

## **Wenvoe Quarry groundwater abstraction**

### **1. Purpose of this document**

This report:

- explains how the application for a transitional transfer licence (also known as 'New Authorisation' licence) has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the use of specific bespoke conditions within the licence.

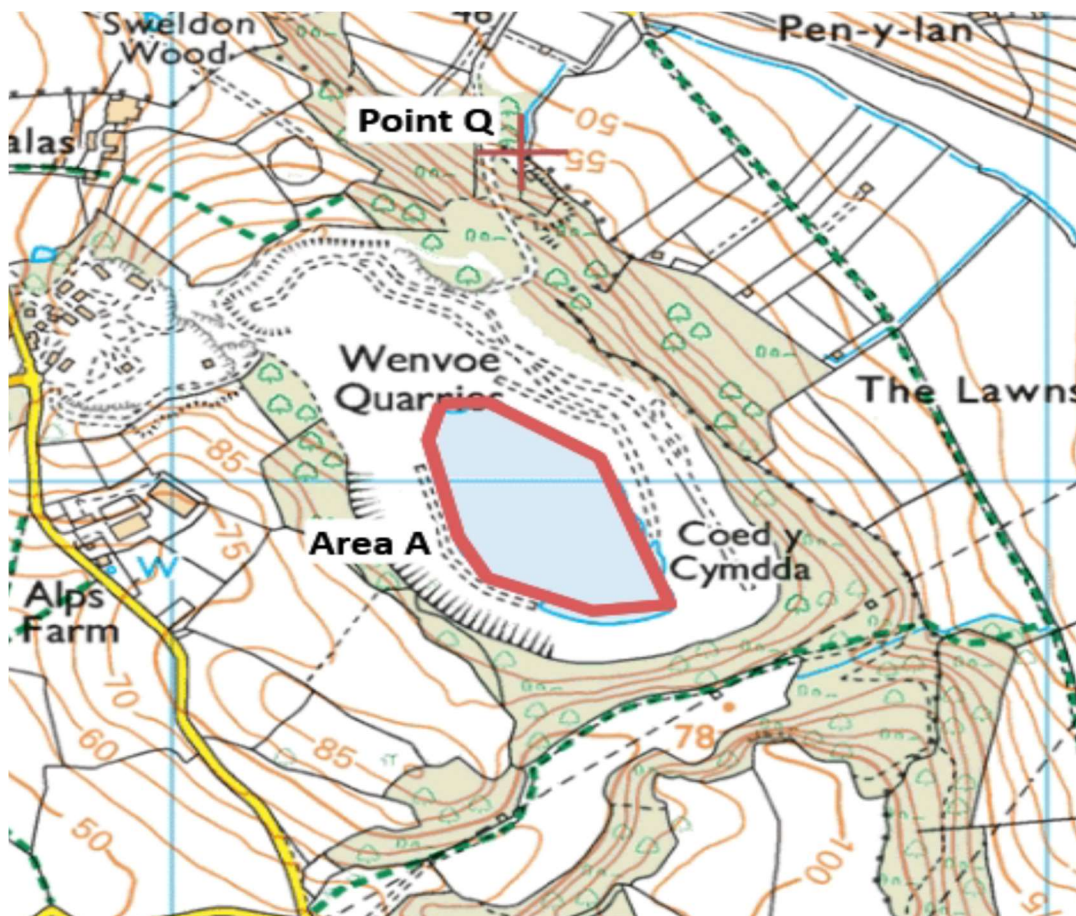
In determining this application, NRW has exercised its duties and powers under The Water Abstraction (Transitional Provisions) Regulations 2017.

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### 3. Summary of the application

This is an application for a transfer licence to authorise a previously exempt groundwater abstraction at Wenvoe Quarry, Wenvoe, Cardiff for dewatering the quarry sump. An existing pump positioned at 33.5 metres above ordnance datum (AOD) abstracts water from the sump. This water is transferred via a pipe to a discharge point at National Grid Reference ST 13541 73875 where the water discharges into the Bullcroft Brook, as permitted by Environmental Permitting Regulations permit number AN0240501. There is no intervening use of the water.



Map showing location of area dewatered 'Area A' and discharge location 'Point Q'

We have decided to issue the licence on xx March 2022. Licensing this abstraction is considered a first step to move towards sustainable abstraction and it will continue to be reviewed through future sustainability review processes.

### 4. Application and licence determination details

Application details	
Applicant name and address	CEMEX UK Materials Limited CEMEX house Evreux Way Rugby Warwickshire

	England CV21 2DT Company number: 04895833 (confirmed in email dated 28/01/2022)
Application contact details	Telephone: 01932 583181 Email: <a href="mailto:daphne.murray@cemex.com">daphne.murray@cemex.com</a> Agent email: <a href="mailto:deborah@envireauwater.co.uk">deborah@envireauwater.co.uk</a> ; <a href="mailto:james@envireauwater.co.uk">james@envireauwater.co.uk</a>
Application reference number	PAN-002726
New licence number	WA/058/0011/0006
WFD Waterbody number & name	Groundwater: GB41002G201600 - Thaw and Cadoxton Carboniferous limestone Surface water: GB110058026420 – Cadoxton – headwaters to tidal limit
Abstraction Licensing Strategy (ALS)	Thaw and Cadoxton
Catchment and sub-catchment	Thaw Cadoxton C058001
NRW Area	South Central

### Determination process details

Date application received	15 <sup>th</sup> May 2018
Date technical checks undertaken	18 <sup>th</sup> May 2018
Date any final further information received and application validated	<p><b>21<sup>st</sup> May 2018</b> – Applicant provided the following information:</p> <ul style="list-style-type: none"> <li>• Confirmation of National Grid References in preferred format for area to be dewatered</li> <li>• Schematic water movement diagram</li> <li>• Flowmeter installation report</li> <li>• Flowmeter calibration certificates</li> <li>• Flowmeter records</li> </ul> <p><b>25<sup>th</sup> June 2018</b> – Applicant confirmed happy to have licence issued in accordance with ALS CED. <b>Application validated.</b></p> <p><b>23<sup>rd</sup> February 2021</b> – Email received from applicant confirming details of new agents from Envireau water to act on their behalf</p> <p><b>07<sup>th</sup> December 2021</b> – Applicant confirmed as CEMEX UK Materials Limited</p> <p><b>23<sup>rd</sup> December 2021</b> – Applicant confirmed maximum pumping capacity as 50 litres per second.</p> <p><b>18<sup>th</sup> March 2022</b> – confirmation of revised National Grid References for the abstraction area - <a href="#">confirmation email</a></p>
Reason abstraction was previously exempt	Abstraction is for dewatering as part of mining/quarrying/engineering operations, this activity was previously exempt from licensing under section 29 of the Water Resources Act 1991.

Non- statutory determination date	31/03/2022
Application publication	This advertising decision was agreed by the <a href="#">NA Panel on 14/01/2021</a> and recorded in the <a href="#">NA Screening spreadsheet</a> .  Application advertised in the South Wales Echo on 23 <sup>rd</sup> June 2021. No public representations or comments received from statutory bodies. <a href="#">Advert voucher</a>
National Park notification	Not relevant as abstraction not located within a National Park.
External Consultation	None undertaken in accordance with current policies and guidance.
Environmental Impact Assessment Regulations (EIA) requirements	The proposal is not relevant under these regulations; therefore no environmental statement is required.

Abstraction details	Licence details
Location of abstraction	Wenvoe Quarry, Wenvoe, Cardiff, CF5 6XE
Source of supply	Underground strata comprising of carboniferous limestone at Wenvoe Quarry, Wenvoe, Cardiff, CF5 6XE.
Point(s) of abstraction (NGR) (single point, multiple points, reach or area)	Within the area marked A on the map and not outside the boundary formed by straight lines running between the following National Grid References ST 13297 74075, ST 13427 74060, ST 13543 73863 and ST 13468 73810.
Purpose of abstraction	Dewatering
Period of abstraction	All year
Quantities and rates:	N/A – Application is for a transfer licence
cubic metres per hour	
cubic metres per day	
cubic metres per year	
litres per second	
Means of abstraction	Submersible pump with a capacity not exceeding 50 litres per second
Measurement of abstraction	N/A
Frequency of measurement	N/A
Frequency of recording/reporting	N/A
Annual returns requirement	No
Licence end date	31/03/2030 in accordance with Thaw and Cadaxton ALS
Minimum value condition (Y/N)	N/A – no abstraction quantities on licence
Issue date	21/03/2022
Effective date	21/03/2022

## 5. Advertisement of application

See Application publication in section 4 above. No representations were received.

## 6. Location of abstraction and discharge

The applicant has provided a [map schematic](#) which demonstrates that the abstraction point is located within the area created by National Grid References ST 13297 74075, ST 13427 74060, ST 13543 73863 and ST 13468 73810. Application form WRH stated the grid references in a different format, but referred to the same location. On the 18<sup>th</sup> March 2022 the applicant provided confirmation of revised National Grid References for the abstraction area - [confirmation email](#). The abstraction area is fundamentally the same, these revised NGRs provide a more accurate picture of the abstraction area.

The discharge point for the transfer is at National Grid Reference ST 13400 74460, as stated in the sites existing Environmental Permit number AN0240501. The reference for the discharge point included within WRH is incorrect, however the supporting application maps indicate that the discharge point is as stated within the environmental permit.

## 7. Rights of Access

The map provided includes an outline of the landownership of the applicant and demonstrates that the abstraction point lies within their landownership. [Rights of Access map](#)

## 8. Historical Evidence of abstraction and volumes

As part of the transitional licence application, applicants were required to submit evidence to demonstrate the quantities of water abstracted and when the abstraction took place during the seven year 'qualifying period' (January 2011 – December 2017).

The applicant has provided meter readings taken from a magnetic flow meter installed on the discharge pipe as evidence of their ongoing abstraction via a pump between July 2014 and December 2017, see [Dewatering volumes](#) spreadsheet submitted by applicant. The applicant has requested an abstraction period of all year which is supported by the time periods given in their evidence.

The evidence provided suggested that the maximum quantities abstracted during the qualifying period are as follows:

4,892 m<sup>3</sup> per day  
1,162, 752 m<sup>3</sup> per year

The applicant confirmed in their [email dated 23/12/2021](#) that the maximum pumping capacity is 50 litres per second. Over a 24 hour period, it is calculated that the maximum daily abstraction should be no more than 4,320 cubic metres as a result of the maximum pumping capacity.

The maximum daily discharge quantity permitted on the applicants EPR permit is 4,500m<sup>3</sup>. These quantities are indicative only and as the application is for a transfer licence, no quantities are required to be included on the licence. Instead, the abstraction will be controlled via the means of abstraction condition, which as per the 'abstraction details' table (section 4) above, specifies the maximum pump capacity.

NRW considers the volumes applied for acceptable. The evidence submitted supports the application and demonstrates that the abstraction has occurred during the qualifying period.

## **9. Technical assessment of the proposal**

The application has been screened according to the New Authorisations (NA) screening process [and the results are recorded within the NA screening spreadsheet](#). Following this the application has been assigned a moderate risk and complexity score. This score was agreed by the [NA Panel on 14/01/2021](#).

### **9.1 Water Framework Directive Regulations 2017**

The abstraction is located within GB41002G201600 - Thaw and Cadoxton Carboniferous limestone.

The status of this waterbody is at Good Quantitative status however, the surface water body (GB110058026420 – Cadoxton – headwaters to tidal limit) is classified as Moderate. Whilst it is believed that the groundwater is in connectivity with the surface water, the dewatering activity does not have an impact on the baseflow of the surface waterbody (see geoscience comments [ICE pack](#)).

In line with the approach set out in [Annex D of OGN 72](#) for amber activities, the application was reviewed as part of the further consultation stage to determine whether scoping / detailed assessment was required under WFD Regulations 2017. This review concluded no scoping / detailed assessment was required under the WFD Regulations 2017.

The abstraction will be licensed based on historic operation so there will be no change in groundwater levels or quantitative status of the waterbody as a result of this abstraction.

Licensing this abstraction is considered a first step to move towards sustainable abstraction and it will continue to be reviewed through future sustainability review processes.

### **9.2 Hydrogeology/Hydrology and low flows protection**

The abstraction is located in the Friars Point Limestone Formation underground strata and lies approximately 615 metres west of the Bullcroft Brook.

The abstraction has been occurring lawfully for many years, and in recognition of this the [2017 Government response](#) allows NRW as the regulator to have some discretion about the application HoFs to transitional licences.

It is recognised that not applying a HoF may not be in line with the Abstraction Licensing Strategy (ALS) for Thaw Cadoxton, but licensing the abstraction is considered a first step towards sustainable management, through future sustainability review processes.

For abstractions that are located within WFD waterbodies where flows are 'supporting good ecological status', the [2017 Government response](#) suggests the application of a 75% of Qn99 HoF condition. However, in line with our regulatory discretion, NRW consider this HoF is not required for the following reasons:

- The abstraction is from groundwater. The status of this waterbody is at Good quantitative status and the abstraction is not considered to be impacting surface water flows.
- There is insufficient evidence in Wales that a prescribed flow of 75% of Qn99 would provide any environmental benefit / be likely to result in any improvement to WFD status.
- Finally, flow gauges are not generally considered to operate reliably at such low flows, and therefore any condition applying this HoF would not be considered legally enforceable.

### 9.3 Impact on fisheries

Not applicable to this application as a groundwater abstraction and considered unlikely to have any impacts to local surface waters.

### 9.4 Impact on water quality

There are no known local discharges in the area where the abstraction has been occurring (excluding the quarry operation discharge which is discussed below); therefore no impacts upon water quality are expected.

As part of the activity operation all of the water abstracted is discharged to the Bullcroft Brook at National Grid Reference ST 13400 74460. A condition is included within the licence to ensure that all water abstracted is discharged to the nearby watercourse ensuring that the abstraction consumptiveness of the abstraction is captured. The discharge is permitted under permit ref AN0240501.

Permit AN0240501 authorises the discharge of up to 4,500 m<sup>3</sup> per day, which is slightly less than the quantities applied for to be pumped as part of this application. The applicant has confirmed in their [email dated 07/12/2021](#) that their discharge consent volumes are not exceeded, and if the limit is reached the water gets recirculated back to the sump, for discharge later. Any changes to discharge permit volumes required in the future will be processed under Environmental Permitting Regulations.

### 9.5 Protected rights and lawful users

Following MyMap screening and consultation screening 9 licensed abstractions and/or lawful users have been identified in the vicinity of the abstraction.

Licence serial number	Approx. distance / direction from abstraction
21/57/31/0022 (deregulated)	2.6km East of abstraction area
21/57/31/0035 (deregulated)	2.6km East of abstraction area
21/57/31/0060 (deregulated)	2.6km East of abstraction area
21/58/11/0005 (deregulated)	1.2km South East of abstraction area
21/57/31/0027	3.2km North East of abstraction area
21/57/31/0040	3.1km North of abstraction area
21/57/31/0048	3.2km North West of abstraction area
21/58/11/0010	3.6km South of abstraction area
21/58/11/0012	3.6km South of abstraction area

NRW acknowledges that the existing abstraction has been operating lawfully for many years under an exemption, without any concerns about impact to other water users/abstractors being raised. NRW considers the abstraction poses no risk to existing water users and should be licensed.

## 9.6 Habitats Directive, CROW Act, Conservation, heritage and landscape impacts

The following sites have been identified as a result of screening the application using MyMap. See [MyMap screening result](#) for full details.

Designation Type	Name of Site	Potential Impact	Distance & Direction from abstraction
SAC	None identified	N/A	
SPA	None identified	N/A	
RAMSAR	None identified	N/A	
SSSI	Barry Woodlands Ely Valley Cwm Cydfin, Leckwith	No	2.4 kilometres south west of the abstraction area 3.3 kilometres north west of the abstraction area 2.9 kilometres east of the abstraction area
AONB	None identified	N/A	
Protected habitat	None identified	N/A	
Source Protection zone	None identified	N/A	
National Park	None identified	N/A	

Appendix 4 assessments carried out for Barry Woodlands SSSI, Ely Valley SSSI and Cwm Cydfin SSSI. All assessments recorded a conclusion of not likely to damage because it is believed from the information available that there is no pathway for impact on the Barry

Woodlands and Ely Valley SSSIs, and no mechanism for impact for Cwm Cydefin SSSI. All Appendix 4 assessments have been saved to the DMS.

### **9.7 Serious Damage**

Not applicable to this application

### **9.8 Cumulative Impacts**

The abstraction has been ongoing for many years with no reported impacts, therefore we are satisfied that there are no anticipated cumulative / in-combination impacts. Concerns have been raised with regards to impact by the quarry operation on local watercourse levels. As the applicant holds a permit to discharge abstracted water, any future changes to discharge volumes should be processed via Environmental Permit Regulations application.

### **9.9 Subsidence and Desiccation**

The abstraction has been ongoing for many years with no reported impacts, therefore we are satisfied that there are no anticipated impacts relating to subsidence and desiccation.

### **9.10 Existing legislation and permissions**

Planning consent for the quarrying activities was originally given on the 28<sup>th</sup> March 1996 by the then local authority South Glamorgan County Council ([application number 3571](#)). Condition 17 of the planning consent states ‘Adequate provision shall be made for the drainage of the workings and adequate measures shall be taken to prevent the pollution of any watercourse or public water supply...’. Whilst this is relevant to the dewatering activities, the reasons given on the consent for this condition indicate it is to protect the watercourse from pollution, not with regards to the abstraction itself.

More recent revisions of this consent issued by the Vale of Glamorgan council are 1999/00957/FUL and 2015/01001/FUL, with another revision of the consent currently ongoing (see Geoscience comments). No conditions regarding water abstraction were included in the most recently available planning consent issued in 2015.

## **10. Means of measurement of abstraction**

As this application is for a transfer licence and no quantities are specified within the licence conditions, no conditions are required relating to the measurement or assessment of the actual volume of water abstracted.

The abstraction shall be controlled by the capacity of the pump, which is included within a condition on the licence.

## **11. Considerations of SMNR – Compliance with our General Purpose**

Concerns have been raised in the past by members of the public that the dewatering activities and subsequent discharge of water from the quarry may have attributed to localised flooding in the Dinas Powys area. This was investigated by NRW who

concluded that the discharge of groundwater into the surface water system has no significant effect on flood risk in Dinas Powys. NRW continue to monitor the impact of the discharge permitted by the site EPR permit, and are able to revise conditions on the permit if considered appropriate.

We are satisfied that this decision is compatible with our general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

## **12. Criticality, PALS purposes and abstraction annual charges**

### **Criticality Class**

Critical

### **PALS Purposes**

<b>Primary Code</b>	<b>Secondary Code</b>	<b>Use/Loss Level code</b>
I: Industrial, Commercial, Public Services	EXT: Extractive	660: Dewatering- Very low

### **Abstraction annual charges**

Annual charges are not applicable in accordance with our abstraction charges scheme; the application is for a transfer licence.