigations.

The results obtained by indirect methods require confirmation by direct methods, such as excavation or boring. Direct methods are carried out to a depth which provides all the information likely to affect the design and construction of the proposed new foundation and superstructure.

### INDIRECT METHODS

These typically make use of geophysical and geochemical measurements of the ground, and any anomalous results which cannot be explained are taken to warrant direct investigation to discover the feature which is responsible. Indirect methods include;

- Electrical resistivity – utilises the difference in electrical resistance or conductivity between one soil or rock and another.
- Magnetic method – detects variations in the geomagnetic field strength or one of its vector components. Variations are caused by contrasts in the ground magnetisation, and the method is dependent on variations in the content of ferromagnetic magnetite-type materials.
- Electro-magnetic surveys – a rapid method of measuring ground response to an applied alternating magnetic field.
- Seismic surveys – the rates of propagation of elastic waves though the ground depends on the elastic constants of the strata through which the waves travel.
- Sub-surface radar probing – high frequency impulses are imparted to the ground and detected by a sensor. This technique can be used to detect shafts or very shallow voids above the groundwater level.
- Geochemical investigation - can be used to detect chemical changes in the soil methods or atmosphere which could be associated with mineral workings. For example, the detection of methane, often associated with abandoned coal mine workings.

## DIRECT METHODS

Boreholes and drillholes are the principal means of establishing the general geology of the site, including the disposition of any mineral horizons, and of providing information about the groundwater regime. Boreholes are used in soft ground and superficial deposits: drillholes in rock.

Both are complementary in providing full information on the soil overburden, rock and mining activities. Boring is carried out using auger or percussion-boring rigs. These techniques may be used for taking disturbed and undisturbed samples, for examination and laboratory testing, and for insitu tests such as Standard Penetration Tests. In weak rocks, boreholes can only be extended a limited depth, sufficient to prove rockhead by chiselling 9up to 3 m) or by using a drill attachment which can produce a limited depth of rock core. Rotary-cored and rotary-percussive drilling is most commonly used. Rotary coring is the more effective in providing detailed information.

Cores will be photographed, examined, and logged immediately after being taken. From these, an initial assessment of the strata can be made.

Once the basic information about the ground has been obtained, rotary percussive techniques can be used to advance the holes to the level where detailed information is required, and coring techniques can be used thereafter. Soil and rock strata will be sampled, and tested in-situ where appropriate, in order that all the appropriate descriptions and geotechnical parameters may be determined.

Where the nature of the mine workings is difficult to interpret or unknown, such as is the case here, or faulting has complicated the geology, the borehole spacing will be close. Spacing of holes should be irregular in plan to avoid geometrical overlap with underground pillars. The depth of the holes depends on the ground conditions and take account of the proposed development loadings. The investigation will be taken to the level of any minerals or workings present, where these are identified.

As much information as possible about the drilling process will be recorded. Details of the casing and bits used, together with drilling rates, are helpful when planning the production drilling for any ground treatment. The geotechnical information from the investigation will be recorded also. Relevant information includes:

- detailed description of all strata.

- the extent of voids and mine workings.
- the results of in-situ tests made to assess bearing capacity, settlement, and consolidation characteristics of the various strata encountered, as required for foundation design.
- depths at which water is first noted in the hole, levels at the beginning and end of working shifts, and proportion of fluid flush returns.
- chemical analysis of groundwater. This can indicate origins and contact with mineral workings, and influence the choice of cement in grout consolidation work.

A full appraisal of the various strength and deformation parameters is important and which will be carried out in accordance with BS1377: Methods of test for soils for civil engineering purposes. Samples should be taken from each soil and rock type and sealed in separate containers for laboratory testing. Where possible, a proportion of the testing should take place during the site work, because the results can be used to reassess the programme. Assessment of in-situ permeability is one of the most useful index tests which can be carried out on rock. The permeability of a non-cohesive material may be determined from in-situ variable head tests, and the mass permeability of a zone of rock may be obtained from constant head tests, using packers. The average flow under equilibrium conditions is obtained in the latter from a metered water supply acting under a known pressure and gravity head. Permeability tests can be used to detect zones of soil or rock fractured by subsidence, and they may also be used to investigate the applicability of grouting methods.

## REPORTING OF FINDINGS

When the investigation work is completed and the results are analysed, a summary report will be prepared. This will generally comprise of two parts: a factual or descriptive record, and an interpretative report with recommendations.

### Factual Report

The site descriptive record will be described and details given of work carried out and the results obtained. A geological plan of the site will be presented and the geological sequence plotted on longitudinal sections. Where detailed logging has been carried out, summary' logs may be presented. An assessment of drill bits used, any necessary casing, also any obstructions met (to aid in the planning of any subsequent grouting programme) will be recorded.

### Interpretative Report and Recommendations

Any hazard from the presence of abandoned mine workings wil be reported, and recommendations will be given on treatment considered necessary. The method of mineral working will be assessed where possible, with an estimate of the percentage extraction. The condition of the workings (whether open, closed or partially collapsed) is important, and estimates of the heights to which voids are likely to migrate are helpful when considering treatment. Under normal mining investigation circumstances, such assessment depends on the intensity of the site works, and it is likely to be speculative to varying degrees. In view of the difficult nature of assessment of geometry of workings and deterioration rates of the roof and pillar supports, it is not always straight forward to determine if consolidation work is necessary, and, if it is, to what extent it should be carried out. The assessment is complicated by the empirical nature of many of the behavioural predictions presently available. As there are no straight forward, proven, rigorous analytical methods available, a risk assessment should be made based on geotechnical judgement and experience. By necessity, judgements tend to be based on worst credible expectations. Ground remedial measures and foundation alternatives for the proposed structure will be proposed, and the best locations should be identified. The relative effectiveness of the various methods of stabilising the surface above abandoned mines is largely based on conjecture. Particularly hazardous areas will be indicated.

The groundwater regime will be assessed, and recommendations will be made on methods of excavation and dewatering.

The outcome of the site investigation, together with associated reporting, will determine the nature and extent of any mining consolidation works considered necessary.

# 5 CONCLUSION

It is considered that there is a risk posed by historic unrecorded underground coal mining activity and which may have taken place beneath the development site at shallow depth. Consequently, we recommend that further site investigation is carried out to

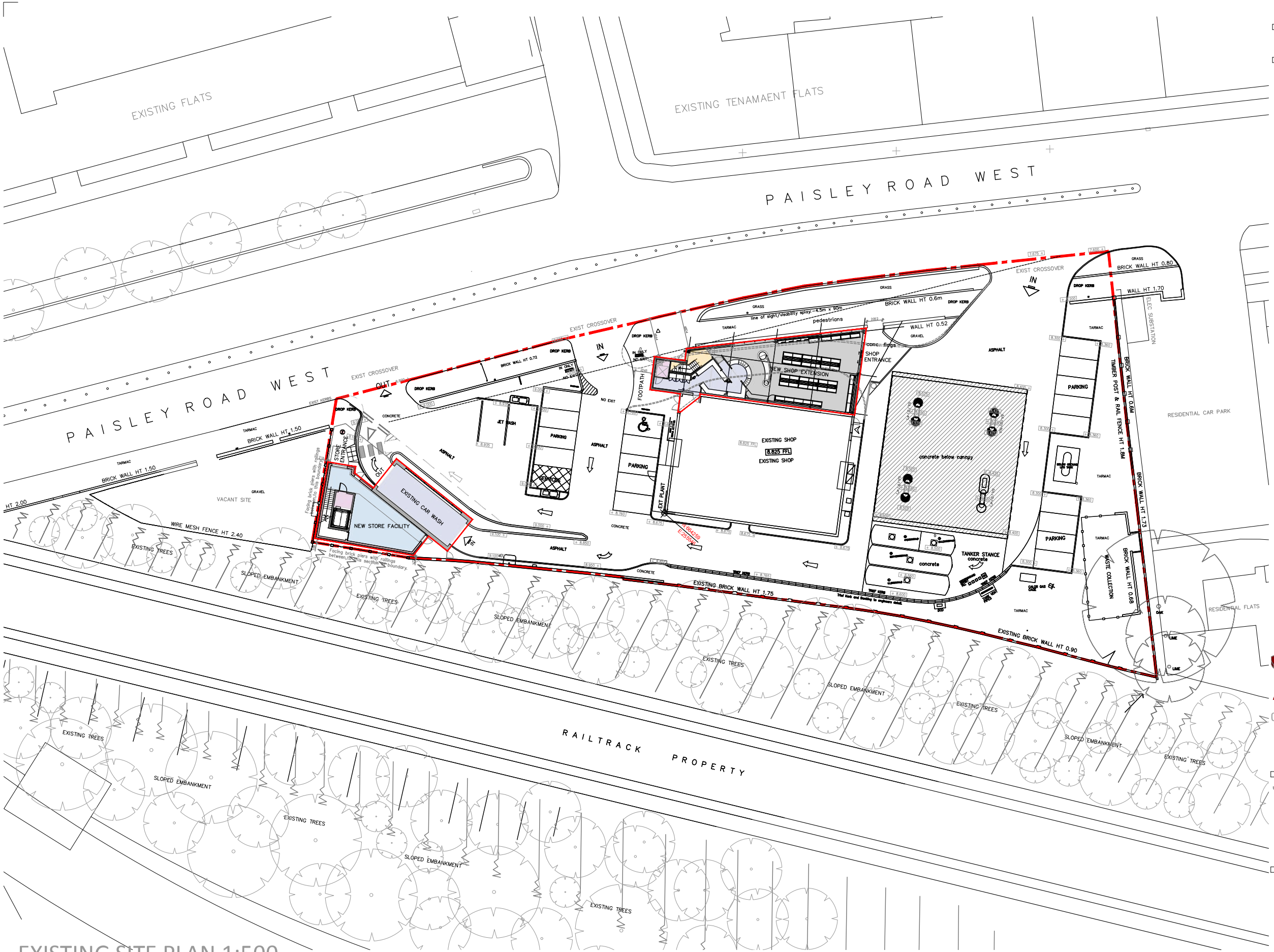
a. determine whether any shallow workings existing below the development site

b. establish the nature and extend of any remedial consolidation works required, where necessary.

The findings from this investigation will then be reported to both Glasgow City Council Planning Department and to the Coal Authority, for their information and records.

# Appendix A

## SITE LOCATION PLAN AND DEVELOPMENT PROPOSAL




EXISTING SITE PLAN 1:500

0 10 20 30 40 50 60 70 80 90 100

SCALE BAR 1:500 @ A3

Do Not Scale Dimensions From Drawing

| Rev. | Date | Description |
|---|---|---|
| A | 25/09/19 | PLANNING AMENDMENTS |

NOTE:
ALL EXISTING BOUNDARIES TO BE RETAINED AND REMAIN AS EXISTING

NOTE:
EXISTING & PROPOSED HOURS OF BUSINESS

5.30AM TO 11.00AM MON- SUN

AMCA ARCHITECTS
Castlecroft Business Centre Tom Johnston Road
Dundee DD4 8XD
T: 01382 774111 F: 01382 739382
mail@amcaarchitect.co.uk

Job
Proposed Extension to Autoport
Paisley Road West
Glasgow
G51 1RP

Drawing
PROPOSED OVERALL SITE PLAN

| Date | Scale |
|---|---|
| JULY 2019 | 1:500 @ A3 |

| Job No | Drwg No | Rev |
|---|---|---|
| 3842 | PL_015 | - |

CAD Ref: 3842_PL_002_EXISTING SITE PLAN.dwg

# Appendix B

## COAL AUTHORITY MINING REPORT

The Coal Authority

Resolving the impacts of mining

British Geological Survey

Expert | Impartial | Innovative

# Ground Stability Non-Residential Report

## BRITISH PETROLEUM CO PLC, AUTOPORT SERVICES, 675 PAISLEY ROAD WEST, GLASGOW, GLASGOW CITY, G51 1RP

| | |
|---|---|
| Date of enquiry: | 24 December 2019 |
| Date enquiry received: | 24 December 2019 |
| Issue date: | 24 December 2019 |
| Our reference: | 51002222856001 |
| Your reference: | 2019-764 |

# Ground Stability Non-Residential Report

This report is based on and limited to the records held by the Coal Authority and the records and geological interpretation of the British Geological Survey (BGS) at the time the report was produced.

**Client name**

Richard Gillespie

**Enquiry address**

BRITISH PETROLEUM CO PLC, AUTOPORT SERVICES, 675 PAISLEY ROAD WEST, GLASGOW, GLASGOW CITY, G51 1RP

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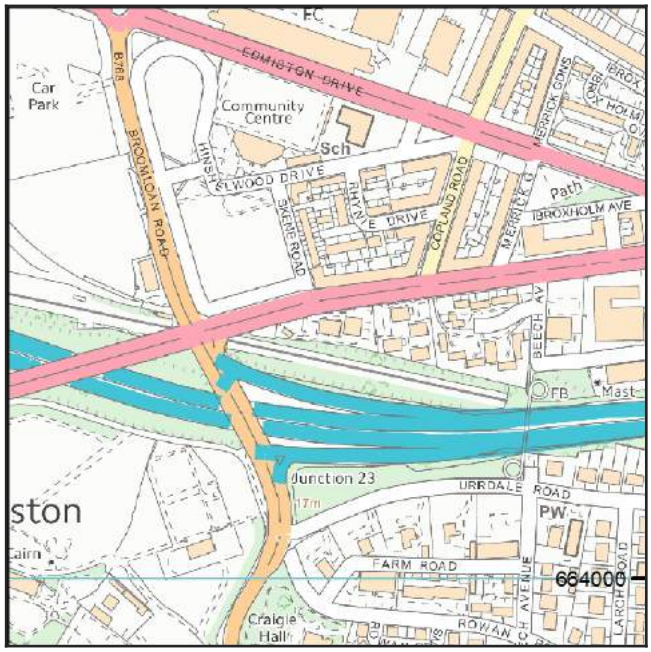



Approximate position of property

# Coal Authority Summary

| Has the search report highlighted evidence or potential of | | |
|---|---|---|
| 1 | Past underground coal mining | Yes |
| 2 | Present underground coal mining | No |
| 3 | Future underground coal mining | Yes |
| 4 | Mine entries | No |
| 5 | Coal mining geology | No |
| 6 | Past opencast coal mining | No |
| 7 | Present opencast coal mining | No |
| 8 | Future opencast coal mining | No |
| 9 | Coal mining subsidence | No |
| 10 | Mine gas | No |
| 11 | Hazards related to coal mining | No |
| 12 | Withdrawal of support | No |
| 13 | Working facilities order | No |
| 14 | Payments to owners of former copyhold land | No |

# BGS Summary

| Has the search report highlighted evidence or potential of | | |
|---|---|---|
| 1 | Shrinkable clay | Yes |
| 2 | Running sand | Yes |
| 3 | Deposits which could compress | Yes |
| 4 | Deposits which could collapse | No |
| 5 | Natural landslide activity | Yes |
| 6 | Soluble rocks | No |

# Detailed findings from the Coal Authority

### 1. Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

However the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Comments on the Coal Authority information section of the report.

The property is in a surface area that could be affected by underground mining in 1 seam of ironstone at 70m to 100m depth, and last worked in 1884.

### 2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

### 3. Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

### 4. Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

### 5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

### 6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

### 7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

### 8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

### 9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

### 10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

### 11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

## 12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

## 13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

## 14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

# Comments on the Coal Authority information

## The Coal Authority own the copyright in this report and the information used is protected by our database right.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if  development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals.  The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed.  This is necessary due to the public safety implications of any development in these circumstances.

A site investigation was carried out in January 1999 by Geraghty & Miller International Inc., Conqueror House, Vision Park, Histon, Cambridge, CB4 4ZR.

# Detailed findings from BGS

### 1. Shrinkable clay

The property is in an area underlain by clay.  Clay can swell or shrink if the moisture content changes.

However, the clay deposits in this area are considered to be mainly of "low plasticity". This means it is unlikely that they will cause ground movement.

### 2. Running sand

The property is in an area underlain by sand.  Some sands, if voids are present, may flow if they come into contact with water.

However, the sand deposits in this area are unlikely to cause ground movement unless changes in water levels occur.

### 3. Deposits which could compress

The property is in an area underlain by natural compressible deposits.  When this material is overloaded, or dries out, it can become unstable causing ground movement.

However, such movement is unlikely to occur unless substantial changes are made to the ground and/or vegetation, including those caused by drought or excessively wet weather.

### 4. Deposits which could collapse

The property is not in an area underlain by deposits which could collapse and cause ground movement.

### 5. Natural landslide activity

The property is in an area where landslide activity is unlikely to occur.

### 6. Soluble rocks

The property is not in an area underlain by soluble rocks.

# Comments on the BGS information

These features should not necessarily give cause for concern.

Whether or not a property is affected by ground movement can depend on a number of factors such as its age, type of construction, and on its surroundings and such matters as drainage and nearby trees.

Since 1992 buildings should have been designed and constructed according to buildings regulations to ensure natural ground movement will not cause damage to a building.

However, you should consider the possible consequences before you:
- carry out any building or excavation work
- alter the ground surface or drainage of surface or ground water
- plant or remove large shrubs or trees

Ground movement can cause uneven damage or subsidence to a property.

Developers should always carry out an appropriate risk assessment before starting any work on, or around, a property.

If you own the property and it is damaged by ground movement: You should contact your insurance company and anyone else who has an interest in the property, for example, the mortgage lender.

If you are considering buying the property and BGS has identified that ground movement could occur you should tell your professional advisers.

## Additional remarks

This report has been prepared in accordance with the Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority and the British Geological Survey's Terms and Conditions applicable at the time the report was produced. The information provided by the Coal Authority has been compiled in response to the Law Society's CON29M Coal Mining enquiries and are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

## Disclaimer



## Alternative formats

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

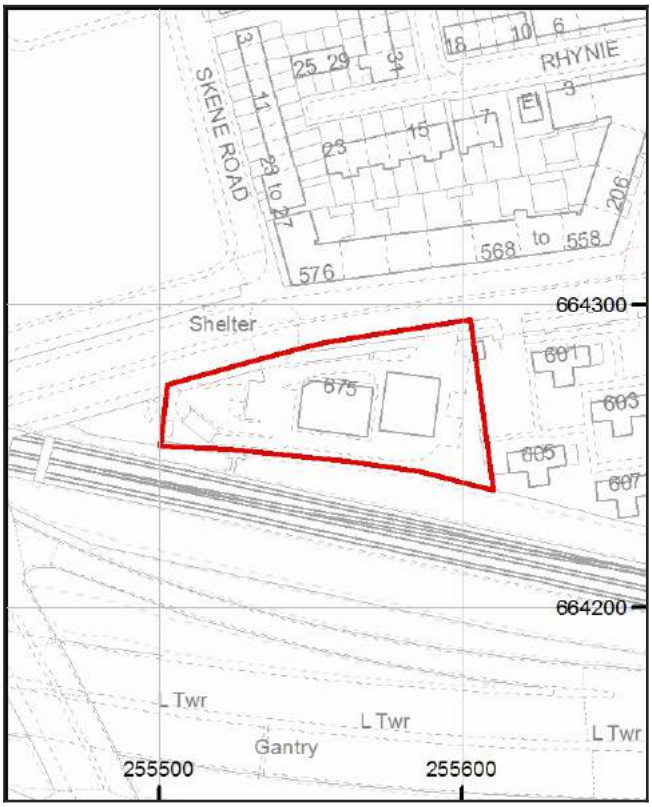
## Terms and conditions

Our full terms and conditions can be found on our website – www.groundstability.com.

# Enquiry boundary

**Key**

Approximate position of enquiry boundary shown




## How to contact us


0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

/company/the-coal-authority
/thecoalauthority
/coalauthority

# General information

## This report has been prepared by the Coal Authority using the information held by the Authority, together with information supplied by the British Geological Survey (BGS).

1. The Coal Authority and the British Geological Survey (BGS) are referred to in the report as the suppliers.
2. This report is confidential and has been prepared specifically for the property and for use by the owner only. It should not be relied upon by any other property or by any other third party.
3. The report is based on and limited to:
   a. the specific features identified in the report
   b. each suppliers interpretation of the records it holds relating to the particular features for which the report states that the supplier is responsible at the time the report is prepared
4. The records used do not represent an exhaustive or comprehensive list of all the records that may exist or may be available for the property. No physical inspection of the property has or will be carried out in the preparation of this report.
5. Information from the Coal Authority is based on records in its possession relating to coal mining activity. There may be information held by others on historical coal mining, and information on other types of mining, which is not searched for as part of this report.
6. Information from BGS relates solely to the 6 natural ground stability hazards as described in this report. It does not cover any other geological hazards or man-made hazards (such as contaminated land). BGS may hold data on other geological hazards and features that may affect the property which are not searched for as part of this report. Consequently the report should not be taken as a guarantee that there are no other geological hazards or other issues affecting the property. For a more detailed interpretation please visit the BGS's website www.bgs.as.uk
7. Information from BGS is prepared using the BGS GeoSure database which is based on 1:10,000 scale geological mapping reduced to 1:50,000 scale.

8. The information from suppliers may be derived from records from a number of disparate sources which vary in age, quantity and quality. Such records may include material donated to the suppliers from third parties, which may not have been subject to any verifications or other quality control process.

9. Raw data used to prepare this report may have been transcribed from analogue to digital format, or may have been acquired by means of automated measuring techniques. Consequently, some data may have been processed without human intervention and may contain undetected errors.

10. The records available to the suppliers are constantly being updated. The suppliers cannot be held responsible for any changes in the information on which this report is based which occur after the date the report was produced.

11. If this report is for a residential property, insurance is included. This report includes a policy and key facts summary which outline the significant features, benefits and limitations of the cover provided. Full terms and conditions are shown in the policy document.

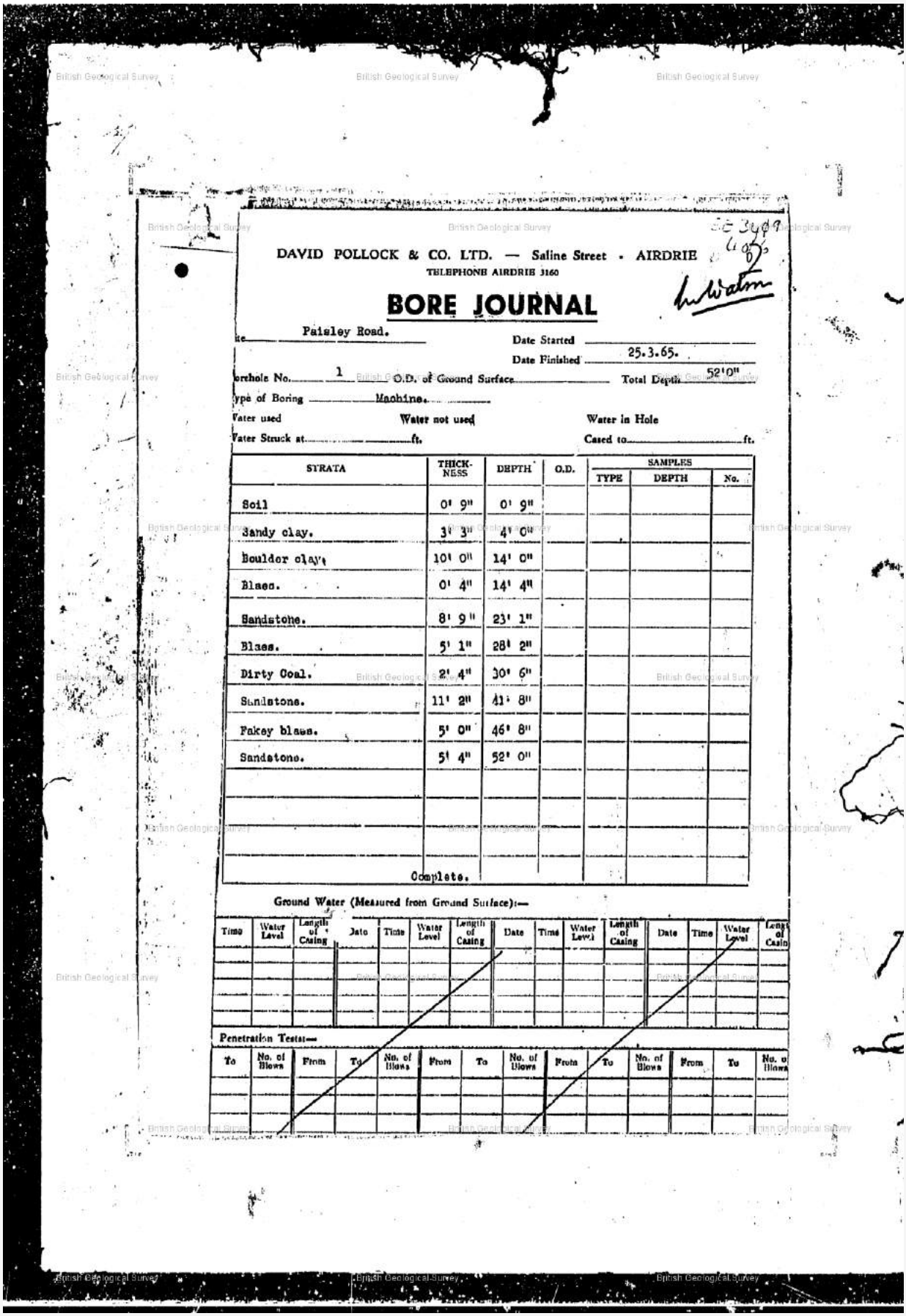
12. The report gives an indication of whether ground movement could occur at the property. This does not necessarily mean that the property is or will be affected by ground instability. Such an assessment can only be made by inspection of the property by a qualified professional, such as a surveyor or engineer. This report does not therefore –
    - include any information or warranty relating to the actual state, or the structural or other condition, of the property
    - determine the saleability or value, or the safety, of the property
    - indicate the suitability of the property for any particular purpose (including, without limitation, its suitability for development (within the meaning of section 55 of the Town and Country Planning Act 1990 as amended) or any building, excavation or landscaping work)
    - act as a substitute for any physical inspection, specialist interpretations and/or professional advice

# VAT receipt

| | |
|---|---|
| **Issued by** | The Coal Authority<br>200 Lichfield Lane<br>Mansfield<br>Nottinghamshire<br>NG18 4RG |
| **Tax point date** | 24 December 2019 |
| **Issued to** | RICHARD GILLESPIE<br>OLD STATION HOUSE<br>FORTH PLACE<br>BURNTISLAND<br>FIFE<br>KY3 9DJ |
| **Property search for** | BRITISH PETROLEUM CO PLC<br>AUTOPORT SERVICES<br>675 PAISLEY ROAD WEST<br>GLASGOW<br>GLASGOW CITY<br>G51 1RP |
| **Reference number** | 51002222856001 |
| **Date of issue** | 24 December 2019 |
| **Cost** | £131.96 |
| **VAT @ 20%** | £26.39 |
| **Total received** | £158.35 |
| **VAT registration** | 598 5850 68 |

# Appendix C

## HISTORICAL BOREHOLE RECORDS



DAVID POLLOCK & CO. LTD. — Saline Street · AIRDRIE
TELEPHONE AIRDRIE 3160

# BORE JOURNAL

Paisley Road.

Date Started

Date Finished 25.3.65.

Borehole No. 1 O.D. of Ground Surface Total Depth 52'0"

Type of Boring Machine.

Water used Water not used Water in Hole

Water Struck at ft. Cased to ft.

| STRATA | THICKNESS | DEPTH | O.D. | SAMPLES TYPE | SAMPLES DEPTH | SAMPLES No. |
|---|---|---|---|---|---|---|
| Soil | 0' 9" | 0' 9" | | | | |
| Sandy clay. | 3' 3" | 4' 0" | | | | |
| Boulder clay. | 10' 0" | 14' 0" | | | | |
| Blaes. | 0' 4" | 14' 4" | | | | |
| Sandstone. | 8' 9" | 23' 1" | | | | |
| Blaes. | 5' 1" | 28' 2" | | | | |
| Dirty Coal. | 2' 4" | 30' 6" | | | | |
| Sandstone. | 11' 2" | 41' 8" | | | | |
| Fakey blaes. | 5' 0" | 46' 8" | | | | |
| Sandstone. | 5' 4" | 52' 0" | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Complete. | | | | | | |

Ground Water (Measured from Ground Surface):—

| Time | Water Level | Length of Casing | Date | Time | Water Level | Length of Casing | Date | Time | Water Level | Length of Casing | Date | Time | Water Level | Length of Casing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

Penetration Tests:—

| To | No. of Blows | From | To | No. of Blows | From | To | No. of Blows | From | To | No. of Blows | From | To | No. of Blows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
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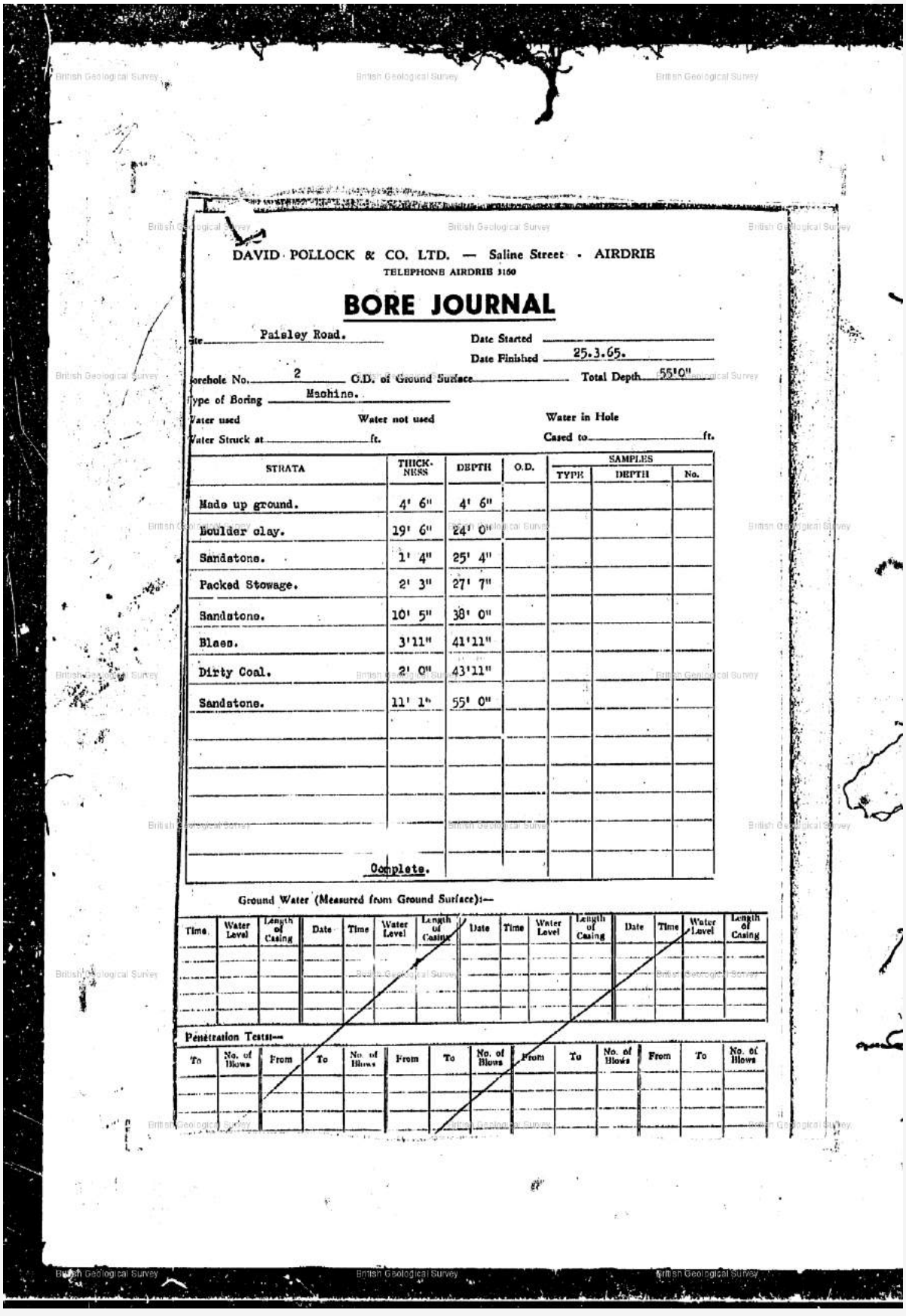
| | | | | | | | | | | | | | |



DAVID POLLOCK & CO. LTD. — Saline Street · AIRDRIE

TELEPHONE AIRDRIE 3160

# BORE JOURNAL

Site Paisley Road. Date Started

Date Finished 25.3.65.

Borehole No. 2 O.D. of Ground Surface Total Depth 55'0"

Type of Boring Machine.

Water used Water not used Water in Hole

Water Struck at ft. Cased to ft.

| STRATA | THICKNESS | DEPTH | O.D. | SAMPLES TYPE | SAMPLES DEPTH | SAMPLES No. |
|---|---|---|---|---|---|---|
| Made up ground. | 4' 6" | 4' 6" | | | | |
| Boulder clay. | 19' 6" | 24' 0" | | | | |
| Sandstone. | 1' 4" | 25' 4" | | | | |
| Packed Stowage. | 2' 3" | 27' 7" | | | | |
| Sandstone. | 10' 5" | 38' 0" | | | | |
| Blaes. | 3'11" | 41'11" | | | | |
| Dirty Coal. | 2' 0" | 43'11" | | | | |
| Sandstone. | 11' 1" | 55' 0" | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Complete. | | | | | | |

Ground Water (Measured from Ground Surface):—

| Time | Water Level | Length of Casing | Date | Time | Water Level | Length of Casing | Date | Time | Water Level | Length of Casing | Date | Time | Water Level | Length of Casing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

Penetration Tests:—

| To | No. of Blows | From | To | No. of Blows | From | To | No. of Blows | From | To | No. of Blows | From | To | No. of Blows |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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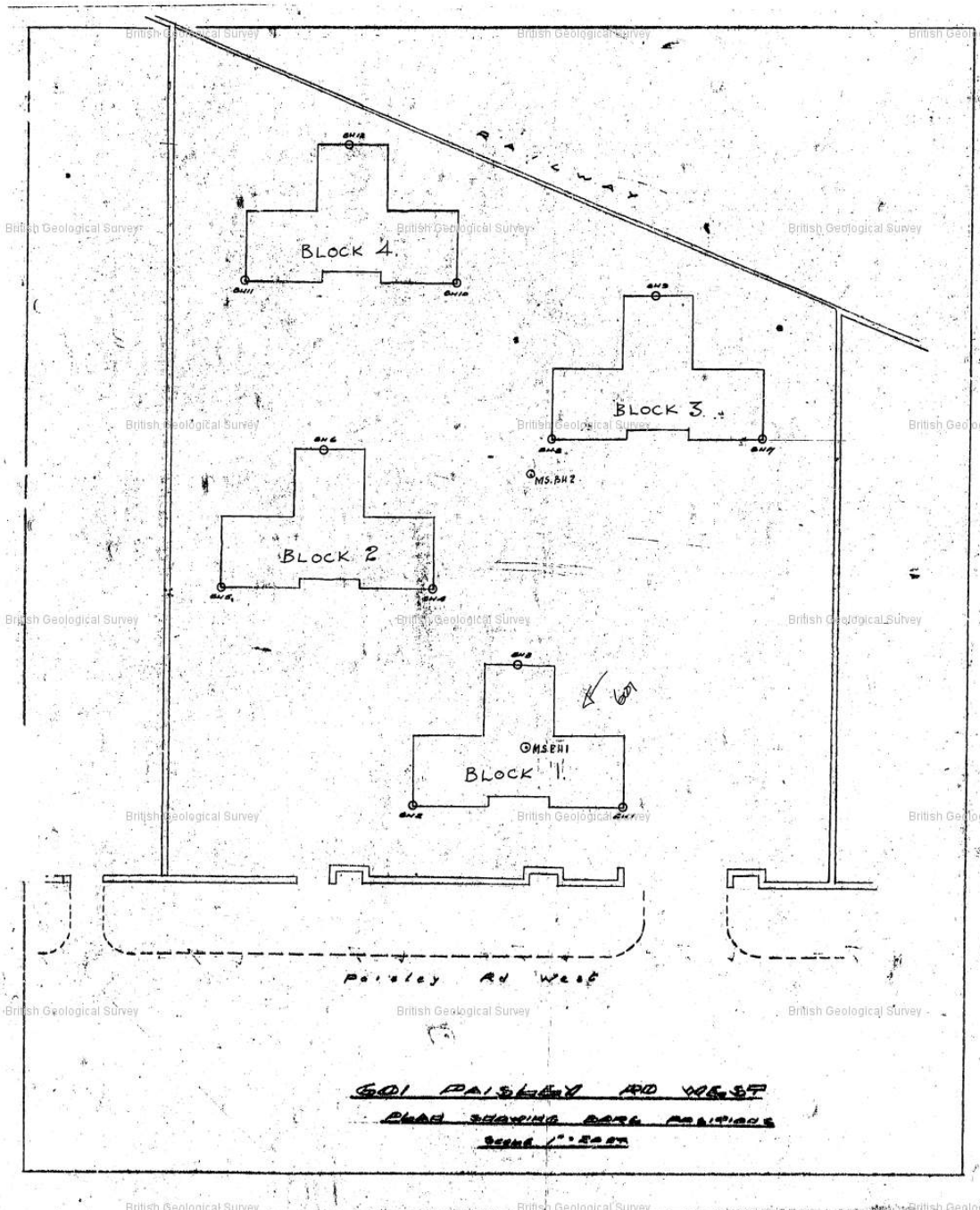


601 PAISLEY ROAD WEST

PLAN SHOWING BORE POSITIONS

SCALE 1" = 50 FT