

JONES BROS (RUTHIN) LTD

SEIONT BRICKWORKS AND QUARRY, CAERNARFON, GWYNEDD, LL55 2YL

ENVIRONMENTAL PERMIT APPLICATION - SITE CONDITION REPORT


REPORT No. E0835.SCR.R1

MARCH 2017



Client : JONES BROS RUTHIN (CIVIL ENGINEERING) CO LTD
Project Title : SEIONT BRICKWORKS AND QUARRY, CAERNARFON, GWYNEDD, LL55 2YL
Document Title: ENVIRONMENTAL PERMIT APPLICATION - SITE CONDITION REPORT
Project No. e0835
Report No. E0835.SCR.R1
Date. MARCH 2017

Distribution: JONES BROS RUTHIN (CIVIL ENGINEERING) CO LTD

Version:	FINAL		
Date:	10/03/17		
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Report Ref:	E0835.SCR.R1		
Signed:			

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1. INTRODUCTION.

1.1 Background and Terms of Reference

1.1.1 This Site Condition Report (SCR) has been prepared by e-geo Solutions Ltd to support an application for an Environmental Permit at the Seiont Brickworks and Quarry, Caernarfon, Gwynedd. The report satisfies the Environment Agency's requirements for a SCR by identifying:

- the environmental setting and land pollution history of the site
- activities that will be conducted at the site that may lead to land pollution
- and assessing the preventative measures that will be in place to protect the land.

A desk study has been undertaken of the site, reviewing information on site condition and previous activities together with a GroundSure Environmental data report on the sites geological and environmental setting, and information from previous investigations and water monitoring undertaken at the site.

1.1.3 This information is used to describe the conditions at the site and, in particular, to set baseline conditions, by identifying any polluting substances that may be present in or on land at the site. Future site activities and pollution prevention measures are also identified and described.

1.1.4 This report presents the findings of the SCR assessment, detailing the present site conditions encountered and identifying any potential contamination issues. The report format and contents are set out in accordance with the Environment Agency H5 SCR Guide for Applicants v2 (August 2008). In accordance with this guidance, Sections 2 to 4 have been completed for the permit application stage. The sections of the report are summarised below:

Environmental Permit Site Condition Report		
Permit Application Stage		
Section 2	-	Introduction and Site Details
Section 3	-	Condition of Land at Permit Issue
Section 4	-	Permitted Activities

1.1.5 The report has been prepared by e-geo Solutions Ltd for the sole use of the Client, for the purposes described and no extended duty of care applies to other parties. The comments given, and opinions expressed in this report are based on the information collated from site observations, and information provided at the time of the study, however there may be outstanding information and data which becomes available at a later date which has an impact on the overall conclusions. No warranty is given that the information represents all ground conditions prevailing at the site.

2. SITE DETAILS.

2.1 Introduction

2.1.1 Details for the site where permitted activities will be carried out and of the applicant are provided below:

Table 1.1 – Site Details

SITE DETAILS	SEIONT BRICKWORKS AND QUARRY, CAERNARFON, GWYNEDD, LL55 2YL
Applicant:	Jones Bros Ruthin (Civil Engineering) Co Ltd. Denbigh Road Ruthin Denbighshire LL15 2TN
Site and Activity Address:	Seiont Brickworks and Quarry Caernarfon Gwynedd LL55 2YL
NGR:	The site is at Grid Reference 248855,361481.
Site Plans :	RML Ltd Drawing 3030/11 – Site Location Plan (Appendix 1.1) RML Ltd Drawing 3030/12 – Site Plan (Appendix 1.2) RML Ltd Drawing 3030/13A – Working Plan a Construction Phase RML Ltd Drawing 3030/13B – Working Plan B Operational Phase RML Ltd Drawing 3030/30 – Restoration Plan

3. CONDITION OF LAND AT PERMIT ISSUE.

3.1 Introduction

- 3.1.1 This section details the information collected during the desk study and site inspection and indicates the condition of the land at the site at the time of permit issue.
- 3.1.2 The Environment Agency's Environmental Permitting Regulations (EP Regulations) H1 Part 1 Environmental Risk Assessment horizontal guidance (March 2008) requires that risks to environmental and human receptors are assessed for the activities at the site. Environmental H5 Guidance states that samples of soil and/or surface water and ground water are collected and analysed where there is evidence that there is or could be contamination and the risk assessment has identified that the contamination is a hazard and there could be a pathway to land or controlled waters.
- 3.1.3 Although samples are not required if the risk assessment indicates only limited hazards to land or water or if historical contamination is unlikely, samples of surface water have been collected and analysed to provide baseline information on the condition of the site at the issue of the permit. Ground and soil samples have also been collected and analysed from areas within the former brickworks.

3.2 Condition of Land and Site Profile

- 3.2.1 A desk based study including a site inspection and preliminary risk assessment has been undertaken and a preliminary conceptual model prepared to establish the condition of land at the site. Full details of the site characteristics, environmental profile, geological and hydro-geological setting, and details of surrounding land use and designations and details of pollution incidents are presented in the GroundSure EnviroInsight Report in Appendix 2. A summary of the findings and site profile are presented below:

Table 1.2 – Site Profile

PROFILE ITEM	SEIONT BRICKWORKS AND QUARRY, CAERNARFON, GWYNEDD, LL55 2YL
Geology:	<p>Information from the British Geological Survey Map No.118 indicates that the geological sequence below the site comprises alluvium and glacial deposits overlying sedimentary rocks of mudstone.</p> <p>The alluvial deposits are very localised and found only immediately adjacent to the river Seiont as thin deposits of silt, sand and gravel. The glacial deposits comprise a coarse sand and gravel with cobbles and a gravely sandy silty clay.</p> <p>The bedrock at the site and in the quarry comprises fine grained sedimentary rocks of siltstone and mudstone.</p> <p>There is no record of any made ground within the site, however considering the sites previous use as a brickworks the presence of some made up ground can not be discounted.</p> <p>There are no faults within 100m of the site.</p> <p>The quarry area is indicated as being a historical surface workings features, shown as a clay pit and quarry.</p> <p>There is a high risk of landslides associated with the former clay pit and quarry There is a very low risk of shrinkage and swelling clay at the site. There is a negligible risk of ground dissolution of soluble rocks below the site. There is a low risk of compressible deposits below the site. There is a very low risk of collapsible deposits below the site. There is a very low to low risk of running sand at the site.</p>
Hydrogeology:	<p>There is no information on the aquifer in the superficial deposits but it is likely to be an unproductive or secondary aquifer. These are deposits that have been defined as minor or non-aquifers. Unproductive aquifers are deposits of low permeability that have negligible significance for water supply or surface water course base flow.</p> <p>The bedrock below the site is classed as a secondary (B) aquifer. A Secondary B aquifer is an aquifer within predominantly low permeability strata which may store and yield small amounts of water from localise features such as fissures and more permeable horizons. They were formerly classed as the water bearing parts of 'Non-aquifers'.</p> <p>There are no Groundwater Abstraction Licences within 2000m of the site but there is a Surface Water Abstraction Licence point on site.</p> <p>The site is not in an area classed as a Groundwater Source Protection Zone (SPZ).</p> <p>There is a historical Surface Water Abstraction Licence point on site. The abstraction (Licence No 23/65/16/0070) was for process water from the lagoon within the quarry. The licence expired on 31/03/2013. The nearest surface water abstraction for potable supplies is 1283m east.</p> <p>No groundwater monitoring has been undertaken at the site but the regional groundwater flow is likely to be towards the south and southwest and at a level slightly above the base of the quarry.</p>
Hydrology:	<p>According to the Aquifer and Abstractions Map the Afon Seiont flows around the northwest, south and southwest portion of the site. The Afon Seiont has an A (very good) chemical quality grade and B biological quality grade.</p> <p>An un-named tertiary river flows adjacent to the southeast boundary of the site. There is no Environment Agency data on water quality in the tertiary watercourse.</p>

	There are no other water courses within 250m of the site which could impact on the site or the site could influence.
Ground Permeability :	<p>Any granular made up ground within the former quarry will be relatively free draining and of high permeability, but any made up ground of natural materials will be of low permeability. The glacial deposits will be of medium to low permeability depending on the clay and silt content.</p> <p>The mudstone and siltstone bedrock will be of low to high permeability with the permeability governed by fractures and bedding planes. The intact rock will have low permeability and any flow will only occur through fractures and joints.</p> <p>Overall the made ground and natural soils and bedrock at the site will be of medium to high permeability, and the underlying bedrock of low to medium permeability.</p>
Sensitive Land Uses:	The site nearest SSSI is 565m west and is the Afon Seiont.
Mining:	The site is not within a coal mining area. There are historical ground workings on the site with the clay pit and quarrying activities.
Historical Land Use:	<p>The site has a long history of quarrying having opened in circa '1900' as a clay pit with the extracted clay used for brick making.</p> <p>The historical maps show small scale expansion of the clay pit to between 1959 and 1976 when the clay pit increased in size to its present day extent.</p> <p>During that time there is no evidence of any filling or placement of wastes other than re-profiling of natural soils on the quarry sides and edge slopes.</p>
Landfills:	The site is not recorded as an Environment Agency/National Resource Wales Registered Landfill Site however there are four landfill sites within 1500m. The nearest is 50m northwest the 'Pebblig Mill Tip' which accepted inert, industrial and household wastes.
Pollution Incidents:	There are a number of Environment Agency pollution incidents recorded at 150 to 200m southwest of the site which had an impact on water with suspended soils having a significant impact on two occasions.
Evidence of historic contamination:	<p>Previous studies and investigations have been undertaken on land at and immediately adjacent to the site into potential contamination. In addition surface water sampling and analysis has been carried out on water samples from within the quarry pond and from the Afon Seiont.</p> <p>A geo-environmental ground investigation was undertaken on land at and adjacent to the quarry on 25th November 2015. A total of 11 ground samples were collected from trial pits and 2 surface water samples from the Afon Seiont and submitted for chemical analysis.</p> <p>The results of the investigation and analysis of ground samples did not identified any significant contamination within the ground materials. No elevated concentrations of metals, inorganics or hydrocarbons were found in the near surface soils. The only potential contamination issue was a small amount of asbestos in demolition rubble in a tank base within the former brickworks and not in the quarry area.</p> <p>No contaminants were identified and therefore there is no source to leach. In the absence of any leached contaminants there can be no risk to controlled waters.</p> <p>Overall the results support the initial assessment that there is little or no potential for contaminants to be present due to the relatively un-contaminative uses of the area and the presence of only natural soil materials even where made ground is present.</p> <p>No previous groundwater sampling has been undertaken within the site, however off site Afon Seiont was sampled and analysed. The analytical results indicate that there are no</p>

	<p>elevated concentrations of any of the chemical parameters analysed for.</p> <p>Surface water sampling and analysis has been carried out at the quarry and Afon Seiont to provide baseline conditions for surface water at the site. The sampling points and the results of analysis are presented in Appendix 3.</p>
Baseline data and Potential Contamination:	<p>The former use of the site as a quarry and clay pit will not have resulted in any sources of contamination on the site.</p> <p>The presence of chemical contaminants in soils and materials on the site is extremely unlikely as only natural soils were worked at the site and no materials were imported. Any 'wastes' would have been natural soils that could not be used in brick-making.</p> <p>Whilst objects and materials may have been left or dumped in the pooled water that is present in the base of the quarry it is extremely unlikely that they will have caused contamination. The available chemical analysis from a recent ground contamination investigation confirms this.</p> <p>If chemical contaminants are present they will be in very low concentrations and be indicative of background concentrations present in the natural soil materials. Any wastes will be of natural soil materials and have similar very low background concentrations.</p> <p>Hydrocarbons may have been present on site in extremely small quantities and only as fuel contained in tanks in vehicles and will not be present in site materials.</p> <p>With only natural soil materials on site there will be no nitrates, chlorides or ammoniacal nitrogen.</p> <p>With any chemical parameters being present in extremely low concentrations the likelihood of leachable concentrations is extremely unlikely to none.</p> <p>Groundwater and surface water monitoring has been carried out to establish baseline conditions for the site. Water samples were collected from within the existing pooled water in the base of the quarry and analysed for suspended solids, turbidity , pH, and dissolved metals arsenic, cadmium, chromium, copper, nickel, zinc, lead, mercury, selenium.</p> <p>The results are presented in Appendix 3 and summarised below:</p>

PROJECT		Seiont Quarry					
SAMPLE				DBG01	DBG02	DBG03	DBG04
SAMPLE DEPTH							
SAMPLE TYPE				SW	SW	SW	SW
DATE SAMPLED				24/11/16	24/11/16	24/11/16	24/11/16
		EQS	UK DW				
		FW (All)					
Arsenic	ug/l	50	10	3.5	3.37	3.67	3.3
Cadmium	ug/l	5	5	<0.08	<0.08	<0.08	<0.08
Chromium	ug/l	20 (5 - 250)	50	<1.2	<1.2	<1.2	<1.2
Lead	ug/l	20 (4 - 250)	25 (10)	<0.1	<0.1	<0.1	<0.1
Mercury	ug/l	1	1	<0.01	<0.01	<0.01	<0.01
Selenium	ug/l		10	<0.81	<0.81	<0.81	<0.81
Copper	ug/l	40 (1-28)	2000	<0.85	<0.85	<0.85	<0.85
Nickel	ug/l	150 (50-200)	20	<0.44	<0.44	<0.44	<0.44
Zinc	ug/l	75 (8-500)	5000	<1.3	<1.3	<1.3	<1.3
pH	mg/l			7.96	8.02	7.82	7.95
Turbidity	ntu			1.76	2.16	1.76	1.08
Oxygen	mg/l			9.83	10.5	10.5	10.6
Sus Solids	mg/l			5	2	<2	<2

Exceeds Guideline Criteria UKDW
 Exceeds Guideline Criteria EQS FW (All fish)

In DBD01 to DBG04 which were from pooled waters in the base of the quarry, the concentrations of all parameters were below the EQS for freshwater (all fish) and the UK drinking water standards. No elevated concentrations were detected and most concentrations were below the detection limits.

4. PERMITTED ACTIVITIES.

4.1 Introduction

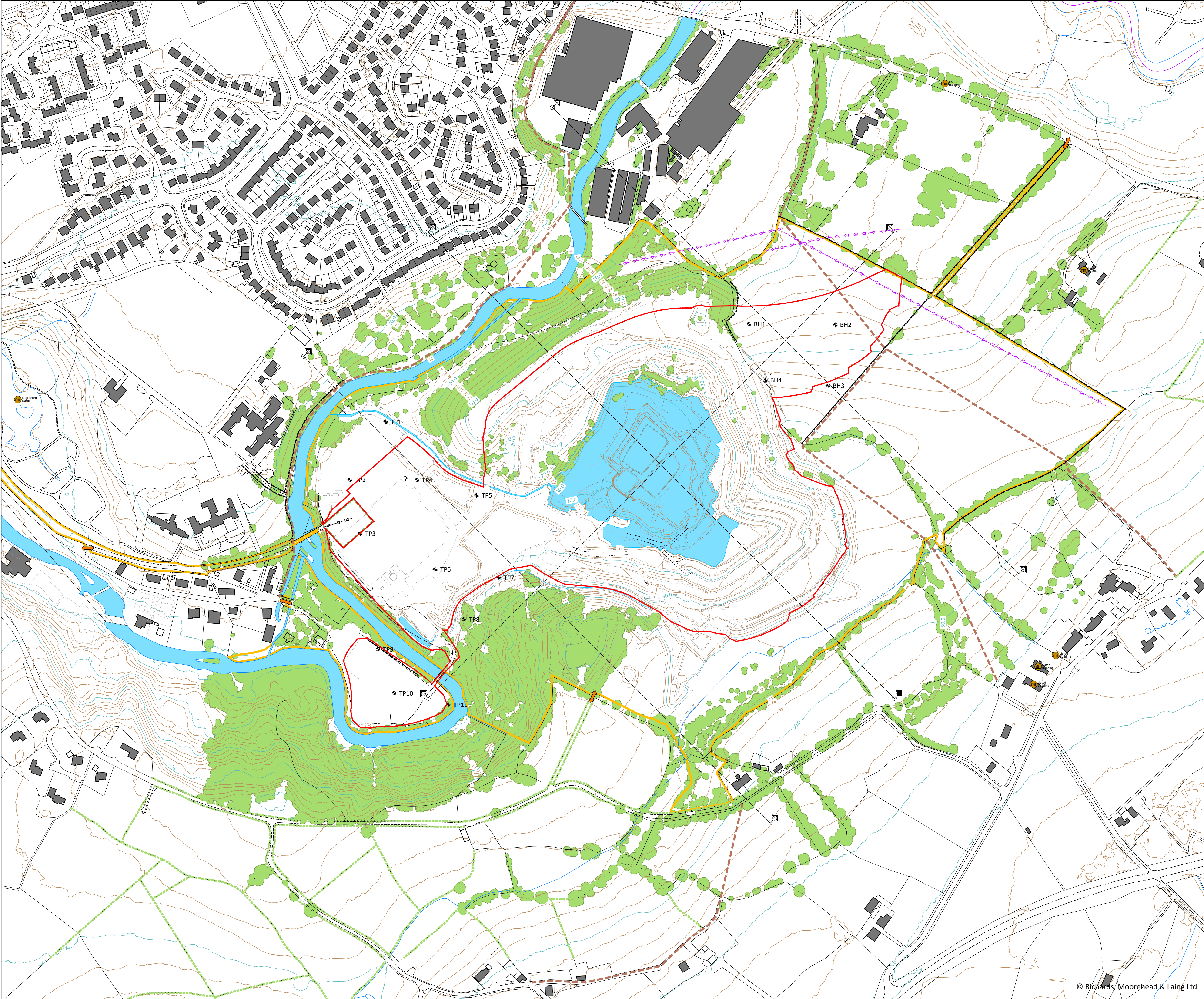
4.1.1 Operation of the proposed activities will require an Environmental Permit with the following permitted activities:

Table 1.3 – Permitted Activities

PERMITTED ACTIVITIES:	SEIONT BRICKWORKS AND QUARRY, CAERNARFON, GWYNEDD, LL55 2YL
Permitted Activity:	<p>The site shall only accept inert wastes, as defined by the Landfill Directive, article 2(e):</p> <p><i>'Inert waste' means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater'.</i></p>
Permitted Materials:	<p>The materials permitted to be imported to the site will include 'wastes' generated by the ground excavation and construction works in the area and comprise natural soils of clayey glacial till, river terrace gravels, and alluvial deposits.</p> <p>The materials will be clays and silts with some cobbles, gravel and sand and very small quantities of demolition rubble of brick, concrete and stone from dry stone walls.</p>
Non Permitted Activities:	There will be no non-permitted activities at the site.
Potentially Polluting Substances:	<p>There are no historical uses of the site which could have generated polluting substances.</p> <p>Investigations have indicated that there are no elevated concentrations of chemical contaminants from materials previously generated and placed within the site.</p> <p>Any chemical contaminants present would be at natural background concentrations for the natural soil materials. The likelihood of leachate generation from these natural soil materials is nil.</p> <p>Analysis of surface water samples collected from the pooled water in the former quarry has indicated no elevated concentrations of chemical parameters even when compared to drinking water standards.</p> <p>The materials to be imported to the site will be inert and in accordance with the permit will not generate leachate which could impact on the quality of ground water and surface water.</p>

Appendix 1.1 - RML Ltd Drawing 3030/11 – Site Location Plan

Appendix 1.2 - RML Ltd Drawing 3030/12 – Site Plan



0

10

20

30

40

50

75

100

150

200

m

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North arrow

Eglurhad / Key:

Planning application boundary

Land controlled by Hanson Aggregates PLC

Associated planning permissions
C15/0977/19/LL

Existing building

Permitted access points

Underground services

Overhead lines

Public rights of way

Boundary - stone wall

Boundary - hedgerow

Trees and vegetation

Terrain
(existing contours at 2 m interval)

Watercourse / Ditch

Waterbody / Pond

Feature of archaeological interest

Trial Pit / Bore Hole

Location of cross section

PLANNING APPLICATION CONSULTATION

02	Sep 2016	issued for planning	RhE	SWJ	
01	12/04/2016	preliminary - issued for information	RhE	SWJ	
Cywl. Rev.	Dyddiad Date	Disgrifiad Description	Gan By	Gwiriwyd Checked	Cymer. Appro.

Cieient / Client:

Enw project / Project name:
**ENGINEERING WORKS AND USE OF LAND
RELATING TO THE CONSTRUCTION OF THE
PROPOSED CAERNARFON AND BONTNEWYDD
BYPASS AND EXISTING MINERALS PERMISSION**

Tittl lluniad / Drawing title:

Site Plan

Darparwyd gan / Prepared by:

RICHARDS

MOOREHEAD & LAING LTD

55 Stryd Y Ffynnon, Rhuthun, Sir Ddinbych, LL15 1AF.
55 Well Street, Ruthin, Denbighshire, LL15 1AF, UK.

Rhif Ffôn/Tel: +44 (0)1824 704366, Ffôn/Fax: +44 (0)1824 705450,
e-bost/e-mail: rmi@rmiconsult.com, Gwefan/Website: www.rmiconsult.com

Graddfa / Scale (A1): 1:2,000 @ A1	Dyddiad / Date: Mar 2016	Darlunwyd gan: RhE
Rhif lluniad / Drawing number: 3030 / 12		Gwiriwyd gan: APCS
		Cywiad: Revision: 02

Appendix 2 - EnviroInsight Report



E-Geo Solutions Ltd

Oak House, Groes Lwyd,
Abergele, Conwy,
Abergele, LL22 7SU

Groundsure
Reference:

HMD-165-3600854

Your Reference:

CAERNARFON_BRICKWORKS_QUARR
Y

Report Date

30 Jan 2017

Report Delivery
Method:

Email - pdf

Groundsure Enviro Insight

Address: CAERNARFON BRICKWORKS, SEIONT WORKS, SEIONT MILL ROAD, CAERNARFON, LL55 2YL

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Groundsure Enviro Insight

Address: CAERNARFON BRICKWORKS, SEIONT WORKS, SEIONT MILL ROAD, CAERNARFON, LL55 2YL

Date: 30 Jan 2017

Reference: HMD-165-3600854

Client: E-Geo Solutions Ltd

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 04-Jun-2013

Grid Reference: 249174,361511

Site Size: 10.51ha

Report Reference: HMD-165-3600854

Client Reference: CAERNARFON_BRICKWORKS_QUARRY

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Overview of Findings

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1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	10	6	60	32
1.2 Additional Information – Historical Tank Database	4	0	10	3
1.3 Additional Information – Historical Energy Features Database	0	0	4	7
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	9	3	24	22

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	3	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	7	5
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	3	2
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	1	0	1	1	1
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	1
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	1	11

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	1	2	10	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology						
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No					
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None					
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.						

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	1	0	3	0	0	4
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	2
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	2	0	Not searched	Not searched

Section 6: Hydrogeology and Hydrology	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	Yes	Yes	Yes
6.10 Detailed River Network entries within 500m of the site	0	1	7	19	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding						
7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Yes					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Medium					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High					

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	2	1
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	2
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	2	4	7	41
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	1
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards	
9.1 What is the maximum risk of natural ground subsidence?	Very Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Negligible
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining	
10.1 Are there any coal mining areas within 75m of the study site?	No
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

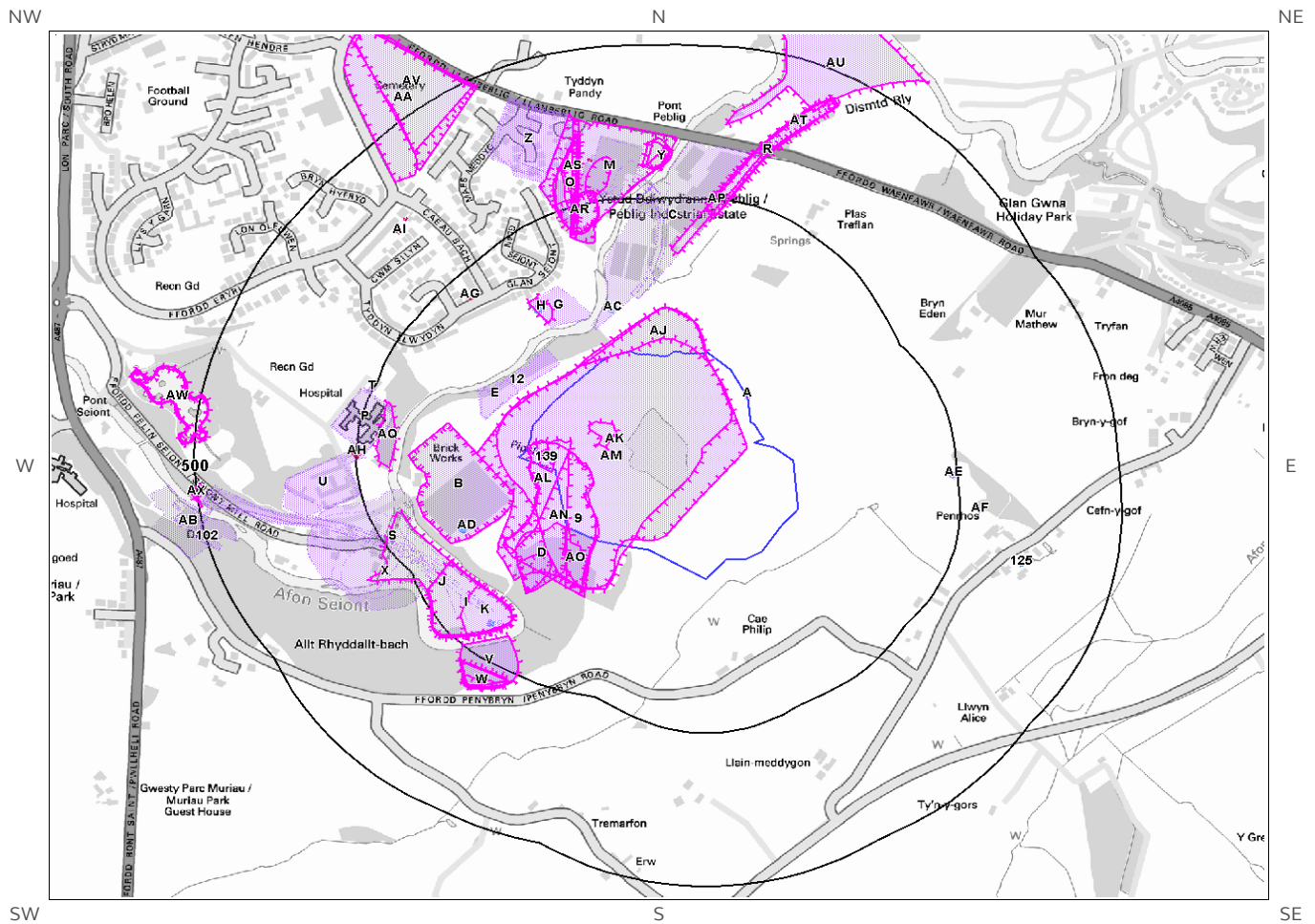
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

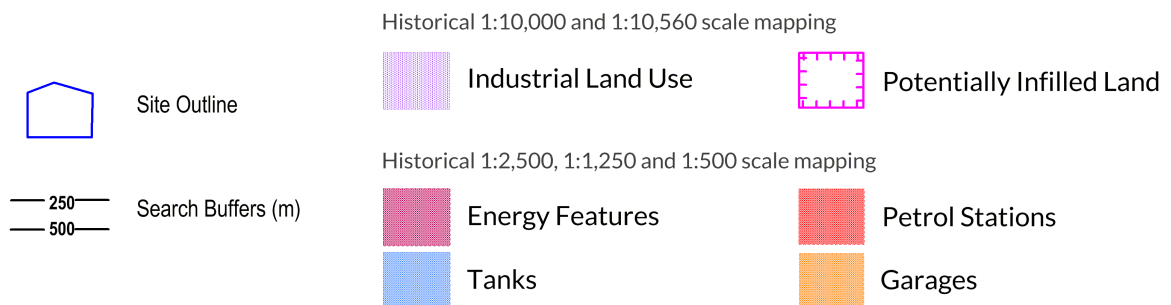
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 108

ID	Distance [m]	Direction	Use	Date
1AJ	0	On Site	Refuse Heap	1990
2A	0	On Site	Unspecified Tank	1913
3A	0	On Site	Unspecified Tank	1959
4AK	0	On Site	Clay Pit	1976
5AM	0	On Site	Clay Pit	1990
6AN	0	On Site	Unspecified Quarry	1959
7AL	0	On Site	Unspecified Quarry	1949
8A	0	On Site	Unspecified Tank	1949
9	0	On Site	Unspecified Quarry	1949
10AO	0	SW	Unspecified Pit	1913
11D	4	SW	Clay Pit	1938
12	41	NW	Tannery	1938
13B	45	SW	Brick Works	1976
14B	45	SW	Brick Works	1990
15C	50	NW	Unspecified Commercial/Industrial	1990
16C	50	NW	Unspecified Commercial/Industrial	1976
17D	54	SW	Clay Pit	1899
18E	55	NW	Tannery	1888
19E	55	NW	Tannery	1899
20AC	66	N	Unspecified Tank	1976
21E	67	NW	Railway Sidings	1888
22G	71	NW	Unspecified Works	1959
23F	87	N	Railway Sidings	1888
24F	87	N	Railway Sidings	1899
25G	101	NW	Sewage Works	1949
26Q	103	N	Railway Sidings	1913
27H	120	NW	Unspecified Tanks	1976
28H	126	NW	Unspecified Tanks	1959
29H	127	NW	Unspecified Tanks	1949
30I	156	SW	Brick Works	1938
31I	156	SW	Brick Works	1938
32J	157	SW	Brick Works	1949
33I	157	SW	Brick Works	1899

34K	157	SW	Brick Works	1888
35AP	159	N	Cuttings	1888
36J	161	SW	Unspecified Works	1959
37L	175	SW	Railway Sidings	1899
38K	179	SW	Unspecified Tank	1888
39L	180	SW	Unspecified Commercial/Industrial	1888
40L	181	SW	Railway Sidings	1938
41K	183	SW	Unspecified Tank	1888
42M	184	N	Brick Works	1888
43M	184	N	Brick Works	1899
44M	184	N	Brick Works	1913
45K	189	SW	Unspecified Tank	1938
46N	191	W	Railway Sidings	1949
47AQ	191	W	Unspecified Pit	1888
48K	192	SW	Unspecified Tank	1949
49K	194	SW	Unspecified Tank	1959
50N	198	W	Railway Sidings	1959
51V	198	SW	Clay Pit	1949
52L	204	SW	Railway Sidings	1888
53O	204	N	Brick Works	1938
54O	204	N	Brick Works	1938
55P	204	W	Infirmery	1938
56P	205	W	Hospital	1990
57P	205	W	Hospital	1976
58P	205	W	Hospital	1959
59O	206	N	Unspecified Pit	1949
60O	206	N	Brick Works	1949
61X	216	SW	Corn Mill	1888
62L	216	SW	Unspecified Mill	1899
63Q	217	N	Woollen Factory	1913
64Q	217	N	Woollen Factory	1899
65Q	219	N	Flour Mill	1888
66R	219	N	Cuttings	1913
67R	223	N	Cuttings	1949
68R	224	N	Cuttings	1959
69S	231	SW	Railway Building	1899
70U	235	W	Unspecified Workhouse	1888
71O	236	N	Unspecified Pit	1899
72S	237	SW	Railway Building	1899
73AE	239	E	Unspecified Tank	1976
74T	247	NW	Mortuary	1938
75T	249	NW	Mortuary	1949
76T	249	NW	Mortuary	1959
77U	253	W	Unspecified Workhouse	1899
78M	255	N	Clay Pit	1888

79U	255	W	Hospital	1949
80M	255	N	Unspecified Mill	1976
81M	255	N	Unspecified Commercial/Industrial	1990
82V	262	SW	Clay Pit	1938
83AS	264	N	Clay Pit	1888
84V	265	SW	Clay Pit	1899
85W	266	SW	Unspecified Pit	1976
86W	266	SW	Clay Pit	1959
87X	274	SW	Unspecified Mill	1938
88Y	299	N	Unspecified Heap	1959
89Y	300	N	Unspecified Heap	1888
90Y	302	N	Unspecified Heap	1913
91Z	303	N	Hospital	1976
92Z	308	N	Infectious Diseases Hospital	1959
93Z	309	N	Infectious Diseases Hospital	1949
94Z	313	N	Hospital	1938
95Z	315	N	Infectious Diseases Hospital	1899
96AT	342	N	Cuttings	1888
97AU	374	N	Unspecified Disused Tip	1990
98AA	419	NW	Cemetery	1990
99AA	419	NW	Cemetery	1976
100AV	446	NW	Cemetery	1959
101AB	454	W	Unspecified Depot	1990
102	480	W	Railway Sidings	1959
103AB	480	W	Unspecified Works	1959
104AB	486	W	Slate Works	1938
105AX	495	W	Unspecified Heap	1959
106AB	496	W	Slate Works	1888
107AB	496	W	Slate Works	1949
108AB	496	W	Slate Works	1899

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

17

ID	Distance (m)	Direction	Use	Date
109A	0	On Site	Unspecified Tank	1964
110A	0	On Site	Unspecified Tank	1987

111A	0	On Site	Unspecified Tank	1914
112A	0	On Site	Unspecified Tank	1965
113AC	67	N	Unspecified Tank	1965
114AC	68	N	Unspecified Tank	1964
115G	123	NW	Tanks	1964
116G	123	NW	Tanks	1965
117AD	139	SW	Tanks	1987
118AD	139	SW	Unspecified Tank	1965
119AD	139	SW	Tanks	1995
120AD	145	SW	Tanks	1987
121K	191	SW	Unspecified Tank	1913
122AE	238	E	Unspecified Tank	1965
123AF	279	E	Unspecified Tank	1914
124AF	279	E	Unspecified Tank	1900
125	353	E	Unspecified Tank	1914

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

11

ID	Distance (m)	Direction	Use	Date
126AG	208	NW	Electricity Substation	1995
127AG	209	NW	Electricity Substation	1987
128AH	243	W	Electricity Substation	1987
129AH	244	W	Electricity Substation	1995
130M	316	N	Electricity Substation	1994
131M	316	N	Electricity Substation	1986
132M	316	N	Electricity Substation	1995
133M	316	N	Electricity Substation	1982
134AI	361	NW	Electricity Substation	1987
135AI	372	NW	Electricity Substation	1965
136AI	373	NW	Electricity Substation	1995

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary:

0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Potentially Infilled Land

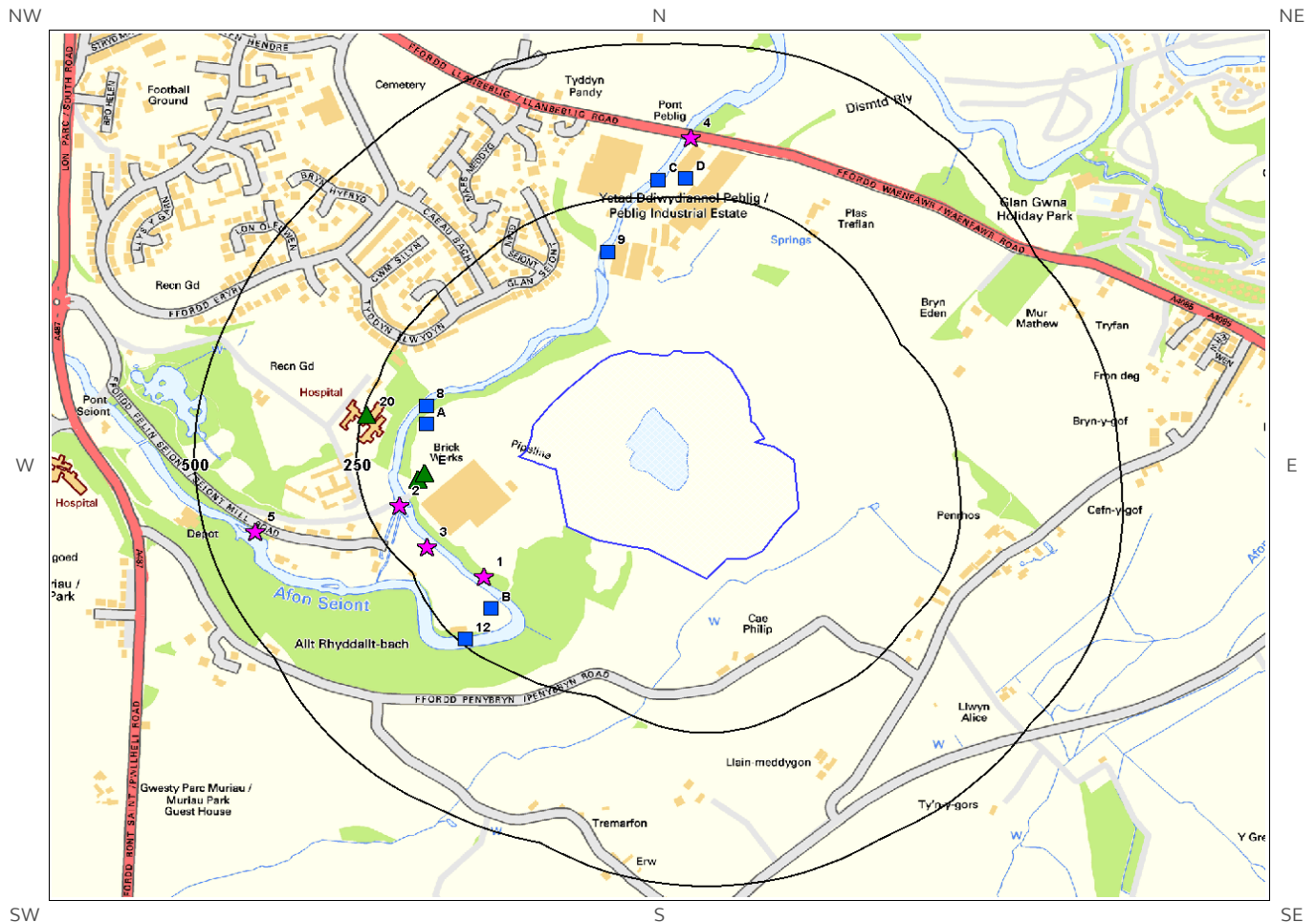
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 58

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
137AJ	0	On Site	Refuse Heap	1990
138AK	0	On Site	Ponds	1990
139	0	On Site	Pond	1990
140AL	0	On Site	Unspecified Quarry	1949
141AM	0	On Site	Clay Pit	1990
142AN	0	On Site	Unspecified Quarry	1959
143AK	0	On Site	Clay Pit	1976
144AN	0	On Site	Unspecified Quarry	1949
145AO	0	SW	Unspecified Pit	1913
146D	4	SW	Clay Pit	1938
147B	45	SW	Brick Works	1976
148B	45	SW	Brick Works	1990
149D	54	SW	Clay Pit	1899
150G	101	NW	Sewage Works	1949
151I	156	SW	Brick Works	1938
152I	156	SW	Brick Works	1938
153J	157	SW	Brick Works	1949
154I	157	SW	Brick Works	1899
155I	157	SW	Brick Works	1888
156AP	159	N	Cuttings	1888
157M	184	N	Brick Works	1888
158M	184	N	Brick Works	1913
159M	184	N	Brick Works	1899
160AQ	191	W	Unspecified Pit	1888
161V	198	SW	Clay Pit	1949
162O	204	N	Brick Works	1938
163O	204	N	Brick Works	1938
164AR	205	N	Pond	1959

165O	206	N	Unspecified Pit	1949
166O	206	N	Brick Works	1949
167AR	206	N	Pond	1913
168AR	208	N	Pond	1949
169R	219	N	Cuttings	1913
170R	223	N	Cuttings	1949
171R	224	N	Cuttings	1959
172O	236	N	Unspecified Pit	1899
173M	255	N	Clay Pit	1888
174V	262	SW	Clay Pit	1938
175AS	264	N	Clay Pit	1888
176V	265	SW	Clay Pit	1899
177W	266	SW	Unspecified Pit	1976
178W	266	SW	Clay Pit	1959
179Y	299	N	Unspecified Heap	1959
180Y	300	N	Unspecified Heap	1888
181Y	302	N	Unspecified Heap	1913
182AT	342	N	Cuttings	1888
183AU	374	N	Unspecified Disused Tip	1990
184AA	419	NW	Cemetery	1990
185AA	419	NW	Cemetery	1976
186AV	446	NW	Cemetery	1959
187AW	482	W	Pond	1949
188AW	482	W	Pond	1899
189AW	482	W	Pond	1888
190AW	483	W	Pond	1938
191AW	484	W	Pond	1990
192AW	484	W	Pond	1976
193AW	484	W	Pond	1959
194AX	495	W	Unspecified Heap	1959

2. Environmental Permits, Incidents and Registers Map



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- | | | |
|-------------------------------|---|--|
| Site Outline | Recorded Pollution Incident | RAS 3 & 4 Authorisations |
| Dangerous Substances (List 1) | Dangerous Substances (List 2) | Part A(1) Authorised Processes and Historic IPC Authorisations |
| Water Industry Referrals | Licenced Discharge Consents | Part A(2) and Part B Authorised Processes |
| Red List Discharge Consents | Sites Determined as Contaminated Land | COMAH / NIHHS Sites |
| | Hazardous Substance Consents and Enforcements | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
18E	149	W	248797 361518	Address: Hanson Brick Ltd, Seiont Brickworks, Caernarfon, LL55 2YL Process: Manufacture Of Heavy Clay Goods And Refractory Goods. Status: Surrendered Permit Type: Part A2 Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
19E	161	W	248787 361507	Address: Butterley Brick Ltd, Seiont Brickworks, Caernarfon, LL55 2YL Process: Manufacture of heavy clay goods and refractory goods. Status: Historical Permit Permit Type: Part A2 Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
20	244	W	248708 361613	Address: Eryri Hospital, Caernarfon, Gwynedd, LL55 2YE Process: Clinical waste incineration process under 1 tonne/hr. Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

12

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
6A	152	W	248800 361600	Address: SEIONT BRICK WORKS CAERNARFON, SEIONT BRICK WORKS, CAERNARFON, GWYNEDD, LL55 2YL Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CG0092101 Permit Version: 4 Receiving Water: AFON SEIONT Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 16/08/2001 Effective Date: 17-Aug-2001 Revocation Date: 03/09/2001
7A	152	W	248800 361600	Address: SEIONT BRICK WORKS CAERNARFON, SEIONT BRICK WORKS, CAERNARFON, GWYNEDD, LL55 2YL Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: CG0092101 Permit Version: 3 Receiving Water: AFON SEIONT Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 22/09/1993 Effective Date: 22-Sep-1993 Revocation Date: 16/08/2001

ID	Distance (m)	Direction	NGR	Details
8	165	NW	248800 361630	<p>Address: SEIONT BRICK WORKS CAERNARFON, SEIONT BRICK WORKS, CAERNARFON, GWYNEDD, LL55 2YL Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CG0092101 Permit Version: 5</p> <p>Receiving Water: AFON SEIONT Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 03/09/2001 Effective Date: 04-Sep-2001 Revocation Date: -</p>
9	165	N	249080 361880	<p>Address: CAERNARFON - HOUSING ESTATE GA, CAERNARFON - HOUSING ESTATE GA, UNKNOWN, UNKNOWN, UNKNOWN, UNKNOWN Effluent Type: UNSPECIFIED Permit Number: CG0181001 Permit Version: 1</p> <p>Receiving Water: SAINT Status: CONSENT EXPIRED - TIME LIMIT Issue date: 19/09/1989 Effective Date: 19-Sep-1989 Revocation Date: 02/02/1994</p>
10B	178	SW	248900 361300	<p>Address: SEIONT BRICK WORKS CAERNARFON, SEIONT BRICK WORKS, CAERNARFON, GWYNEDD, LL55 2YL Effluent Type: UNSPECIFIED Permit Number: CG0092101 Permit Version: 1</p> <p>Receiving Water: AFON SEIONT Status: REVOKED - UNSPECIFIED Issue date: 09/06/1976 Effective Date: 09-Jun-1976 Revocation Date: 04/01/1987</p>
11B	178	SW	248900 361300	<p>Address: SEIONT BRICK WORKS CAERNARFON, SEIONT BRICK WORKS, CAERNARFON, GWYNEDD, LL55 2YL Effluent Type: UNSPECIFIED Permit Number: CG0092101 Permit Version: 2</p> <p>Receiving Water: AFON SEIONT Status: REVOKED - UNSPECIFIED Issue date: 05/01/1987 Effective Date: 05-Jan-1987 Revocation Date: 21/09/1993</p>
12	242	SW	248860 361250	<p>Address: HANSON BRICK LTD SEIONT WORKS, HANSON BRICK LTD, SEIONT WORKS, CAERNARFON, GWYNEDD, LL55 2YL Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CG0396001 Permit Version: 1</p> <p>Receiving Water: AFON SEIONT Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 18/10/2001 Effective Date: 18-Oct-2001 Revocation Date: 14/08/2007</p>
13C	279	N	249157 361997	<p>Address: PEBLIG INDUSTRIAL ESTATE CSO, PEBLIG MILL, FFORDD LLANBEBLIG, CAEATHRO, CAERNARFON, LL55 2SE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: EPRDB3393HK Permit Version: 1</p> <p>Receiving Water: AFON SEIONT Status: NEW ISSUED UNDER EPR 2010 Issue date: 18/09/2015 Effective Date: 18-Sep-2015 Revocation Date: -</p>
14C	279	N	249157 361997	<p>Address: PEBLIG INDUSTRIAL ESTATE CSO, PEBLIG MILL, FFORDD LLANBEBLIG, CAEATHRO, CAERNARFON, LL55 2SE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: EPRDB3393HK Permit Version: 1</p> <p>Receiving Water: AFON SEIONT Status: NEW ISSUED UNDER EPR 2010 Issue date: 18/09/2015 Effective Date: 18-Sep-2015 Revocation Date: -</p>
15D	281	N	249200 362000	<p>Address: CAERNARFON BERNARD WARDLE (EVERFELX, CAERNARFON BERNARD WARDLE (EVERF, BERNARD WARDLE (EVERFELX) LTD., UNKNOWN, UNKNOWN, UNKNOWN Effluent Type: UNSPECIFIED Permit Number: CG0090701 Permit Version: 1</p> <p>Receiving Water: SEIONT Status: CONSENT EXPIRED - TIME LIMIT Issue date: 13/08/1975 Effective Date: 13-Aug-1975 Revocation Date: 28/03/1991</p>

ID	Distance (m)	Direction	NGR	Details
16D	281	N	249200 362000	<p>Address: CAERNARFON BERNARD WARDLE (EVERFELX, CAERNARFON BERNARD WARDLE (EVERF, BERNARD WARDLE (EVERFELX) LTD., UNKNOWN, UNKNOWN, UNKNOWN</p> <p>Effluent Type: UNSPECIFIED Permit Number: CG0090901 Permit Version: 1</p> <p>Receiving Water: SEIONT Status: CONSENT EXPIRED - TIME LIMIT Issue date: 13/08/1975 Effective Date: 13-Aug-1975 Revocation Date: 28/03/1991</p>
17D	281	N	249200 362000	<p>Address: CAERNARFON BERNARD WARDLE (EVERFELX, CAERNARFON BERNARD WARDLE (EVERF, BERNARD WARDLE (EVERFELX) LTD., UNKNOWN, UNKNOWN, UNKNOWN</p> <p>Effluent Type: UNSPECIFIED Permit Number: CG0090801 Permit Version: 1</p> <p>Receiving Water: SEIONT Status: CONSENT EXPIRED - TIME LIMIT Issue date: 13/08/1975 Effective Date: 13-Aug-1975 Revocation Date: 28/03/1991</p>

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

5

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
1	153	SW	248888 361352	Incident Date: 10-Sep-2004 Incident Identification: 265918 Pollutant: Contaminated Water Pollutant Description: Suspended Solids Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2	202	SW	248758 361467	Incident Date: 12-Jun-2001 Incident Identification: 8854 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
3	206	SW	248800 361400	Incident Date: 03-Jul-2003 Incident Identification: 170758 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4	348	N	249207 362066	Incident Date: 06-Sep-2003 Incident Identification: 187995 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	425	W	248536 361425	Incident Date: 07-Jul-2003 Incident Identification: 171709 Pollutant: Sewage Materials Pollutant Description: Storm Sewage Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

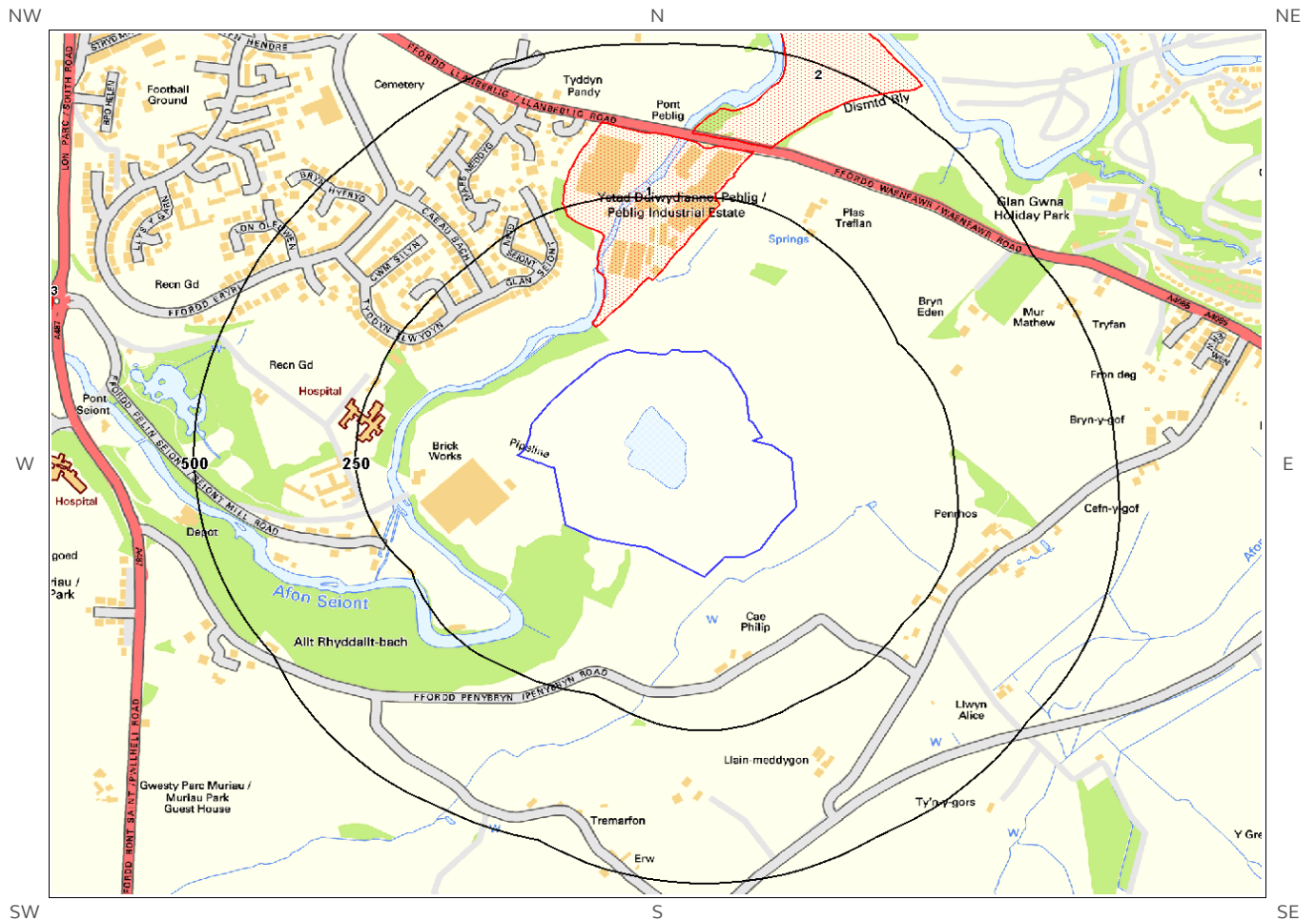
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

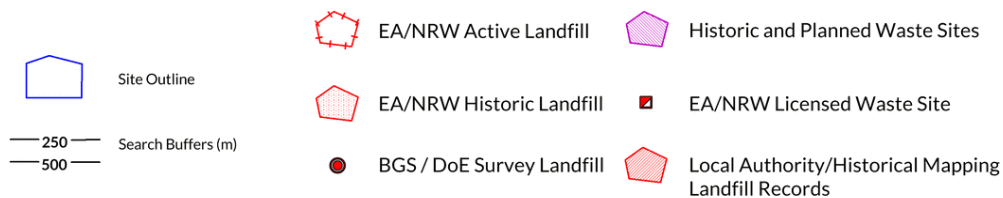
0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

4

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	50	NW	249100 361900	Site Address: Pablic Mill Tip, Caernarfon, Gwynedd Waste Licence: - Site Reference: - Waste Type: Inert, Industrial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: 31-Dec-1990
2	345	N	249400 362100	Site Address: Pablig Mill Tip, Caernarfon, Gwynedd Waste Licence: - Site Reference: - Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1981 Last Recorded: 31-Dec-1990
3	760	W	248200 361800	Site Address: St Helens Road, Caernarfon, Gwynedd Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1950 Last Recorded: 31-Dec-1960
Not shown	1419	NE	250200 362800	Site Address: Council Refuse Tip, Caer Glyddyn, Rhosbodrual, Caernarvon, Gwynedd Waste Licence: - Site Reference: - Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Caernarvon Royal Borough Council Licence Holder: County Council First Recorded: 31-Dec-1954 Last Recorded: 31-Dec-1974

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

1

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1422	NE	250270 362809	Refuse Tip	1971 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

12

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

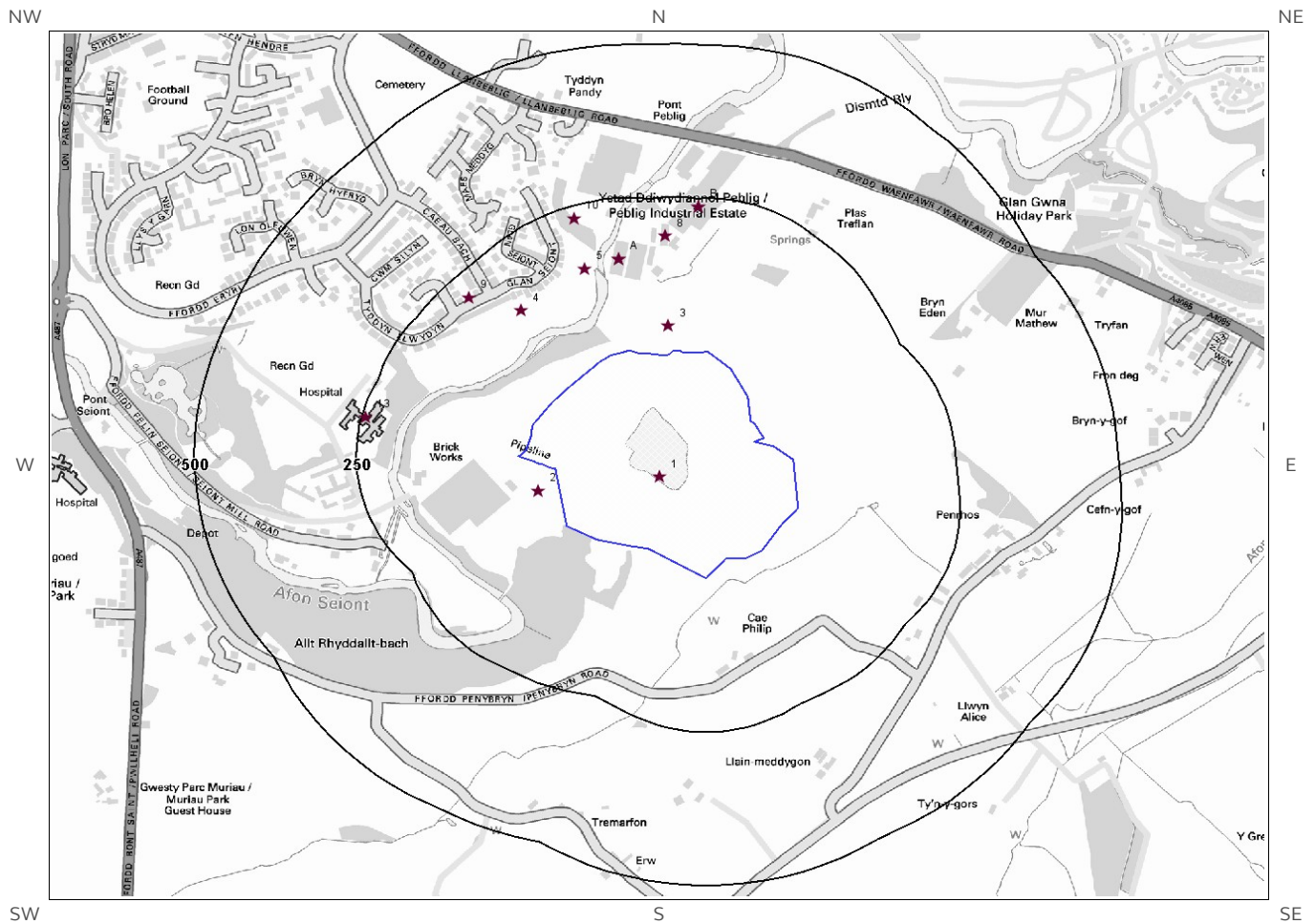
ID	Distance (m)	Direction	NGR	Details
Not shown	989	NE	249618 362629	<p>Site Address: Unit A6, Zone 3, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: AB3097ZB EPR reference: - Operator: C & A Asbestos Removal Ltd Waste Management licence No: 0 Annual Tonnage: 0.0</p> <p>Issue Date: 03/03/2016 Effective Date: 03/03/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective Site Name: - Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	1159	NE	249850 362700	Site Address: Gwynedd Skip And Plant Hire Ltd, Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CB3237AP EPR reference: - Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 0 Annual Tonnage: 74999.0	Issue Date: 24/01/2002 Effective Date: 24/01/2002 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective Site Name: - Correspondence Address: -
Not shown	1159	NE	249850 362700	Site Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estat, Caernarfon, Gwynedd, LL55 2BD Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: - Operator: Gwynedd Skip Hire Limited Waste Management licence No: 37229 Annual Tonnage: 367905.0	Issue Date: 24/01/2002 Effective Date: - Modified: 10/03/2006 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Gwynedd Skip Hire Limited Correspondence Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD
Not shown	1159	NE	249850 362700	Site Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estat, Caernarfon, Gwynedd, LL55 2BD Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: - Operator: Gwynedd Skip Hire Limited Waste Management licence No: 37229 Annual Tonnage: 0.0	Issue Date: 24/01/2002 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Gwynedd Skip Hire Limited Correspondence Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD
Not shown	1159	NE	249850 362700	Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Type: 75kte HCI Waste TS + treatment + asbestos Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: EA/EPR/BP3196LV/V008 Operator: Gwynedd Skip Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 74999.0	Issue Date: 24/01/2002 Effective Date: - Modified: 15/09/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Gwynedd Skip Hire Ltd Correspondence Address: -
Not shown	1159	NE	249850 362700	Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Type: 75kte HCI Waste TS + treatment + asbestos Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY035 EPR reference: EA/EPR/CB3237AP/T001 Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 74999.0	Issue Date: 24/01/2002 Effective Date: 27/09/2011 Modified: 15/09/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Gwynedd Skip And Plant Hire Ltd Correspondence Address: -

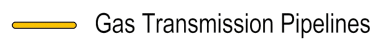
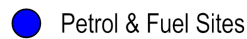
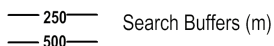
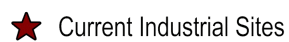
ID	Distance (m)	Direction	NGR	Details	
Not shown	1159	NE	249850 362700	Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: - Operator: Gwynedd Skip Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 0.0	Issue Date: 1/24/2002 Effective Date: - Modified: 9/4/2008 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Gwynedd Skip Hire Ltd Correspondence Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL65 2BD
Not shown	1159	NE	249850 362700	Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Type: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: EA/EPR/BP3196LV/V007 Operator: Gwynedd Skip Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 0.0	Issue Date: 1/24/2002 Effective Date: - Modified: 9/4/2008 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Gwynedd Skip Hire Ltd Correspondence Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL65 2BD
Not shown	1159	NE	249850 362700	Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Type: 75kte HCI Waste TS + treatment + asbestos Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: GWY035 EPR reference: CB3237AP/T001 Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 0.0	Issue Date: 24/01/2002 Effective Date: 27/09/2011 Modified: 15/09/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Gwynedd Skip And Plant Hire Ltd Correspondence Address: -
Not shown	1235	NE	249807 362812	Site Address: Cibyn Waste Transfer Station, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Type: Special Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY016 EPR reference: EA/EPR/QP3994FZ/V002 Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 24999.0	Issue Date: 05/06/2006 Effective Date: - Modified: 22/08/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Cibyn Waste Transfer Station Correspondence Address: -
Not shown	1342	NE	250044 362788	Site Address: Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY016 EPR reference: QP3994FZ/V004 Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 24999.0	Issue Date: 05/06/2006 Effective Date: - Modified: 06/05/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Caerglychu Waste Management Facility Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details	
Not shown	1342	NE	250044 362788	Site Address: Caerglychu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 0 Annual Tonnage: 40000.0	Issue Date: 05/06/2006 Effective Date: 05/06/2006 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective Site Name: - Correspondence Address: -

4. Current Land Use Map



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4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

13

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0	On Site	Clay Pit	249161 361515	Clay Pit, LL55	Sand, Gravel and Clay Extraction and Merchants	Extractive Industries
2	33	W	Clay Pit	248973 361492	Clay Pit, LL55	Sand, Gravel and Clay Extraction and Merchants	Extractive Industries
3	43	N	Tip	249174 361761	Tip, LL55	Refuse Disposal Facilities	Infrastructure and Facilities
4	145	NW	Filter Beds (Disused)	248946 361786	Filter Beds (Disused), LL55	Waste Storage, Processing and Disposal	Infrastructure and Facilities
5	148	N	Pipeline	249045 361854	Pipeline, LL55	Pipelines	Industrial Features
6A	152	N	Gwynedd Smart Repair	249098 361869	Gwynedd Smart Repair, Peblig Mill, Llanbeblig Road, Caernarfon, LL55 2SE	Vehicle Repair, Testing and Servicing	Repair and Servicing
7A	152	N	Hills Autos	249098 361869	Hills Autos, Peblig Mill, Llanbeblig Road, Caernarfon, LL55 2SE	Vehicle Repair, Testing and Servicing	Repair and Servicing
8	189	N	Brunswick Fasteners	249169 361907	Brunswick Fasteners, Unit H Peblig Mill, Llanbeblig Road, Caernarfon, LL55 2SE	General Construction Supplies	Industrial Products
9	214	NW	Electricity Sub Station	248866 361807	Electricity Sub Station, LL55	Electrical Features	Infrastructure and Facilities
10	231	N	Electricity Sub Station	249029 361936	Electricity Sub Station, LL55	Electrical Features	Infrastructure and Facilities
11B	238	N	K W S Coaches	249219 361955	K W S Coaches, Unit F2a Peblig Mill, Llanbeblig Road, Caernarfon, LL55 2SE	Vehicle Hire and Rental	Hire Services
12B	238	N	Kimberley Gulf Ltd	249219 361955	Kimberley Gulf Ltd, Unit A/6 Peblig Mill, Llanbeblig Road, Caeathro, Caernarfon, LL55 2SE	Textiles, Fabrics, Silk and Machinery	Industrial Products
13	245	W	Eryri Hospital	248706 361611	Eryri Hospital, The Park, Caernarfon, LL55 2YE	Hospitals	Health Practitioners and Establishments

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

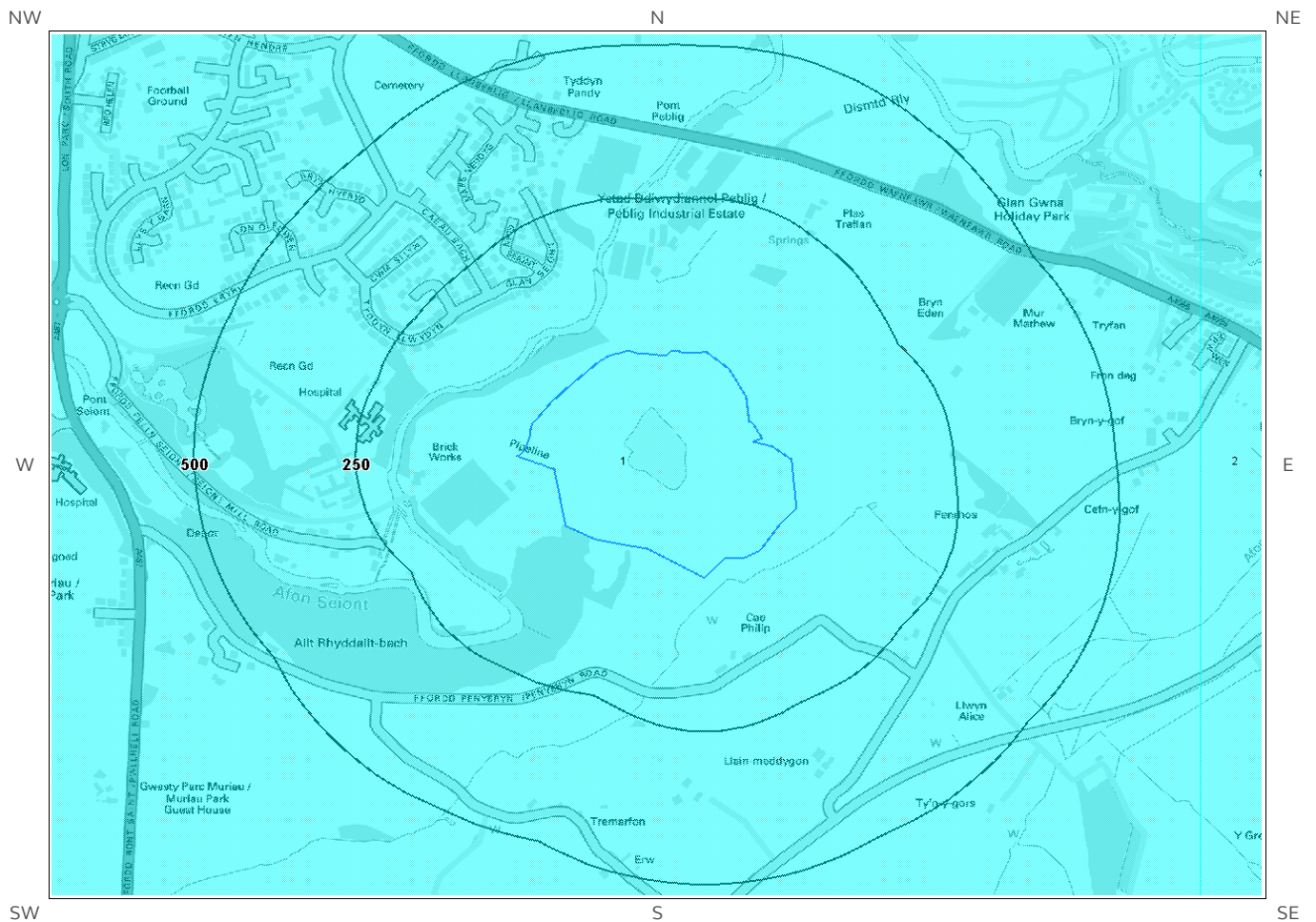
5.3 Bedrock and Solid Geology

Database searched and no data found.

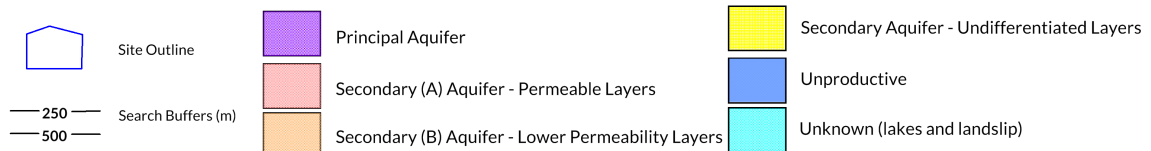
The database has been searched on site, including a 50m buffer.

6 Hydrogeology and Hydrology

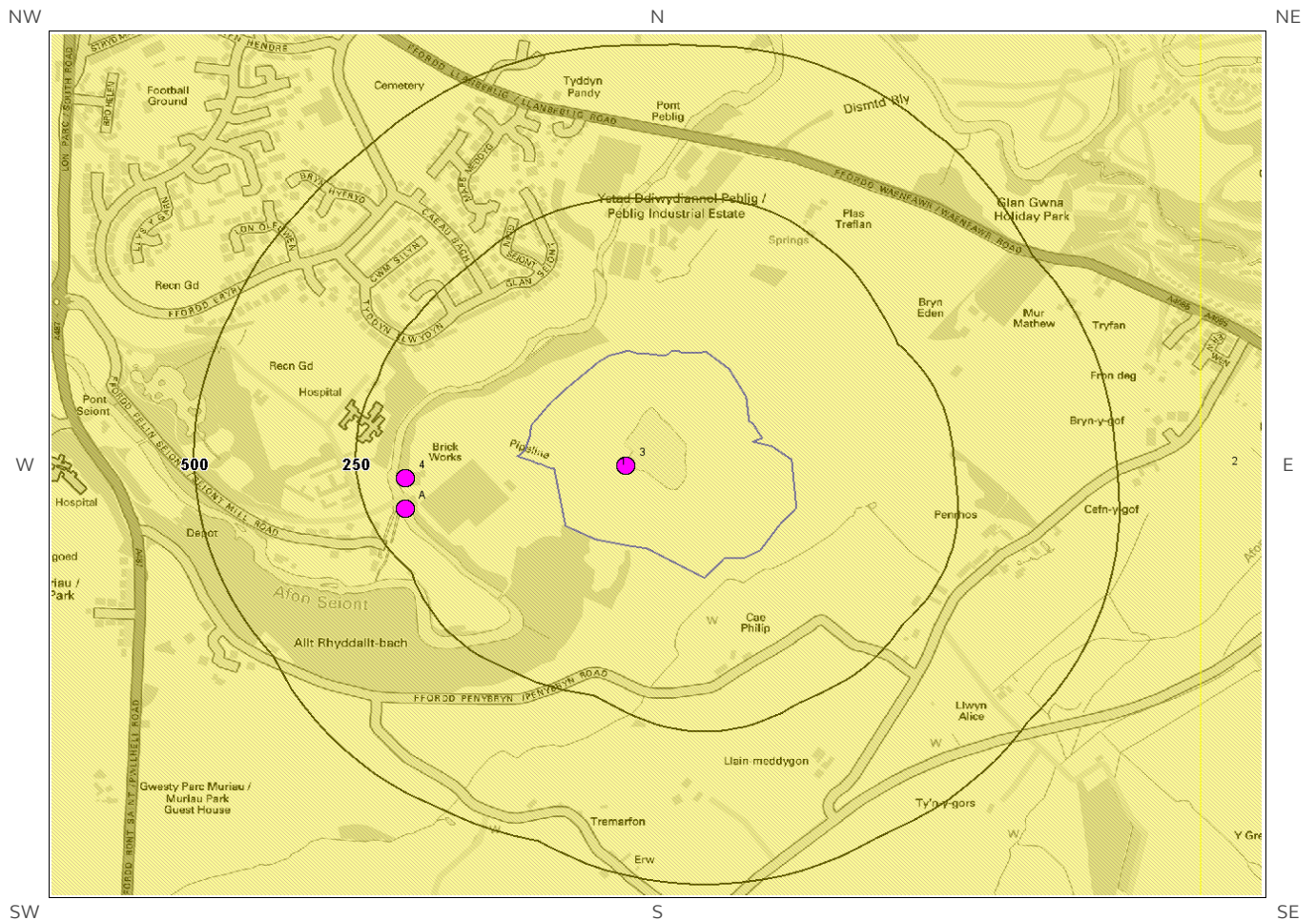
6a. Aquifer Within Superficial Geology



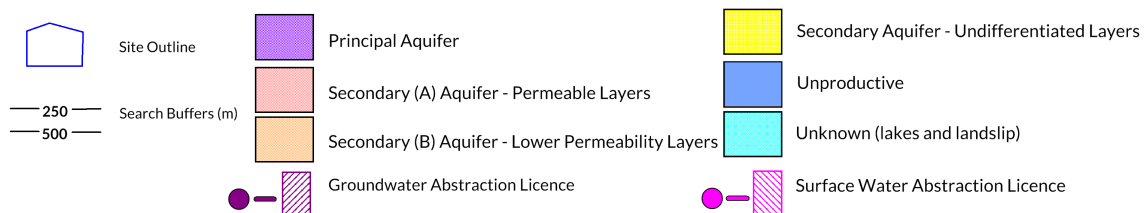
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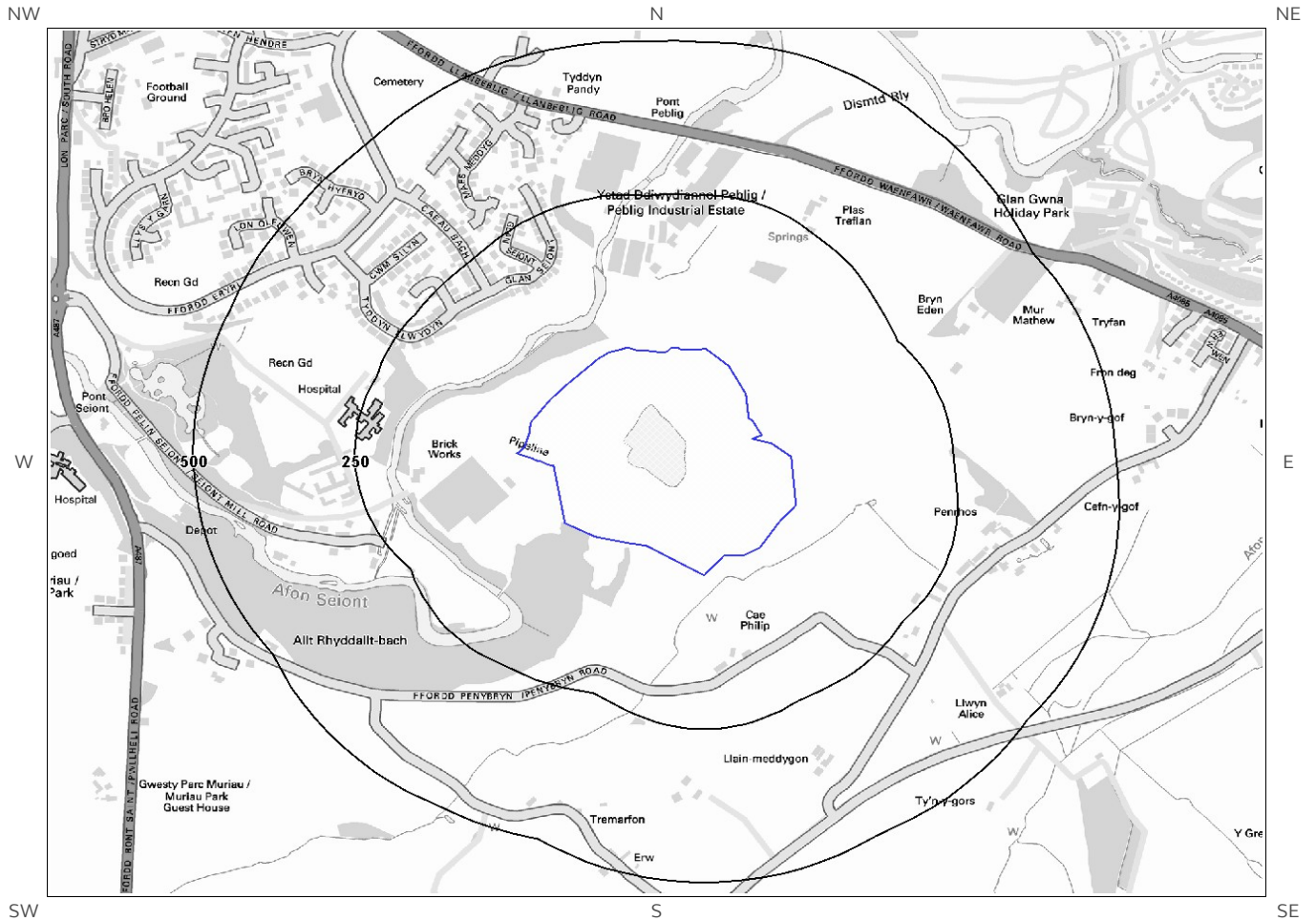
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



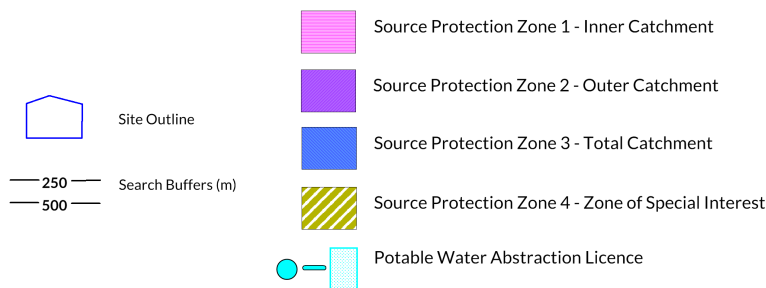
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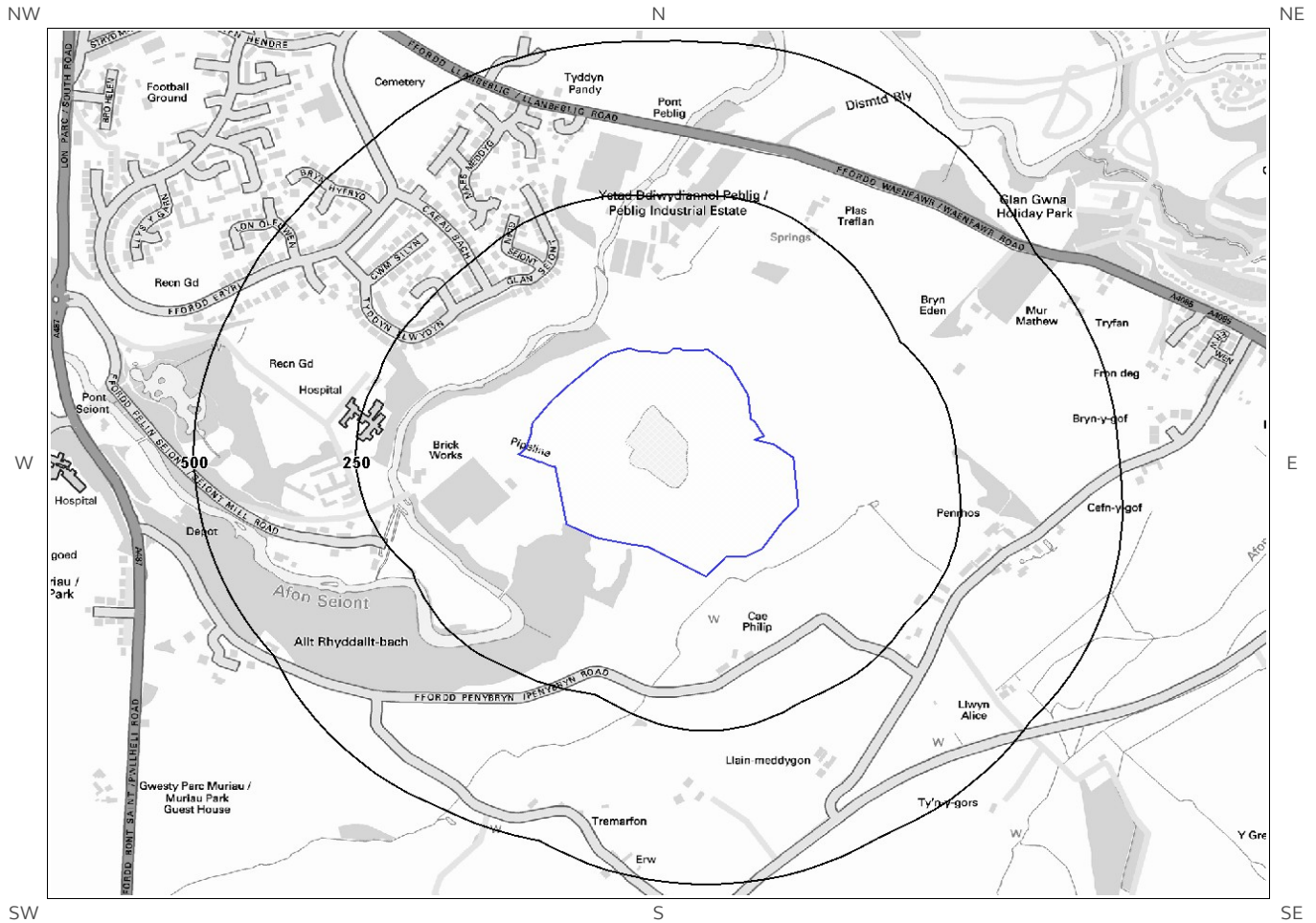
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



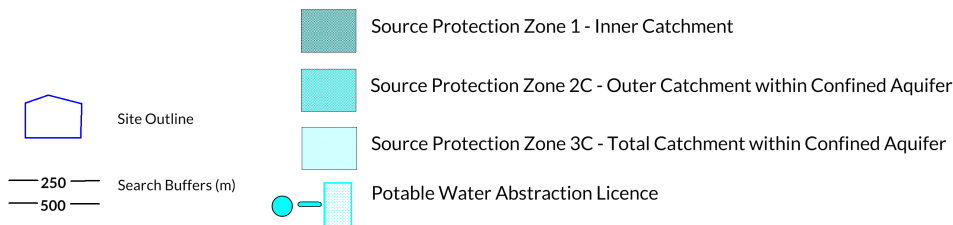
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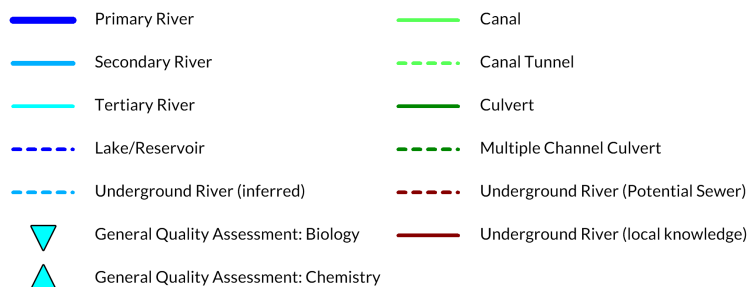


6d. Hydrogeology – Source Protection Zones within confined aquifer



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Unknown	Unknown

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
3	0	On Site	249110 361530	<p>Status: Historical Licence No: 23/65/16/0070 Details: Process Water Direct Source: Eaw Surface Water Point: On Site Lagoon At Seiont Brickworks Data Type: Point Name: Hanson Brick</p> <p>Annual Volume (m³): 12000 Max Daily Volume (m³): 35 Application No: 2032 Original Start Date: 20/6/2006 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 1/4/2008 Version End Date:</p>
4	177	W	248770 361510	<p>Status: Active Licence No: 23/65/16/0019 Details: Lake & Pond Throughflow Direct Source: Eaw Surface Water Point: Ornamental Park Lake Data Type: Point Name: Cyngor Gwynedd</p> <p>Annual Volume (m³): 382300.42 Max Daily Volume (m³): 1047.39 Application No: C219/530 Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 1/4/2005 Version End Date:</p>
5A	194	SW	248770 361460	<p>Status: Historical Licence No: 23/65/16/0008 Details: General Washing/Process Washing Direct Source: Eaw Surface Water Point: River Seiont, Caernarfon Data Type: Point Name: Hanson Brick</p> <p>Annual Volume (m³): - Max Daily Volume (m³): - Application No: C219/43 Original Start Date: 25/10/1965 Expiry Date: - Issue No: 100 Version Start Date: 1/1/2000 Version End Date:</p>
6A	194	SW	248770 361460	<p>Status: Historical Licence No: 23/65/16/0008 Details: Process Water Direct Source: Eaw Surface Water Point: Afon Seiont Data Type: Point Name: Hanson Brick</p> <p>Annual Volume (m³): 6819 Max Daily Volume (m³): 27.27 Application No: C219/43 Original Start Date: 25/10/1965 Expiry Date: - Issue No: 100 Version Start Date: 1/4/2008 Version End Date:</p>
Not shown	1283	E	250590 361930	<p>Status: Active Licence No: 23/65/16/0039 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Eaw Surface Water Point: Pond At Glan Gwna, Caeathraw Data Type: Point Name: Glan Gwna Holiday Park Ltd</p> <p>Annual Volume (m³): 93502.1 Max Daily Volume (m³): 256.17 Application No: C219/1379 Original Start Date: 24/6/1968 Expiry Date: - Issue No: 100 Version Start Date: 11/9/2006 Version End Date:</p>
Not shown	1778	SW	248100 359910	<p>Status: Active Licence No: 23/65/15/0022 Details: Effluent/Slurry Dilution Direct Source: Eaw Surface Water Point: Afon Gwyrfa Data Type: Point Name: Dwr Cymru Cyfyngedig</p> <p>Annual Volume (m³): 600 Max Daily Volume (m³): 50 Application No: C219/1725 Original Start Date: 27/8/1993 Expiry Date: - Issue No: 100 Version Start Date: 1/4/2005 Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details
Not shown	1969	E	251340 361590	Status: Historical Licence No: 23/65/16/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Eaw Surface Water Point: Spring At Prysgol Farm, Caeathraw Data Type: Point Name: Glan Gwna Holiday Park Ltd Annual Volume (m³): 2556.44 Max Daily Volume (m³): 7 Application No: C219/1046 Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 8/2/2008 Version End Date:
Not shown	1969	E	251340 361590	Status: Historical Licence No: 23/65/16/0015 Details: General Farming & Domestic Direct Source: Eaw Surface Water Point: Spring At Prysgol Farm, Caeathraw Data Type: Point Name: Glan Gwna Holiday Park Ltd Annual Volume (m³): 2556.44 Max Daily Volume (m³): 7 Application No: C219/1046 Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 8/2/2008 Version End Date:

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details
Not shown	1283	E	250590 361930	Status: Active Licence No: 23/65/16/0039 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Eaw Surface Water Point: Pond At Glan Gwna, Caeathraw Data Type: Point Name: Glan Gwna Holiday Park Ltd Annual Volume (m³): 93502.1 Max Daily Volume (m³): 256.17 Original Application No: C219/1379 Original Start Date: 24/6/1968 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1969	E	251340 361590	Status: Historical Licence No: 23/65/16/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Eaw Surface Water Point: Spring At Prysgol Farm, Caeathraw Data Type: Point Name: Glan Gwna Holiday Park Ltd Annual Volume (m³): 2556.44 Max Daily Volume (m³): 7 Original Application No: C219/1046 Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
93	NW	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.
209	SW	Minor Aquifer/High Leaching Potential	H2	Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
113K	282	N	249100 362000	River Name: Seiont Reach: Tidal Limit - D/s A4085 Rd.br. End/Start of Stretch: Start of Stretch NGR	B	B	B	B	B
114K	282	N	249100 362000	River Name: Seiont Reach: D/s A4085 Rd. Br. - Pont Rug End/Start of Stretch: End of Stretch NGR	C	B	B	B	B
Not shown	1007	W	248000 361900	River Name: Seiont Reach: Tidal Limit - D/s A4085 Rd.br. End/Start of Stretch: End of Stretch NGR	B	B	B	B	B

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
116K	282	N	249100 362000	River Name: Seiont Reach: D/s A4085 Rd. Br. - Pont Rug End/Start of Stretch: End of Stretch NGR	A	A	A	A	-
117K	282	N	249100 362000	River Name: Seiont Reach: Tidal Limit - D/s A4085 Rd.br. End/Start of Stretch: Start of Stretch NGR	A	A	A	A	-
118L	371	N	249205 362090	River Name: Seiont Reach: D/s A4085 Rd. Br. - Pont Rug End/Start of Stretch: Sample Point NGR	A	A	A	A	-
119L	371	N	249205 362090	River Name: Seiont Reach: Pont Rug - Llanrug Stw End/Start of Stretch: Sample Point NGR	A	A	A	A	-
120L	371	N	249205 362090	River Name: Seiont Reach: Llanrug Stw - Pont Rhythallt End/Start of Stretch: Sample Point NGR	A	A	A	A	-
121L	371	N	249205 362090	River Name: Seiont Reach: Pont Rhythallt-conf.r.caledffrwd End/Start of Stretch: Sample Point NGR	A	A	A	A	-
122	657	W	248290 361620	River Name: Seiont Reach: Tidal Limit - D/s A4085 Rd.br. End/Start of Stretch: Sample Point NGR	A	A	A	A	-
Not shown	1007	W	248000 361900	River Name: Seiont Reach: Tidal Limit - D/s A4085 Rd.br. End/Start of Stretch: End of Stretch NGR	A	A	A	A	-

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details
1	24	SE	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
2	64	NW	River Name: Afon Seiont Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
3	153	SW	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
4	172	SW	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
5	172	SW	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
6	197	W	River Name: Mill Stream (dis) Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
7A	205	SW	River Name: Mill Stream (dis) Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
8A	207	SW	River Name: Mill Stream (dis) Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
9	270	SW	River Name: Mill Stream (dis) Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
10	306	SW	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
11B	343	SW	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
12B	343	SW	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
13	380	SW	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
14C	425	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
15C	429	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
16	429	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
17D	434	W	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
18D	434	W	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
19	443	NE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
20	450	SW	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
21	453	W	River Name: Afon Seiont Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
22	460	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
23E	461	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
24	466	SE	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
25	466	NW	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
26E	469	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
27	485	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Lake/Reservoir Main River Status: Currently Undefined

6.11 Surface Water Features

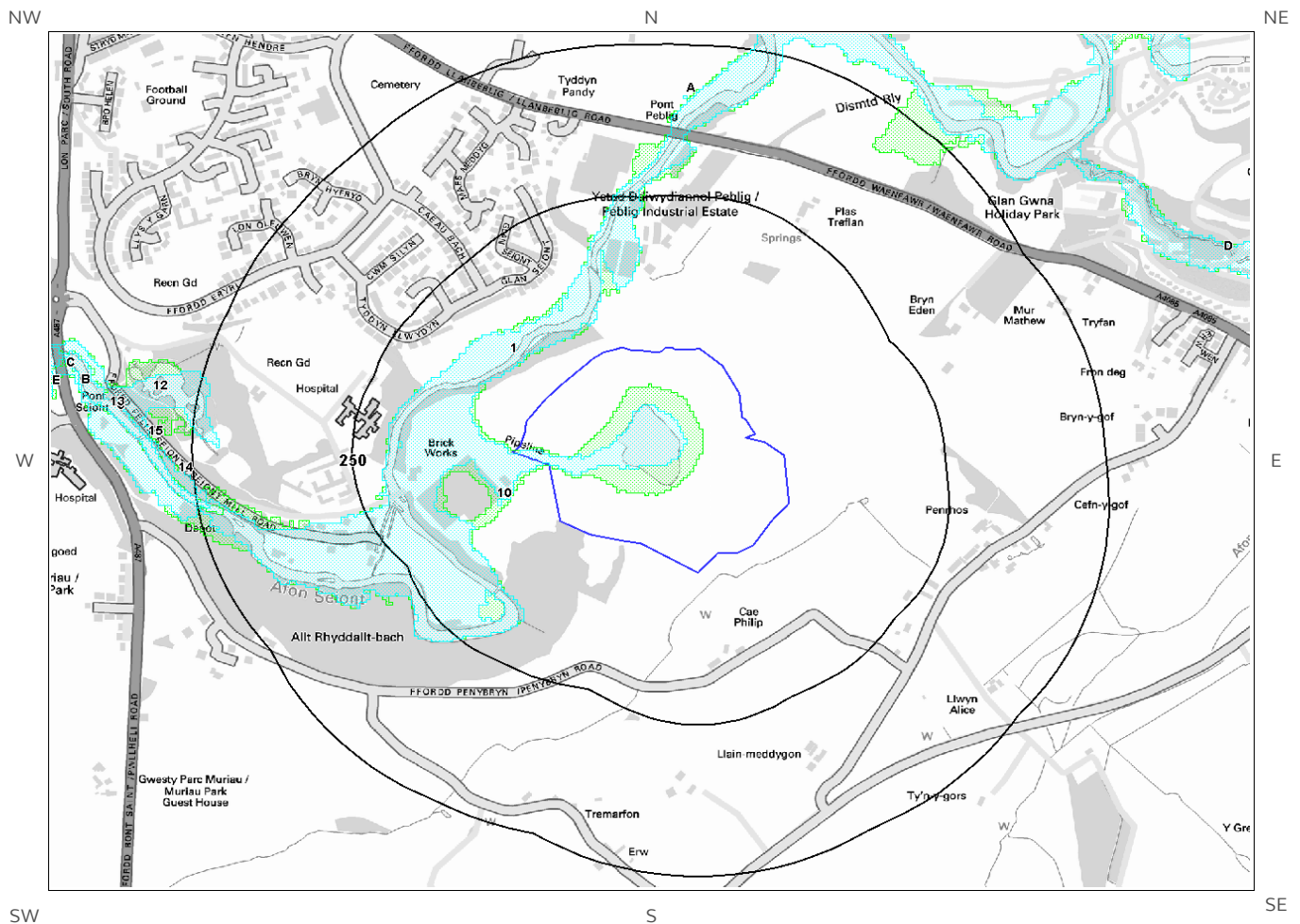
Are there any surface water features within 250m of the study site?

Yes

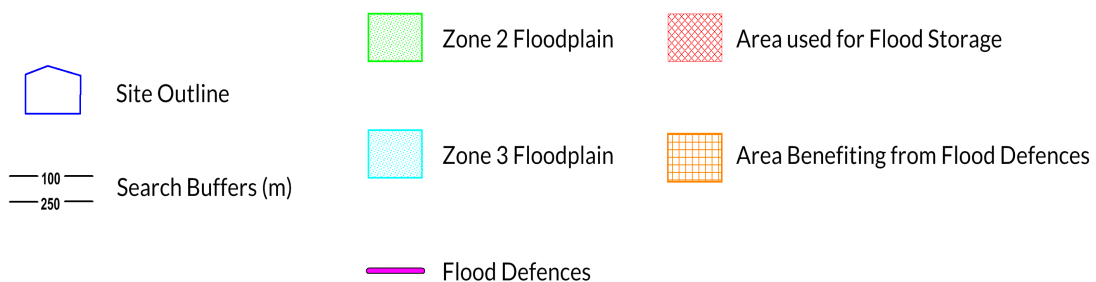
The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
24	SE
53	NW
106	E
115	N
146	SW
146	SW
160	N
172	SW
208	SW

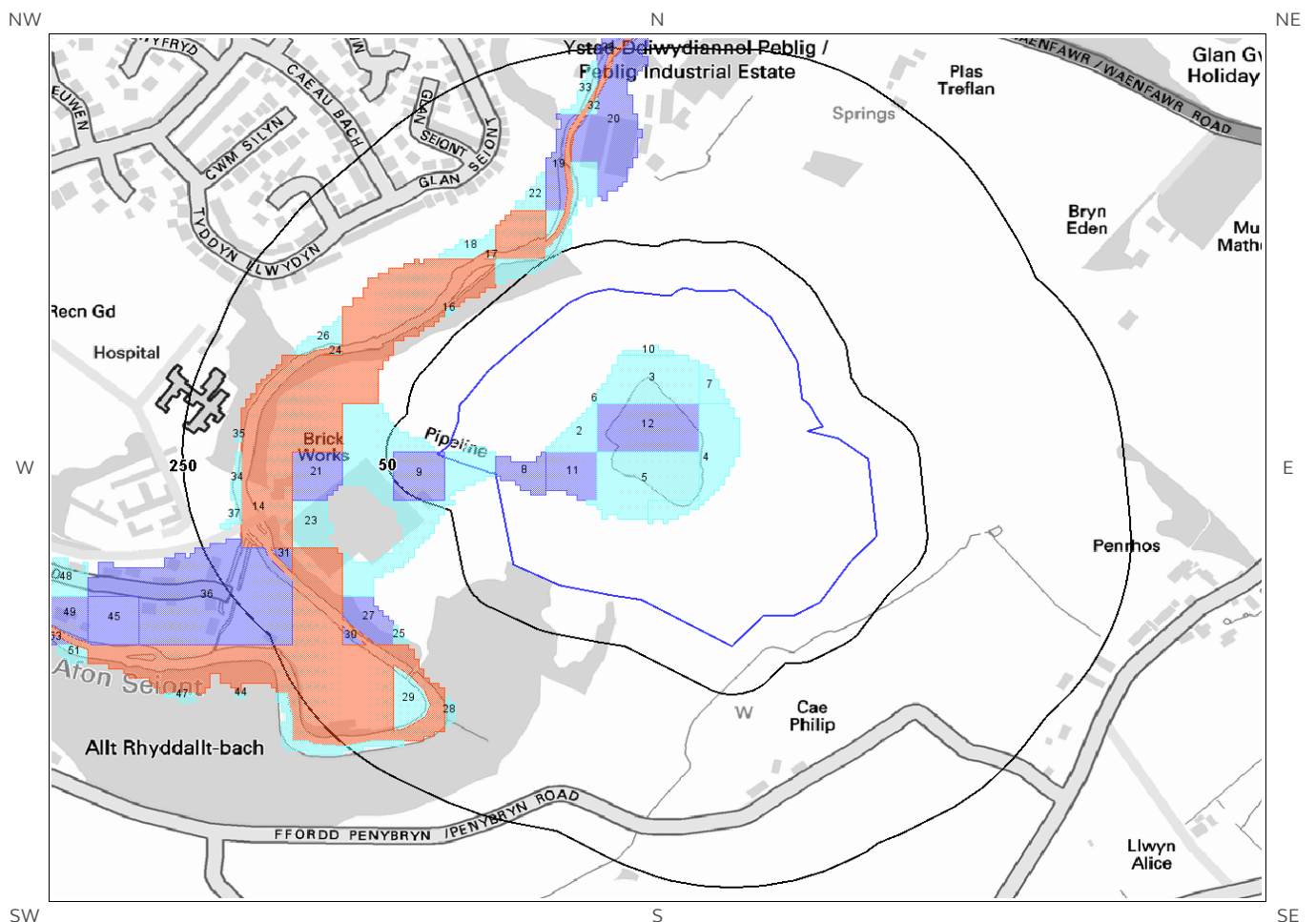
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



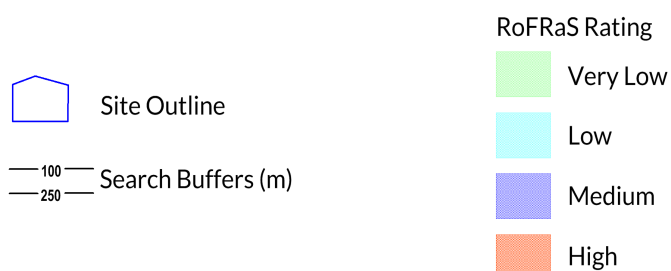
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? Yes

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	0	On Site	09-Sep-2016	Zone 2 - (Fluvial/Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	0	On Site	09-Sep-2016	Zone 3 - (Fluvial Models)
	79	S	09-Sep-2016	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Medium

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Medium (greater than 1 in 100 but less than 1 in 30) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRaS flood Risk
----	--------------	-----------	-------------------

1	0.0	On Site	Low
2	0.0	On Site	Low
3	0.0	On Site	Low
4	0.0	On Site	Low
5	0.0	On Site	Low
6	0.0	On Site	Low
7	0.0	On Site	Low
8	0.0	On Site	Medium
9	0.0	On Site	Medium
10	0.0	On Site	Low
11	0.0	On Site	Medium
12	0.0	On Site	Medium
13A	43.0	NW	Low

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

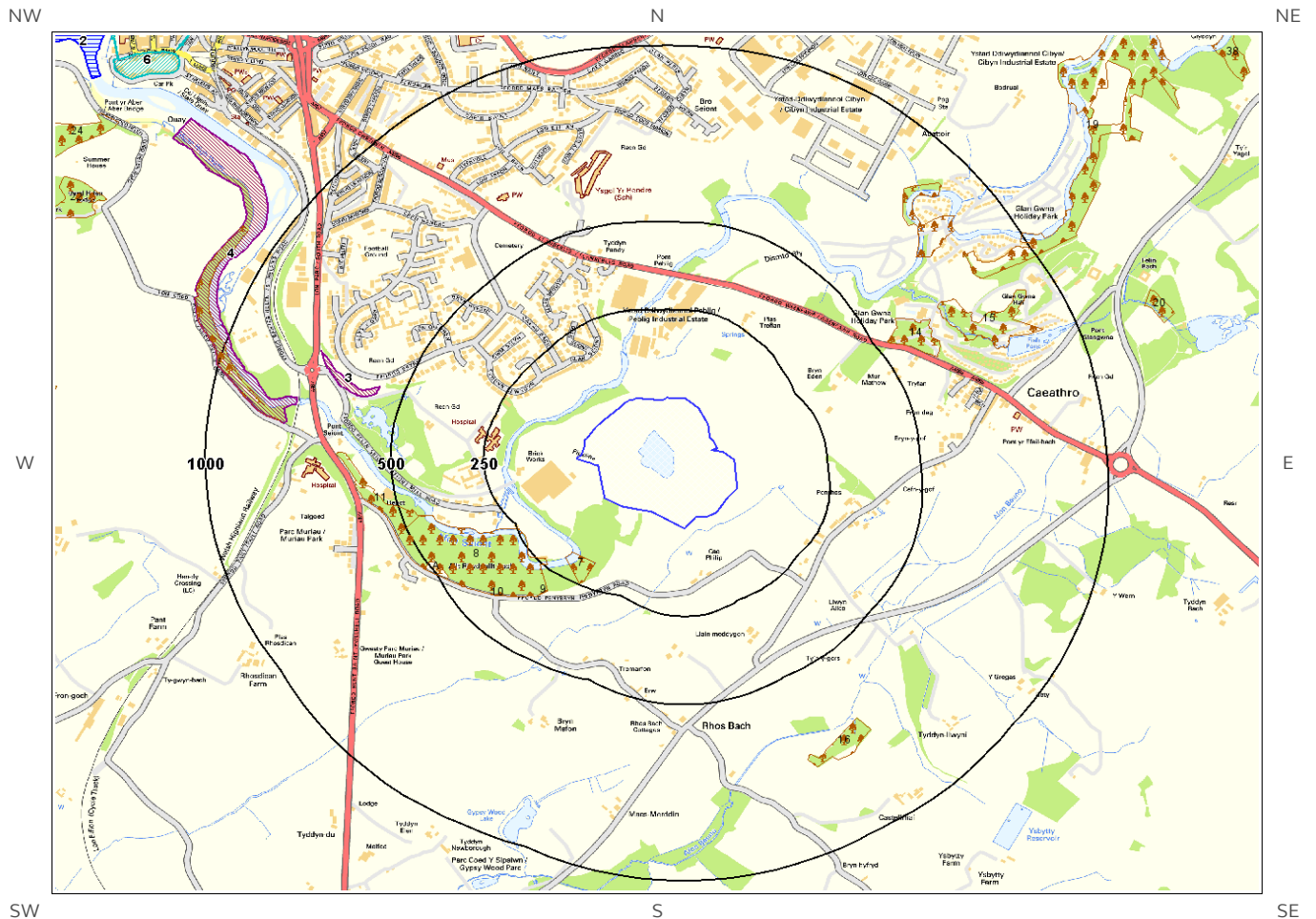
What is the British Geological Survey confidence rating in this result?

High

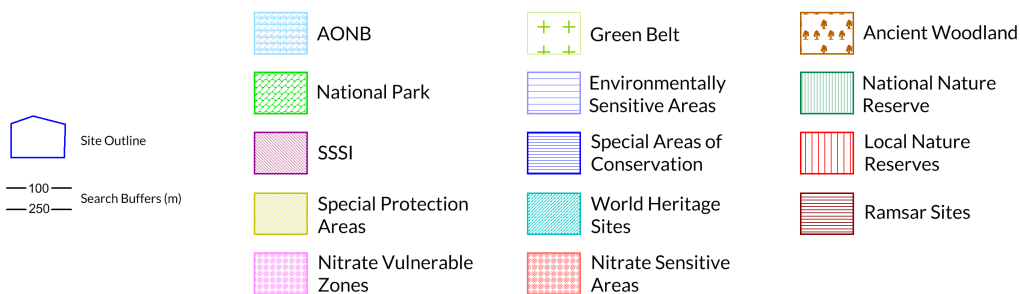
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

3

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
3	565	W	AFON SEIONT	Natural Resources Wales
4	771	W	AFON SEIONT	Natural Resources Wales
Not shown	1545	S	AFON GWYRFAI A LLYN CWELLYN	Natural Resources Wales

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

2

The following Special Area of Conservation (SAC) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SAC Name	Data Source
Not shown	1563	S	Afon Gwyrfaï a Llyn Cwellyn	Natural Resources Wales
2	1664	NW	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay	Natural Resources Wales

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

54

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
7	174	SW	Unknown	Ancient and Semi-Natural Woodland
8	233	SW	Unknown	Restored Ancient Woodland Site
9	304	SW	ALLT RHYDDALT-BACH	Ancient and Semi-Natural Woodland
10	384	SW	ALLT RHYDDALT-BACH	Ancient and Semi-Natural Woodland
11	457	W	Unknown	Ancient and Semi-Natural Woodland
12A	475	SW	ALLT RHYDDALT-BACH	Ancient and Semi-Natural Woodland
13A	516	SW	ALLT RHYDDALT-BACH	Ancient and Semi-Natural Woodland
14	532	NE	Unknown	Ancient and Semi-Natural Woodland
15	691	NE	Unknown	Restored Ancient Woodland Site
16	695	SE	Unknown	Ancient and Semi-Natural Woodland
17	727	NE	Unknown	Ancient and Semi-Natural Woodland
18	799	W	Unknown	Ancient and Semi-Natural Woodland
19	831	NE	Unknown	Restored Ancient Woodland Site
20	1188	E	Unknown	Restored Ancient Woodland Site
21	1416	W	Unknown	Restored Ancient Woodland Site
22	1459	NW	Unknown	Ancient and Semi-Natural Woodland
Not shown	1487	W	Unknown	Restored Ancient Woodland Site
24	1545	NW	Unknown	Ancient and Semi-Natural Woodland
Not shown	1555	S	Unknown	Restored Ancient Woodland Site
Not shown	1564	S	Unknown	Restored Ancient Woodland Site
Not shown	1568	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1572	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1573	S	Unknown	Restored Ancient Woodland Site
Not shown	1603	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1612	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1622	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1624	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
Not shown	1641	E	Unknown	Restored Ancient Woodland Site
Not shown	1655	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1694	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1709	S	Unknown	Ancient and Semi-Natural Woodland
38	1723	NE	Unknown	Ancient and Semi-Natural Woodland
Not shown	1736	S	Unknown	Restored Ancient Woodland Site
Not shown	1745	S	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1747	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1748	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1749	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1764	S	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1767	S	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1767	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1769	S	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1770	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1779	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1788	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1788	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1806	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1809	SE	Unknown	Restored Ancient Woodland Site
Not shown	1854	S	COED PLAS-Y-BRYN	Ancient and Semi-Natural Woodland
Not shown	1860	E	Unknown	Ancient and Semi-Natural Woodland
Not shown	1879	NE	Unknown	Ancient and Semi-Natural Woodland
Not shown	1884	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1886	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland
Not shown	1945	S	Unknown	Ancient and Semi-Natural Woodland
Not shown	1998	SE	COED GLAN-YR-AFON	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

1

The following World Heritage Site records provided by English Heritage and Cadw are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	World Heritage Site Name	Data Source
6	1517	NW	Caernarfon Castle & Town Walls	CADW

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our **website**. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property no significant increase in insurance risk due to natural slope instability problems.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Not available	Vein Mineral	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:

Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Natural Resources Wales

Ty Cambria
29 Newport Road
Cardiff
CF24 0TP
Tel: 0300 065 3000
Email: enquiries@naturalresourceswales.gov.uk

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority

Authority: Gwynedd County Council
Phone: 01766 771 000
Web: <http://www.gwynedd.gov.uk>
Address: Council Offices, Shirehall Street, Caernafon, Gwynedd, LL55



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Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.

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This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
<https://www.groundsure.com/terms-and-conditions-sept-2016>

Appendix 3 - Water Analysis Results



Jones Bros. Ruthin Co. Ltd
Ty Glyn
Canol Y Dre
Ruthin
Denbighshire
LL15 1QW

Attention: Dave Gibson

CERTIFICATE OF ANALYSIS

Date: 02 December 2016
Customer: H_JONESBRO_RUT
Sample Delivery Group (SDG): 161124-120
Your Reference:
Location: CAERNARFON BRICKWORKS
Report No: 388857

We received 6 samples on Thursday November 24, 2016 and 6 of these samples were scheduled for analysis which was completed on Friday December 02, 2016. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALcontrol Laboratories Hawarden (Method codes TM) or ALcontrol Laboratories Aberdeen (Method codes S).

Approved By:

Sonia McWhan

Operations Manager





SDG:	161124-120	Location:	CAERNARFON BRICKWORKS	Order Number:	M-C6088/0001
Job:	H_JONESBRO_RUT-10	Customer:	Jones Bros. Ruthin Co. Ltd	Report Number:	388857
Client Reference:		Attention:	Dave Gibson	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
14589673	DBG 01			24/11/2016
14589674	DBG 02			24/11/2016
14589675	DBG 03			24/11/2016
14589676	DBG 04			24/11/2016
14589677	DBG 05			24/11/2016
14589678	DBG 06			24/11/2016

Only received samples which have had analysis scheduled will be shown on the following pages.



SDG: 161124-120
Job: H_JONESBRO_RUT-10
Client Reference:

Location: CAERNARFON BRICKWORKS
Customer: Jones Bros. Ruthin Co. Ltd
Attention: Dave Gibson

Order Number: M-C6088/0001
Report Number: 388857
Superseded Report:

LIQUID Results Legend <div><div>X</div> Test</div> <div><div>N</div> No Determination Possible</div>	Lab Sample No(s)		14589673	14589674	14589675	14589676	14589677	14589678
	Customer Sample Reference		DBG 01	DBG 02	DBG 03	DBG 04	DBG 05	DBG 06
	AGS Reference							
	Depth (m)							
	Container		HN03 Filtered (AL/E204) DO KIT + DO 250 ml qia Disolved Metals Preser 1l plastic (AL/E221)	HN03 Filtered (AL/E204) DO KIT + DO 250 ml qia Disolved Metals Preser 1l plastic (AL/E221)	HN03 Filtered (AL/E204) DO KIT + DO 250 ml qia Disolved Metals Preser 1l plastic (AL/E221)	HN03 Filtered (AL/E204) DO KIT + DO 250 ml qia Disolved Metals Preser 1l plastic (AL/E221)	HN03 Filtered (AL/E204) DO KIT + DO 250 ml qia Disolved Metals Preser 1l plastic (AL/E221)	HN03 Filtered (AL/E204) DO KIT + DO 250 ml qia Disolved Metals Preser 1l plastic (AL/E221)
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6		X	X	X	X	X
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 6	X	X	X	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 6	X	X	X	X	X	X
pH Value	All	NDPs: 0 Tests: 6	X	X	X	X	X	X
Suspended Solids	All	NDPs: 0 Tests: 6	X	X	X	X	X	X
Turbidity in waters	All	NDPs: 0 Tests: 6	X	X	X	X	X	X

Order Number: M-C6088/0001
Report Number: 388857
Superseded Report:

Page 4 of 7



SDG:	161124-120	Location:	CAERNARFON BRICKWORKS	Order Number:	M-C6088/0001
Job:	H_JONESBRO_RUT-10	Customer:	Jones Bros. Ruthin Co. Ltd	Report Number:	388857
Client Reference:		Attention:	Dave Gibson	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM187	Winkler, L.W, Ber Deutsch. Chem. Ges, 21,2843,1888."	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442		
TM195	Colour and Turbidity of water. Methods for the Examination of Waters and Associated Materials. HMSO, 1981, ISBN 0 11 751955 3.	Determination of Turbidity in Waters & Associated Matrices		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.
Chemical testing (unless subcontracted) performed at ALcontrol Laboratories Hawarden (Method codes TM) or ALcontrol Laboratories Aberdeen (Method codes S).



SDG:	161124-120	Location:	CAERNARFON BRICKWORKS	Order Number:	M-C6088/0001
Job:	H_JONESBRO_RUT-10	Customer:	Jones Bros. Ruthin Co. Ltd	Report Number:	388857
Client Reference:		Attention:	Dave Gibson	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	14589673	14589674	14589675	14589676	14589677	14589678
Customer Sample Ref.	DBG 01	DBG 02	DBG 03	DBG 04	DBG 05	DBG 06
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Dissolved Metals by ICP-MS	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016
Dissolved Oxygen by Titration	30-Nov-2016	30-Nov-2016	02-Dec-2016	30-Nov-2016	30-Nov-2016	02-Dec-2016
Mercury Dissolved	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016
pH Value	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016	02-Dec-2016
Suspended Solids	01-Dec-2016	29-Nov-2016	01-Dec-2016	01-Dec-2016	01-Dec-2016	29-Nov-2016
Turbidity in waters	30-Nov-2016	30-Nov-2016	30-Nov-2016	30-Nov-2016	30-Nov-2016	30-Nov-2016



SDG: 161124-120
Job: H_JONESBRO_RUT-10
Client Reference:

Location: CAERNARFON BRICKWORKS
Customer: Jones Bros. Ruthin Co. Ltd
Attention: Dave Gibson

Order Number: M-C6088/0001
Report Number: 388857
Superseded Report:

Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP - No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals - total metals must be requested separately.

11. Results relate only to the items tested.

12. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

General

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEx). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

24. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
+	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than:- Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

DBG 04
Discharge to
Afon Seiont

DBG 05
Afon Seiont u/s
discharge

DBG 01
Sump – SW corner

DBG 02
Sump – mid
south shore

DBG 03
Sump – SE corner



DBG 06
Afon Seiont
d/s discharge