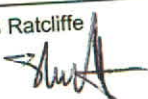
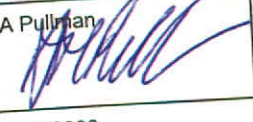


SecondSite Property Holdings Limited

**Surplus Land and Holder Site,
Bradford Road,
Manchester**

**Factual Site Investigation Report
Mentor No. 003738**

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Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Draft	Final		
Date	26/08/03	23/09/03		
Prepared by Signature	S Ratcliffe	S Ratcliffe 		
Checked by Signature	C Marshall	C Marshall 		
Authorised by Signature	N Townsend	A Pullman 		
Project number	13010222	13010222		
File reference				

Manchester
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150326



SURPLUS LAND AND HOLDER SITE, BRADFORD ROAD

Factual Site Investigation Report Mentor No. 003738

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SURPLUS LAND AND HOLDER SITE, BRADFORD ROAD

Factual Site Investigation Report Mentor No. 003738

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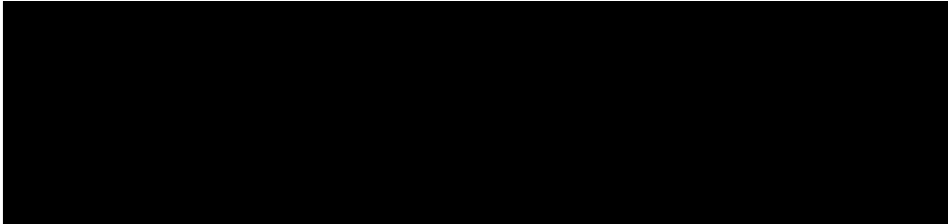
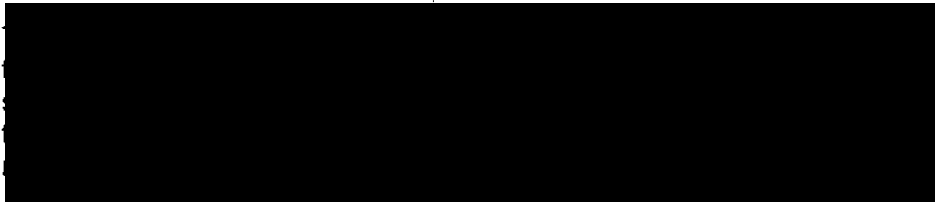
Appendix

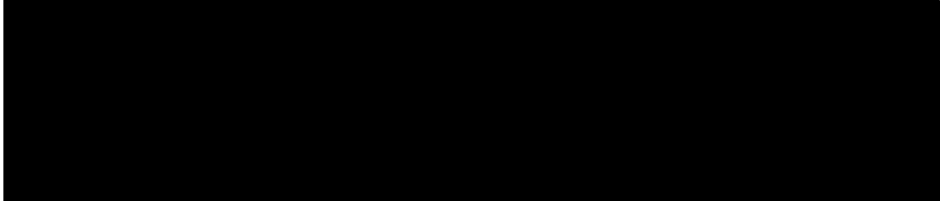
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- B Site Service Plans
- C Coal Mining Report
- D Historical Plans
- E Borehole and Trial Pit Logs –Holder Site
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- G Results of Chemical Analysis
- H Shewhart Charts for Main Risk Drivers on Site
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- K Source-Pathway-Receptor Risk Assessment –Holder Site
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SURPLUS LAND AND HOLDER SITE, BRADFORD ROAD

Factual Site Investigation Report Mentor No. 003738

EXECUTIVE SUMMARY

Current Site Status	This report details the findings of an environmental investigation at the Bradford Road Holder Site and surplus land. Both study sites contain operational Transco plant and were once part of the former Bradford Road Gasworks. The holder site occupies an area of 2.35 hectares and is located approximately 3km to the east of Manchester City Centre at OS National Grid Reference 386588, 399136. The holder site may be divided into two parts: the northern part of the site is approximately square in shape and comprises an operational gas holder compound with a below ground gasholder, boiler house and associated gas mains. The remaining site area comprises a southerly-trending, predominantly vegetated, rectangular area of land with above ground gas mains and a pig trap compound for a high pressure main which runs beneath the site. The holder site is bound to the north-west by a railway viaduct and to the south-east by former gasworks land (now extensive car parking for Manchester City Stadium), which is raised approximately 4m above the level of the study site by a blanket of inert fill. The site is situated within a mixed commercial and residential area. 
Site History	Both sites were part of the former Bradford Road Gasworks which is believed to have ceased gas production in the 1970s. The main gasworks area was land-filled during the 1980s with inert fill as part of a reclamation scheme for the area. Historical maps indicate that the following gasworks structures were located on the holder site: part of two retort houses, mess rooms, offices, pump house, boiler house and telfer house. Historically, the predominant use of the site was for gas and coal storage.  Historically, extensive coal mining is believed to have taken place on the former gasworks land (now car parking area) where numerous shafts are reported to be present.
Geology	A thin veneer of made ground was encountered across the holder site resting upon Glacial Till comprising stiff clay with minor amounts of sand and gravel. The clay was proven to a maximum depth of 10m.

	The British Geological Map for the area shows the site to be underlain by Coal Measures. Ground interpreted as coal measures was encountered beneath the holder site at a depth of approximately 9m in one borehole location. Foundations in the vicinity of the former retorts were proven to comprise shallow (less than 1m thickness) brick and concrete footings. 
Hydrogeology	The Coal Measures beneath the site are classified as a Minor Aquifer. There are no reported groundwater abstractions within 1km of the site. Small amounts of perched water were encountered beneath both sites, perched upon the Glacial Till.
Hydrology	The culverted River Medlock flows beneath the former gasworks land to the south of the holder site in a southerly direction before crossing the parcel of surplus land. The water quality of the river was classified as Class E (Poor) in 2000.
Site Investigation	Works on the Bradford Road Holder Site comprised the excavation of eight trial pits and 3 boreholes. 

Factual Site Investigation Report Mentor No. 003738

1 INTRODUCTION

1.1 General

WSP Environmental Limited (WSP) was appointed by SecondSite Property Holdings Limited (SPH) to conduct a site investigation and provide a factual report on ground conditions at the Bradford Road Holder Site and parcel of surplus land at the former gasworks site on Bradford Road, Manchester. This instruction is detailed on Lattice Property Order No. 333958.

The works were undertaken in accordance with guidance laid out by the "Site Investigations for SecondSite Property (Guidance Note 02)", "Guidance for Assessing and Managing Potential Contamination on Former Gasworks and Associated Sites (V 3.0)"; and followed the requirements of BS5930: 1999 Code of Practice for Site Investigation and BS10175: 2001 Code of Practice for the Identification of Potentially Contaminated Sites.

1.2 Report Format

The report describes the present site status, available history, geology, hydrogeology, hydrology and environmental status of the site.

1.3 Sources of Information

The following sources of information have been used to scope the intrusive works.

- Former Bradford Road Gasworks, Manchester. Environmental Assessment Interpretative Report. Volume 1 – Report and Figures. Parkman Environment, July 1997;
- National Gas Archives, Partington.

1.4 List of Contacts

The following contacts were made during the course of the research and investigation works:

- Mike Marchant - Network Operations Manager, Transco.
- Gary Knott - Pipeline Inspector, Transco.

1.5 Site Reconnaissance

Scott Ratcliffe and Leigh Anne Cammack of WSP undertook a Site Walkover on 1 May 2003 in the presence with Siobahn Molloy (PCM) and Mike Eccleston (SPH).

2 SITE AREA

2.1 Site Location and Description

2.1.1 Site Location

Both sites lie approximately 3km east of Manchester City Centre within an area comprising mixed residential and commercial land use. The full postal address for the Bradford Road Holder Site is as follows:

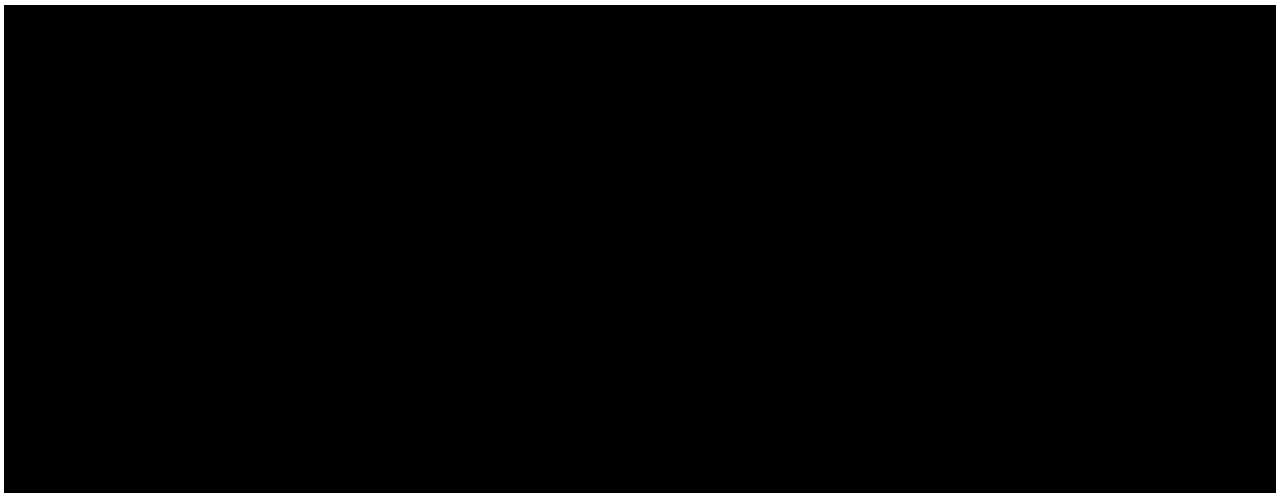
Bradford Road Gasholder Station,
Broxton Street,
Manchester
M40 7BN.

A plan indicating the location of sites is included as Figure 1.

2.1.2 Site Description

A plan indicating the site layout and location of plates is included as Figure 2A. Plates detailing the site condition during our inspection are included as Appendix A.

The holder station is accessed from Broxton Street and comprises an L-shaped area of land covering an area of approximately 2.35 hectares. An active Transco compound is located to the north-east of the site, comprising a below ground gasholder and boiler house. The compound is accessed from two locked gates located to the south-west and south of the gasholder and is situated at a level of approximately 2 metres above the remaining site area. The site is generally level, although a steep railway embankment bounds the gasholder to the west. Two above ground gas mains run in a south-westerly direction from the gasholder compound to the far south of the site.



2.1.3 Ground Cover Description

The ground surrounding the gasholder is predominantly surfaced with limestone gravel. The railway embankment to the west of the gasholder is surfaced with rough vegetation with sparse deposits of clinker visible on the ground surface. The gasholder compound is bounded to the south-west by a tarmacadam driveway. The ground cover in the south of the site comprises a mixture of rough vegetation, immature trees and areas of tipped demolition rubble and soil. The far south of the site comprises a former storage area for building materials, with an associated area of concrete hardstanding with storage bays.

Estimated percentages and permeability of ground cover across the gasholder site are presented in Table 1 below.

TABLE 1: GROUND COVER DESCRIPTION – HOLDER SITE

Ground Cover	Percentage	Permeability
Vegetation (trees, bushes etc.)	35%	High
Gravel	15%	Moderate
Buildings and structures	30%	Low
Hardstanding	20%	Low

2.1.4 Site Boundary

The holder station has an estimated site boundary length of approximately 960m. Site access is gained from Broxton Street and New Viaduct Street along the western site boundary.

The western site boundary comprises a brick retaining wall for the railway, with an estimated length of 175 metres. The retaining wall has an estimated height of 5 metres, beyond which two, south-westerly trending railway lines are situated. The remaining site boundaries are defined by palisade fencing with a typical height of 3 metres.

2.1.5 Adjoining and Nearby Land Use

The Bradford Road Holder Site is bound to the west by a railway viaduct, which is raised approximately 5 to 6 metres above the site level. Beyond the viaduct are situated a mixture of residential and commercial properties. The nearest residential properties to the site are located on Broxton Street, approximately 30m to the west of the gasholder. The north-west of the gasholder compound is bound by Alan Turing Way, beyond which is located a fire station with commercial properties beyond.

The south of the site is bound by car parking and a Tennis Centre on land formerly occupied by the Bradford Road Gasworks. The level of the land to the south of the site is believed to have been raised by a blanket of inert fill some 3 to 4 metres thick as part of a remediation scheme for the site (Former Bradford Road Gasworks, Manchester. Environmental Assessment Interpretative Report. Volume 1 – Report and Figures. Parkman Environment, July 1997;).

The surplus land parcel is bound to the south by the Ashton Canal beyond which is situated the City of Manchester Stadium. Artificial surface tennis courts are located approximately 30 metres to the east of the site and the north of the site is bound by the aforementioned car parking, raised approximately 3 metres above site level.

2.1.6 Site Services

For the purpose of this investigation the following service information was obtained:

- Gas mains (Transco);
- Water mains (United Utilities);
- Sewerage system (United Utilities);
- Telecommunications (BT);
- Electrical mains (United Utilities).

A plan indicating the approximate location of services across the sites are included as figures 3A and 3B. Copies of the service plans are included as Appendix B.

2.2 Geology, Hydrogeology and Hydrology

2.2.1 Geology

The geology of the area is published in the following British Geological Survey Maps: 1:50,000 scale map Sheet No. 85 and 1:10,560 scale map Sheet No. 104NE. The stratigraphical succession can be summarised as a variable thickness of fill material overlying Alluvium and Glacial Till underlain by the Middle Coal Measures.

Until the turn of the last century the River Medlock meandered across the gasworks site from north-east to south-west and is believed to have incised a deep valley within the Glacial Till. The river was then culverted and over the period until 1920 the valley was in-filled to form a level surface.

2.2.1 Mining Report

A coal mining report received from The Coal Authority is presented in Appendix C and is summarised below:

- Past Underground Mining – The property is within the likely zone of influence on the surface from the workings in 7 seams of coal at 50m to 960m depth, the last date of working being 1961. Ground movement from the above mentioned past coal workings should by now have ceased;
- Present Underground Mining – The property is not within the zone of likely physical influence on the surface from any present underground coal workings;
- Future Underground Mining – The property is not within a geographical area for which a licence to extract coal by underground methods, however reserves of coal exist in the locality which could be worked at some time in the future subject to feasibility, licenses and planning consents;
- Shafts and Adits – Within or within 20m of the property there are 14 mine entries, full details are included within the mining report. All known mineshafts within the site except one that was not found after a full search and another that is suspected to be located immediately under the culvert, have been located and treated;
- Subsidence – There are no record of any notice of the risk of the land being affected by subsidence being given under the S.46 of the Coal Mining Subsidence Act 1991.

2.2.2 Hydrology

The culverted River Medlock flows beneath the former gasworks land to the south of the holder station in a south westerly direction towards the surplus land parcel. The culvert then runs adjacent to the northern boundary of the surplus land before crossing it in a westerly direction. The culvert is believed to be a brick arched structure approximately 9 metres wide by 6 metres high.

In the year 2000 the Environment Agency (EA) classified the water quality of the River Medlock as Class E (Poor).

The Ashton canal is located adjacent to the southern boundary of the surplus land parcel. The water quality of the canal was classified as Class D in the year 2000. According to Parkman (Environmental Assessment Interpretative Report, July 1997), an investigation of the culvert in the 1980s revealed large amounts of water to be entering the culvert in the vicinity of the site. It was established that the Ashton Canal was leaking into the culvert and repairs were undertaken by British Waterways.

There are thirty-seven discharge consents within 1km of the site. The nearest situated 128m east of the site operated by United Utilities Water Plc and discharged into freshwater stream/river.

2.2.3 Hydrogeology

The Coal Measures beneath the site are designated by the EA as a Minor Aquifer. The nearest licensed groundwater abstraction to the site is located 528 metres the north of the site for construction general use.

According to Parkman (Environmental Assessment Interpretative Report, July 1997), groundwater levels are believed to exist approximately 3 to 4 metres below the original gasworks level perched upon the Glacial Till.

2.3 Environmental Setting

The following section details information present within the Landmark Envirocheck Report.

2.3.1 Landfill Sites

The Envirocheck report details the site to have been within a registered landfill. The license, dated 1st October 1985, was held by North-West Gas and is currently lapsed, cancelled or surrendered, the Landmark Envirocheck report does not state which. It is likely this license was granted for the former gasworks land to the south of the holder site for the tipping of the inert fill blanket as previously discussed. Two registered landfills are situated within 1000m of the site and both licenses are detailed as lapsed, cancelled or surrendered, the Landmark Envirocheck report does not state which.

2.3.2 Waste Management Licenses

A registered waste transfer site is located 621m south-west of the site. The licence is held by D. Warrender for household/commercial/industrial waste.

A second registered waste transfer site is located 689m south-west of the site. P McGuinness & Co Ltd hold the licence, authorised for all forms of asbestos.

The site is also listed under the Control of Major Accident Hazard Sites (COMAH), Notification of Installations Handling Hazardous Substances (NIHHS) and Planning Hazardous Substance Consents.

2.3.3 Conservation/Protection Areas etc

There are no known conservation/protection areas recorded within 1km of the site.

2.3.1 Discharge Consents

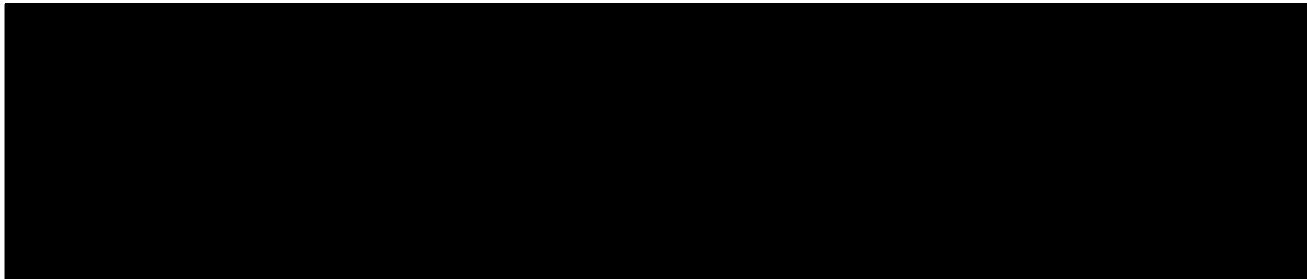
According to the Envirocheck report there are no discharge consents in place for the site.

2.4 Site History

2.4.1 Historical Development of the Site

The Bradford Road Holder Site once formed part of the Bradford Road Gasworks that extended off-site to the south. The site is reported to have been developed in 1877 with production of gas continuing until 1977. Within this time, several generations of plant were constructed. According to historical map information, the main gas production processes were located to the south of the study site.

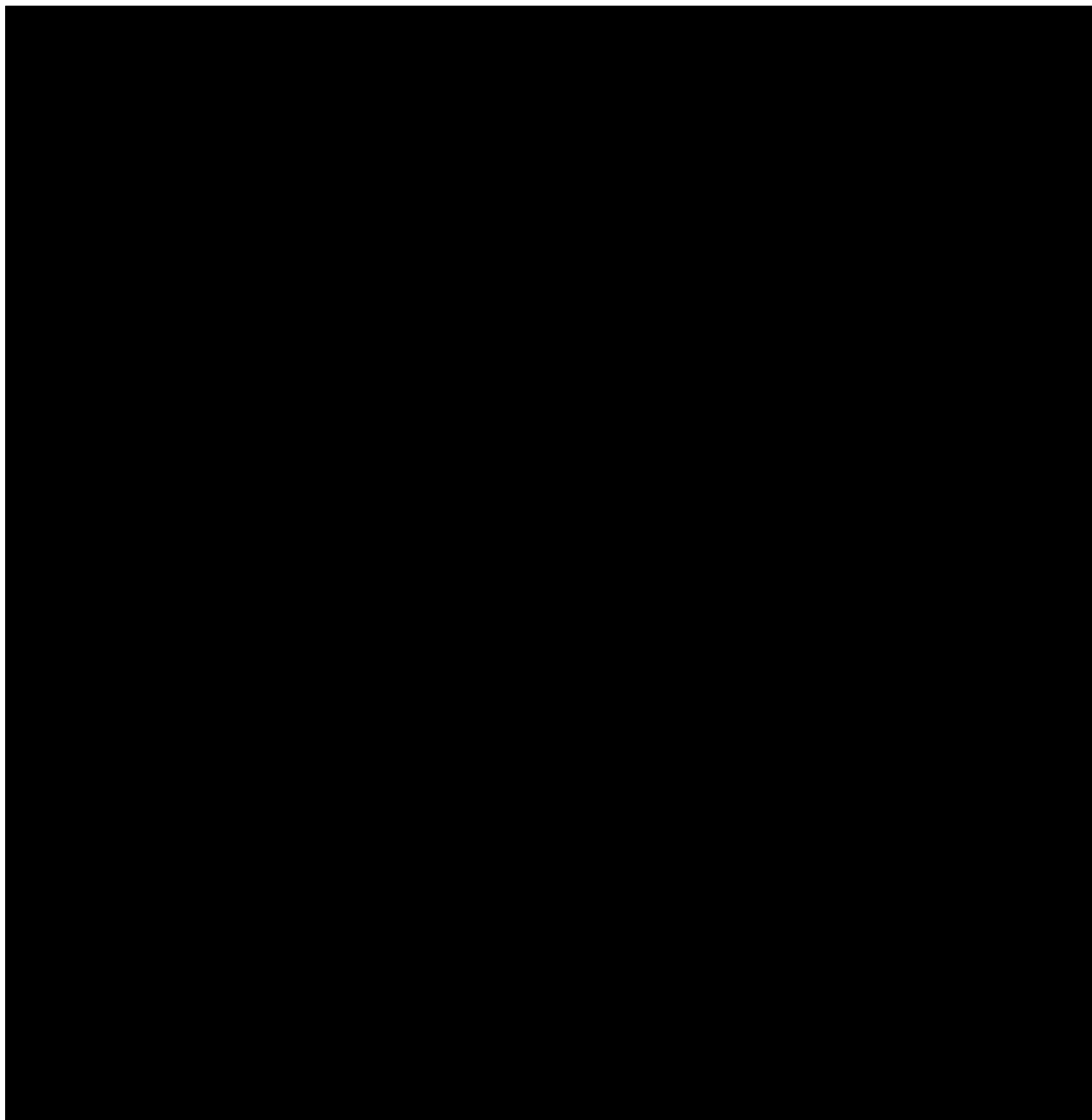
The 1909 Ordnance Survey map for the area, shows the holder site to be largely undeveloped, with the main gaswork structures located to the south. The current gasholder is not shown on the site until the 1923 OS map. A composite historical plan for the entire gasworks held within the Parkman report (Environmental Assessment Interpretative Report, July 1997) indicates that in addition to the gasholder, the following structures were located within the southern part of the holder site: telpher house, two mess rooms, four pits, pump house and the western most extent of two retort houses. The primary use of this part of the site was for coal storage. Figure 4A displays the historical features believed to be present on the site.



2.4.2 Previous Site Investigation Data

The following text presents a summary of relevant information contained within the Interpretative Environmental Assessment of the Former Bradford Road Gasworks by Parkman Environment Ltd

of 1997. It should be noted that this work did not investigate either of the study sites detailed within this report (i.e. the parcel surplus land and the Bradford Road Holder Site).



3 SITE INVESTIGATION DATA

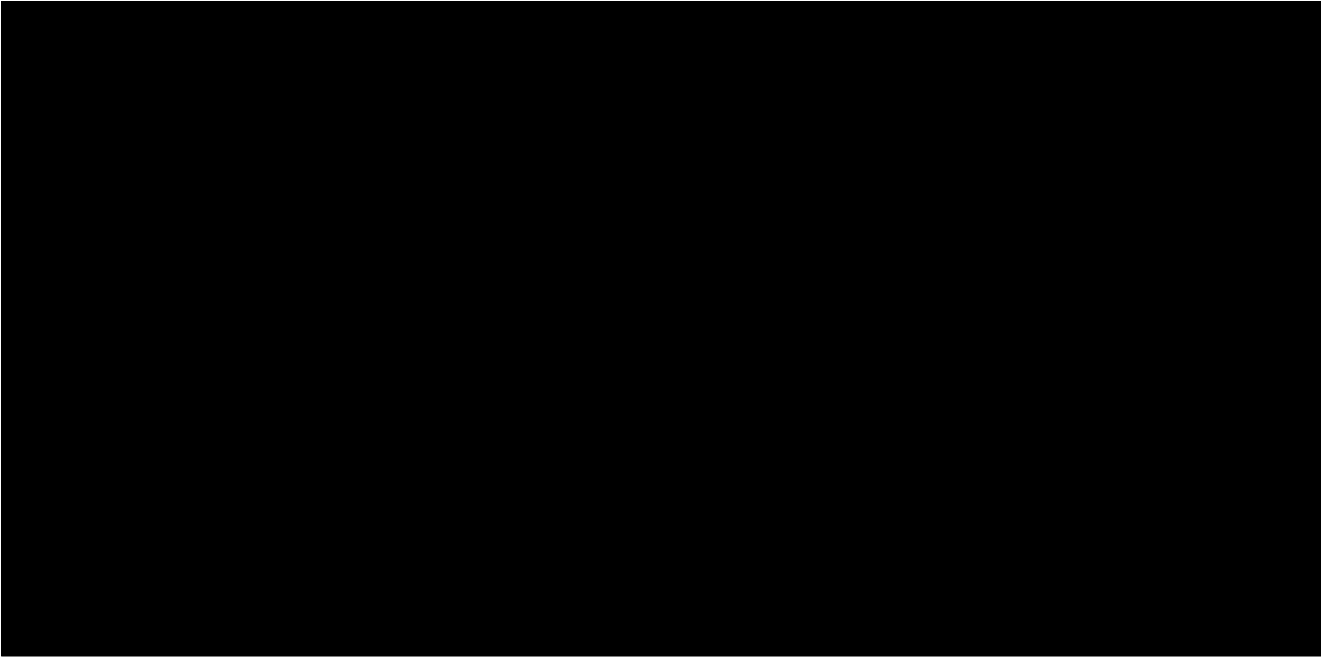
3.1 On Site Activities

The site works for the Bradford Road Holder Site were undertaken between the 10th –12th June 2003. The surplus land parcel was investigated on the 13th and 14th June 2003.

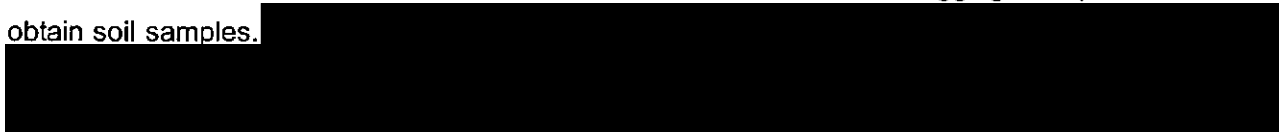
Prior to any intrusive works, a specialist service location contractor (Glendee UK Ltd) surveyed the proposed borehole and trial pit locations. Where services were identified in close proximity to proposed works, they were exposed by hand digging to positively identify their location. The target/purpose of each position is shown in the table below.

TABLE 2: EXPLORATORY HOLE LOCATION RATIONALE – HOLDER SITE

Exploratory Hole Reference	Original Purpose/Target	Position Approved
BH1	Boundary monitoring well	Yes
BH2	Determine general ground conditions	Yes
BH3	Determine ground conditions in vicinity of retort house	Yes
TP1	Examine ground in vicinity of gasholder	Yes
TP2	Determine general ground conditions	Yes
TP3	Determine ground conditions in vicinity of retort house	Yes
TP4	Determine ground conditions in vicinity of retort house	Yes
TP5	Boundary monitor	Yes
TP6	Determine ground conditions in vicinity of retort house	Yes
TP7	Boundary monitor	Yes
TP8	Examine pit structures believed to exist on site	NO – Position not accepted by Transco Pipeline Inspector due to close proximity of high pressure gas main. Position relocated.



Works within the holder site comprised the advancement of 3 No. boreholes by dynamic sampling and rotary coring techniques and the excavation of 8 No. trial pits using a back-acting mechanical excavator. Where mechanical investigation was not authorised, hand digging was performed to obtain soil samples.



50mm nominal diameter groundwater monitoring standpipes were installed in each of the boreholes to facilitate groundwater monitoring and sampling. Groundwater monitoring events were undertaken following the initial site works.

Chemical laboratory analyses were carried out by City Analytical Laboratories in Coventry. The results of the soil and water analyses from the investigation are included as Appendix G.

Following completion of site investigation works, the locations of all the boreholes and trial pits were added to topographic surveys of the sites presented as figures 6A and 6B.

3.2 Ground conditions – Holder Site

3.2.1 Made Ground

The exploratory locations across the holder site typically encountered a thin veneer of made ground with an average depth of less than 1m overlying natural ground. The following text presents a brief summary of the made ground conditions encountered beneath the holder site.

Trial pits TP3, TP4 and TP5 were positioned to investigate the western most extent of former gasworks buildings, which are believed to encroach beneath the south-eastern site boundary. In this area, a strip of concrete and brick footings running parallel to this boundary is present. It was not possible to trace the western extent of these foundations due to the close proximity of a below ground, medium pressure gas main that also travels adjacent to this boundary. All three trial pits encountered either brickwork or concrete proven to a maximum depth of 0.4m bgl. In TP3 and TP4 the brick and concrete was found to rest upon natural ground comprising a very stiff brown clay. No visual or olfactory evidence of contamination was observed beneath these foundations.

Trial pits TP7 and TP8 were located adjacent to the western site boundary (railway viaduct). Both trial pits encountered a thin veneer of concrete, proven to a maximum depth of 0.6m bgl resting directly upon a brown stiff clay.

The maximum depth of made ground encountered beneath the site was observed in borehole BH3 comprising ash fill with fragments of pottery, ceramic and fabric was recorded to a depth of 4.7m bgl. The ash was found to overly a clay fill proven to a depth of 5.75m bgl.

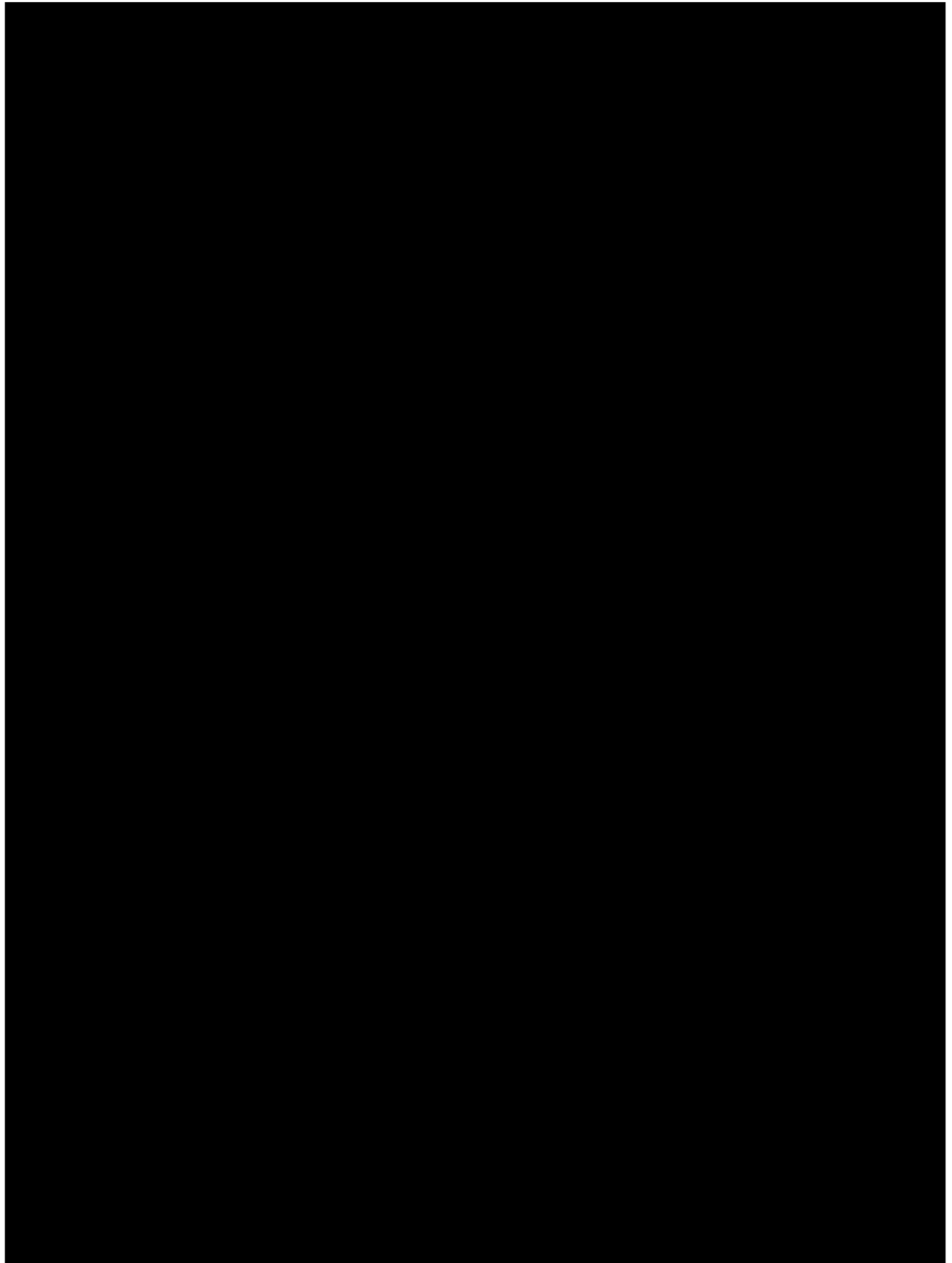
3.2.2 Natural Ground

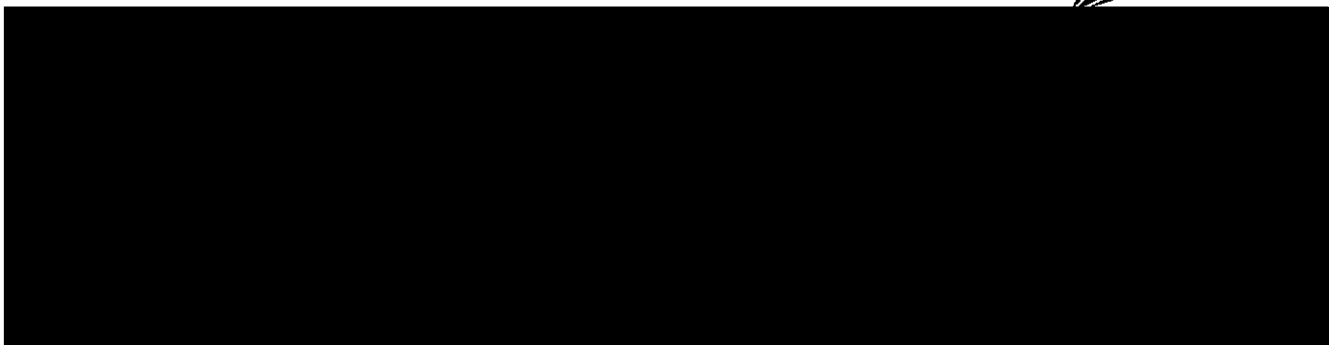
The typical natural ground encountered beneath the site comprised Glacial Till of a stiff to very stiff, slightly sandy, slightly gravelly clay. In borehole BH3 natural sand and gravel was encountered from a depth of 5.75m to 7.3m bgl overlying stiff clay to a depth 8.5m bgl.

The Coal Measures were encountered in BH3 at a depth of 8.3m bgl and comprised a stiff grey weathered mudstone, proven to a depth of 9.8m bgl.

3.2.3 Contamination observations

Shallow soil samples with an oily residue were collected adjacent to Gasholder No.2 at a depth of 0.6m bgl, where oil stained ground was observed adjacent to the holder wall. Further visual and olfactory evidence of contamination was noted in the ashy fill material encountered in BH3 where a diesel type odour was noted from a depth of 3.8m to 5.75m bgl.





3.4 Groundwater

Groundwater was not encountered in the majority of trial pits excavated. Minor amounts of water perched upon the natural clay were encountered in trial pits TP3 and TP7.

Groundwater was not encountered during the advancement of boreholes BH1 and BH2, however, during subsequent monitoring visits BH2 yielded small amounts of groundwater suggesting slow recharge from the clay in this area.

During the advancement of BH3 a groundwater strike was recorded at a depth of 5.75m bgl in natural sand and gravel encountered at this location.

Due to the limited amounts of groundwater encountered during the investigation it has not been possible to calculate a groundwater flow direction. However, it is possible groundwater beneath the site will flow towards the culverted River Medlock.

Table 4 below summarises the results of the groundwater monitoring undertaken during the subsequent groundwater monitoring visits.

TABLE 4: SUMMARY OF GROUNDWATER MONITORING

Site	Monitoring Well	BH Elevation	Groundwater Level (metres Above Ordnance Datum)		Water Bearing Strata
			Monitoring Event 1 26/07/03	Monitoring Event 2 31/07/03	
Holder Site	BH1	54.37	47.97	Dry	Clay (Glacial Till)
	BH2	52.25	48.31	48.51	Clay (Glacial Till)
	BH3	51.16	46.52	46.42	Sand and Gravel (Glacial Till)

3.5 Waste Arisings

Due to the limited amounts of waste produced during the investigation all waste arisings were placed in sealed drums and transported to a covered lockable skip at the gasworks in Salford for disposal as contaminated waste. Details are provided on the waste summary sheet included as Appendix J.

3.6 Incident Reporting

During the course of the works there were no incidents or near misses.

4 CHEMICAL ANALYSIS

4.1 Analysis

Tables containing results of all soil, water and leachate analysis are included within in Appendix G.

4.2 Laboratory Quality Assessment

WSP considers that the laboratory quality control data (Shewhart Charts), provided by CAS plc, indicate that the data generally falls within the acceptable confidence limits (95%) for the soil and groundwater analyses undertaken. WSP are therefore confident that the analytical data from CAS is robust. Shewhart Charts for lead, complex cyanide, PAHs, TPH, Phenols and Benzo(a)pyrene are included as Appendix H. Shewhart Charts for all analyses undertaken are included on the compact disk version of the report.

WSP Group

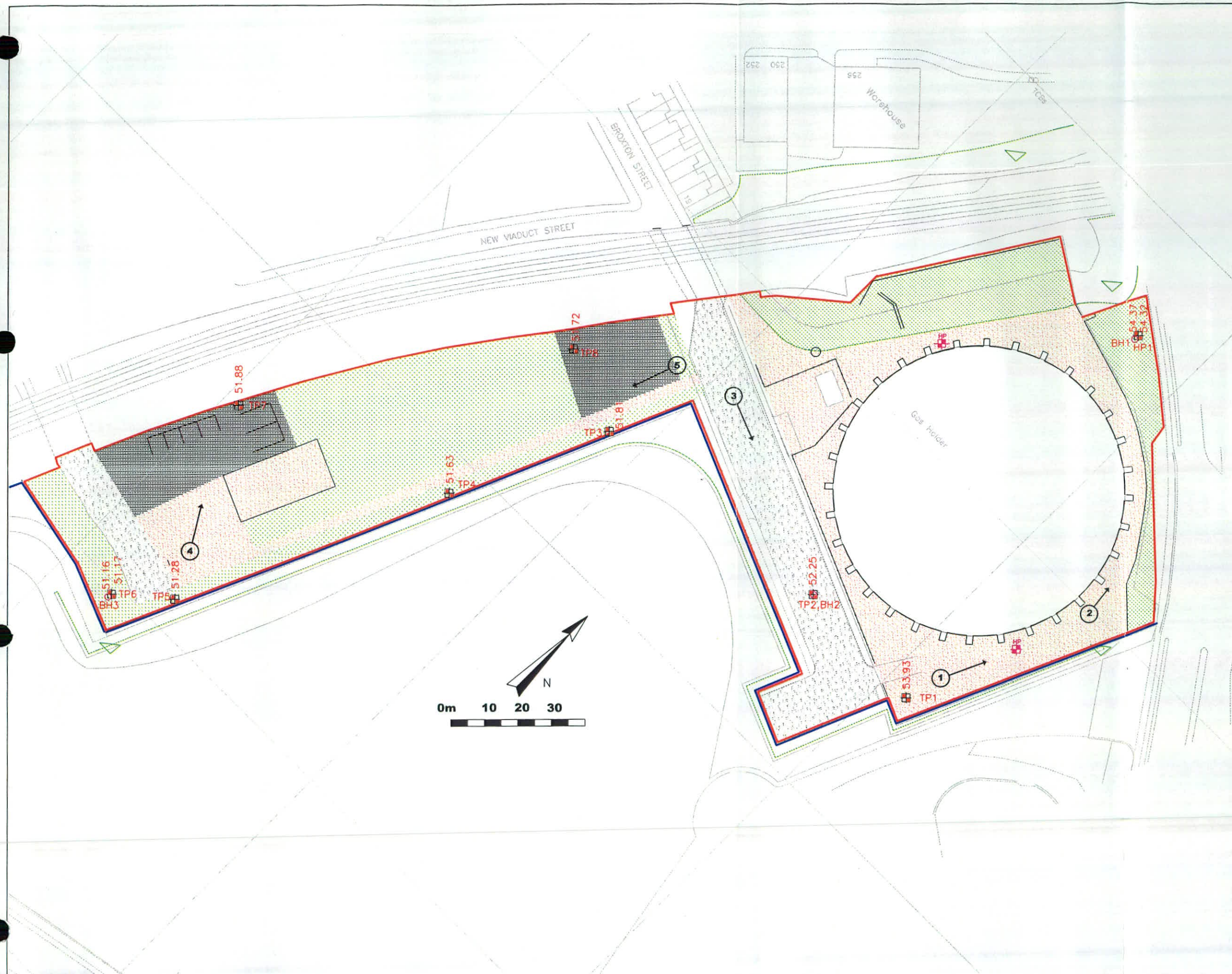
FIGURES



Holder Site, Bradford Road



Client: SecondSite Property	
Project: Whetstone, Enderby Road	
Title: Site Location Plan	Drawing No.
Figure No. 1	Scale: N.T.S.



Notes

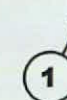


Plate number and orientation



Tarmac surface cover



Concrete surface cover

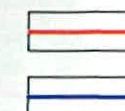


Vegetation



Gravel surface cover

Key



BOUNDARY
(Transco Area Landholding)



BOUNDARY
(SecondSite Property)



TRIAL PIT LOCATION



BOREHOLE LOCATION



HAND PIT LOCATION

Site Area

2.35 ha

SUFFIX	REVISION	INIT	DATE	CHKD



WSP ENVIRONMENTAL
2, Ty-Nant Court
Morganstown
Cardiff
CF15 8LW
Tel: ++44 (0) 29 208 208 20
Fax: ++44 (0) 29 208 208 21

Factual Site Investigation Report

Site:

**BRADFORD ROAD
MANCHESTER**

Drawing:

**FIGURE 2A
SITE LAYOUT AND GROUND COVER DESCRIPTION
HOLDER SITE**

No:

Scale:

Date:

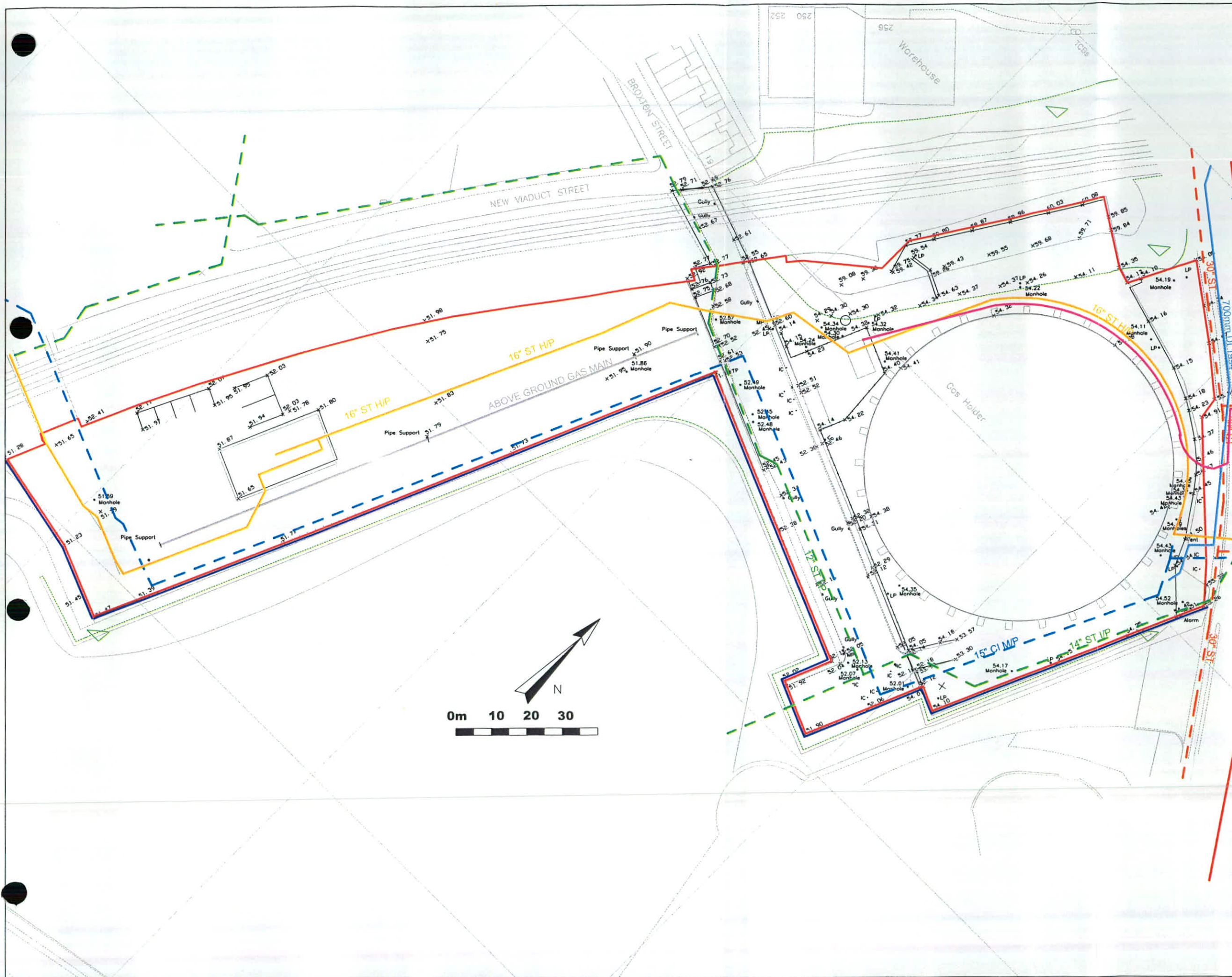
13010 222

see scale bar

15.08.03

SecondSite Property

Prepared by WSP Environmental on behalf of SecondSite Property



Notes

Key

- BOUNDARY (Transco Area Landholding)
- BOUNDARY (SecondSite Property)
- LP GAS (Transco)
- MP GAS
- IP GAS
- LHP GAS
- FOUL SEWER
- SEWER
- WATER MAINS
- ELECTRICITY

Site Area

2.35 ha

SUFFIX	REVISION	INIT	DATE	CHKD

WSP 2, Ty-Nant Court
Morganstown
Cardiff
CF15 8LW
Tel: ++44 (0) 29 208 209 20
Fax: ++44 (0) 29 208 209 21

ENVIRONMENTAL

Factual Site Investigation Report

Site:

BRADFORD ROAD
MANCHESTER

Drawing:

FIGURE 3A
SITE SERVICE PLAN
HOLDER SITE

No:

13010 222

Scale:

1:1000

Date:

15.08.03

SecondSite Property

Prepared by WSP Environmental on behalf of SecondSite Property

-  Layout existing in 1893
-  Layout existing 1922
-  Layout existing 1949
-  Layout existing 1968
-  Feature taken from historic site plan (date unknown)

Notes

- 1 TAR & LIQUOR WELLS
- 2 LE FLEUR
- 3 C.A.L. PLANT

Key

-  BOUNDARY
(Transco Area Landholding)
-  BOUNDARY
(SecondSite Property)
-  TRIAL PIT LOCATION
-  BOREHOLE LOCATION

Site Area 0.4 ha

SUFFIX	REVISION	INIT	DATE	CHK'D

 **WSP**
ENVIRONMENTAL

2, Ty-Nant Court
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CF15 8LW
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Fax: ++44 (0) 29 208 209 21

Factual Site Investigation Report

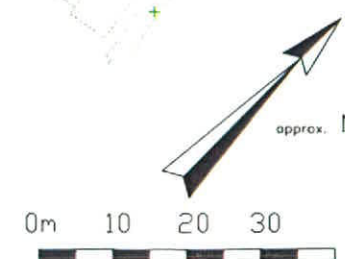
Site:
**BRADFORD ROAD
MANCHESTER**

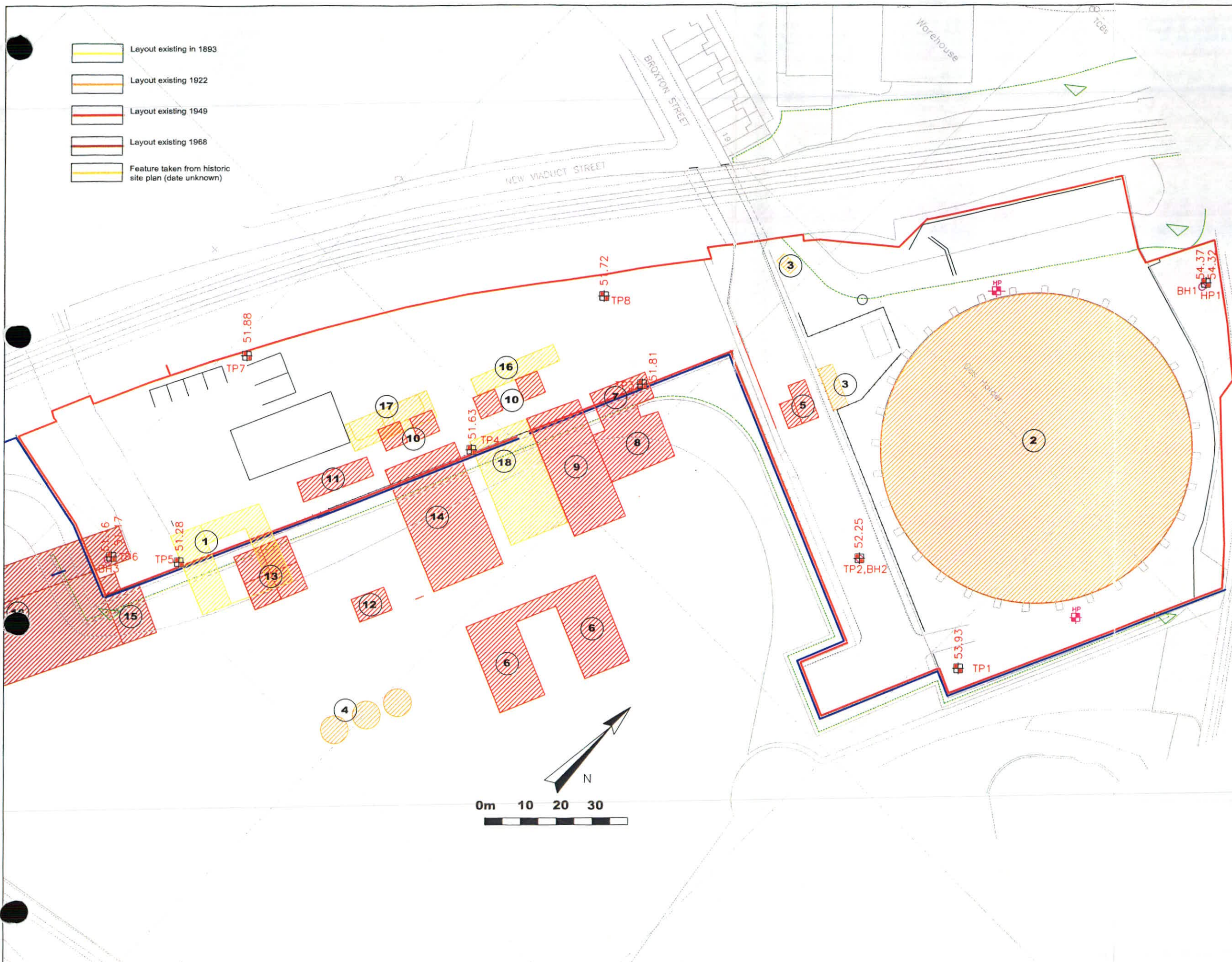
Drawing:
**FIGURE 4B
HISTORICAL SITE LAYOUT
SURPLUS LAND**

No: 13010 222 Scale: 1:1000 Date: 18.08.03

SecondSite Property

Prepared by WSP Environmental on behalf of SecondSite Property





Notes

- 1 UNIDENTIFIED BUILDING EXISTING 1893
- 2 GASHOLDER NO: 1
- 3 UNIDENTIFIED BUILDING EXISTING 1922
- 4 APPROXIMATE LOCATION OF TANKS EXISTING 1922
- 5 COKE OFFICE
- 6 COKE HOPPERS
- 7 MESS ROOM
- 8 BOILER HOUSE
- 9 RETORT HOUSE D
- 10 COAL BUNKERS
- 11 TELPHER HOUSE
- 12 TAR & LIQUOR PUMP HOUSE
- 13 COOLING TOWER & PUMP HOUSE
- 14 RETORT HOUSE C
- 15 ASH & HANDLING PLANT
- 16 RETORT HOUSE
- 17 PIT
- 18 RETORT HOUSE

Key

- BOUNDARY (Transco Area Landholding)
- BOUNDARY (SecondSite Property)
- TP TRIAL PIT LOCATION
- BH BOREHOLE LOCATION
- HP HAND PIT LOCATION

Site Area 2.35 ha

SUFFIX	REVISION	INIT	DATE	CHKD

WSP 2, Ty-Nant Court
Morganstown
Cardiff
CF15 8LW
Tel: ++44 (0) 29 208 209 20
Fax: ++44 (0) 29 208 209 21

ENVIRONMENTAL

Factual Site Investigation Report

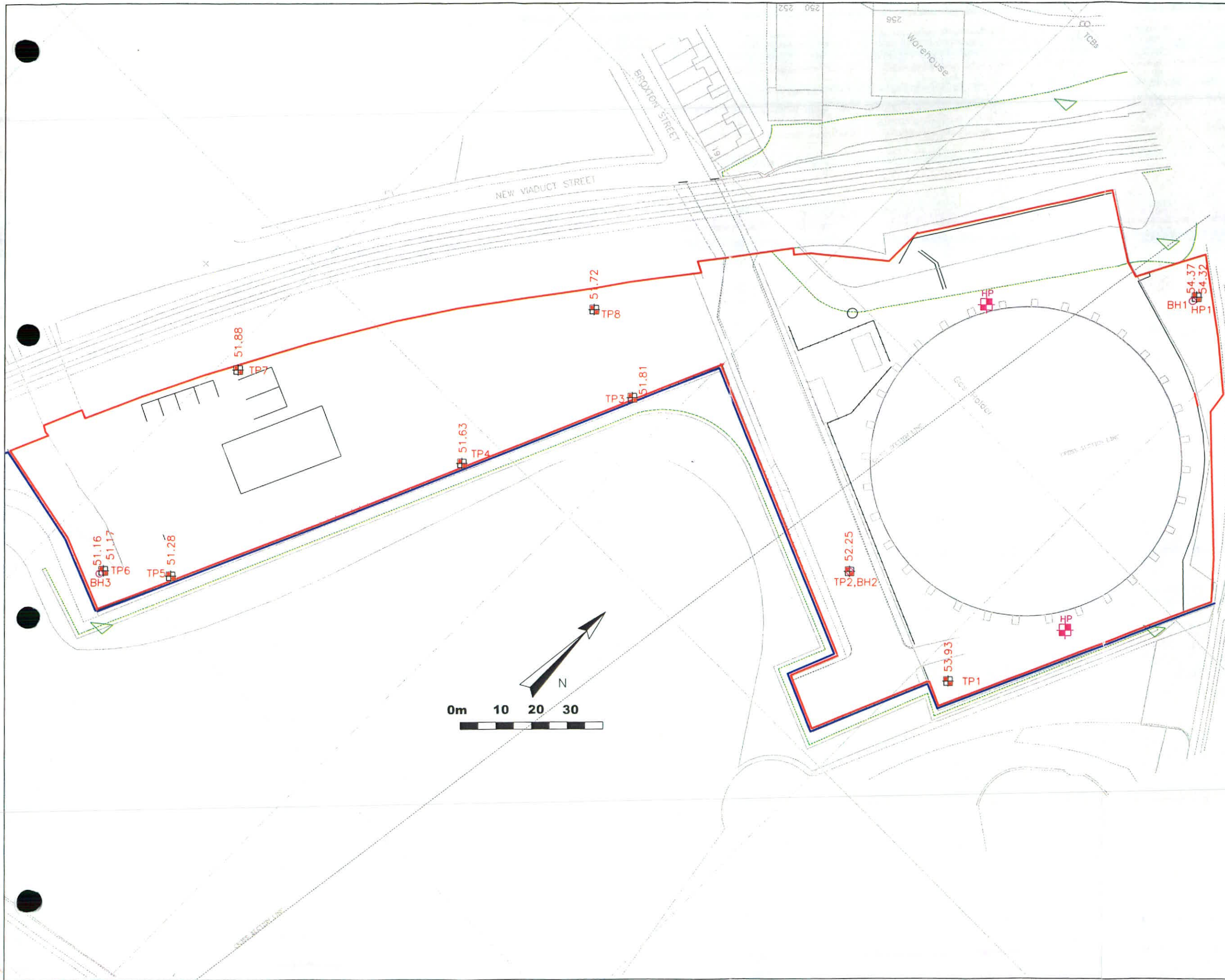
Site:
**BRADFORD ROAD
MANCHESTER**

Drawing:
**FIGURE 4A
HISTORICAL SITE LAYOUT
HOLDER SITE**

No:	Scale:	Date:
13010 222	1:1000	18.08.03

SecondSite Property

Prepared by WSP Environmental on behalf of SecondSite Property



Notes

Key

- BOUNDARY
(Transco Area Landholding)
- BOUNDARY
(SecondSite Property)
- LINE OF CROSS
SECTION
- TP TRIAL PIT LOCATION
- BH BOREHOLE LOCATION
- HP HAND PIT LOCATION

Site Area
2.35 ha

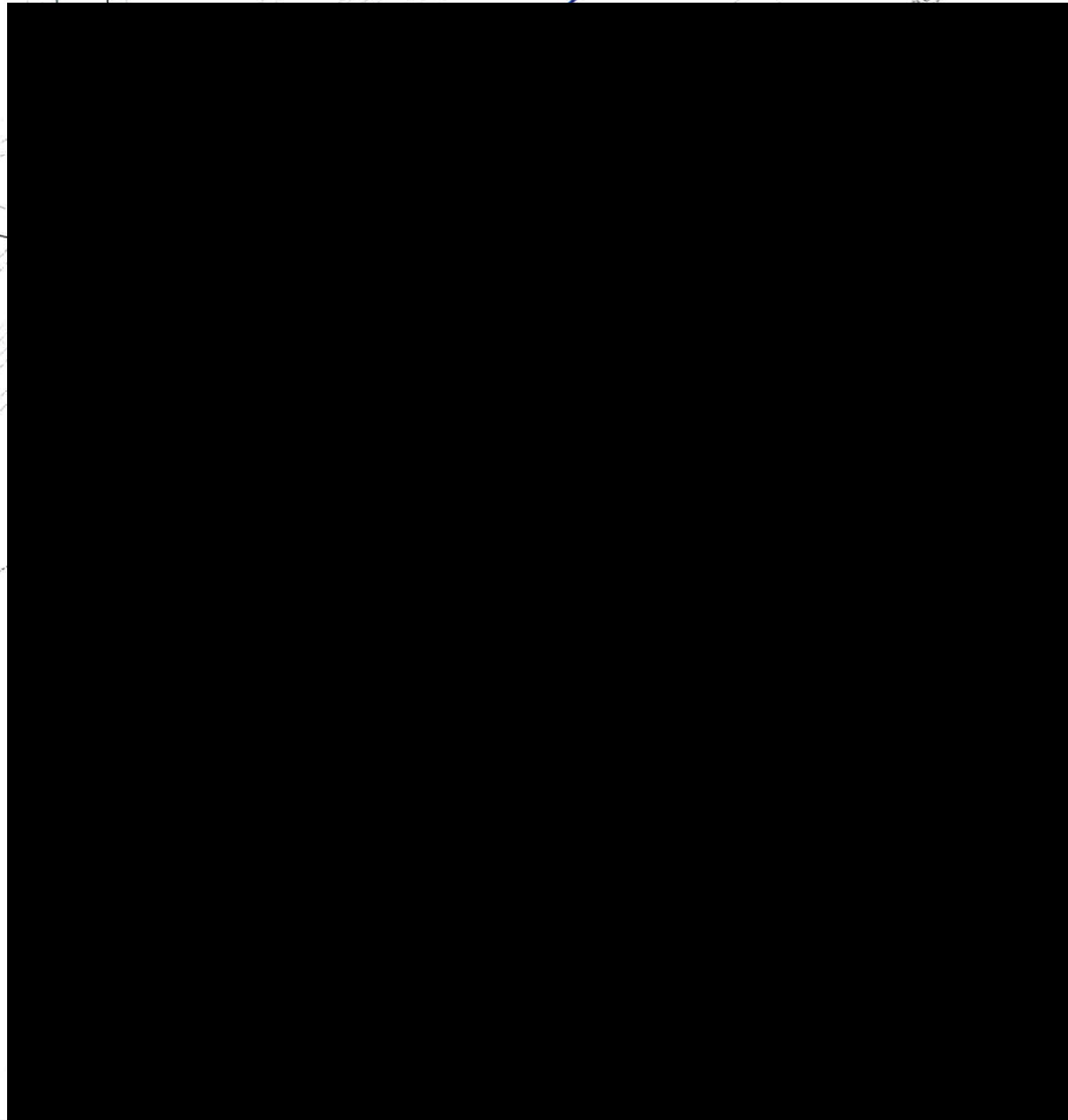
SUFFIX	REVISION	INIT	DATE	CHKD

WSP
ENVIRONMENTAL

2, Ty-Nant Court
Morgentown
Cardiff
CF15 8LW
Tel: ++44 (0) 29 208 209 20
Fax: ++44 (0) 29 208 209 21

Factual Site Investigation Report

Site:	BRADFORD ROAD MANCHESTER		
Drawing:	FIGURE 5A EXPLORATORY HOLE LOCATION PLAN HOLDER SITE		
No:	Scale:	Date:	
13010 222	1:1000	15.08.03	



Notes

Key

 **BOUNDARY**
(Transco Area Landholding)

 **BOUNDARY**
(SecondSite Property)

 **LINE OF CROSS**
SECTION

 **TP**
TRIAL PIT LOCATION

 **BH**
BOREHOLE LOCATION

Site Area
0.4 ha

SUFFIX	REVISION	INIT	DATE	CH'KD

 **WSP**
ENVIRONMENTAL

2, Ty-Nant Court
Morganstown
Cardiff
CF15 8LW
Tel: +44 (0) 29 208 209 20
Fax: +44 (0) 29 208 209 21

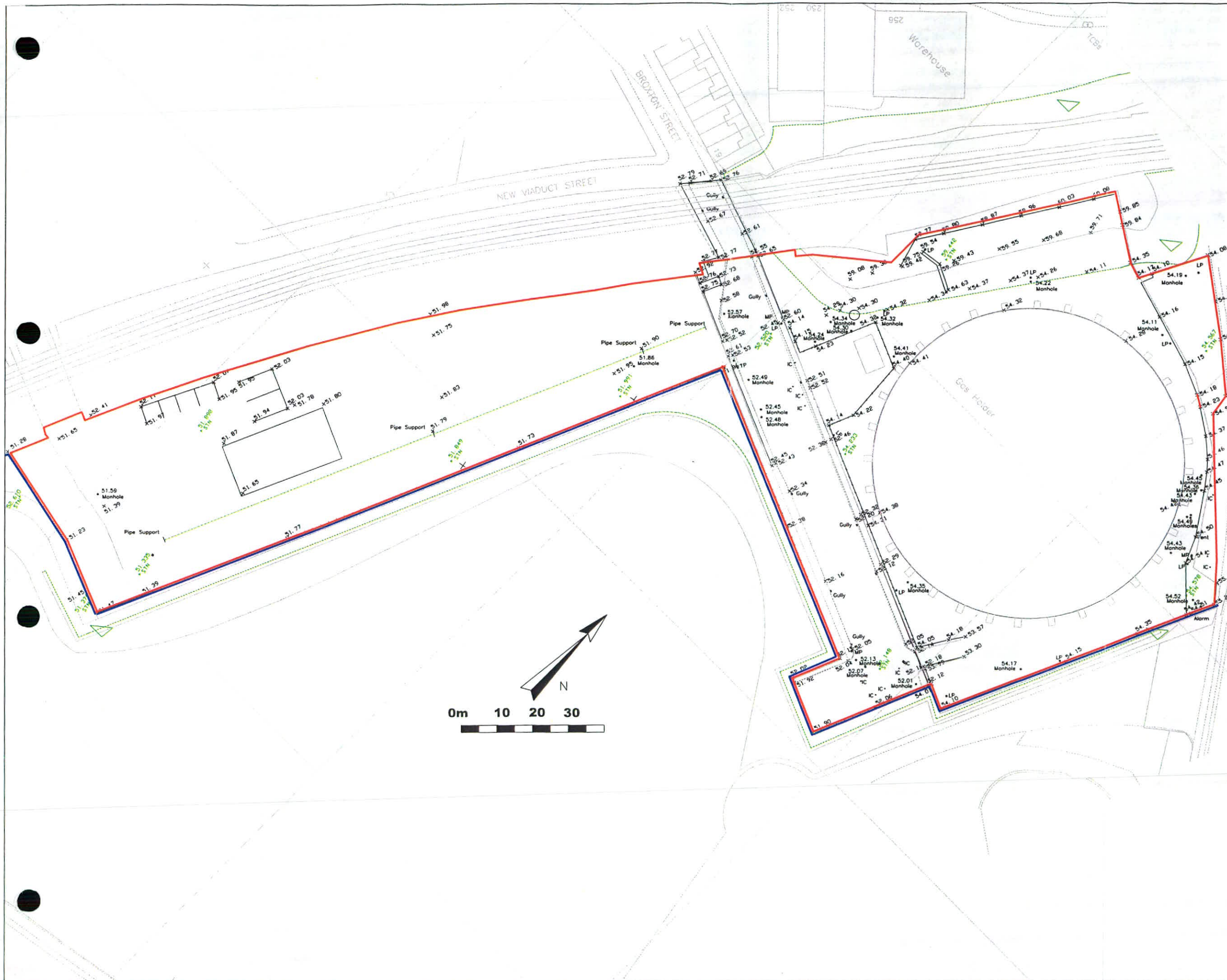
Factual Site Investigation Report

Site:
BRADFORD ROAD
MANCHESTER

Drawing:
FIGURE 5B
EXPLORATORY HOLE LOCATION PLAN
SURPLUS LAND

No:	Scale:	Date:
13010 222	1:1000	18.08.03

SecondSite Property
Prepared by WSP Environmental on behalf of SecondSite Property



Notes

Key

- BOUNDARY (Transco Area Landholding)
- BOUNDARY (SecondSite Property)

Site Area
2.35 ha

SUFFIX	REVISION	INIT	DATE	CHKD

WSP ENVIRONMENTAL
2, Ty-Nant Court
Morganstown
Cardiff
CF15 8LW
Tel: ++44 (0) 29 208 209 20
Fax: ++44 (0) 29 208 209 21

Factual Site Investigation Report

Site:

**BRADFORD ROAD
MANCHESTER**

Drawing:

**FIGURE 6A
TOPOGRAPHICAL SURVEY
HOLDER SITE**

No:	Scale:	Date:
13010 222	1:1000	15.08.03

SecondSite Property

Prepared by WSP Environmental on behalf of SecondSite Property



Notes

Key

-  BOUNDARY
(Transco Area Landholding)
-  BOUNDARY
(SecondSite Property)

Site Area 0.4 ha

SUFFIX	REVISION	INIT	DATE	CH'KD



WSP
ENVIRONMENTAL

2, Ty-Nant Court
Morganstown
Cardiff
CF15 8LW
Tel: ++44 (0) 29 208 209 20
Fax: ++44 (0) 29 208 209 21

Factual Site Investigation Report

Site:
**BRADFORD ROAD
MANCHESTER**

Drawing:
**FIGURE 6B
TOPOGRAPHICAL SURVEY
SURPLUS LAND**

No:	Scale:	Date:
13010 222	1:1000	15.08.03

SecondSite Property

Prepared by WSP Environmental on behalf of SecondSite Property

APPENDIX A
PLATES

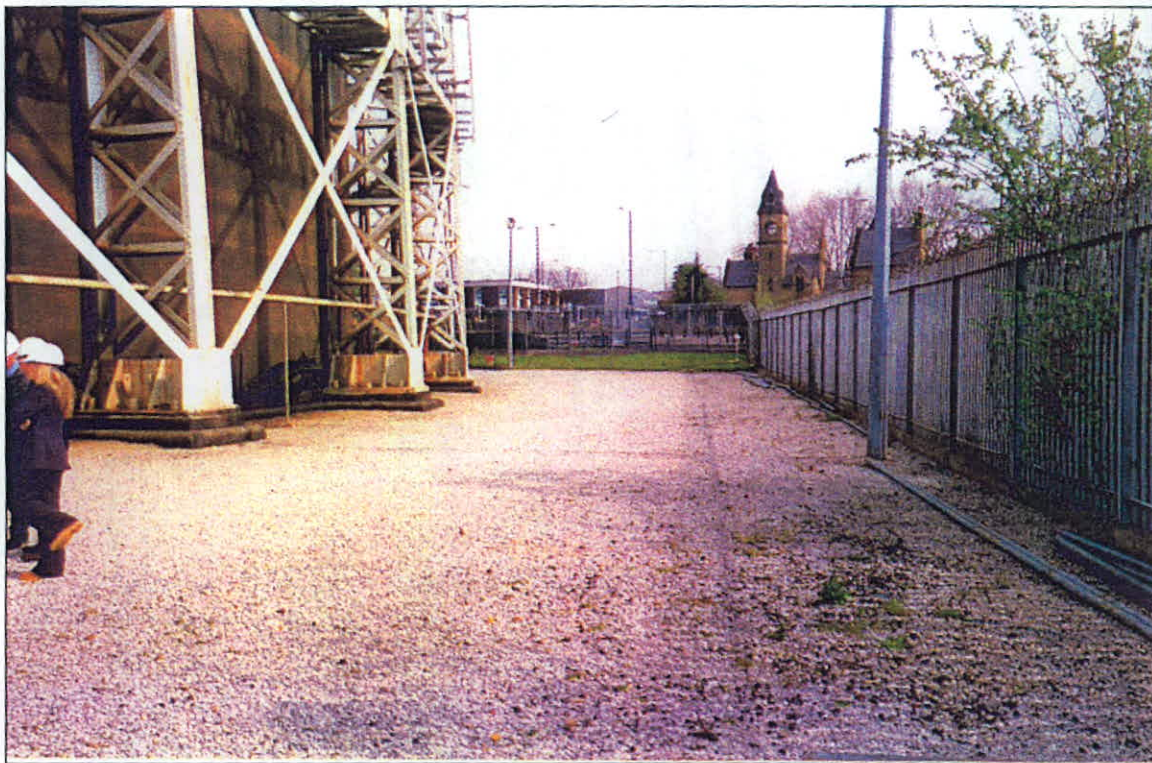


Plate 1: View looking north-east within gasholder compound.



Plate 2: View looking south-west, embankment within gasholder compound on western boundary.



Plate 3: View looking east, alongside gasholder compound.

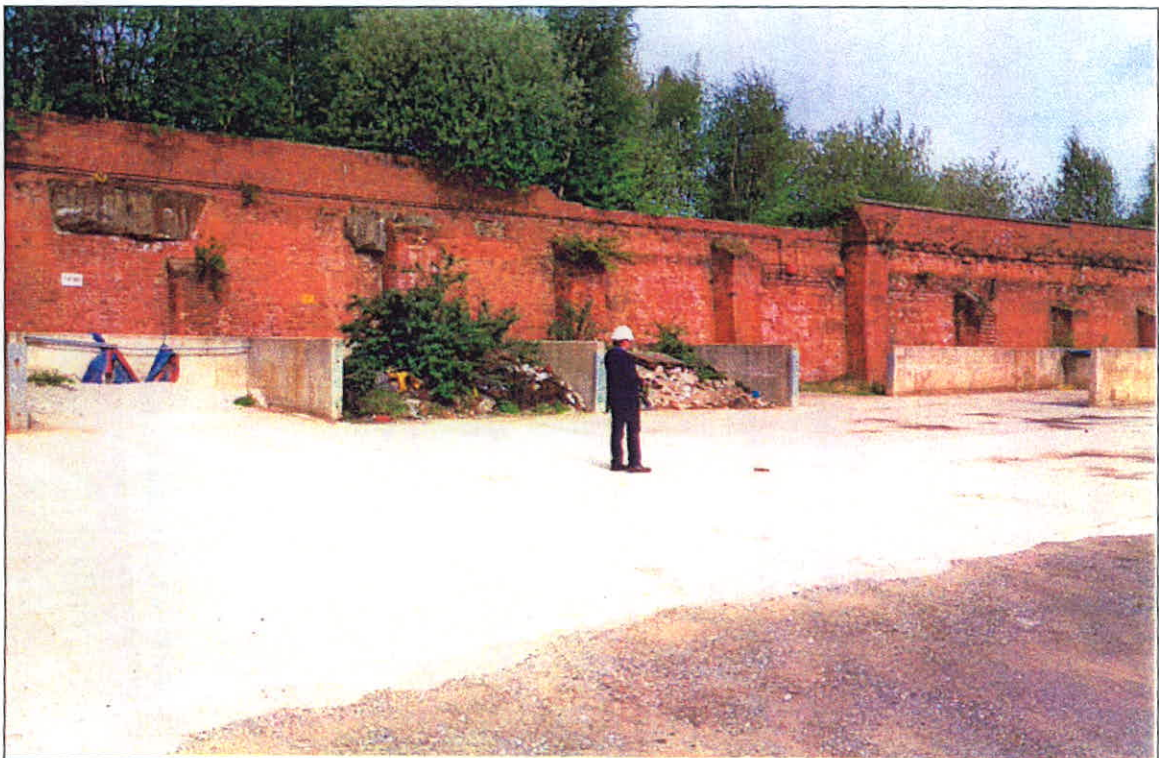


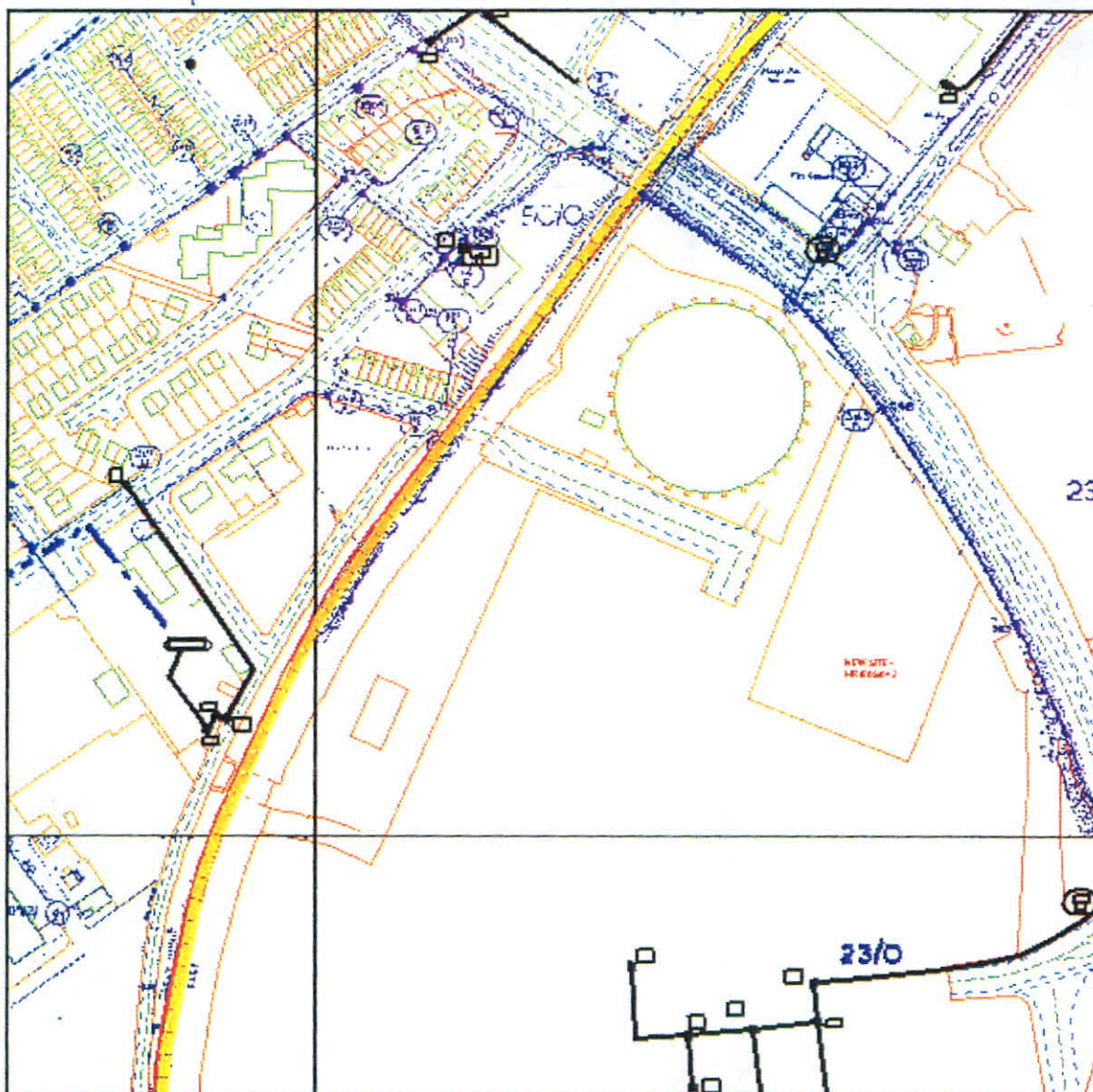
Plate 4: View looking north-west showing former storage bays.



Plate 5: View looking south-west showing raised car parking in area of former gasworks and above ground gas mains.

APPENDIX B
SITE SERVICE PLANS

BT Maps by email Plant Information Reply



IMPORTANT WARNING:

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

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FOR FREE ON SITE LOCATION & MARKING SERVICE
CALL DIAL BEFORE YOU DIG 0800 917 3993

KEY TO BT SYMBOLS

	UNDERGROUND PLANT		CABINET
	OVERHEAD PLANT		BURIED JOINT
	JOINT BOX		JOINTING POST
	DISTRIB'N POINT		PROPOSED U/G
	MANHOLE		PROPOSED O/H
	POLE		PROPOSED BOX

Other proposed plant is shown using dashed lines. BT symbols not listed above may be disregarded. Existing BT plant may not be recorded. Information valid at the time of preparation.



BT ref: XS009055R

Map reference (centre): SJ8661099130

Issued: 28/04/03 08:07:50

[illegible]

United Utilities

Extract From Map of Public Sewers

The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available.

The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded.

United Utilities will not accept any liability for any damage caused by the actual positions being different from those shown.

© United Utilities 2001

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Legend

-  Public Sewer
 -  Highway Drain
 -  Private Sewer
 -  Pumping Main
 -  Section 104 Sewers
- Refer to colour guide for content of pipe

Red or Brown - Foul Sewers
Blue - Surface Water Sewers

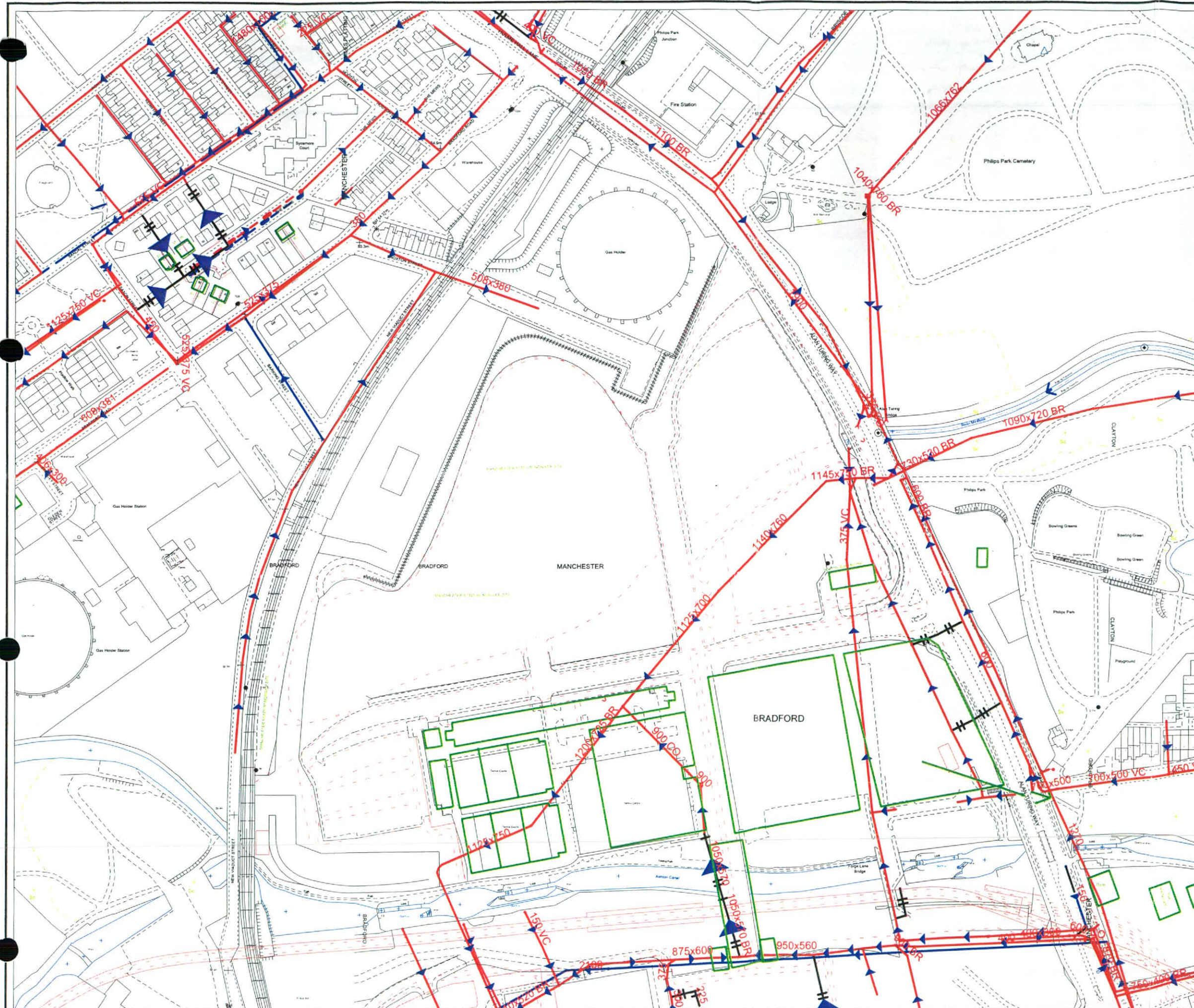
Bradford Road, Manchester

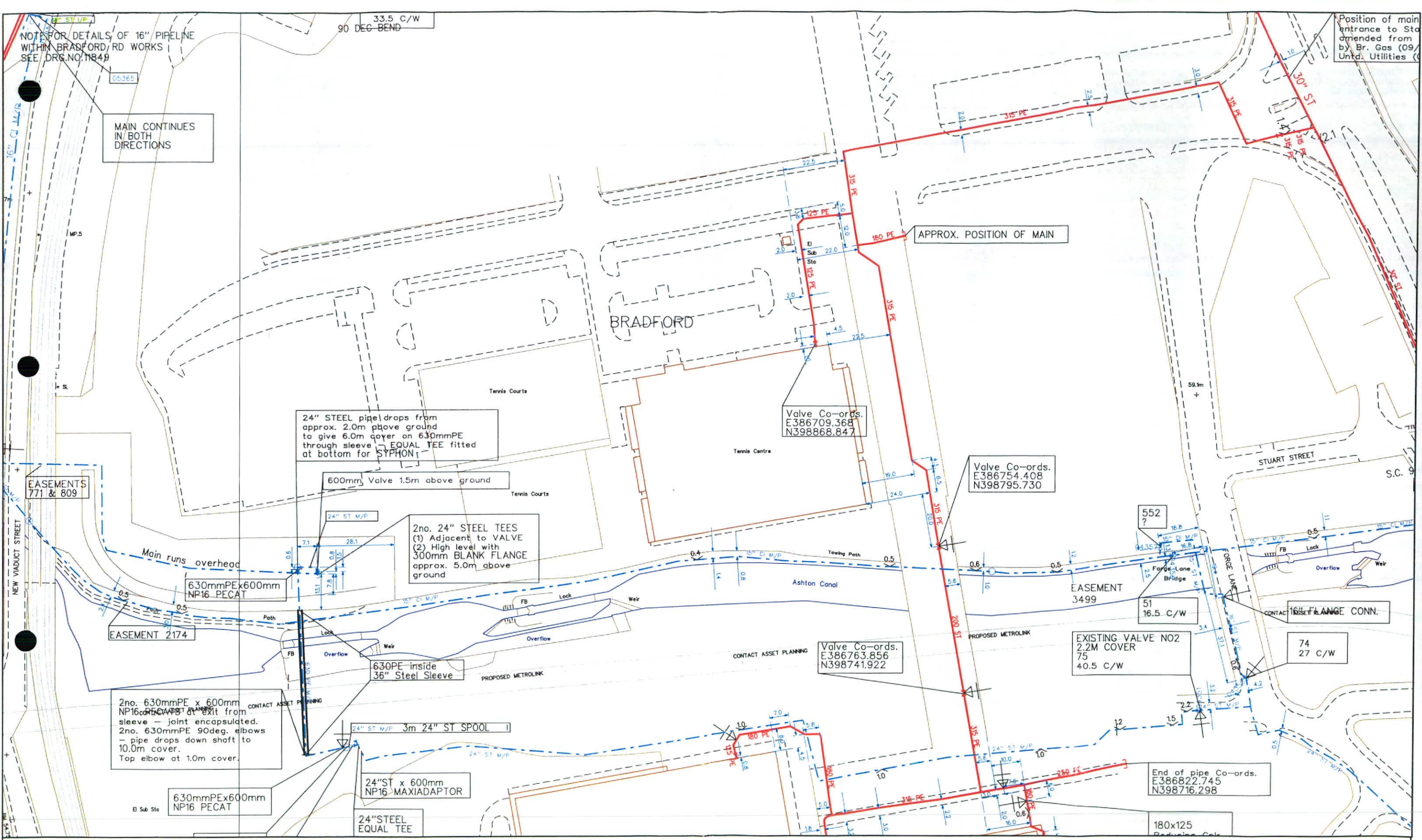
Printed By: Ant Laithwaite

Date: 13/05/03

DO NOT SCALE

Approximate Scale 1:2500





SCALE: 1 : 1250

USER ID: dlb02

DATE: 02/06/2003

INTERNAL USE ONLY

GRID REFERENCE:
386670, 398840, SJ8698

LP MAINS

MP MAINS

IP MAINS

LHP MAINS

NHP MAINS

LAs

GTs

SSSIs

Valve

Depth of Cover

Syphon

Diameter Change

Material Change

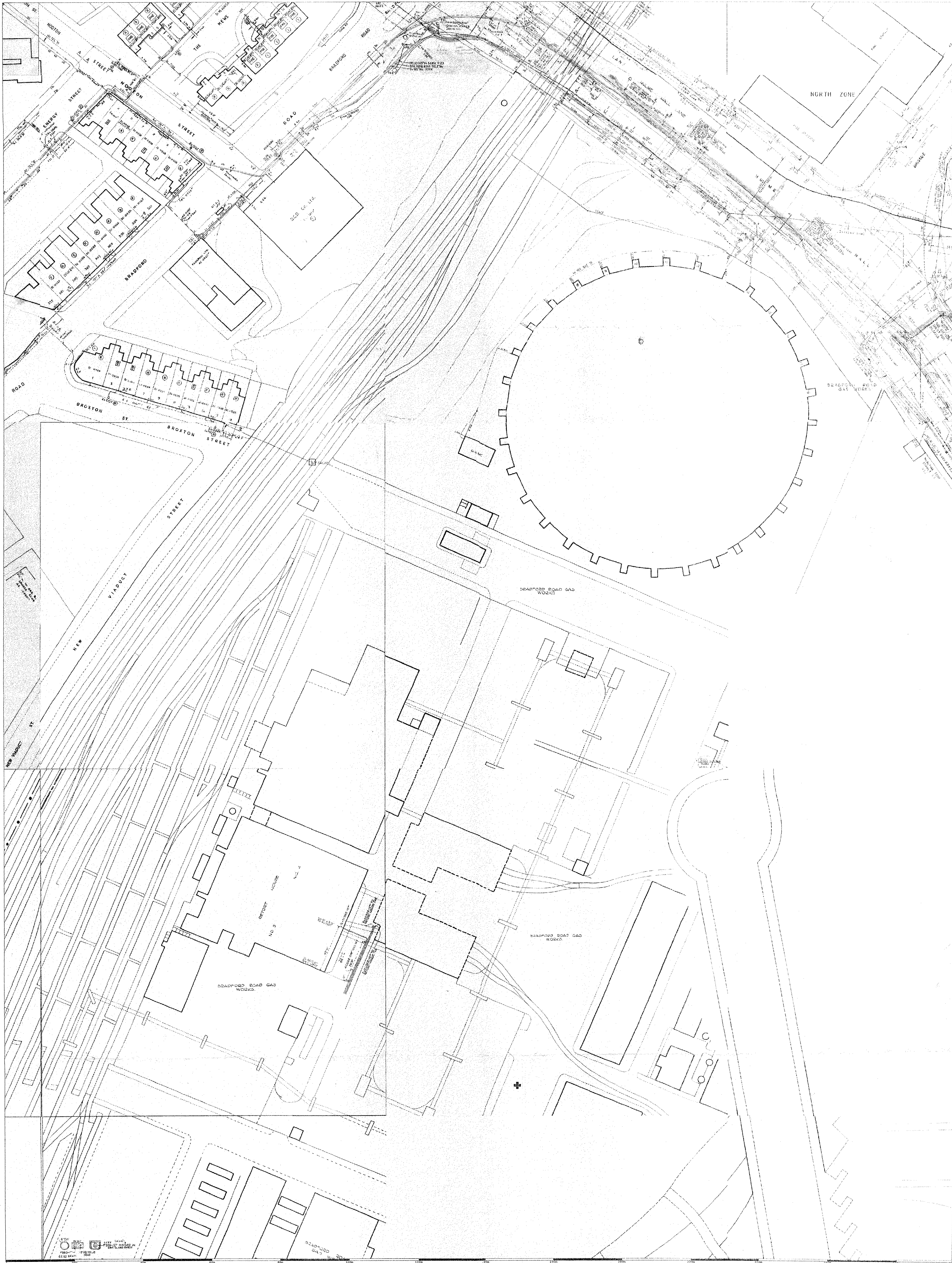
This plan shows only those pipes owned by Transco plc in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs and also privately owned may be present in this area. Information with regard to such pipes should be obtained from the owners. The information shown on this plan is given without obligation, or warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Transco plc, its agents or servants for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Desktop MAPS Version 3.0.1

Transco

Bolton

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Unless otherwise indicated the depth of UU Electric plc cables are in accordance with NJUG 2 (450mm for Low Voltage & 600mm for 11kV cables) 33kV/132kV cables are laid at depths as marked.

The depth and positions of UU Electric plc equipment was accurate as shown when the equipment was installed. However, third parties may have altered the level & other reference data. Therefore, UU Electric plc accept no responsibility for the position of UU Electric plc equipment being different from shown.

No person, body or company, shall be relieved from liability for damage caused to UU Electric plc equipment by reason of being located differently to the indications on this drawing. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs.

There may be other UU Electric apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than UU Electric.

CAUTION: Your Communications Fibre Optic cables may not be shown on this plan. Please contact Your Communications for further information.

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Reference should be made to HSE guidance, HS(G)47, "Avoiding Danger from Underground Services" and GS6 "Avoidance of Danger from Overhead Power Lines"

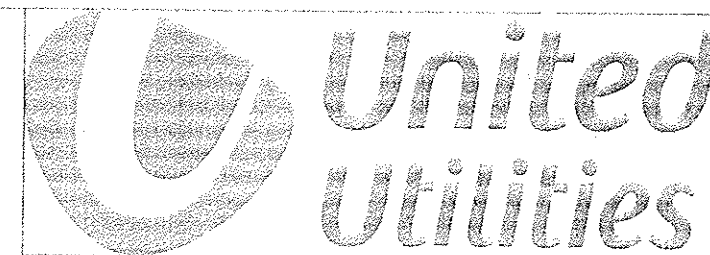
UU Registered Office: Dawson House, Great Sankey, Warrington, WA5 3LW Registered Number 2366949

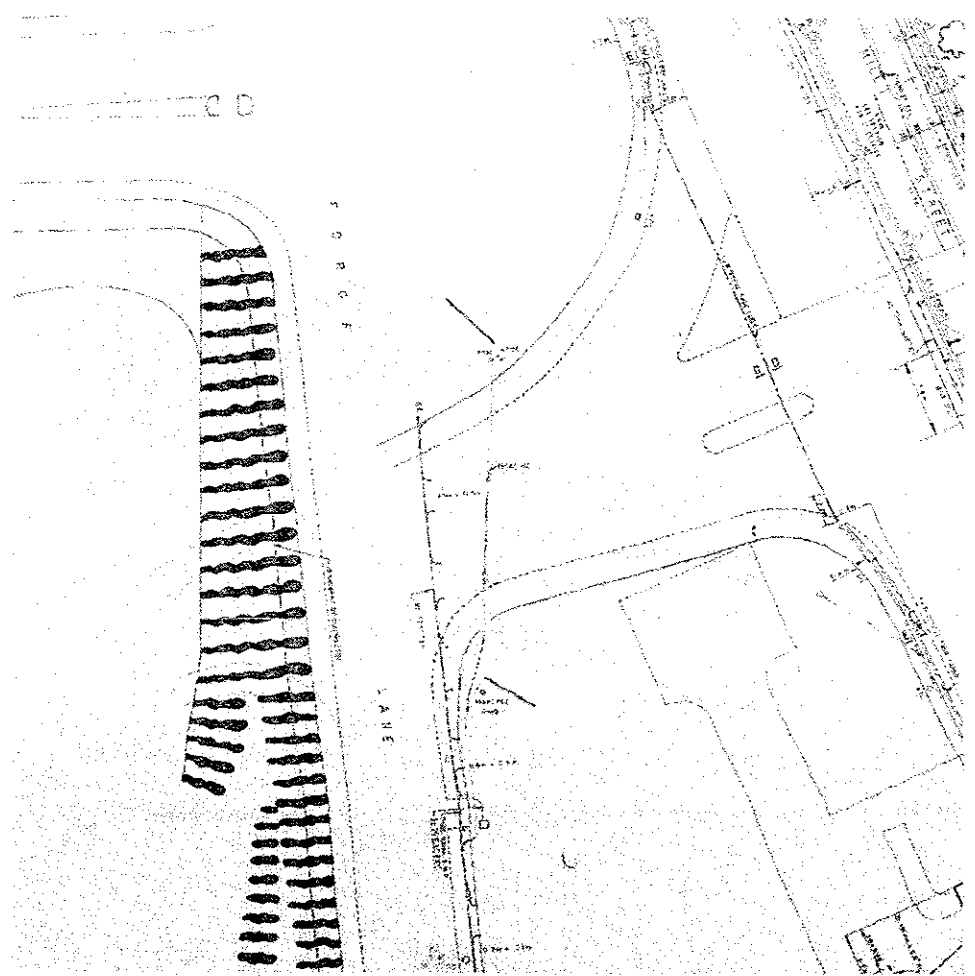
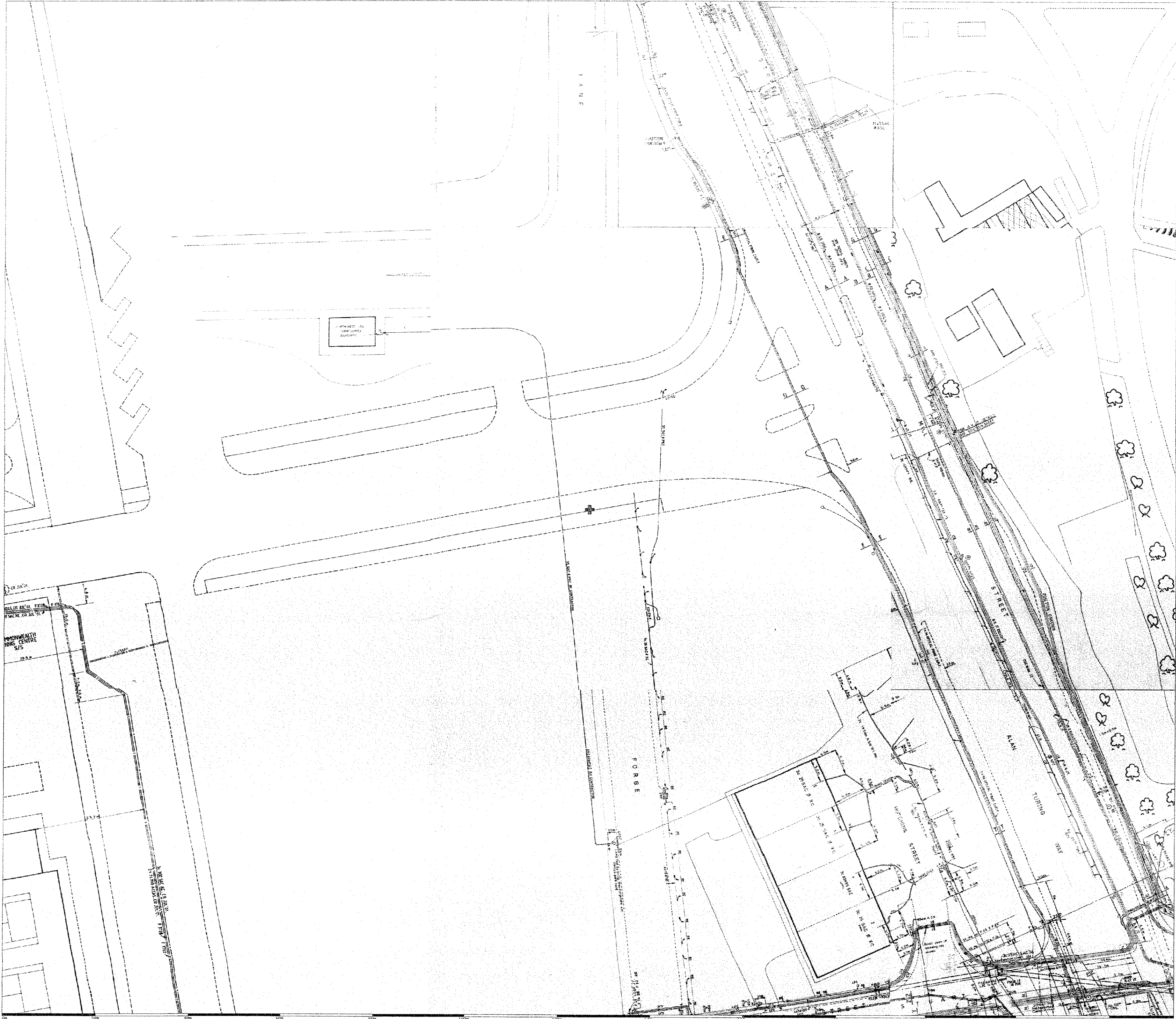
Grid Ref: SJ8699-61

Scale: 1:500

Printed: Richard Potts

Date: 14/05/2003





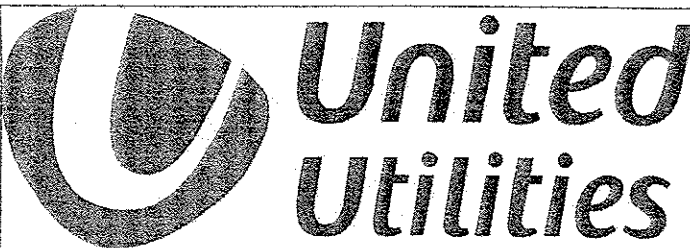
Unless otherwise indicated the depth of UU Electric plc cables are in accordance with NJUG 2 (450mm for Low Voltage & 600mm for 11kV cables) 33kV / 132kV cables are laid at depths as marked.
The depth and positions of UU Electric plc equipment was accurate as shown when the equipment was installed. However, third parties may have altered the level & other reference data. Therefore, UU Electric plc. accept no responsibility for the position of UU Electric plc equipment being different from shown.
No person, body or company, shall be relieved from liability for damage caused to UU Electric plc. equipment by reason of being located differently to the indications on this drawing.
Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs.
There may be other UU Electric apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than UU Electric.
CAUTION. Your Communications Fibre Optic cables may not be shown on this plan. Please contact Your Communications for further information.
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Reference should be made to HSE guidance, HS(G)47, "Avoiding Danger from Underground Services" and GS6 "Avoidance of Danger from Overhead Power Lines"
UU Registered Office: Dawson House, Great Sankey, Warrington, WA5 3LW Registered Number 2366949

Main View Grid Ref: SJ8698-89

Main View Scale: 1:500

Printed: Richard Potts

Date: 14/05/2003



APPENDIX C
COAL MINING REPORT

The Coal Authority,
Mining Reports Office,
200 LICHFIELD LANE,
BERRY HILL,
MANSFIELD,
NOTTINGHAMSHIRE,
NG18 4RG
Telephone: 0845 762 6848
DX 716176 MANSFIELD 5
On-Line Service: www.coalminingreports.co.uk

The



COAL AUTHORITY

The Coal Authority	
Cost	£38.30
Plus V.A.T.	£6.70
Total Received	£45.00
V.A.T. Reg Number	598 5850 68

W S P ENVIRONMENTAL,
UNIT 2,
TY-NANT COURT,
MORGANSTOWN,
CARDIFF,
SOUTH GLAMORGAN,
CF15 8LW

29 AUG 2003

This matter is being dealt with by Ken Rowe

RECEIVED
BY:

Our Ref: 382090-03

COPIED TO

Your Ref: CA.13010221.220803 CR

CR 01/09/03

Electronic Ref:

Date: 28 August 2003

Dear Sir,

Coal Mining Report

SURPLUS LAND & HOLDER SITE, BRADFORD ROAD, MANCHESTER, GREATER MANCHESTER

I refer to the enquiry dated 22nd August 2003, received 26th August 2003, in connection with the above.

This report is based on and limited to the records in the possession of The Coal Authority at the time the search is answered.

Past Underground Mining

The property is within the likely zone of influence on the surface from workings in 7 seams of coal at 50m to 960m depth, the last date of working being 1961.

Ground movement from the above mentioned past coal workings should by now have ceased.

In addition you may wish to know that the property is in an area where coal is believed to exist at or close to the surface that may have been worked at some time in the past.

Present Underground Mining

The property is not within the zone of likely physical influence on the surface from any present underground coal workings.

Future Underground Mining

The property is not within a geographical area for which a licence to extract coal by underground methods is awaiting determination by the Coal Authority.

The property is not within a geographical area for which a licence to extract coal by underground methods has been granted.

The property is not within the zone of likely physical influence at the surface from plans of future workings in our possession.

However reserves of coal exist in the locality which could be worked at some time in the future subject to feasibility, licences, and planning consents.

We have no record of any notice of the risk of the land being affected by subsidence being given under S.46 of the Coal Mining Subsidence Act 1991.

Shafts and Adits

Within or within 20 metres of the property there are 14 mine entries, the approximate positions of which are shown on the attached plan. Your attention is drawn to the statements made on that plan.

Our records disclose the following information:

386399-015. No treatment details.

386398-025. This shaft was drilled, grouted and capped in 1986 by Ward Ashcroft and Parkman .

386398-024. This shaft was drilled, grouted and capped in 1986 by Ward Ashcroft and Parkman .

386398-023. This shaft was drilled, grouted and capped in 1986 by Ward Ashcroft and Parkman .

386398-022. This shaft was drilled , grouted and capped in 1986 by Ward Ashcroft & Parkman .

386398-021. This shaft was drilled grouted and capped in 1986 by Ward Ashcroft & Parkman .

386398-020. No treatment details. =

386398-019. This shaft was drilled, grouted and capped in 1986 by Ward, Ashcroft and Parkman .

386398-008. This shaft was drilled grouted and capped in 1986 by Ward Ashcroft & Parkman .

386398-007. No treatment details.

386398-004. This shaft was drilled , grouted and capped in 1986 by Ward Ashcroft and Parkman .

386398-003. This shaft was drilled, grouted and capped in 1986 by Ward Ashcroft and Parkman .

386398-002. This shaft was drilled, grouted and capped in 1986 by Ward Ashcroft and Parkman .

386398-001. Our records indicate that this shaft has been searched for in the past but was not located .

The records held by the Coal Authority may be incomplete. Consequently, there may exist in this locality mine entries of which we have no knowledge.

Surface Geology

Records in our possession do not disclose any fault or other line of weakness at the surface as having affected the stability of the property.

Past Opencast Mining

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

Present Opencast Mining

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

Future Opencast Mining

The property is not within 800 metres of the geographical boundary of an opencast site for which a licence to extract coal by opencast methods is awaiting determination.

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

Subsidence

The records in our possession do not disclose any damage notice or claim having been given, made or pursued in respect of the property since 1 January 1984.

The records in our possession do not disclose any current "Stop Notice" affecting the property.

The records in our possession do not show any request having been made to execute preventative works under S.33 of the Coal Mining Subsidence Act 1991.

Withdrawal of Support

The property lies within a geographical area in respect of which a notice of entitlement to withdraw support was published in 1955.

The property does not lie within a geographical area in respect of which a notice has been given under S.41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

Working Facilities Orders

The property is not within a geographical area that is the subject of an Order made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

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

Additional Remarks

In view of the mining circumstances a prudent developer would seek appropriate technical advice before works are undertaken on site. All proposals should have regard to good engineering practice in mining areas as identified in authoritative publications on mining stability problems. In any event, no activities should be undertaken that intersect, disturb, or interfere with any coal or mines of coal without permission of the Coal Authority.

These replies are prepared in accordance with the 2003 editions of the Coal Authority's Terms and Conditions, User Guide and the Law Society's Guidance Notes.

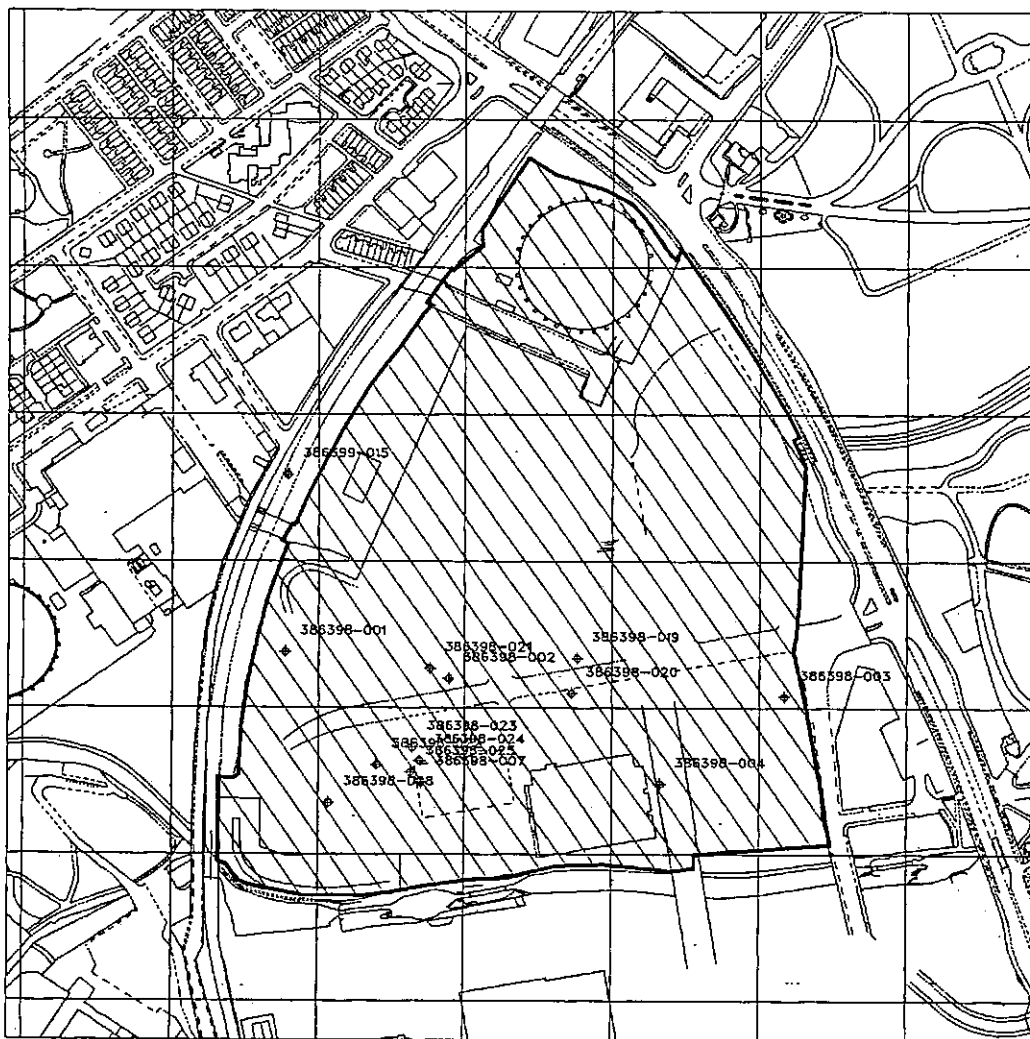
We acknowledge the receipt of your remittance in payment of our fee.

Yours faithfully



Albert Schofield

Director of Mining Information and Services



Crown Copyright. Quoted scale is approximate.

SCALE: 1:5000

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This is a plan of the boundaries of the property in respect of which this report has been prepared. It is the responsibility of the user to ensure that the boundaries shown correspond with those of the property.

APPROXIMATE POSITION OF ENQUIRY BOUNDARY SHOWN



APPROXIMATE POSITION OF DISUSED MINE SHAFTS SHOWN



This plan shows the approximate location of the disused mine entry/entries referred to in the attached mining report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

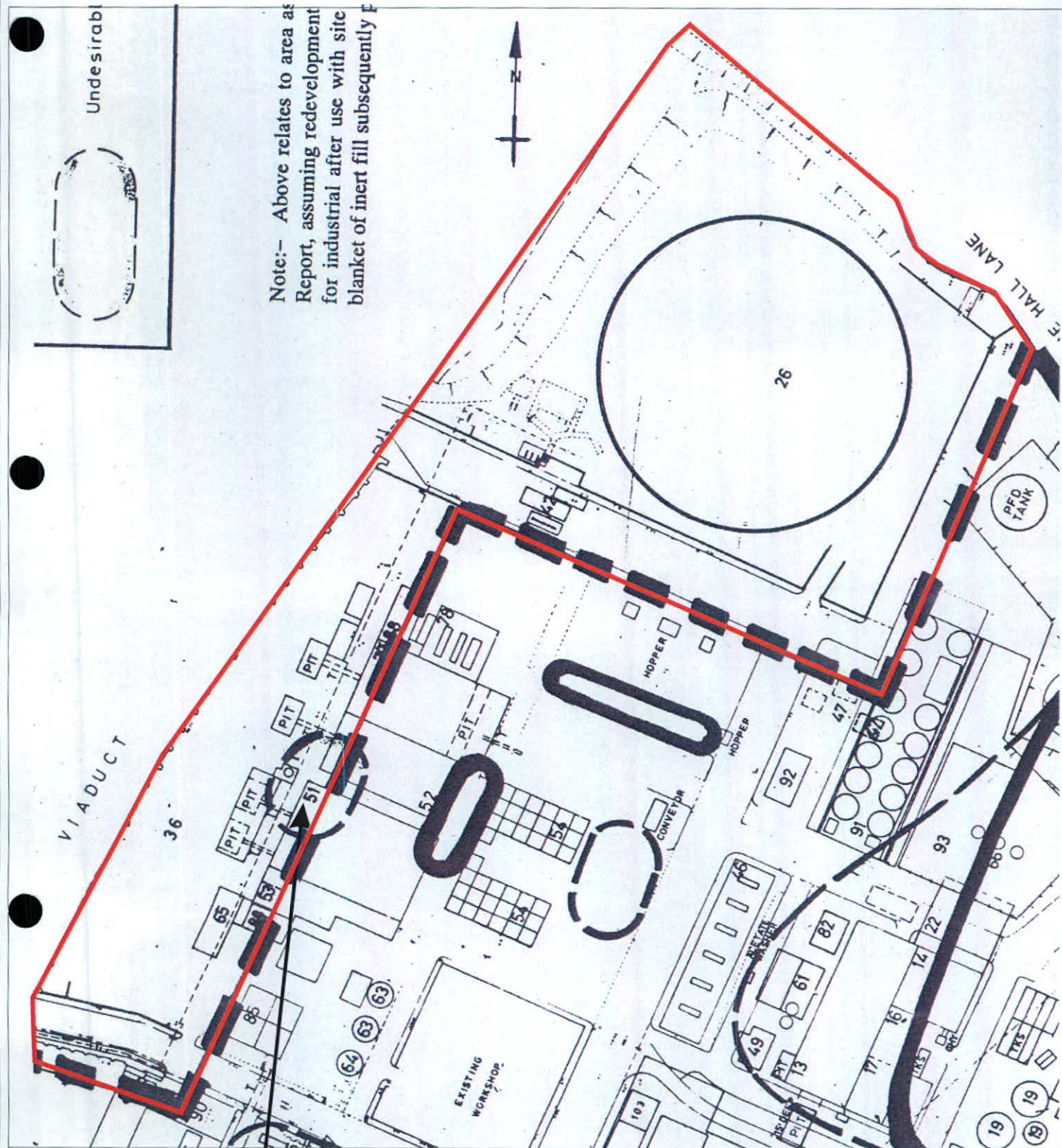
Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A DTL leaflet setting out the rights and the obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0845 762 6848.

If you wish to discuss the relevance of any of the information contained in the attached report you should seek the advice of a qualified mining engineer or surveyor. If you or your adviser wish to examine the source plans from which the information has been taken these are available at our Mansfield office, free of charge, by prior appointment, telephone 01623 638233. Should you or your advisor wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries).

Our emergency telephone number at all times is 01623 646333.

APPENDIX D
HISTORICAL PLANS



Former Retorts



Client: SecondSite Property

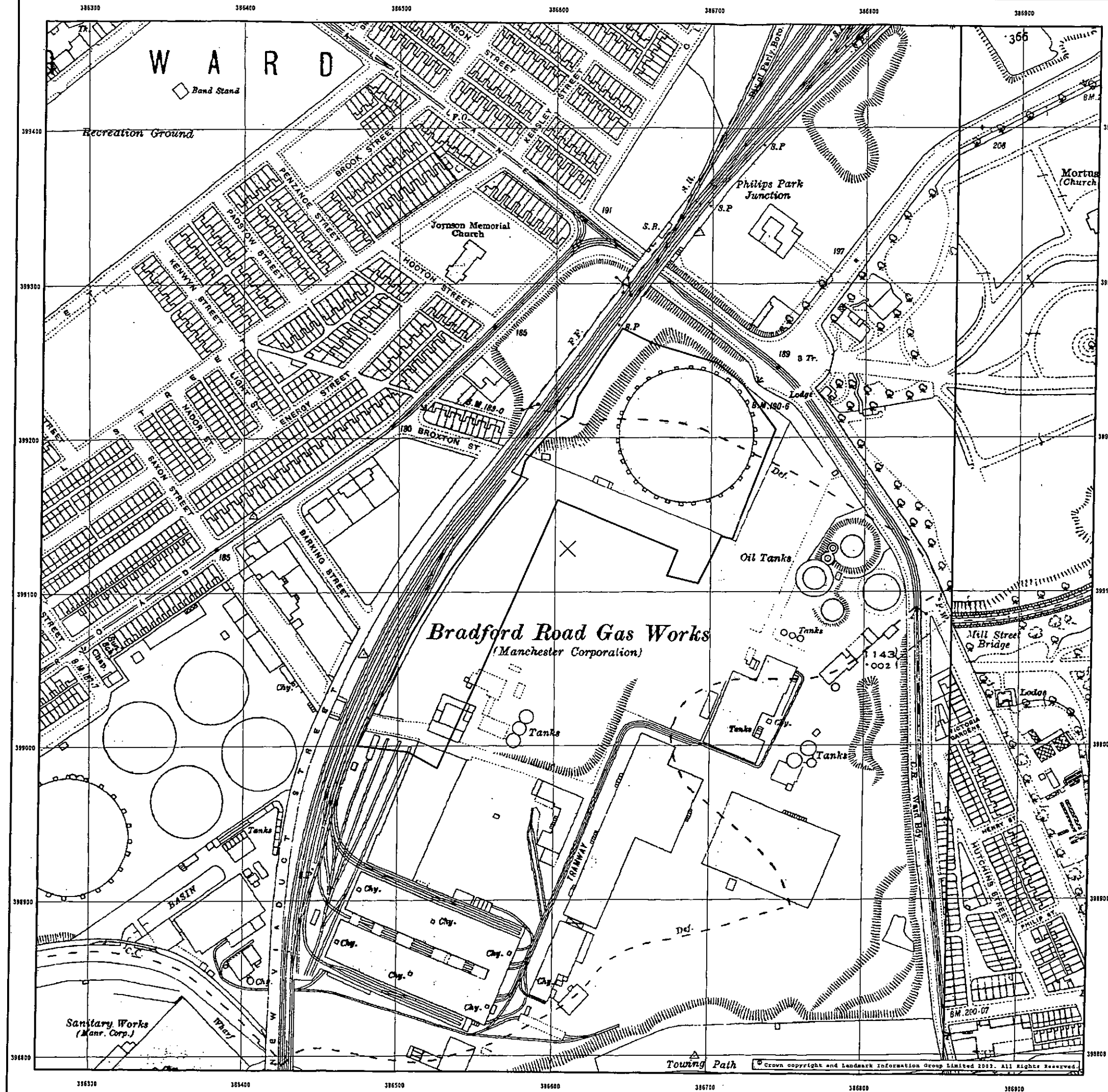
Project: Bradford Road

Title: Historical Plan
(Date Unknown)

Drawing No. 1

Figure No. Appendix D

Scale. N.T.S.



CLIENT DETAILS Envirocheck Order No. EC278399_1_5
 Customer Ref: MS L A CAMMACK, 13010222
 WSP ENVIRONMENTAL LIMITED
 9 Ty-Kent Court Morganstown
 CARDIFF
 CF15 8LW

SITE DETAILS Grid Reference 386610 399130
 Surplus Land and Holder Site
 Bradford Road
 Manchester
 Greater Manchester

Historical Map Legend

Quarry	Sand Pit	Marsh	Reeds
Gravel Pit	Clay Pit	Rough Pasture	Furze
Refuse Heap	Shingle	Osiers	Ford
Railway crossing River or Canal	Railway crossing Road	Level Crossing	
Embankment	Cutting	Road crossing Railway	
Road over single Stream	Road over River or Canal	Arrow denotes flow of Water	

LANCASHIRE AND FURNESS

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1888 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given on the right is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Source map scale - 1:2,500

1922	1922
------	------

Date(s) of Publication

OS Ordnance Survey
 Licensed Partner

LANDMARK
 Information Group

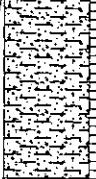
APPENDIX E

BOREHOLE AND TRIAL PIT LOGS – HOLDER SITE

PROJECT Bradford Road Gasworks				BOREHOLE No BH01				
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003				
METHOD Dynamic sampling/rotary				PROJECT No 13010222				
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (m AOD)	SAMPLES & TESTS		SPT N
STRIKE	WELL					DEPTH	TYPE	
		0.30	TOPSOIL: Dark brown slightly silty fine SAND. Frequent roots and rootlets.		-0.30	0.30	D 01	
		0.60	MADE GROUND: Brown gravelly fine to coarse SAND. Gravel is angular fine to coarse red brick. Occasional cobbles of brick.		-0.60	0.60		
		0.70	MADE GROUND: Soft brown CLAY. Occasional gravel of red brick.		-0.70			
		1.00	Firm to stiff brown CLAY. Rare sub rounded fine to medium gravel of sandstone.		-1.00	1.50	D 02	
		2.45	Stiff dark brown slightly sandy, slightly gravelly CLAY. Gravel is angular to rounded fine to coarse. Sand is fine to medium.		-2.45	2.00		
		4.30	Stiff brown slightly sandy slightly gravelly CLAY. Gravel is blue-grey angular to rounded fine to coarse sandstone. Occasional pockets of medium sand.		-4.30	4.30	D 03	
		8.50	Very stiff brown gravelly CLAY. Gravel is blue-grey subangular fine to medium sandstone.		-4.80	4.80		
		8.80	No Recovery.		-8.50			
		10.22	Very stiff brown sandy gravelly CLAY. Gravel is sub rounded fine to coarse sandstone. Rare cobbles of sandstone.		-8.80			
		10.22	End of Borehole at 10.22 m		-10.22			
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels : ☒ Water Soaks ☒ Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS No groundwater encountered No visual/olfactory evidence of contamination.				
EASTING 0.00		NORTHING 0.00		GROUND LEVEL (m AOD)		WSP ENVIRONMENTAL		
LOGGED BY		SCALE 1:65		Sheet 1 of 1				

PROJECT Bradford Road Gasworks				BOREHOLE No BH02				
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003				
METHOD Dynamic sampling/rotary				PROJECT No 13010222				
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		SPT N
STRIKE	WELL					DEPTH	TYPE	
			MADE GROUND: Firm brown CLAY. Rare angular to rounded fine to medium gravel of brick and clinker.		0.30 0.50	D	01	
		1.10	Stiff brown slightly sandy CLAY. Occasional gravel of sub rounded fine sandstone.		1.30 2.00	D	02	
		2.45	Stiff brown slightly sandy slightly gravelly CLAY. Gravel is rounded fine to coarse sandstone. Localised pockets of medium sand.		4.30 4.80	D	03	
		4.30	Stiff brown gravelly CLAY. Gravel is grey sub angular to sub rounded fine to medium sandstone.					
		8.50	End of Borehole at 8.50 m					
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels :  Water Strike  Water Level In Sth Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS No groundwater encountered. No visual or olfactory signs of contamination.				
EASTING 0.00		NORTHING 0.00		GROUND LEVEL (mAOD)		WSP ENVIRONMENTAL		
LOGGED BY CR		SCALE 1:65		Sheet 1 of 1				

PROJECT Bradford Road Gasworks				BOREHOLE No BH03				
CLIENT SecondSite Property Holdings Ltd				DATE 12 June 2003				
METHOD Dynamic sampling/rotary				PROJECT No 13010222				
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		SPT TV
STRIKE	WELL					DEPTH	TYPE	
			MADE GROUND: Brown gravelly fine to coarse SAND of ash. Gravel is angular to rounded fine to coarse brick, clinker and timber.					
		3.20	MADE GROUND: Slightly clayey slightly gravelly fine to coarse SAND. Gravel is angular fine to medium brick and ceramics.		-3.20			
		4.00	MADE GROUND: Soft to firm dark grey and black slightly clayey sandy angular to subrounded fine to medium GRAVEL of ceramics, coal and shale. Sand is medium. Odours of hydrocarbons.		-4.00	3.80 4.00	D 01	
		4.70	MADE GROUND: Soft to firm with depth dark grey/green mottled black sandy slightly gravelly CLAY. Gravel is rounded fine timber.		-4.70			
		5.75	MADE GROUND: Soft dark grey very gravelly CLAY. Gravel is rounded fine brick. Strong odours of hydrocarbons.		-5.75	5.80 6.20	D 02	
		7.30	Loose light brown SAND & GRAVEL. Sand is fine to coarse. Gravel is angular to sub rounded fine to medium flint & sandstone.		-7.30			
		8.00	Firm brown slightly gravelly, sandy CLAY. Gravel is sub rounded fine to medium sandstone.		-8.00			
		8.50	Firm mottled grey sandy gravelly CLAY. Gravel is fine to coarse angular to subrounded sandstone. Sand is medium.		-8.50	8.50 9.00	D 03	
			Soft orange/yellow sandy very gravelly CLAY. Gravel is fine sub angular to sub rounded fine sandstone.					
			Weak dark grey sandy very clayey SHALE. (COAL MEASURES)					
		9.80	End of Borehole at 9.80 m		-9.80			
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels : ∇ Water Strike ▼ Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS No groundwater encountered.				
EASTING 0.00		NORTHING 0.00		GROUND LEVEL (mAOD)		WSP ENVIRONMENTAL		
LOGGED BY CR		SCALE 1:65		Sheet 1 of 1				

PROJECT Bradford Road Gasworks				BOREHOLE No TP01					
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003					
METHOD Hole excavated to 2.5 m depth using JCB.				PROJECT No 13010222					
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		SPT N	
STRIKE	WELL					DEPTH	TYPE		
		0.10 0.30	MADE GROUND: Loose angular to rounded medium GRAVEL. MADE GROUND: Black gravelly slightly sandy slightly gravelly CLAY. Gravel is angular medium clinker. Sand is ash. Stiff dark brown slightly gravelly slightly sandy CLAY.		-0.10 -0.30	0.10 0.30	D		
		2.50	End of Borehole at 2.50 m		-2.50	2.00 2.50	D		
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels :  Water Strike  Water Level In Site Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS					
EASTING 0.00		NORTHING 0.00						GROUND LEVEL (mAOD)	
LOGGED BY CR		SCALE 1:65						Sheet 1 of 1	
WSP ENVIRONMENTAL									

PROJECT Bradford Road Gasworks				BOREHOLE No TP02			
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003			
METHOD Trial pit excavated to 1.5 m depth using JCB.				PROJECT No 13010222			
GROUNDWATER		DEPTH	DESCRIPTION	LEGEND	LEVEL	SAMPLES & TESTS	
STRIKE	WELL	(m)			(mAOD)	DEPTH	TYPE
0.70 0.70		0.05 0.10 0.50 0.70 1.50	MADE GROUND: Tarmacadam MADE GROUND: Square stone paving MADE GROUND (Fill) - Black gravelly SAND of ash. Gravel is angular medium clinker. MADE GROUND: Brick fill Stiff dark brown slightly sandy, slightly gravelly CLAY. End of Borehole at 1.50 m	   	-0.01 -0.10 -0.50 -0.70 -1.50	5.10 5.50	D 01
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels : ☒ Water Strike ☒ Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS Trial pit Length: 1.5m Width: 0.5m Depth: 1.5m. Water present as slight seepage above Clay (0.7m).			
EASTING		NORTHING		GROUND LEVEL (mAOD)		WSP ENVIRONMENTAL	
0.00		0.00					
LOGGED BY		SCALE					
CR		1:65		Sheet 1 of 1			

[illegible]

PROJECT Bradford Road Gasworks				BOREHOLE No TP04						
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003						
METHOD Hole excavated using JCB to 3.0 m depth.				PROJECT No 13010222						
GROUNDWATER		DEPTH	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		SPT N		
STRIKE	WELL	(m)				DEPTH	TYPE			
		0.30	MADE GROUND: Brick footing		-0.30	0.30	D 01			
		0.50	MADE GROUND: Black gravelly clayey fine to medium SAND of ash. Gravel is angular medium clinker Brown stiff to very stiff slightly sandy slightly gravelly CLAY		-0.50	0.50				
		3.00	End of Borehole at 3.00 m		-3.00	2.50 3.00	D 02			
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Specn Water Levels :  Water Strike  Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS						
EASTING 0.00		NORTHING 0.00							GROUND LEVEL (mAOD)	
LOGGED BY SR		SCALE 1:65							Sheet 1 of 1	
WSP ENVIRONMENTAL										

PROJECT Bradford Road Gasworks				BOREHOLE No TP05			
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003			
METHOD Excavated using JCB to 3.2 m depth.				PROJECT No 13010222			
GROUNDWATER		DEPTH	DESCRIPTION	LEGEND	LEVEL	SAMPLES & TESTS	
STRIKE	WELL	(m)			(mAOD)	DEPTH	SPT
		0.40	MADE GROUND: Concrete		0.40		
			MADE GROUND: Loose orange fine to medium SAND.			0.50 1.00	D 01
		2.30	MADE GROUND: Loose brown gravelly clayey fine to medium SAND		2.30		
		2.80	Stiff brown slightly sandy, slightly gravelly CLAY		2.80	2.80 3.20	D 02
		3.20	End of Borehole at 3.20 m		3.20		
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels :  Water Strike  Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS 			
EASTING		NORTHING		GROUND LEVEL (mAOD)		WSP ENVIRONMENTAL	
0.00		0.00					
LOGGED BY		SCALE		Sheet 1 of 1			
SR		1:65					

PROJECT Bradford Road Gasworks				BOREHOLE No TP06				
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003				
METHOD Excavated using JCB to 3.2 m depth.				PROJECT No 13010222				
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOGL)	SAMPLES & TESTS		SPT N
STRIKE	WELL					DEPTH	TYPE	
		0.50	MADE GROUND: Concrete		-0.50			
		0.80	MADE GROUND: Loose black fine to coarse SAND of ash.		-0.80			
			MADE GROUND: Brown to orange gravelly fine to coarse SAND of ash. Gravel is angular to sub rounded fine to coarse pottery, bottles, and rotten fabric. Moderate odours of diesel from 3.00 m to 3.20 m depth.		-1.00 -1.50	D 01		
					-2.50 -2.80	D 02		
		3.20	End of Borehole at 3.20 m		-3.20			
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels : ∇ Water Static ▼ Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS Diesel odour from 3.00m to base of trial pit				
EASTING 0.00		NORTHING 0.00		GROUND LEVEL (mAOGL)		WSP ENVIRONMENTAL		
LOGGED BY SR		SCALE 1:65		Sheet 1 of 1				

PROJECT Bradford Road Gasworks				BOREHOLE No TP07				
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003				
METHOD Excavated using JCB to 2.5 m depth.				PROJECT No 13010222				
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		SPT N
STRIKE	WELL					DEPTH	TYPE	
0.30 0.30		0.20 0.30	MADE GROUND: Concrete MADE GROUND: Loose brown SAND and GRAVEL. Sand is ash. Gravel is angular fine to medium clinker. Stiff to very stiff brown sandy gravelly CLAY		0.20 0.30	0.30 0.60	D 01	
		2.50	End of Borehole at 2.50 m		2.00 2.50		D 02	
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels : ∇ Water Strike ▼ Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS Water seepage at 0.3m				
EASTING 0.00		NORTHING 0.00		GROUND LEVEL (mAOD)		WSP ENVIRONMENTAL		
LOGGED BY SR		SCALE 1:65		Sheet 1 of 1				

PROJECT Bradford Road Gasworks				BOREHOLE No TP08					
CLIENT SecondSite Property Holdings Ltd				DATE 10 June 2003					
METHOD Excavated using JCB to 3.2 m depth.				PROJECT No 13010222					
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		SPT N	
STRIKE	WELL					DEPTH	TYPE		
0.43 0.40		0.40 0.50	TOPSOIL: Soft to firm brown clayey sandy GRAVEL. Frequent roots and rootlets. MADE GROUND: Concrete Stiff to very stiff brown sandy gravelly CLAY	  	0.10 0.30 2.80 3.00	D 01 D 02			
		3.00	End of Borehole at 3.20 m						
KEY Sample Types : U - Undisturbed D - Disturbed B - Bulk W - Water SPT - SPT Spoon Water Levels :  Water Strike  Water Level In Situ Tests : S - Standard Penetration Test C - Cone Penetration Test				REMARKS Water perched on concrete at 0.4m. No visual/olfactory evidence of contamination.					
EASTING 0.00		NORTHING 0.00		GROUND LEVEL (mAOD)		WSP ENVIRONMENTAL			
LOGGED BY SR		SCALE 1:65		Sheet 1 of 1					



Trial Pit 1



Trial Pit 2



Trial Pit 3



Trial Pit 6



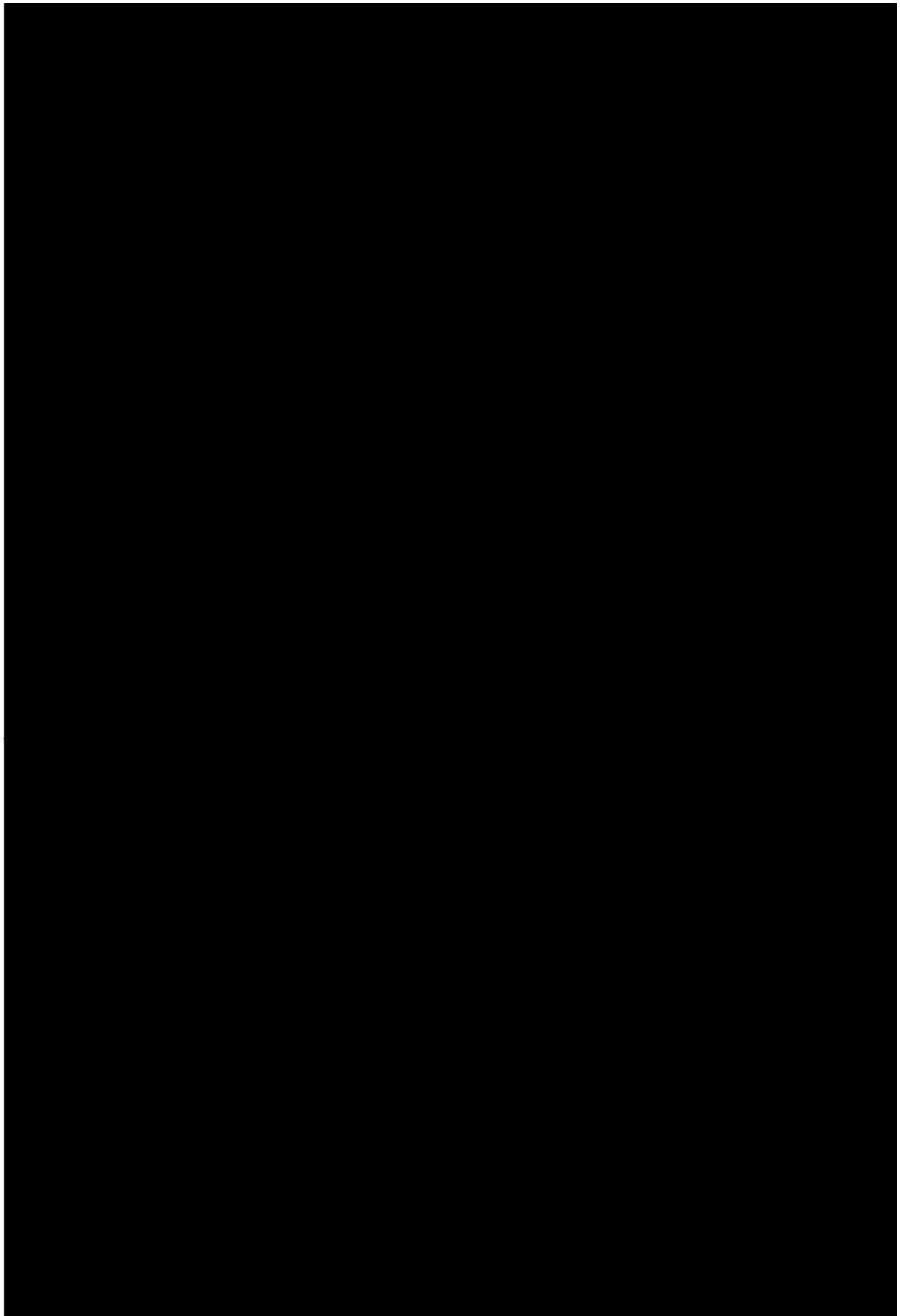
Trial Pit 7

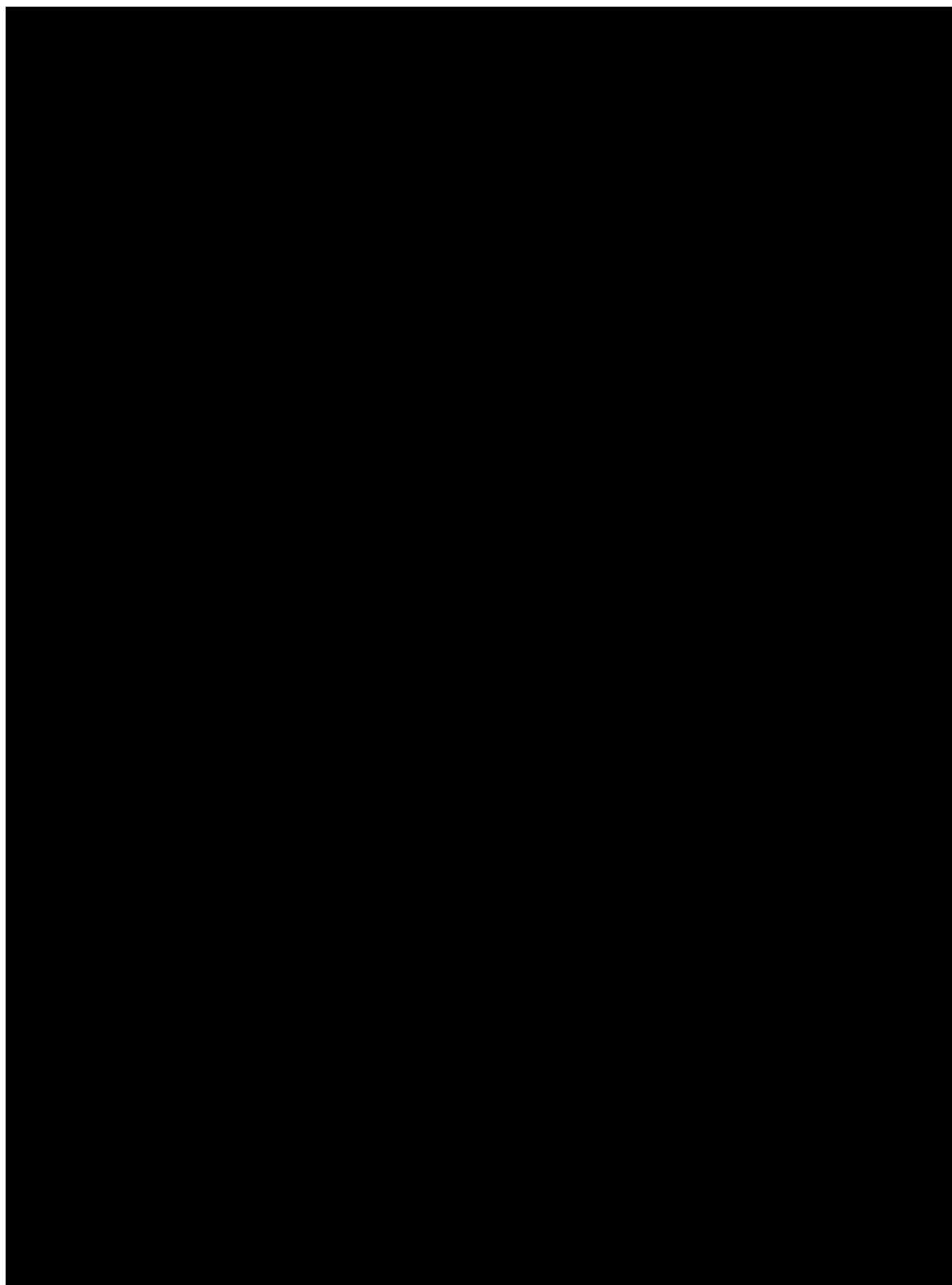


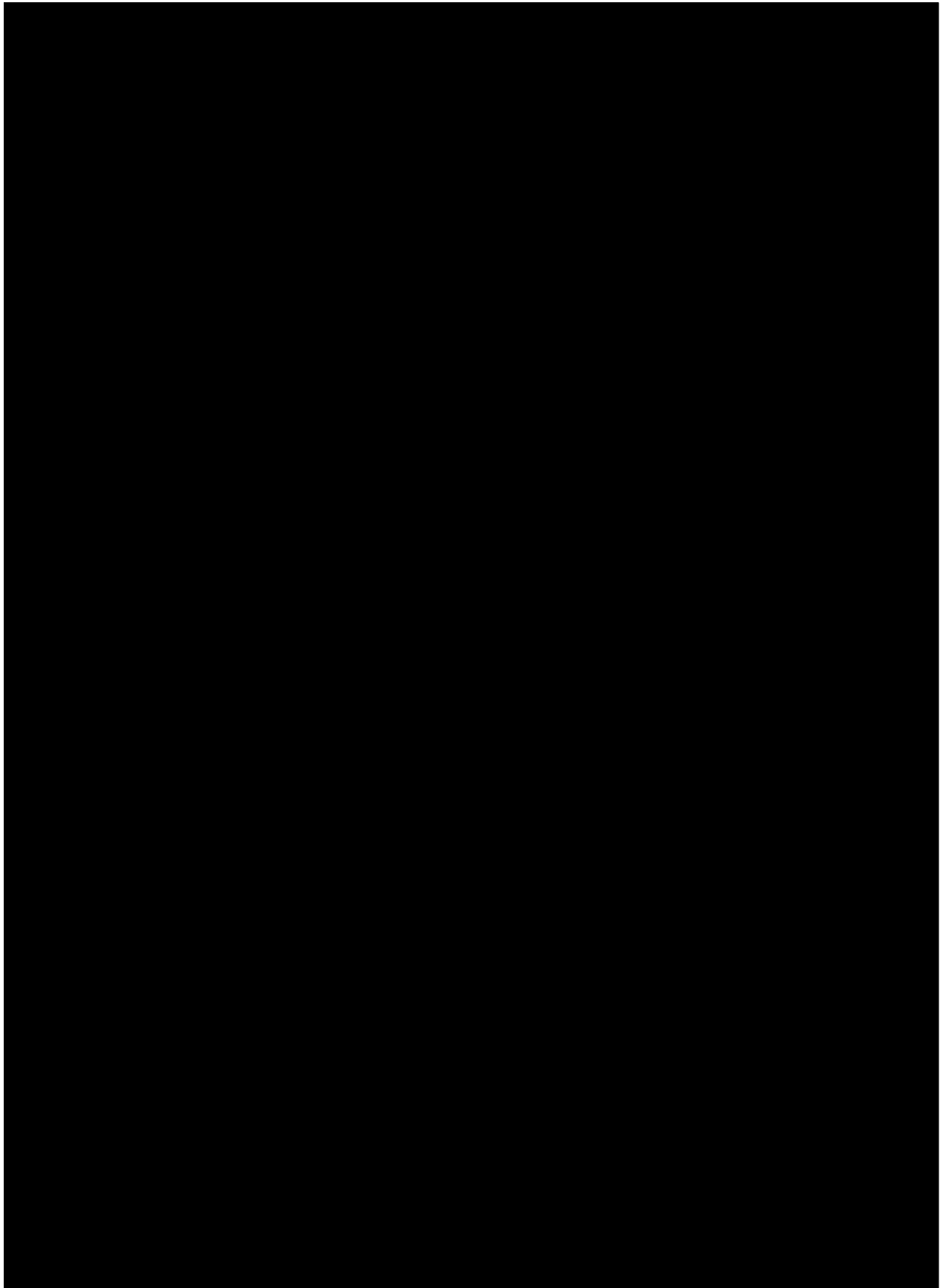
Trial Pit 8

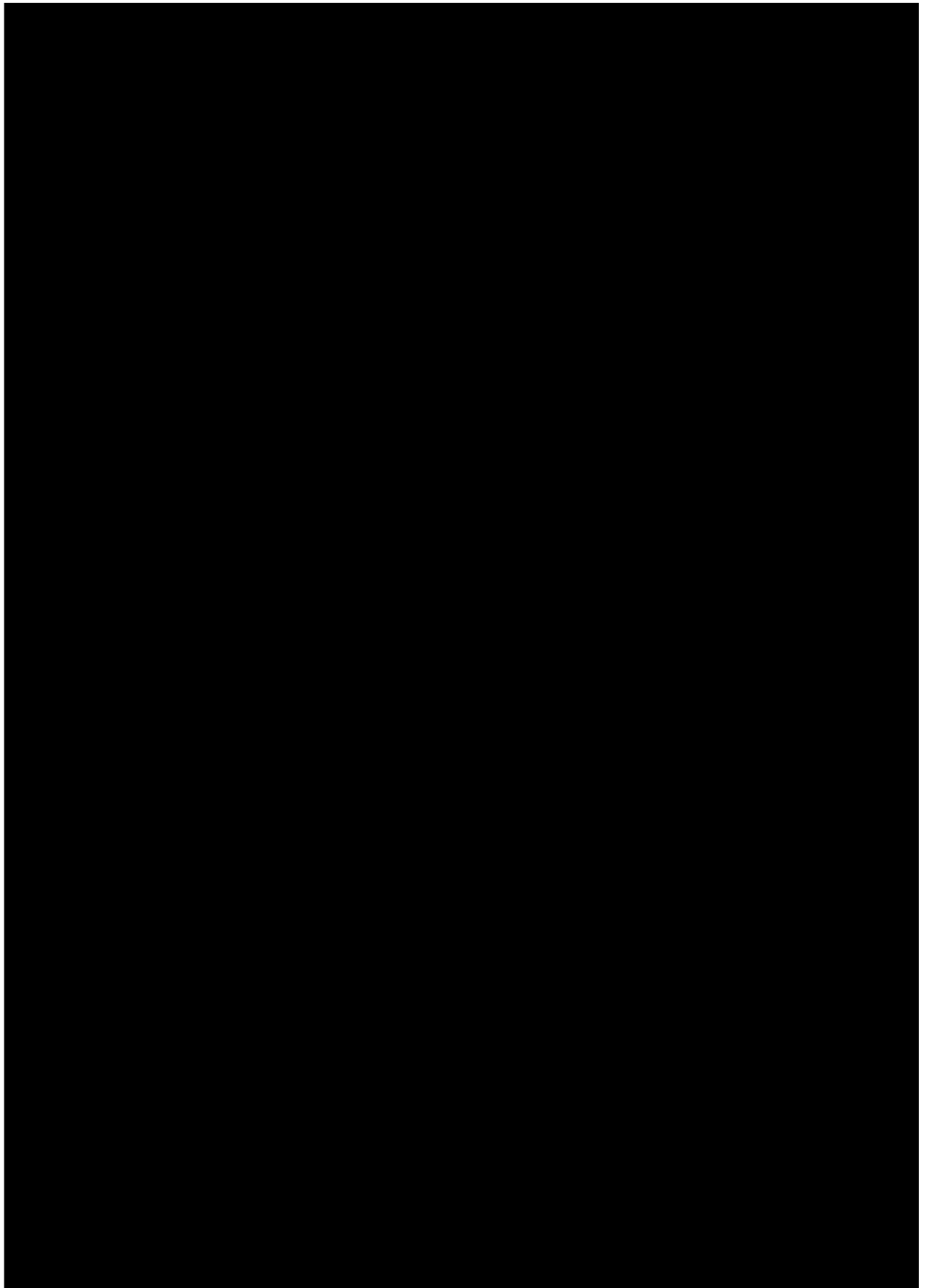
APPENDIX F

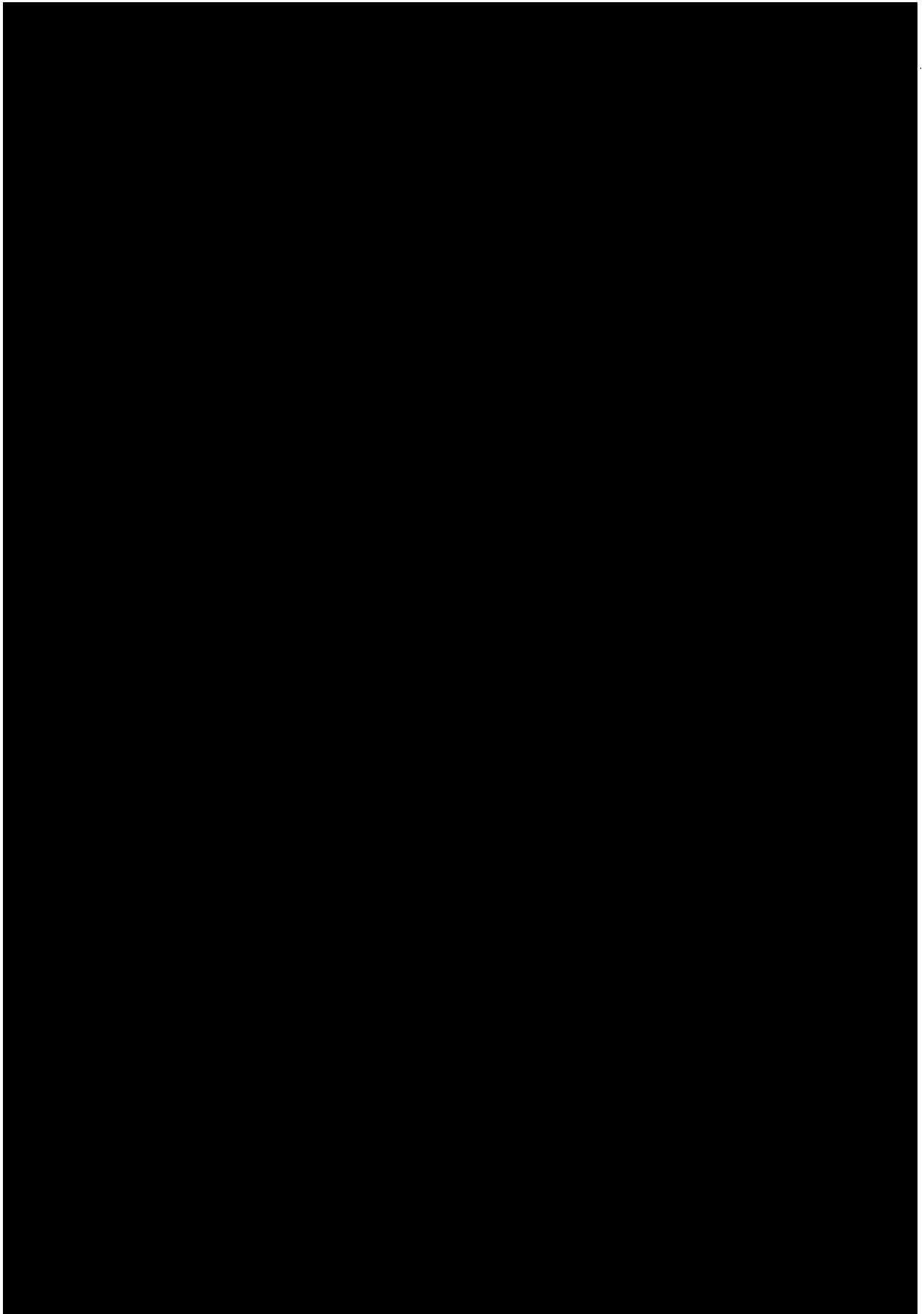
BOREHOLE AND TRIAL PIT LOGS – SURPLUS LAND

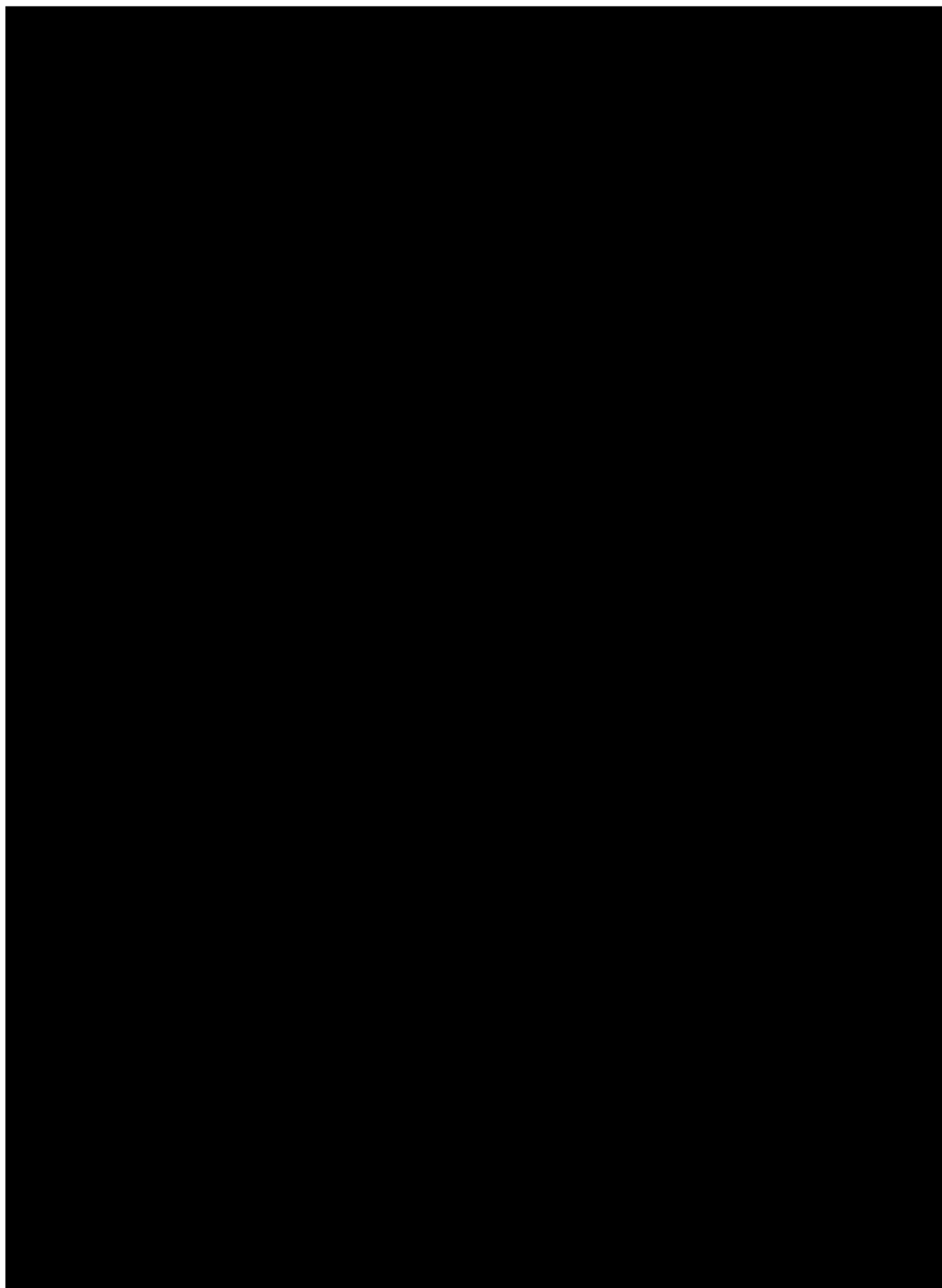


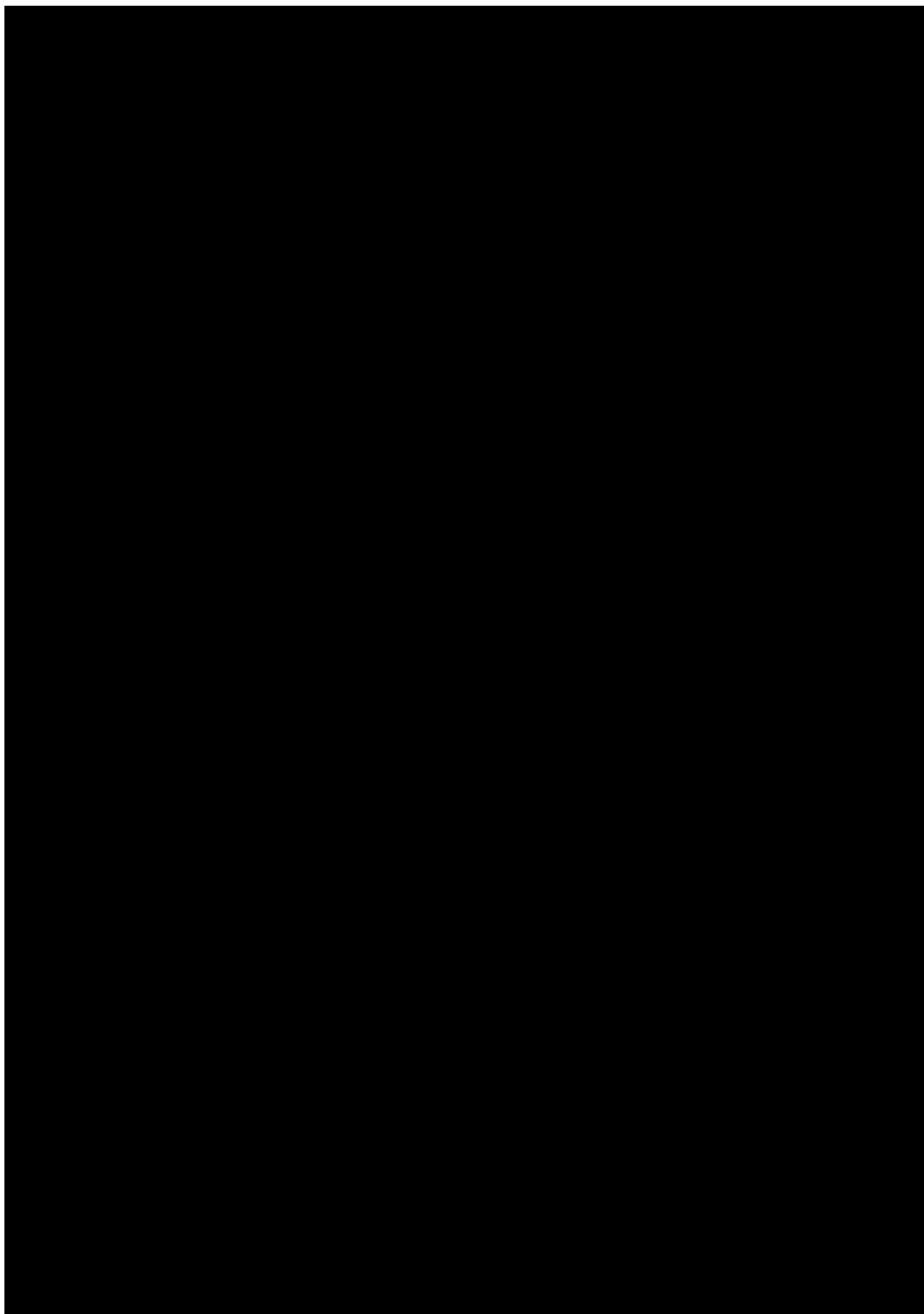


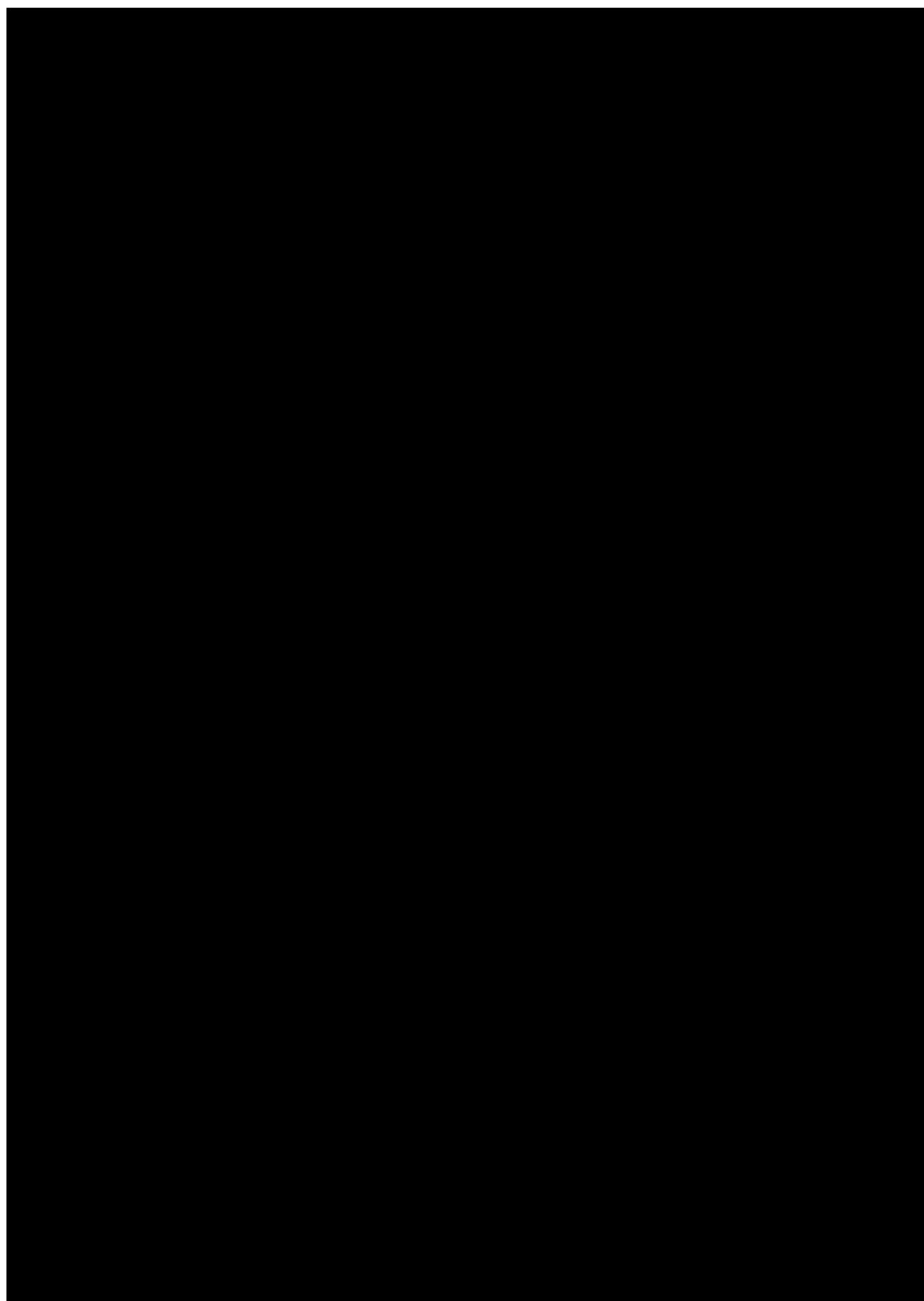


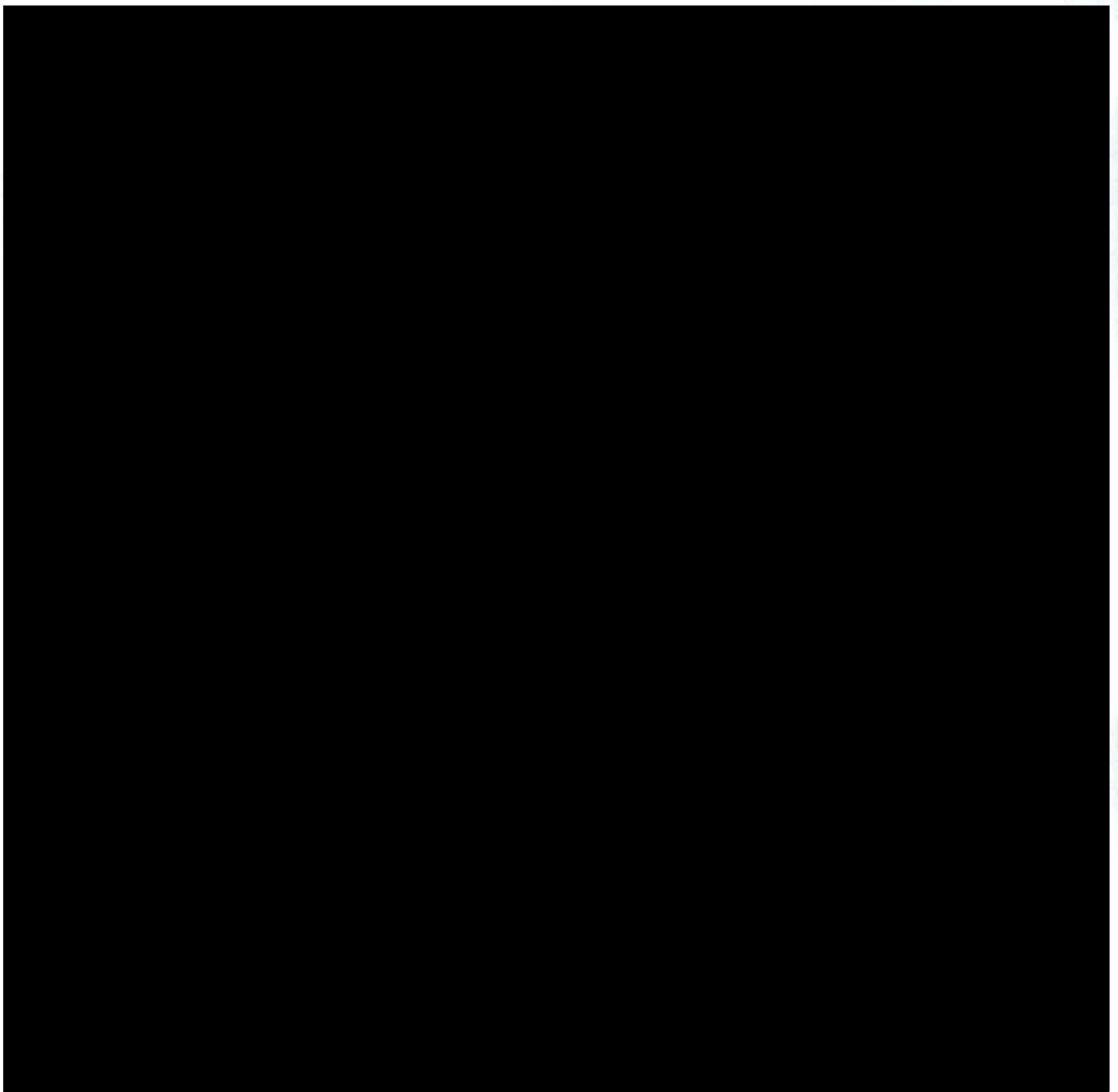


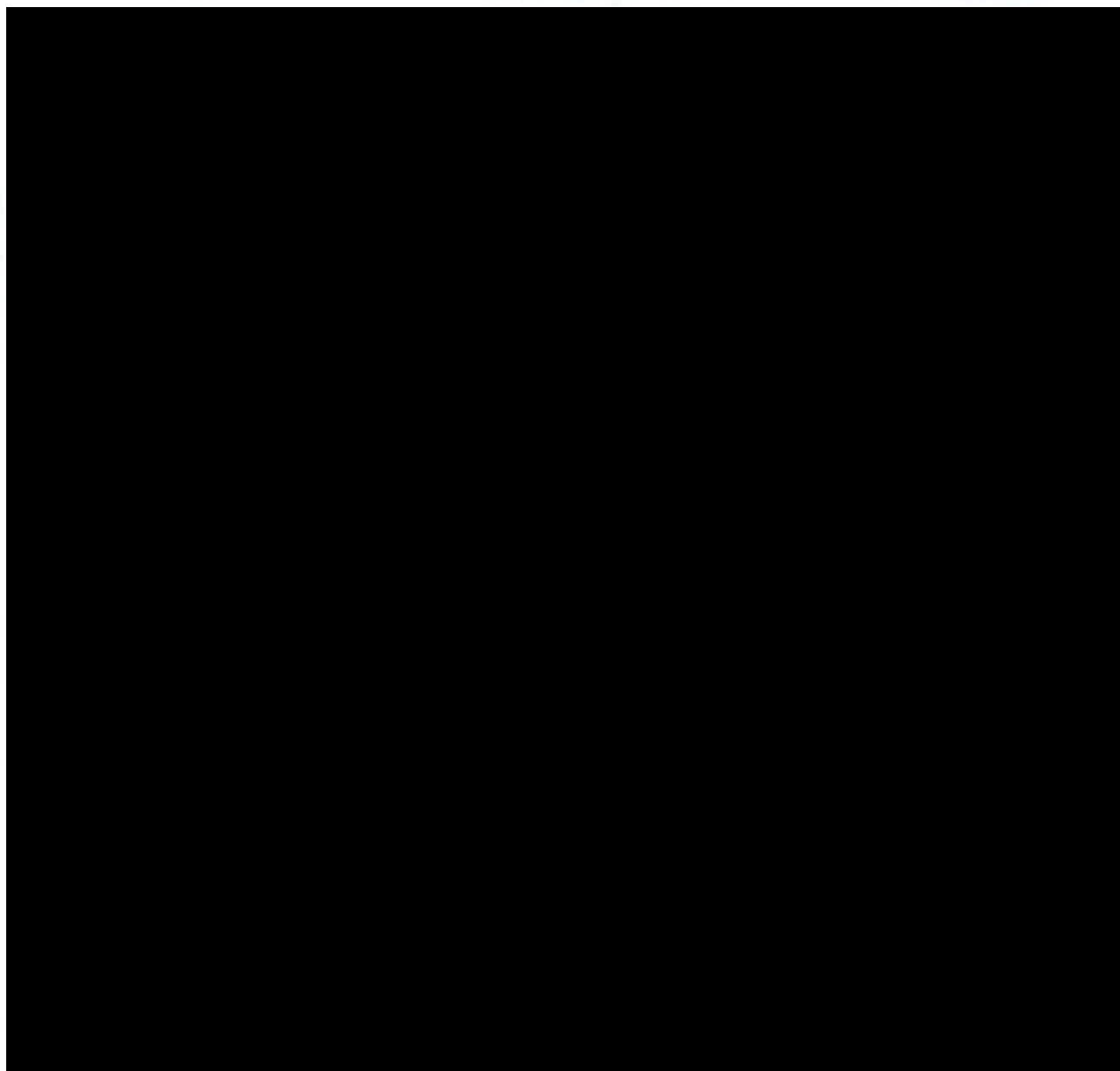


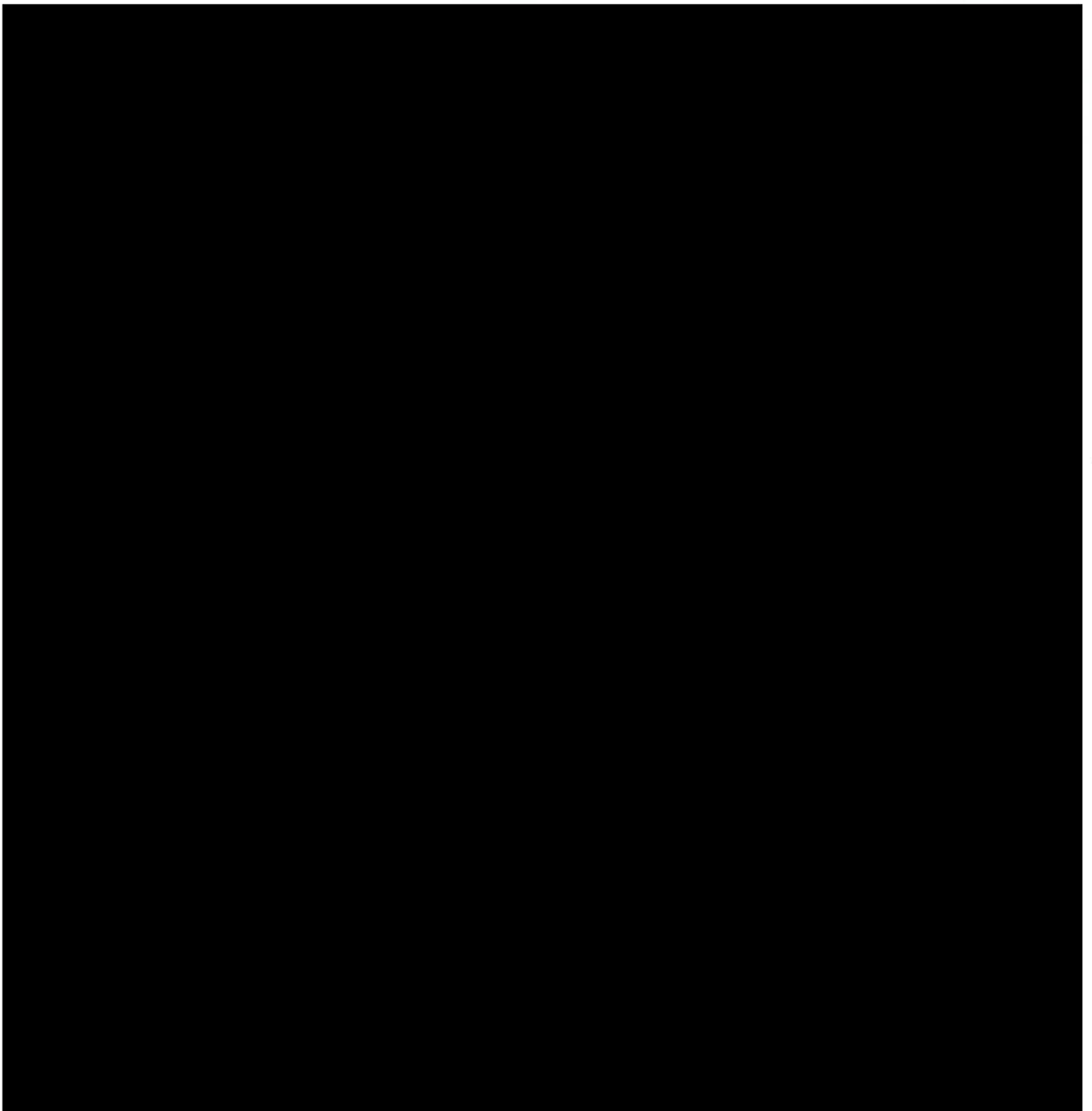


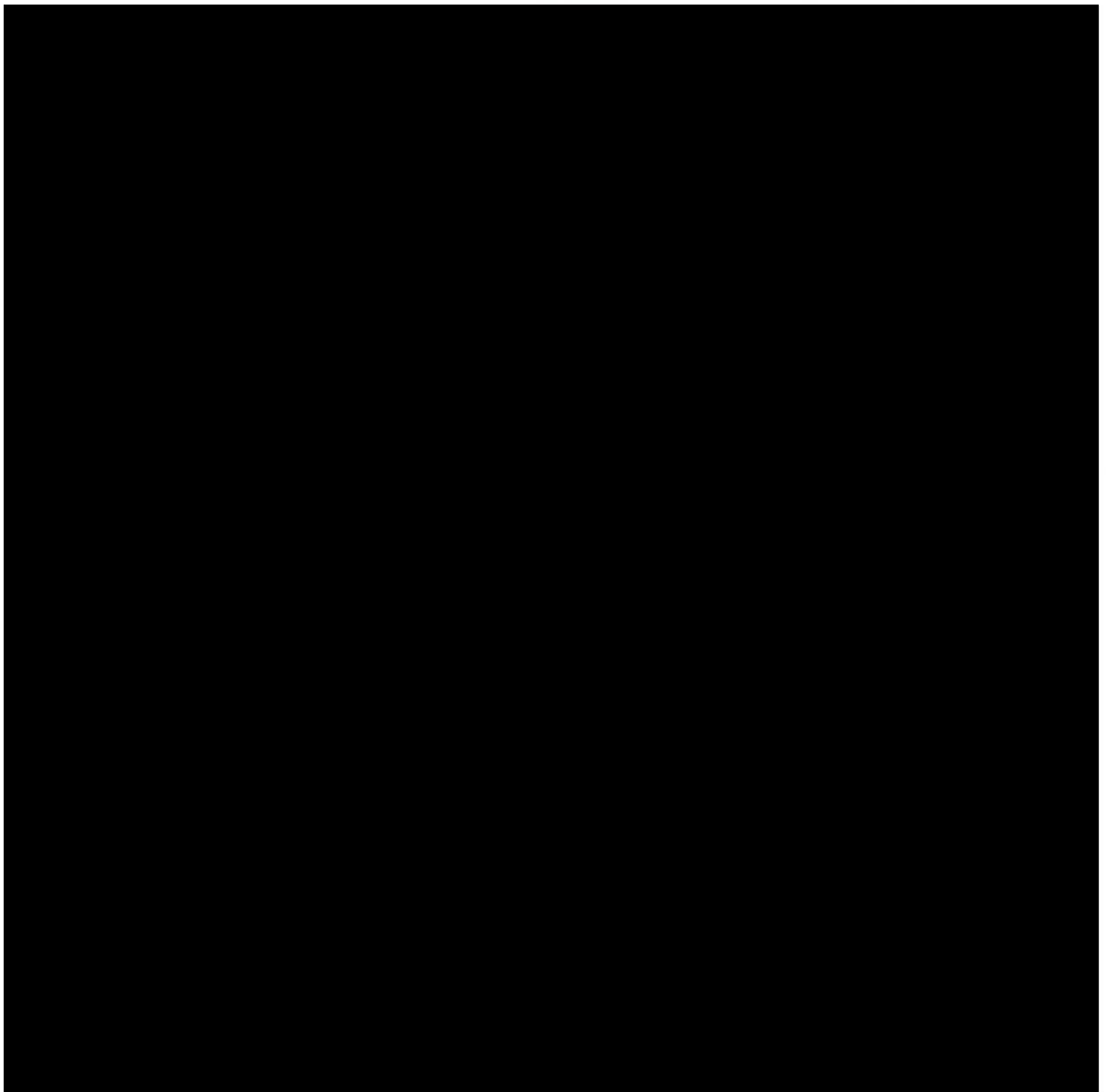


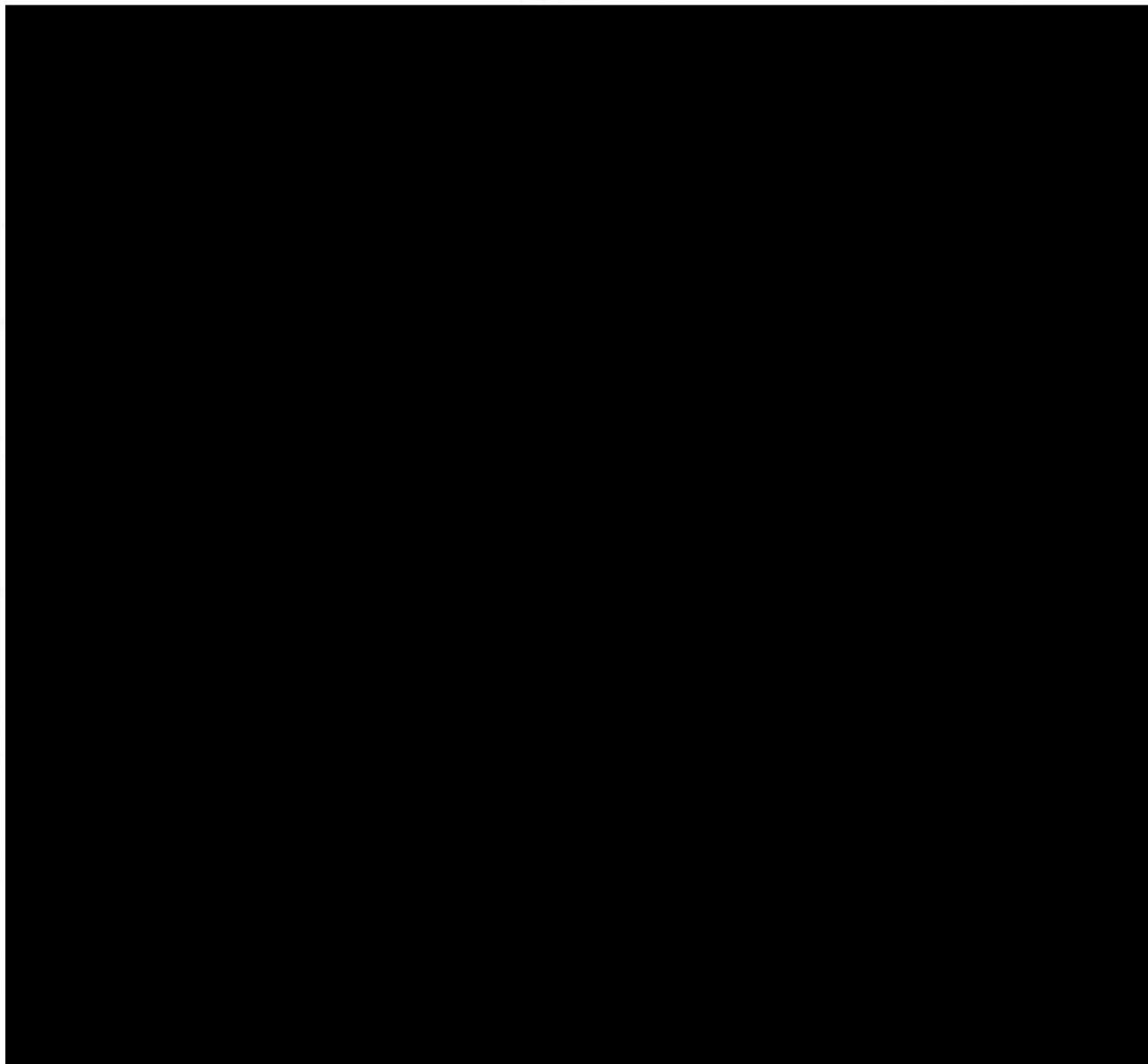


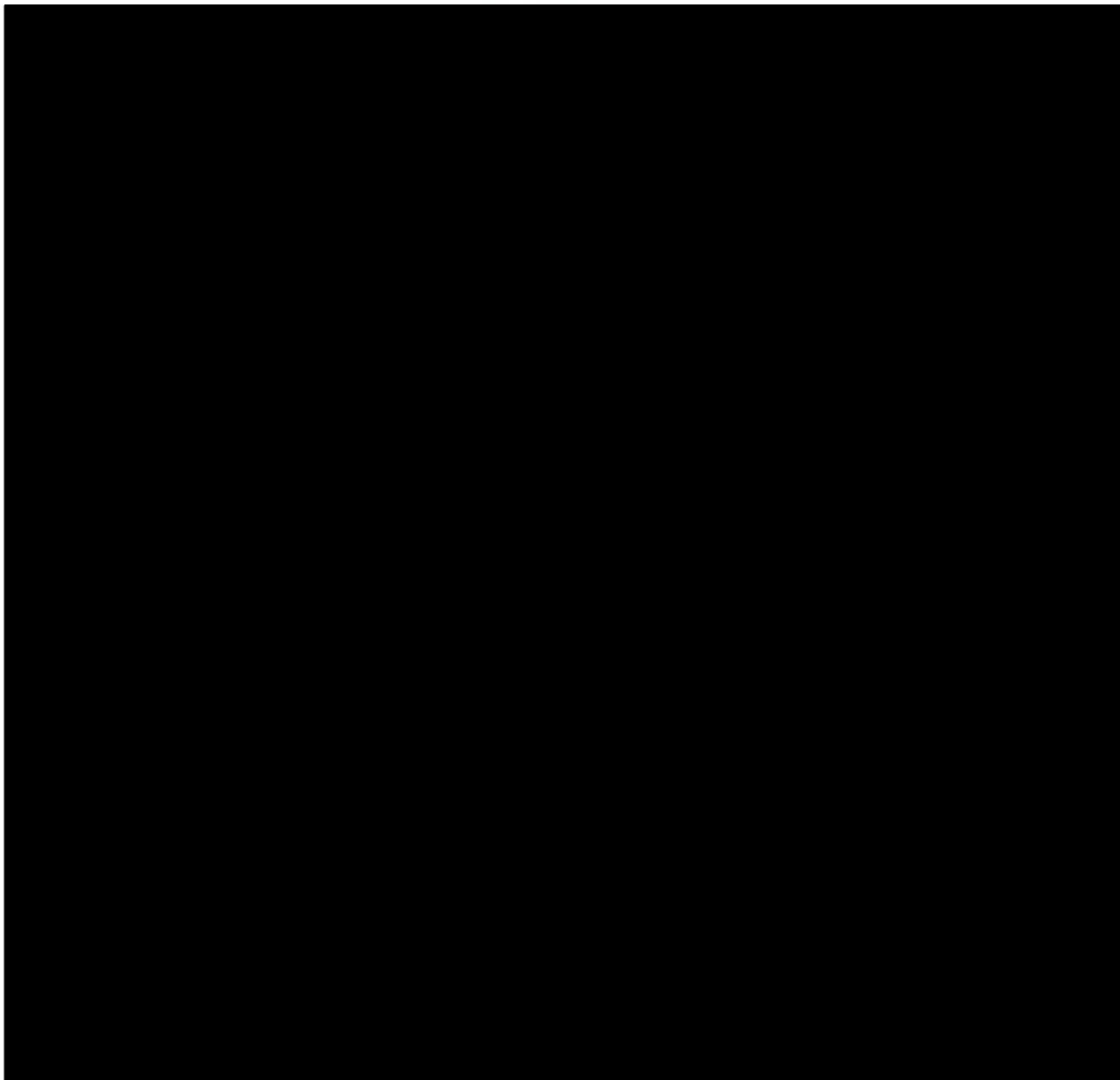












APPENDIX G
RESULTS OF CHEMICAL ANALYSIS

27 June 2003

Mr S Ratcliffe
WSP Environmental Limited (Cardiff)
9 Ty-Nant Court
Morganstown
Cardiff
Wales
CF15 8LW

WSP ENVIRONMENTAL	
CARDIFF	
FILE NO	13010222
DATE	01
PREP. BY	SC
CHECKED BY	
CHECKED TO	
✓	2/7/03
✓	28/7/03

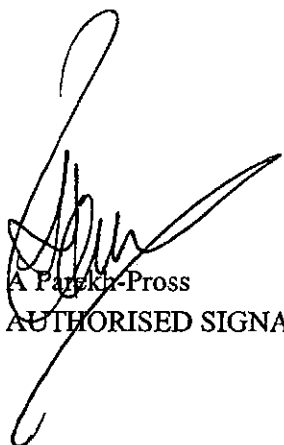
Test Report : WSPC/79032

Dear Mr Ratcliffe

Please find enclosed the results of the analysis carried out on the samples submitted from Bradford Road on 20/6/2003. The analysis has been undertaken in accordance with SSPH methodology version 2.6.

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely


A Parekh-Pross
AUTHORISED SIGNATORY

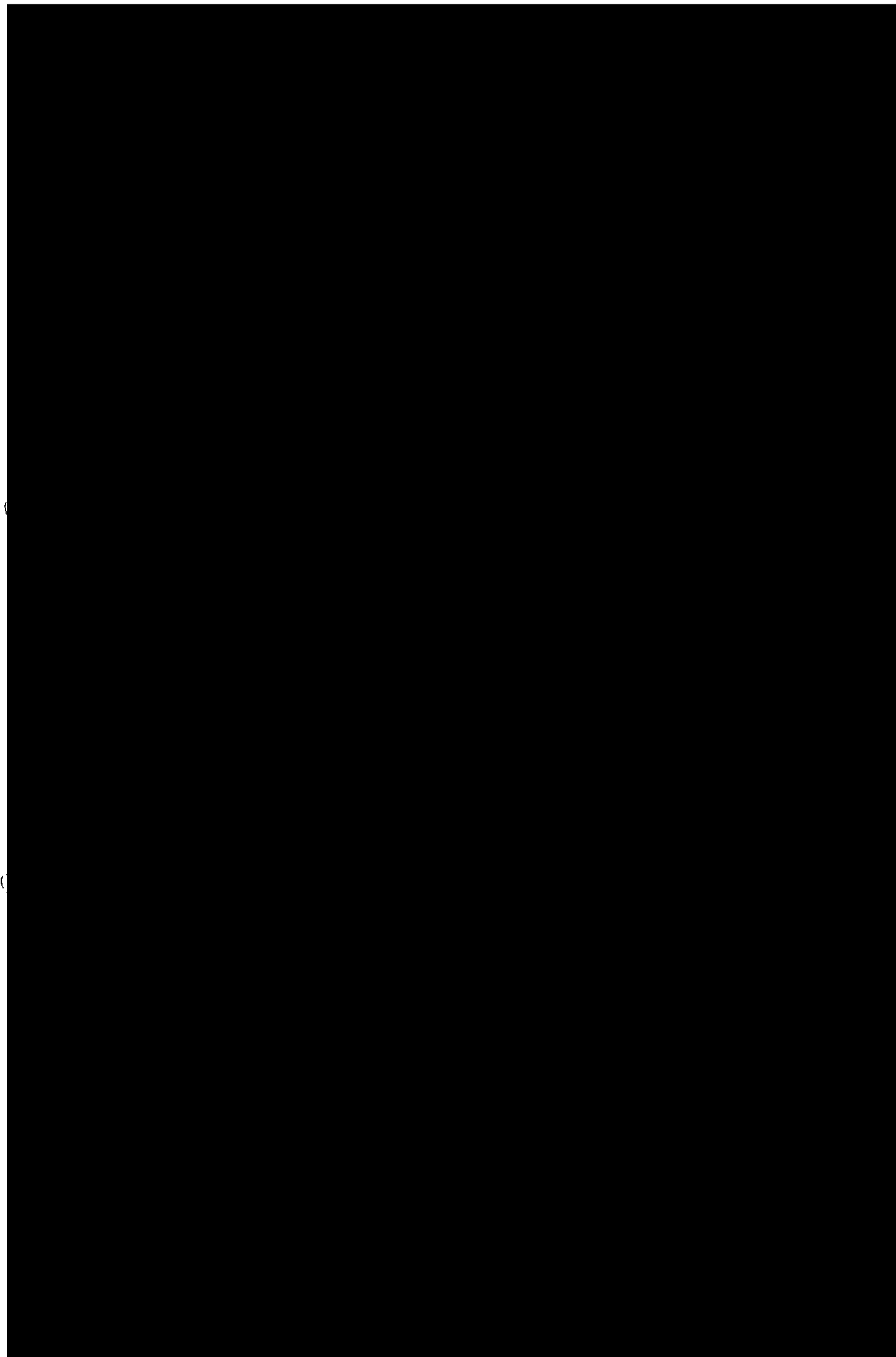
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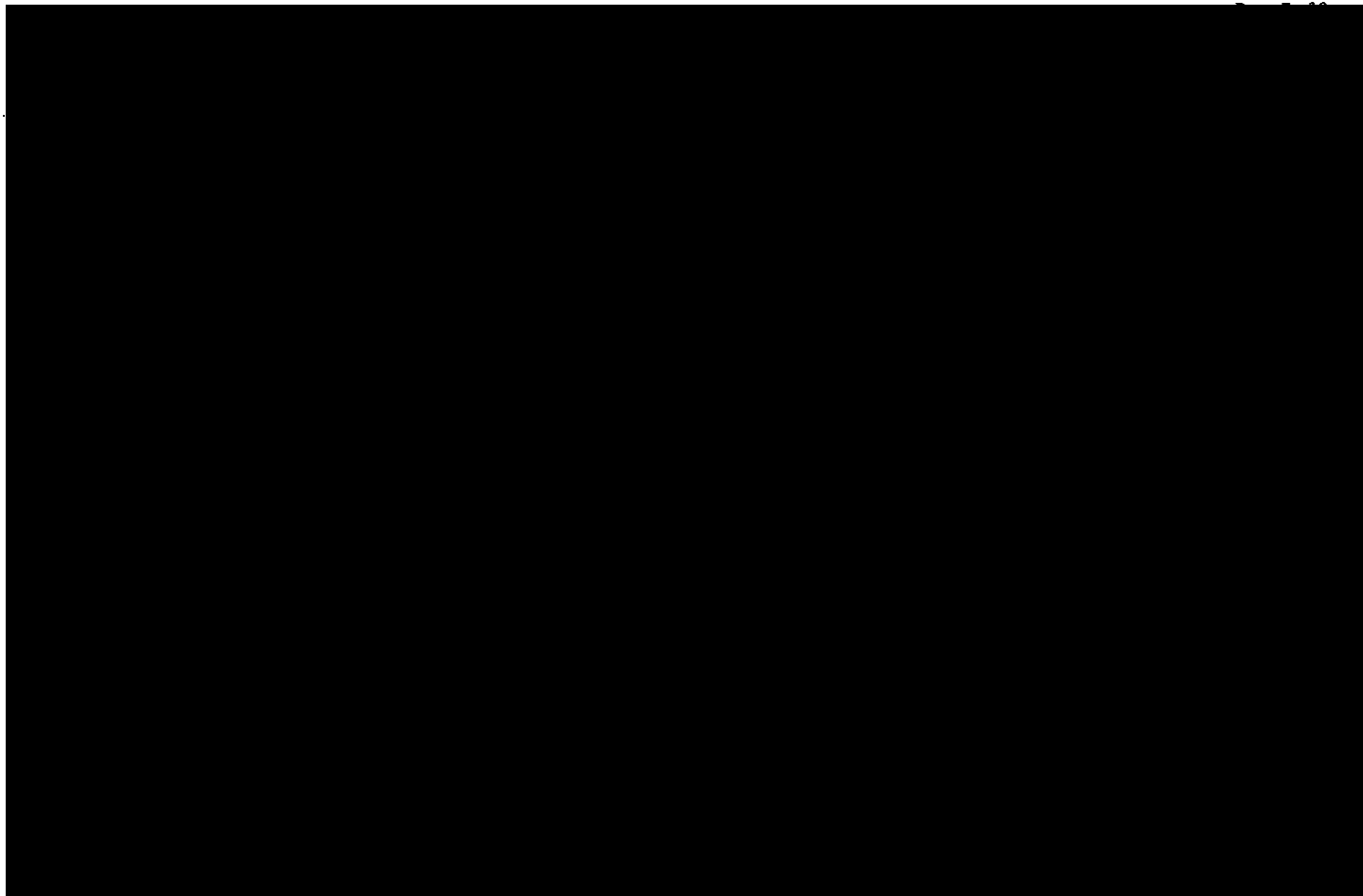
NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (SOIL)										
All analytical results to be reported as mg/kg ONLY										
Job No: WSPC/79032										
Bradford Road										
Site Project Reference: 13010222										
Date: 27/06/2003										
Laboratory: City Analytical Services Plc										
Laboratory Sample Reference	384877	384878	384879	384880	384881	384882	384883	384884	384885	384886
Sample ID	BH1	BH1	BH1	TP1	TP1	TP2	TP3	TP5	TP5	TP6
Other ID	1.50m	0.30m	4.30m	0.10m	2.00m	0.10m	0.50m	0.50m	2.80m	1.00m
Hardstanding at surface (Y/N)										
pH	8.4	8.1	8.4	7.6	8.2	7.7	7.9	8.1	8.1	7.3
% Loss on Ignition	3.3	4.3	3.2	4.0	3.9	11	2.5	7.6	2.8	18
% Moisture	12	12	11	15	14	13	11	12	15	33
% Stones	15	20	16	47	10	41	14	46	31	31
Cresols	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Catechol	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	3.1	2.2	3.6	2.9	3.5	6.3	< 1.0	2.6	< 1.0	9.0
Acenaphthylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0
Acenaphthene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.3	< 1.0	< 1.0	< 1.0	1.6
Fluorene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.3	< 1.0	1.2	< 1.0	3.2
Phenanthrene	< 1.0	1.2	< 1.0	2.0	< 1.0	47	< 1.0	3.9	< 1.0	8.5
Anthracene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	12	< 1.0	1.3	< 1.0	2.0
Fluoranthene	< 1.0	1.4	< 1.0	3.5	< 1.0	89	< 1.0	5.7	< 1.0	5.8
Pyrene	< 1.0	1.4	< 1.0	3.2	< 1.0	89	< 1.0	6.2	< 1.0	7.4
Benzo(a)anthracene	< 1.0	< 1.0	< 1.0	1.3	< 1.0	47	< 1.0	2.6	< 1.0	3.0
Chrysene	< 1.0	< 1.0	< 1.0	2.4	< 1.0	68	< 1.0	3.6	< 1.0	4.6
Benzo(b)fluoranthene	< 1.0	< 1.0	< 1.0	2.0	< 1.0	44	< 1.0	3.3	< 1.0	3.0
Benzo(k)fluoranthene	< 1.0	< 1.0	< 1.0	2.2	< 1.0	63	< 1.0	3.7	< 1.0	< 1.0
Benzo(a)pyrene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	36	< 1.0	2.3	< 1.0	2.7
Indeno(1,2,3-cd)pyrene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	34	< 1.0	2.3	< 1.0	2.1
Di-benz(a,h,j)anthracene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	16	< 1.0	< 1.0	< 1.0	< 1.0
Benzo(g,h,i)perylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	30	< 1.0	2.4	< 1.0	2.3
Anthanthrene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15	< 1.0	< 1.0	< 1.0	< 1.0
Benzo(e)pyrene	< 1.0	< 1.0	< 1.0	1.8	< 1.0	36	< 1.0	1.9	< 1.0	2.4
Cyclopenta(cd)pyrene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total PAH	< 10	< 10	< 10	24	< 10	630	< 10	46	< 10	58
Easily-liberatable Cyanide	<1.0	<1.0	<1.0	1.2	1.0	<1.0	< 1.0	<1.0	< 1.0	4.1
Complex Cyanide	3.9	<1.0	<1.0	1.2	2.1	11	< 1.0	1.2	4.8	10
Total Cyanide	4.8	1.8	1.9	2.5	3.1	12	< 1.0	1.8	4.8	14
Thiocyanate										
Elemental Sulphur	< 100	< 100	< 100	< 100	< 100	210	< 100	< 100	< 100	110
Water Soluble Sulphate as SO4	91	200	83	<25	46	110	1300	32	41	370
Water Soluble Chloride	18	12	9.1	7.1	9.7	6.3	13	4500	4.5	12
Exchangeable Ammonium	50	71	49	80	27	18	38	48	42	54
Nitrate										
Arsenic	6.9	9.3	12	24	11	26	11	39	18	96
Cadmium	< 0.50	< 0.50	< 0.50	<0.50	< 0.50	< 0.50	< 0.50	<0.50	<0.50	1.1
Chromium	25	21	32	11	33	13	34	270	560	46
Lead	9.9	50	6.5	180	35	63	8.4	430	550	310
Mercury	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	4.8	2.4	3.8
Selenium	< 0.10	0.17	0.20	0.38	0.32	1.1	0.14	0.76	< 0.10	< 0.10
Copper	17	28	23	39	27	73	24	110	48	450
Nickel	33	30	40	23	49	31	45	44	42	50
Zinc	41	59	50	76	64	34	58	130	70	120
Boron	0.45	0.58	0.37	0.12	0.19	0.14	0.47	0.20	0.13	0.58
Analytes below to be determined if their presence on site is suspected.										
Cobalt										
Vanadium										
Molybdenum										
Germanium										
Hex Cr										
Benzene										
Toluene										
Ethylbenzene										
Xylene's										
Asbestos						ND		ND		ND
ADDITIONAL ANALYTES										
Coal Tar										
Alphide										
Poluene Extractable Matter										
TPH by GC (C10 to C20)				100						290
TPH by GC (C20 to C39)				670						120
TPH by GC (C10 to C39)				760						410
>>TPH RISK ASSESSMENT<<										
>C6 to C8*										

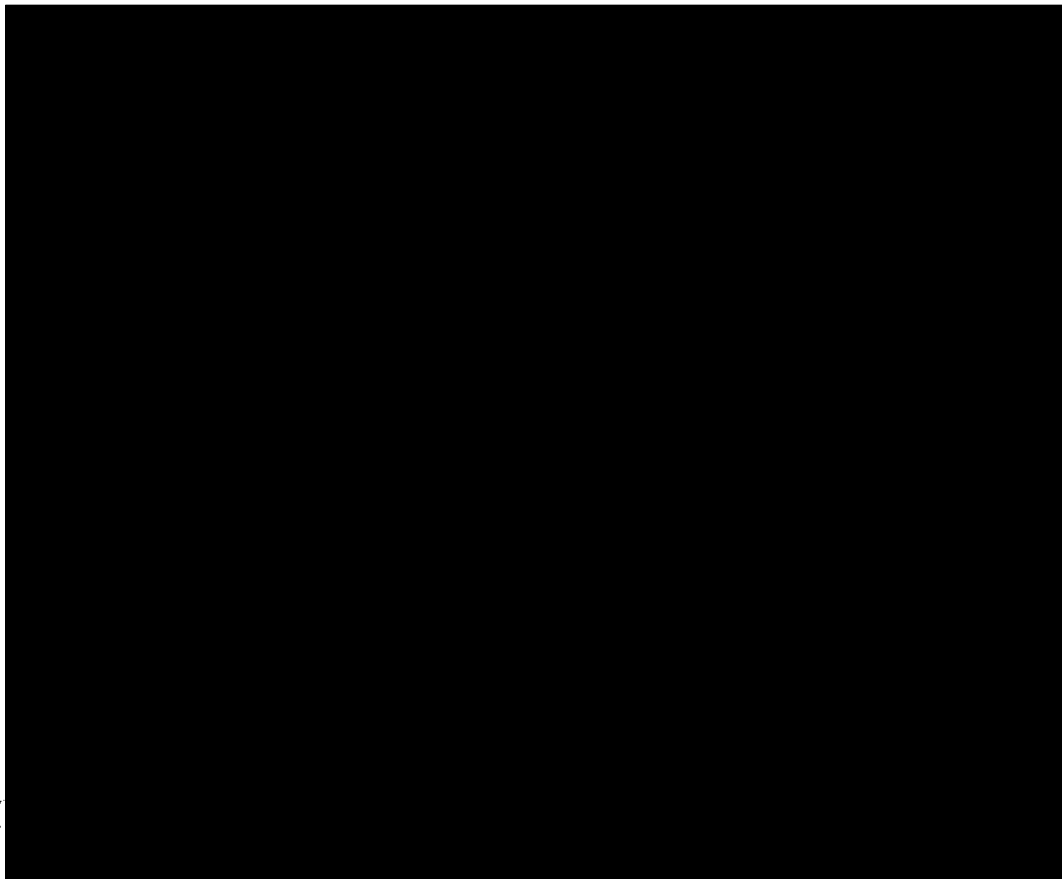
1

NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS										
All analytical results to be reported as										
Job No: WSPC/79032										
Bradford Road										
Site Project Reference: 13010222										
Date: 27/06/2003										
Laboratory: City Analytical Services Plc										
Laboratory Sample Reference	384887	384888	384889	384890	384891	384892	384893	384894	384895	384896
Sample ID	TP6	TP8	TP8	BH2	BH2	BH2	BH3	BH3	BH3	BH1S
Other ID	2.50m	0.10m	2.80m	2.50m	4.00m	7.00m	3.80m	5.80m	8.50m	4.75m
Hardstanding at surface (Y/N)										
pH	6.7	9.1	8.3	8.2	8.3	8.3	6.2	7.7	7.6	7.1
% Loss on Ignition	10	2.7	1.8	2.7	2.0	3.0	11	2.2	4.5	21
% Moisture	31	22	8.6	11	11	10	37	16	13	34
% Stones	37	48	48	26	41	25	37	15	45	22
Cresols	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Xylenols & Ethylphenols	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Catechol	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Phenols	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Naphthalene	8.8	1.4	<1.0	1.4	<1.0	1.6	1.6	<1.0	<1.0	2.5
Acenaphthylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0
Acenaphthene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0
Phenanthrene	5.1	1.5	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<1.0	<1.0
Anthracene	4.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	5.1	1.8	<1.0	<1.0	<1.0	<1.0	14	<1.0	<1.0	<1.0
Pyrene	6.4	2.1	<1.0	<1.0	<1.0	<1.0	14	<1.0	<1.0	<1.0
Benzo(a)anthracene	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	5.5	<1.0	<1.0	<1.0
Chrysene	3.6	1.3	<1.0	<1.0	<1.0	<1.0	7.6	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	2.9	<1.0	<1.0	<1.0	<1.0	<1.0	6.3	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	3.2	<1.0	<1.0	<1.0	<1.0	<1.0	5.9	<1.0	<1.0	<1.0
Benzo(a)pyrene	4.1	<1.0	<1.0	<1.0	<1.0	<1.0	7.2	<1.0	<1.0	<1.0
Indeno(1,2,3-cd)pyrene	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	4.7	<1.0	<1.0	<1.0
Di-benz(a,h,j)anthracene	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	3.6	<1.0	<1.0	<1.0	<1.0	<1.0	5.5	<1.0	<1.0	<1.0
Anthanthrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(e)pyrene	3.2	<1.0	<1.0	<1.0	<1.0	<1.0	5.5	<1.0	<1.0	<1.0
Cyclopenta(cd)pyrene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total PAH	60	13	<10	<10	<10	<10	89	<10	<10	<10
Easily-liberatable Cyanide	<1.0	1.3	<1.0	<1.0	<1.0	1.7	4.0	3.0	<1.0	4.7
Complex Cyanide	7.3	5.4	<1.0	3.3	2.6	6.7	25	3.0	1.9	51
Total Cyanide	8.2	6.7	1.1	4.2	3.3	8.3	29	6.1	2.5	55
Thiocyanate										
Elemental Sulphur	1800	210	<100	<100	<100	<100	1700	<100	<100	<100
Water Soluble Sulphate as SO4	640	160	62	85	65	70	590	98000	62	190
Water Soluble Chloride	6.0	50	23	25	22	22	8.9	11	13	22
Exchangeable Ammonium	< 25	53	57	43	34	32	< 25	390	32	31
Nitrate										
Arsenic	160	19	5.2	7.8	7.0	5.9	55	5.1	4.8	74
Cadmium	1.6	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.89	< 0.50	< 0.50	0.81
Chromium	44	12	17	26	20	19	23	14	11	9.2
Lead	640	81	<5.0	9.2	14	6.1	370	18	16	81
Mercury	3.8	0.46	< 0.10	< 0.10	< 0.10	< 0.10	1.7	< 0.10	< 0.10	2.4
Selenium	2.3	0.46	0.16	0.13	0.15	< 0.10	2.1	< 0.10	< 0.10	< 0.10
Copper	240	85	16	22	18	19	150	16	24	67
Nickel	51	20	24	32	26	26	63	13	28	28
Zinc	130	100	38	47	45	46	350	21	48	61
Boron	0.51	0.38	0.13	0.19	0.14	0.14	< 0.10	0.54	< 0.10	0.25
Analytes below to be determined if their presence on site is suspected.										
Cobalt										
Vanadium										
Molybdenum										
Germanium										
Hex Cr										
Benzene							< 0.10			
Toluene							< 0.10			
Ethylbenzene							< 0.10			
Xylene's							< 0.10			
Asbestos		ND								ND
ADDITIONAL ANALYTES										
Coal Tar										
Sulphide										
Toluene Extractable Matter										
TPH by GC (C10 to C20)		88					1600	< 50		100
TPH by GC (C20 to C39)		120					200	< 50		120
TPH by GC (C10 to C39)		200					1800	< 50		220
>>>TPH RISK ASSESSMENT<<<										
>C6 to C8*										

NEW PROFORMA FOR REPORTING AN										
All analytical results to be reported as										
Job No: WSPC/79032										
Bradford Road										
Site Project Reference: 13010222										
Date: 27/06/2003										
Laboratory: City Analytical Services PI										
Laboratory Sample Reference	384887	384888	384889	384890	384891	384892	384893	384894	384895	384896
Sample ID	TP6	TP8	TP8	BH2	BH2	BH2	BH3	BH3	BH3	BH15
Other ID	2.50m	0.10m	2.80m	2.50m	4.00m	7.00m	3.80m	5.80m	8.50m	4.75m
Hardstanding at surface (Y/N)										
>C8 to C10*										
>C10 to C12*										
>C12 to C16*										
>C16 to C21*										
>C21 TO C40*										
Total Aliphatic*										
>C5 to C7*										
>C7 to C8*										
>C8 to C10*										
>C10 to C12*										
>C12 to C16*										
>C16 to C21*										
>C21 TO C40*										
Total Aromatic*										
Total TPH*										
Organic Matter										
Total Sulphate as SO4										
Calorific Value (kJ/kg)										
Total Organic Carbon										







22 July 2003

Ms L Cammack
WSP Environmental Limited (Cardiff)
9 Ty-Nant Court
Morganstown
Cardiff
Wales
CF15 8LW

WSP REMEDIATION	
CITY ANALYTICAL SERVICES LTD	
FILE REF	
25 JUL 2003	
RECEIVED BY	SE
CODE	
LC	25/7/03

Test Report : WSPC/80334

Dear Ms Cammack

Please find enclosed the results of the analysis carried out on the samples submitted from Bradford Road on Wednesday, July 16, 2003.

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely



Mike Cohen
AUTHORISED SIGNATORY



Determinations marked * in this certificate are not included in the UKAS accreditation schedule for our laboratory. Opinions and interpretations expressed herein, and marked #, are outside the scope of UKAS accreditation. Determinations marked \$ were subcontracted. Unless otherwise stated, CAS Ltd was not responsible for sampling. Information about methods and performance characteristics of the determinations are available on request. Unless otherwise agreed, as received soils will be disposed of after 30 days; dried soils after 30 days and waters/leachates after 10 days from the issue of the final report. Soil analysis is carried out on air-dried and ground test portion of the sample.



STL

Soil Analysis

PAGE 2 OF 3

WSPC/80334
Bradford Road
Your Reference:- 13010
Your Order:-

CAS Number:			394606	394607
Sample Ref			GH1	GH2
Detname	Method	Units	0.60m	0.60m
Wet Correction Factor*	BG SPEC		0.89	0.78
Dry Correction Factor*	BG SPEC		0.57	0.49
Arsenic (Total BGspec)	BG spec	mg/kg	80	41
Boron (Soluble BGspec)	BG spec	mg/kg	0.22	0.27
Cadmium (Total BGspec)	LPH30	mg/kg	1.6	0.86
Chromium (Total BGspec)	LPH30	mg/kg	57	37.3
Copper (Total BGspec)	LPH30	mg/kg	180	91
Lead (Total BGspec)	LPH30	mg/kg	5800	2200
Mercury (Total BGspec)*	BG spec	mg/kg	0.80	0.47
Nickel (Total BGspec)	LPH30	mg/kg	72	46
Selenium (Total BGspec)	BG spec	mg/kg	2.3	1.4
Zinc (Total BGspec)	LPH30	mg/kg	610	160
Ammonia as NH4*	BG spec	mg/kg	< 25	< 25
Chloride (Water Soluble)	335	mg/kg	22	21
Cyanide-Complex*	BG spec	mg/kg	26	18
Cyanide-Easily Liberated*	BG spec	mg/kg	1.0	< 1.0
Cyanide-Total*	BG spec	mg/kg	27	18
Loss on ignition*	BG spec	%	17	14
Sulphate (W/S) as SO4	335	mg/kg	170	230
pH (bg spec)	LPH39	pH units	7.8	7.6
Nitrate as NO3 (2:1 Water Extract)*	63	g/l	0.012	0.017
TPH by GC (>C10 - C39)	LPH317	mg/kg	6900	3600
TPH by GC (>C10 - C20)	LPH317	mg/kg	680	250
TPH by GC (>C20 - C39)	LPH317	mg/kg	6200	3300
Sulphur (Elemental)	LPH51	mg/kg	150	110
naphthalene	LPH307	mg/kg	11	6.7
acenaphthylene	LPH307	mg/kg	6.8	2.4
acenaphthene	LPH307	mg/kg	1.0	< 1.0
fluorene	LPH307	mg/kg	3.1	3.1
phenanthrene	LPH307	mg/kg	20	13
anthracene	LPH307	mg/kg	2.9	3.0
fluoranthene	LPH307	mg/kg	37	15
pyrene	LPH307	mg/kg	36	12
benzo(a)anthracene	LPH307	mg/kg	11	4.8
chrysene	LPH307	mg/kg	19	17
cyclopenta(cd)pyrene	LPH307	mg/kg	< 1.0	< 1.0
benzo(b)fluoranthene	LPH307	mg/kg	22	5.4
Key				
N/S - Not Scheduled				
I/S - Insufficient Sample				



STL

Soil Analysis

PAGE 3 OF 3

WSPC/80334
Bradford Road
Your Reference:- 13010
Your Order:-

CAS Number:			394606	394607
Sample Ref			GH1	GH2
Detname	Method	Units	0.60m	0.60m
benzo(k)fluoranthene	LPH307	mg/kg	24	8.2
benzo(e)pyrene	LPH307	mg/kg	23	6.4
benzo(a)pyrene	LPH307	mg/kg	17	4.1
dibenzo(ah)anthracene	LPH307	mg/kg	1.5	< 1.0
benzo(ghi)perylene	LPH307	mg/kg	12	< 1.0
indeno(123cd)pyrene	LPH307	mg/kg	11	< 1.0
anthanthrene	LPH307	mg/kg	8.3	< 1.0
PAH (Total)	LPH307	mg/kg	270	100
catechol	322	mg/kg	< 0.10	< 0.10
phenol	322	mg/kg	< 0.10	< 0.10
cresols	322	mg/kg	< 0.10	< 0.10
xlenols	322	mg/kg	< 0.10	< 0.10
trimethylphenol	322	mg/kg	< 0.10	< 0.10
Total Phenol	322	mg/kg	< 0.50	< 0.50
Moisture*	BG spec	%	24	23
Stones %*	BG spec	%	32	39



Key

N/S - Not Scheduled

I/S - Insufficient Sample



STL

A part of Severn Trent
Laboratories Limited.

Registered in England 2050581

City Analytical Services Limited

Rayner House, 80 Lockhurst Lane, Coventry CV6 5PZ

Tel +44 (0)24 7658 4800 Fax +44 (0)24 7658 4848 • info@cityanalytical.co.uk

7 August 2003

Mr S Ratcliffe
WSP Environmental Limited (Cardiff)
9 Ty-Nant Court
Morganstown
Cardiff
Wales
CF15 8LW

WSP REMEDIATION	
CARDIFF	
FILE	
REF	
DATE	11/02
BY	SK
CC	17/8/03

Test Report : WSPC/81175

Dear Mr Ratcliffe

Please find enclosed the results of the analysis carried out on the samples submitted from Bradford Road on 30/7/2003. The analysis has been undertaken in accordance with SSPH methodology version 3.0 .

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely

Mike Cohen

INVESTOR IN PEOPLE



Mike Cohen
AUTHORISED SIGNATORY



NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (LEACHATES)					
All analytical results to be reported as stated units.					
Job No: WSPC/81175					
Bradford Road					
Site Project Reference:					
Date: 07/08/2003					
Laboratory: City Analytical Services Plc					
Laboratory Sample Reference		400387	400388	400389	400390
Sample ID		BH3	TP6	TP5	TP2
Other ID	Units	3.80m	2.50m	0.50m	0.10m
					0.50m
pH	pH Units	4.1	6.6	7.7	7.5
Conductivity	µs/cm	430	320	160	77
					200
Cresols	µg/l	< 0.50	< 0.50	< 0.50	< 0.50
Xylenols & Ethylphenols	µg/l	< 0.50	< 0.50	< 0.50	< 0.50
Catechol	µg/l	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	µg/l	< 0.50	< 0.50	< 0.50	< 0.50
Trimethylphenol	µg/l	< 0.50	< 0.50	< 0.50	< 0.50
Total Phenols	µg/l	< 2.50	< 2.50	< 2.50	< 2.50
Naphthalene	ng/l	71	< 20.0	290	< 20.0
Acenaphthylene	ng/l				48
Acenaphthene	ng/l	60	< 20.0	< 20.0	< 20.0
Fluorene	ng/l	34	< 20.0	< 20.0	< 20.0
Phenanthrene	ng/l	79	< 20.0	28	< 20.0
Anthracene	ng/l	82	< 20.0	< 20.0	< 20.0
Fluoranthene	ng/l	82	< 20.0	< 20.0	< 20.0
Pyrene	ng/l	440	< 20.0	36	< 20.0
Benzo(a)anthracene	ng/l	73	< 20.0	< 20.0	< 20.0
Chrysene	ng/l	99	< 20.0	< 20.0	< 20.0
Benzo(b)fluoranthene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Benzo(k)fluoranthene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Benzo(a)pyrene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Indeno(1,2,3-cd)pyrene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Di-benz(a,h)anthracene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Benzo(g,h,i)perylene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Anthanthrene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Benzo(e)pyrene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0
Cyclopenta(cd)pyrene	ng/l				
Total PAH	ng/l	1100	< 200.0	420	< 200.0
					840
Easily-liberatable Cyanide	mg/l	< 0.10	< 0.10	< 0.10	< 0.10
Complex Cyanide	mg/l	0.10	< 0.10	< 0.10	< 0.10
Total Cyanide	mg/l	0.10	< 0.10	< 0.10	< 0.10
Sulphate	mg/l				0.90
Total Ammonium	mg/l	> 0.64	> 0.64	> 0.64	> 0.64
Arsenic	mg/l	< 0.05	< 0.05	< 0.05	< 0.05
Cadmium	mg/l	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
Lead	mg/l	0.04	< 0.02	< 0.02	< 0.02
Mercury	mg/l	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Selenium	mg/l	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	mg/l	< 0.01	0.04	< 0.01	< 0.01
Nickel	mg/l	0.13	0.02	< 0.01	< 0.01
Zinc	mg/l	0.6	0.21	< 0.01	< 0.01
Iron	mg/l	6.6	0.02	< 0.01	0.09
					< 0.01
Analytes below to be determined if their presence on site is suspected.					
Cobalt	mg/l				
Vanadium	mg/l				
Molybdenum	mg/l				
Germanium	mg/l				
Uranium	mg/l				
Benzene	µg/l				
Toluene	µg/l				
Ethylbenzene	µg/l				
Xylene's	µg/l				
TPH by GC (C ₁₀ to C ₂₀)	µg/l				
TPH by GC (C ₂₀ to C ₃₉)	µg/l				
TPH by GC (C ₁₀ to C ₃₉)	µg/l				
ADDITIONAL ANALYTES					
BOD	mg/l				
COD (filtered)	mg/l				
Boron (B)	mg/l				
Total Organic Carbon	mg/l	1.3	< 0.50	< 0.50	< 0.50
Toluene Extractable Matter	mg/l				
Thiocyanate	mg/l				
Sulphide	µg/l				
Chloride	mg/l				

15 August 2003

Mr S Ratcliffe
WSP Environmental Limited (Cardiff)
9 Ty-Nant Court
Morganstown
Cardiff
Wales
CF15 8LW

13010222	
SE	
JK	
SK	19/08/03

Test Report : WSPC/81676

Dear Mr Ratcliffe

Please find enclosed the results of the analysis carried out on the samples submitted from Bradford Road on 8/8/2003. The analysis has been undertaken in accordance with SSPH methodology version 2.6.

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely



J A Selbie



J A Selbie
AUTHORISED SIGNATORY



NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (LEACHATES)		
All analytical results to be reported as stated units.		
Job No: WSPC/81676		
Bradford Road		
Site Project Reference: 13010222		
Date: 15/08/2003		
Laboratory: City Analytical Services Plc		
Laboratory Sample Reference		
Sample ID		
Other ID	Units	
pH	pH Units	
Conductivity	µs/cm	
Cresols	µg/l	
Xylenols & Ethylphenols	µg/l	
Catechol	µg/l	
Phenol	µg/l	
Trimethylphenol	µg/l	
Total Phenols	µg/l	
Naphthalene	ng/l	
Acenaphthylene	ng/l	
Acenaphthene	ng/l	
Fluorene	ng/l	
Phenanthrene	ng/l	
Anthracene	ng/l	
Fluoranthene	ng/l	
Pyrene	ng/l	
Benzo(a)anthracene	ng/l	
Chrysene	ng/l	
Benzo(b)fluoranthene	ng/l	
Benzo(k)fluoranthene	ng/l	
Benzo(a)pyrene	ng/l	
Indeno(1,2,3-cd)pyrene	ng/l	
Di-benz(a,h)anthracene	ng/l	
Benzo(g,h,i)perylene	ng/l	
Anthanthrene	ng/l	
Benzo(e)pyrene	ng/l	
Cyclopenta(cd)pyrene	ng/l	
Total PAH	ng/l	
Easily-liberatable Cyanide	mg/l	
Complex Cyanide	mg/l	
Total Cyanide	mg/l	
Sulphate	mg/l	
Total Ammonium	mg/l	
Arsenic	mg/l	
Cadmium	mg/l	
Chromium	mg/l	
Lead	mg/l	
Mercury	mg/l	
Selenium	mg/l	
Copper	mg/l	
Nickel	mg/l	
Zinc	mg/l	
Iron	mg/l	
Analytes below to be determined if their presence on site is suspected.		
Cobalt	mg/l	
Vanadium	mg/l	
Molybdenum	mg/l	
Germanium	mg/l	
Uranium	mg/l	
Benzene	µg/l	
Toluene	µg/l	
Ethylbenzene	µg/l	
Xylene's	µg/l	
TPH by GC (C ₁₀ to C ₂₀)	µg/l	
TPH by GC (C ₂₀ to C ₃₉)	µg/l	
TPH by GC (C ₁₀ to C ₃₅)	µg/l	
ADDITIONAL ANALYTES		
BOD	mg/l	
COD (filtered)	mg/l	
Boron (B)	mg/l	
Total Organic Carbon	mg/l	
Toluene Extractable Matter	mg/l	
Thiocyanate	mg/l	
Sulphide	µg/l	
Chloride	mg/l	

26 August 2003

Mr M Maidment
WSP Environmental Limited (Cardiff)
9 Ty-Nant Court
Morganstown
Cardiff
Wales
CF15 8LW

WSP ENVIRONMENTAL	
13010222	
01 SEP 2003	
SC	
W	4/9/03
SL	1/9/03

Test Report : WSPC/81966

Dear Mr Maidment

Please find enclosed the results of the analysis carried out on the samples submitted from Bradford Rd/Bradford Rd South on 15/8/2003. The analysis has been undertaken in accordance with SSPH methodology version 2.6.

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely




J A Selbie
AUTHORISED SIGNATORY



NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (WATER)						
All analytical results to be reported as stated units.						
Job No: WSPC/81966						
Bradford Rd/Bradford Rd South						
Site Project Reference:						
Date: 26/08/2003						
Laboratory: City Analytical Services Plc						
Laboratory Sample Reference		406879	406880	406881	406882	406883
Sample ID		BH2	BH3	BH1	BH2	BH3
Other ID	Units	5.10m	6.60m	6.70m	5.60m	Dup
pH	pH Units	7.9	7.3	7.7	8	8
Suspended Solids	mg/l	130000	550	6900	1700	1700
Conductivity (µs/cm)	µs/cm	1200	1500	1400	2300	2300
Cresols	µg/l	< 0.50	12	< 0.50	67000	61000
Xylenols & Ethylphenols	µg/l	< 0.50	47	17	62000	55000
Catechol	µg/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Phenol	µg/l	< 0.50	3.0	0.66	34000	32000
Trimethylphenol	µg/l	< 0.50	16	12	18000	14000
Total Phenols	µg/l	< 2.50	79	30	180000	160000
Naphthalene	ng/l	< 20.0	150	< 20.0	32000	2300
Acenaphthylene	ng/l					
Acenaphthene	ng/l	36	450	< 20.0	5300	3500
Fluorene	ng/l	< 20.0	630	< 20.0	1200	700
Phenanthrene	ng/l	< 20.0	520	100	570	310
Anthracene	ng/l	130	140	360	< 20.0	180
Fluoranthene	ng/l	< 20.0	80	< 20.0	< 20.0	< 20.0
Pyrene	ng/l	< 20.0	26	46	< 20.0	< 20.0
Benzo(a)anthracene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Chrysene	ng/l	< 20.0	< 20.0	67	< 20.0	< 20.0
Benzo(b)fluoranthene	ng/l	< 20.0	< 20.0	88	< 20.0	< 20.0
Benzo(k)fluoranthene	ng/l	< 20.0	< 20.0	36	< 20.0	< 20.0
Benzo(a)pyrene	ng/l	< 20.0	< 20.0	39	< 20.0	< 20.0
Indeno(1,2,3-cd)pyrene	ng/l	< 20.0	< 20.0	110	< 20.0	< 20.0
Di-benz(a,h)anthracene	ng/l	< 20.0	< 20.0	85	< 20.0	< 20.0
Benzo(g,h,i)perylene	ng/l	< 20.0	< 20.0	190	< 20.0	< 20.0
Anthanthrene	ng/l	< 20.0	< 20.0	59	< 20.0	< 20.0
Benzo(e)pyrene	ng/l	< 20.0	< 20.0	< 20.0	< 20.0	< 20.0
Cyclopenta(cd)pyrene	ng/l					
Total PAH	ng/l	210	2000	1200	39000	7000
Easily-liberatable Cyanide	mg/l	0.10	0.20	< 0.10	0.10	< 0.10
Complex Cyanide	mg/l	0.10	0.30	0.80	0.20	0.30
Total Cyanide	mg/l	0.20	0.50	0.80	0.30	0.30
Thiocyanate	mg/l	0.060	0.15	0.68	0.41	0.29
Sulphate	mg/l	200	480	140	240	230
Sulphide	µg/l	< 50	< 50	< 50	< 50	< 50
Chloride	mg/l					
Total Ammonium	mg/l	< 0.65	7.5	130	260	240
Arsenic	mg/l	< 0.05	0.060	< 0.05	0.050	< 0.05
Cadmium	mg/l	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chromium	mg/l	< 0.01	0.030	0.020	0.020	< 0.01
Lead	mg/l	< 0.02	0.30	< 0.02	0.16	< 0.02
Mercury	mg/l	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040
Selenium	mg/l	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060
Copper	mg/l	< 0.01	0.060	< 0.01	0.040	< 0.01
Nickel	mg/l	< 0.01	0.060	0.020	0.050	0.020
Zinc	mg/l	0.030	0.40	0.10	0.57	0.25
Iron	mg/l	1.2	68	4.6	18	4.4
Analytes below to be determined if their presence on site is suspected.						
Cobalt	mg/l					
Vanadium	mg/l					
Molybdenum	mg/l					
Germanium	mg/l					
Hex Cr	mg/l					
Benzene	µg/l	< 10	13	12	940	1000
Toluene	µg/l	< 10	< 10	< 10	460	510
Ethylbenzene	µg/l	< 10	< 10	< 10	41	47
Xylene's	µg/l	< 10	< 10	< 10	660	410
TPH by GC (C ₁₀ to C ₂₀)	µg/l	< 100	140	< 100	13000	8200
TPH by GC (C ₂₀ to C ₃₉)	µg/l	< 100	270	< 100	260	280
TPH by GC (C ₁₀ to C ₃₉)	µg/l	< 100	410	< 100	14000	8400
>>TPH RISK ASSESSMENT<<						
>C6 to C8*	µg/l					
>C8 to C10*	µg/l					
>C10 to C12*	µg/l					
>C12 to C16*	µg/l					
>C16 to C21*	µg/l					
>C21 TO C40*	µg/l					
Total Aliphatic*	µg/l					

NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (WATER)						
All analytical results to be reported as stated units.						
Job No: WSPC/B1966						
Bradford Rd/Bradford Rd South						
Site Project Reference:						
Date: 26/08/2003						
Laboratory: City Analytical Services Plc						
Laboratory Sample Reference		406879	406880	406881	406882	406883
Sample ID		BH2	BH3	BH1	BH2	BHa
Other ID	Units	5.10m	6.60m	6.70m	5.60m	Dup
>C5 to C7*	µg/l					
>C7 to C8*	µg/l					
>C8 to C10*	µg/l					
>C10 to C12*	µg/l					
>C12 to C16*	µg/l					
>C16 to C21*	µg/l					
>C21 TO C40*	µg/l					
Total Aromatic*	µg/l					
Total TPH*	µg/l					
ADDITIONAL ANALYTES						
BOD	mg/l					
COD (filtered)	mg/l					
Boron (B)	mg/l					
Total Organic Carbon	mg/l	41	8.2	13	130	140
Toluene Extractable Matter	mg/l					
Nitrate	mg/l					

6 August 2003

Mr M Maidment
WSP Environmental Limited (Cardiff)
9 Ty-Nant Court
Morganstown
Cardiff
Wales
CF15 8LW

WSP REMEDIATION	
CARDIFF OFFICE	
FILE REF.	12 AUG 2003
REC BY.	SE
COPIA	ACTION BY
✓ 12/8/03	
SR 12/8/03	

Test Report : WSPC/81030

Dear Mr Maidment

Please find enclosed the results of the analysis carried out on the samples submitted from Bradford Road/Bradford Road South on 29/7/2003. The analysis has been undertaken in accordance with SSPH methodology version .

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely



M C Lane
AUTHORISED SIGNATORY



NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (WATER)			
All analytical results to be reported as stated units.			
Job No: WSPC/81030			
Bradford Road/Bradford Road South			
Site Project Reference:			
Date: 06/08/2003			
Laboratory: City Analytical Services Plc			
Laboratory Sample Reference		399871	399872
Sample ID		BH3	BH2
Other ID	Units	6.50m	5.40m
pH	pH Units	7.2	8.1
Suspended Solids	mg/l	980	47000
Conductivity (µs/cm)	µs/cm	1500	2300
Cresols	µg/l	< 0.50	340000
Xylenols & Ethylphenols	µg/l	< 0.50	210000
Catechol	µg/l	< 0.50	< 0.50
Phenol	µg/l	< 0.50	86000
Trimethylphenol	µg/l	< 0.50	63000
Total Phenols	µg/l	< 2.50	700000
Naphthalene	ng/l	280	790000
Acenaphthylene	ng/l		
Acenaphthene	ng/l	630	8300
Fluorene	ng/l	140	4600
Phenanthrene	ng/l	29	5000
Anthracene	ng/l	62	2200
Fluoranthene	ng/l	79	120
Pyrene	ng/l	50	75
Benzo(a)anthracene	ng/l	< 20.0	23
Chrysene	ng/l	< 20.0	82
Benzo(b)fluoranthene	ng/l	< 20.0	< 20.0
Benzo(k)fluoranthene	ng/l	< 20.0	52
Benzo(a)pyrene	ng/l	< 20.0	< 20.0
Indeno(1,2,3-cd)pyrene	ng/l	< 20.0	< 20.0
Di-benz(a,h)anthracene	ng/l	< 20.0	< 20.0
Benzo(g,h,i)perylene	ng/l	< 20.0	< 20.0
Anthanthrene	ng/l	< 20.0	22
Benzo(e)pyrene	ng/l	< 20.0	23
Cyclopenta(cd)pyrene	ng/l		
Total PAH	ng/l	1300	810000
Easily liberatable Cyanide	mg/l	< 0.10	< 0.10
Complex Cyanide	mg/l	0.10	< 0.10
Total Cyanide	mg/l	0.10	< 0.10
Thiocyanate	mg/l	0.090	23
Sulphate	mg/l	460	220
Sulphide	µg/l	< 50	51
Chloride	mg/l		
Total Ammonium	mg/l	5.0	320
Arsenic	mg/l	< 0.05	< 0.05
Cadmium	mg/l	< 0.0050	< 0.0050
Chromium	mg/l	< 0.01	< 0.01
Lead	mg/l	0.030	< 0.02
Mercury	mg/l	< 0.0040	< 0.0040
Selenium	mg/l	< 0.0050	< 0.0060
Copper	mg/l	< 0.01	< 0.01
Nickel	mg/l	0.020	0.010
Zinc	mg/l	0.050	0.020
Iron	mg/l	13	1.2
Analytes below to be determined if their presence on site is suspected.			
Cobalt	mg/l		
Vanadium	mg/l		
Molybdenum	mg/l		
Germanium	mg/l		
Hex Cr	mg/l		
Benzene	µg/l	< 10	2900
Toluene	µg/l	< 10	1200
Ethylbenzene	µg/l	< 10	95
Xylenes	µg/l	< 10	830
TPH by GC (C ₁₀ to C ₂₀)	µg/l	< 100	5600
TPH by GC (C ₂₀ to C ₃₀)	µg/l	< 100	240
TPH by GC (C ₁₀ to C ₂₀)	µg/l	< 100	5900
>>TPH RISK ASSESSMENT<<			
>C6 to C8*	µg/l		
>C8 to C10*	µg/l		
>C10 to C12*	µg/l		
>C12 to C16*	µg/l		
>C16 to C21*	µg/l		
>C21 TO C40*	µg/l		
Total Aliphatic*	µg/l		

NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (WATER)			
All analytical results to be reported as stated units.			
Job No: WSPC/81030			
Bradford Road/Bradford Road South			
Site Project Reference:			
Date: 06/08/2003			
Laboratory: City Analytical Services Plc			
Laboratory Sample Reference		399871	399872
Sample ID		BH3	BH2
Other ID	Units	6.50m	5.40m
>C5 to C7*	µg/l		
>C7 to C8*	µg/l		
>C8 to C10*	µg/l		
>C10 to C12*	µg/l		
>C12 to C16*	µg/l		
>C16 to C21*	µg/l		
>C21 TO C40*	µg/l		
Total Aromatic*	µg/l		
Total TPH*	µg/l		
ADDITIONAL ANALYTES			
BOD	mg/l		
COD (filtered)	mg/l		
Boron (B)	mg/l		
Total Organic Carbon	mg/l	11	820
Toluene Extractable Matter	mg/l		
Nitrate	mg/l		

7 August 2003

Mr M Maidment
WSP Environmental Limited (Cardiff)
9 Ty-Nant Court
Morganstown
Cardiff
Wales
CF15 8LW

WSP FOUNDATION	
11/8/03	
FILE REF.	
RECEIVED BY	SE
COMPLAINT	
CS	11/1/03
LC	11/8/03

Test Report : WSPC/81080

Dear Mr Maidment

Please find enclosed the results of the analysis carried out on the samples submitted from Bradford Road/Bradford Road South on 31/7/2003. The analysis has been undertaken in accordance with SSPH methodology version 3.0 .

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely

Mike Cohen



Mike Cohen
AUTHORISED SIGNATORY



NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (WATER)			
All analytical results to be reported as stated units.			
Job No: WSPC/81080			
Bradford Road/Bradford Road South			
Site Project Reference:			
Date: 07/08/2003			
Laboratory: City Analytical Services Plc			
Laboratory Sample Reference		401011	401012
Sample ID		BH1	BH2
Other ID	Units	6.50m	5.00m
pH	pH Units	7.5	8
Suspended Solids	mg/l	7600	440000
Conductivity (µs/cm)	µs/cm	1400	700
Cresols	µg/l	< 0.50	< 0.50
Xylenols & Ethylphenols	µg/l	110	< 0.50
Catechol	µg/l	< 0.50	< 0.50
Phenol	µg/l	< 0.50	< 0.50
Trimethylphenol	µg/l	< 0.50	< 0.50
Total Phenols	µg/l	110	< 2.50
Naphthalene	ng/l	680	62
Acenaphthylene	ng/l		
Acenaphthene	ng/l	290	< 20.0
Fluorene	ng/l	21	< 20.0
Phenanthrene	ng/l	< 20.0	< 20.0
Anthracene	ng/l	69	< 20.0
Fluoranthene	ng/l	99	71
Pyrene	ng/l	71	89
Benzo(a)anthracene	ng/l	< 20.0	64
Chrysene	ng/l	< 20.0	61
Benzo(b)fluoranthene	ng/l	< 20.0	24
Benzo(k)fluoranthene	ng/l	< 20.0	< 20.0
Benzo(a)pyrene	ng/l	< 20.0	26
Indeno(1,2,3-cd)pyrene	ng/l	< 20.0	< 20.0
Di-benz(a,h)anthracene	ng/l	< 20.0	< 20.0
Benzo(g,h,i)perylene	ng/l	< 20.0	< 20.0
Anthranthrene	ng/l	< 20.0	< 20.0
Benzo(e)pyrene	ng/l	< 20.0	56
Cyclopenta(cd)pyrene	ng/l		
Total PAH	ng/l	1300	520
Easily-liberatable Cyanide	mg/l	< 0.10	< 0.10
Complex Cyanide	mg/l	0.10	< 0.10
Total Cyanide	mg/l	0.10	< 0.10
Thiocyanate	mg/l	1.1	0.20
Sulphate	mg/l	130	88
Sulphide	µg/l	< 50	< 50
Chloride	mg/l		
Total Ammonium	mg/l	130	< 0.65
Arsenic	mg/l	< 0.05	< 0.05
Cadmium	mg/l	< 0.0050	< 0.0050
Chromium	mg/l	< 0.01	< 0.01
Lead	mg/l	< 0.02	< 0.02
Mercury	mg/l	< 0.0040	< 0.0040
Selenium	mg/l	< 0.0060	< 0.0060
Copper	mg/l	< 0.01	< 0.01
Nickel	mg/l	< 0.01	0.020
Zinc	mg/l	< 0.01	< 0.01
Iron	mg/l	0.070	0.020
Analytes below to be determined if their presence on site is suspected.			
Cobalt	mg/l		
Vanadium	mg/l		
Molybdenum	mg/l		
Germanium	mg/l		
Hex Cr	mg/l		
Benzene	µg/l	< 10	< 10
Toluene	µg/l	< 10	< 10
Ethylbenzene	µg/l	< 10	< 10
Xylene's	µg/l	< 10	< 10
TPH by GC (C ₁₀ to C ₂₀)	µg/l	< 100	< 100
TPH by GC (C ₂₀ to C ₃₀)	µg/l	< 100	< 100
TPH by GC (C ₁₀ to C ₃₀)	µg/l	< 100	< 100
>>TPH RISK ASSESSMENT<<			
>C6 to C8*	µg/l		
>C8 to C10*	µg/l		
>C10 to C12*	µg/l		
>C12 to C16*	µg/l		
>C16 to C21*	µg/l		
>C21 TO C40*	µg/l		
Total Aliphatic*	µg/l		

NEW PROFORMA FOR REPORTING ANALYTICAL RESULTS (WATER)			
All analytical results to be reported as stated units.			
Job No: WSPC/81080			
Bradford Road/Bradford Road South			
Site Project Reference:			
Date: 07/08/2003			
Laboratory: City Analytical Services Plc			
Laboratory Sample Reference		401011	401012
Sample ID		BH1	BH2
Other ID	Units	6.50m	5.00m
>C5 to C7*	µg/l		
>C7 to C8*	µg/l		
>C8 to C10*	µg/l		
>C10 to C12*	µg/l		
>C12 to C16*	µg/l		
>C16 to C21*	µg/l		
>C21 TO C40*	µg/l		
Total Aromatic*	µg/l		
Total TPH*	µg/l		
ADDITIONAL ANALYTES			
BOD	mg/l		
COD (filtered)	mg/l		
Boron (B)	mg/l		
Total Organic Carbon	mg/l	17	6.0
Toluene Extractable Matter	mg/l		
Nitrate	mg/l		

APPENDIX H

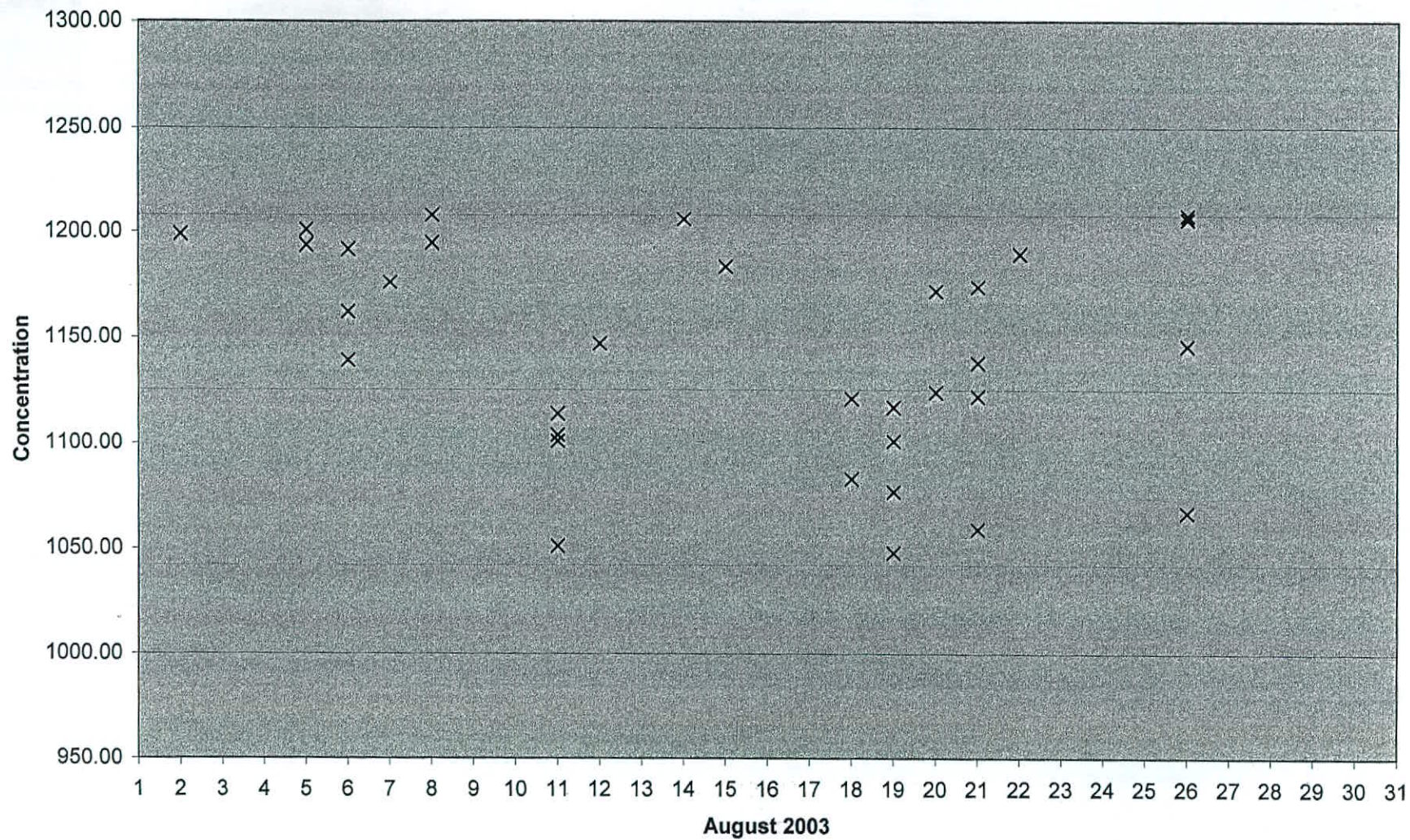
SHEWHAT CHARTS FOR MAIN RISK DRIVERS ON SITE

SEVERN
TRENT

CAS
CITY ANALYTICAL SERVICES LTD

Phenol in Water - Total, mg/l, BG Version 2.6, Me

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COPY

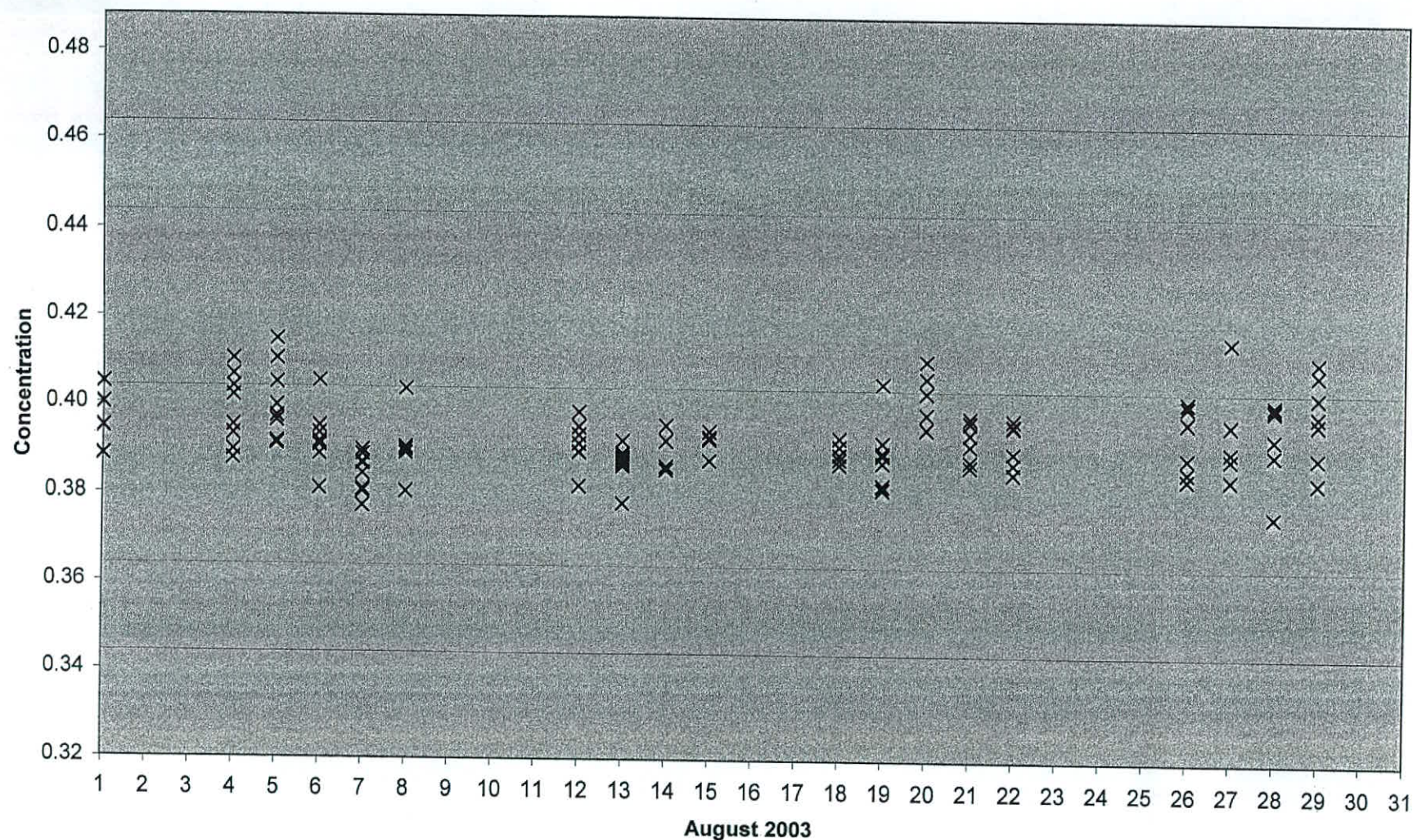


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CAS
CITY ANALYTICAL SERVICES LTD

Lead in water, mg/l, BG Version 2.6, Method 17.8.

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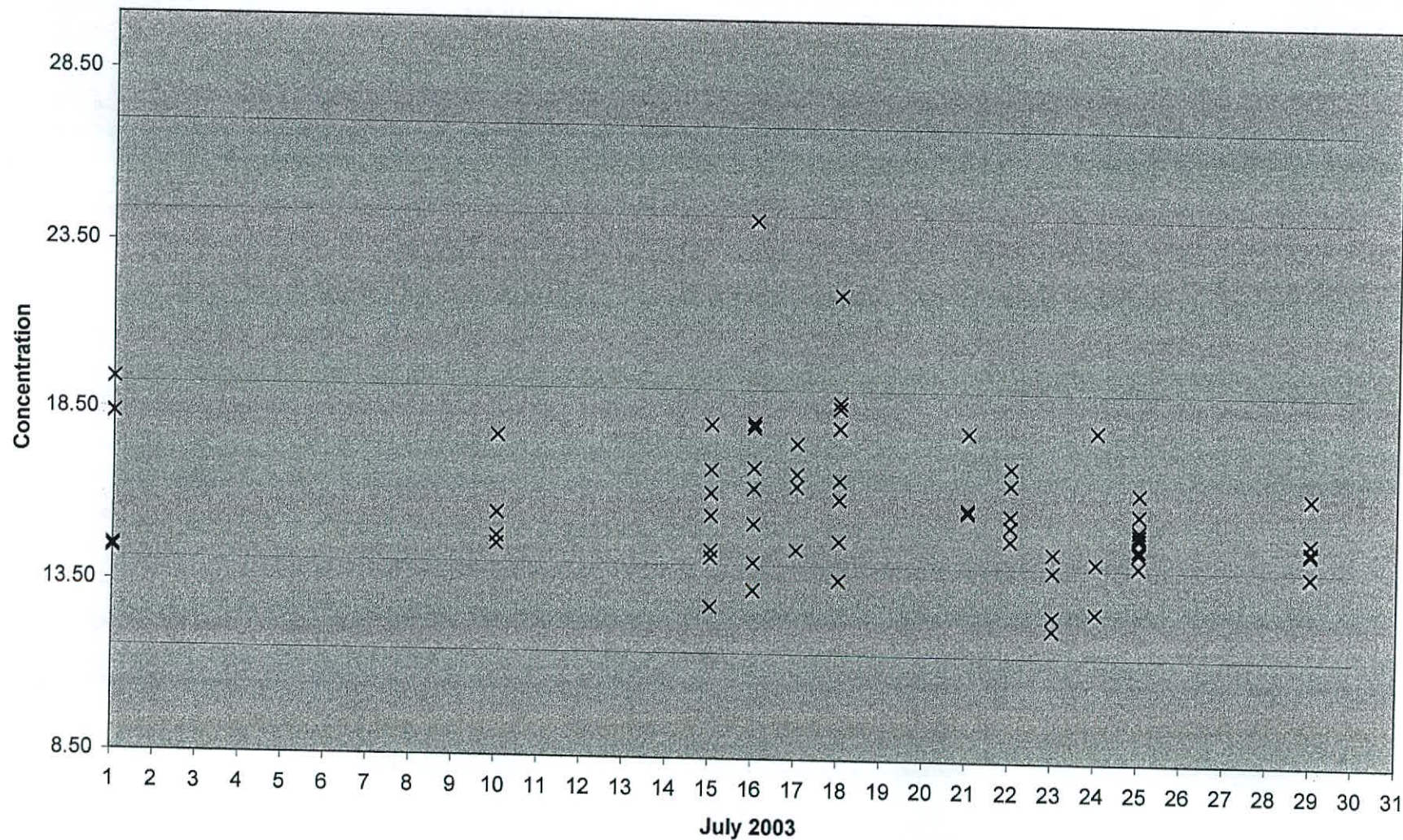


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CITY ANALYTICAL SERVICES LTD

PAH in Soil - Benzo(a)Pyrene, mg/kg, BG V2.6, Method 16.5.

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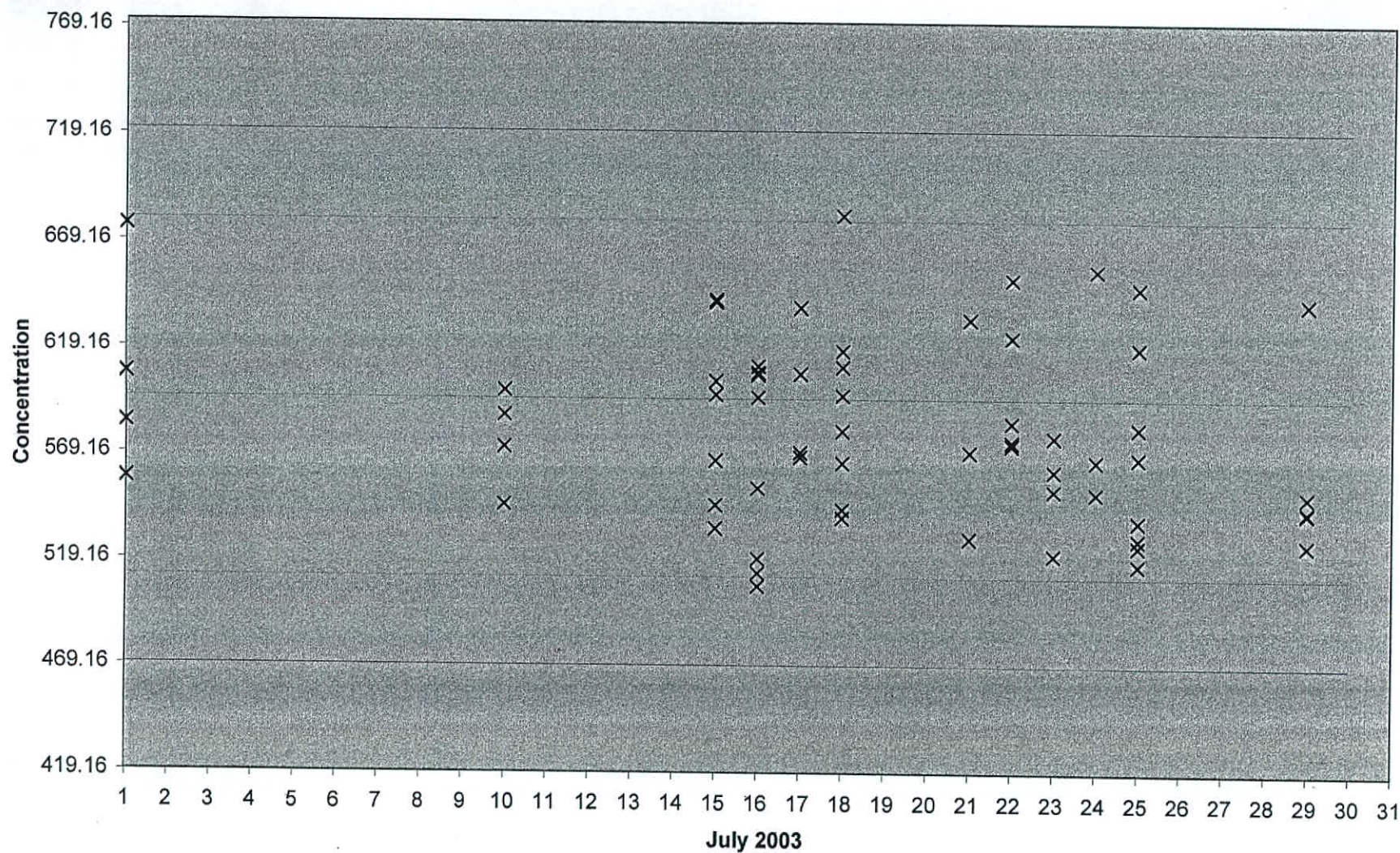


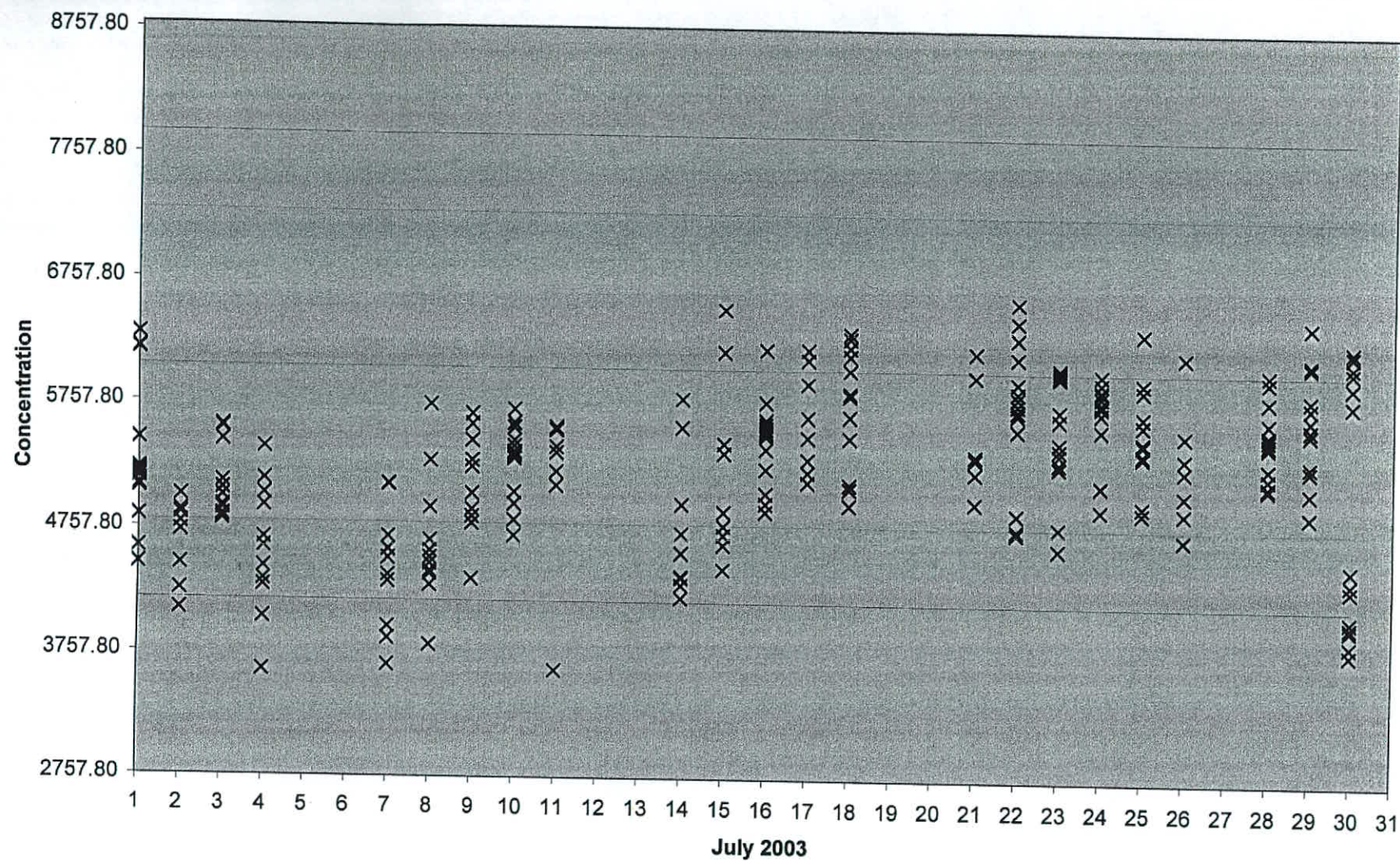
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CITY ANALYTICAL SERVICES LTD

PAH in Soil - Total, mg/kg, BG V2.6, Method 16.5.

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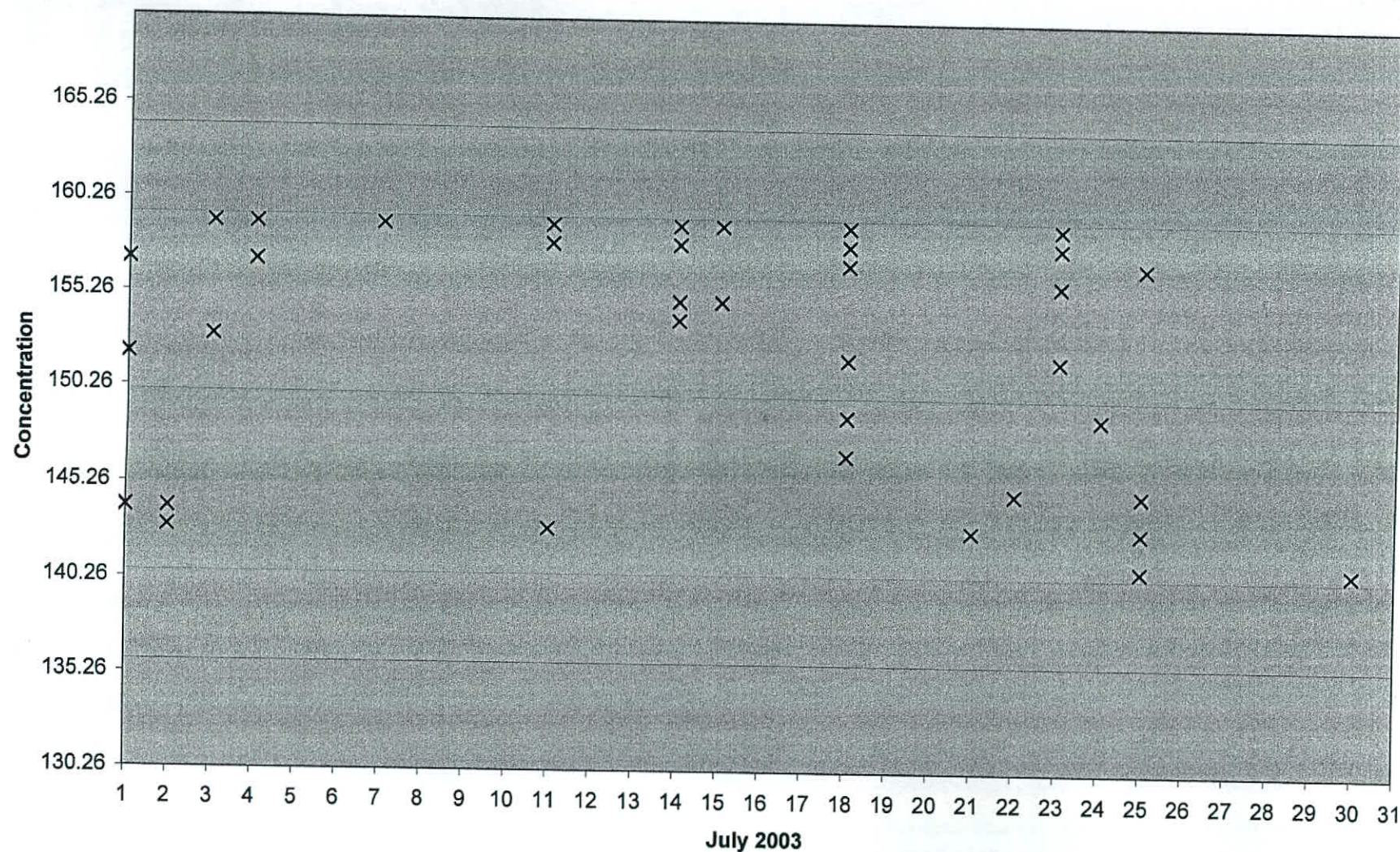


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CAS
ONLY ANALYTICAL SERVICES LTD

Phenol in Soil - Total, mg/kg, BG Version 2.6, Method 16.8.

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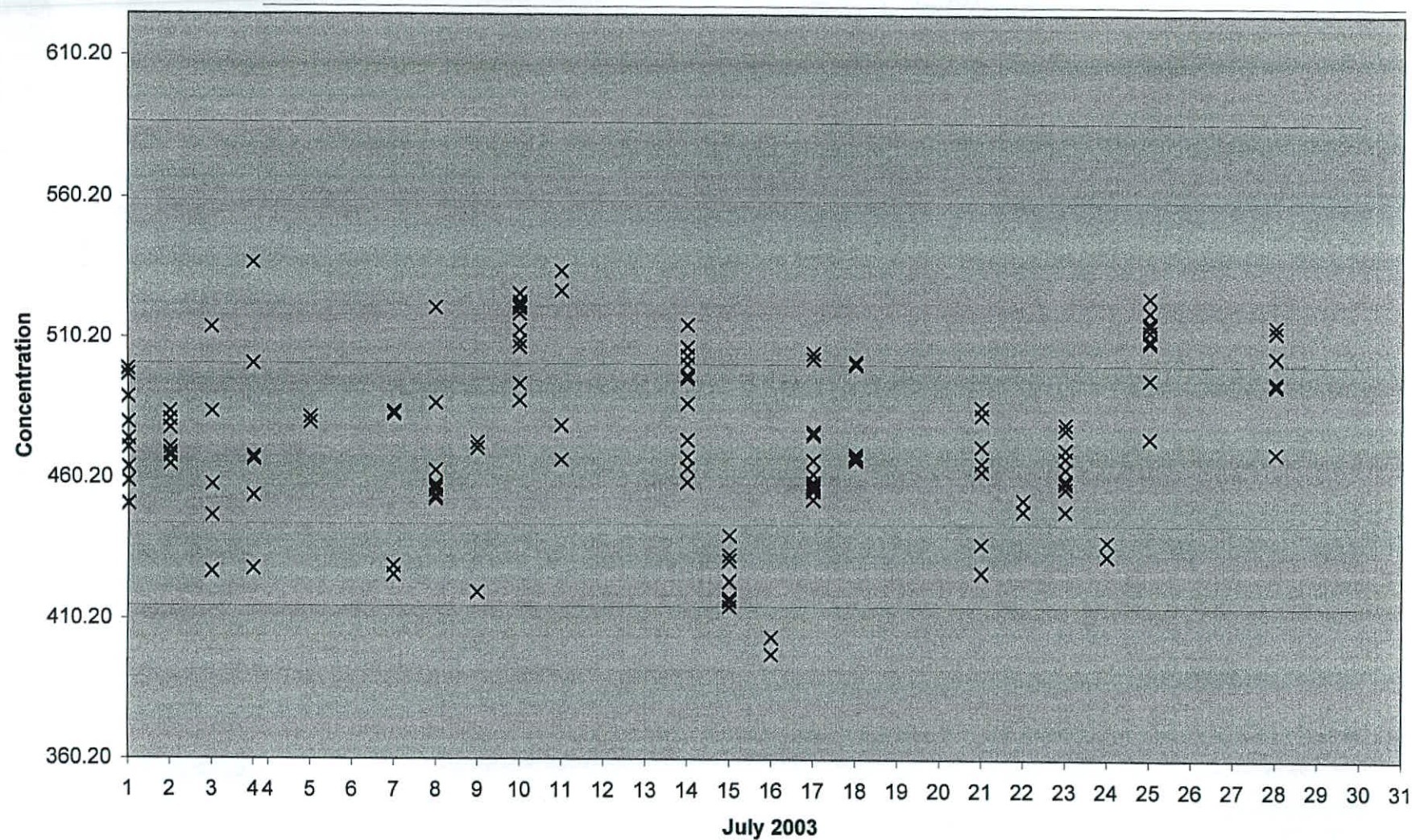


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CITY ANALYTICAL SERVICES LTD

Lead in Soil, mg/kg, BG Version 2.6, Method 16.9.

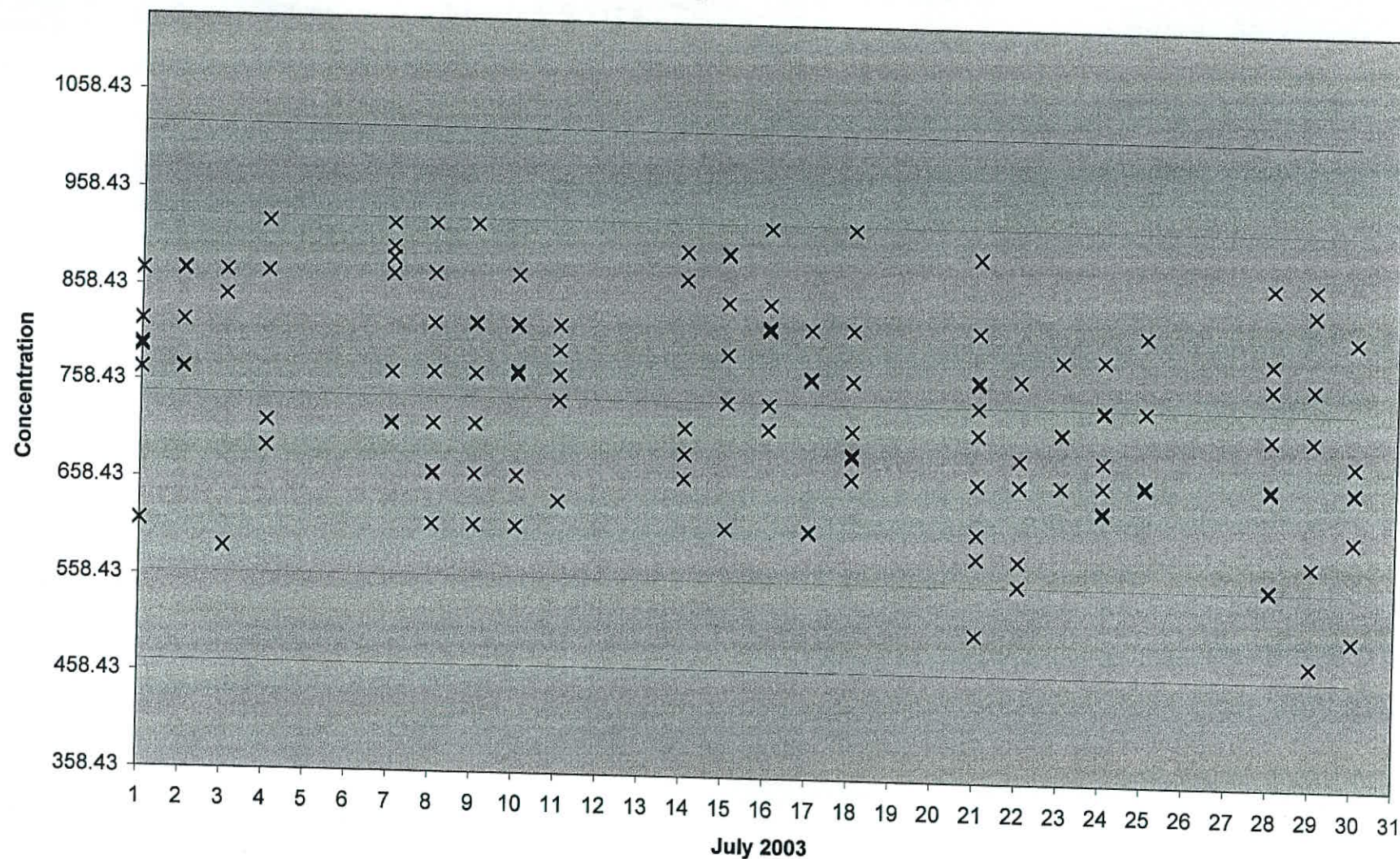


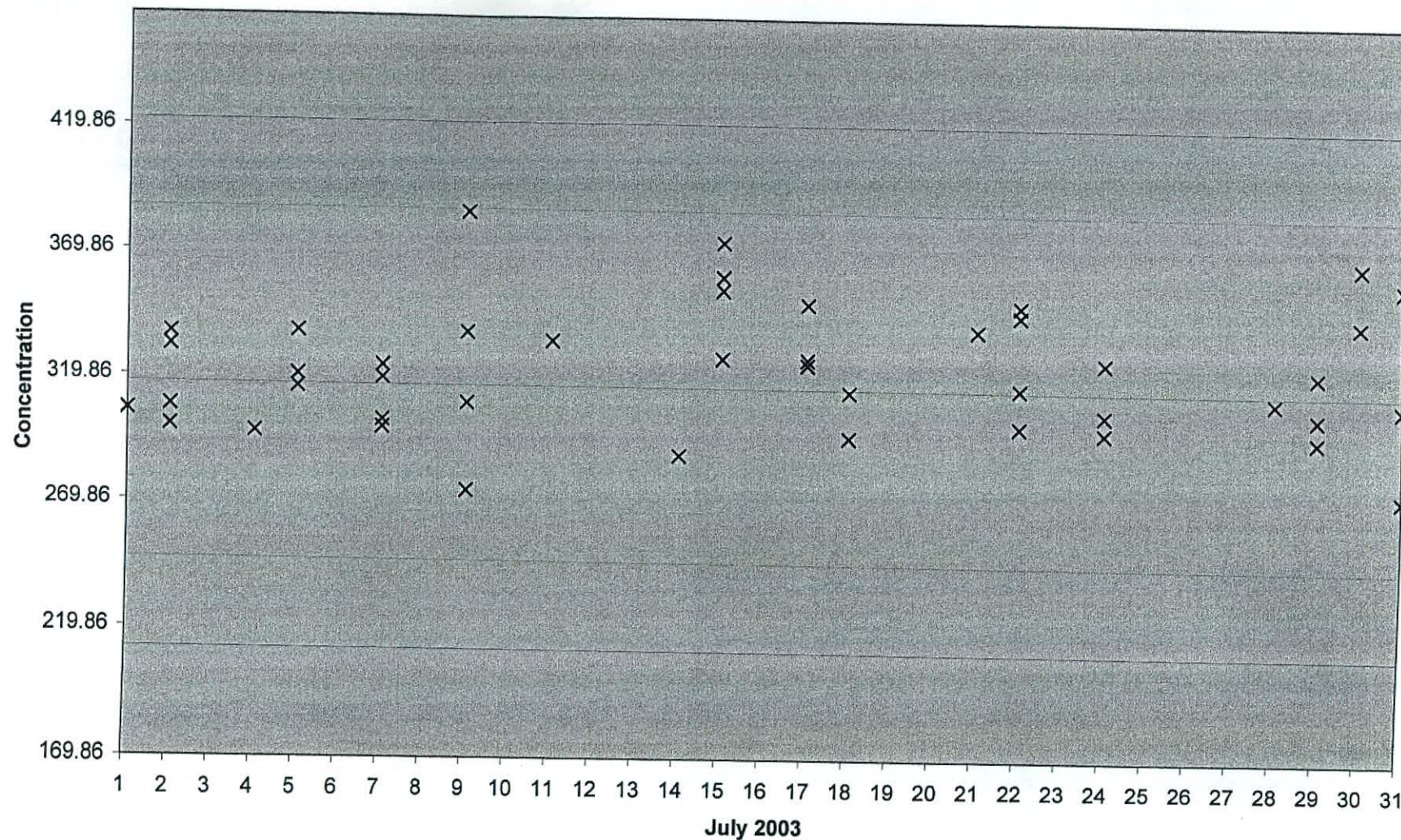
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CAS
CITY ANALYTICAL SERVICES LTD

Total Cyanide in Soil, mg/kg, BG Version 2.6, Method 16.10.3.

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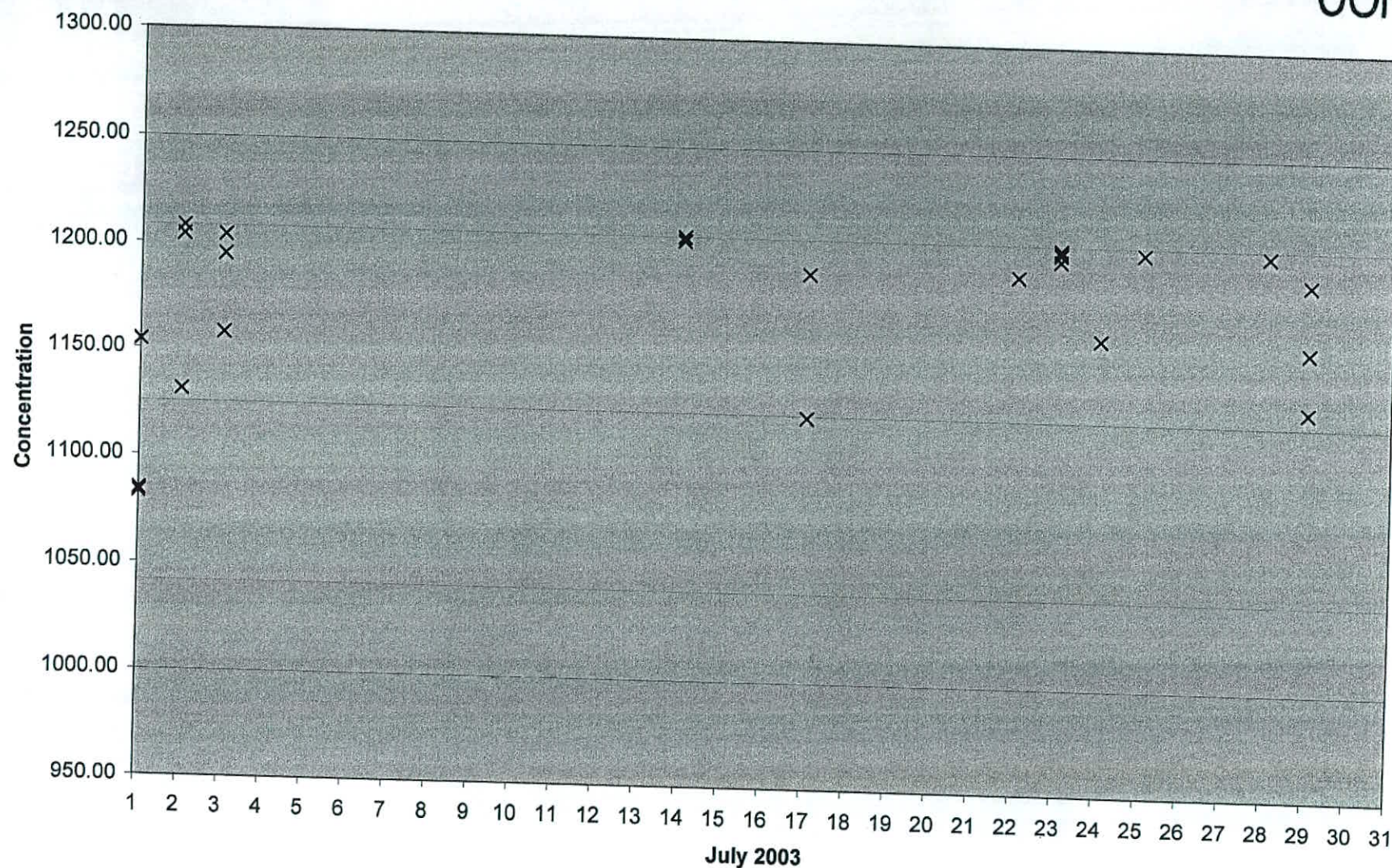


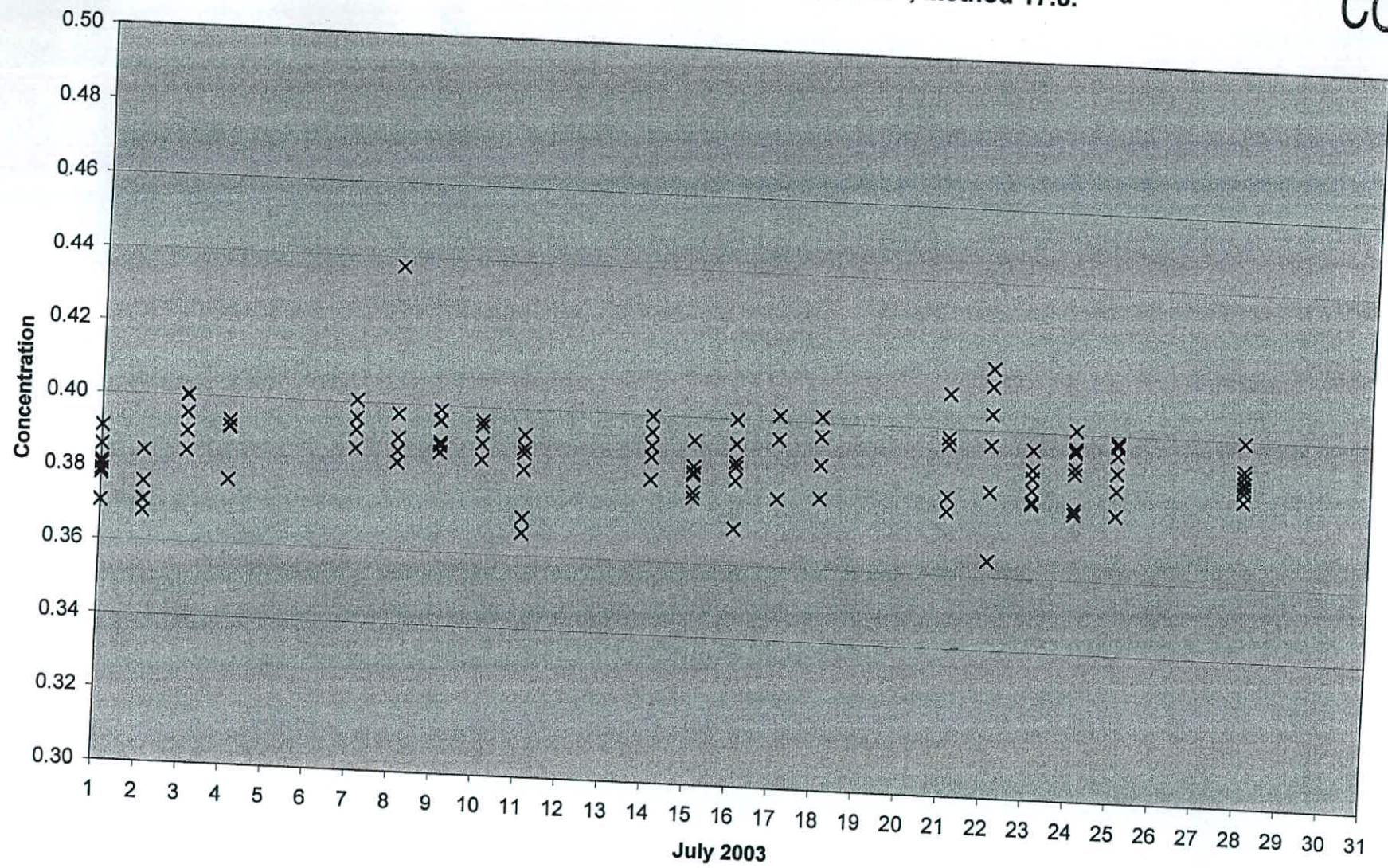
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CAS
CITY ANALYTICAL SERVICES LTD

Phenol in Water - Total, mg/l, BG Version 2.6, Me



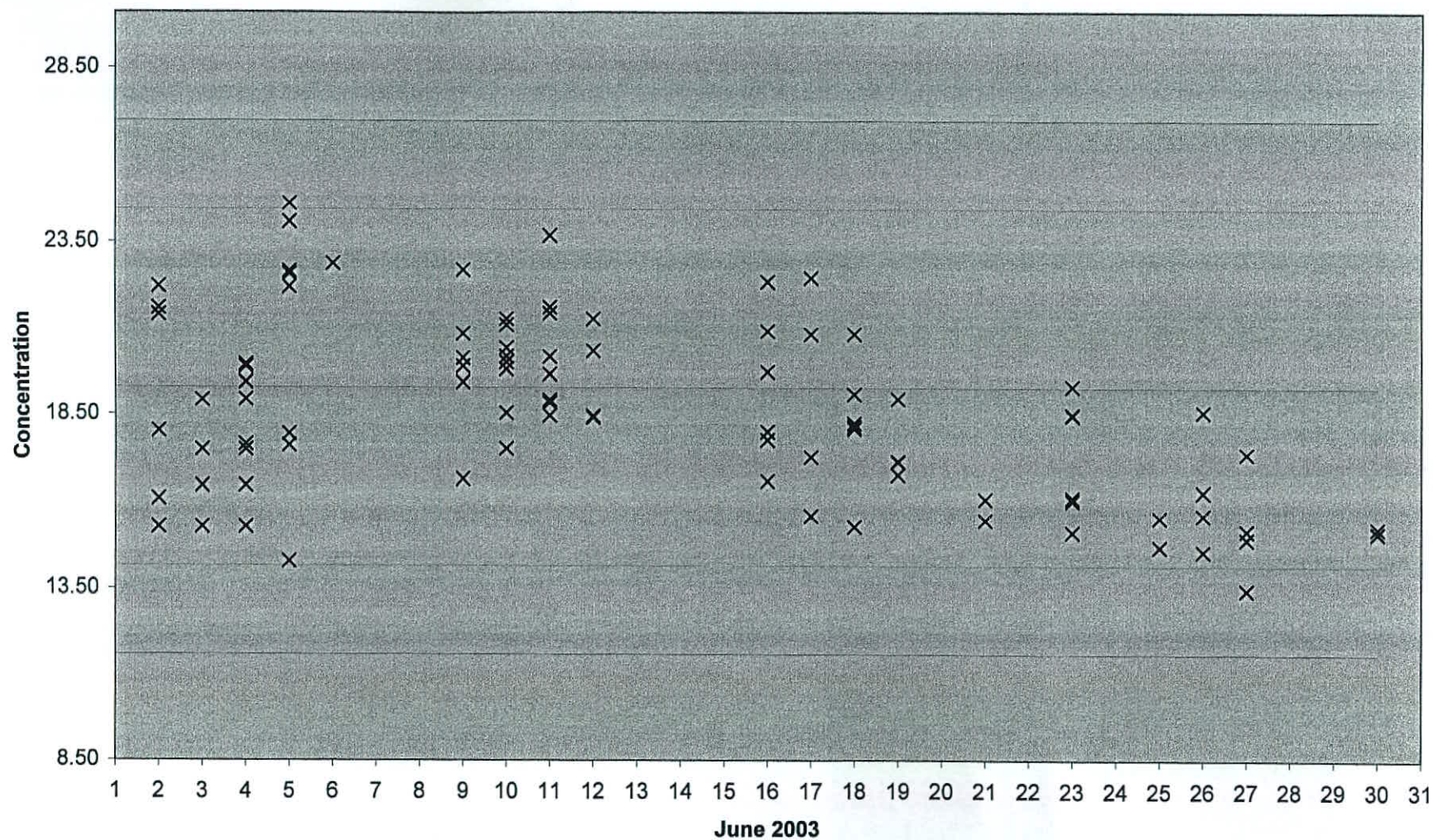


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CAS
CITY ANALYTICAL SERVICES LTD

PAH in Soil - Benzo(a)Pyrene, mg/kg, BG V2.6, Method 16.5.

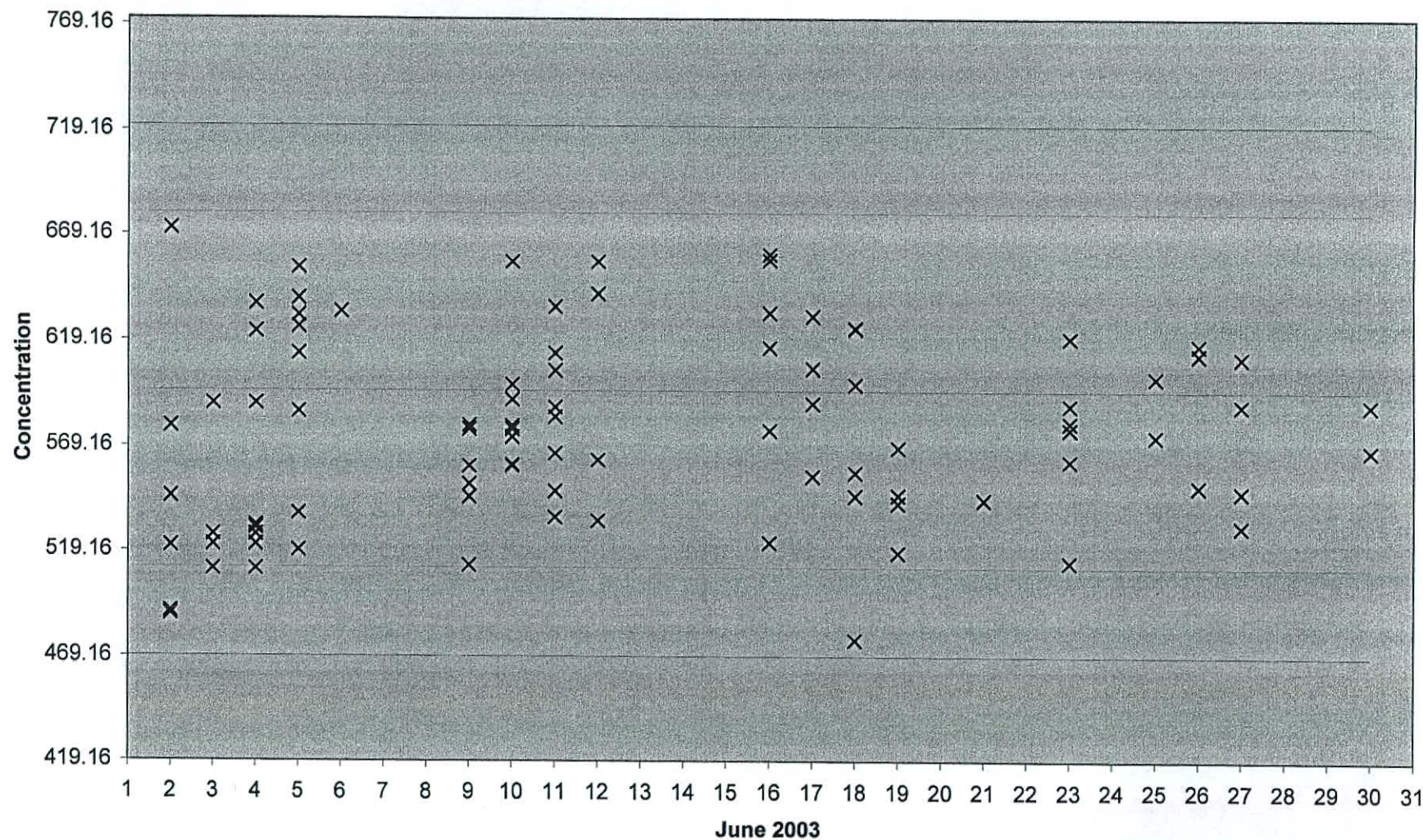


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CAS
CITY ANALYTICAL SERVICES LTD

PAH in Soil - Total, mg/kg, BG V2.6, Method 16.5.

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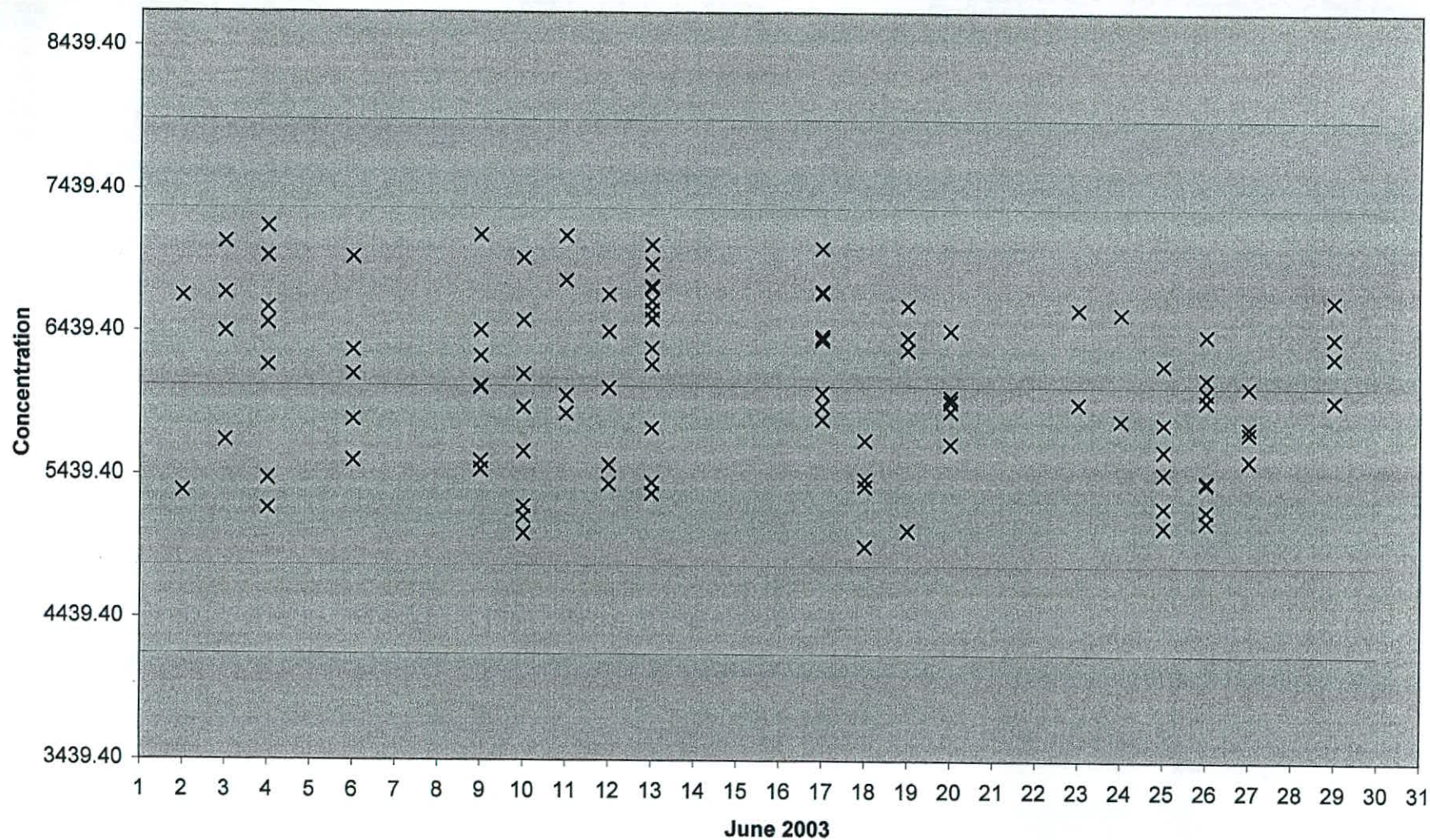


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CITY ANALYTICAL SERVICES LTD

TPH in Soil, (C10-C39), mg/kg, BG V2.6, Method 16.6.

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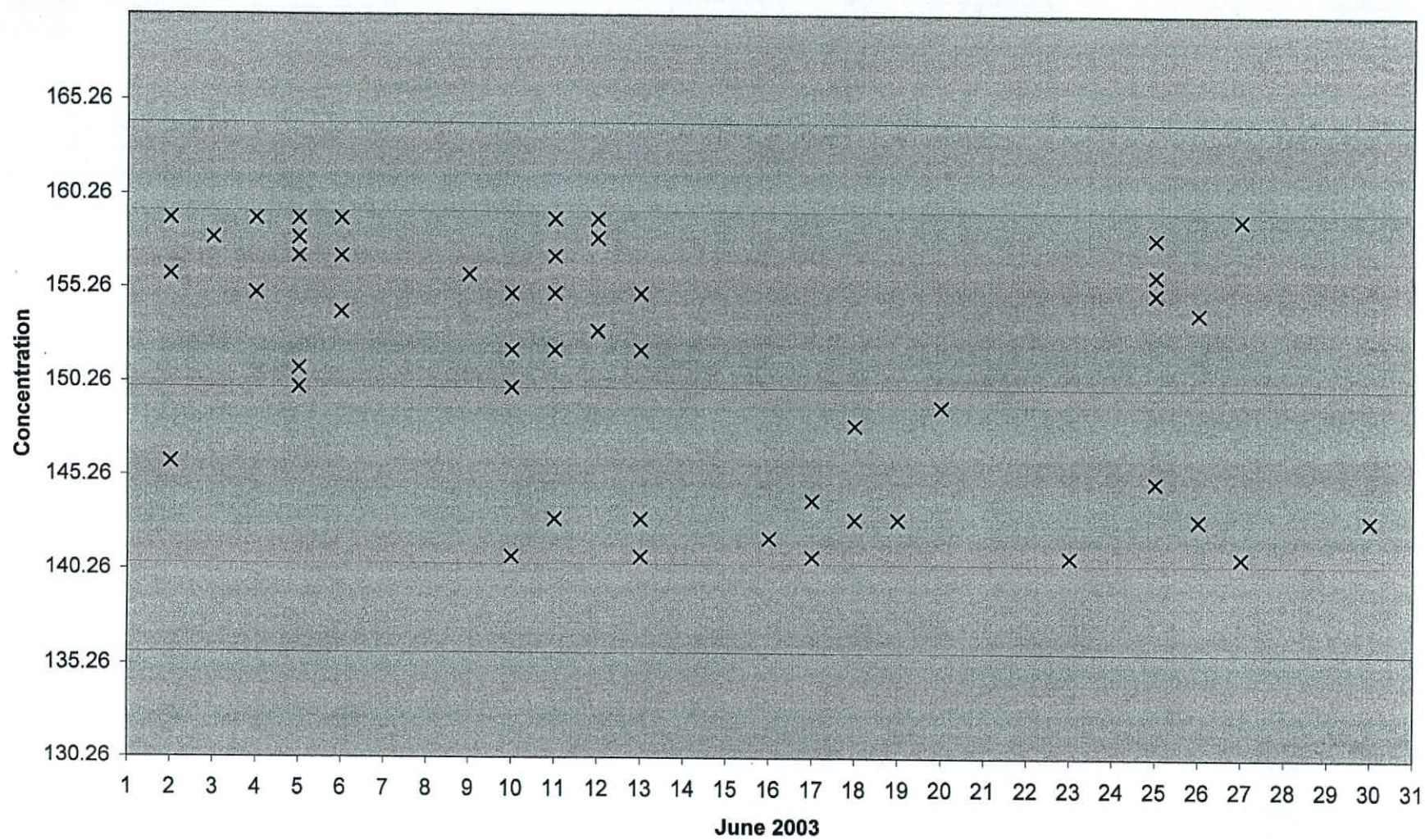


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CAS
CITY ANALYTICAL SERVICES LTD

Phenol in Soil - Total, mg/kg, BG Version 2.6, Method 16.8.

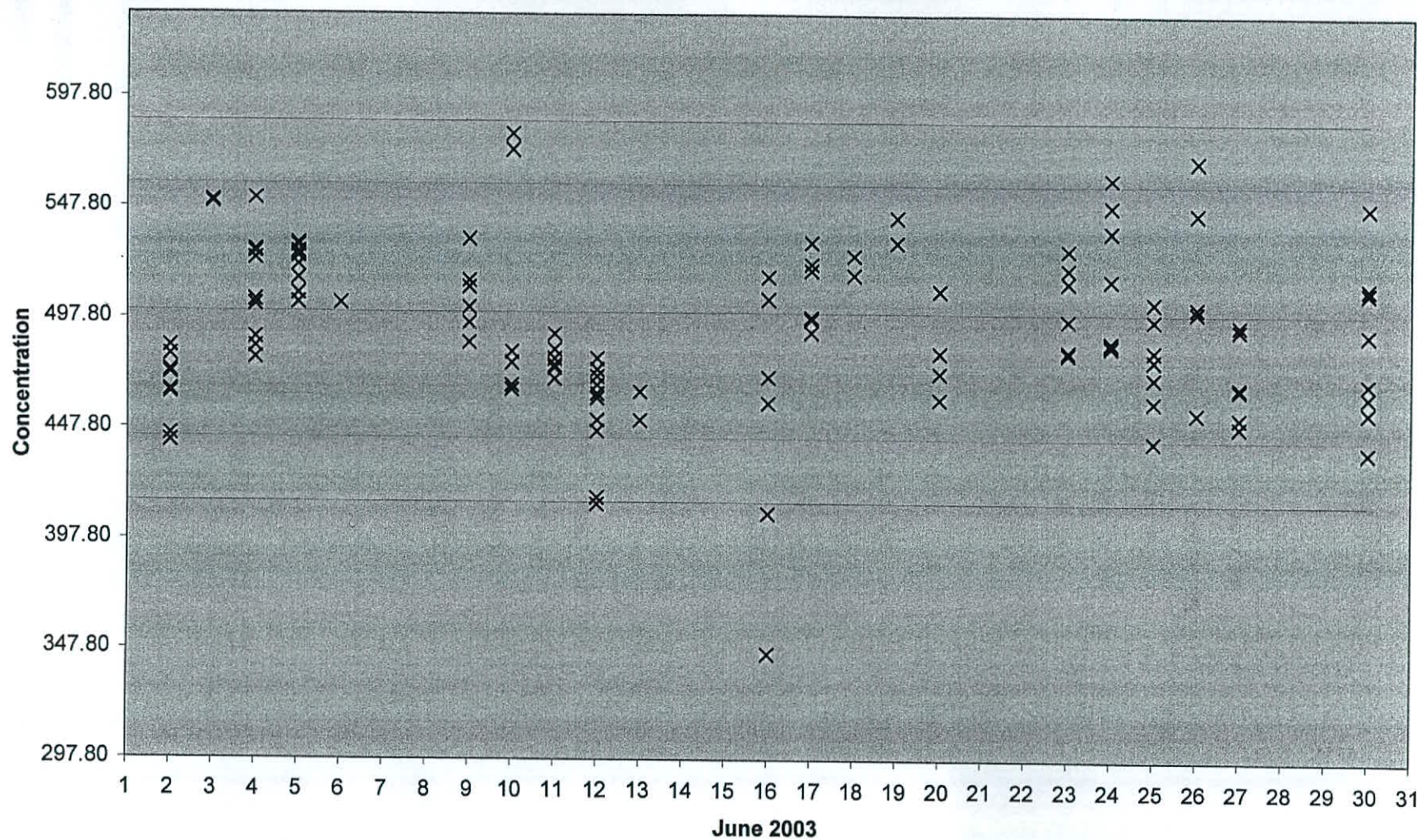


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CAS
CITY ANALYTICAL SERVICES LTD

Lead in Soil, mg/kg, BG Version 2.6, Method 16.9.

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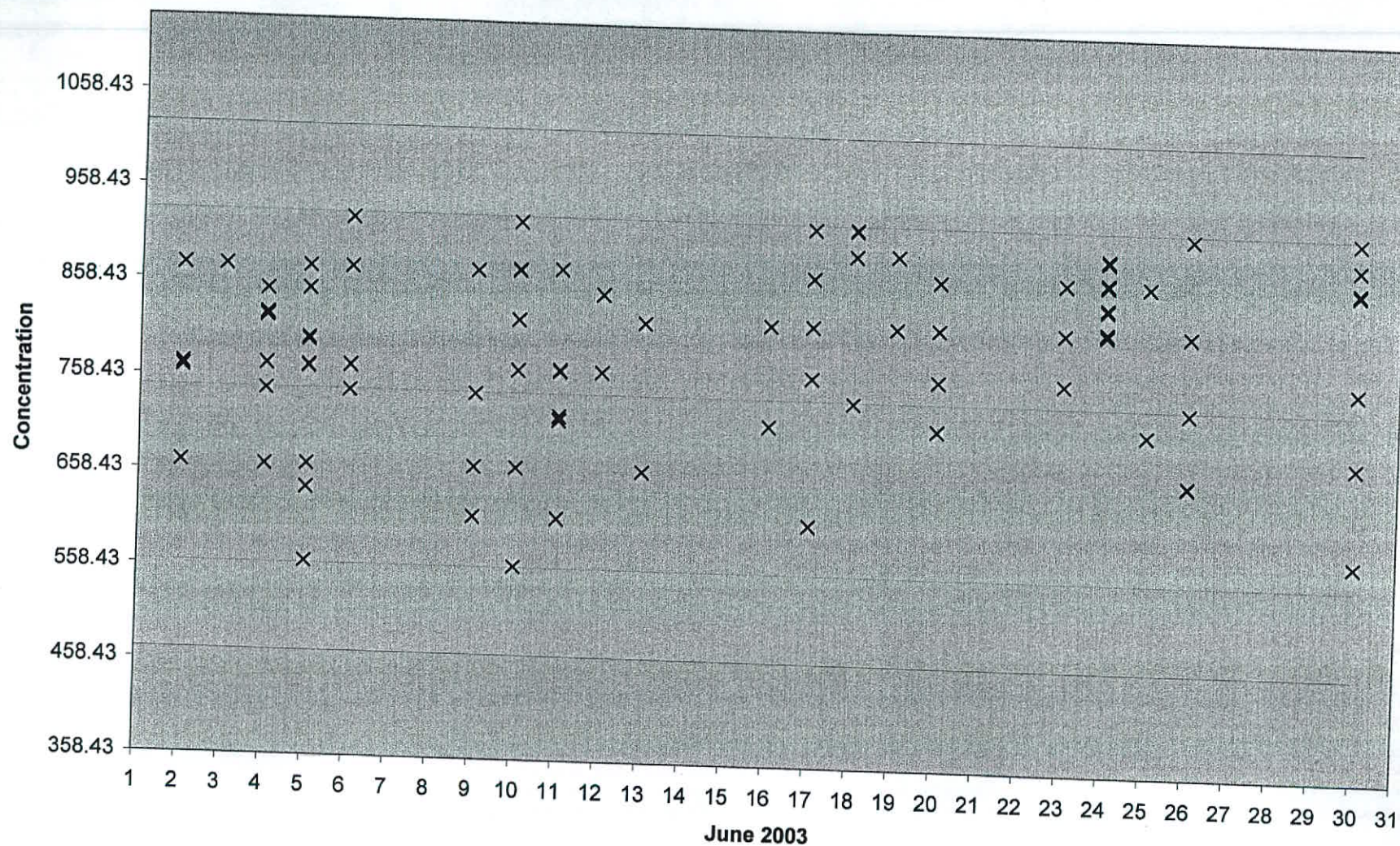


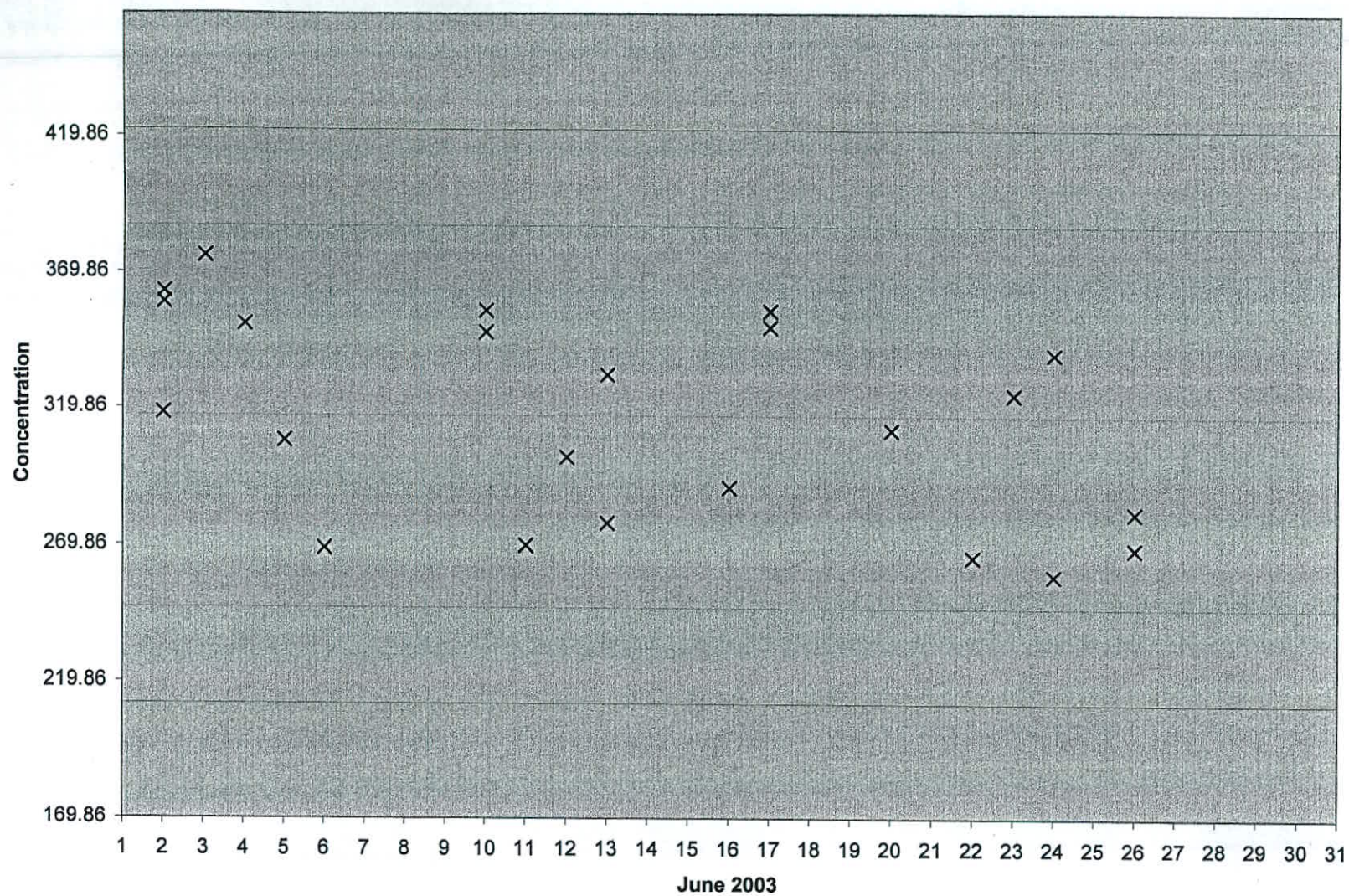
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CAS
CITY ANALYTICAL SERVICES LTD

Total Cyanide in Soil, mg/kg, BG Version 2.6, Method 16.10.3.

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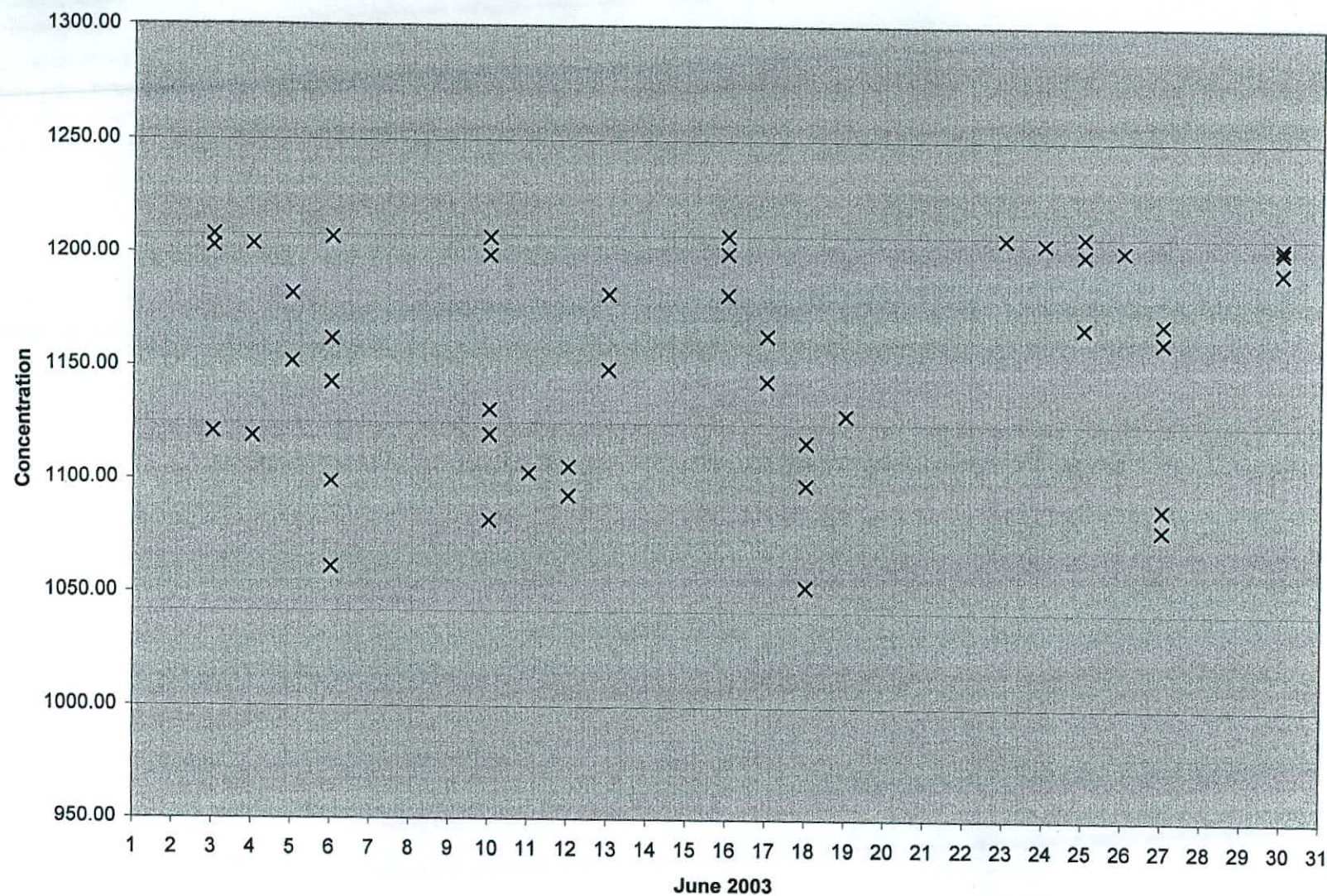




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CAS III
ANALYTICAL SERVICES

Phenol in Water - Total, mg/l, BG Version 2.6, Me

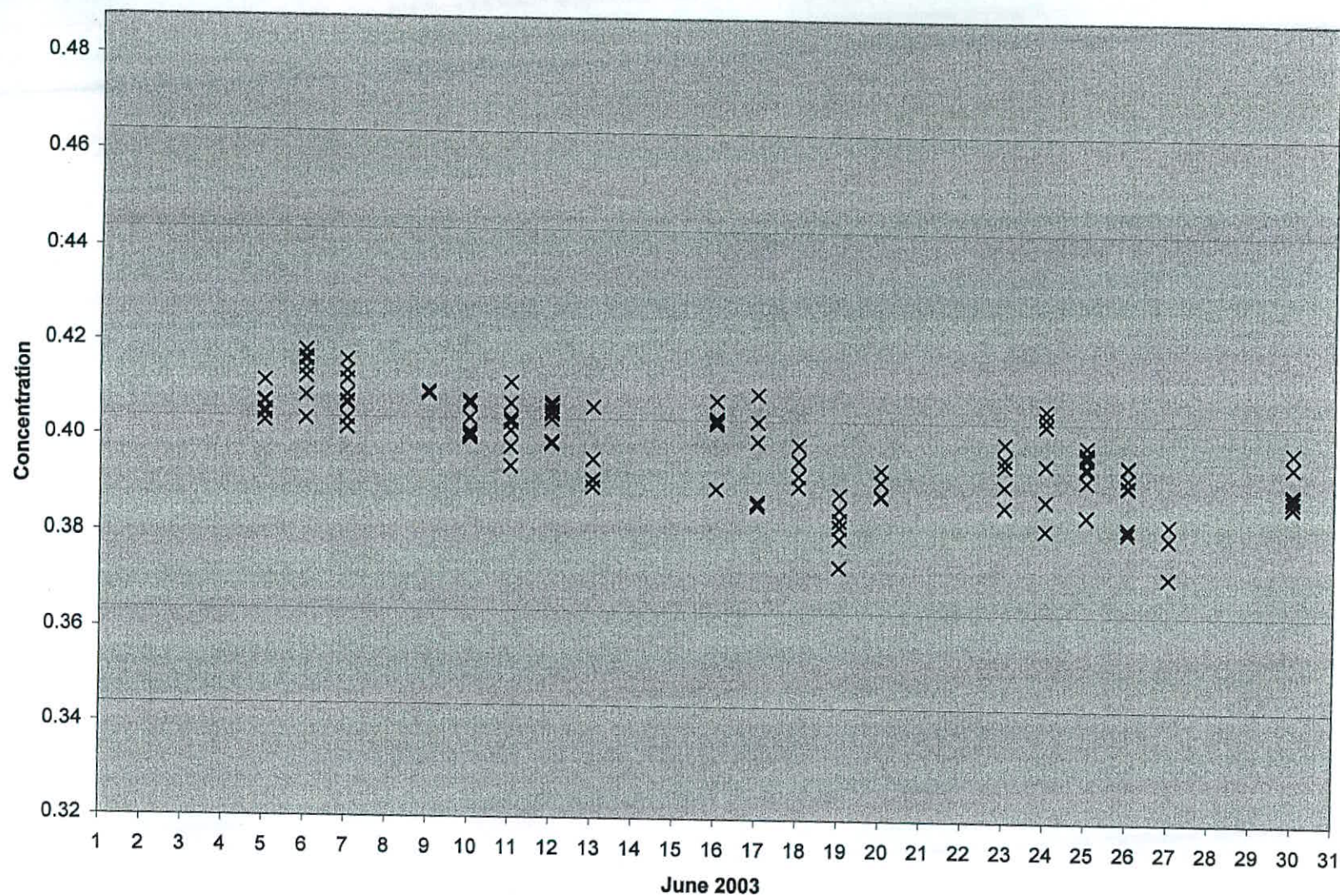


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CAS
ANALYTICAL SERVICES LTD

Lead in water, mg/l, BG Version 2.6, Method 17.8.



APPENDIX I
SITE LOG OF ACTIVITIES

LOG OF SITE ACTIVITIES BRADFORD ROAD, MANCHESTER

Persons on site

Date	Persons on Site	Company	Site Activity
09.06.03	Mike Marchant	Transco	Authorisation
09.06.03	Oli Baldock	WSP	Organisation for Site Investigation
09.06.03	Scott Ratcliffe	WSP	Organisation for Site Investigation
09.06.03	Claire Richards	WSP	Organisation for Site Investigation
10.06.03	Oli Baldock	WSP	Site Investigation
10.06.03	Scott Ratcliffe	WSP	Site Investigation
10.06.03	Claire Richards	WSP	Site Investigation
10.06.03	Peter	Glendee	Service location survey
10.06.03	Ivor	Murphy's	Hand Dig Team
10.06.03	Aiden	Murphy's	Hand Dig Team
10.06.03	Jeff Fennell	Goetechnical Engineering Ltd	Borehole Construction
10.06.03	Phil Kirk	Goetechnical Engineering Ltd	Borehole Construction
10.06.03	Dan Masters	Goetechnical Engineering Ltd	Borehole Construction
11.06.03	Oli Baldock	WSP	Site Investigation
11.06.03	Scott Ratcliffe	WSP	Site Investigation
11.06.03	Claire Richards	WSP	Site Investigation
11.06.03	Jeff Fennell	Goetechnical Engineering Ltd	Borehole Construction
11.06.03	Phil Kirk	Goetechnical Engineering Ltd	Borehole Construction
11.06.03	Dan Masters	Goetechnical Engineering Ltd	Borehole Construction
11.06.03	Peter	Glendee	Site Supervision
11.06.03	Ivor	Murphy's	Hand Dig Team
11.06.03	Aiden	Murphy's	Hand Dig Team
11.06.03	Roy	DCT Plant Hire	Trial Pit Excavation
12.06.03	Oli Baldock	WSP	Site Investigation
12.06.03	Scott Ratcliffe	WSP	Site Investigation
12.06.03	Claire Richards	WSP	Site Investigation
12.06.03	Jeff Fennell	Goetechnical Engineering Ltd	Borehole Construction
12.06.03	Phil Kirk	Goetechnical Engineering Ltd	Borehole Construction
12.06.03	Dan Masters	Goetechnical Engineering Ltd	Borehole Construction
12.06.03	Peter	Glendee	Site Supervision
12.06.03	Ivor	Murphy's	Hand Dig Team
12.06.03	Aiden	Murphy's	Hand Dig Team
12.06.03	Roy	DCT Plant Hire	Trial Pit Excavation
13.06.03	Oli Baldock	WSP	Site Investigation
13.06.03	Scott Ratcliffe	WSP	Site Investigation
13.06.03	Claire Richards	WSP	Site Investigation
13.06.03	Jeff Fennell	Goetechnical Engineering Ltd	Borehole Construction
13.06.03	Phil Kirk	Goetechnical Engineering Ltd	Borehole Construction
13.06.03	Dan Masters	Goetechnical Engineering Ltd	Borehole Construction
13.06.03	Peter	Glendee	Site Supervision
13.06.03	Roy	DCT Plant Hire	Trial Pit Excavation

Site Deliveries

Date	Company	Material	Good working order (Y/N)	Correct materials delivered (Y/N)
09.06.03	A Plant Hire	PortaLoo	Y	Y

Mechanical Equipment Check (start of each working day)

Date	Equipment	Good working order
09.06.03	Drilling Rig	OK
	Water bowser & jet wash	OK
10.06.03	JCB 3CX	OK
	Water bowser & jet wash	OK
	Drilling rig	OK
11.06.03	JCB 3CX	OK
	Water bowser & jet wash	OK
	Drilling rig	OK
12.06.03	JCB 3CX	OK
	Water bowser & jet wash	OK
	Drilling rig	OK
13.06.03	JCB 3CX	OK
	Water bowser & jet wash	OK
	Drilling rig	OK

APPENDIX J
WASTE SUMMARY SHEET

SECONDSITE PROPERTY HOLDINGS LIMITED - ENVIRONMENTAL MONITORING
WASTE REPORT - SITE INVESTIGATIONS

Site: Liverpool Street, Salford

Date: 11/08/03

Consultant:

WSP Environmental Ltd

Disposal Off-Site**Water - Discharged to Sewer:**

Discharge Consent Ref:

Issued by:

Not Applicable

Total Volume (to Date of Report):

m³

litres

Water - Removed by Tanker or Tank:

Date	Transfer Note Ref.	Disposal Site	Classification (Hazardous/Non- Hazardous/Inert)	Mass		Mileage (km)
				kg	litres	
Total Mass (to Date of Report):					kg	
					litres	

Soils - Removed to Landfill:

Landfill Tip 1	Location: Viridor Landfill Pilsworth, Greater Manchester by White Reclamation of Manchester.	Mileage:
Type of Waste: (Hazardous/Non-Hazardous/Inert)	Contaminated Inert Waste	Total Number of Loads: 3
Total Volume (to Date of Report):		22.94 m ³ tonnes
Landfill Tip 2	Location:	Mileage:
Type of Waste: (Hazardous/Non-Hazardous/Inert)		Total Number of Loads:
Total Volume (to Date of Report):		m ³ tonnes