masonevans
geo-environmental consultants

The Piazza, 95 Morrison Street, Glasgow, G5 8BE

Our ref: G2008/468A-02/PB/LM

18 December 2008

[redacted]

Mr Walter Crawford

[redacted]

Dear Walter

**LAWRIGG ROAD, FAULDHOUSE**

Further to your instruction of 12 December 2008 we are writing to present the findings of our desk top researches of the geo-environmental conditions pertaining to the above site as indicated in available in-house documentary sources and would comment as follows.

**Summary**

Our researches into the conditions at the site have indicated the following:

1. *From the first available Ordnance Survey map dated 1958 the site included a disused mine, associated spoil heaps, mineral rail lines with areas of rough pasture in the north and south. The spoil heaps and features associated with the mine were recorded up to the latest available map edition of 1980 which also noted disused tips in the eastern area of the site.*

2. *The immediate surrounding area was recorded to contain disused mining, quarrying and 'works' with extensive spoil heaps, mineral rail lines and 'rises'. The wider area was indicated to be undeveloped agricultural land interspersed with spoil heaps to the north, east and west of the site with the village of Fauldhouse to the south, on the 1958 map edition. Approximately 300m to the north a mine was recorded. The examined map edition of 1967 indicated a general residential expansion of the village of Fauldhouse with no further significant changes noted in the surrounding area. The latest available map edition of 1980 recorded disused tips at the location of previously recorded spoil heaps to the east of the site and a 'works' to the west.*

3. *The available drift geology map indicates the north and south of the site to be underlain by Glacial Till with the central site area recorded to be underlain by made ground, undifferentiated deposits (including clay, silt, sand, gravel and peat) and disturbed ground where made ground and fill cannot be distinguished, with an approximate thickness of 5m.*

4. *The bedrock geology underlying the site was recorded to comprise Carboniferous aged Lower Coal Measures mainly sandstone, siltstone and mudstone with seams of coal which have been worked and is indicated to be dipping at 5° to the west.*

5. *The site is underlain by strata of the Lower Coal Measures which contain economic coal seams. From available information, mining is indicated to underlie the entire site with areas in the north, east and south indicated to be at depths of less than 30m below ground level. Three pit shafts were recorded within the site boundaries.*

**Site Location and Description**

The site is located to the north east of Fauldhouse village with Lanrigg Road to the west (Drawing Nos G2008/468A/DS/F/01-02).

| | |
|---|---|
| Site Name: | Lanrigg Road, Fauldhouse |
| National Grid Reference: | NS 938 615 |
| Site Area: | 24 Ha approximately |
| Local Authority: | West Lothian Council |

18 December 2008

Mr Walter Crawford

**Extent of Researches**

An examination was made of in-house information comprising past editions of Ordnance Survey and BGS maps with attention being focused on former site uses and the presence of industrial processes (if any) in the vicinity of the study area.

**The Site and Surrounding Area**

From the first available Ordnance Survey map dated 1958 ***the site*** was indicated to contain a disused mine, associated spoil heaps with a mineral rail line in the centre and north of the site with areas of rough pasture in the north and south. The spoil heaps and features associated with the mine were recorded up to the latest available map edition of 1980 which also noted disused tips in the eastern area of the site (Drawing Nos G2008/468A/DS/F/03-05).

The ***surrounding area*** was indicated to be comprised of disused mining, quarrying and 'works' with extensive spoil heaps, mineral rail line and 'rises', with undeveloped agricultural land interspersed with spoil heaps to the north, east and west of the site with the village of Fauldhouse to the south, on the 1958 map edition. Approximately 300m to the north a mine was recorded. The examined map edition of 1967 indicated a general residential expansion of the village of Fauldhouse with no further significant changes noted in the surrounding area. The latest available map edition of 1980 recorded disused tips at the location of previously recorded spoil heaps to the east of the site and a works to the west.

**Conjectured Ground Conditions**

The available drift geology map indicates that the northern and southern site areas are underlain by Glacial Till with the central site area underlain by made ground, undifferentiated deposits (including clay, silt, sand, gravel and peat) and disturbed ground where made ground and fill cannot be distinguished (Drawing No G2008/468A/DS/F/06). The drift thickness is indicated to be approximately 5m (Drawing No G2008/468A/DS/F/07).

The bedrock geology underlying the site was recorded to consist of Carboniferous aged Lower Coal Measures mainly sandstone, siltstone and mudstone with seams of economic coal which have been worked and is indicated to be dipping at 5° to the west (Drawing No G2008/468A /DS/F/08).

The Upper Drumgray (Shotts Furnace) and the Mid Dumgray Coal are recorded to outcrop in the west and centre of the site. The Mill Coal and the Colinburn Coal outcrop directly to the east of the site, due to the westerly direction of dip these seams underlie the site at shallow depths. Two faults are noted within the site, in the north and south, downthrowing to the north, aligned generally east to west.

**Mining and Quarrying**

The site is underlain by strata of the Lower Coal Measures which contain historically economic coal seams. From available information, mining is indicated to underlie the entire site with areas in the north, east and south indicated to be at depths of less than 30m below ground level. Three pit shafts were recorded within the site boundaries, one in the east and two in the west (Drawing No G2008/468A/DS/F/09-11).

Numerous pit shafts and adits are also recorded in the immediate area surrounding the site (Drawing No G2008/468A/DS/F/12). However, in areas of historical mining the presence of further (unrecorded) mine entries cannot be discounted.

18 December 2008

Mr Walter Crawford

**CONCLUSIONS AND RECOMMENDATIONS**

**Contamination**

Due to the historical development within the site, the potential for significant made ground with associated chemical contaminants to exist is considered high. It is therefore recommended that comprehensive ground investigation are undert aken to determine ground conditions and the presence of potential contamination constraints.

If the results of the chemical analysis record contaminants to be present in excess of guideline levels, it is likely that remedial measures (e.g. landfilling of contaminated material) will be required.

**Gas Emissions**

Should significant quantities of made ground or naturally occurring organic materials (e.g. peat) be encountered during the ground investigations, we would recommend that appropriate investigations be undertaken to establish any gas emission constraints.

**Foundation Considerations**

The desk-top researches indicate the potential for significant made ground soils underlain by particularly poor quality natural soils including peat. We would therefore recommend investigations to determine the nature and extent of the superficial materials throughout the site so definitive comment on foundation options can be made.

**Mining and Quarrying**

Our researches have recorded evidence of previously worked mineral seams at shallow depths beneath the site, which may adversely affect ground surface stability. Mineral investigations are therefore required to determine the presence (if any) of shallow mine workings within the site.

Three mineshafts were indicated to be present within the boundaries of the site. These will require to be located and appropriately treated. As in all areas of historic mining vigilance should be maintained (during future site works) for the presence of unrecorded mineshafts or infilled quarries.

We trust that this will meet with your current requirements. However, if you require any further information, please do not hesitate to contact us the undersigned.

Yours sincerely
MASON EVANS PARTNERSHIP LIMITED

[redacted]

Patrick Barry
Director

Encs

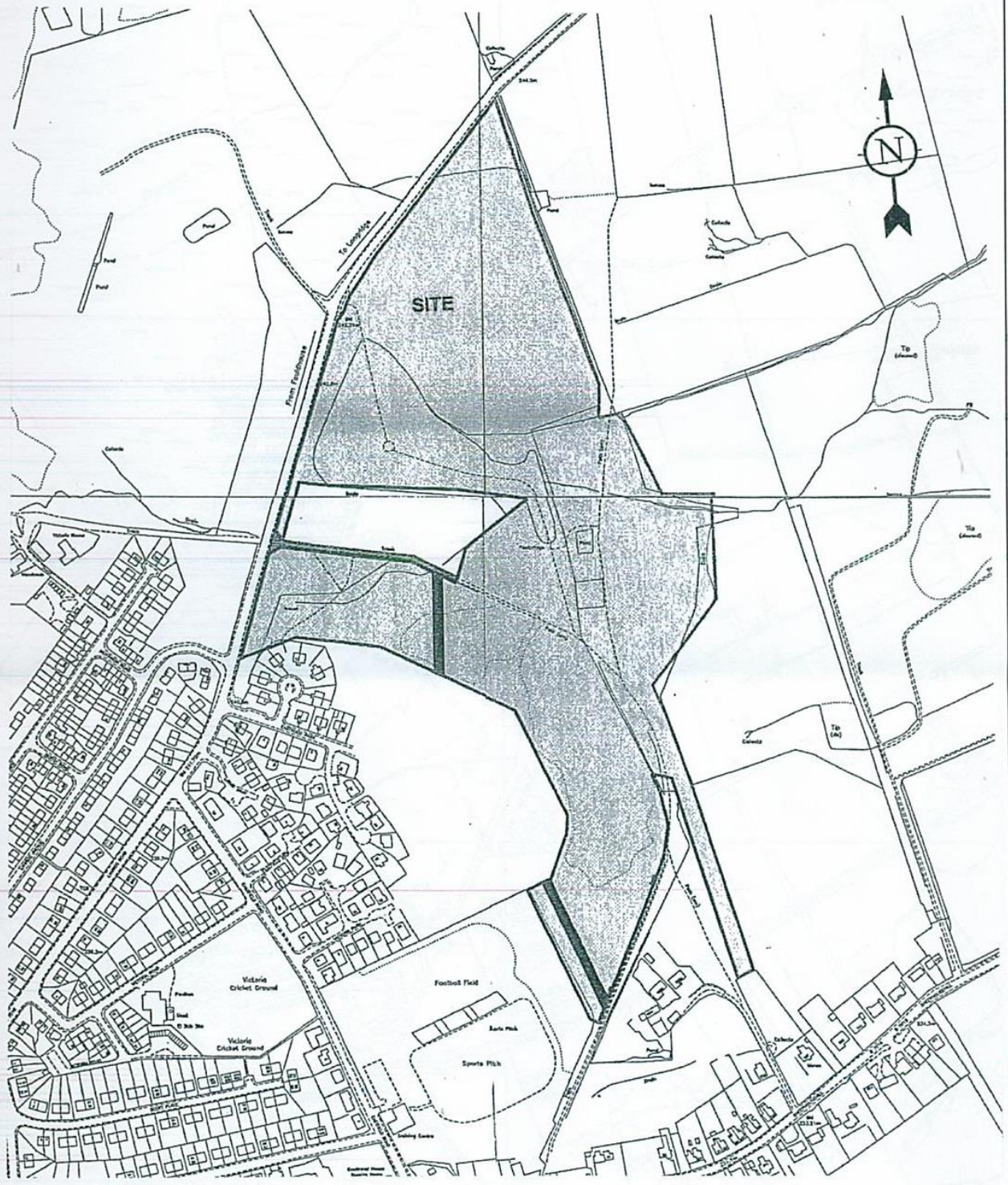

masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | |
|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | SITE LOCATION PLAN | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/01 | | 15/12/08 | JC | | 1:50,000 |



A4 border: 277 x 190

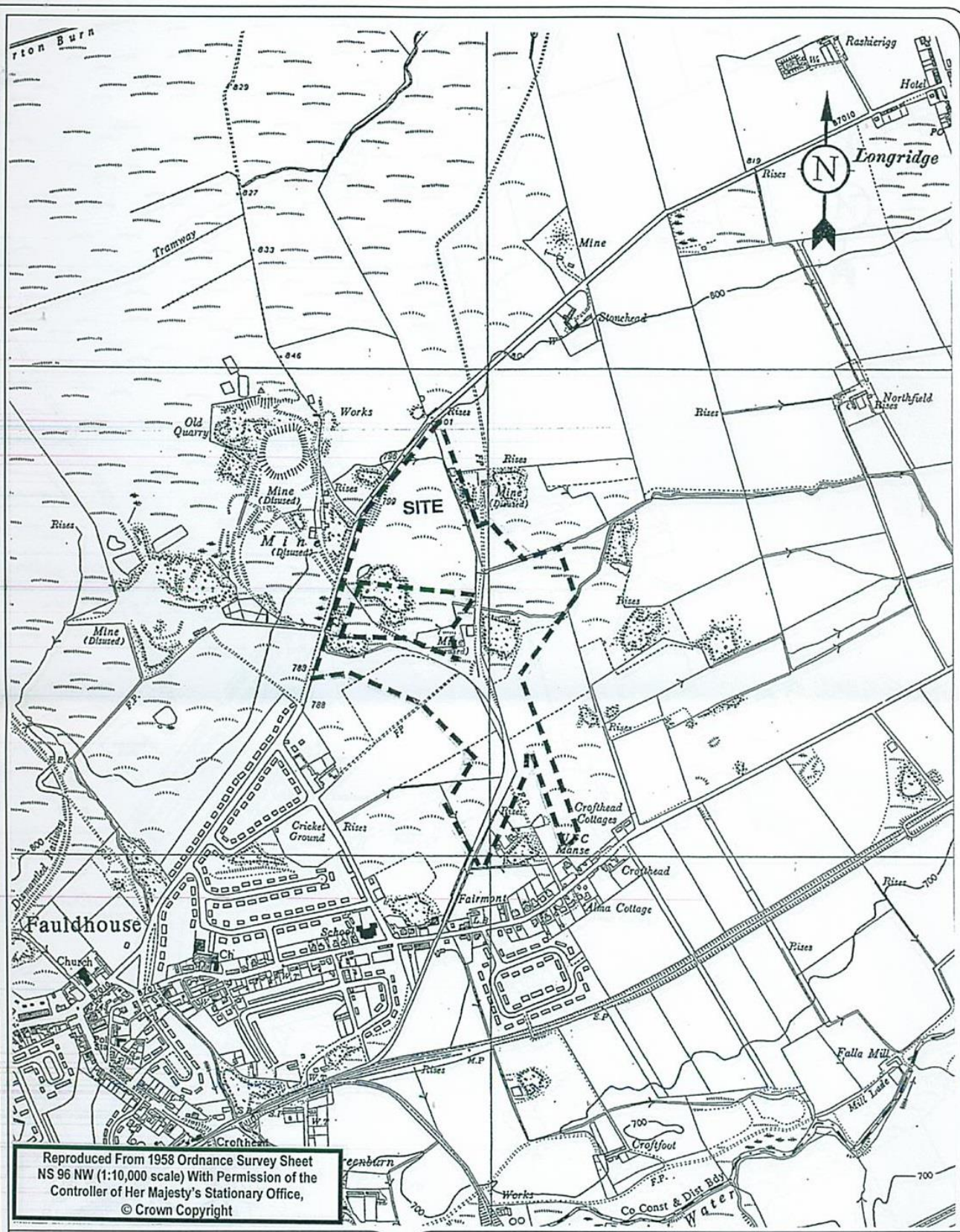



masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

| | | | | | | |
|---|---|---|---|---|---|---|
| client details: | WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED<br>405 GREENGAIRS ROAD<br>AIRDRIE, ML6 7TE | | | | | |
| project title: | LANRIGG ROAD<br>FAULDHOUSE | | drawing title: | STUDY<br>AREA | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/02 | | 15/12/08 | JC | | NTS |



A4 border: 277 x 190




masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

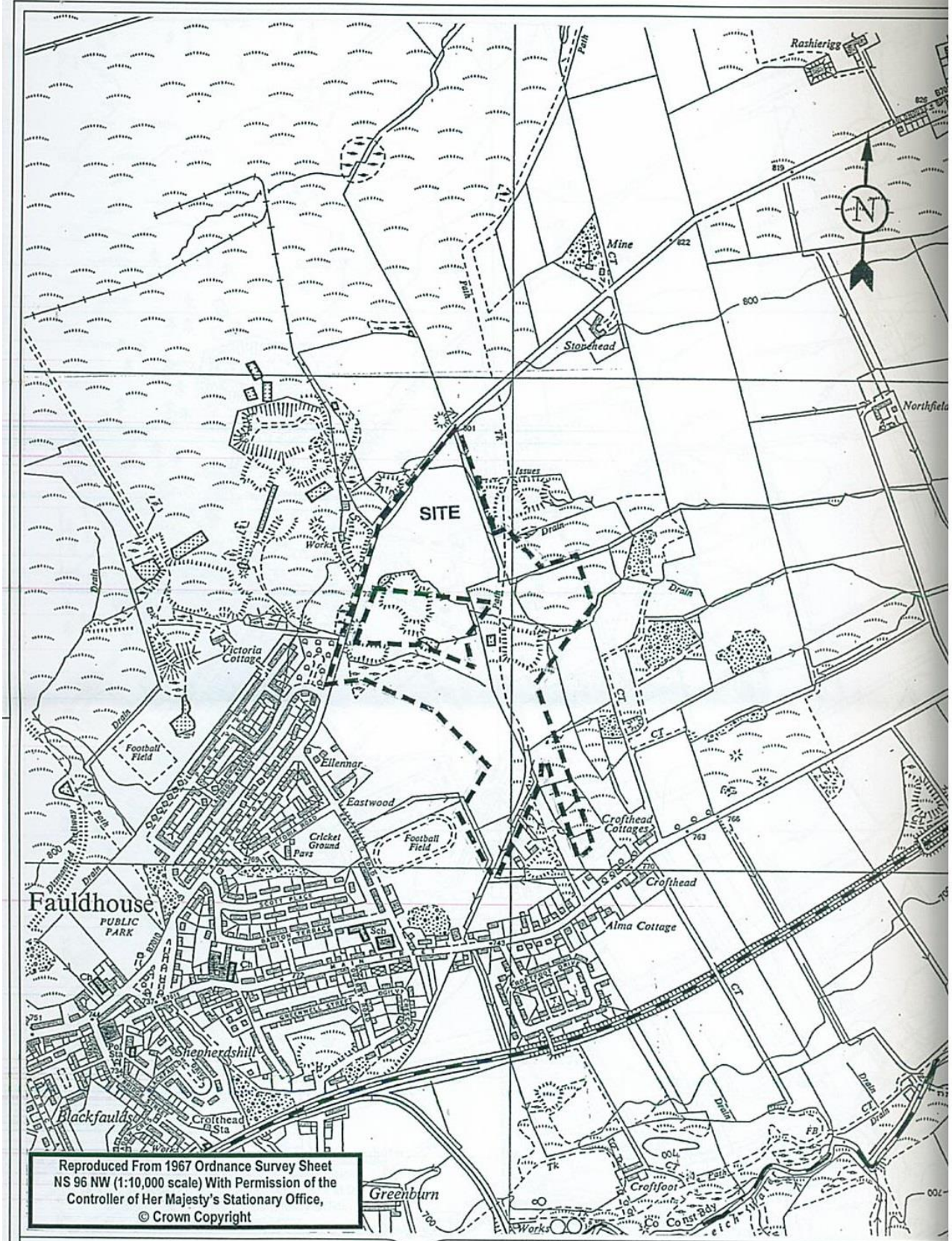
client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | drawing title: |
|---|---|
| LANRIGG ROAD FAULDHOUSE | EXTRACT FROM ORDNANCE SURVEY MAP OF 1958 |

| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
|---|---|---|---|---|---|---|
| G2008/468A | G2008/468A/DS/R/F/03 | | 15/12/08 | JC | | 1:10,000 |



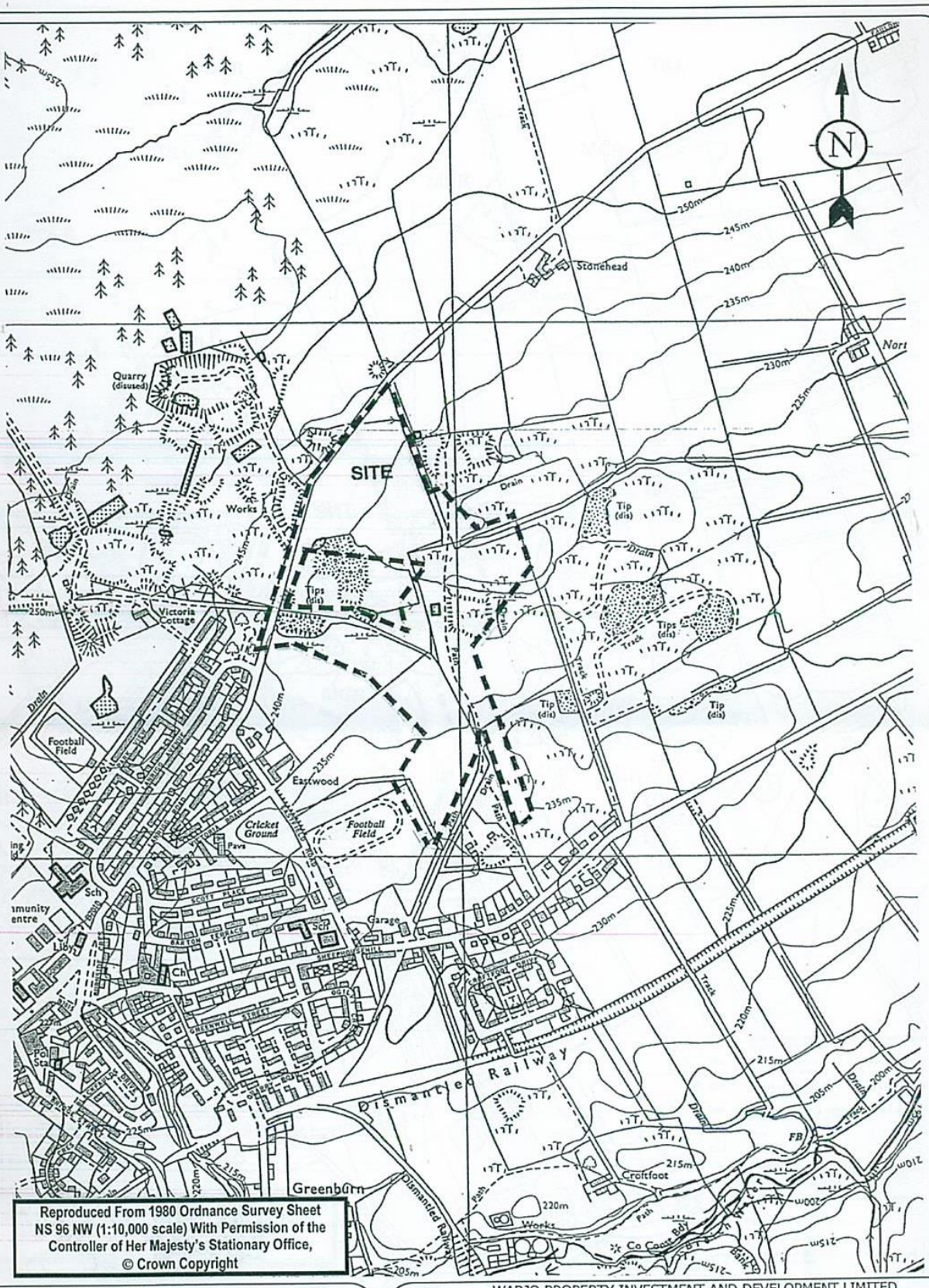
A4 border: 277 x 190




masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | | |
|---|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM ORDNANCE SURVEY MAP OF 1967 | | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/04 | | 15/12/08 | JC | | 1:10,000 |




Reproduced From 1980 Ordnance Survey Sheet NS 96 NW (1:10,000 scale) With Permission of the Controller of Her Majesty's Stationary Office, © Crown Copyright


masonevans
geo-environmental consultants

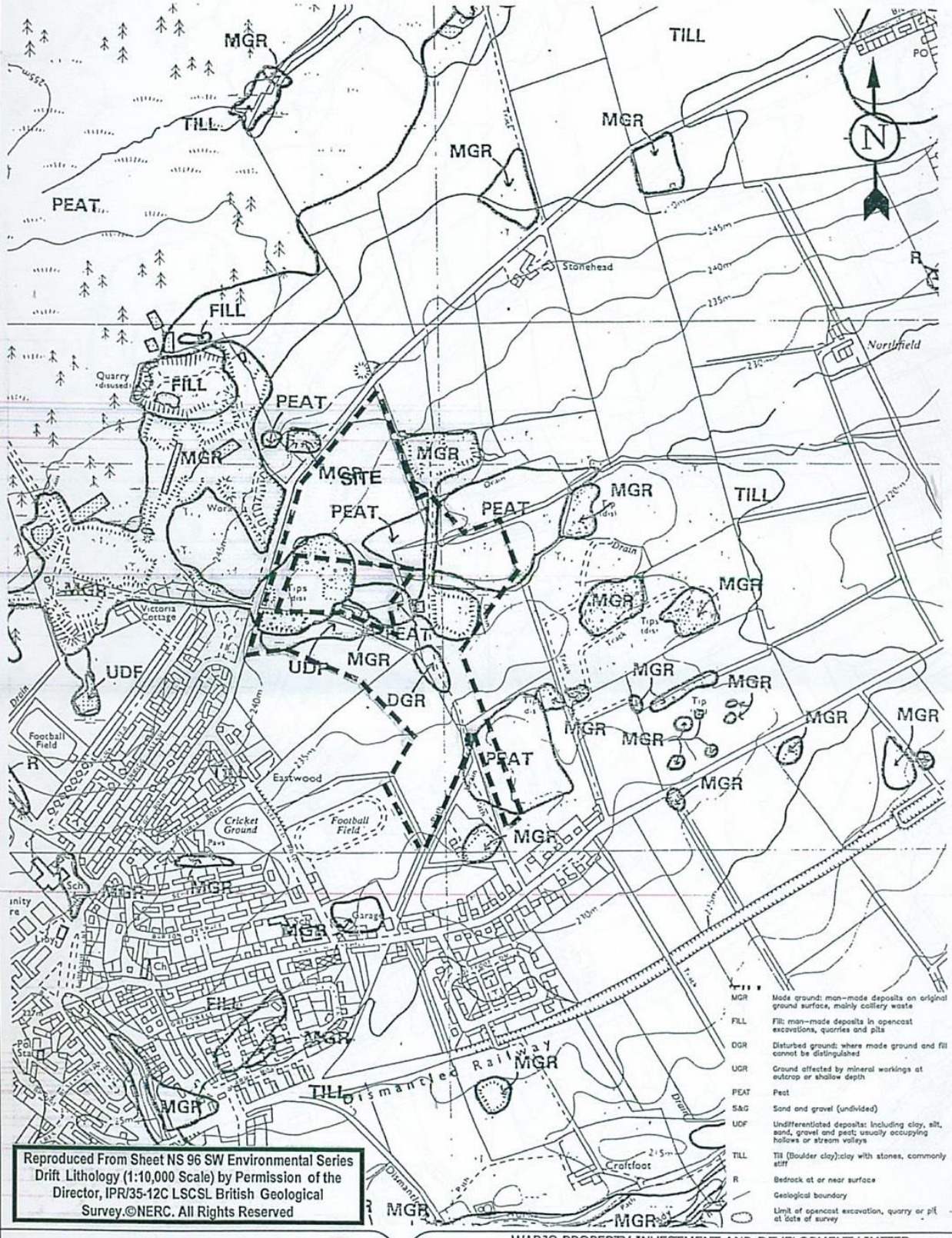
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk


client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | | |
|---|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM ORDNANCE SURVEY MAP OF 1980 | | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/05 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190






masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

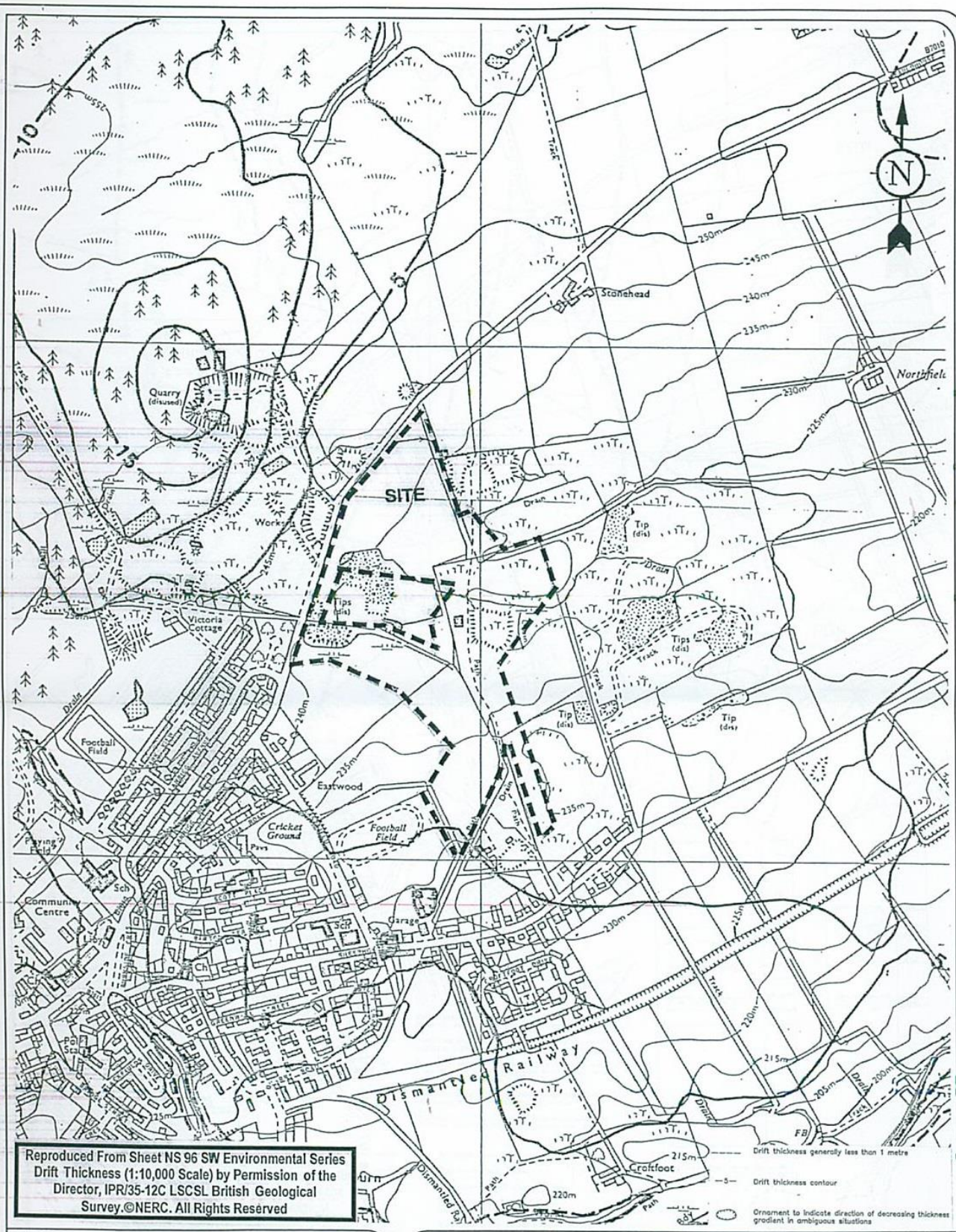
client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | drawing title: |
|---|---|
| LANRIGG ROAD FAULDHOUSE | EXTRACT FROM BGS MAP DRIFT LITHOLOGY |

| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
|---|---|---|---|---|---|---|
| G2008/468A | G2008/468A/DS/R/F/06 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190





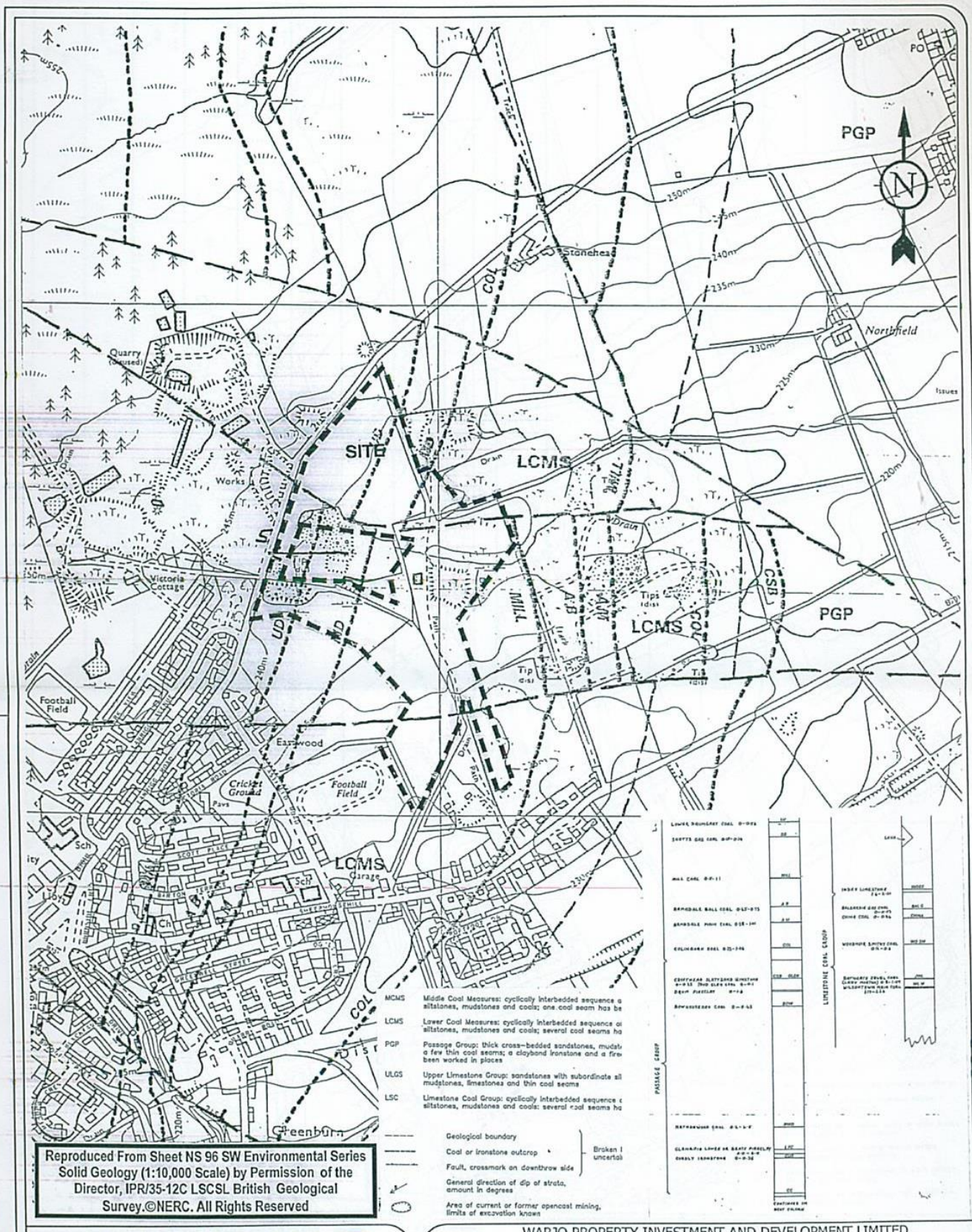

masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | | |
|---|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM BGS MAP DRIFT THICKNESS | | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/07 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190





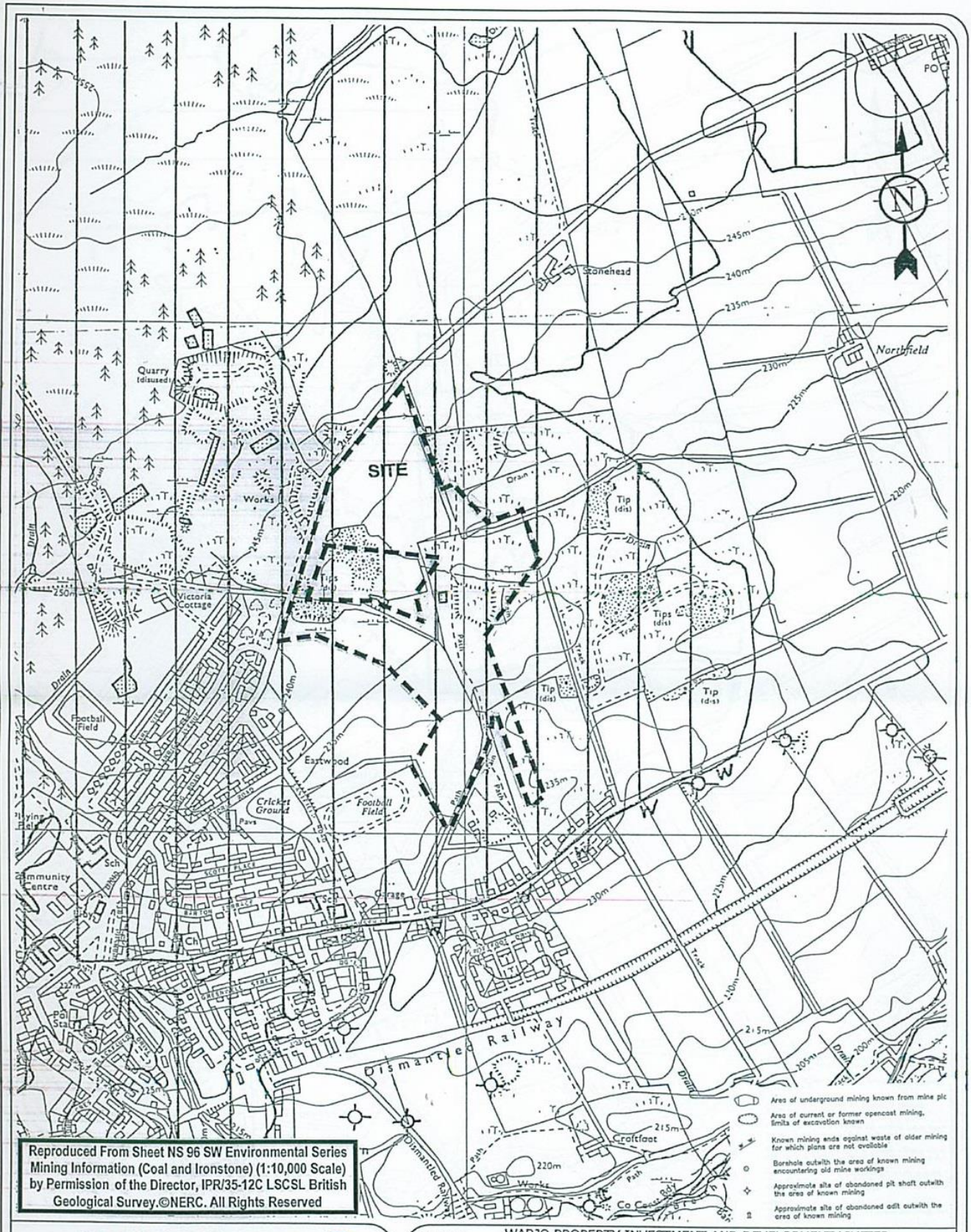

masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | | |
|---|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM BGS MAP SOLID GEOLOGY | | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/08 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190





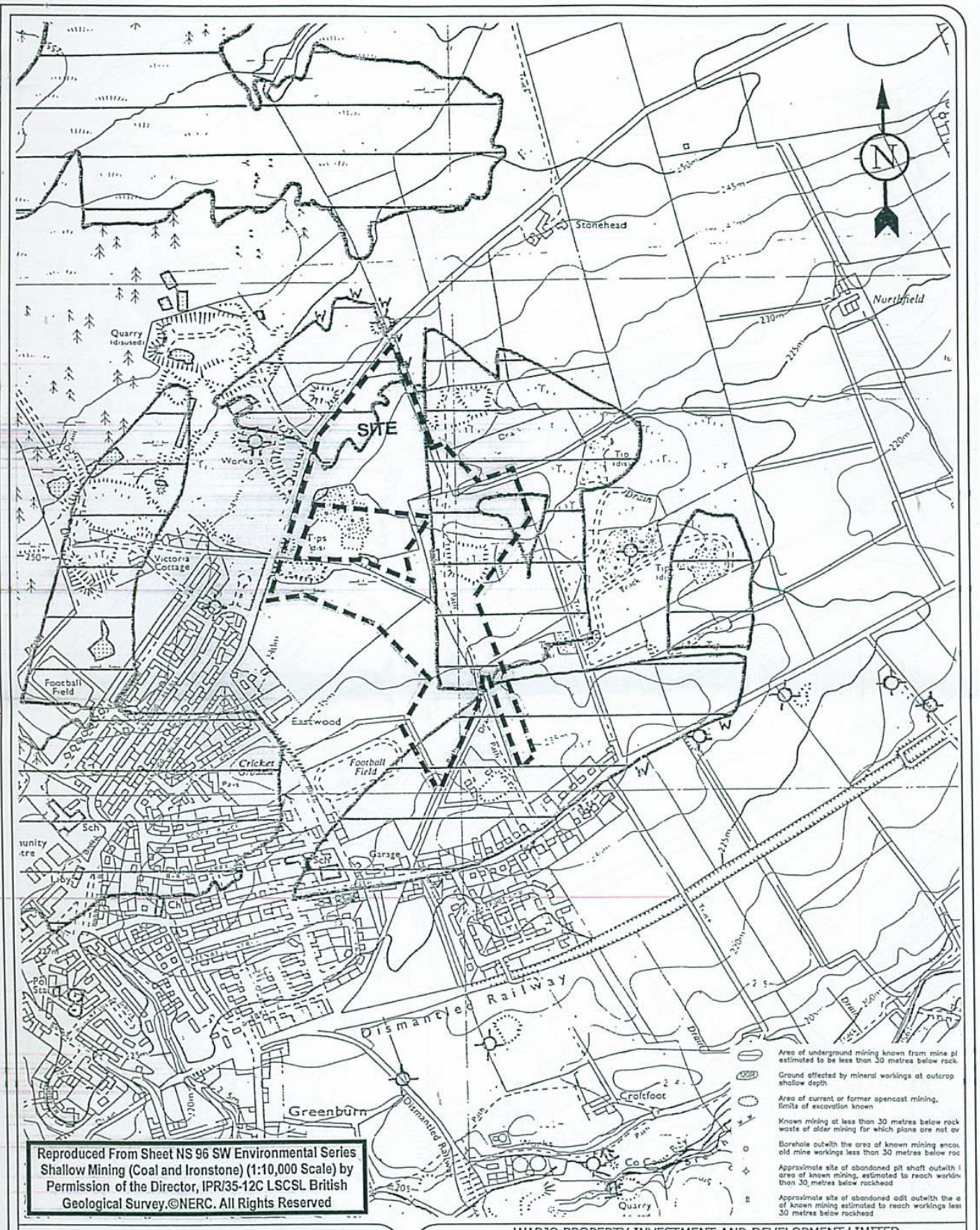

masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | |
|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM BGS MAP MINING INFORMATION ( COAL & IRONSTONE ) | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/09 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190





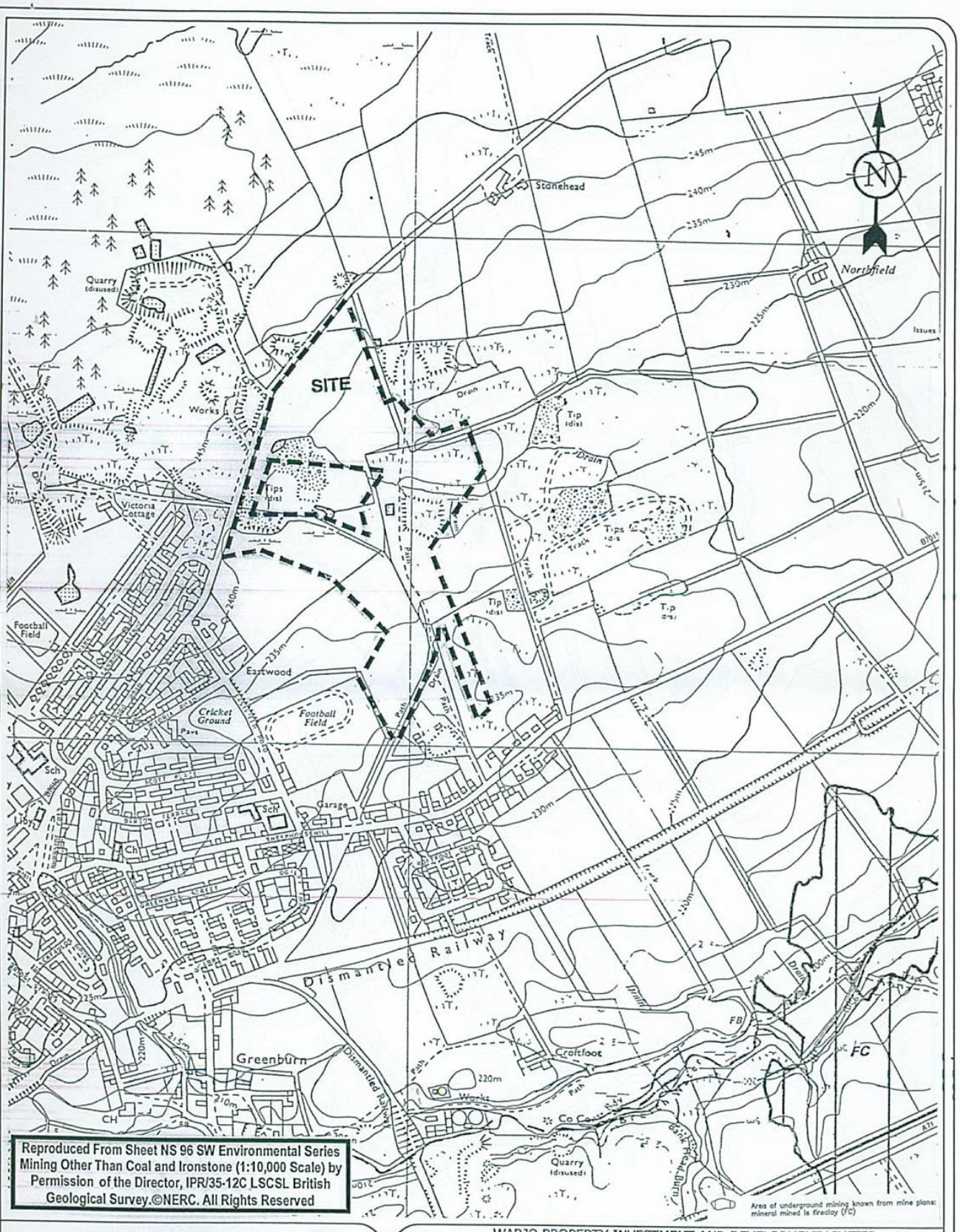

masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | | |
|---|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM BGS MAP SHALLOW MINING ( COAL & IRONSTONE ) | | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/10 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190





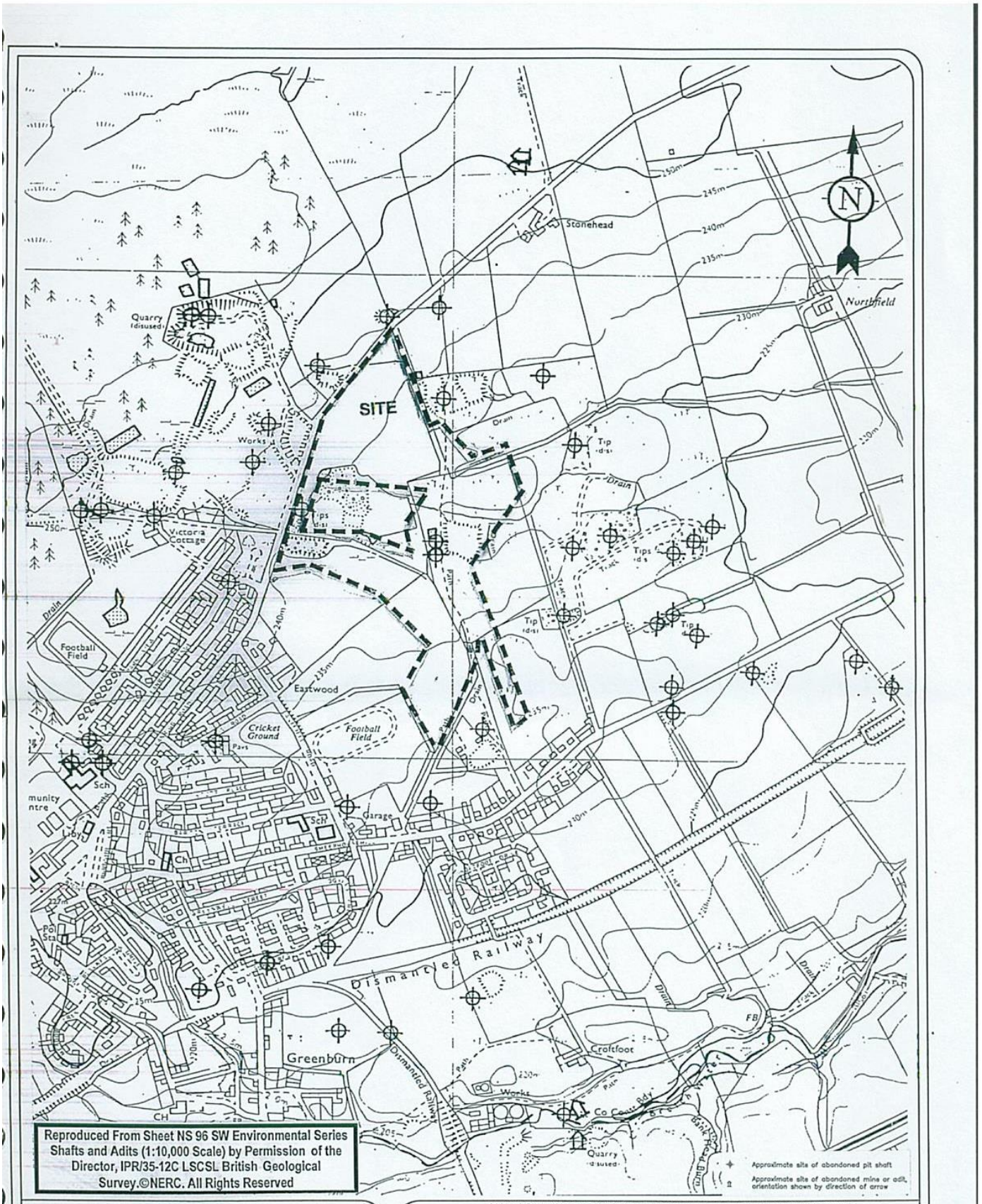

masonevans
geo-environmental consultants
The Plazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | | | | |
|---|---|---|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM BGS MAP MINING OTHER THAN COAL & IRONSTONE INFORMATION ( COAL & IRONSTONE ) | | | | |
| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
| G2008/468A | G2008/468A/DS/R/F/11 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190






masonevans
geo-environmental consultants
The Piazza, 95 Morrison Street, Glasgow, G5 8BE
t: 0141 420 2025 f: 0141 420 2057
e: mail@masonevans.co.uk w: www.masonevans.co.uk

client details: WARJO PROPERTY INVESTMENT AND DEVELOPMENT LIMITED
405 GREENGAIRS ROAD
AIRDRIE, ML6 7TE

| project title: | | drawing title: | |
|---|---|---|---|
| LANRIGG ROAD FAULDHOUSE | | EXTRACT FROM BGS MAP SHALLOW MINING (SHAFTS & ADITS ) | |

| project no: | drawing no: | revision: | date: | drawn by: | approved by: | scale: |
|---|---|---|---|---|---|---|
| G2008/468A | G2008/468A/DS/R/F/12 | | 15/12/08 | JC | | 1:10,000 |



A4 border: 277 x 190