



## Industrial Land Use Map

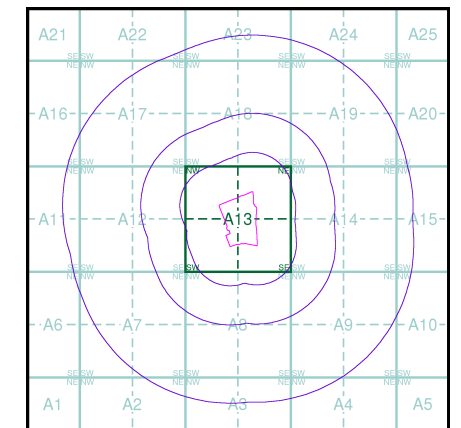
### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

### Industrial Land Use Map - Slice A



### Order Details

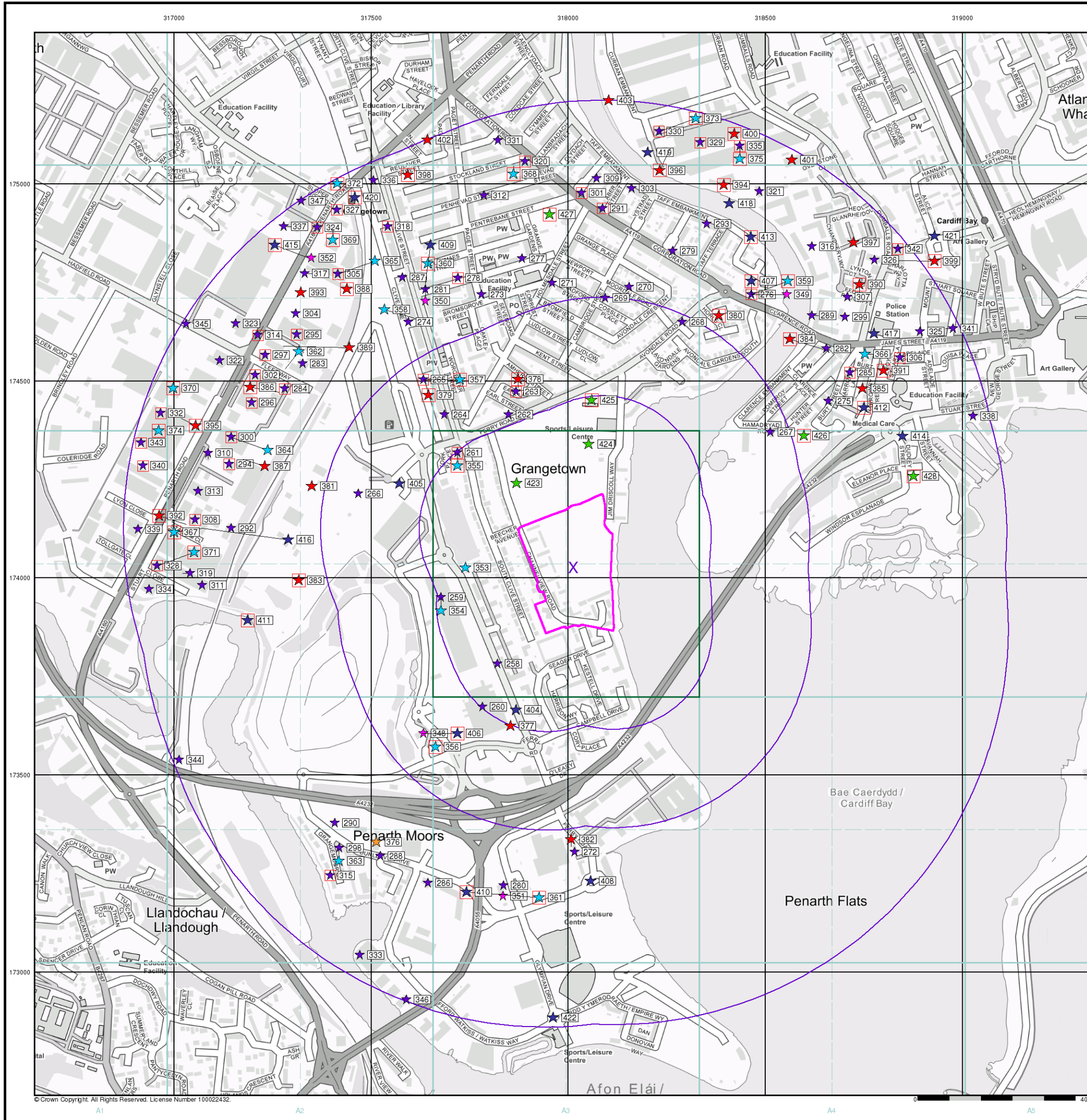
Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

### Site Details

, 125, Channel View Road, Cardiff, CF11 7HX






Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk








© Crown Copyright. All Rights Reserved. License Number 100022432.

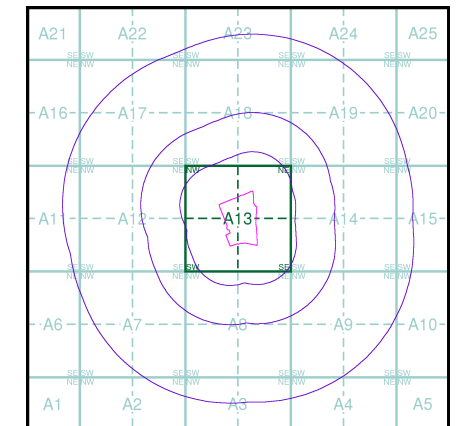
**General**

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

**Agency and Hydrological (Flood)**

-  Extreme Flooding from Rivers or Sea without Defences (Zone 2)
-  Flooding from Rivers or Sea without Defences (Zone 3)
-  Area Benefiting from Flood Defence
-  Flood Water Storage Areas
-  Flood Defence

**Flood Map - Slice A**

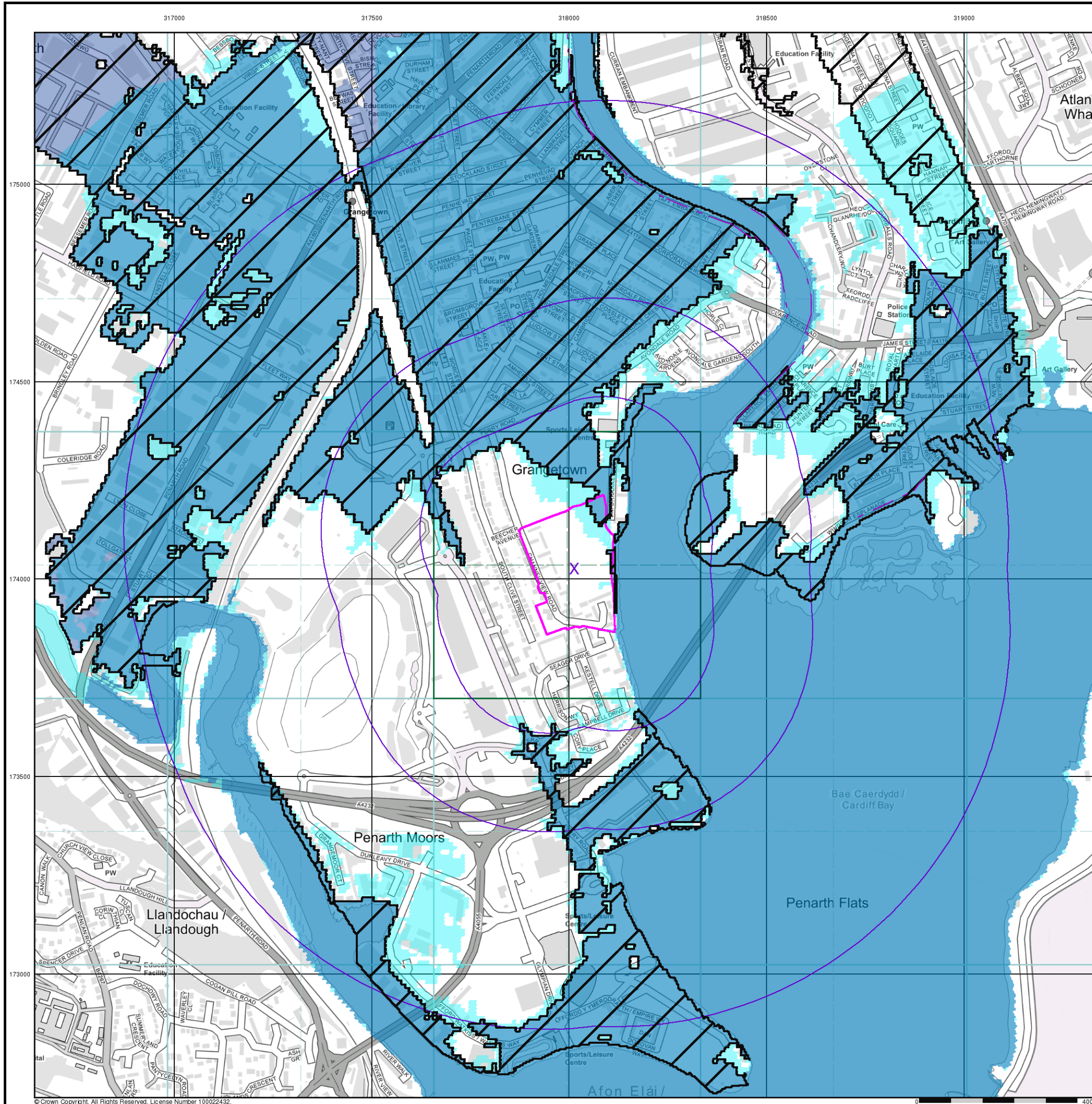


**Order Details**

Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000






**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX








© Crown Copyright. All Rights Reserved. License Number 100022432.

**General**

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Map ID
-  Several of Type at Location

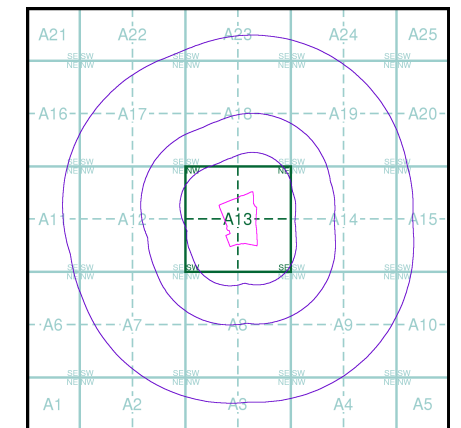
**Agency and Hydrological (Boreholes)**

-  BGS Borehole Depth 0 - 10m
-  BGS Borehole Depth 10 - 30m
-  BGS Borehole Depth 30m +
-  Confidential
-  Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of [www.envirocheck.co.uk](http://www.envirocheck.co.uk).

**Borehole Map - Slice A**

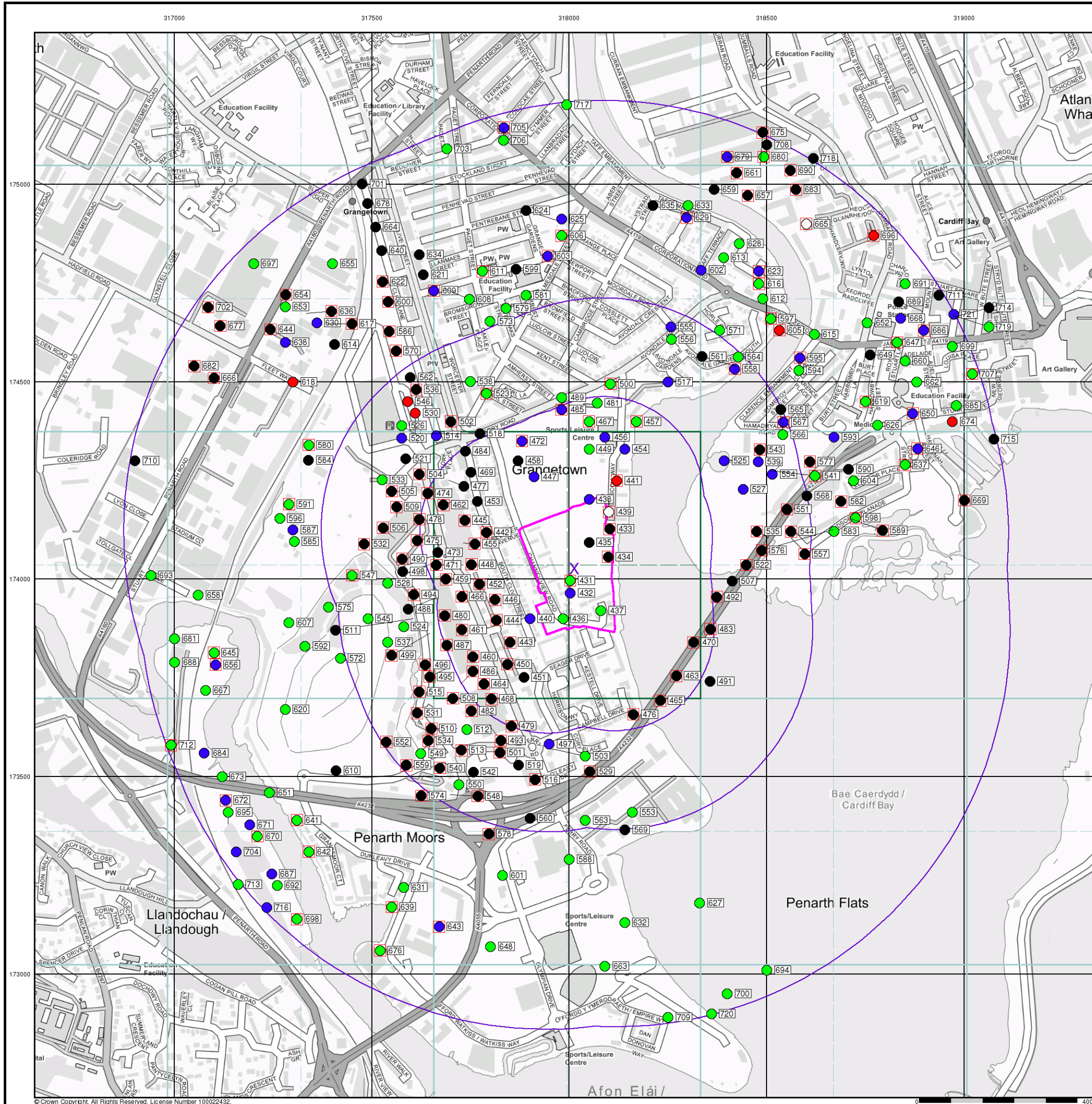


**Order Details**

Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000




**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX














© Crown Copyright. All Rights Reserved. License Number 100022432.






**General**

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

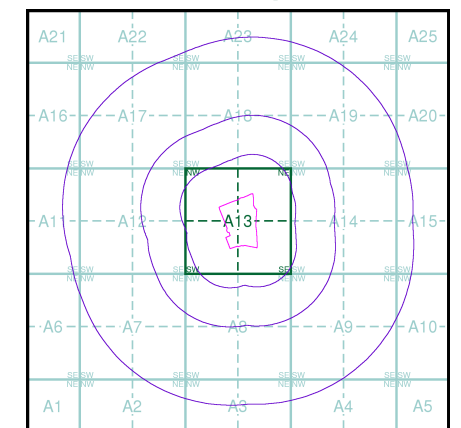
**OS Water Network Data**

- |  |   |
|--|---|
|  Canal        |  Drain                   |
|  Reservoir    |  Other                   |
|  Foreshire    |  Lake                    |
|  Marsh        |  Transfer                |
|  Tidal River  |  Lock Or Flight Of Locks |
|  Inland River |  Sea                     |

**Contours (height in meters)**

- Standard Contour   Mean Low Water
- Master Contour   Mean High Water
- Spot Height  167.3

**OS Water Network Map - Slice A**

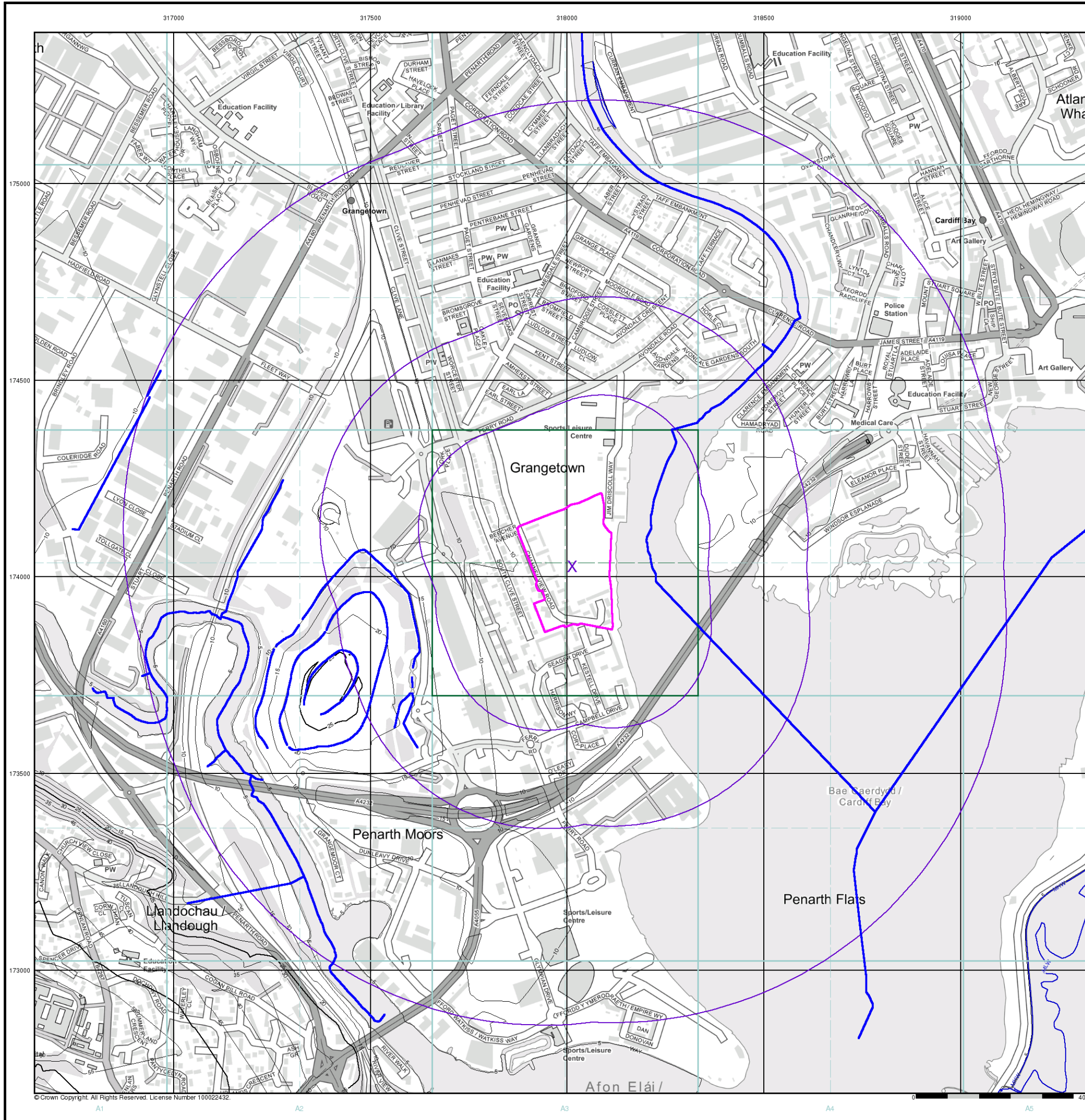


**Order Details**

Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX



© Crown Copyright. All Rights Reserved. License Number 100022432.






**General**

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

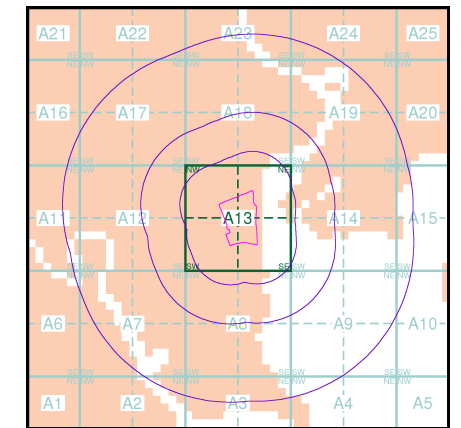
**Risk of Flooding from Surface Water**

-  High - 30 Year Return
-  Medium - 100 Year Return
-  Low - 1000 Year Return

**Suitability**

- See the suitability map below
-  National to county
  -  County to town
  -  Town to street
  -  Street to parcels of land
  -  Property

**EANRW Suitability Map - Slice A**

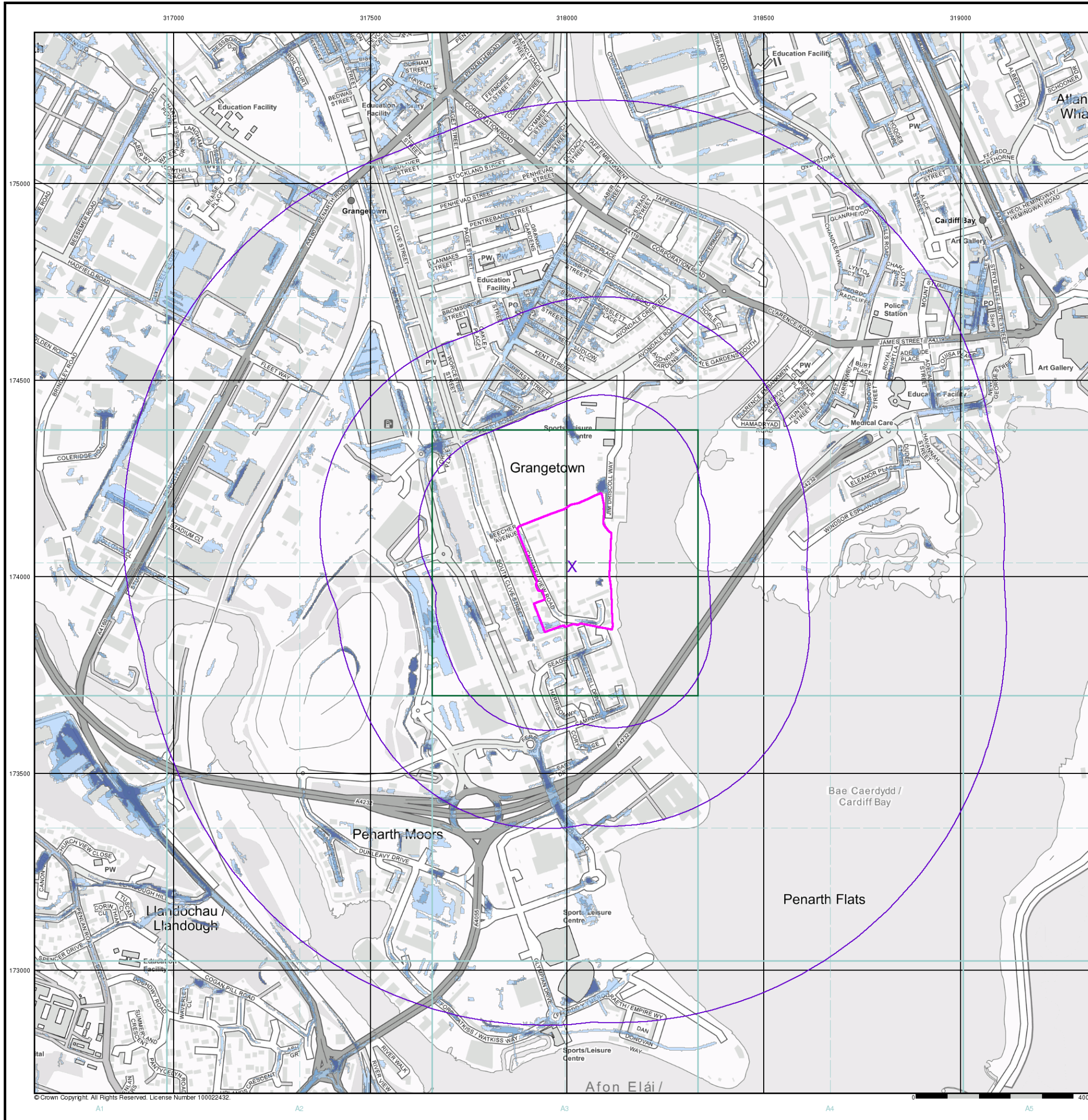


**Order Details**

Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX



© Crown Copyright. All Rights Reserved. License Number 100022432.

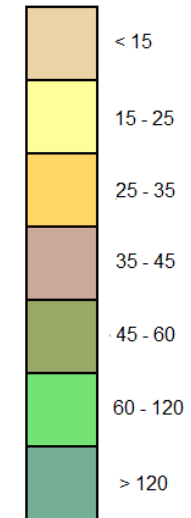
**General**

- ◊ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

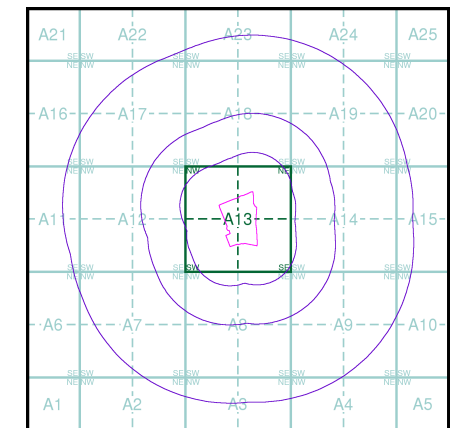
**Urban Soil Chemistry Arsenic**

- BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Arsenic Concentrations mg/kg



**Urban Soil Chemistry Arsenic - Slice A**

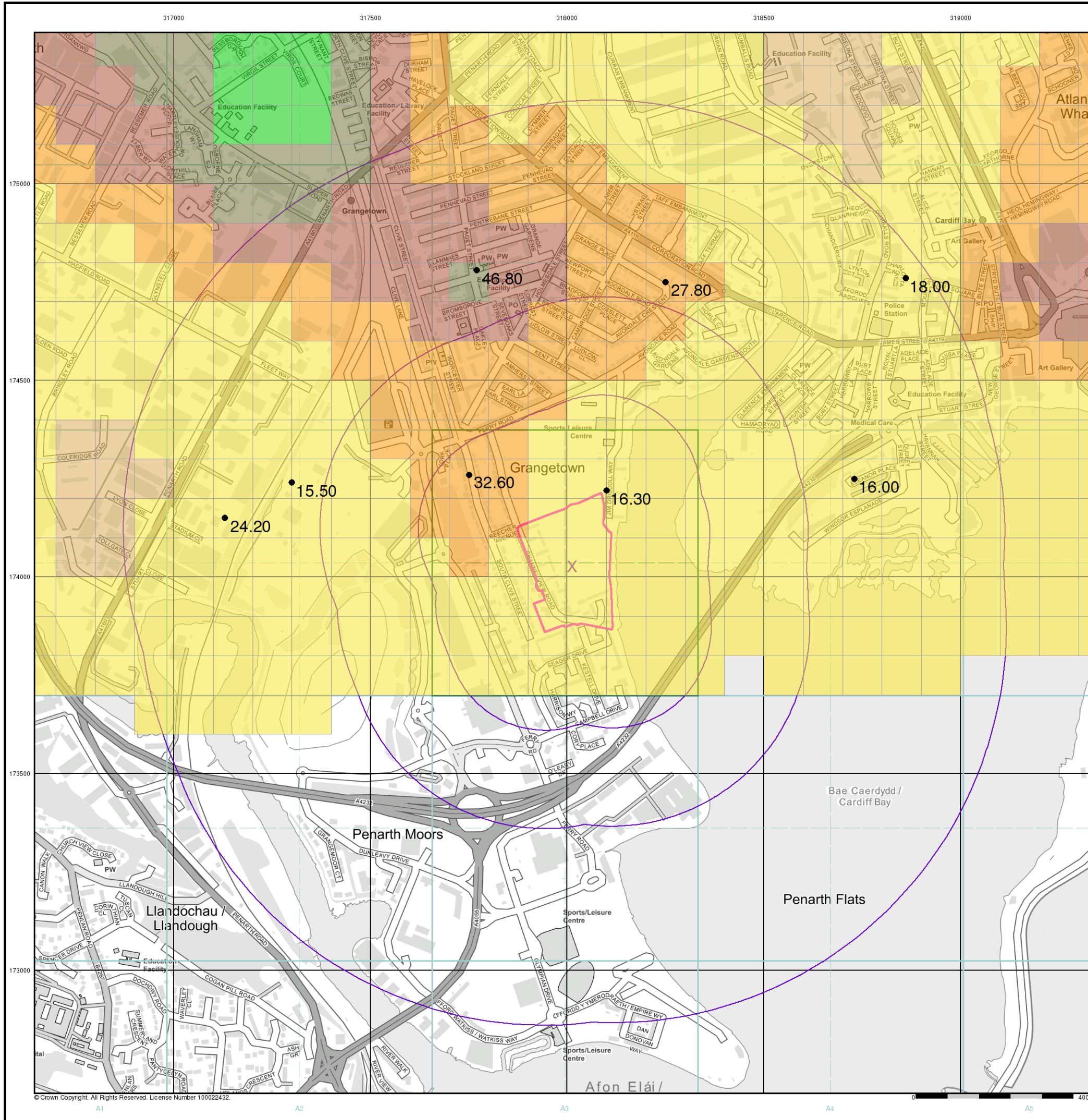


**Order Details**

Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX



317000

317500

318000

318500

319000

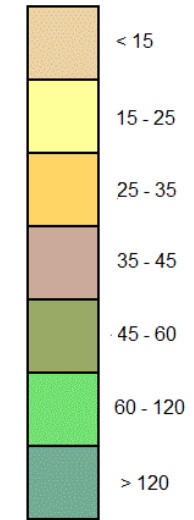


General

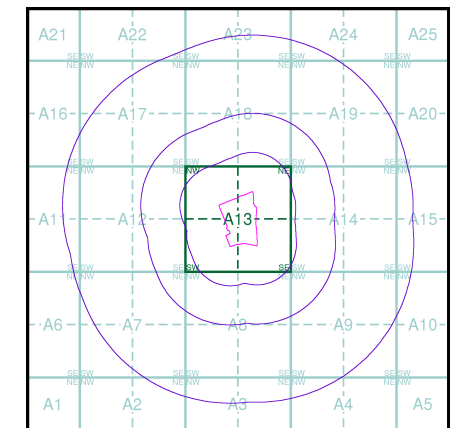
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

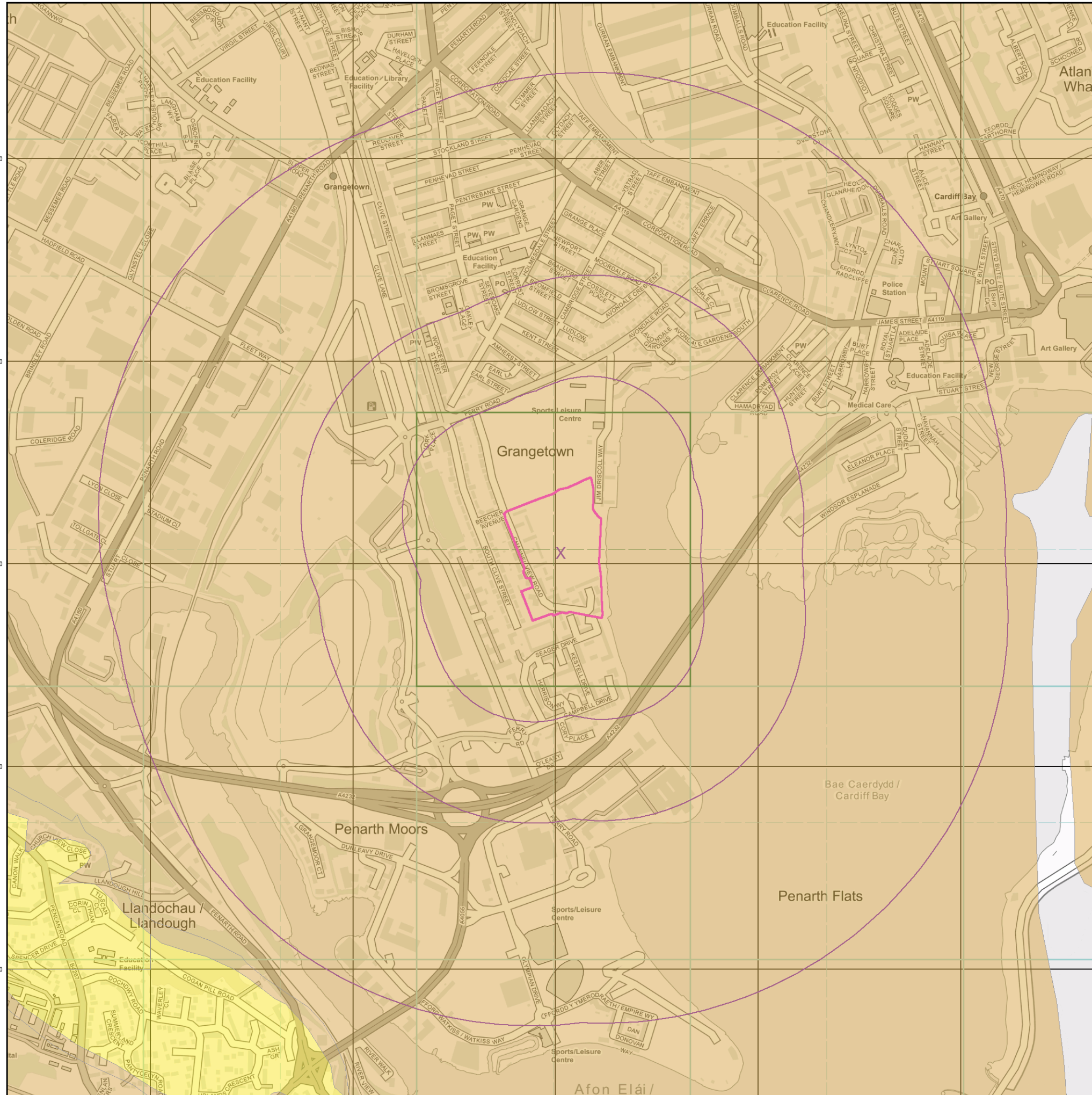
Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



A1

A2

A3

A4

A5

A5

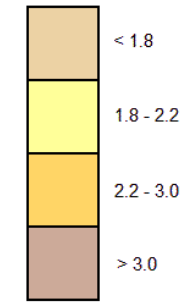
**General**

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

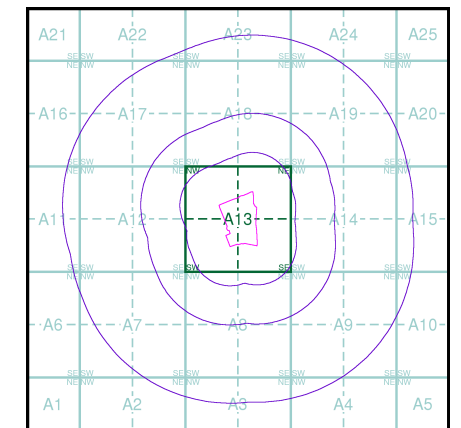
**Urban Soil Chemistry Cadmium**

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Cadmium Concentrations mg/kg



**Urban Soil Chemistry Cadmium - Slice A**

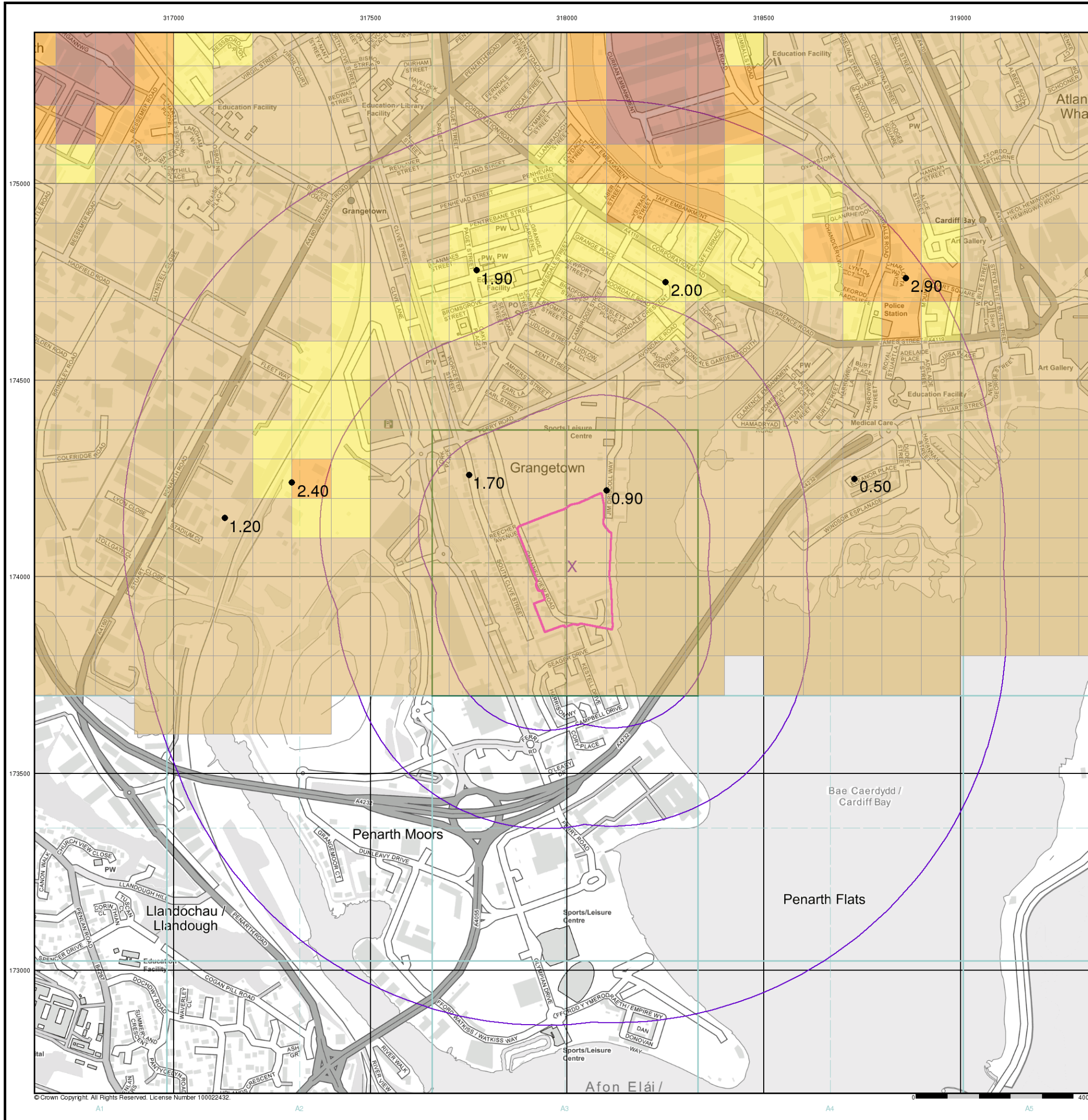


**Order Details**

Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX



© Crown Copyright. All Rights Reserved. License Number 100022432.

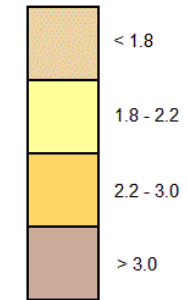


**General**

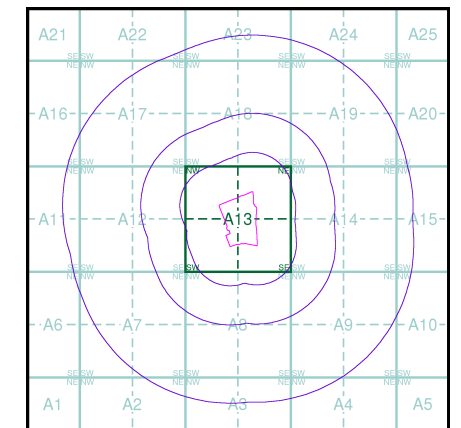
- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

**Estimated Soil Chemistry Cadmium**

Cadmium Concentrations mg/kg



**Estimated Soil Chemistry Cadmium - Slice A**

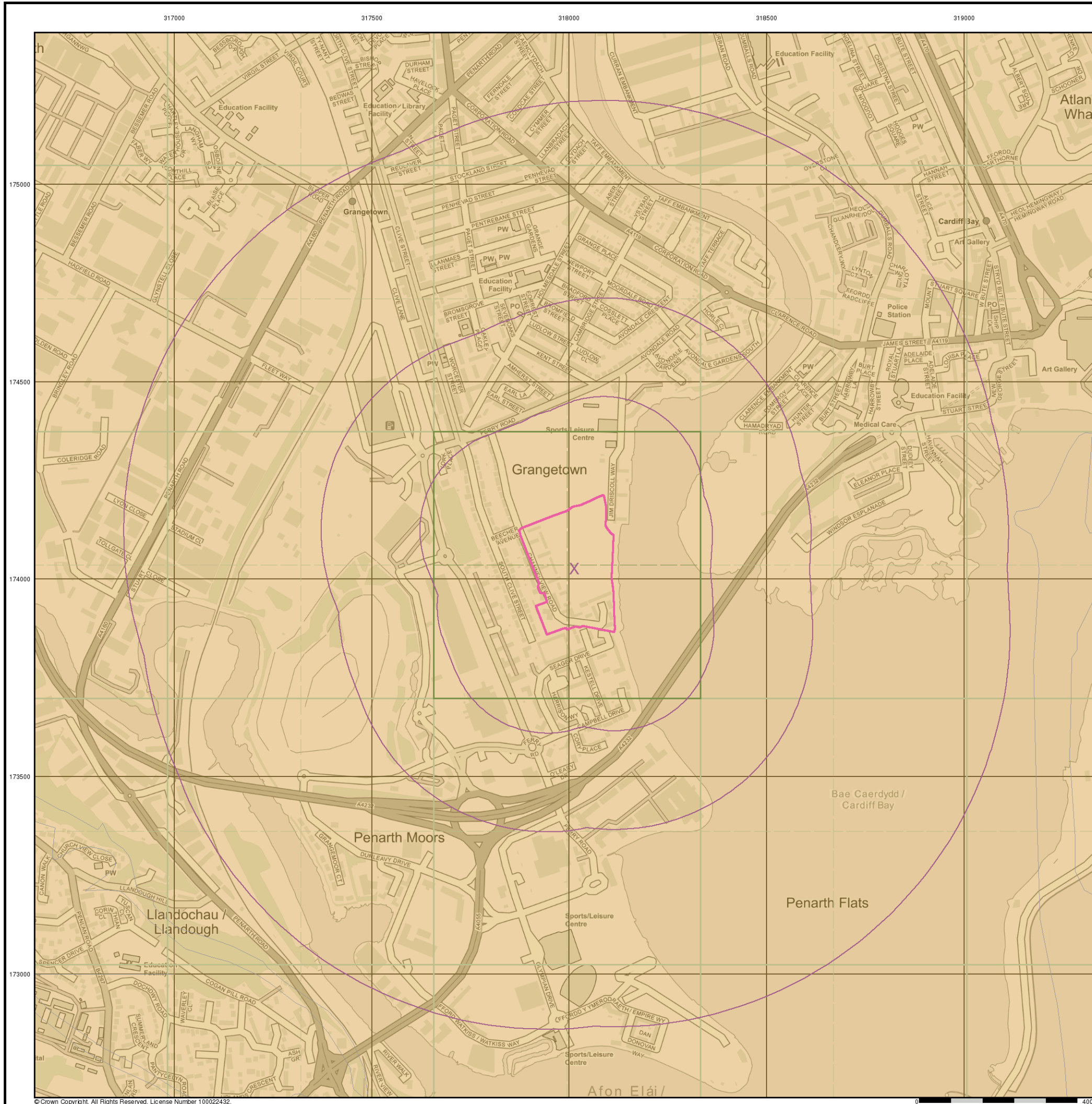


**Order Details**

Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX



© Crown Copyright. All Rights Reserved. License Number 100022432.



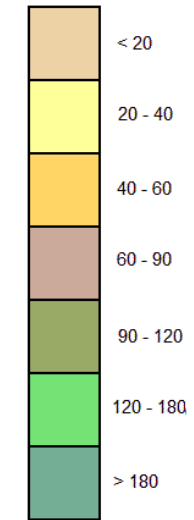
**General**

- ✱ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point

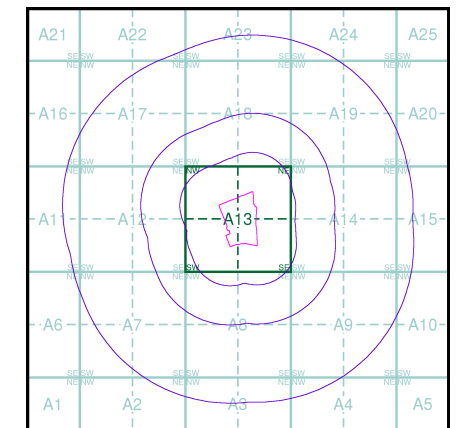
**Urban Soil Chemistry Chromium**

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Chromium Concentrations mg/kg



**Urban Soil Chemistry Chromium - Slice A**



**Order Details**

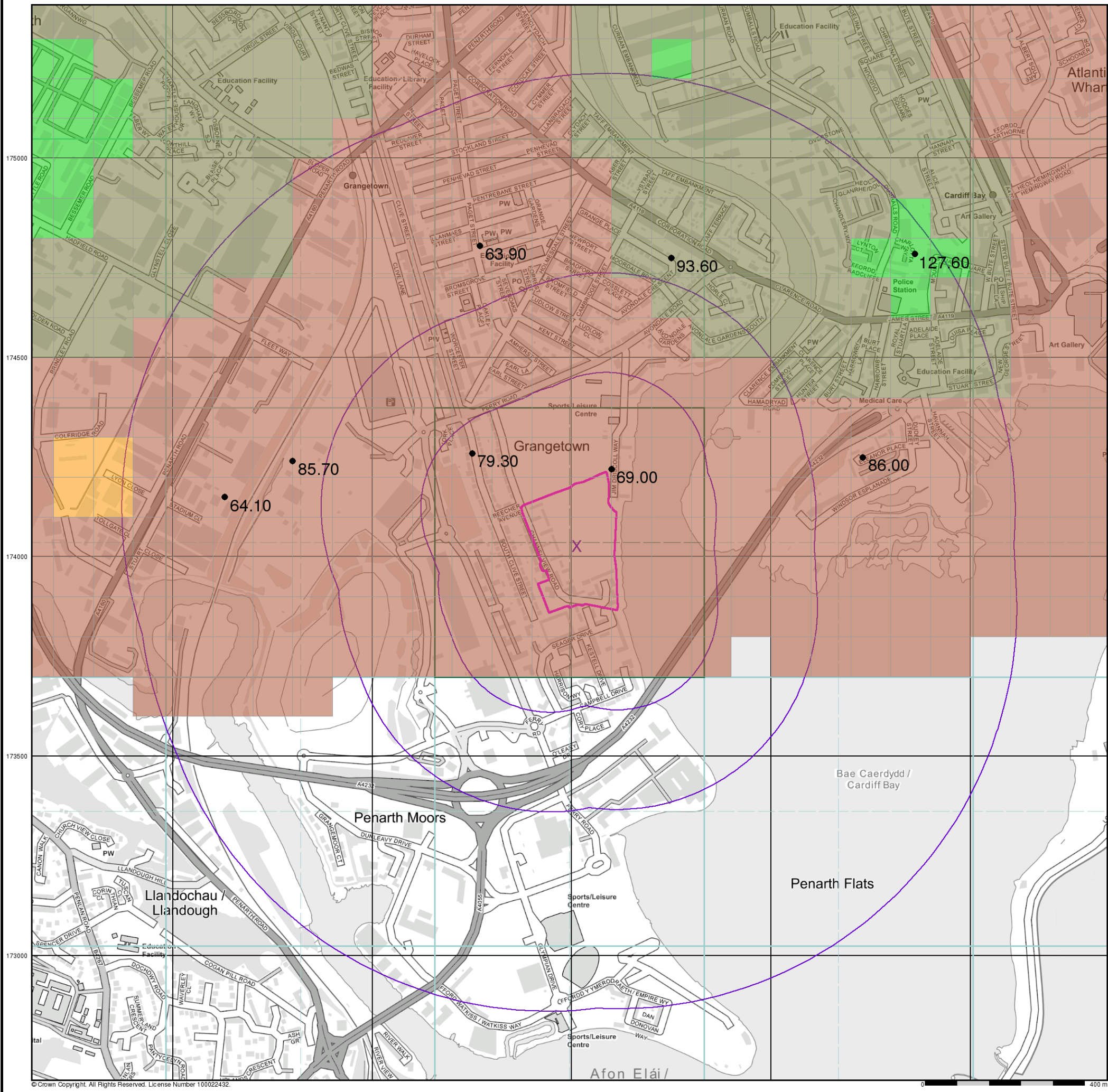
Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

317000

317500

318000

318500

319000

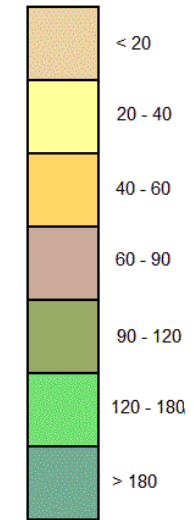


General

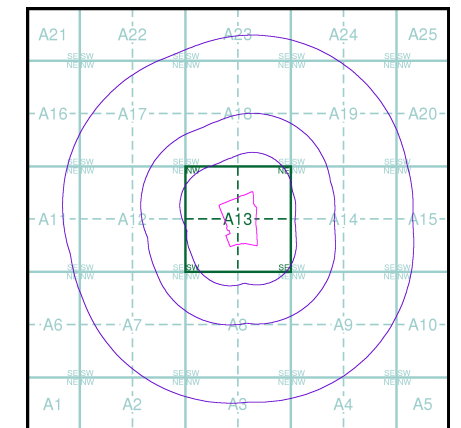
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

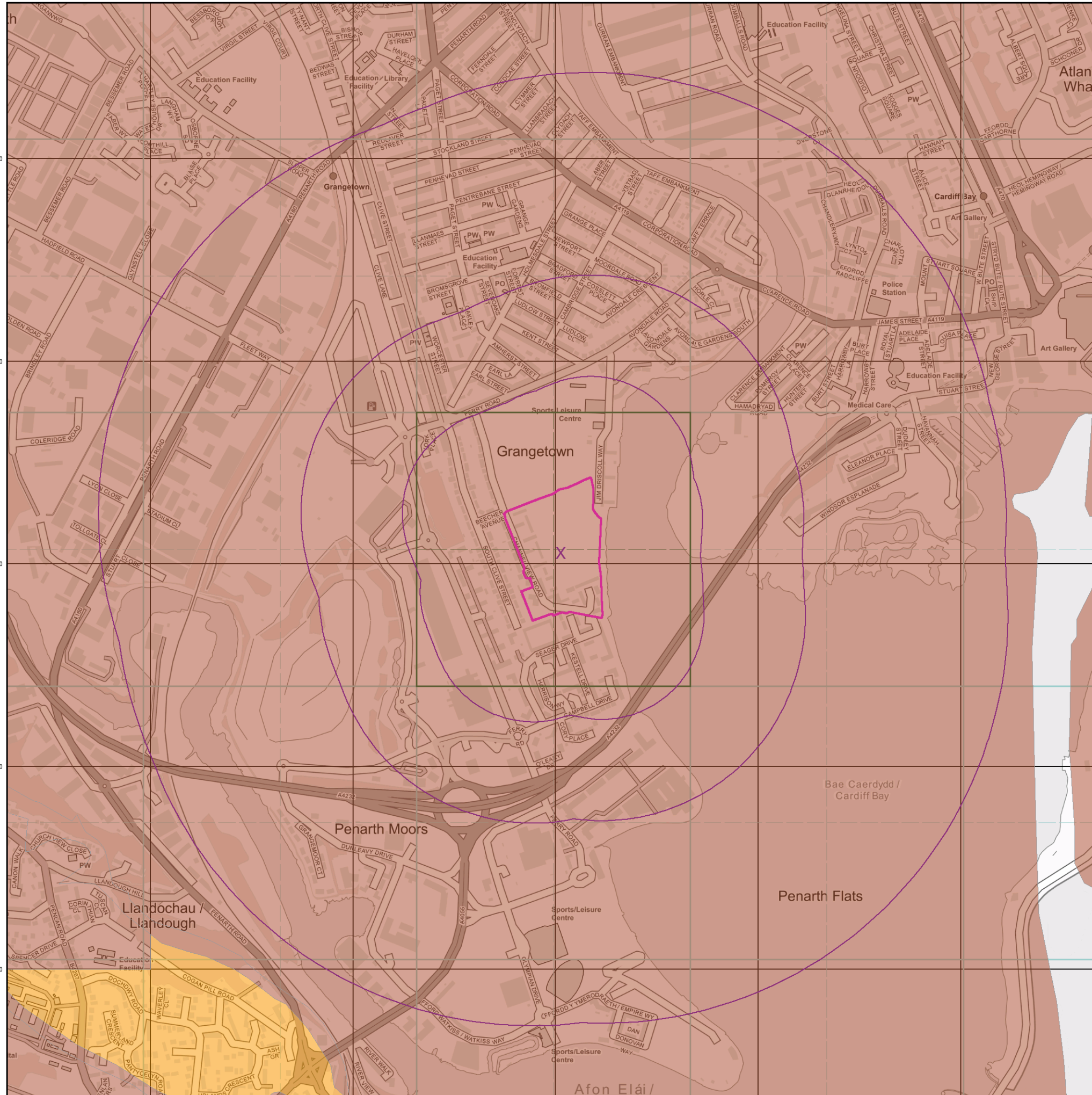
Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



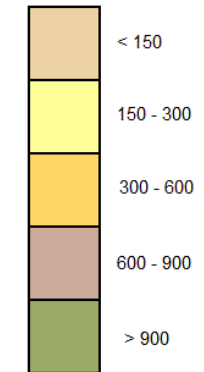
**General**

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

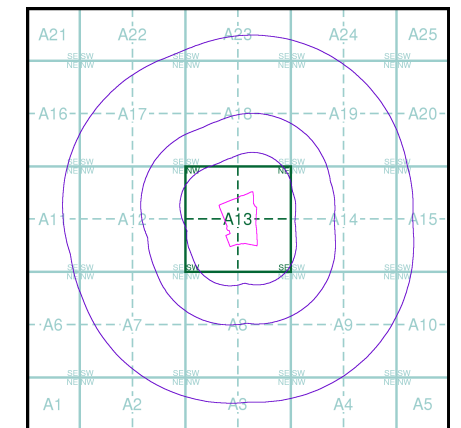
**Urban Soil Chemistry Lead**

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Lead Concentrations mg/kg



**Urban Soil Chemistry Lead - Slice A**

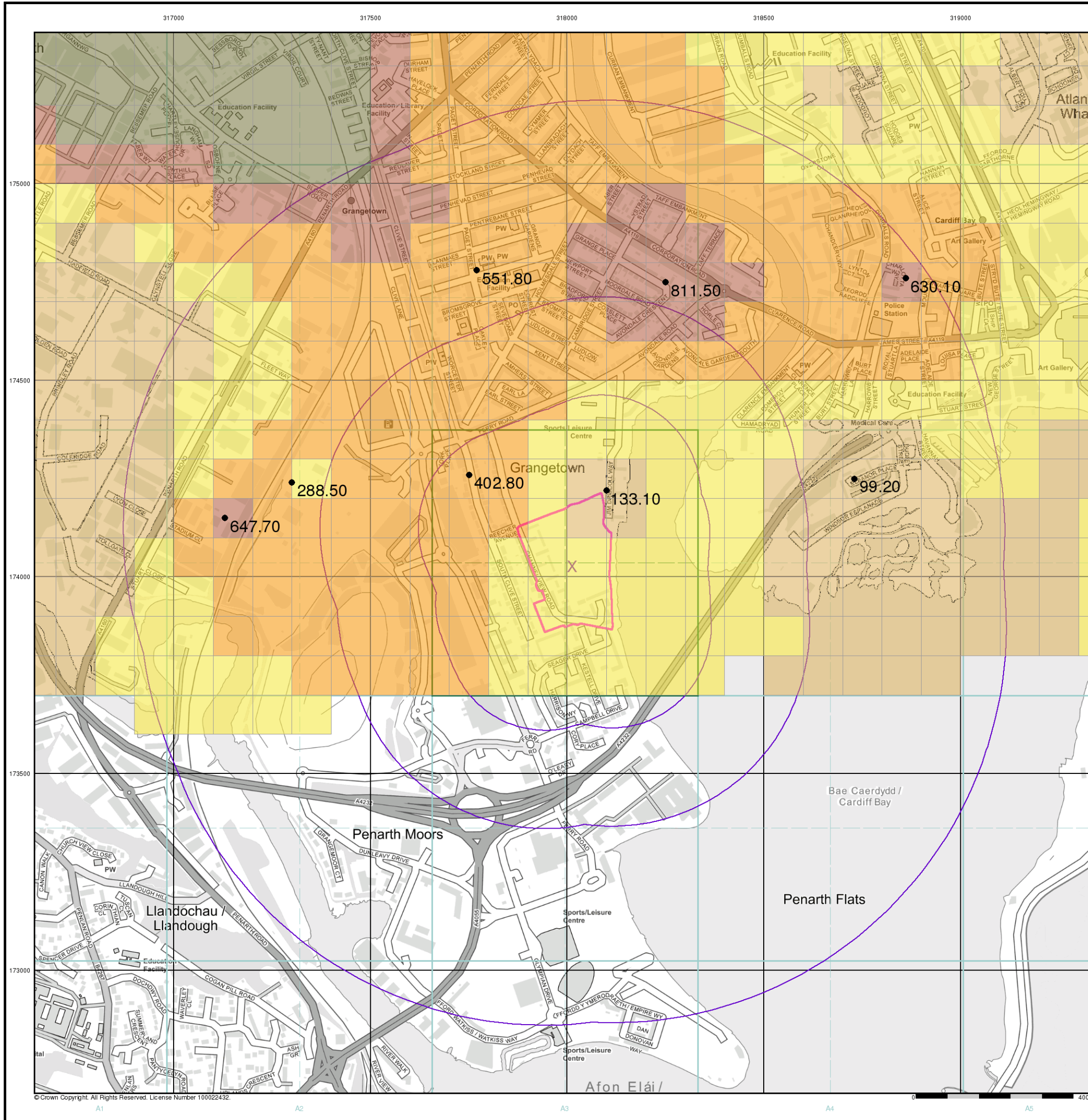


**Order Details**


Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX

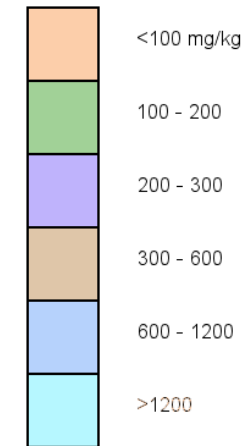


**General**

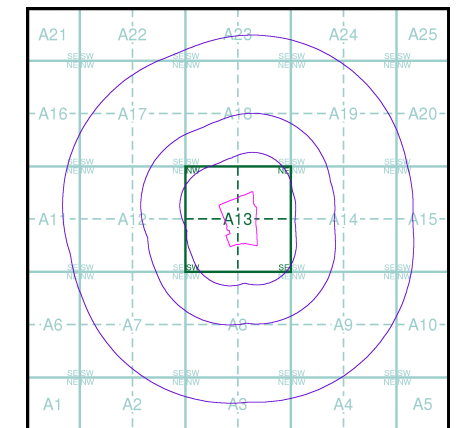
-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

**Estimated Soil Chemistry Lead**

Lead Concentrations mg/kg



**Estimated Soil Chemistry Lead - Slice A**

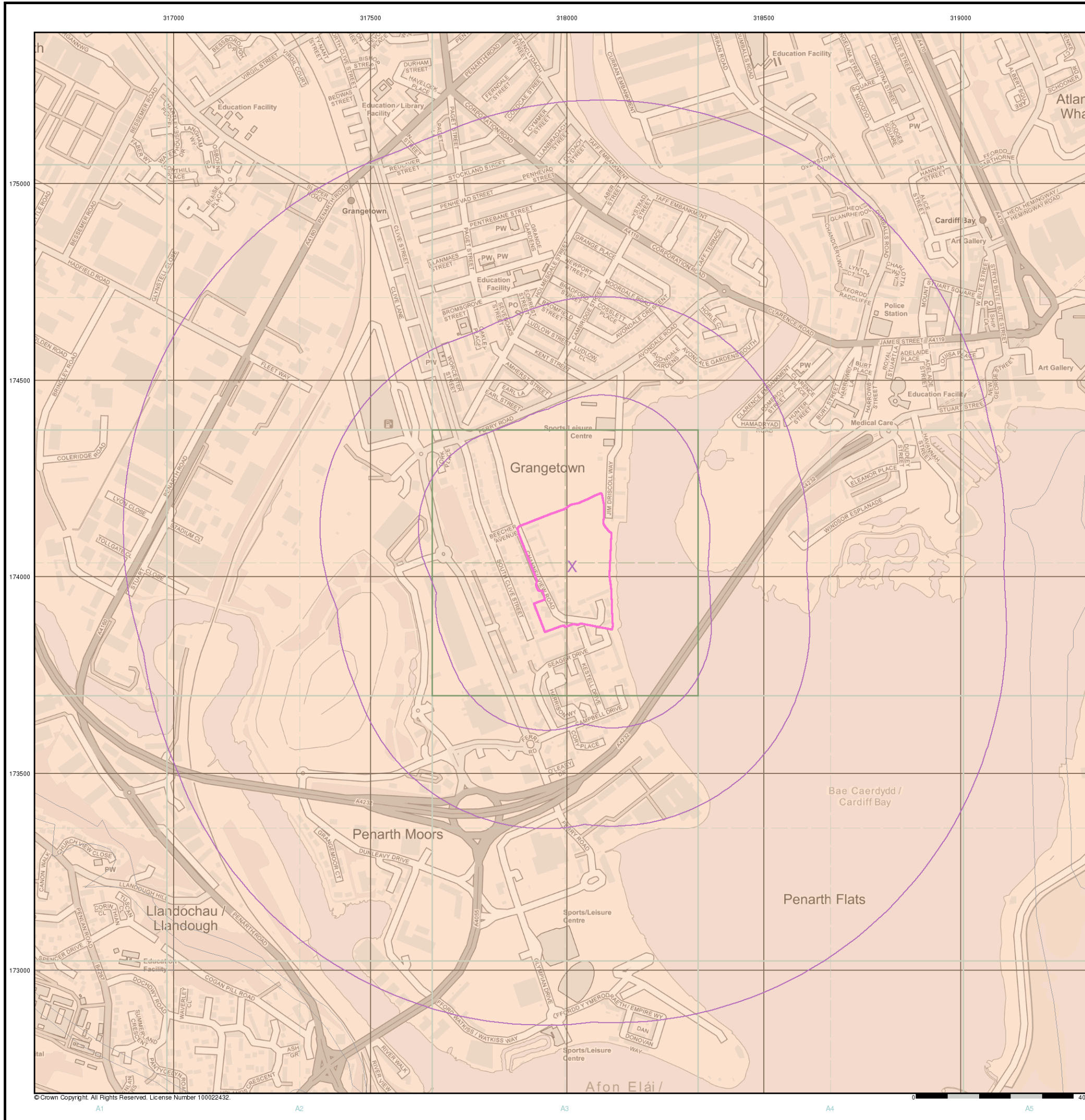


**Order Details**

Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

**Site Details**

, 125, Channel View Road, Cardiff, CF11 7HX



317000

317500

318000

318500

319000



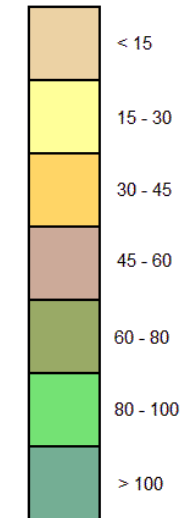
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

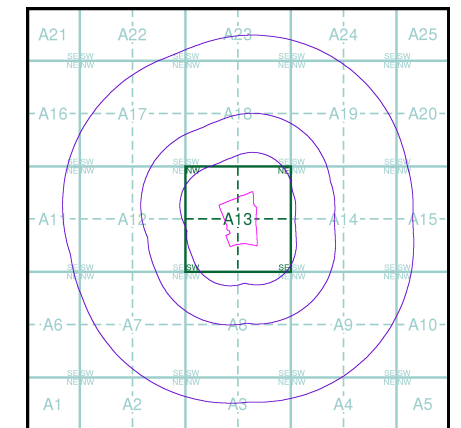
Urban Soil Chemistry Nickel

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A



Order Details

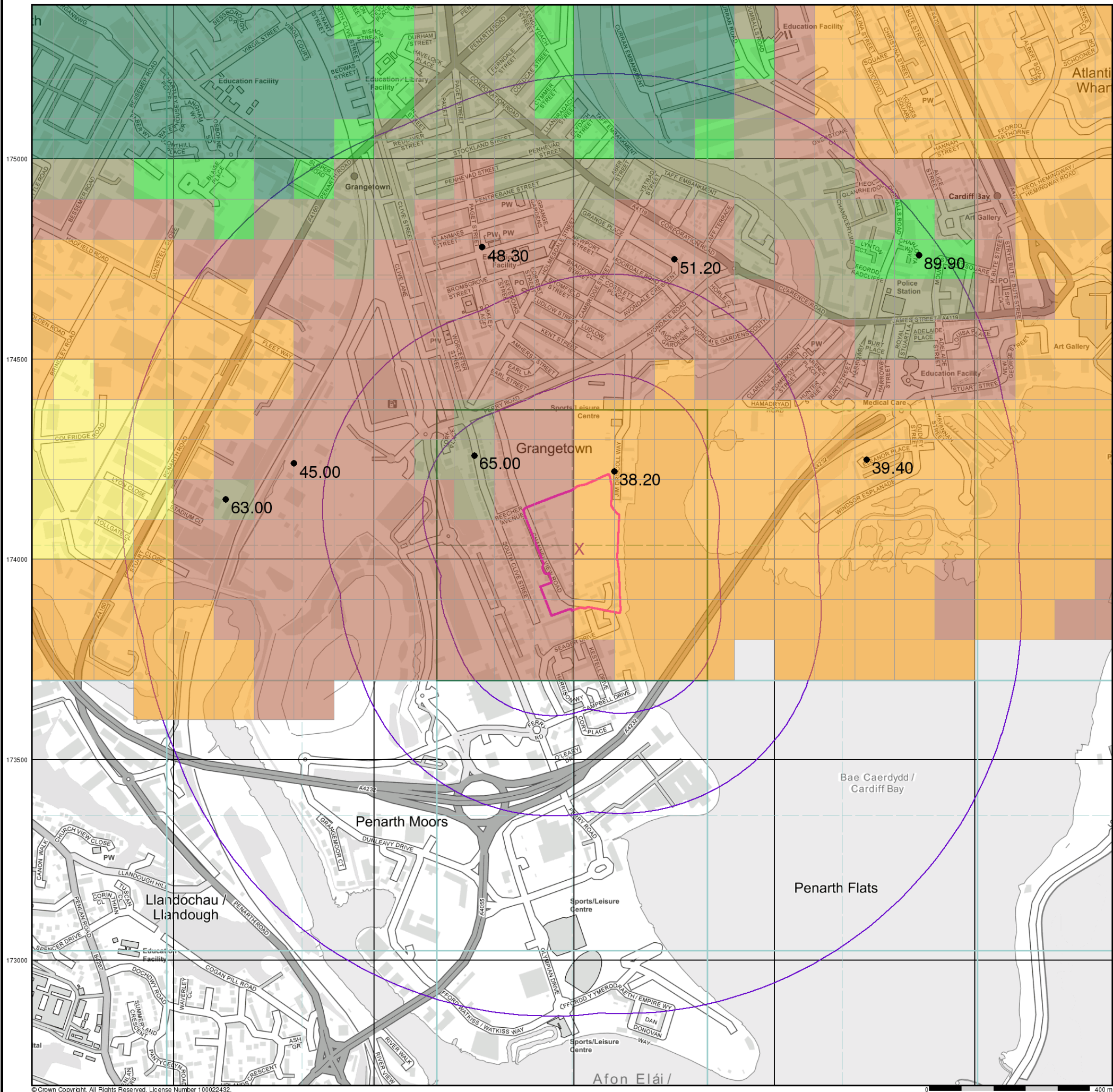
Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

317000

317500

318000

318500

319000

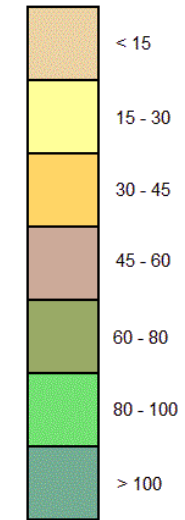


General

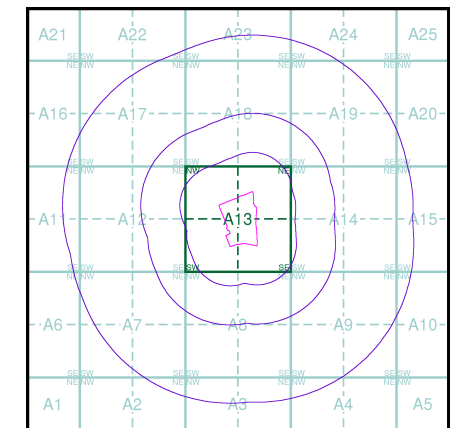
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

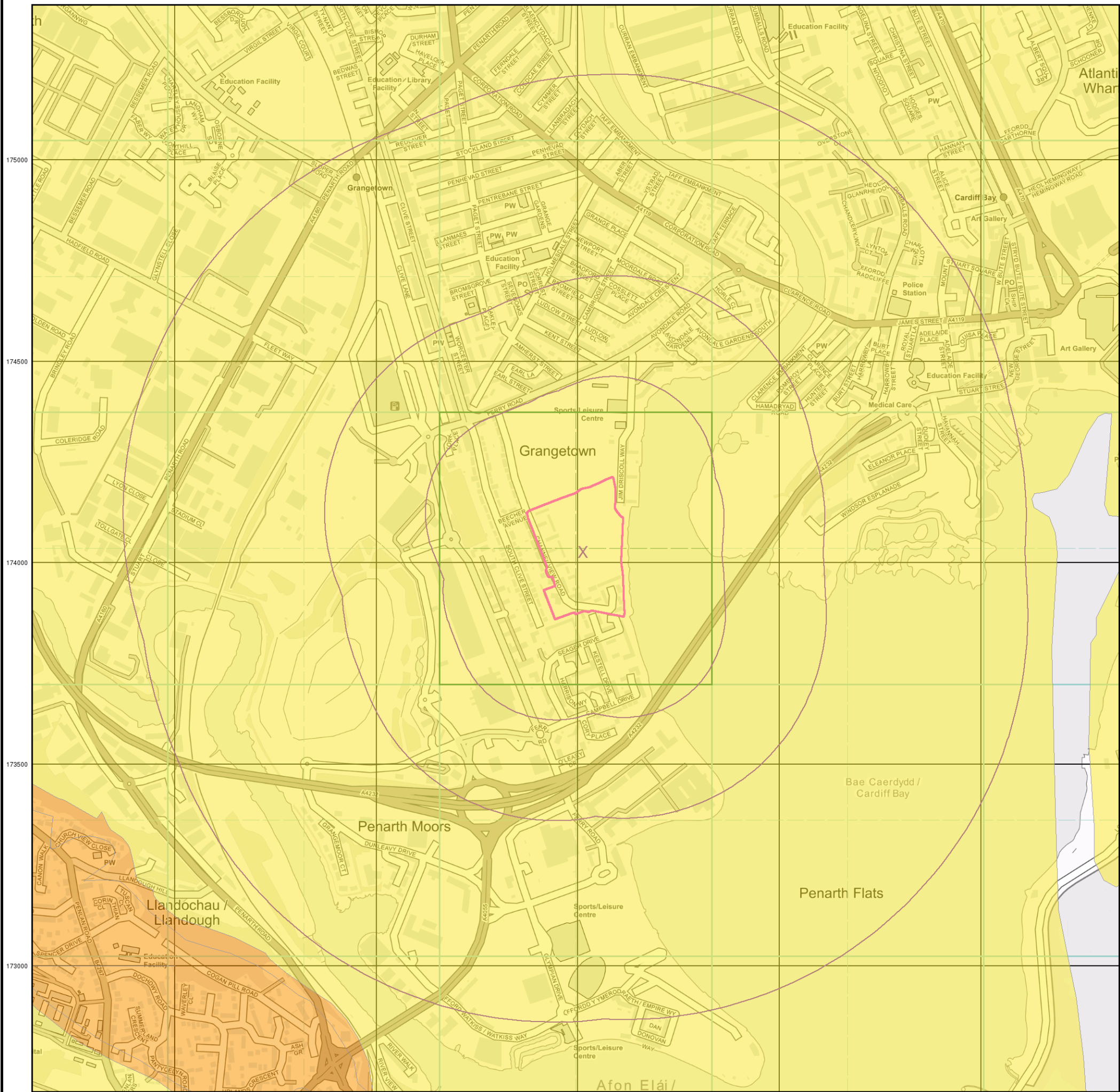
Order Details: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search buffer (m): 1000

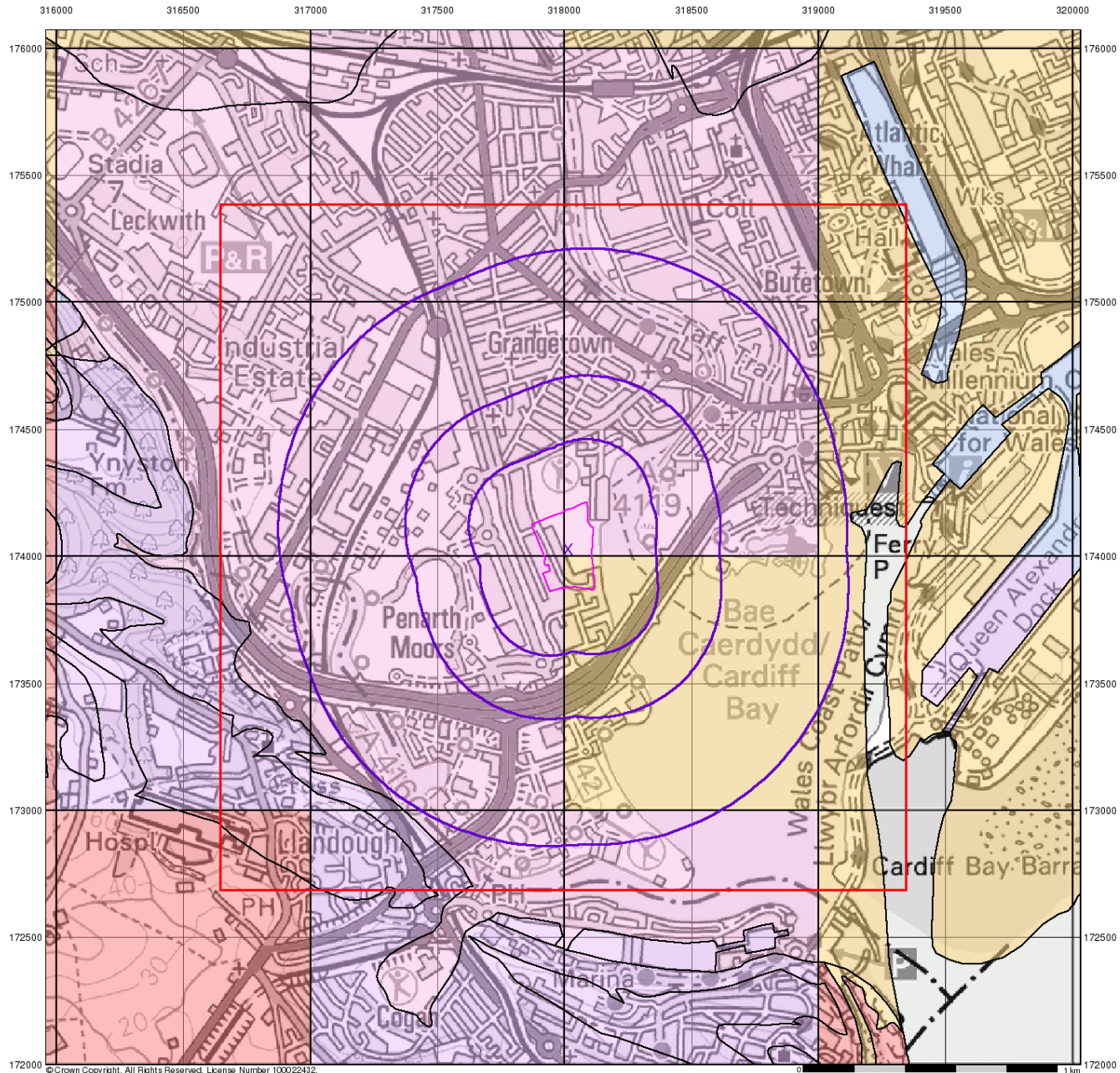
Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk





## Groundwater Vulnerability

### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

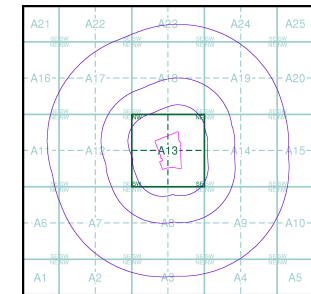
#### Bedrock Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer
- Unproductive Aquifer
- Soluble Rock

#### Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

### Site Sensitivity Context Map - Slice A



### Order Details

Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

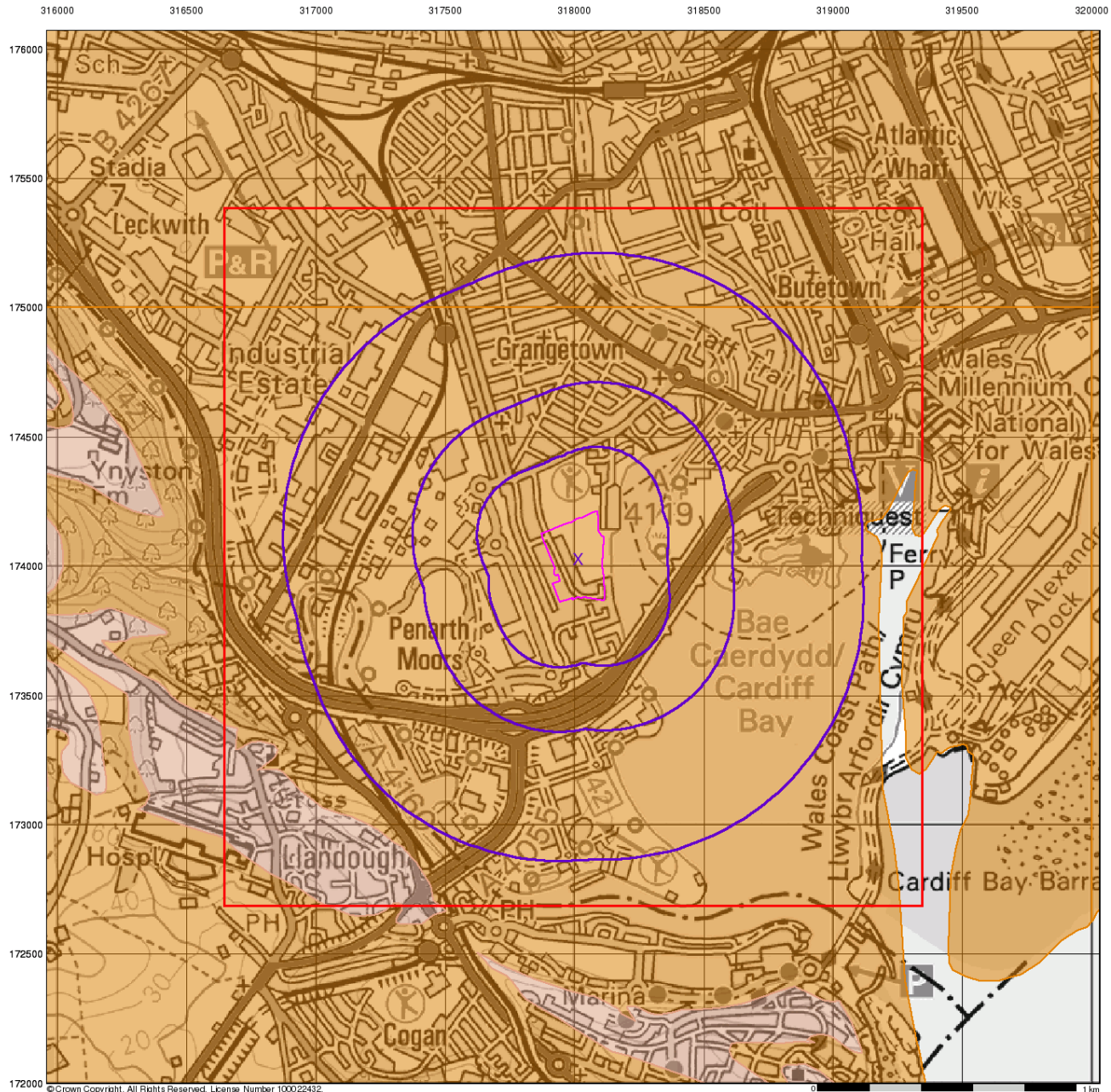
### Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk





© Crown Copyright. All Rights Reserved. License Number 100022432.



## Bedrock Aquifer Designation

### General

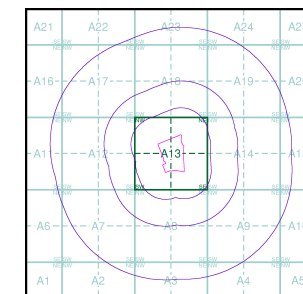
- ◊ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

#### Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

### Site Sensitivity Context Map - Slice A



### Order Details

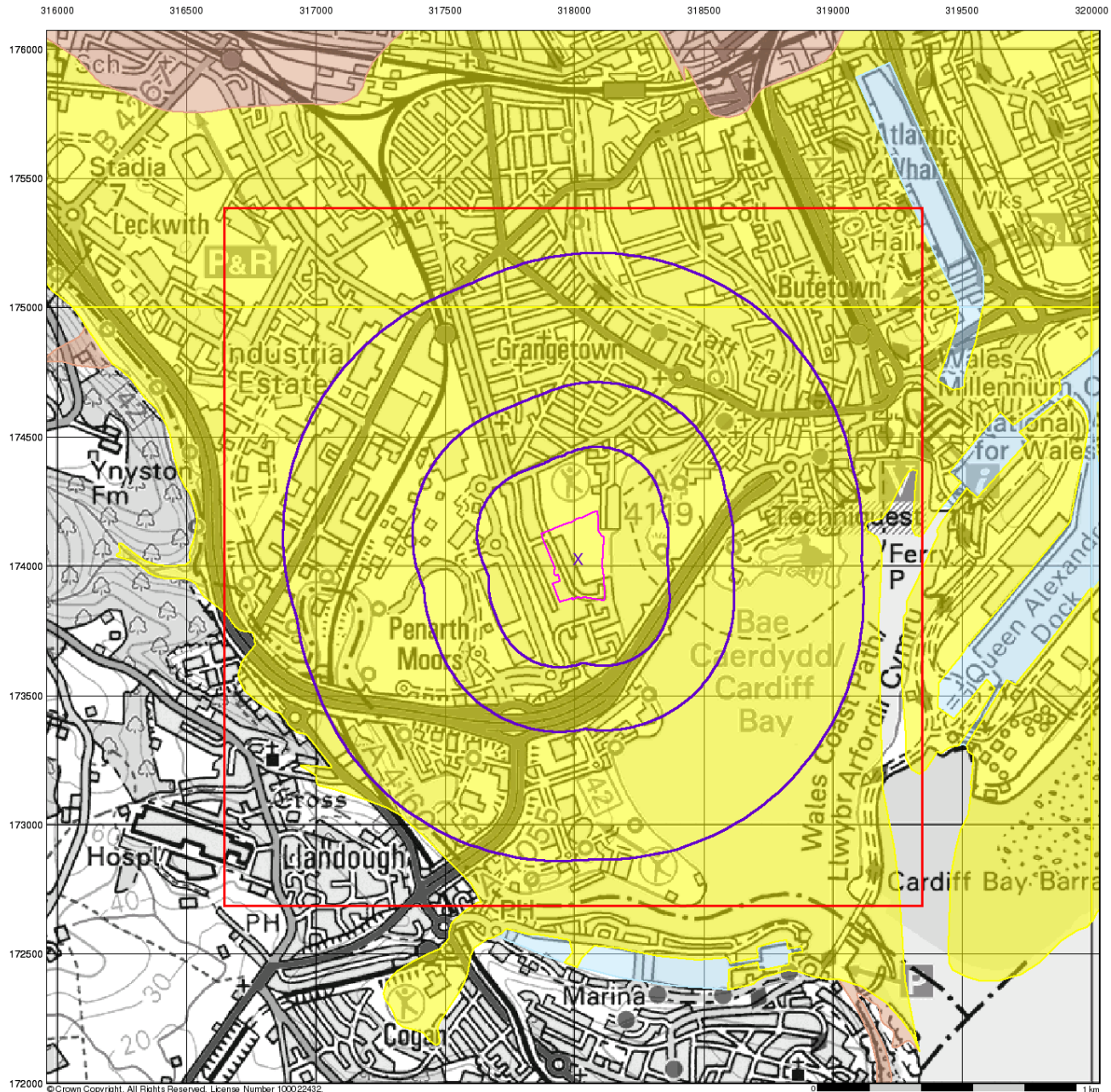
Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

### Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432



## Superficial Aquifer Designation

### General

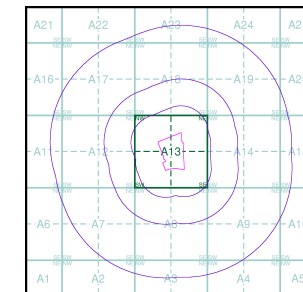
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

#### Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

### Site Sensitivity Context Map - Slice A



### Order Details

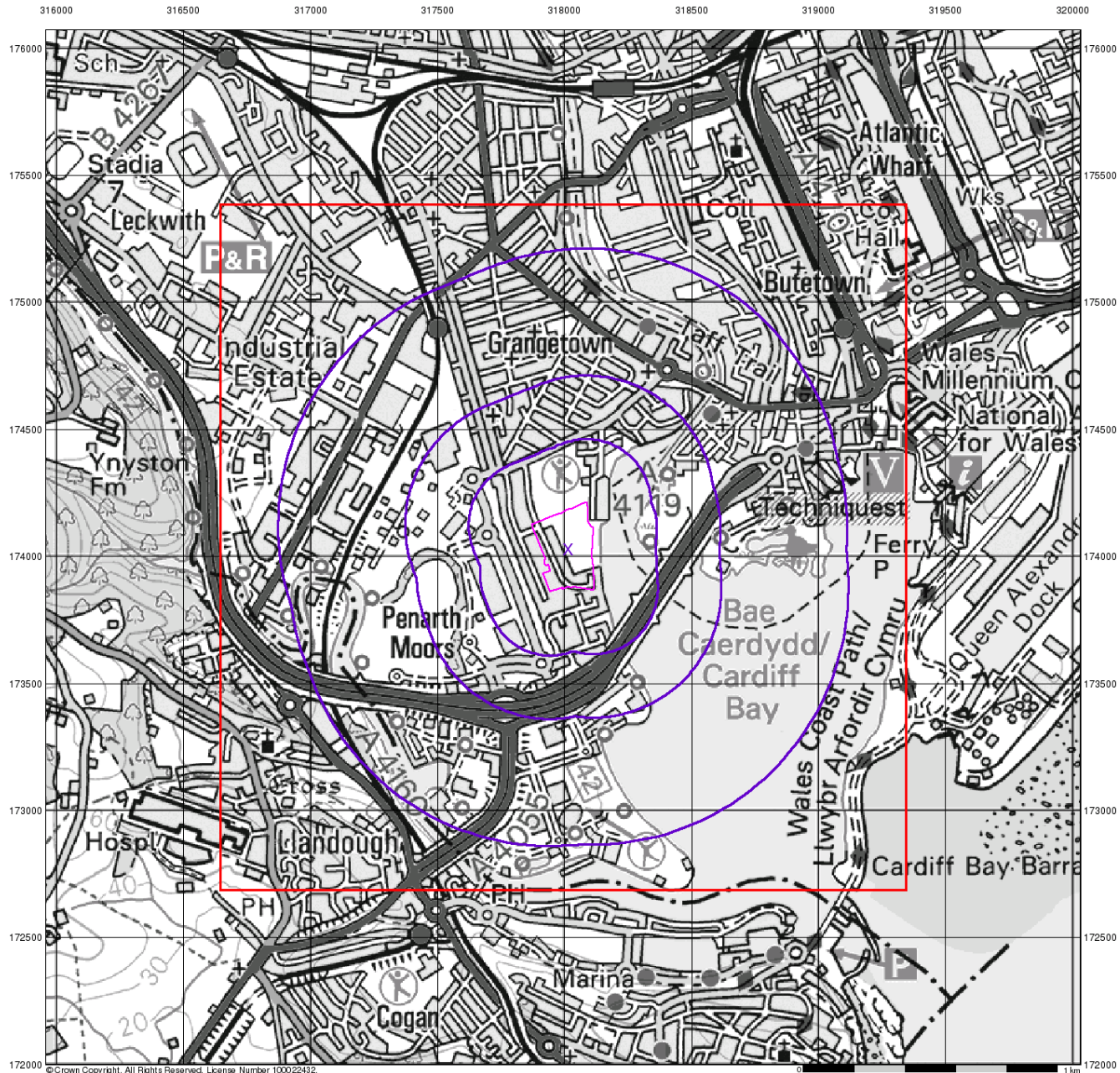
Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

### Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432



## Source Protection Zones

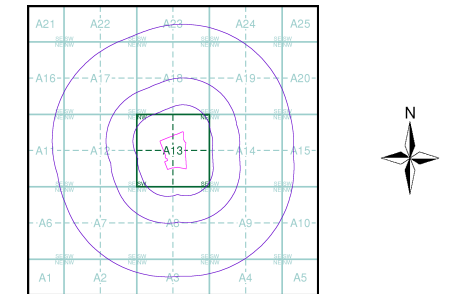
### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

### Site Sensitivity Context Map - Slice A



### Order Details

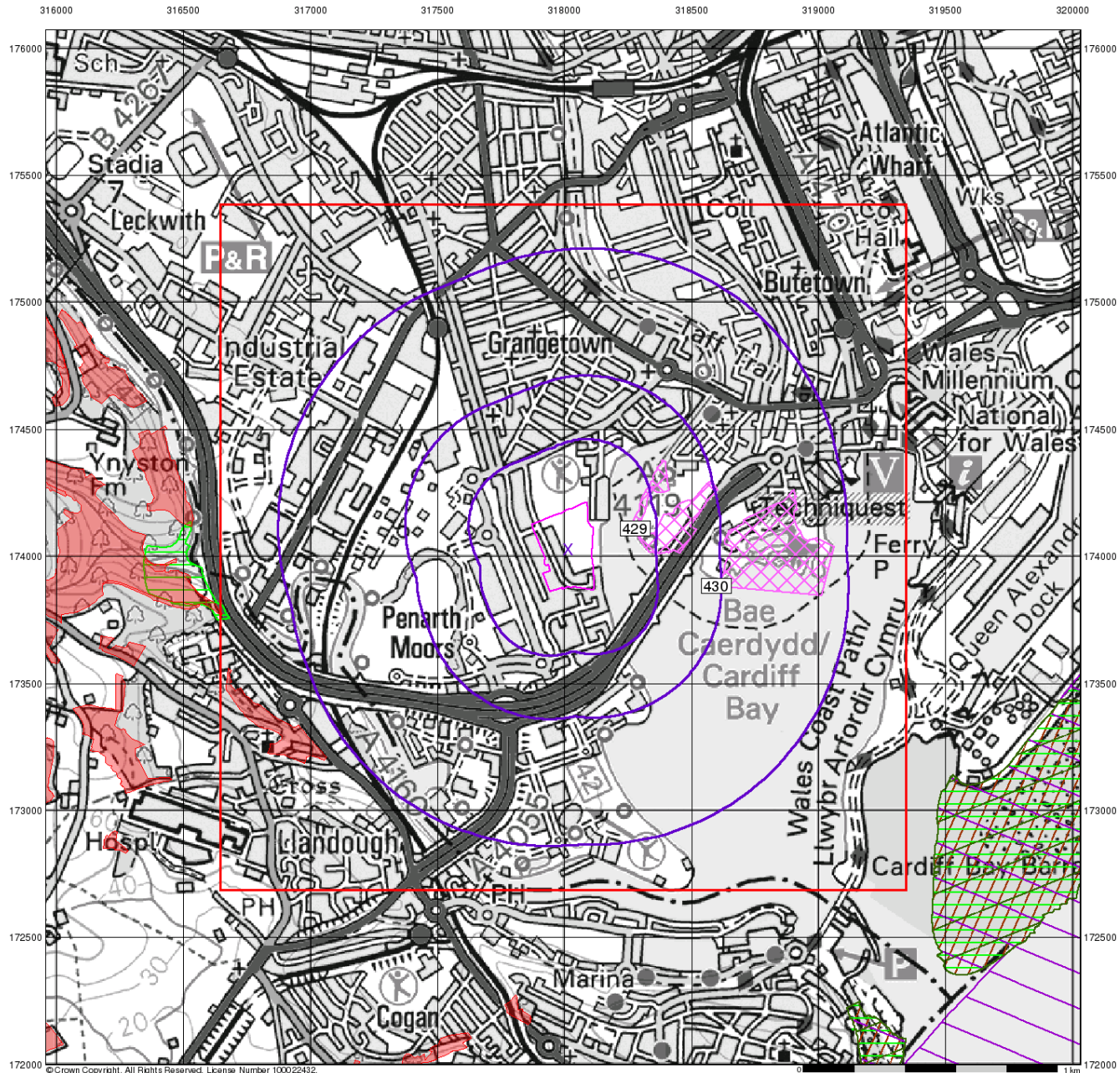
Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

### Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



## Sensitive Land Uses

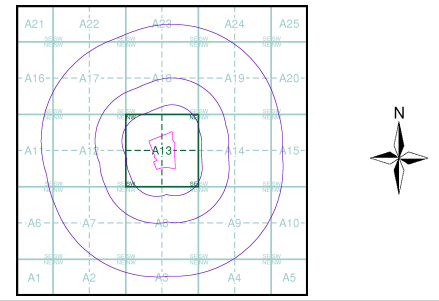
### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Sensitive Land Uses

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| Ancient Woodland                   | National Park                       |
| Area of Adopted Green Belt         | Nitrate Sensitive Area              |
| Area of Unadopted Green Belt       | Nitrate Vulnerable Zone             |
| Area of Outstanding Natural Beauty | Ramsar Site                         |
| Environmentally Sensitive Area     | Site of Special Scientific Interest |
| Forest Park                        | Special Area of Conservation        |
| Local Nature Reserve               | Special Protection Area             |
| Marine Nature Reserve              | World Heritage Sites                |
| National Nature Reserve            |                                     |

### Site Sensitivity Context Map - Slice A



### Order Details

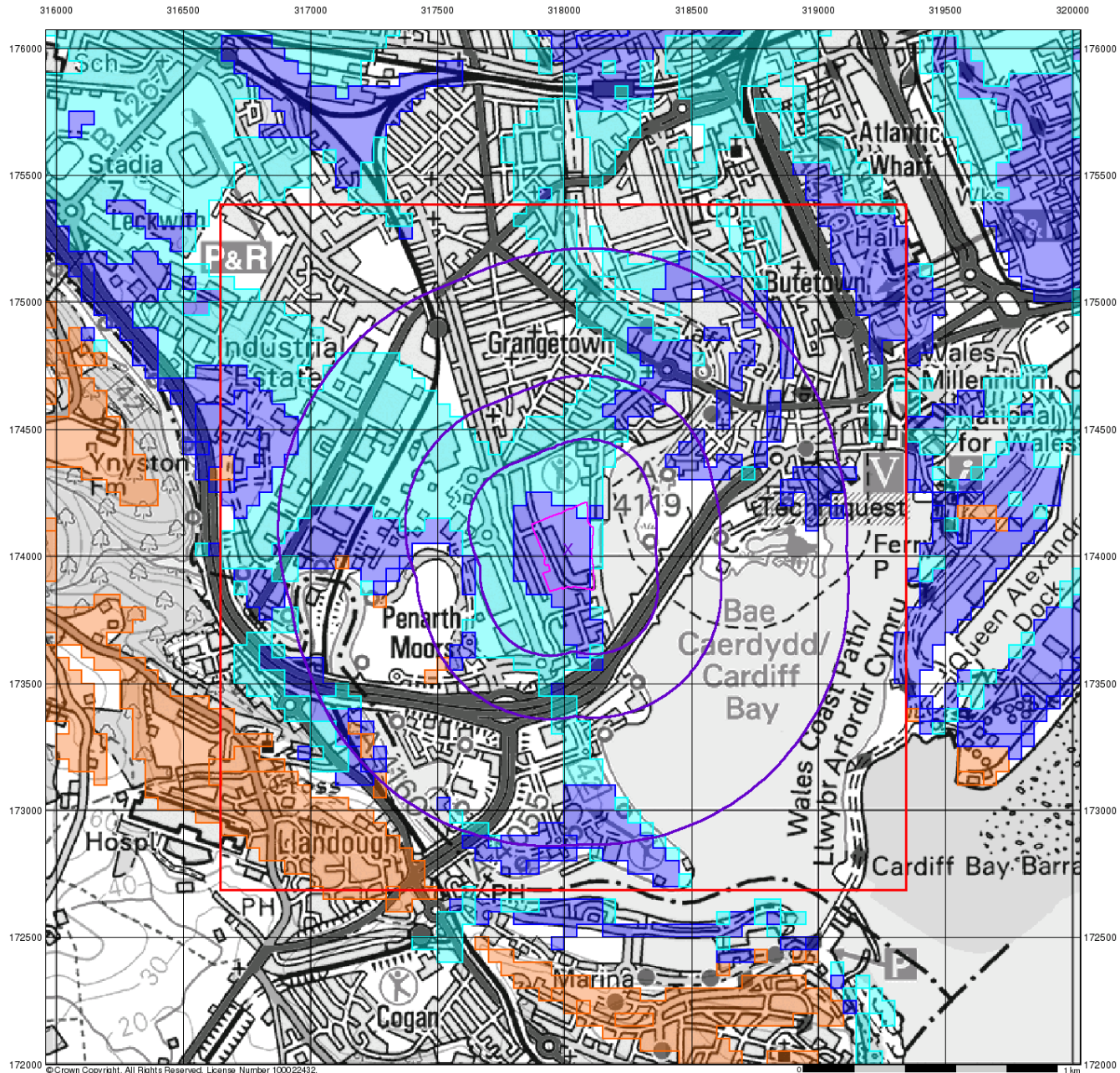
Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

### Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432



### BGS Flood GFS Data

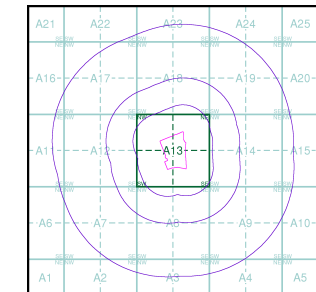
#### General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

#### Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

#### Site Sensitivity Context Map - Slice A



#### Order Details

Order Number: 240915480\_1\_1  
 Customer Ref: 16017 Channel View  
 National Grid Reference: 318010, 174030  
 Slice: A  
 Site Area (Ha): 6.01  
 Search Buffer (m): 1000

#### Site Details

, 125, Channel View Road, Cardiff, CF11 7HX



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk

**ANNEX B**  
**Risk Assessment Definitions**

## Risk Assessment Definitions

The contaminated land regime is set out in Part IIA of the Environmental Protection Act (EPA) 1990 and was introduced on the 1<sup>st</sup> April 2000 in England and 1<sup>st</sup> July 2001 in Wales. A similar regime was introduced in Scotland on 14<sup>th</sup> July 2000.

Part IIA was introduced to achieve two aims:

- (1) The identification of contaminated land
- (2) The remediation of contaminated land that poses an unacceptable risk to human health and/or the environment

Under Part IIA the statutory definition of 'contaminated land' is:

"any land which appears to the local authority in whose area it is situated, to be in such a condition, by reason of substances in, on, or under the land, that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) Pollution of controlled waters is being, or is likely to be, caused."

For land to be classified as 'Contaminated Land' there must be a '**pollutant linkage**'. A pollutant linkage requires three essential elements:

- (1) A **CONTAMINANT** (hazard) - a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters
- (2) A **RECEPTOR** (target) - something which could be adversely affected by a contaminant
- (3) A **PATHWAY** - a route or means which either allows the contaminant to cause significant harm to that receptor, or that there is a significant possibility of such harm being caused to the receptor, or that pollution of controlled waters is being or likely to be caused.

The term 'Risk' is widely used in different contexts and situations, but a prescriptive definition is given by the Guidelines for Environmental Risk Assessment and Management (DEFRA *et al*, 2000):

*'Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence'.*

A 'Hazard' is defined as '*a property or situation that in particular circumstances could lead to harm*'.

The classification of consequences and probability and determining the risk category are defined in the following sections.

## Classification of Consequence

| Table A Classification of Consequence |  |
|---------------------------------------|--|
| Classification                        | Definition   |
| Severe                                | <ul style="list-style-type: none"> <li>• Short term (acute) risk to human health likely to result in significant harm</li> <li>• Short term risk to controlled waters</li> <li>• Catastrophic damage to buildings/structures</li> <li>• Short term risk to an ecosystem or organism within the particular ecosystem</li> </ul> |
| Medium                                | <ul style="list-style-type: none"> <li>• Chronic damage to human health (long term risk)</li> <li>• Pollution of a sensitive water resource</li> <li>• A significant change in an ecosystem or organism within the ecosystem</li> </ul>  |
| Mild                                  | <ul style="list-style-type: none"> <li>• Pollution of non-sensitive water resources</li> <li>• Significant damage to buildings/structures</li> </ul>   |
| Negligible                            | <ul style="list-style-type: none"> <li>• Harm (not necessarily significant) which may result in financial loss</li> <li>• Non permanent health effects to humans (easily prevented by PPE for example)</li> <li>• Easily repairable effects of structural (building) damage</li> </ul>   |

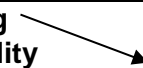
## Classification of Probability

| Table B Classification of Probability |  |
|---------------------------------------|--|
| Classification                        | Definition   |
| High                                  | <ul style="list-style-type: none"> <li>• There is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term.</li> <li>• Evidence of harm to the receptor</li> </ul>  |
| Medium                                | <ul style="list-style-type: none"> <li>• There is a complete pollution linkage which means that it is probable that an event will occur</li> <li>• The event is not inevitable but possible in short term and likely in the long term</li> </ul>                                   |
| Low                                   | <ul style="list-style-type: none"> <li>• There is a complete pollution linkage and circumstances are possible under which an event could occur</li> <li>• It is not certain that an event will occur in the long term, and it is less likely to occur in the short term</li> </ul> |
| Negligible                            | <ul style="list-style-type: none"> <li>• There is a complete pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term</li> </ul>   |



## Risk Assessment Matrix

By comparing the consequences of a risk and the probability of the risk of a pollution linkage, the likely risk category can be determined as shown in **Table C** below.

| Table C Risk Assessment Matrix  |            |                        |              |              |            |
|---|------------|------------------------|--------------|--------------|------------|
| Increasing<br>acceptability  |            | Consequence            |              |              |            |
|   |            | Severe                 | Medium       | Mild         | Negligible |
| Probability   | High       | High                   | High         | Medium / Low | Near zero  |
|   | Medium     | High                   | Medium       | Low          | Near zero  |
|   | Low        | High / medium          | Medium / Low | Low          | Near zero  |
|   | Negligible | High / medium<br>/ Low | Medium / Low | Low          | Near zero  |

### High Risk

There is a high probability that severe harm could risk a receptor, or there is evidence that a receptor is being harmed. The risk if realised is likely to result in liability, and urgent investigation or remediation will be required.

### Medium Risk

It is probable that harm will arise to a receptor. However it is relatively unlikely that such harm would be severe, or if harm does occur the harm is likely to be relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

### Low Risk

It is possible that harm may arise to a receptor, but it is likely that the harm would be mild.

### Near Zero Risk

There is a very low risk of harm to the receptor. In the event of harm being realised the harm is not likely to be severe.

**ANNEX C  
Borehole Logs**



Terra Firma (Wales) Limited  
5 Deryn Court, Wharfedale Road  
Pentwyn, Cardiff  
CF23 7HA

Tel: 02920 735354  
info@terrafirmawales.co.uk  
www.terrafirmawales.co.uk

Borehole No.

**WS01**

Sheet 1 of 1

|                                |                   |                     |                  |
|--------------------------------|-------------------|---------------------|------------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type<br>WLS |
| Location: Channel View         |                   | Level:              | Scale<br>1:50    |
| Client: Cardiff County Council |                   | Dates: 20/04/2020 - | Logged By<br>JA  |

| Water Strikes | Sample and In Situ Testing |      |                              | Depth (m) | Level (m) | Well | Legend | Stratum Description  |    |
|---------------|----------------------------|------|------------------------------|-----------|-----------|------|--------|--|----|
|               | Depth (m)                  | Type | Results                      |           |           |      |        |  |    |
|               |                            |      |                              | 0.30      |           |      |        | MADE GROUND: Brown clayey sandy GRAVEL with occasional cobble. Sand is fine to coarse. Gravel is angular to subangular fine to coarse including brick and glass. Cobbles are subangular of brick.            |    |
|               | 1.00                       | SPT  | N=7 (2,1/2,2,2,1)            | 0.90      |           |      |        | MADE GROUND: Loose grey sandy GRAVEL. Sand is fine to coarse. Gravel is angular fine to coarse including brick and concrete.   | 1  |
|               |                            |      |                              | 1.60      |           |      |        | MADE GROUND: Loose grey gravelly SAND. Sand is fine to coarse. Gravel is angular fine to coarse including brick and concrete.  |    |
|               | 2.00                       | SPT  | N=50 (2,4/4,10,16,20)        |           |           |      |        | MADE GROUND: Dense dark grey and red clayey sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is angular fine to coarse including brick and concrete. Cobbles are subangular of brick. | 2  |
|               | 3.00                       | SPT  | 50 (10,15/50 for 155mm)      |           |           |      |        |  | 3  |
|               | 4.00                       | SPT  | 50 (25 for 50mm/50 for 10mm) | 4.00      |           |      |        | End of Borehole at 4.000m  | 4  |
|               |                            |      |                              |           |           |      |        |  | 5  |
|               |                            |      |                              |           |           |      |        |  | 6  |
|               |                            |      |                              |           |           |      |        |  | 7  |
|               |                            |      |                              |           |           |      |        |  | 8  |
|               |                            |      |                              |           |           |      |        |  | 9  |
|               |                            |      |                              |           |           |      |        |  | 10 |

Remarks: 1. Ground water was not encountered. 2. 50mm HPDE gas and ground water monitoring pipe installed to 3.00m, with a response zone from 1.00-3.00m.



Terra Firma (Wales) Limited  
5 Deryn Court, Wharfedale Road  
Pentwyn, Cardiff  
CF23 7HA

Tel: 02920 735354  
info@terrafirmawales.co.uk  
www.terrafirmawales.co.uk

Borehole No.

**WS02**

Sheet 1 of 1

|                                |                   |                     |               |
|--------------------------------|-------------------|---------------------|---------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type WLS |
| Location: Channel View         |                   | Level:              | Scale 1:50    |
| Client: Cardiff County Council |                   | Dates: 20/04/2020 - | Logged By     |

| Water Strikes | Sample and In Situ Testing |      |                        | Depth (m) | Level (m) | Well | Legend | Stratum Description   |    |
|---------------|----------------------------|------|------------------------|-----------|-----------|------|--------|---|----|
|               | Depth (m)                  | Type | Results                |           |           |      |        |   |    |
|               |                            |      |                        | 0.04      |           |      |        | MADE GROUND: Grass over brown sandy CLAY.   |    |
|               |                            |      |                        | 0.20      |           |      |        | MADE GROUND: Greyish brown gravelly SAND.   |    |
|               |                            |      |                        |           |           |      |        | MADE GROUND: Firm brown slightly sandy gravelly CLAY with occasional angular brick cobble.  |    |
|               | 1.00                       | SPT  | N=13 (2,2/3,3,4,3)     | 0.75      |           |      |        | MADE GROUND: Medium dense black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of metal, slag, brick, glass and coal. | 1  |
|               | 2.00                       | SPT  | N=35 (5,15/10,10,10,5) | 1.90      |           |      |        | MADE GROUND: Medium dense black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of metal, slag, brick, glass and coal. | 2  |
|               |                            |      |                        | 2.20      |           |      |        | MADE GROUND: Medium dense grey gravelly SAND.   |    |
|               | 3.00                       | SPT  | N=8 (4,10/5,1,1,1)     | 2.60      |           |      |        | MADE GROUND: Loose white and orangish brown COBBLES of brick.   | 3  |
|               |                            |      |                        | 3.20      |           |      |        | Very soft dark grey CLAY with abundant decomposing roots.   |    |
|               | 4.00                       | SPT  | 2 (1,1,1,0,0)          |           |           |      |        |   | 4  |
|               | 5.00                       | SPT  | 2 (1,1,1,,)            | 5.00      |           |      |        | End of Borehole at 5.000m   | 5  |
|               |                            |      |                        |           |           |      |        |   | 6  |
|               |                            |      |                        |           |           |      |        |   | 7  |
|               |                            |      |                        |           |           |      |        |   | 8  |
|               |                            |      |                        |           |           |      |        |   | 9  |
|               |                            |      |                        |           |           |      |        |   | 10 |

Remarks: 1. Ground water was not encountered. 2. 50mm HPDE gas and ground water monitoring pipe installed to 3.00m, with a response zone from 1.00-3.00m.



Terra Firma (Wales) Limited  
5 Deryn Court, Wharfedale Road  
Pentwyn, Cardiff  
CF23 7HA

Tel: 02920 735354  
info@terrafirmawales.co.uk  
www.terrafirmawales.co.uk

Borehole No.

**WS03**

Sheet 1 of 1

|                                |                   |                     |                  |
|--------------------------------|-------------------|---------------------|------------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type<br>WLS |
| Location: Channel View         |                   | Level:              | Scale<br>1:50    |
| Client: Cardiff County Council |                   | Dates: 20/04/2020 - | Logged By        |

| Water Strikes | Sample and In Situ Testing |      |                    | Depth (m) | Level (m) | Well | Legend | Stratum Description   |    |
|---------------|----------------------------|------|--------------------|-----------|-----------|------|--------|---|----|
|               | Depth (m)                  | Type | Results            |           |           |      |        |   |    |
|               |                            |      |                    | 0.35      |           |      |        | MADE GROUND: Grass over brown slightly sandy slightly gravelly CLAY.  |    |
|               |                            |      |                    | 0.70      |           |      |        | MADE GROUND: Grey silty gravelly SAND. Gravel is angular fine to coarse including glass.  |    |
|               | 1.00                       | SPT  | N=19 (5,4/4,5,5,5) |           |           |      |        | MADE GROUND: Loose black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of metal, slag, brick, glass and coal.      | 1  |
|               | 2.00                       | SPT  | N=5 (1,1/1,1,2,1)  | 1.60      |           |      |        | MADE GROUND: loose black silty sandy GRAVEL. Sand is fine to coarse of ash. Gravel is angular fine to coarse of metal, slag, brick, glass and coal. | 2  |
|               | 3.00                       | SPT  | N=10 (1,/3,2,2,3)  | 2.40      |           |      |        | MADE GROUND: loose black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of metal, slag, brick, glass and coal.      | 3  |
|               | 4.00                       | SPT  | 1 (1,1,,)          | 4.10      |           |      |        | Soft grey silty CLAY.   | 4  |
|               | 5.00                       | SPT  | N=5 (1,1/1,2,1,1)  | 5.00      |           |      |        | End of Borehole at 5.000m   | 5  |
|               |                            |      |                    |           |           |      |        |   | 6  |
|               |                            |      |                    |           |           |      |        |   | 7  |
|               |                            |      |                    |           |           |      |        |   | 8  |
|               |                            |      |                    |           |           |      |        |   | 9  |
|               |                            |      |                    |           |           |      |        |   | 10 |

Remarks: 1. Ground water was not encountered. 2. 50mm HPDE gas and ground water monitoring pipe installed to 3.00m, with a response zone from 1.00-3.00m.



Terra Firma (Wales) Limited  
5 Deryn Court, Wharfedale Road  
Pentwyn, Cardiff  
CF23 7HA

Tel: 02920 735354  
info@terrafirmawales.co.uk  
www.terrafirmawales.co.uk

Borehole No.

**WS04**

Sheet 1 of 1

|                                |                   |                     |               |
|--------------------------------|-------------------|---------------------|---------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type WLS |
| Location: Channel View         |                   | Level:              | Scale 1:50    |
| Client: Cardiff County Council |                   | Dates: 20/04/2020 - | Logged By     |

| Water Strikes | Sample and In Situ Testing |      |                   | Depth (m) | Level (m) | Well | Legend | Stratum Description   |    |
|---------------|----------------------------|------|-------------------|-----------|-----------|------|--------|---|----|
|               | Depth (m)                  | Type | Results           |           |           |      |        |   |    |
|               |                            |      |                   | 0.30      |           |      |        | MADE GROUND: Grass over firm brown slightly gravelly CLAY.  |    |
|               | 1.00                       | SPT  | N=4 (1,2/1,1,1,1) |           |           |      |        | MADE GROUND: very loose black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of metal, slag, brick, glass and coal. | 1  |
|               | 2.00                       | SPT  | N=6 (1,1/2,1,2,1) |           |           |      |        |   | 2  |
|               | 3.00                       | SPT  | 2 (1,1/1,,)       |           |           |      |        |   | 3  |
|               | 4.00                       | SPT  | N=4 (1,1/1,1,1,1) | 3.95      |           |      |        | Soft grey silty CLAY  | 4  |
|               | 5.00                       | SPT  | N=4 (1,1/1,1,1,1) | 5.00      |           |      |        | End of Borehole at 5.000m   | 5  |
|               |                            |      |                   |           |           |      |        |   | 6  |
|               |                            |      |                   |           |           |      |        |   | 7  |
|               |                            |      |                   |           |           |      |        |   | 8  |
|               |                            |      |                   |           |           |      |        |   | 9  |
|               |                            |      |                   |           |           |      |        |   | 10 |

Remarks: 1. Ground water was not encountered. 2. 50mm HPDE gas and ground water monitoring pipe installed to 3.00m, with a response zone from 1.00-3.00m.

|                                |                   |                     |              |
|--------------------------------|-------------------|---------------------|--------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type CP |
| Location: Channel View         |                   | Level:              | Scale 1:50   |
| Client: Cardiff County Council |                   | Dates: 15/04/2020 - | Logged By JA |

| Water Strikes | Sample and In Situ Testing |      |                    | Depth (m) | Level (m) | Well | Legend | Stratum Description  |   |
|---------------|----------------------------|------|--------------------|-----------|-----------|------|--------|--|---|
|               | Depth (m)                  | Type | Results            |           |           |      |        |  |   |
|               |                            |      |                    | 0.40      |           |      |        | MADE GROUND: Grass over firm brow slightly gravelly CLAY.  |   |
|               | 1.20                       | SPT  | N=19 (3,4/4,5,5,5) |           |           |      |        | MADE GROUND: Medium dense black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of slag, brick, glass and coal. | 1 |
|               | 2.00                       | SPT  | N=21 (2,5/7,5,4,5) |           |           |      |        |  | 2 |
|               | 3.00                       | SPT  | N=21 (4,5/6,5,5,5) |           |           |      |        |  | 3 |
|               | 4.00                       | SPT  | N=22 (8,8/7,7,8,0) |           |           |      |        | <i>frequent brick gravel and cobbles</i>   | 4 |
|               | 4.50                       |      |                    | 4.50      |           |      |        | Soft grey laminated silty CLAY with occasional cobble.   |   |
|               | 5.00                       | SPT  | N=6 (1,1/2,1,2,1)  |           |           |      |        |  | 5 |
|               | 6.50                       | SPT  | N=7 (1,1/2,2,1,2)  |           |           |      |        |  | 6 |
|               | 8.00                       | SPT  | N=6 (1,1/2,1,1,2)  |           |           |      |        |  | 7 |
|               |                            |      |                    |           |           |      |        |  | 8 |
|               |                            |      |                    |           |           |      |        |  | 9 |

| Chiselling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|------------|---------------|----------------|------------------|---------|
|            |               |                |                  |         |

Remarks: 1. Ground water was encountered at 11.80m. 2. 50mm HPDE gas and ground water monitoring pipe installed to 18.00m, with a response zone from 5.00-18.00m.



Tel: 02920 735354  
 info@terrafirmawales.co.uk  
 www.terrafirmawales.co.uk

Terra Firma (Wales) Limited  
 5 Deryn Court, Wharfedale Road  
 Pentwyn, Cardiff  
 CF23 7HA

Borehole No.

**BH01**

Sheet 2 of 2

|                            |                   |          |              |
|----------------------------|-------------------|----------|--------------|
| Project Name: Channel View | Project No: 16017 | Co-ords: | Hole Type CP |
|----------------------------|-------------------|----------|--------------|

|                        |        |            |
|------------------------|--------|------------|
| Location: Channel View | Level: | Scale 1:50 |
|------------------------|--------|------------|

|                                |                     |              |
|--------------------------------|---------------------|--------------|
| Client: Cardiff County Council | Dates: 15/04/2020 - | Logged By JA |
|--------------------------------|---------------------|--------------|

| Water Strikes | Sample and In Situ Testing |      |                              | Depth (m) | Level (m) | Well | Legend | Stratum Description   |    |
|---------------|----------------------------|------|------------------------------|-----------|-----------|------|--------|---|----|
|               | Depth (m)                  | Type | Results                      |           |           |      |        |   |    |
|               | 9.50                       | SPT  | N=8 (2,1/2,2,2,2)            |           |           |      |        | Soft grey laminated silty CLAY with occasional cobble.  | 10 |
|               | 11.00                      | SPT  | N=7 (1,2/2,1,2,2)            |           |           |      |        |   | 11 |
|               |                            |      |                              | 11.80     |           |      |        |   |    |
|               | 12.50                      | SPT  | N=32 (7,8/8,7,8,9)           | 12.50     |           |      |        | Loose grey clayey sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies.   | 12 |
|               |                            |      |                              |           |           |      |        | Dense brown sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles are subangular of mixed lithologies.      | 13 |
|               | 14.00                      | SPT  | N=34 (5,7/8,8,9,9)           |           |           |      |        |   | 14 |
|               |                            |      |                              |           |           |      |        |   | 15 |
|               | 15.50                      | SPT  | N=37 (6,7/8,9,10,10)         |           |           |      |        |   | 16 |
|               |                            |      |                              |           |           |      |        |   | 17 |
|               | 17.00                      | SPT  | 50 (9,10/50 for 170mm)       | 17.00     |           |      |        | Very dense brown sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles are subangular of mixed lithologies. | 17 |
|               |                            |      |                              |           |           |      |        |   | 18 |
|               | 18.00                      | SPT  | 50 (25 for 40mm/50 for 25mm) | 18.00     |           |      |        | End of Borehole at 18.00m   | 18 |

|           |               |                |                  |         |
|-----------|---------------|----------------|------------------|---------|
| Chiseling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|           | 16.80         | 17.00          | 02:40            |         |
|           | 17.60         | 18.00          | 01:00            |         |

Remarks: 1. Ground water was encountered at 11.80m. 2. 50mm HPDE gas and ground water monitoring pipe installed to 18.00m, with a response zone from 5.00-18.00m.





Tel: 02920 735354  
 info@terrafirmawales.co.uk  
 www.terrafirmawales.co.uk

Terra Firma (Wales) Limited  
 5 Deryn Court, Wharfedale Road  
 Pentwyn, Cardiff  
 CF23 7HA

Borehole No.

**BH02**

Sheet 1 of 4

|                                |                   |                     |              |
|--------------------------------|-------------------|---------------------|--------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type CP |
| Location: Channel View         |                   | Level:              | Scale 1:50   |
| Client: Cardiff County Council |                   | Dates: 20/04/2020 - | Logged By    |

| Water Strikes | Sample and In Situ Testing |      |                    | Depth (m) | Level (m) | Well | Legend | Stratum Description   |   |
|---------------|----------------------------|------|--------------------|-----------|-----------|------|--------|---|---|
|               | Depth (m)                  | Type | Results            |           |           |      |        |   |   |
|               |                            |      |                    | 0.45      |           |      |        | MADE GROUND: Grass over firm brow slightly gravelly CLAY.   |   |
|               | 1.20                       | SPT  | N=15 (2,2/3,3,4,5) |           |           |      |        | MADE GROUND: Medium dense black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of metal, slag, brick, glass and coal. | 1 |
|               | 2.00                       | SPT  | N=14 (1,2/3,3,4,4) |           |           |      |        |   | 2 |
|               | 3.00                       | SPT  | N=7 (1,1/2,1,2,2)  |           |           |      |        |   | 3 |
|               | 4.00                       | SPT  | N=4 (2,3/1,1,1,1)  |           |           |      |        |   | 4 |
|               |                            |      |                    | 4.30      |           |      |        | Soft grey laminated silty CLAY with occasional cobble.  |   |
|               | 5.00                       | SPT  | N=4 (1,1/1,1,1,1)  |           |           |      |        |   | 5 |
|               | 6.50                       | SPT  | 3 (1,1/1,1,1,)     |           |           |      |        |   | 6 |
|               |                            |      |                    |           |           |      |        |   | 7 |
|               | 8.00                       | SPT  | N=4 (1,1/1,1,1,1)  |           |           |      |        |   | 8 |
|               |                            |      |                    |           |           |      |        |   | 9 |

| Chiselling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|------------|---------------|----------------|------------------|---------|
|            |               |                |                  |         |

Remarks: 1. Ground water was encountered at 12.00m and 22.20m. 2. Position was bored using cable percussive techniques to 18.00m with rotary core follow on to 28.00m. 3. 50mm HPDE gas and ground water monitoring pipe installed to 18.50m, with a response zone from 5.90-18.50m.



Tel: 02920 735354  
 info@terrafirmawales.co.uk  
 www.terrafirmawales.co.uk

Terra Firma (Wales) Limited  
 5 Deryn Court, Wharfedale Road  
 Pentwyn, Cardiff  
 CF23 7HA

Borehole No.

**BH02**

Sheet 2 of 4

|                                |                   |                     |              |
|--------------------------------|-------------------|---------------------|--------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type CP |
| Location: Channel View         |                   | Level:              | Scale 1:50   |
| Client: Cardiff County Council |                   | Dates: 20/04/2020 - | Logged By    |

| Water Strikes | Sample and In Situ Testing |      |                               | Depth (m) | Level (m) | Well | Legend | Stratum Description   |    |
|---------------|----------------------------|------|-------------------------------|-----------|-----------|------|--------|---|----|
|               | Depth (m)                  | Type | Results                       |           |           |      |        |   |    |
|               | 9.50                       | SPT  | N=6 (1,1,2,1,2)               |           |           |      |        | Soft grey laminated silty CLAY with occasional cobble.  | 10 |
|               | 11.00                      | SPT  | N=6 (1,1/2,1,2,1)             | 11.80     |           |      |        |   | 11 |
| ▽             |                            |      |                               |           |           |      |        | Loose grey clayey sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies.  | 12 |
| ▼             | 12.50                      | SPT  | N=21 (2,4/4,5,5,7)            | 12.50     |           |      |        | Medium dense to dense brown sandy GRAVEL with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles and boulders are subangular of mixed lithologies. | 13 |
|               | 14.00                      | SPT  | 50 (25 for 95mm/50 for 95mm)  | 14.30     |           |      |        |   | 14 |
|               | 15.50                      | SPT  | 50 (25 for 40mm/50 for 20mm)  |           |           |      |        | Very dense brown sandy GRAVEL with medium cobble content and occasional boulder. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles and boulders are subangular of sandstone.                     | 15 |
|               | 17.00                      | SPT  | 50 (25 for 10mm/50 for 10mm)  |           |           |      |        |   | 16 |
|               | 18.00                      | SPT  | 50 (25 for 85mm/50 for 235mm) |           |           |      |        |   | 17 |
|               |                            |      |                               |           |           |      |        |   | 18 |

| Chiselling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|------------|---------------|----------------|------------------|---------|
|            |               |                |                  |         |

Remarks: 1. Ground water was encountered at 12.00m and 22.20m. 2. Position was bored using cable percussive techniques to 18.00m with rotary core follow on to 28.00m. 3. 50mm HPDE gas and ground water monitoring pipe installed to 18.50m, with a response zone from 5.90-18.50m.



Tel: 02920 735354  
 info@terrafirmawales.co.uk  
 www.terrafirmawales.co.uk

Terra Firma (Wales) Limited  
 5 Deryn Court, Wharfedale Road  
 Pentwyn, Cardiff  
 CF23 7HA

Borehole No.

**BH02**

Sheet 3 of 4

|                            |                   |          |              |
|----------------------------|-------------------|----------|--------------|
| Project Name: Channel View | Project No: 16017 | Co-ords: | Hole Type CP |
|----------------------------|-------------------|----------|--------------|

|                        |        |            |
|------------------------|--------|------------|
| Location: Channel View | Level: | Scale 1:50 |
|------------------------|--------|------------|

|                                |                     |           |
|--------------------------------|---------------------|-----------|
| Client: Cardiff County Council | Dates: 20/04/2020 - | Logged By |
|--------------------------------|---------------------|-----------|

| Water Strikes | Sample and In Situ Testing |      |                                | Depth (m) | Level (m) | Well | Legend | Stratum Description   |    |
|---------------|----------------------------|------|--------------------------------|-----------|-----------|------|--------|---|----|
|               | Depth (m)                  | Type | Results                        |           |           |      |        |   |    |
|               |                            |      |                                | 19.20     |           |      |        | Very dense brown sandy GRAVEL with medium cobble content and occasional boulder. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles and boulders are subangular of sandstone. | 19 |
|               | 19.50                      | SPT  | 50 (25 for 95mm/50 for 190mm)  |           |           |      |        | Hard weathered brown occasionally mottled grey sandy MUDSTONE.  | 20 |
|               | 21.30                      | SPT  | 50 (25 for 75mm/50 for 150mm)  |           |           |      |        |   | 21 |
|               | 22.40                      | SPT  | 50 (25 for 55mm/50 for 165mm)  |           |           |      |        |   | 22 |
|               | 23.40                      | SPT  | 50 (25 for 110mm/50 for 174mm) |           |           |      |        |   | 23 |
|               | 25.00                      | SPT  | 50 (25 for 50mm/50 for 170mm)  |           |           |      |        |   | 24 |
|               | 26.40                      | SPT  | 50 (25 for 43mm/50 for 150mm)  |           |           |      |        |   | 25 |
|               |                            |      |                                |           |           |      |        |   | 26 |
|               |                            |      |                                |           |           |      |        |   | 27 |

|            |               |                |                  |         |
|------------|---------------|----------------|------------------|---------|
| Chiselling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|            |               |                |                  |         |

Remarks: 1. Ground water was encountered at 12.00m and 22.20m. 2. Position was bored using cable percussive techniques to 18.00m with rotary core follow on to 28.00m. 3. 50mm HPDE gas and ground water monitoring pipe installed to 18.50m, with a response zone from 5.90-18.50m.



Tel: 02920 735354  
 info@terrafirmawales.co.uk  
 www.terrafirmawales.co.uk

Terra Firma (Wales) Limited  
 5 Deryn Court, Wharfedale Road  
 Pentwyn, Cardiff  
 CF23 7HA

Borehole No.

**BH02**

Sheet 4 of 4

|                            |                   |          |              |
|----------------------------|-------------------|----------|--------------|
| Project Name: Channel View | Project No: 16017 | Co-ords: | Hole Type CP |
|----------------------------|-------------------|----------|--------------|

|                        |        |            |
|------------------------|--------|------------|
| Location: Channel View | Level: | Scale 1:50 |
|------------------------|--------|------------|

|                                |                     |           |
|--------------------------------|---------------------|-----------|
| Client: Cardiff County Council | Dates: 20/04/2020 - | Logged By |
|--------------------------------|---------------------|-----------|

| Water Strikes | Sample and In Situ Testing |      |         | Depth (m) | Level (m) | Well | Legend | Stratum Description  |    |
|---------------|----------------------------|------|---------|-----------|-----------|------|--------|--|----|
|               | Depth (m)                  | Type | Results |           |           |      |        |  |    |
|               |                            |      |         | 28.00     |           |      |        | Hard weathered brown occasionally mottled grey sandy MUDSTONE. | 28 |
|               |                            |      |         |           |           |      |        | End of Borehole at 28.000m                                     | 28 |
|               |                            |      |         |           |           |      |        |  | 29 |
|               |                            |      |         |           |           |      |        |  | 30 |
|               |                            |      |         |           |           |      |        |  | 31 |
|               |                            |      |         |           |           |      |        |  | 32 |
|               |                            |      |         |           |           |      |        |  | 33 |
|               |                            |      |         |           |           |      |        |  | 34 |
|               |                            |      |         |           |           |      |        |  | 35 |
|               |                            |      |         |           |           |      |        |  | 36 |

|           |               |                |                  |         |
|-----------|---------------|----------------|------------------|---------|
| Chiseling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|           |               |                |                  |         |

Remarks: 1. Ground water was encountered at 12.00m and 22.20m. 2. Position was bored using cable percussive techniques to 18.00m with rotary core follow on to 28.00m. 3. 50mm HPDE gas and ground water monitoring pipe installed to 18.50m, with a response zone from 5.90-18.50m.

|                                |                   |                     |              |
|--------------------------------|-------------------|---------------------|--------------|
| Project Name: Channel View     | Project No: 16017 | Co-ords:            | Hole Type CP |
| Location: Channel View         |                   | Level:              | Scale 1:50   |
| Client: Cardiff County Council |                   | Dates: 22/04/2020 - | Logged By    |

| Water Strikes | Sample and In Situ Testing |      |                    | Depth (m) | Level (m) | Well | Legend | Stratum Description  |   |
|---------------|----------------------------|------|--------------------|-----------|-----------|------|--------|--|---|
|               | Depth (m)                  | Type | Results            |           |           |      |        |  |   |
|               |                            |      |                    | 0.40      |           |      |        | MADE GROUND: Grass over firm brow slightly gravelly CLAY.  |   |
|               | 1.20                       | SPT  | N=11 (1,2/3,2,3,3) |           |           |      |        | MADE GROUND: Medium dense black gravelly SAND. Sand is fine to coarse of ash. Gravel is angular fine to coarse of coal, slag, brick, glass and tile. | 1 |
|               | 2.00                       | SPT  | N=14 (2,1/3,4,4,3) |           |           |      |        |  | 2 |
|               | 3.00                       | SPT  | N=9 (1,2/1,2,3,3)  |           |           |      |        |  | 3 |
|               | 4.00                       | SPT  | N=13 (1,2/3,3,4,3) |           |           |      |        |  | 4 |
|               | 5.00                       | SPT  | N=16 (3,4/5,5,4,2) |           |           |      |        |  | 5 |
|               |                            |      |                    | 5.30      |           |      |        | Soft to firm grey laminated silty CLAY with occasional cobble.   |   |
|               | 6.50                       | SPT  | N=5 (1,2/1,2,1,1)  |           |           |      |        |  | 6 |
|               |                            |      |                    |           |           |      |        |  | 7 |
|               | 8.00                       | SPT  | N=4 (1,1/1,1,1,1)  |           |           |      |        |  | 8 |
|               |                            |      |                    |           |           |      |        |  | 9 |

|            |               |                |                  |         |
|------------|---------------|----------------|------------------|---------|
| Chiselling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|            |               |                |                  |         |

Remarks: 1. Ground water was encountered at 11.30m and 22.40m. 2. Position was bored using cable percussive techniques to 19.00m with rotary core follow on to 25.50m. 3. 50mm HPDE gas and ground water monitoring pipe installed to 24.00m, with a response zone from 20.00-24.00m.

|                                |                     |          |              |
|--------------------------------|---------------------|----------|--------------|
| Project Name: Channel View     | Project No: 16017   | Co-ords: | Hole Type CP |
| Location: Channel View         | Level:              |          | Scale 1:50   |
| Client: Cardiff County Council | Dates: 22/04/2020 - |          | Logged By    |

| Water Strikes | Sample and In Situ Testing |      |                                | Depth (m) | Level (m) | Well | Legend | Stratum Description  |    |
|---------------|----------------------------|------|--------------------------------|-----------|-----------|------|--------|--|----|
|               | Depth (m)                  | Type | Results                        |           |           |      |        |  |    |
|               | 9.50                       | SPT  | N=8 (1,2/2,2,2,2)              |           |           |      |        | Soft to firm grey laminated silty CLAY with occasional cobble.   | 10 |
| ▽             | 11.00                      | SPT  | N=16 (2,3/2,4,4,6)             | 11.30     |           |      |        | Medium dense grey clayey sandy GRAVEL with medium cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies.   | 11 |
| ▼             | 12.50                      | SPT  | N=43 (8,9/10,10,11,12)         | 11.80     |           |      |        | Dense brown sandy GRAVEL with medium cobble content and occasional boulder. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles and boulders are subangular of mixed lithologies.       | 12 |
|               | 14.00                      | SPT  | N=50 (7,10/11,11,14,14)        | 14.50     |           |      |        | Very dense brown sandy GRAVEL with medium cobble content with occasional boulder. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles and boulders are subangular of mixed lithologies. | 13 |
|               | 15.50                      | SPT  | 50 (25 for 105mm/50 for 140mm) |           |           |      |        |  | 14 |
|               | 17.00                      | SPT  | 50 (9,12/50 for 235mm)         |           |           |      |        |  | 15 |
|               | 18.00                      | SPT  | 50 (25 for 115mm/50 for 20mm)  |           |           |      |        |  | 16 |
|               |                            |      |                                |           |           |      |        |  | 17 |
|               |                            |      |                                |           |           |      |        |  | 18 |

| Chiselling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|------------|---------------|----------------|------------------|---------|
|            |               |                |                  |         |

Remarks: 1. Ground water was encountered at 11.30m and 22.40m. 2. Position was bored using cable percussive techniques to 19.00m with rotary core follow on to 25.50m. 3. 50mm HPDE gas and ground water monitoring pipe installed to 24.00m, with a response zone from 20.00-24.00m.



Tel: 02920 735354  
 info@terrafirmawales.co.uk  
 www.terrafirmawales.co.uk

Terra Firma (Wales) Limited  
 5 Deryn Court, Wharfedale Road  
 Pentwyn, Cardiff  
 CF23 7HA

Borehole No.

**BH03**

Sheet 3 of 3

|                            |                   |          |              |
|----------------------------|-------------------|----------|--------------|
| Project Name: Channel View | Project No: 16017 | Co-ords: | Hole Type CP |
|----------------------------|-------------------|----------|--------------|

|                        |        |            |
|------------------------|--------|------------|
| Location: Channel View | Level: | Scale 1:50 |
|------------------------|--------|------------|

|                                |                     |           |
|--------------------------------|---------------------|-----------|
| Client: Cardiff County Council | Dates: 22/04/2020 - | Logged By |
|--------------------------------|---------------------|-----------|

| Water Strikes | Sample and In Situ Testing |      |                                | Depth (m) | Level (m) | Well | Legend | Stratum Description  |    |
|---------------|----------------------------|------|--------------------------------|-----------|-----------|------|--------|--|----|
|               | Depth (m)                  | Type | Results                        |           |           |      |        |  |    |
|               | 19.00                      | SPT  | 50 (10,11/50 for 235mm)        |           |           |      |        | Very dense brown sandy GRAVEL with medium cobble content with occasional boulder. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of mixed lithologies. Cobbles and boulders are subangular of mixed lithologies. | 19 |
|               | 19.60                      | SPT  | 50 (25 for 95mm/50 for 200mm)  | 19.60     |           |      |        | Hard weathered brown occasionally mottled grey sandy MUDSTONE.   | 20 |
|               | 21.00                      | SPT  | 50 (25 for 125mm/50 for 190mm) |           |           |      |        |  | 21 |
|               | 22.50                      | SPT  | 50 (25 for 55mm/50 for 91mm)   |           |           |      |        |  | 22 |
|               | 23.50                      | SPT  | 50 (25 for 34mm/50 for 85mm)   |           |           |      |        |  | 23 |
|               | 24.50                      | SPT  | 50 (12,12/50 for 175mm)        |           |           |      |        |  | 24 |
|               | 25.50                      | SPT  | 50 (25 for 48mm/50 for 85mm)   | 25.50     |           |      |        | End of Borehole at 25.50m  | 25 |
|               |                            |      |                                |           |           |      |        |  | 26 |
|               |                            |      |                                |           |           |      |        |  | 27 |

| Chiselling | Depth Top (m) | Depth Base (m) | Duration (hh:mm) | Remarks |
|------------|---------------|----------------|------------------|---------|
|            |               |                |                  |         |

Remarks: 1. Ground water was encountered at 11.30m and 22.40m. 2. Position was bored using cable percussive techniques to 19.00m with rotary core follow on to 25.50m. 3. 50mm HPDE gas and ground water monitoring pipe installed to 24.00m, with a response zone from 20.00-24.00m.

**ANNEX C**  
**Laboratory Soil Chemical Test Results**





## Amended Report

---

**Report No.:** 20-11962-2

**Initial Date of Issue:** 14-May-2020      **Date of Re-Issue:** 29-May-2020

**Client:** Terra Firma (Wales) Ltd

**Client Address:** 5 Deryn Court  
Wharfedale Road  
Pentwyn  
Cardiff  
CF23 7HA

**Contact(s):** Jamie Alderman

**Project:** 16017 - Channel View


**Quotation No.:** Q18-15369      **Date Received:** 07-May-2020

**Order No.:**      **Date Instructed:** 07-May-2020

**No. of Samples:** 10

**Turnaround (Wkdays):** 14      **Results Due:** 28-May-2020

**Date Approved:** 29-May-2020

**Approved By:**  


**Details:** Glynn Harvey, Technical Manager

---

**Project: 16017 - Channel View**

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |      | 20-11962 | 20-11962 | 20-11962 |          |          |
|---------------------------------|---------|----------------------|------|----------|----------|----------|----------|----------|
| Quotation No.: Q18-15369        |         | Chemtest Sample ID.: |      | 1003097  | 1003098  | 1003100  |          |          |
|                                 |         | Sample Location:     |      | CP01     | CP02     | CP03     |          |          |
|                                 |         | Sample Type:         |      | SOIL     | SOIL     | SOIL     |          |          |
|                                 |         | Top Depth (m):       |      | 2.50     | 3.00     | 2.00     |          |          |
| Determinand                     | Accred. | SOP                  | Type | Units    | LOD      |          |          |          |
| pH                              | U       | 1010                 | 10:1 |          | N/A      | 8.1      | 7.7      | 8.0      |
| Sulphate                        | U       | 1220                 | 10:1 | mg/l     | 1.0      | 28       | 250      | 30       |
| Cyanide (Total)                 | U       | 1300                 | 10:1 | mg/l     | 0.050    | < 0.050  | < 0.050  | < 0.050  |
| Arsenic (Dissolved)             | U       | 1450                 | 10:1 | µg/l     | 1.0      | < 1.0    | < 1.0    | < 1.0    |
| Boron (Dissolved)               | U       | 1450                 | 10:1 | µg/l     | 20       | 40       | 200      | 24       |
| Cadmium (Dissolved)             | U       | 1450                 | 10:1 | µg/l     | 0.080    | < 0.080  | 0.12     | < 0.080  |
| Chromium (Dissolved)            | U       | 1450                 | 10:1 | µg/l     | 1.0      | < 1.0    | < 1.0    | 5.4      |
| Copper (Dissolved)              | U       | 1450                 | 10:1 | µg/l     | 1.0      | 1.5      | 1.9      | 2.5      |
| Nickel (Dissolved)              | U       | 1450                 | 10:1 | µg/l     | 1.0      | < 1.0    | 7.1      | < 1.0    |
| Lead (Dissolved)                | U       | 1450                 | 10:1 | µg/l     | 1.0      | < 1.0    | 5.8      | < 1.0    |
| Selenium (Dissolved)            | U       | 1450                 | 10:1 | µg/l     | 1.0      | 1.3      | < 1.0    | < 1.0    |
| Zinc (Dissolved)                | U       | 1450                 | 10:1 | µg/l     | 1.0      | 8.9      | 110      | 21       |
| Mercury Low Level               | U       | 1460                 | 10:1 | µg/l     | 0.010    | < 0.010  | < 0.010  | < 0.010  |
| Total Organic Carbon            | U       | 1610                 | 10:1 | mg/l     | 2.0      | 3.1      | 2.5      | 5.6      |
| Total Of 16 PAH's               | U       | 1800                 | 10:1 | µg/l     | 2.0      | < 2.0    | < 2.0    | < 2.0    |
| Resorcinol                      | U       | 1920                 | 10:1 | mg/l     | 0.0050   | < 0.0050 | < 0.0050 | < 0.0050 |
| Phenol                          | U       | 1920                 | 10:1 | mg/l     | 0.0050   | < 0.0050 | < 0.0050 | < 0.0050 |
| Cresols                         | U       | 1920                 | 10:1 | mg/l     | 0.0050   | < 0.0050 | < 0.0050 | < 0.0050 |
| Xylenols                        | U       | 1920                 | 10:1 | mg/l     | 0.0050   | < 0.0050 | < 0.0050 | < 0.0050 |
| 1-Naphthol                      | N       | 1920                 | 10:1 | mg/l     | 0.0050   | < 0.0050 | < 0.0050 | < 0.0050 |
| Trimethylphenols                | U       | 1920                 | 10:1 | mg/l     | 0.0050   | < 0.0050 | < 0.0050 | < 0.0050 |
| Total Phenols                   | U       | 1920                 | 10:1 | mg/l     | 0.030    | < 0.030  | < 0.030  | < 0.030  |

Project: 16017 - Channel View

| Client: Terra Firma (Wales) Ltd | Chemtest Job No.:    |      |          |          |                      |                      |                   |                      |                      |                      |                      |                      |            |
|---------------------------------|----------------------|------|----------|----------|----------------------|----------------------|-------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------|
| Quotation No.: Q18-15369        | Chemtest Sample ID.: |      |          |          |                      |                      |                   |                      |                      |                      |                      |                      |            |
|                                 | Sample Location:     |      | WS01     | WS02     | WS02                 | WS03                 | WS04              | CP01                 | CP01                 | CP02                 | CP02                 |                      |            |
|                                 | Sample Type:         |      | SOIL     | SOIL     | SOIL                 | SOIL                 | SOIL              | SOIL                 | SOIL                 | SOIL                 | SOIL                 |                      |            |
|                                 | Top Depth (m):       |      | 3.00     | 0.50     | 1.50                 | 0.30                 | 1.80              | 1.00                 | 2.50                 | 3.00                 | 4.50                 |                      |            |
|                                 | Asbestos Lab:        |      | COVENTRY | COVENTRY | COVENTRY             | COVENTRY             | COVENTRY          | COVENTRY             | COVENTRY             | COVENTRY             | COVENTRY             |                      |            |
| Determinand                     | Accred.              | SOP  | Units    | LOD      |                      |                      |                   |                      |                      |                      |                      |                      |            |
| ACM Type                        | U                    | 2192 |          | N/A      | -                    | -                    | Fibres/Clumps     | -                    | -                    | -                    | -                    | -                    |            |
| Asbestos Identification         | U                    | 2192 | %        | 0.001    | No Asbestos Detected | No Asbestos Detected | Amosite           | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected | No Asbestos Detected |            |
| ACM Detection Stage             | U                    | 2192 |          | N/A      | -                    | -                    | Stereo Microscopy | -                    | -                    | -                    | -                    | -                    |            |
| Asbestos by Gravimetry          | U                    | 2192 | %        | 0.001    |                      |                      | <0.001            |                      |                      |                      |                      |                      |            |
| Total Asbestos                  | N                    | 2192 | %        | 0.001    |                      |                      | <0.001            |                      |                      |                      |                      |                      |            |
| Moisture                        | N                    | 2030 | %        | 0.020    | 10                   | 9.7                  | 6.7               | 12                   | 19                   | 12                   | 18                   | 27                   |            |
| Soil Colour                     | N                    | 2040 |          | N/A      | Brown                | Brown                | Brown             | Brown                | Brown                | Brown                | Brown                | Brown                |            |
| Other Material                  | N                    | 2040 |          | N/A      | Stones               | Stones               | Stones            | Stones               | Stones               | Stones               | Stones               | Stones               |            |
| Soil Texture                    | N                    | 2040 |          | N/A      | Sand                 | Sand                 | Sand              | Sand                 | Sand                 | Sand                 | Sand                 | Clay                 |            |
| pH                              | M                    | 2010 |          | 4.0      | [A] 10.9             | [A] 10.8             | [A] 9.5           | [A] 8.7              | [A] 8.1              | [A] 8.3              | [A] 8.0              | [A] 7.6              | [A] 8.3    |
| Boron (Hot Water Soluble)       | M                    | 2120 | mg/kg    | 0.40     | 0.73                 | 0.65                 | 0.73              | 0.76                 | 1.1                  | 0.55                 | 0.55                 | 1.4                  | 3.0        |
| Cyanide (Complex)               | M                    | 2300 | mg/kg    | 0.50     | [A] 0.50             | [A] < 0.50           | [A] < 0.50        | [A] < 0.50           | [A] 0.90             | [A] < 0.50           | [A] 1.3              | [A] 38               | [A] 18     |
| Cyanide (Free)                  | M                    | 2300 | mg/kg    | 0.50     | [A] < 0.50           | [A] < 0.50           | [A] < 0.50        | [A] < 0.50           | [A] < 0.50           | [A] < 0.50           | [A] < 0.50           | [A] < 0.50           | [A] < 0.50 |
| Cyanide (Total)                 | M                    | 2300 | mg/kg    | 0.50     | [A] 0.50             | [A] < 0.50           | [A] < 0.50        | [A] 0.50             | [A] 0.90             | [A] < 0.50           | [A] 1.4              | [A] 38               | [A] 18     |
| Sulphate (Acid Soluble)         | M                    | 2430 | %        | 0.010    | [A] 0.19             | [A] 0.14             | [A] 0.094         | [A] 0.17             | [A] 0.16             | [A] 0.065            | [A] 0.17             | [A] 0.52             | [A] 0.27   |
| Arsenic                         | M                    | 2450 | mg/kg    | 1.0      | 21                   | 21                   | 19                | 31                   | 37                   | 25                   | 43                   | 53                   | 27         |
| Beryllium                       | U                    | 2450 | mg/kg    | 1.0      | < 1.0                | < 1.0                | 3.2               | 1.4                  | 1.8                  | 1.0                  | 1.3                  | 1.3                  | 1.1        |
| Cadmium                         | M                    | 2450 | mg/kg    | 0.10     | 0.62                 | 0.41                 | 0.34              | 1.6                  | 1.0                  | 0.32                 | 0.49                 | < 0.10               | < 0.10     |
| Chromium                        | M                    | 2450 | mg/kg    | 1.0      | 23                   | 23                   | 15                | 47                   | 22                   | 16                   | 27                   | 240                  | 62         |
| Mercury Low Level               | M                    | 2450 | mg/kg    | 0.05     | 0.64                 | 0.77                 | 0.54              | 0.76                 | 0.46                 | 0.28                 | 0.71                 | 0.96                 | 0.32       |
| Manganese                       | M                    | 2450 | mg/kg    | 5.0      | 810                  | 730                  | 900               | 770                  | 720                  | 330                  | 550                  | 750                  | 650        |
| Molybdenum                      | M                    | 2450 | mg/kg    | 2.0      | 2.8                  | < 2.0                | 3.8               | 3.8                  | 6.2                  | 6.8                  | 9.7                  | 13                   | 5.1        |
| Antimony                        | N                    | 2450 | mg/kg    | 2.0      | 3.2                  | 2.4                  | < 2.0             | 8.0                  | 6.2                  | 3.8                  | 33                   | 45                   | 9.8        |
| Copper                          | M                    | 2450 | mg/kg    | 0.50     | 78                   | 57                   | 66                | 180                  | 1400                 | 110                  | 490                  | 580                  | 130        |
| Nickel                          | M                    | 2450 | mg/kg    | 0.50     | 28                   | 26                   | 42                | 52                   | 57                   | 41                   | 73                   | 100                  | 53         |
| Lead                            | M                    | 2450 | mg/kg    | 0.50     | 250                  | 150                  | 86                | 500                  | 280                  | 90                   | 570                  | 2200                 | 660        |
| Selenium                        | M                    | 2450 | mg/kg    | 0.20     | < 0.20               | < 0.20               | < 0.20            | 0.62                 | 1.1                  | 1.5                  | 1.8                  | 1.5                  | 0.46       |
| Zinc                            | M                    | 2450 | mg/kg    | 0.50     | 260                  | 160                  | 100               | 1000                 | 920                  | 130                  | 820                  | 1500                 | 390        |
| Chromium (Trivalent)            | N                    | 2490 | mg/kg    | 1.0      | 23                   | 23                   | 15                | 47                   | 22                   | 16                   | 27                   | 240                  | 62         |
| Chromium (Hexavalent)           | N                    | 2490 | mg/kg    | 0.50     | < 0.50               | < 0.50               | < 0.50            | < 0.50               | < 0.50               | < 0.50               | < 0.50               | < 0.50               | < 0.50     |
| Aliphatic TPH >C5-C6            | N                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0  |
| Aliphatic TPH >C6-C8            | N                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0  |
| Aliphatic TPH >C8-C10           | M                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0  |
| Aliphatic TPH >C10-C12          | M                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0  |
| Aliphatic TPH >C12-C16          | M                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0  |
| Aliphatic TPH >C16-C21          | M                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0  |
| Aliphatic TPH >C21-C35          | M                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] 77               | [A] < 1.0  |
| Aliphatic TPH >C35-C44          | N                    | 2680 | mg/kg    | 1.0      | [A] < 1.0            | [A] < 1.0            | [A] < 1.0         | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0            | [A] < 1.0  |

## Results - Soil

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |          |          |            |           |           |           |           |            |            |           |            |            |         |
|---------------------------------|---------|----------------------|----------|----------|------------|-----------|-----------|-----------|-----------|------------|------------|-----------|------------|------------|---------|
| Quotation No.: Q18-15369        |         | Chemtest Sample ID.: |          |          |            |           |           |           |           |            |            |           |            |            |         |
| Sample Location:                |         | WS01                 | WS02     | WS02     | WS03       | WS04      | CP01      | CP01      | CP02      | CP02       |            |           |            |            |         |
| Sample Type:                    |         | SOIL                 | SOIL     | SOIL     | SOIL       | SOIL      | SOIL      | SOIL      | SOIL      | SOIL       |            |           |            |            |         |
| Top Depth (m):                  |         | 3.00                 | 0.50     | 1.50     | 0.30       | 1.80      | 1.00      | 2.50      | 3.00      | 4.50       |            |           |            |            |         |
| Asbestos Lab:                   |         | COVENTRY             | COVENTRY | COVENTRY | COVENTRY   | COVENTRY  | COVENTRY  | COVENTRY  | COVENTRY  | COVENTRY   |            |           |            |            |         |
| Determinand                     | Accred. | SOP                  | Units    | LOD      |            |           |           |           |           |            |            |           |            |            |         |
| Total Aliphatic Hydrocarbons    | N       | 2680                 | mg/kg    | 5.0      | [A] < 5.0  | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0  | [A] < 5.0  | [A] < 5.0 | [A] 77     | [A] < 5.0  |         |
| Aromatic TPH >C5-C7             | N       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  |         |
| Aromatic TPH >C7-C8             | N       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  |         |
| Aromatic TPH >C8-C10            | M       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  |         |
| Aromatic TPH >C10-C12           | M       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  |         |
| Aromatic TPH >C12-C16           | M       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  |         |
| Aromatic TPH >C16-C21           | U       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] 3.1   | [A] 28    | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] 21    | [A] < 1.0  | [A] < 1.0  |         |
| Aromatic TPH >C21-C35           | M       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] 200   | [A] 1200  | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] 650   | [A] 180    | [A] < 1.0  |         |
| Aromatic TPH >C35-C44           | N       | 2680                 | mg/kg    | 1.0      | [A] < 1.0  | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  | [A] < 1.0 | [A] < 1.0  | [A] < 1.0  |         |
| Total Aromatic Hydrocarbons     | N       | 2680                 | mg/kg    | 5.0      | [A] < 5.0  | [A] < 5.0 | [A] 210   | [A] 1200  | [A] < 5.0 | [A] < 5.0  | [A] < 5.0  | [A] 670   | [A] 180    | [A] < 5.0  |         |
| Total Petroleum Hydrocarbons    | N       | 2680                 | mg/kg    | 10.0     | [A] < 10   | [A] < 10  | [A] 210   | [A] 1200  | [A] < 10  | [A] < 10   | [A] < 10   | [A] 670   | [A] 260    | [A] < 10   |         |
| Naphthalene                     | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 0.30  | [A] 0.63  | [A] 1.2   | [A] 0.76  | [A] < 0.10 | [A] < 0.10 | [A] 5.1   | [A] < 0.10 | [A] < 0.10 |         |
| Acenaphthylene                  | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 0.20  | [A] 0.26  | [A] 0.51  | [A] 0.26  | [A] < 0.10 | [A] < 0.10 | [A] 0.19  | [A] < 0.10 | [A] < 0.10 |         |
| Acenaphthene                    | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 0.36  | [A] 0.32  | [A] 3.0   | [A] 0.31  | [A] < 0.10 | [A] < 0.10 | [A] 0.81  | [A] < 0.10 | [A] < 0.10 |         |
| Fluorene                        | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 0.31  | [A] 0.26  | [A] 3.1   | [A] 0.29  | [A] < 0.10 | [A] < 0.10 | [A] 0.78  | [A] < 0.10 | [A] < 0.10 |         |
| Phenanthrene                    | M       | 2700                 | mg/kg    | 0.10     | [A] 0.44   | [A] 3.1   | [A] 2.6   | [A] 30    | [A] 1.6   | [A] 0.79   | [A] < 0.10 | [A] 4.6   | [A] 1.8    | [A] 0.70   |         |
| Anthracene                      | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 0.91  | [A] 0.81  | [A] 8.8   | [A] 0.34  | [A] 0.21   | [A] < 0.10 | [A] 0.88  | [A] 0.49   | [A] 0.12   |         |
| Fluoranthene                    | M       | 2700                 | mg/kg    | 0.10     | [A] 0.64   | [A] 5.7   | [A] 8.1   | [A] 33    | [A] 2.1   | [A] 1.2    | [A] < 0.10 | [A] 5.4   | [A] 2.9    | [A] 0.80   |         |
| Pyrene                          | M       | 2700                 | mg/kg    | 0.10     | [A] 0.70   | [A] 5.3   | [A] 8.5   | [A] 32    | [A] 2.4   | [A] 1.1    | [A] < 0.10 | [A] 5.3   | [A] 3.1    | [A] 0.85   |         |
| Benzo[a]anthracene              | M       | 2700                 | mg/kg    | 0.10     | [A] 0.28   | [A] 2.8   | [A] 4.2   | [A] 13    | [A] 1.5   | [A] 0.55   | [A] < 0.10 | [A] 2.6   | [A] 2.0    | [A] 0.44   |         |
| Chrysene                        | M       | 2700                 | mg/kg    | 0.10     | [A] 0.43   | [A] 3.0   | [A] 4.4   | [A] 14    | [A] 2.1   | [A] 0.63   | [A] < 0.10 | [A] 3.1   | [A] 2.6    | [A] 0.63   |         |
| Benzo[b]fluoranthene            | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 3.3   | [A] 6.6   | [A] 13    | [A] 1.8   | [A] < 0.10 | [A] < 0.10 | [A] 3.2   | [A] 2.4    | [A] < 0.10 |         |
| Benzo[k]fluoranthene            | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 1.5   | [A] 2.4   | [A] 5.4   | [A] 0.98  | [A] < 0.10 | [A] < 0.10 | [A] 1.2   | [A] 0.86   | [A] < 0.10 |         |
| Benzo[a]pyrene                  | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 3.2   | [A] 4.5   | [A] 12    | [A] 1.8   | [A] < 0.10 | [A] < 0.10 | [A] 3.1   | [A] 2.2    | [A] < 0.10 |         |
| Indeno(1,2,3-c,d)Pyrene         | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 2.6   | [A] 3.8   | [A] 7.1   | [A] 1.7   | [A] < 0.10 | [A] < 0.10 | [A] 2.2   | [A] 1.6    | [A] < 0.10 |         |
| Dibenz(a,h)Anthracene           | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 0.77  | [A] 0.89  | [A] 2.0   | [A] 0.71  | [A] < 0.10 | [A] < 0.10 | [A] 0.91  | [A] 0.50   | [A] < 0.10 |         |
| Benzo[g,h,i]perylene            | M       | 2700                 | mg/kg    | 0.10     | [A] < 0.10 | [A] 2.4   | [A] 3.8   | [A] 7.1   | [A] 1.8   | [A] < 0.10 | [A] < 0.10 | [A] 2.2   | [A] 1.5    | [A] < 0.10 |         |
| Total Of 16 PAH's               | M       | 2700                 | mg/kg    | 2.0      | [A] 2.5    | [A] 36    | [A] 52    | [A] 190   | [A] 21    | [A] < 0.10 | [A] < 0.10 | [A] 4.5   | [A] 42     | [A] 22     | [A] 3.5 |
| Total Phenols                   | M       | 2920                 | mg/kg    | 0.30     | < 0.30     | < 0.30    | < 0.30    | < 0.30    | < 0.30    | < 0.30     | < 0.30     | < 0.30    | < 0.30     | < 0.30     | < 0.30  |
| Organic Matter BS1377           | N       | 2930                 | %        | 0.10     | [A] 1.8    | [A] 1.0   | [A] 2.3   | [A] 2.2   | [A] 4.7   | [A] < 0.10 | [A] < 0.10 | [A] 2.4   | [A] 4.4    | [A] 4.6    | [A] 2.2 |

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |       |          |                      | 20-11962 |
|---------------------------------|---------|----------------------|-------|----------|----------------------|----------|
| Quotation No.: Q18-15369        |         | Chemtest Sample ID.: |       |          |                      | 1003100  |
|                                 |         | Sample Location:     |       | CP03     |                      |          |
|                                 |         | Sample Type:         |       | SOIL     |                      |          |
|                                 |         | Top Depth (m):       |       | 2.00     |                      |          |
|                                 |         | Asbestos Lab:        |       | COVENTRY |                      |          |
| Determinand                     | Accred. | SOP                  | Units | LOD      |                      |          |
| ACM Type                        | U       | 2192                 |       | N/A      | -                    |          |
| Asbestos Identification         | U       | 2192                 | %     | 0.001    | No Asbestos Detected |          |
| ACM Detection Stage             | U       | 2192                 |       | N/A      | -                    |          |
| Asbestos by Gravimetry          | U       | 2192                 | %     | 0.001    |                      |          |
| Total Asbestos                  | N       | 2192                 | %     | 0.001    |                      |          |
| Moisture                        | N       | 2030                 | %     | 0.020    | 15                   |          |
| Soil Colour                     | N       | 2040                 |       | N/A      | Brown                |          |
| Other Material                  | N       | 2040                 |       | N/A      | Stones               |          |
| Soil Texture                    | N       | 2040                 |       | N/A      | Sand                 |          |
| pH                              | M       | 2010                 |       | 4.0      | [A] 8.1              |          |
| Boron (Hot Water Soluble)       | M       | 2120                 | mg/kg | 0.40     | 1.0                  |          |
| Cyanide (Complex)               | M       | 2300                 | mg/kg | 0.50     | [A] 4.5              |          |
| Cyanide (Free)                  | M       | 2300                 | mg/kg | 0.50     | [A] < 0.50           |          |
| Cyanide (Total)                 | M       | 2300                 | mg/kg | 0.50     | [A] 4.5              |          |
| Sulphate (Acid Soluble)         | M       | 2430                 | %     | 0.010    | [A] 0.18             |          |
| Arsenic                         | M       | 2450                 | mg/kg | 1.0      | 38                   |          |
| Beryllium                       | U       | 2450                 | mg/kg | 1.0      | 1.8                  |          |
| Cadmium                         | M       | 2450                 | mg/kg | 0.10     | 0.83                 |          |
| Chromium                        | M       | 2450                 | mg/kg | 1.0      | 58                   |          |
| Mercury Low Level               | M       | 2450                 | mg/kg | 0.05     | 1.4                  |          |
| Manganese                       | M       | 2450                 | mg/kg | 5.0      | 920                  |          |
| Molybdenum                      | M       | 2450                 | mg/kg | 2.0      | 9.6                  |          |
| Antimony                        | N       | 2450                 | mg/kg | 2.0      | 19                   |          |
| Copper                          | M       | 2450                 | mg/kg | 0.50     | 610                  |          |
| Nickel                          | M       | 2450                 | mg/kg | 0.50     | 89                   |          |
| Lead                            | M       | 2450                 | mg/kg | 0.50     | 1200                 |          |
| Selenium                        | M       | 2450                 | mg/kg | 0.20     | 1.3                  |          |
| Zinc                            | M       | 2450                 | mg/kg | 0.50     | 1700                 |          |
| Chromium (Trivalent)            | N       | 2490                 | mg/kg | 1.0      | 58                   |          |
| Chromium (Hexavalent)           | N       | 2490                 | mg/kg | 0.50     | < 0.50               |          |
| Aliphatic TPH >C5-C6            | N       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |
| Aliphatic TPH >C6-C8            | N       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |
| Aliphatic TPH >C8-C10           | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |
| Aliphatic TPH >C10-C12          | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |
| Aliphatic TPH >C12-C16          | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |
| Aliphatic TPH >C16-C21          | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |
| Aliphatic TPH >C21-C35          | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |
| Aliphatic TPH >C35-C44          | N       | 2680                 | mg/kg | 1.0      | [A] < 1.0            |          |

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |       |          |            | 20-11962 |
|---------------------------------|---------|----------------------|-------|----------|------------|----------|
| Quotation No.: Q18-15369        |         | Chemtest Sample ID.: |       |          |            | 1003100  |
|                                 |         | Sample Location:     |       | CP03     |            |          |
|                                 |         | Sample Type:         |       | SOIL     |            |          |
|                                 |         | Top Depth (m):       |       | 2.00     |            |          |
|                                 |         | Asbestos Lab:        |       | COVENTRY |            |          |
| Determinand                     | Accred. | SOP                  | Units | LOD      |            |          |
| Total Aliphatic Hydrocarbons    | N       | 2680                 | mg/kg | 5.0      | [A] < 5.0  |          |
| Aromatic TPH >C5-C7             | N       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Aromatic TPH >C7-C8             | N       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Aromatic TPH >C8-C10            | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Aromatic TPH >C10-C12           | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Aromatic TPH >C12-C16           | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Aromatic TPH >C16-C21           | U       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Aromatic TPH >C21-C35           | M       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Aromatic TPH >C35-C44           | N       | 2680                 | mg/kg | 1.0      | [A] < 1.0  |          |
| Total Aromatic Hydrocarbons     | N       | 2680                 | mg/kg | 5.0      | [A] < 5.0  |          |
| Total Petroleum Hydrocarbons    | N       | 2680                 | mg/kg | 10.0     | [A] < 10   |          |
| Naphthalene                     | M       | 2700                 | mg/kg | 0.10     | [A] < 0.10 |          |
| Acenaphthylene                  | M       | 2700                 | mg/kg | 0.10     | [A] < 0.10 |          |
| Acenaphthene                    | M       | 2700                 | mg/kg | 0.10     | [A] < 0.10 |          |
| Fluorene                        | M       | 2700                 | mg/kg | 0.10     | [A] < 0.10 |          |
| Phenanthrene                    | M       | 2700                 | mg/kg | 0.10     | [A] 1.6    |          |
| Anthracene                      | M       | 2700                 | mg/kg | 0.10     | [A] 0.30   |          |
| Fluoranthene                    | M       | 2700                 | mg/kg | 0.10     | [A] 1.9    |          |
| Pyrene                          | M       | 2700                 | mg/kg | 0.10     | [A] 2.0    |          |
| Benzo[a]anthracene              | M       | 2700                 | mg/kg | 0.10     | [A] 1.3    |          |
| Chrysene                        | M       | 2700                 | mg/kg | 0.10     | [A] 1.6    |          |
| Benzo[b]fluoranthene            | M       | 2700                 | mg/kg | 0.10     | [A] 1.8    |          |
| Benzo[k]fluoranthene            | M       | 2700                 | mg/kg | 0.10     | [A] 0.61   |          |
| Benzo[a]pyrene                  | M       | 2700                 | mg/kg | 0.10     | [A] 1.6    |          |
| Indeno(1,2,3-c,d)Pyrene         | M       | 2700                 | mg/kg | 0.10     | [A] 1.2    |          |
| Dibenz(a,h)Anthracene           | M       | 2700                 | mg/kg | 0.10     | [A] 0.28   |          |
| Benzo[g,h,i]perylene            | M       | 2700                 | mg/kg | 0.10     | [A] 1.0    |          |
| Total Of 16 PAH's               | M       | 2700                 | mg/kg | 2.0      | [A] 15     |          |
| Total Phenols                   | M       | 2920                 | mg/kg | 0.30     | < 0.30     |          |
| Organic Matter BS1377           | N       | 2930                 | %     | 0.10     | [A] 4.2    |          |

### Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

| Sample: | Sample Ref: | Sample ID: | Sample Location: | Sampled Date: | Deviation Code(s): | Containers Received:  |
|---------|-------------|------------|------------------|---------------|--------------------|-----------------------|
| 1003091 |             |            | WS01             |               | A                  | Amber Glass 250ml     |
| 1003091 |             |            | WS01             |               | A                  | Amber Glass 60ml      |
| 1003091 |             |            | WS01             |               | A                  | Plastic Tub 1000g     |
| 1003092 |             |            | WS02             |               | A                  | Amber Glass 250ml     |
| 1003092 |             |            | WS02             |               | A                  | Amber Glass 60ml      |
| 1003092 |             |            | WS02             |               | A                  | Plastic Tub 1000g     |
| 1003093 |             |            | WS02             |               | A                  | Amber Glass 250ml     |
| 1003093 |             |            | WS02             |               | A                  | Amber Glass 60ml      |
| 1003093 |             |            | WS02             |               | A                  | Plastic Tub 1000g     |
| 1003094 |             |            | WS03             |               | A                  | Amber Glass 250ml     |
| 1003094 |             |            | WS03             |               | A                  | Amber Glass 60ml      |
| 1003094 |             |            | WS03             |               | A                  | Plastic Tub 1000g     |
| 1003095 |             |            | WS04             |               | A                  | Amber Glass 250ml     |
| 1003095 |             |            | WS04             |               | A                  | Amber Glass 60ml      |
| 1003095 |             |            | WS04             |               | A                  | Plastic Tub 1000g     |
| 1003096 |             |            | CP01             |               | A                  | Amber Glass 250ml     |
| 1003096 |             |            | CP01             |               | A                  | Amber Glass 60ml      |
| 1003096 |             |            | CP01             |               | A                  | Plastic Bottle 1000ml |
| 1003096 |             |            | CP01             |               | A                  | Plastic Tub 1000g     |
| 1003097 |             |            | CP01             |               | A                  | Amber Glass 250ml     |
| 1003097 |             |            | CP01             |               | A                  | Amber Glass 60ml      |
| 1003097 |             |            | CP01             |               | A                  | Plastic Tub 1000g     |
| 1003098 |             |            | CP02             |               | A                  | Amber Glass 250ml     |
| 1003098 |             |            | CP02             |               | A                  | Amber Glass 60ml      |

### Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

| Sample: | Sample Ref: | Sample ID: | Sample Location: | Sampled Date: | Deviation Code(s): | Containers Received: |
|---------|-------------|------------|------------------|---------------|--------------------|----------------------|
| 1003098 |             |            | CP02             |               | A                  | Plastic Tub<br>1000g |
| 1003099 |             |            | CP02             |               | A                  | Amber Glass<br>250ml |
| 1003099 |             |            | CP02             |               | A                  | Amber Glass<br>60ml  |
| 1003099 |             |            | CP02             |               | A                  | Plastic Tub<br>1000g |
| 1003100 |             |            | CP03             |               | A                  | Amber Glass<br>250ml |
| 1003100 |             |            | CP03             |               | A                  | Amber Glass<br>60ml  |
| 1003100 |             |            | CP03             |               | A                  | Plastic Tub<br>1000g |



| SOP  | Title  | Parameters included  | Method summary   |
|------|--|--|--|
| 1010 | pH Value of Waters   | pH   | pH Meter   |
| 1220 | Anions, Alkalinity & Ammonium in Waters                              | Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium   | Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.   |
| 1300 | Cyanides & Thiocyanate in Waters                                     | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate  | Continuous Flow Analysis.  |
| 1450 | Metals in Waters by ICP-MS   | Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc   | Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).   |
| 1460 | Mercury low-level in Waters by AFS                                   | Mercury  | Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.  |
| 1610 | Total/Dissolved Organic Carbon in Waters                             | Organic Carbon   | TOC Analyser using Catalytic Oxidation   |
| 1800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Pentane extraction / GCMS detection  |
| 1920 | Phenols in Waters by HPLC  | Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.  | Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.  |
| 2010 | pH Value of Soils  | pH   | pH Meter   |
| 2030 | Moisture and Stone Content of Soils(Requirement of MCERTS)           | Moisture content   | Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.   |
| 2040 | Soil Description(Requirement of MCERTS)                              | Soil description   | As received soil is described based upon BS5930  |
| 2120 | Water Soluble Boron, Sulphate, Magnesium & Chromium                  | Boron; Sulphate; Magnesium; Chromium   | Aqueous extraction / ICP-OES   |
| 2192 | Asbestos   | Asbestos   | Polarised light microscopy / Gravimetry  |
| 2300 | Cyanides & Thiocyanate in Soils                                      | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate  | Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.  |
| 2430 | Total Sulphate in soils  | Total Sulphate   | Acid digestion followed by determination of sulphate in extract by ICP-OES.  |
| 2450 | Acid Soluble Metals in Soils   | Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc   | Acid digestion followed by determination of metals in extract by ICP-MS.   |
| 2490 | Hexavalent Chromium in Soils   | Chromium [VI]  | Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide. |
| 2680 | TPH A/A Split  | Aliphatics: >C5-C6, >C6-C8,>C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35- C44Aromatics: >C5-C7, >C7-C8, >C8- C10, >C10-C12, >C12-C16, >C16- C21, >C21- C35, >C35- C44  | Dichloromethane extraction / GCxGC FID detection   |

| SOP  | Title   | Parameters included   | Method summary   |
|------|---|---|--|
| 2700 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds) |
| 2920 | Phenols in Soils by HPLC  | Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and Trimethylphenols<br>Note: chlorophenols are excluded.   | 60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.                             |
| 2930 | Organic Matter  | Organic Matter  | Acid Dichromate digestion/Titration  |
| 640  | Characterisation of Waste (Leaching C10)                            | Waste material including soil, sludges and granular waste   | Compliance Test for Leaching of Granular Waste Material and Sludge   |

## **Report Information**

### **Key**

---

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

---

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

---

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

---

**Report No.:** 20-11964-1

**Initial Date of Issue:** 15-May-2020

**Client:** Terra Firma (Wales) Ltd

**Client Address:** 5 Deryn Court  
Wharfedale Road  
Pentwyn  
Cardiff  
CF23 7HA

**Contact(s):** Jamie Alderman

**Project:** 16017 - Channel View


**Quotation No.:** **Date Received:** 07-May-2020

**Order No.:** **Date Instructed:** 07-May-2020

**No. of Samples:** 2

**Turnaround (Wkdays):** 7 **Results Due:** 18-May-2020

**Date Approved:** 15-May-2020

**Approved By:**  


**Details:** Glynn Harvey, Technical Manager

---

**Project: 16017 - Channel View**

| Chemtest Job No: 20-11964<br>Chemtest Sample ID: 1003108<br>Sample Ref:<br>Sample ID:<br>Sample Location: CP01<br>Top Depth(m): 1.00<br>Bottom Depth(m):<br>Sampling Date: |      |   |          |           |          |             | Landfill Waste Acceptance Criteria Limits |                      |  |  |    |
|--|------|---|----------|-----------|----------|-------------|---|----------------------|--|--|----|
| Determinand  |      |   |          | SOP       | Accred.  | Units       |   | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill   |    |
| Total Organic Carbon   | 2625 | M | %        |           |          | [A] 8.9     | 3   | 5                    | 6  |  |    |
| Loss On Ignition   | 2610 | M | %        |           |          | 11          | --  | --                   | 10   |  |    |
| Total BTEX   | 2760 | M | mg/kg    |           |          | [A] < 0.010 | 6   | --                   | --   |  |    |
| Total PCBs (7 Congeners)   | 2815 | M | mg/kg    |           |          | < 0.10      | 1   | --                   | --   |  |    |
| TPH Total WAC (Mineral Oil)  | 2670 | M | mg/kg    |           |          | [A] < 10    | 500                                       | --                   | --   |  |    |
| Total (Of 17) PAH's  | 2700 | N | mg/kg    |           |          | 15          | 100                                       | --                   | --   |  |    |
| pH   | 2010 | M |          |           |          | 7.0         | --  | >6                   | --   |  |    |
| Acid Neutralisation Capacity   | 2015 | N | mol/kg   |           |          | 0.042       | --  | To evaluate          | To evaluate  |  |    |
| Eluate Analysis  |      |   |          |           |          | 2:1 mg/l    | 8:1 mg/l                                  | 2:1 mg/kg            | Cumulative mg/kg 10:1  | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg |    |
| Arsenic  | 1450 | U | 0.0031   | 0.0025    | < 0.050  | < 0.050     | < 0.050                                   | < 0.050              | 0.5  | 2  | 25 |
| Barium   | 1450 | U | 0.095    | 0.054     | < 0.50   | 0.60        | 20  | 100                  | 300  |  |    |
| Cadmium  | 1450 | U | 0.00021  | < 0.00010 | < 0.010  | < 0.010     | 0.04                                      | 1                    | 5  |  |    |
| Chromium   | 1450 | U | < 0.0010 | < 0.0010  | < 0.050  | < 0.050     | 0.5                                       | 10                   | 70   |  |    |
| Copper   | 1450 | U | 0.0031   | 0.0014    | < 0.050  | < 0.050     | 2   | 50                   | 100  |  |    |
| Mercury  | 1450 | U | 0.00051  | < 0.00050 | < 0.0010 | < 0.0050    | 0.01                                      | 0.2                  | 2  |  |    |
| Molybdenum   | 1450 | U | 0.085    | 0.032     | 0.17     | 0.40        | 0.5                                       | 10                   | 30   |  |    |
| Nickel   | 1450 | U | 0.0039   | 0.0012    | < 0.050  | < 0.050     | 0.4                                       | 10                   | 40   |  |    |
| Lead   | 1450 | U | < 0.0010 | < 0.0010  | < 0.010  | < 0.010     | 0.5                                       | 10                   | 50   |  |    |
| Antimony   | 1450 | U | 0.010    | 0.0044    | 0.019    | 0.052       | 0.06                                      | 0.7                  | 5  |  |    |
| Selenium   | 1450 | U | 0.013    | 0.0026    | 0.025    | 0.041       | 0.1                                       | 0.5                  | 7  |  |    |
| Zinc   | 1450 | U | 0.0041   | 0.0012    | < 0.50   | < 0.50      | 4   | 50                   | 200  |  |    |
| Chloride   | 1220 | U | 3.9      | < 1.0     | < 10     | < 10        | 800                                       | 15000                | 25000  |  |    |
| Fluoride   | 1220 | U | 0.14     | 0.19      | < 1.0    | 1.8         | 10  | 150                  | 500  |  |    |
| Sulphate   | 1220 | U | 39       | 11        | 76       | 150         | 1000                                      | 20000                | 50000  |  |    |
| Total Dissolved Solids   | 1020 | N | 190      | 78        | 370      | 940         | 4000                                      | 60000                | 100000   |  |    |
| Phenol Index   | 1920 | U | < 0.030  | < 0.030   | < 0.30   | < 0.50      | 1   | -                    | -  |  |    |
| Dissolved Organic Carbon   | 1610 | U | 58       | 14        | 110      | 200         | 500                                       | 800                  | 1000   |  |    |

| Solid Information           |       |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.175 |
| Moisture (%)                | 21    |

| Leachate Test Information           |       |
|-------------------------------------|-------|
| Leachant volume 1st extract/l       | 0.303 |
| Leachant volume 2nd extract/l       | 1.400 |
| Eluant recovered from 1st extract/l | 0.253 |

**Waste Acceptance Criteria**

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

**Project: 16017 - Channel View**

| Chemtest Job No: 20-11964<br>Chemtest Sample ID: 1003109<br>Sample Ref:<br>Sample ID:<br>Sample Location: CP03<br>Top Depth(m): 2.00<br>Bottom Depth(m):<br>Sampling Date: |      |         |           | Landfill Waste Acceptance Criteria Limits |           |                       |  |                          |             |
|--|------|---------|-----------|---|-----------|-----------------------|--|--------------------------|-------------|
|  |      |         |           |   |           | Inert Waste Landfill  | Stable, Non-reactive hazardous waste in non-hazardous Landfill             | Hazardous Waste Landfill |             |
| Determinand  | SOP  | Accred. | Units     |   |           |                       |  |                          |             |
| Total Organic Carbon   | 2625 | M       | %         |   |           | [A] 17                | 3  | 5                        | 6           |
| Loss On Ignition   | 2610 | M       | %         |   |           | 14                    | --   | --                       | 10          |
| Total BTEX   | 2760 | M       | mg/kg     |   |           | [A] < 0.010           | 6  | --                       | --          |
| Total PCBs (7 Congeners)   | 2815 | M       | mg/kg     |   |           | < 0.10                | 1  | --                       | --          |
| TPH Total WAC (Mineral Oil)  | 2670 | M       | mg/kg     |   |           | [A] 75                | 500  | --                       | --          |
| Total (Of 17) PAH's  | 2700 | N       | mg/kg     |   |           | 40                    | 100  | --                       | --          |
| pH   | 2010 | M       |           |   |           | 7.4                   | --   | >6                       | --          |
| Acid Neutralisation Capacity   | 2015 | N       | mol/kg    |   |           | 0.047                 | --   | To evaluate              | To evaluate |
| Eluate Analysis  |      |         | 2:1 mg/l  | 8:1 mg/l                                  | 2:1 mg/kg | Cumulative mg/kg 10:1 | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg |                          |             |
| Arsenic  | 1450 | U       | < 0.0010  | < 0.0010                                  | < 0.050   | < 0.050               | 0.5  | 2                        | 25          |
| Barium   | 1450 | U       | 0.11      | 0.080                                     | < 0.50    | 0.83                  | 20   | 100                      | 300         |
| Cadmium  | 1450 | U       | < 0.00010 | < 0.00010                                 | < 0.010   | < 0.010               | 0.04   | 1                        | 5           |
| Chromium   | 1450 | U       | 0.011     | 0.0032                                    | < 0.050   | < 0.050               | 0.5  | 10                       | 70          |
| Copper   | 1450 | U       | 0.0060    | 0.0021                                    | < 0.050   | < 0.050               | 2  | 50                       | 100         |
| Mercury  | 1450 | U       | 0.00051   | < 0.00050                                 | < 0.0010  | < 0.0050              | 0.01   | 0.2                      | 2           |
| Molybdenum   | 1450 | U       | 0.019     | 0.0079                                    | < 0.050   | 0.095                 | 0.5  | 10                       | 30          |
| Nickel   | 1450 | U       | 0.0015    | < 0.0010                                  | < 0.050   | < 0.050               | 0.4  | 10                       | 40          |
| Lead   | 1450 | U       | 0.0012    | < 0.0010                                  | < 0.010   | < 0.010               | 0.5  | 10                       | 50          |
| Antimony   | 1450 | U       | 0.0090    | 0.0034                                    | 0.018     | 0.042                 | 0.06   | 0.7                      | 5           |
| Selenium   | 1450 | U       | 0.0052    | 0.0012                                    | 0.010     | 0.018                 | 0.1  | 0.5                      | 7           |
| Zinc   | 1450 | U       | 0.039     | 0.011                                     | < 0.50    | < 0.50                | 4  | 50                       | 200         |
| Chloride   | 1220 | U       | 7.2       | < 1.0                                     | 14        | 11                    | 800  | 15000                    | 25000       |
| Fluoride   | 1220 | U       | 0.31      | 0.28                                      | < 1.0     | 2.8                   | 10   | 150                      | 500         |
| Sulphate   | 1220 | U       | 63        | 46  | 120       | 480                   | 1000   | 20000                    | 50000       |
| Total Dissolved Solids   | 1020 | N       | 210       | 91  | 420       | 1100                  | 4000   | 60000                    | 100000      |
| Phenol Index   | 1920 | U       | < 0.030   | < 0.030                                   | < 0.30    | < 0.50                | 1  | -                        | -           |
| Dissolved Organic Carbon   | 1610 | U       | 9.5       | 8.7                                       | < 50      | 88                    | 500  | 800                      | 1000        |

| Solid Information           |       |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.175 |
| Moisture (%)                | 20    |

| Leachate Test Information           |       |
|-------------------------------------|-------|
| Leachant volume 1st extract/l       | 0.307 |
| Leachant volume 2nd extract/l       | 1.400 |
| Eluant recovered from 1st extract/l | 0.262 |

**Waste Acceptance Criteria**

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

### Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

| Sample: | Sample Ref: | Sample ID: | Sample Location: | Sampled Date: | Deviation Code(s): | Containers Received: |
|---------|-------------|------------|------------------|---------------|--------------------|----------------------|
| 1003108 |             |            | CP01             |               | A                  | Amber Glass<br>250ml |
| 1003108 |             |            | CP01             |               | A                  | Amber Glass<br>60ml  |
| 1003108 |             |            | CP01             |               | A                  | Plastic Tub<br>1000g |
| 1003109 |             |            | CP03             |               | A                  | Amber Glass<br>250ml |
| 1003109 |             |            | CP03             |               | A                  | Amber Glass<br>60ml  |
| 1003109 |             |            | CP03             |               | A                  | Plastic Tub<br>1000g |

| SOP  | Title   | Parameters included  | Method summary   |
|------|---|--|--|
| 1020 | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters  | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters   | Conductivity Meter   |
| 1220 | Anions, Alkalinity & Ammonium in Waters                             | Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium   | Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.   |
| 1450 | Metals in Waters by ICP-MS  | Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc   | Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).   |
| 1610 | Total/Dissolved Organic Carbon in Waters                            | Organic Carbon   | TOC Analyser using Catalytic Oxidation   |
| 1920 | Phenols in Waters by HPLC   | Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.  | Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.  |
| 2010 | pH Value of Soils   | pH   | pH Meter   |
| 2015 | Acid Neutralisation Capacity  | Acid Reserve   | Titration  |
| 2030 | Moisture and Stone Content of Soils (Requirement of MCERTS)         | Moisture content   | Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.   |
| 2040 | Soil Description (Requirement of MCERTS)                            | Soil description   | As received soil is described based upon BS5930  |
| 2610 | Loss on Ignition  | loss on ignition (LOI)   | Determination of the proportion by mass that is lost from a soil by ignition at 550°C.   |
| 2625 | Total Organic Carbon in Soils                                       | Total organic Carbon (TOC)   | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.   |
| 2670 | Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID               | TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40   | Dichloromethane extraction / GC-FID  |
| 2700 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)                       |
| 2760 | Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS       | Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)*please refer to UKAS schedule  | Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds. |
| 2815 | Polychlorinated Biphenyls (PCB) ICES7 Congeners in Soils by GC-MS   | ICES7 PCB congeners  | Acetone/Hexane extraction / GC-MS  |
| 640  | Characterisation of Waste (Leaching C10)                            | Waste material including soil, sludges and granular waste  | ComplianceTest for Leaching of Granular Waste Material and Sludge  |
| 650  | Characterisation of Waste (Leaching WAC)                            | Waste material including soil, sludges and granular waste  | ComplianceTest for Leaching of Granular Waste Material and Sludge  |



## **Report Information**

### **Key**

---

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

---

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

---

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)

**ANNEX D**  
**Laboratory Geotechnical Results**

**TEST REPORT**  
**LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX**  
**BS EN ISO 17892-12:2018 Clauses 5.3/5.5/6.5**

|                       |              |                 |  |
|-----------------------|--------------|-----------------|--|
| <b>Project No:</b>    | D20139       | <b>Client:</b>  | Terra Firma  |
| <b>Project Name:</b>  | Channel View | <b>Address:</b> | Deryn Court<br>5 Wharfdale Road<br>Cardiff<br>CF23 7HA |
| <b>ATS Sample No:</b> | 20283        |                 |  |

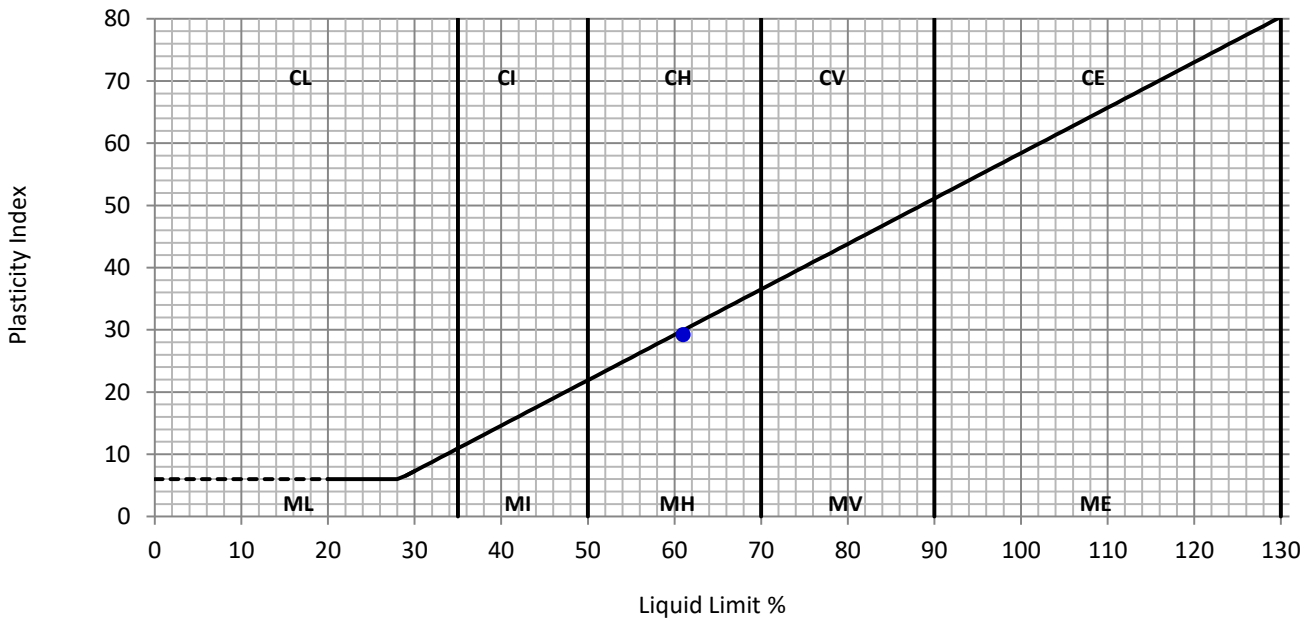
  

|                                       |             |                              |                    |
|---------------------------------------|-------------|------------------------------|--------------------|
| <b>Site Ref / Hole ID:</b>            | CP01        | <b>Depth (m):</b>            | 4.80               |
| <b>Sample No:</b>                     |             | <b>Sample Type:</b>          | Disturbed          |
| <b>Sampling Certificate Received:</b> | No          | <b>Material Description:</b> | Brownish grey SILT |
| <b>Location in Works:</b>             | N/A         | <b>Material Source:</b>      | Unknown            |
| <b>Date Sampled:</b>                  | Unknown     | <b>Material Supplier:</b>    | Unknown            |
| <b>Sampled By:</b>                    | Client      | <b>Specification:</b>        | ISO 17892          |
| <b>Date Received:</b>                 | 06 May 2020 | <b>Date Tested:</b>          | 14 May 2020        |

**Test Results**

|                  |    |   |
|------------------|----|---|
| Liquid Limit     | 61 | % |
| Plastic Limit    | 32 | % |
| Plasticity Index | 29 | % |

|                                     |                        |
|-------------------------------------|------------------------|
| Preparation:                        | 4.2.3 Natural Specimen |
| Proportion retained on 425µm sieve: | 0 %                    |



**Remarks:**

**TEST REPORT**  
**LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX**

**BS EN ISO 17892-12:2018 Clauses 5.3/5.5/6.5**

|                       |              |                 |  |
|-----------------------|--------------|-----------------|--|
| <b>Project No:</b>    | D20139       | <b>Client:</b>  | Terra Firma  |
| <b>Project Name:</b>  | Channel View | <b>Address:</b> | Deryn Court<br>5 Wharfdale Road<br>Cardiff<br>CF23 7HA |
| <b>ATS Sample No:</b> | 20284        |                 |  |

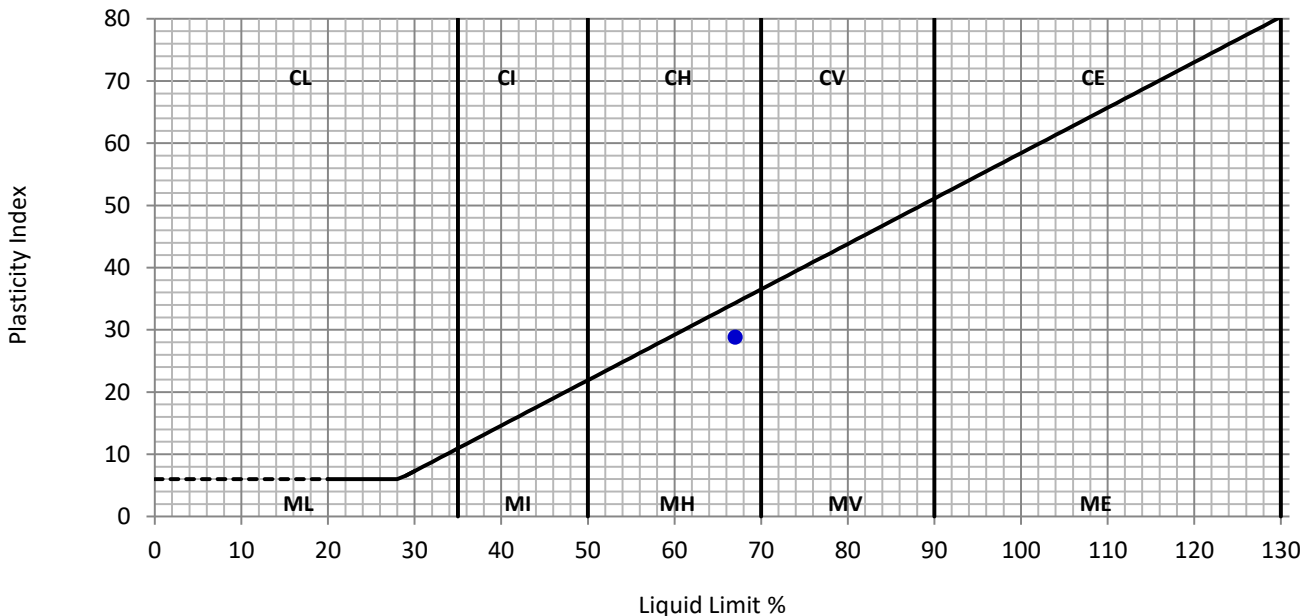
  

|                                       |             |                              |                |
|---------------------------------------|-------------|------------------------------|----------------|
| <b>Site Ref / Hole ID:</b>            | CP02        | <b>Depth (m):</b>            | 4.50           |
| <b>Sample No:</b>                     |             | <b>Sample Type:</b>          | Disturbed      |
| <b>Sampling Certificate Received:</b> | No          | <b>Material Description:</b> | Dark grey SILT |
| <b>Location in Works:</b>             | N/A         | <b>Material Source:</b>      | Unknown        |
| <b>Date Sampled:</b>                  | Unknown     | <b>Material Supplier:</b>    | Unknown        |
| <b>Sampled By:</b>                    | Client      | <b>Specification:</b>        | ISO 17892      |
| <b>Date Received:</b>                 | 06 May 2020 | <b>Date Tested:</b>          | 06 May 2020    |

**Test Results**

|                  |    |   |
|------------------|----|---|
| Liquid Limit     | 67 | % |
| Plastic Limit    | 38 | % |
| Plasticity Index | 29 | % |

|                                     |                        |
|-------------------------------------|------------------------|
| Preparation:                        | 4.2.3 Natural Specimen |
| Proportion retained on 425µm sieve: | 0 %                    |



**Remarks:**

**TEST REPORT**  
**LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX**

**BS EN ISO 17892-12:2018 Clauses 5.3/5.5/6.5**

|                       |              |                 |  |
|-----------------------|--------------|-----------------|--|
| <b>Project No:</b>    | D20139       | <b>Client:</b>  | Terra Firma  |
| <b>Project Name:</b>  | Channel View | <b>Address:</b> | Deryn Court<br>5 Wharfdale Road<br>Cardiff<br>CF23 7HA |
| <b>ATS Sample No:</b> | 20282        |                 |  |

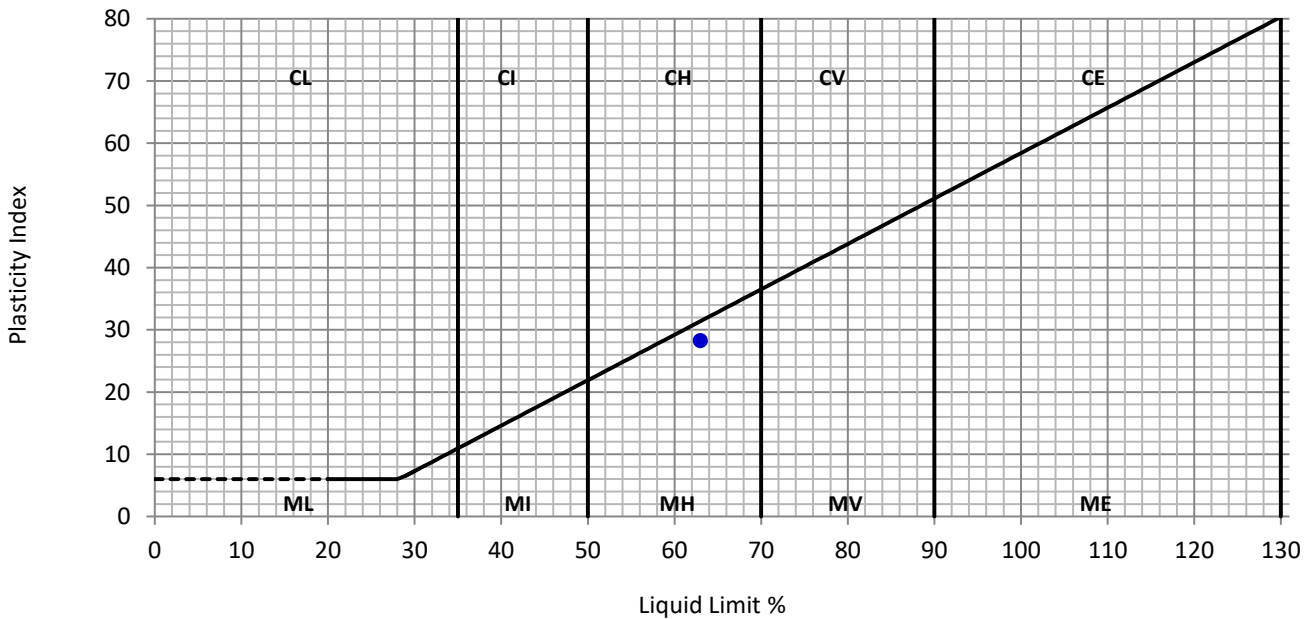
  

|                                       |             |                              |                |
|---------------------------------------|-------------|------------------------------|----------------|
| <b>Site Ref / Hole ID:</b>            | CP03        | <b>Depth (m):</b>            | 4.00           |
| <b>Sample No:</b>                     |             | <b>Sample Type:</b>          | Disturbed      |
| <b>Sampling Certificate Received:</b> | No          | <b>Material Description:</b> | Dark grey SILT |
| <b>Location in Works:</b>             | N/A         | <b>Material Source:</b>      | Unknown        |
| <b>Date Sampled:</b>                  | Unknown     | <b>Material Supplier:</b>    | Unknown        |
| <b>Sampled By:</b>                    | Client      | <b>Specification:</b>        | ISO 17892      |
| <b>Date Received:</b>                 | 06 May 2020 | <b>Date Tested:</b>          | 06 May 2020    |

**Test Results**

|                  |    |   |
|------------------|----|---|
| Liquid Limit     | 63 | % |
| Plastic Limit    | 35 | % |
| Plasticity Index | 28 | % |

|                                     |                        |
|-------------------------------------|------------------------|
| Preparation:                        | 4.2.3 Natural Specimen |
| Proportion retained on 425µm sieve: | 0 %                    |



**Remarks:**

**ANNEX F**  
**Gas Monitoring Results**

# In-Situ Gas Monitoring Results

Job Number | 16017  
Job Name | Channel View



## Round 1

Date: 14.05.2020

Barometric Pressure: 1028mb

Weather: Sunny spells

| Gas Monitoring Well Number | Methane (CH <sub>4</sub> ) (%) | Oxygen (O <sub>2</sub> ) (%) | Carbon Dioxide (CO <sub>2</sub> ) (%) | Flow (l/hr) | GW Level m bgl |
|----------------------------|--------------------------------|------------------------------|---------------------------------------|-------------|----------------|
| CP01                       | 9.8                            | 19.4                         | 2.5                                   | No Flow     | 5.35           |
| CP02                       | 0.0                            | 19.9                         | 0.8                                   | 0.2         | 5.3            |
| CP03                       | 0.0                            | 19.6                         | 1.0                                   | No Flow     | 4.28           |
| WS01                       | 0.0                            | 18.1                         | 1.4                                   | No Flow     | Dry            |
| WS02                       | 0.0                            | 19.2                         | 0.4                                   | No Flow     | Dry            |
| WS03                       | 0.0                            | 19.4                         | 2.3                                   | No Flow     | Dry            |
| WS04                       | 0.0                            | 18.9                         | 1.4                                   | No Flow     | Dry            |

## Round 2

Date: 28.05.2020

Barometric Pressure: 1033mb

Weather: Sunny spells

| Gas Monitoring Well Number | Methane (CH <sub>4</sub> ) (%) | Oxygen (O <sub>2</sub> ) (%) | Carbon Dioxide (CO <sub>2</sub> ) (%) | Flow (l/hr) | GW Level m bgl |
|----------------------------|--------------------------------|------------------------------|---------------------------------------|-------------|----------------|
| CP01                       | 10.2                           | 18.8                         | 2.4                                   | No Flow     | 5.1            |
| CP02                       | 0.0                            | 19.4                         | 1.2                                   | No Flow     | 5.18           |
| CP03                       | 0.0                            | 19.8                         | 0.7                                   | No Flow     | 4.25           |
| WS01                       | 0.0                            | 18.8                         | 0.9                                   | No Flow     | Dry            |
| WS02                       | 0.0                            | 19.9                         | 0.5                                   | No Flow     | Dry            |
| WS03                       | 0.0                            | 19.0                         | 1.5                                   | No Flow     | Dry            |
| WS04                       | 0.0                            | 19.1                         | 1.3                                   | No Flow     | Dry            |

## Round 3

Date: 09.06.2019

Barometric Pressure: 9977mb

Weather: Sunny spells

| Gas Monitoring Well Number | Methane (CH <sub>4</sub> ) (%) | Oxygen (O <sub>2</sub> ) (%) | Carbon Dioxide (CO <sub>2</sub> ) (%) | Flow (l/hr) | GW Level m bgl |
|----------------------------|--------------------------------|------------------------------|---------------------------------------|-------------|----------------|
| CP01                       | 9.4                            | 20.1                         | 1.8                                   | No Flow     | 5              |
| CP02                       | 0.0                            | 20.1                         | 0.7                                   | 0.8         | 4.72           |
| CP03                       | 0.0                            | 20.4                         | 0.8                                   | No Flow     | 4.10           |
| WS01                       | 0.0                            | 20.3                         | 0.6                                   | No Flow     | Dry            |
| WS02                       | 0.0                            | 20.0                         | 0.6                                   | No Flow     | Dry            |
| WS03                       | 0.0                            | 20.2                         | 1.4                                   | No Flow     | Dry            |
| WS04                       | 0.0                            | 20.5                         | 1.2                                   | No Flow     | 3.39           |

Notes:

# In-Situ Gas Monitoring Results

Job Number 16017  
Job Name Channel View



## Round 4

Date: 02.07.2019

Barometric Pressure: 9967mb

Weather: Dry

| Gas Monitoring Well Number | Methane (CH <sub>4</sub> ) (%) | Oxygen (O <sub>2</sub> ) (%) | Carbon Dioxide (CO <sub>2</sub> ) (%) | Flow (l/hr) | GW Level m bgl |
|----------------------------|--------------------------------|------------------------------|---------------------------------------|-------------|----------------|
| CP01                       | 9.8                            | 16.4                         | 2.0                                   | No Flow     | 5.65           |
| CP02                       | 0.0                            | 20.9                         | 0.6                                   | No Flow     | 5.3            |
| CP03                       | Install damaged                |                              |                                       |             |                |
| WS01                       | 0.0                            | 18.8                         | 0.7                                   | No Flow     | Dry            |
| WS02                       | 0.0                            | 19.9                         | 0.6                                   | No Flow     | Dry            |
| WS03                       | 0.0                            | 19.7                         | 1.4                                   | No Flow     | Dry            |
| WS04                       | 0.0                            | 19.7                         | 1.2                                   | No Flow     | Dry            |

## Round 5

Date: 14.07.2020

Barometric Pressure: 1019mb

Weather: Dry

| Gas Monitoring Well Number | Methane (CH <sub>4</sub> ) (%) | Oxygen (O <sub>2</sub> ) (%) | Carbon Dioxide (CO <sub>2</sub> ) (%) | Flow (l/hr) | GW Level m bgl |
|----------------------------|--------------------------------|------------------------------|---------------------------------------|-------------|----------------|
| CP01                       | 10.4                           | 15.0                         | 2.5                                   | No Flow     | 5.65           |
| CP02                       | 0.0                            | 20.7                         | 0.8                                   | No Flow     | 5.3            |
| CP03                       | Install damaged                |                              |                                       |             |                |
| WS01                       | 0.0                            | 18.8                         | 1.3                                   | No Flow     | Dry            |
| WS02                       | 0.0                            | 19.0                         | 1.5                                   | No Flow     | Dry            |
| WS03                       | 0.0                            | 16.3                         | 3.2                                   | No Flow     | 3.64           |
| WS04                       | 0.0                            | 14.2                         | 5.0                                   | No Flow     | 3.57           |

## Round 6

Date: 22.07.2020

Barometric Pressure: 1024

Weather: Dry

| Gas Monitoring Well Number | Methane (CH <sub>4</sub> ) (%) | Oxygen (O <sub>2</sub> ) (%) | Carbon Dioxide (CO <sub>2</sub> ) (%) | Flow (l/hr) | GW Level m bgl |
|----------------------------|--------------------------------|------------------------------|---------------------------------------|-------------|----------------|
| CP01                       | 10.5                           | 14.5                         | 2.6                                   | No Flow     | 5.2            |
| CP02                       | 0.0                            | 20.4                         | 1.0                                   | No Flow     | 5.2            |
| CP03                       | Install damaged                |                              |                                       |             |                |
| WS01                       | 0.0                            | 14.5                         | 1.3                                   | No Flow     | Dry            |
| WS02                       | 0.0                            | 20.4                         | 1.0                                   | No Flow     | Dry            |
| WS03                       | 0.0                            | 15.9                         | 4.1                                   | No Flow     | 3.64           |
| WS04                       | 0.0                            | 14.9                         | 4.8                                   | No Flow     | 3.57           |

Notes:



**ANNEX G**  
**Water Monitoring Results**



# Amended Report

---

**Report No.:** 20-15387-2

**Initial Date of Issue:** 23-Jun-2020      **Date of Re-Issue:** 01-Jul-2020

**Client:** Terra Firma (Wales) Ltd

**Client Address:** 5 Deryn Court  
Wharfedale Road  
Pentwyn  
Cardiff  
CF23 7HA

**Contact(s):** Jamie Alderman

**Project:** 16017 Channel View

**Quotation No.:** Q18-15369      **Date Received:** 15-Jun-2020

**Order No.:**      **Date Instructed:** 18-Jun-2020

**No. of Samples:** 3

**Turnaround (Wkdays):** 9      **Results Due:** 30-Jun-2020

**Date Approved:** 01-Jul-2020

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

---

## Results - Water

**Project: 16017 Channel View**

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |         | 20-15387 | 20-15387    | 20-15387    |
|---------------------------------|---------|----------------------|---------|----------|-------------|-------------|
| Quotation No.: Q18-15369        |         | Chemtest Sample ID.: |         | 1018892  | 1018893     | 1018894     |
|                                 |         | Sample Location:     |         | BH01     | BH02        | BH03        |
|                                 |         | Sample Type:         |         | WATER    | WATER       | WATER       |
|                                 |         | Top Depth (m):       |         | 0.1      | 0.5         | 0.1         |
| Determinand                     | Accred. | SOP                  | Units   | LOD      |             |             |
| pH                              | U       | 1010                 |         | N/A      | [A] 8.5     | [A] 8.6     |
| Electrical Conductivity         | U       | 1020                 | µS/cm   | 1.0      | [A] 3500    | [A] 2800    |
| Biochemical Oxygen Demand       | N       | 1090                 | mg O2/l | 4.0      | [A] < 4.0   | [A] < 4.0   |
| Chemical Oxygen Demand          | U       | 1100                 | mg O2/l | 10       | [A] 26      | [A] 16      |
| Sulphate                        | U       | 1220                 | mg/l    | 1.0      | [A] 61      | [A] 65      |
| Cyanide (Total) Low-Level       | N       | 1300                 | mg/l    | 0.0050   | < 0.0050    | < 0.0050    |
| Sulphide                        | U       | 1325                 | mg/l    | 0.050    | [A] < 0.050 | [A] < 0.050 |
| Hardness                        | N       | 1415                 | mg/l    | 1.0      | [A] 190     | [A] 110     |
| Arsenic (Dissolved)             | U       | 1450                 | µg/l    | 1.0      | [A] 3.6     | [A] 8.8     |
| Cadmium (Dissolved)             | U       | 1450                 | µg/l    | 0.080    | [A] < 0.080 | [A] < 0.080 |
| Chromium (Dissolved)            | U       | 1450                 | µg/l    | 1.0      | [A] 12      | [A] 9.7     |
| Copper (Dissolved)              | U       | 1450                 | µg/l    | 1.0      | [A] 3.6     | [A] 3.6     |
| Nickel (Dissolved)              | U       | 1450                 | µg/l    | 1.0      | [A] 2.2     | [A] 1.5     |
| Lead (Dissolved)                | U       | 1450                 | µg/l    | 1.0      | [A] < 1.0   | [A] 1.2     |
| Selenium (Dissolved)            | U       | 1450                 | µg/l    | 1.0      | [A] 4.7     | [A] 5.5     |
| Zinc (Dissolved)                | U       | 1450                 | µg/l    | 1.0      | [A] 7.7     | [A] 7.2     |
| Mercury Low Level               | U       | 1460                 | µg/l    | 0.010    | [A] < 0.010 | [A] < 0.010 |
| Chromium (Trivalent)            | N       | 1490                 | µg/l    | 20       | [A] < 20    | [A] < 20    |
| Chromium (Hexavalent)           | U       | 1490                 | µg/l    | 20       | [A] < 20    | [A] < 20    |
| Total TPH >C6-C40               | U       | 1670                 | µg/l    | 10       | [A] < 10    | [A] < 10    |
| Aliphatic TPH >C5-C6            | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aliphatic TPH >C6-C8            | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aliphatic TPH >C8-C10           | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aliphatic TPH >C10-C12          | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aliphatic TPH >C12-C16          | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aliphatic TPH >C16-C21          | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aliphatic TPH >C21-C35          | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aliphatic TPH >C35-C44          | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Total Aliphatic Hydrocarbons    | N       | 1675                 | µg/l    | 5.0      | [A] < 5.0   | [A] < 5.0   |
| Aromatic TPH >C5-C7             | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aromatic TPH >C7-C8             | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aromatic TPH >C8-C10            | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aromatic TPH >C10-C12           | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aromatic TPH >C12-C16           | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aromatic TPH >C16-C21           | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aromatic TPH >C21-C35           | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Aromatic TPH >C35-C44           | N       | 1675                 | µg/l    | 0.10     | [A] < 0.10  | [A] < 0.10  |
| Total Aromatic Hydrocarbons     | N       | 1675                 | µg/l    | 5.0      | [A] < 5.0   | [A] < 5.0   |
| Total Petroleum Hydrocarbons    | N       | 1675                 | µg/l    | 10       | [A] < 10    | [A] < 10    |
| Naphthalene                     | N       | 1700                 | µg/l    | 0.010    | [A] < 0.010 | [A] < 0.010 |
| Acenaphthylene                  | N       | 1700                 | µg/l    | 0.010    | [A] < 0.010 | [A] < 0.010 |

## Results - Water

**Project: 16017 Channel View**

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |       | 20-15387 | 20-15387     | 20-15387     |
|---------------------------------|---------|----------------------|-------|----------|--------------|--------------|
| Quotation No.: Q18-15369        |         | Chemtest Sample ID.: |       | 1018892  | 1018893      | 1018894      |
|                                 |         | Sample Location:     |       | BH01     | BH02         | BH03         |
|                                 |         | Sample Type:         |       | WATER    | WATER        | WATER        |
|                                 |         | Top Depth (m):       |       | 0.1      | 0.5          | 0.1          |
| Determinand                     | Accred. | SOP                  | Units | LOD      |              |              |
| Acenaphthene                    | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Fluorene                        | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Phenanthrene                    | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Anthracene                      | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Fluoranthene                    | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Pyrene                          | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[a]anthracene              | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Chrysene                        | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[b]fluoranthene            | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[k]fluoranthene            | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[a]pyrene                  | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Indeno(1,2,3-c,d)Pyrene         | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Dibenz(a,h)Anthracene           | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[g,h,i]perylene            | N       | 1700                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Total Of 16 PAH's               | N       | 1700                 | µg/l  | 0.20     | [A] < 0.20   | [A] < 0.20   |
| Naphthalene                     | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Acenaphthylene                  | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Acenaphthene                    | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Fluorene                        | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Phenanthrene                    | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Anthracene                      | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Fluoranthene                    | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Pyrene                          | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[a]anthracene              | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Chrysene                        | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[b]fluoranthene            | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[k]fluoranthene            | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[a]pyrene                  | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Indeno(1,2,3-c,d)Pyrene         | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Dibenz(a,h)Anthracene           | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Benzo[g,h,i]perylene            | N       | 1800                 | µg/l  | 0.010    | [A] < 0.010  | [A] < 0.010  |
| Total Of 16 PAH's               | N       | 1800                 | µg/l  | 0.10     | [A] < 0.10   | [A] < 0.10   |
| Resorcinol                      | U       | 1920                 | mg/l  | 0.0050   | [A] < 0.0050 | [A] < 0.0050 |
| Phenol                          | U       | 1920                 | mg/l  | 0.0050   | [A] < 0.0050 | [A] < 0.0050 |
| Cresols                         | U       | 1920                 | mg/l  | 0.0050   | [A] < 0.0050 | [A] < 0.0050 |
| Xylenols                        | U       | 1920                 | mg/l  | 0.0050   | [A] < 0.0050 | [A] < 0.0050 |
| 1-Naphthol                      | N       | 1920                 | mg/l  | 0.0050   | [A] < 0.0050 | [A] < 0.0050 |
| Trimethylphenols                | U       | 1920                 | mg/l  | 0.0050   | [A] < 0.0050 | [A] < 0.0050 |
| Total Phenols                   | U       | 1920                 | mg/l  | 0.030    | [A] < 0.030  | [A] < 0.030  |

## Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Eurofins Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

| Sample: | Sample Ref: | Sample ID: | Sample Location: | Sampled Date: | Deviation Code(s): | Containers Received:       |
|---------|-------------|------------|------------------|---------------|--------------------|----------------------------|
| 1018892 |             |            | BH01             |               | A                  | Coloured Winchester 1000ml |
| 1018892 |             |            | BH01             |               | A                  | EPA Vial 40ml              |
| 1018892 |             |            | BH01             |               | A                  | Plastic Bottle 1000ml      |
| 1018893 |             |            | BH02             |               | A                  | Coloured Winchester 1000ml |
| 1018893 |             |            | BH02             |               | A                  | EPA Vial 40ml              |
| 1018893 |             |            | BH02             |               | A                  | Plastic Bottle 1000ml      |
| 1018894 |             |            | BH03             |               | A                  | Coloured Winchester 1000ml |
| 1018894 |             |            | BH03             |               | A                  | EPA Vial 40ml              |
| 1018894 |             |            | BH03             |               | A                  | Plastic Bottle 1000ml      |

## Test Methods

| SOP  | Title   | Parameters included  | Method summary   |
|------|---|--|--|
| 1010 | pH Value of Waters  | pH   | pH Meter   |
| 1020 | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters                | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters   | Conductivity Meter   |
| 1090 | Biochemical Oxygen Demand   | Biochemical Oxygen demand (BOD)  | Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.                                     |
| 1100 | Chemical Oxygen Demand  | Chemical Oxygen demand (COD)   | Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].                          |
| 1220 | Anions, Alkalinity & Ammonium in Waters   | Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium   | Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.   |
| 1300 | Cyanides & Thiocyanate in Waters  | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate  | Continuous Flow Analysis.  |
| 1325 | Sulphide in Waters  | Sulphides  | Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-pphenylenediamine.                             |
| 1415 | Cations in Waters by ICP-MS   | Sodium; Potassium; Calcium; Magnesium  | Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).   |
| 1450 | Metals in Waters by ICP-MS  | Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc   | Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).                     |
| 1460 | Mercury low-level in Waters by AFS  | Mercury  | Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.  |
| 1490 | Hexavalent Chromium in Waters   | Chromium [VI]  | Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.                                      |
| 1670 | Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID                            | TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO  | Pentane extraction / GC FID detection  |
| 1675 | TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG) | Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44<br>Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44  | Pentane extraction / GCxGC FID detection   |
| 1700 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID             | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds) |
| 1800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS              | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Pentane extraction / GCMS detection  |
| 1920 | Phenols in Waters by HPLC   | Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.  | Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.                                      |

## **Report Information**

### **Key**

---

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

---

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

---

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)



# Final Report

---

**Report No.:** 20-17375-1  
**Initial Date of Issue:** 14-Jul-2020  
**Client:** Terra Firma (Wales) Ltd  
**Client Address:** 5 Deryn Court  
Wharfedale Road  
Pentwyn  
Cardiff  
CF23 7HA  
**Contact(s):** Jamie Alderman  
**Project:** 16017 Channel View  
**Quotation No.:** **Date Received:** 08-Jul-2020  
**Order No.:** **Date Instructed:** 08-Jul-2020  
**No. of Samples:** 3  
**Turnaround (Wkdays):** 5 **Results Due:** 14-Jul-2020  
**Date Approved:** 14-Jul-2020

**Approved By:**

**Details:** Glynn Harvey, Technical Manager

---



## Results - Water

**Project: 16017 Channel View**

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |         | 20-17375    | 20-17375    | 20-17375    |          |
|---------------------------------|---------|----------------------|---------|-------------|-------------|-------------|----------|
| Quotation No.:                  |         | Chemtest Sample ID.: |         | 1028257     | 1028258     | 1028259     |          |
|                                 |         | Sample Location:     |         | CP01        | CP02        | CP03        |          |
|                                 |         | Sample Type:         |         | WATER       | WATER       | WATER       |          |
|                                 |         | Date Sampled:        |         | 06-Jul-2020 | 06-Jul-2020 | 06-Jul-2020 |          |
| Determinand                     | Accred. | SOP                  | Units   | LOD         |             |             |          |
| pH                              | U       | 1010                 |         | N/A         | 8.4         | 8.6         | 8.6      |
| Electrical Conductivity         | U       | 1020                 | µS/cm   | 1.0         | 3400        | 3000        | 3200     |
| Biochemical Oxygen Demand       | N       | 1090                 | mg O2/l | 4.0         | 7.0         | 4.0         | < 4.0    |
| Chemical Oxygen Demand          | U       | 1100                 | mg O2/l | 10          | 29          | 17          | 19       |
| Sulphate                        | U       | 1220                 | mg/l    | 1.0         | 57          | 65          | 71       |
| Cyanide (Total) Low-Level       | N       | 1300                 | mg/l    | 0.0050      | < 0.0050    | < 0.0050    | < 0.0050 |
| Sulphide                        | U       | 1325                 | mg/l    | 0.050       | < 0.050     | < 0.050     | < 0.050  |
| Hardness                        | N       | 1415                 | mg/l    | 1.0         | 180         | 150         | 180      |
| Arsenic (Dissolved)             | U       | 1450                 | µg/l    | 1.0         | 2.7         | 2.8         | < 1.0    |
| Cadmium (Dissolved)             | U       | 1450                 | µg/l    | 0.080       | < 0.080     | < 0.080     | < 0.080  |
| Chromium (Dissolved)            | U       | 1450                 | µg/l    | 1.0         | < 1.0       | < 1.0       | < 1.0    |
| Copper (Dissolved)              | U       | 1450                 | µg/l    | 1.0         | 2.0         | 1.0         | < 1.0    |
| Nickel (Dissolved)              | U       | 1450                 | µg/l    | 1.0         | < 1.0       | < 1.0       | < 1.0    |
| Lead (Dissolved)                | U       | 1450                 | µg/l    | 1.0         | < 1.0       | < 1.0       | < 1.0    |
| Selenium (Dissolved)            | U       | 1450                 | µg/l    | 1.0         | 5.7         | 1.9         | 1.1      |
| Zinc (Dissolved)                | U       | 1450                 | µg/l    | 1.0         | < 1.0       | < 1.0       | < 1.0    |
| Mercury Low Level               | U       | 1460                 | µg/l    | 0.010       | < 0.010     | < 0.010     | < 0.010  |
| Chromium (Trivalent)            | N       | 1490                 | µg/l    | 20          | < 20        | < 20        | < 20     |
| Chromium (Hexavalent)           | U       | 1490                 | µg/l    | 20          | < 20        | < 20        | < 20     |
| Aliphatic TPH >C5-C6            | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aliphatic TPH >C6-C8            | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aliphatic TPH >C8-C10           | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aliphatic TPH >C10-C12          | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aliphatic TPH >C12-C16          | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aliphatic TPH >C16-C21          | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aliphatic TPH >C21-C35          | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aliphatic TPH >C35-C44          | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Total Aliphatic Hydrocarbons    | N       | 1675                 | µg/l    | 5.0         | < 5.0       | < 5.0       | < 5.0    |
| Aromatic TPH >C5-C7             | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aromatic TPH >C7-C8             | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aromatic TPH >C8-C10            | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aromatic TPH >C10-C12           | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aromatic TPH >C12-C16           | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aromatic TPH >C16-C21           | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aromatic TPH >C21-C35           | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Aromatic TPH >C35-C44           | N       | 1675                 | µg/l    | 0.10        | < 0.10      | < 0.10      | < 0.10   |
| Total Aromatic Hydrocarbons     | N       | 1675                 | µg/l    | 5.0         | < 5.0       | < 5.0       | < 5.0    |
| Total Petroleum Hydrocarbons    | N       | 1675                 | µg/l    | 10          | < 10        | < 10        | < 10     |
| Naphthalene                     | N       | 1800                 | µg/l    | 0.010       | < 0.010     | < 0.010     | < 0.010  |
| Acenaphthylene                  | N       | 1800                 | µg/l    | 0.010       | < 0.010     | < 0.010     | < 0.010  |
| Acenaphthene                    | N       | 1800                 | µg/l    | 0.010       | < 0.010     | < 0.010     | < 0.010  |

## Results - Water

**Project: 16017 Channel View**

| Client: Terra Firma (Wales) Ltd |         | Chemtest Job No.:    |       | 20-17375    | 20-17375    | 20-17375    |
|---------------------------------|---------|----------------------|-------|-------------|-------------|-------------|
| Quotation No.:                  |         | Chemtest Sample ID.: |       | 1028257     | 1028258     | 1028259     |
|                                 |         | Sample Location:     |       | CP01        | CP02        | CP03        |
|                                 |         | Sample Type:         |       | WATER       | WATER       | WATER       |
|                                 |         | Date Sampled:        |       | 06-Jul-2020 | 06-Jul-2020 | 06-Jul-2020 |
| Determinand                     | Accred. | SOP                  | Units | LOD         |             |             |
| Fluorene                        | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Phenanthrene                    | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Anthracene                      | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Fluoranthene                    | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Pyrene                          | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Benzo[a]anthracene              | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Chrysene                        | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Benzo[b]fluoranthene            | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Benzo[k]fluoranthene            | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Benzo[a]pyrene                  | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Indeno(1,2,3-c,d)Pyrene         | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Dibenz(a,h)Anthracene           | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Benzo[g,h,i]perylene            | N       | 1800                 | µg/l  | 0.010       | < 0.010     | < 0.010     |
| Total Of 16 PAH's               | N       | 1800                 | µg/l  | 0.10        | < 0.10      | < 0.10      |
| Resorcinol                      | U       | 1920                 | mg/l  | 0.0050      | 0.18        | 0.10        |
| Phenol                          | U       | 1920                 | mg/l  | 0.0050      | < 0.0050    | < 0.0050    |
| Cresols                         | U       | 1920                 | mg/l  | 0.0050      | < 0.0050    | < 0.0050    |
| Xylenols                        | U       | 1920                 | mg/l  | 0.0050      | < 0.0050    | < 0.0050    |
| 1-Naphthol                      | N       | 1920                 | mg/l  | 0.0050      | < 0.0050    | < 0.0050    |
| Trimethylphenols                | U       | 1920                 | mg/l  | 0.0050      | < 0.0050    | < 0.0050    |
| Total Phenols                   | U       | 1920                 | mg/l  | 0.030       | 0.18        | 0.10        |

## Test Methods

| SOP  | Title   | Parameters included  | Method summary   |
|------|---|--|--|
| 1010 | pH Value of Waters  | pH   | pH Meter   |
| 1020 | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters                | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters   | Conductivity Meter   |
| 1090 | Biochemical Oxygen Demand   | Biochemical Oxygen demand (BOD)  | Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.                 |
| 1100 | Chemical Oxygen Demand  | Chemical Oxygen demand (COD)   | Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].      |
| 1220 | Anions, Alkalinity & Ammonium in Waters   | Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium   | Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.   |
| 1300 | Cyanides & Thiocyanate in Waters  | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate  | Continuous Flow Analysis.  |
| 1325 | Sulphide in Waters  | Sulphides  | Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-pphenylenediamine.         |
| 1415 | Cations in Waters by ICP-MS   | Sodium; Potassium; Calcium; Magnesium  | Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).                                 |
| 1450 | Metals in Waters by ICP-MS  | Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc   | Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS). |
| 1460 | Mercury low-level in Waters by AFS  | Mercury  | Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.                                |
| 1490 | Hexavalent Chromium in Waters   | Chromium [VI]  | Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.                  |
| 1675 | TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG) | Aliphatics: >C5-C6, >C6-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44<br>Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44  | Pentane extraction / GCxGC FID detection   |
| 1800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS              | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Pentane extraction / GCMS detection  |
| 1920 | Phenols in Waters by HPLC   | Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols<br>Note: Chlorophenols are excluded.   | Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.                  |

## **Report Information**

### **Key**

---

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

### **Sample Deviation Codes**

---

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

---

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)

**DRAWINGS**

Drawing Number  
**01**




Drawing Title  
**SITE LAYOUT**

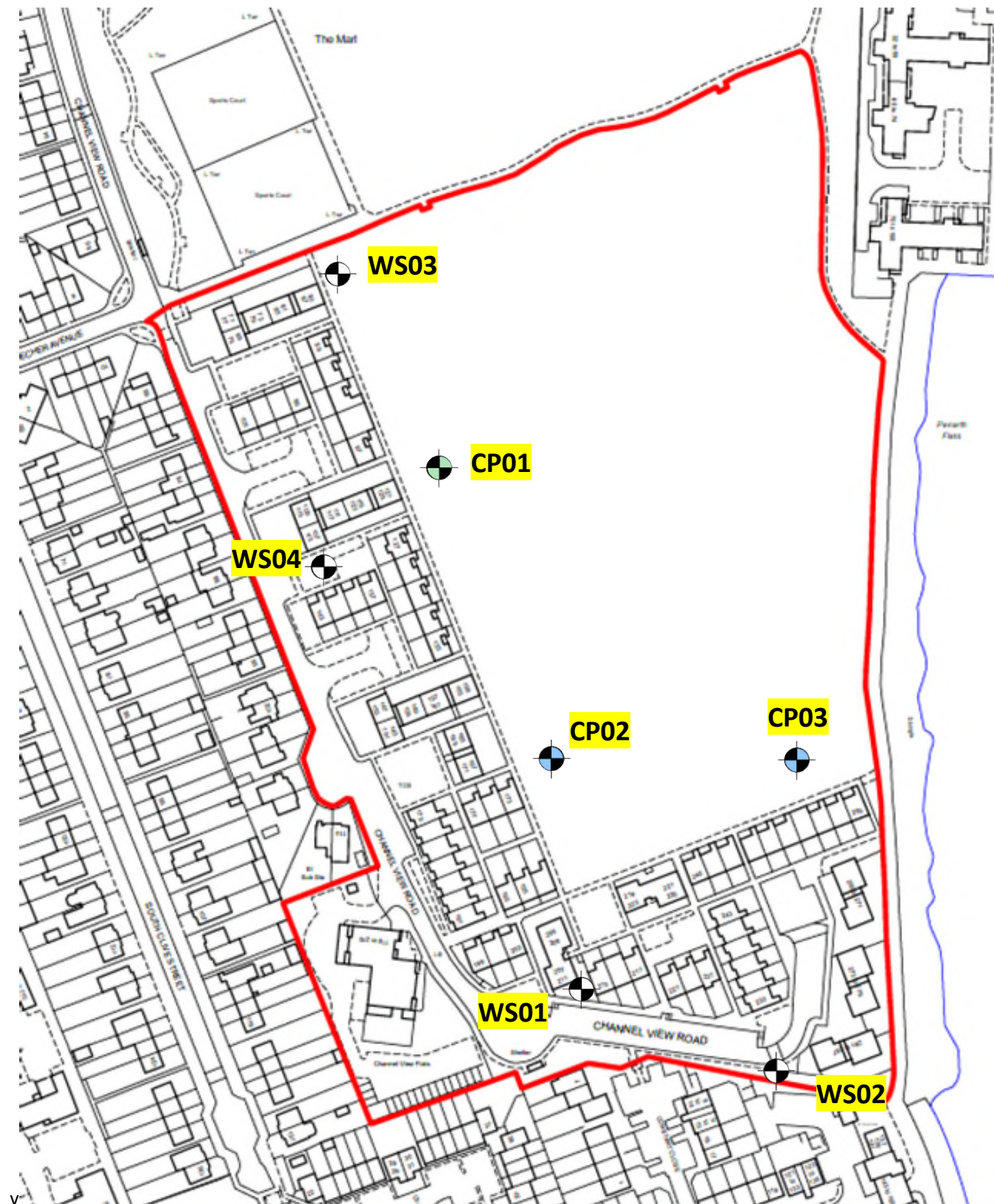
Job Number  
**16017**

Job Title  
**Channel View, Cardiff**

(Locations are approximate.)

NOT TO SCALE

-  Windowless Sample Boreholes
-  Cable Percussive Boreholes
-  Cable Percussive with Rotary follow on Boreholes





**Terra Firma (Wales) Ltd.**

Consulting Geo-Technical & Geo-Environmental Engineers  
Site Investigation Contractors

5 Deryn Court, Wharfedale Road,  
Pentwyn, Cardiff CF23 7HB  
Tel: 029 2073 5354 Fax: 029 2073 5433  
Email: [info@terrafirmawales.co.uk](mailto:info@terrafirmawales.co.uk)  
[www.terrafirmawales.co.uk](http://www.terrafirmawales.co.uk)