

10 October 2019

Permitting Receipt Centre
Natural Resources Wales
Ty Cambria
29 Newport Road
Cardiff
CF24 0TP

Dear Sir / Madam

THE WATER RESOURCES (TRANSITIONAL PROVISIONS) REGULATIONS 2017

BREEDON SOUTHERN LIMITED

**APPLICATION FOR A FULL ABSTRACTION LICENCE FROM SURFACE WATER AT
PENRHYN QUARRY, BETHESDA.**

Please find enclosed an abstraction licence application on behalf of Breedon Southern Limited to cover their historic abstraction of surface water at Penrhyn Quarry, Bethesda, Bangor.

Enclosed is:

- Application Form WRH along with associated Figures and a Continuation Sheet with Appendices;
- Information providing evidence of historic abstraction; and
- A letter of authorisation from Breedon Southern Limited allowing Envireau Water to sign forms relating to the abstraction licence application and liaise with the Natural Resources Wales on their behalf.

Please contact Deborah Thomas on 01332 871 883 to organise payment.

We look forward to receiving notification of a 'valid application' in due course but in the meantime if you would like to discuss any aspect of the application then please do not hesitate to contact Deborah Thomas (deborahthomas@envireauwater.co.uk).

Please ensure all correspondence regarding the application is directed to Envireau Water (the Agent) so we are able to respond promptly.

Yours faithfully,

James Dodds MSc CGeol FGS
Director, Water Management Specialist



10 October 2019

Permitting Receipt Centre
Natural Resources Wales
Ty Cambria
29 Newport Road
Cardiff
CF24 0TP

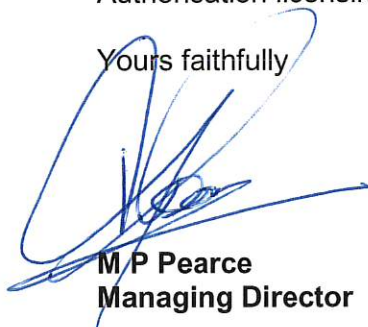
Dear Sir/Madam

**BREEDON SOUTHERN LIMITED, PINNACLE HOUSE, BREEDON QUARRY, BREEDON
ON THE HILL, DERBY, DE73 8AP**

Transitional Arrangements Applications

We hereby authorise Envireau Water of Cedars Farm Barn, Market Street, Draycott, Derbyshire, DE72 3NB to represent and sign on our behalf, forms relating to the New Authorisation licensing in regard to our quarry operations.

Yours faithfully



M.P Pearce
Managing Director



Fill in this form if you are applying for a transitional water resources licence to continue a previously exempt abstraction.

This form is available in both English and Welsh.
Please check that this is the latest version of the form
available from our website before submitting your
application.

Please ensure you use Guidance Note WRH to help you.

All relevant guidance documents can be found on our
website.

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1. Application type and fee

1.1 Please select your application type from the list below.

A new transitional water resources full abstraction licence for a previously exempt abstraction ☒

A new transitional water resources transfer licence for a previously exempt abstraction ☐

A variation to an existing full abstraction licence to add a previously exempt abstraction ☐

A variation to an existing transfer licence to add a previously exempt abstraction ☐

1.2 Please indicate the amount and how you wish to pay your application

Amount paid

Cheque ☐

Credit or debit card ☒

BACS transfer ☐ BACS reference number

2 Applicant and agent details

This is the individual or organisation any resulting licence will be issued to, and must be a legal entity. If you are an agent acting on behalf of an applicant, provide their details here and yours in section 2.2.

2.1 Applicant details

Individual ☐ Public body ☐

Registered company ☒ Organisation or group of individuals ☐

Other ☐ If 'Other', please specify

Title

First name	
Last name	
Company, charity, body, or trading name (if relevant)	Breedon Southern Limited
Registered company or charity number (if relevant)	00156531
Address	Breedon Quarry
	Main Street
	Breedon-On-The-Hill
	Derby
Postcode	DE73 8AP
Telephone - mobile	07966 081504 (Guy Martin)
Telephone - office	01332 974876 (Guy Martin)
Email address	Guy.Martin@breedongroup.com

We will contact you by email unless you tick here. ☐

2.2 Agent details

This is who we will correspond with unless otherwise informed. If you are an agent applying on behalf of an applicant, please include a letter of authorisation from the applicant allowing you to act as signatory, and provide a reference for this document in the box below.

Document reference	
Title	Mr
First name	James
Last name	Dodds
Company or trading name	Envireau Limited
Position in company	Chairperson, Water Management Specialist
Address	Envireau Water
	Cedars Farm Barn

	Market Street
	Draycott
Postcode	DE72 3NB
Telephone - mobile	07711 920 553
Telephone - office	01332 871 871
Email address	JamesDodds@envireauwater.co.uk

We will contact you by email unless you tick here. ☐

2.3 Site operation contact

Please specify who we should contact with regard to your site operation.

Applicant ☐

Agent ☒

Other ☐ Please provide contact details for the operational contact on a separate referenced document, and tell us this reference below.

Document reference

2.4 Abstraction invoices and records contact

Please specify who we should contact for invoices and abstraction records (returns). Please note that these may not be not required for transfer licences.

Invoice address

Applicant ☒

Agent ☐

Other ☐ Please provide contact details for the operational contact on a separate referenced document, and tell us this reference below.

Document reference

Abstraction records

Applicant ☒

Agent ☐

Other ☐ Please provide contact details for the operational contact on a separate referenced document, and tell us this reference below.

Document reference

3. Site name

3.1 Please provide the site name below:

Site name	Penrhyn Quarry
-----------	----------------

4. Entitlement to apply

4.1 Have you abstracted water between 01 January 2011 and 31 December 2017 for the activity which you are applying to be licensed?

Yes ☒

No ☐ Please see our water abstraction and impounding webpage for further information on the correct application forms.

4.2 What is your connection to the land where the abstraction takes place?

Please provide a map outlining your land ownership/occupation and include all abstractions and discharges where relevant.

Owner ☒

Occupier ☐

Document reference

4.3 Do you have a legal right of access to the land where the abstraction take place?

No ☐

Yes ☒ Please provide further detail in the box below. If necessary continue on a separate referenced document, and tell us this reference.

Document reference

5. Existing licence number(s)

If you are applying to change an existing licence please provide the licence number below.

Licence number(s)

6. Cross border applications

As part of your site operation do you also abstract for a previously exempt activity in England?

No ☒

Yes ☐ Please provide detail of this cross border application in the box below. If possible, provide a reference or application number, or name of an Environment Agency contact with whom the application has been discussed.

Continue on a separate referenced sheet if necessary and tell us the reference for this document.

Document reference

--

7. Abstraction details

7.1 Site map

Please provide a map with details of the location(s) you abstract water from (points reaches, or areas). Tell us the reference for this map, below.

Site map reference

Figure 1 and 2 and Continuation Sheet

7.2 Please tell us details about the location(s) you abstract water from (points reaches, or areas) in the tables below.

The abstraction location, name, or reference must be the same as those used on the site map, in question 7.1. If you need more space, please continue on a separate referenced sheet if necessary and tell us the reference for this document

Document reference

Figure 2 and 3 and Continuation Sheet

Table 7. 1 - Surface water abstractions						
Abstraction location name or reference (As labelled on the site map)	Type of location (single point, reach, area)	Source of Supply	First National Grid Reference (12 digits)	Second National Grid Reference (12 digits)	Third National Grid Reference (12 digits)	Fourth National Grid Reference (12 digits)
ABS1	Single Point	Rainfall and Runoff from South Pit Sump	SH 61447 64187			
ABS2	Single Point	Rainfall and Runoff from Lord Pump Shaft	SH 62097 65479			

If necessary, continue on a separate sheet and tell us the reference for this document.

Document reference(s)

See Continuation Sheet and Figure 2 and 3

Table 7. 2 Ground water abstractions										
Abstraction location name or reference (as labelled on map)	Source of Supply	National Grid Reference (12 digit)	Overall depth (metres)	Maximum diameter (millimetres) or area of excavation (square metres)	Screened section (metres below ground level)	Drift geology	Solid geology	Rest pump water level	Pumped water level	Pump Depth

If necessary, continue on a separate sheet and tell us the reference for this document.

Document reference(s)

N/A

8. Abstraction history and evidence

8.1 Please complete table 8.1 to document that the abstraction(s) and transfer(s) has or have been taking place during the qualifying period.

If necessary, continue on a separate sheet and tell us the reference for this document.

Document reference(s)

See Continuation Sheet

Table 8.1											
Year	Abstraction location name or reference (as labelled on map)	Purpose(s) water used for	Period of abstraction	Maximum quantities abstracted						Means of measurement, or assessment of abstracted quantities	Are these the maximum quantities of water you wish to have licensed? (Yes or No)
			All year, or months, or days (provide specific dates)	Year (cubic metres)	Day (cubic metres)	Hour (cubic metres)	Peak instantaneous flow rate (litres per second)	Maximum number of hours of abstraction per day	Please indicate whether volume is actual (A) or estimated (E)		
01 January 2011 to 31 December 2011	ABS1	Dust Suppression	All Year	24,300	162	27	7.5	6	E	Known Bowser Usage	Yes
	ABS2	Process Water	June, July, August	27,360	456	57	15.7	8	E	Pump Specification and Hours	Yes
01 January 2012 to 31 December 2012	ABS1	Dust Suppression	All Year	24,300	162	27	7.5	6	E	Known Bowser Usage	Yes
	ABS2	Process Water	June, July, August	27,360	456	57	15.7	8	E	Pump Specification and Hours	Yes
01 January 2013 to 31 December 2013	ABS1	Dust Suppression	All Year	24,300	162	27	7.5	6	E	Known Bowser Usage	Yes
	ABS2	Process Water	June, July August	27,360	456	57	15.7	8	E	Pump Specification and Hours	Yes
01 January 2014 to 31 December 2014	ABS1	Dust Suppression	All Year	24,300	162	27	7.5	6	E	Known Bowser Usage	Yes
	ABS2	Process Water	June, July, August	27,360	456	57	15.7	8	E	Pump Specification and Hours	Yes
01 January 2015 to 31 December 2015	ABS1	Dust Suppression	All Year	24,300	162	27	7.5	6	E	Known Bowser Usage	Yes
	ABS2	Process Water	June, July, August	27,360	456	57	15.7	8	E	Pump Specification and Hours	Yes
01 January 2016 to 31 December 2016	ABS1	Dust Suppression	All Year	24,300	162	27	7.5	6	E	Known Bowser Usage	Yes
	ABS2	Process Water	June, July, August	27,360	456	57	15.7	8	E	Pump Specification and Hours	Yes
01 January 2017 to 31 December 2017	ABS1	Dust Suppression	All Year	24,300	162	27	7.5	6	E	Known Bowser Usage	Yes
	ABS2	Process Water	June, July, August	27,360	456	57	15.7	8	E	Pump Specifcation and Hours	Yes

8.2 Please complete the table below if you wish a lesser quantity of water to be licensed than that detailed in table 8.1.

If necessary, continue on a separate sheet and provide a reference for this document.

Document reference

N/A

Table 8.2

Abstraction location name or reference (as labelled on map)	Purpose water is used for	Abstraction period	Maximum annual abstraction volume (cubic metres)	Maximum daily abstraction volume (cubic metres)	Maximum hourly abstraction volume (cubic metres)	Maximum number of hours of abstraction per day	Peak abstraction rate (litres per second)

8.3 Do you wish your abstracted quantities to be aggregated?

You can aggregate:

- i) across some or all of the abstraction points, or reaches, or areas listed above.
- ii) with other abstractions you wish to have licensed through the transitional process.
- iii) abstractions you need to have licensed through the standard licensing process.
- iv) with existing licences you hold.

No



Yes



Provide details of any proposed aggregation in the box below. If necessary, continue on a separate sheet and provide a reference for this document.

Document reference

8.4 Please provide a detailed description of how the abstraction(s) has/have taken place

Use the box below to tell us about your abstraction(s). The description should include the following:

- A diagram or schematic of how the activity has been undertaken, using your abstraction point references and including any discharge points
- Details of the structure and equipment involved in the abstraction. This should include dimensions.
- Details of your means of measurement or assessment of abstraction quantities method

If necessary, continue on a separate sheet and tell us the reference for this document.

Document reference

See Continuation Sheet

See Continuation Sheet

8.5 Please list the evidence you are providing to support your application

Use the box below. The evidence should demonstrate the following:

- That abstraction has taken place at some time during the seven year qualifying period.
- The quantities of water you have abstracted during the qualifying period. For example, records of meter readings, or cropping plans.

If necessary, continue on a separate sheet and provide a reference for this document.

Document reference

See Continuation Sheet

See Continuation Sheet

9. Discharge details

9.1 Please provide details on any discharge of abstracted water in table 9.1 below and on the map used to show abstraction locations.

If necessary, continue a separate sheet and provide a reference for this document.

Document reference

See Continuation Sheet

Table 9.1 - Details of any discharge of abstracted water

Discharge location name or reference (as labelled on map)	National Grid Reference of discharge point (12 digit)	Total volume discharged (cubic metres)	Environmental Permit number for Water Discharge Activity number (if applicable)
Permitted Discharge	SH 6155 6687	Rainfall Dependant	CG0101201

9.2 Please provide a description of discharge structures and equipment

See Continuation Sheet

If necessary, continue a separate sheet and provide a reference for this document.

Document reference

See Continuation Sheet

10. Eel considerations

Does your abstraction include measures to safeguard eels?

No ☒

Yes ☐ Provide details below

11. Trickle Irrigation

If you are applying to licence a trickle irrigation abstraction, do you wish to apply for a Two-Part Tariff agreement with your application?

No ☒

Yes ☐ We will contact you during determination of your application to arrange this agreement.

12. Planned abstractions

12.1 Do you expect to increase the current rate of abstraction for the activity you are applying to have licensed from 01 January 2018 onwards or to carry out further new abstractions (both termed 'planned' abstractions) at this site in the future?

No ☒

Yes ☐

12.2 Have you submitted a licence application (s) for any planned abstraction(s) as a result of the Water Act 2003 changes?

No ☒

Yes ☐ Provide a reference number if you have already submitted an application(s) to cover any planned abstractions.

Document reference

13. Other abstractions

Please provide details of any other abstraction(s) (licensed or exempt) that are associated with this application in table 13.1 below.

Table 13.1 - Details of any other abstraction(s) (licensed or exempt) that are associated with this application					
National Grid Reference (12 digit) of where you abstract water	Source name and type	Purpose of abstraction	Where do you use the water?	When do you abstract the water?	Is this a pending application, or already licensed? Please provide the application or licence number as appropriate
SH 61159 64711	Surface Water Llyn Owen y Ddol	Industrial	Penrhyn Quarry	All Year	23/65/18/0004

14. Planning permission

Complete table 14.1 below and provide details of any planning permissions or advice associated with the abstraction you are applying to have licensed where relevant. Provide a copy of any permissions or advice, providing a reference for this document below.

Document reference

Table 14.1 – Planning permission			
Abstraction location name or reference (as labelled on map)	Is planning permission needed, Yes or No?	Planning permission status (if required)	Have you received any planning advice for the abstraction?
ABS1	Yes	C96A/0020/16/MW and C08A/0039/16/MW	N/A
ABS2	Yes	C96A/0020/16/MW and C08A/0039/16/MW	N/A

15. Environmental impact assessment(EIA)

Does your application require an EIA under The Water Resources (Environmental Impact Assessment) (England and Wales) Regulations 2003 (as amended)

No ☒

Yes ☐ Please provide a copy of your environmental impact assessment; provide a reference for this assessment below.

Document reference

16. Licence duration

Tell us when you wish your abstraction licence to end

Normally abstraction licences are granted for between 6 and 18 years in line with the catchment licence common end date. If you require a shorter or longer duration licence, please provide details and your justification in the box below.

If necessary, continue a separate sheet and provide a reference for this document.

Document reference

The Common End Date is considered suitable

17 Declaration and data protection and commercial confidentiality

Data protection:

Please read the guidance carefully for details on who can sign this section and note the information relating to the Data Protection Act 1998, our Public Register and exclusions.

Commercial confidentiality:

Do you think your application should be confidential, and that information should not be placed on the public register?

No ☒

Yes ☐ You must send us supporting information to tell us why. Use the box below or a separate sheet, and tell us the reference you have given this document.

Document reference

Declaration:

By signing below, you are declaring that as far as you know and believe the information given in this form, on any map and in any supporting or additional information is true.

A printed name in the 'signature' response box will be treated as the equivalent of an electronic signature.

Title

Mr

First name

James

Last name

Dodds

Position

Director, Water Resources Specialist

Today's date

14/10/2019

BREEDON SOUTHERN – PENRHYN QUARRY

APPLICATION FOR A FULL ABSTRACTION LICENCE

Continuation Sheet

Introduction

Penrhyn Quarry (the Site) contains an extraction area and slate processing facility located approximately 1.5 km south of Bethesda in Gwynedd. The quarry is owned and operated by Breedon Southern (Figure 1). The quarry has been operational since the late 1700's and comprises two extraction areas referred to as North Pit and South Pit.

The North Pit is exhausted and partially flooded / infilled with reject slate. The South Pit is the current extraction area and has planning permission to continue to extract until 2032. As the pit is extended to the south and west, it is being progressively infilled with reject slate from the north.

There are extensive areas of reject slate around the Site, which have been formed from the rejects of the different processes carried out over the many decades that quarrying and processing has been ongoing at the Site. The materials comprise slate blocks of various sizes from centimetres to metres in size which have been loosely tipped, creating deposits of material with an open structure and which drain easily.

Penryhn is in a high rainfall area with annual average rainfall in the order of 2,500 mm. The geology of the quarry and surrounding area (slate) is such that there is inherently a very low or negligible rock mass permeability, and therefore the dewatering of the quarry workings is considered to be 'wholly or mainly rainfall' and therefore exempt from licensing.

This Continuation Sheet and associated Figures and Appendices provide information relating to the application for one Full Abstraction Licence with two abstraction points, following the Transitional Arrangements.

Form WRH; Section 2

The relevant contact with regards Penrhyn Quarry is Guy Martin, Geology Manager.

Form WRH; Section 4.3

The South Pit is the current extraction area and has planning permission to continue to extract until 2032 (References C96A/0020/16/MW and C08A/0039/16/MW). As the pit is extended to the south and west, it is being progressively infilled with reject slate from the north. Each of the abstractions and water management infrastructure discussed within this application are located within the landholdings of Breedon Southern.

Form WRH; Section 7

The water management of the quarry is shown on Figure 2 on an aerial image of the Site and schematically on Figure 3. In summary, wholly or mainly rainwater is removed by pumping from the South Pit Sump into the North Pit Lagoon, which discharges off-site by gravity via the permitted discharge Reference: CG0101201. Water is taken by gravity from the Llyn Owen Y Ddôl under licence 23/65/18/0004 and used in the Pehrhyh Works for slate processing. All the water used in the works is recycled, although there are some losses which are replenished by the abstraction from Llyn Owen Y Ddôl or from the Lord Pump Shaft during summer when levels in the Llyn Owen Y Ddôl are low. Lord Pump Shaft is a 60m deep shaft linked to North Pit by an adit. Rainfall runoff enters the shaft via the adit, from where it can be pumped. Due to the inherently low rock mass permeability of the slate at the quarry, the groundwater make in the shaft is considered to be negligible. The shaft is essentially an easy way to abstract the runoff.

Figure 3 shows the licensing requirements for Penrhyn Quarry, one abstraction licence from two abstraction points labelled as ABS1 and ABS2 respectively on Figures 2 and 3.

ABS1 is an abstraction from South Pit for dust suppression around the quarry. The abstraction point is at SH 61447 64187.

A second abstraction point (ABS2) is located within the Lord Pump Shaft at SH 62097 65479. Although not currently installed, this pump has been installed and used throughout the Transitional Period and will be re-installed in the coming months.

Form WRH; Section 8

Abstraction is currently licensed from Llyn Owen Y Ddôl for use within the quarry processing (Reference: 23/65/18/0004).

ABS1

Water is abstracted from the South Pit Sump though the use of a pump used to fill a bowser for dust suppression around the Site. This water usage varies throughout the year depending on the rainfall. A 40 ton dumper truck with a capacity of 27 m³ is used within the quarry for dust suppression. During the winter months three of these trucks are filled daily, equating to 81 m³/day, with six trucks per day used during summer months, equating to 162 m³/day.

Due to the high rainfall conditions at Site, the following months have been specified as winter and summer months, and have been used to calculate the annual abstraction for dust suppression use as presented in Table 1.

Table 1 Annual Dust Suppression Calculations

Month	Season	Monthly abstraction (m ³ /month)
January	Winter	1,620
February	Winter	1,620
March	Winter	1,620
April	Winter	1,620
May	Winter	1,620
June	Summer	3,240
July	Summer	3,240
August	Summer	3,240
September	Winter	1,620
October	Winter	1,620
November	Winter	1,620
December	Winter	1,620
Annual Abstraction (m ³ /year)		24,300

The calculations have been undertaken based upon 20 working days per month, with a calculated annual abstraction for dust suppression of 24,300 m³/year.

ABS2

During summer the volume of water gravity flowing from the Llyn Owen Y Ddôl is insufficient for the quarry processing, and during this time the pump from the Lord Pump Shaft fed by runoff from the South Pit Sump is used to abstract water for use in processing.

A Flygt BS2670 4" high head pump is run for 8 hours per working day (20 days per month). The pump specification (57 m³/hr at a head of 60m) has been used to calculate the volume of daily usage for this pump as being 456 m³/ day. The pump has been used historically for 60 days per year, based on the need in June, July and August, equating to an abstraction of 27,360 m³/year.

Form WRH; Section 9

Discharge consent no. CG0101201 issued by the National Rivers Authority on 1 October 1985, allows discharge of rainfall dependent site drainage by gravity to the Afon Ogwen at a point in Bethesda via an adit running from North Pit Lagoon. For ease the location of the discharge has been shown as the entry point of the adit at the North Pit lagoon.

Form WRH; Section 13

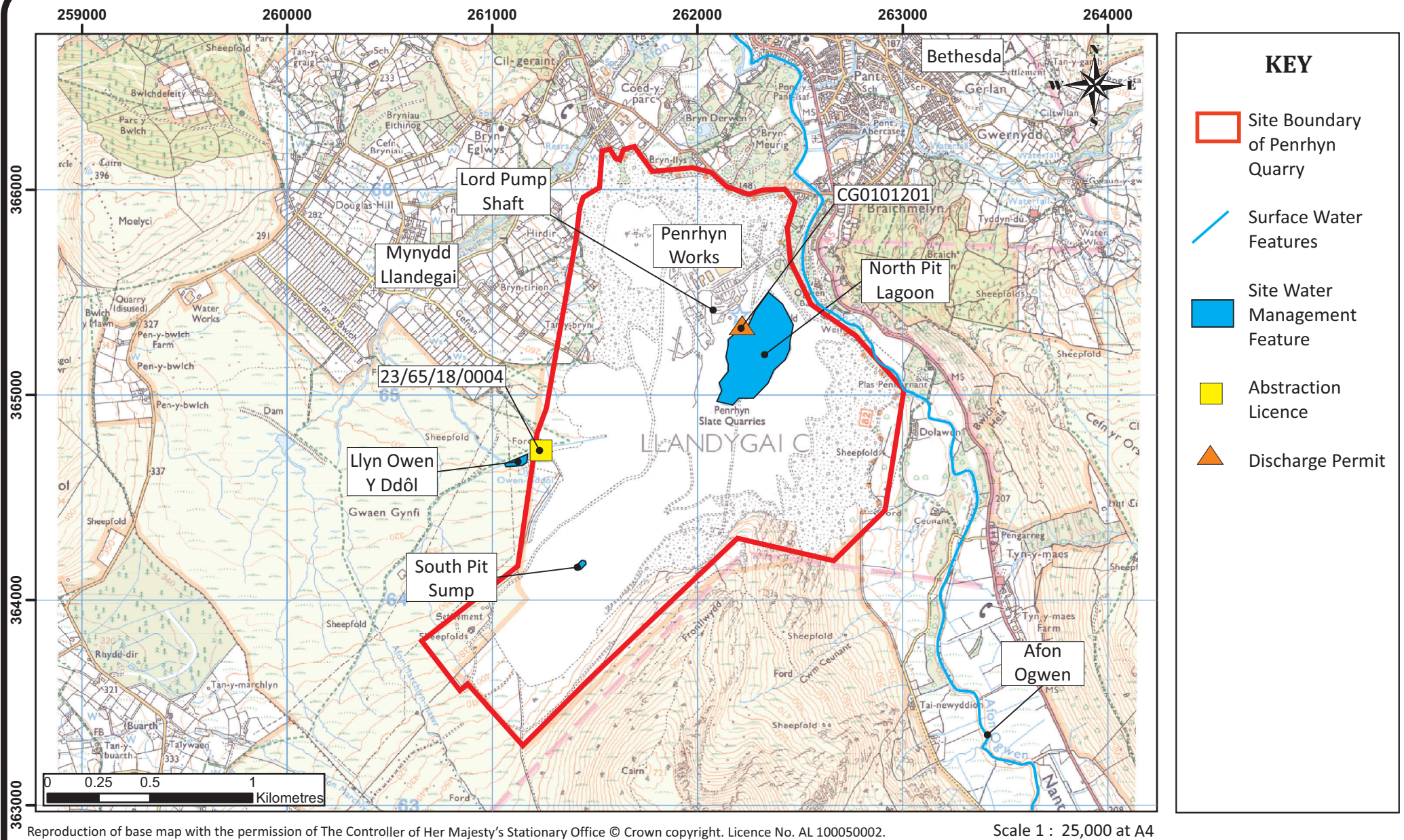
Abstraction licence no. 23/65/18/0004, originally issued in 1965, allows the abstraction of up to 750 m³/day from Llyn Owen Y Ddôl for cooling and dust suppression. Water flows under gravity from Llyn Owen Y Ddôl through a concrete adit and into a pipe that feeds two water storage tanks; a meter is used to measure the volume of water abstracted from Llyn Owen Y Ddôl.

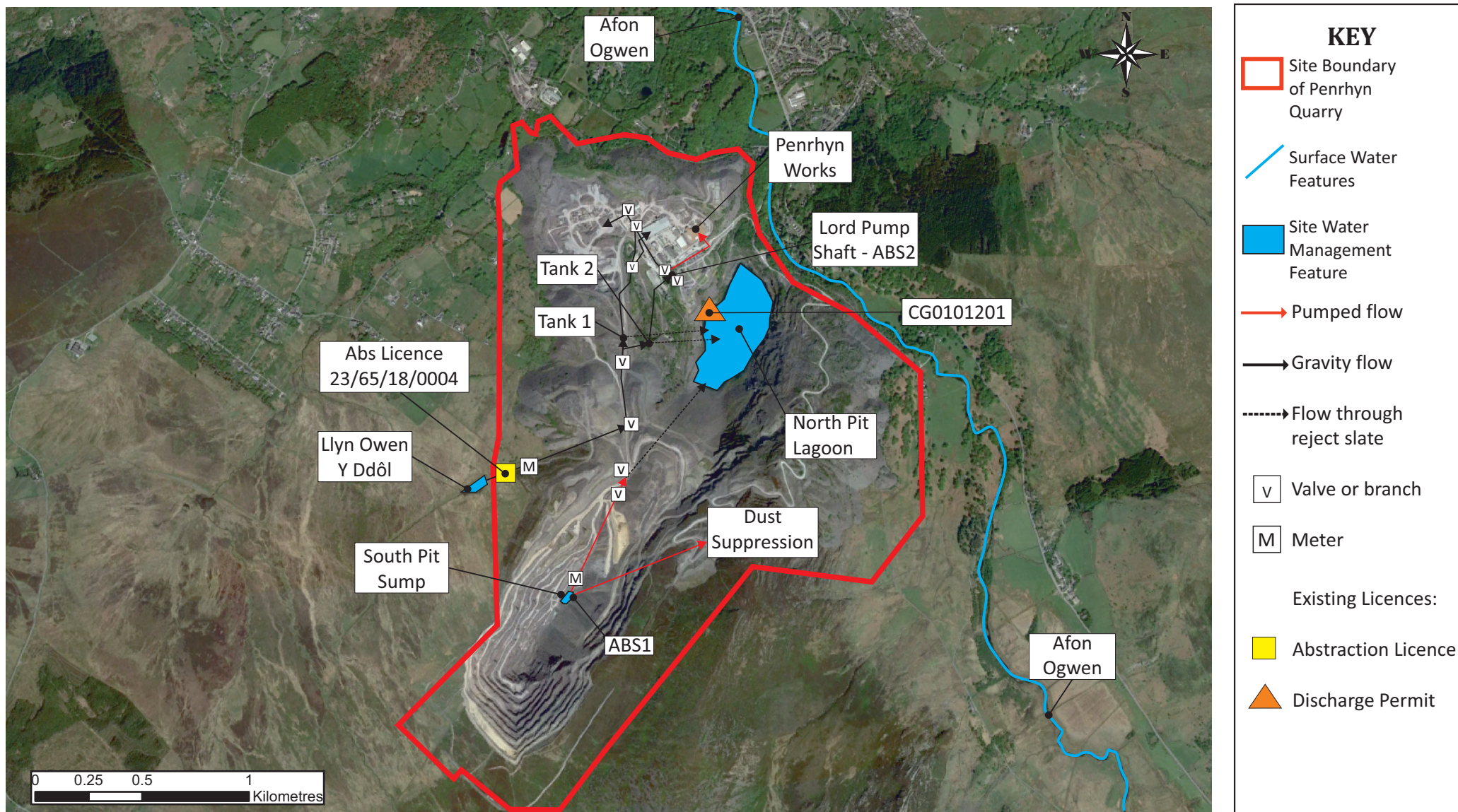
Form WRH; Section 13

Each of the water management features (excluding the end point of the discharge adit are within the landholding of Breedon Southern. All activities on site are covered by Planning Permissions C96A/0020/16/MW and C08A/0039/16/MW.

Envireau Water
10/10/19

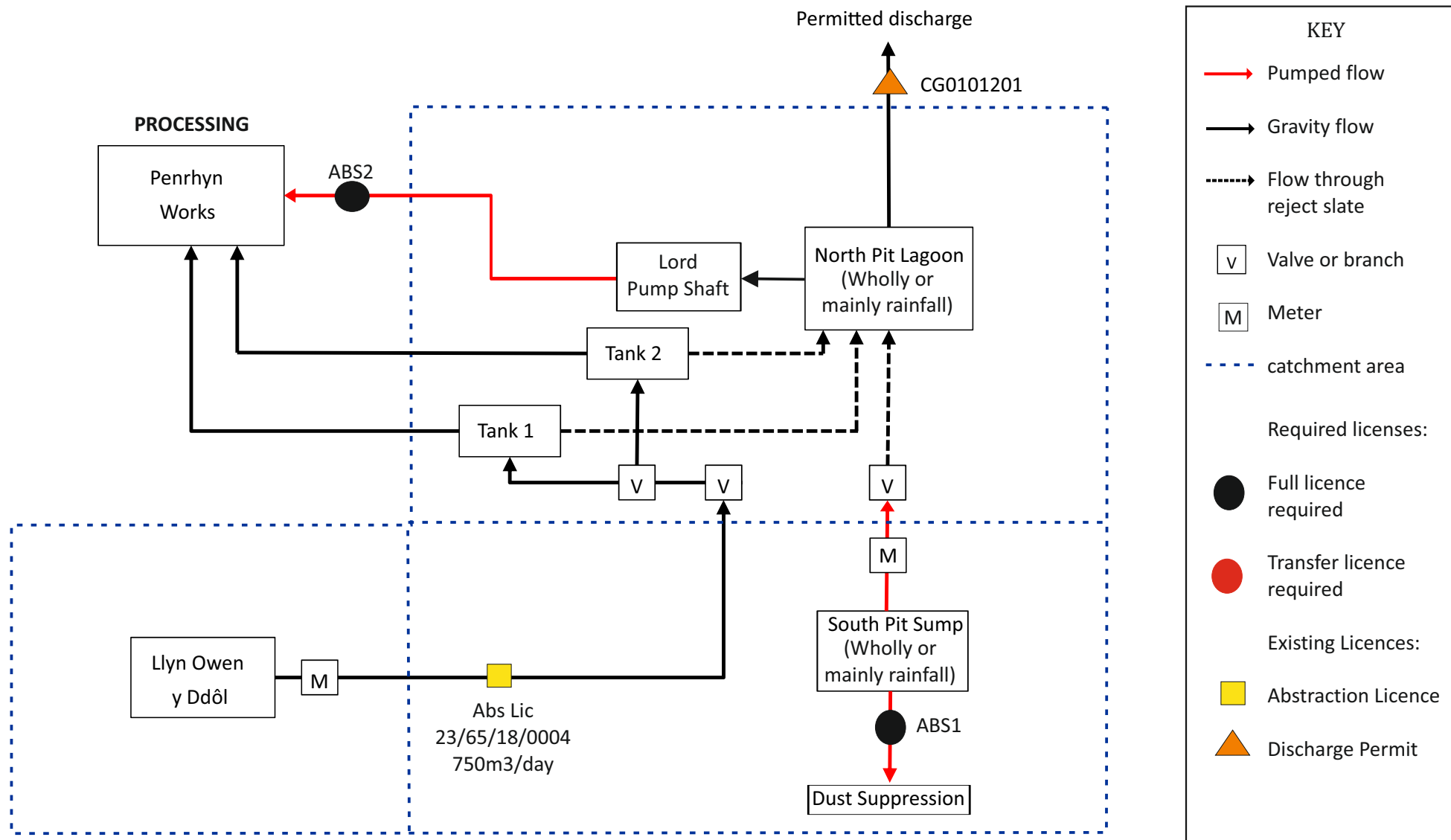
FIGURES





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Scale 1 : 25,000 at A4



APPENDIX A
ABSTRACTION VOLUMES

Abstraction Location	Use	Winter				Summer				Annual Abstraction (m3/day)
		Hours per day (hours)	Abstraction Rate (m3/hour)	Daily Abstraction (m3/day)	Monthly Abstraction (m3/month)	Hours per day (hours)	Abstraction Rate (m3/hour)	Daily Abstraction (m3/day)	Monthly Abstraction (m3/month)	
ABS1	Dust Suppression	3	27	81	1,620	6	27	162	3,240	24,300
ABS2	Process Water	-	-	-	-	8	57	456	9,120	27,360
									Total	51,660

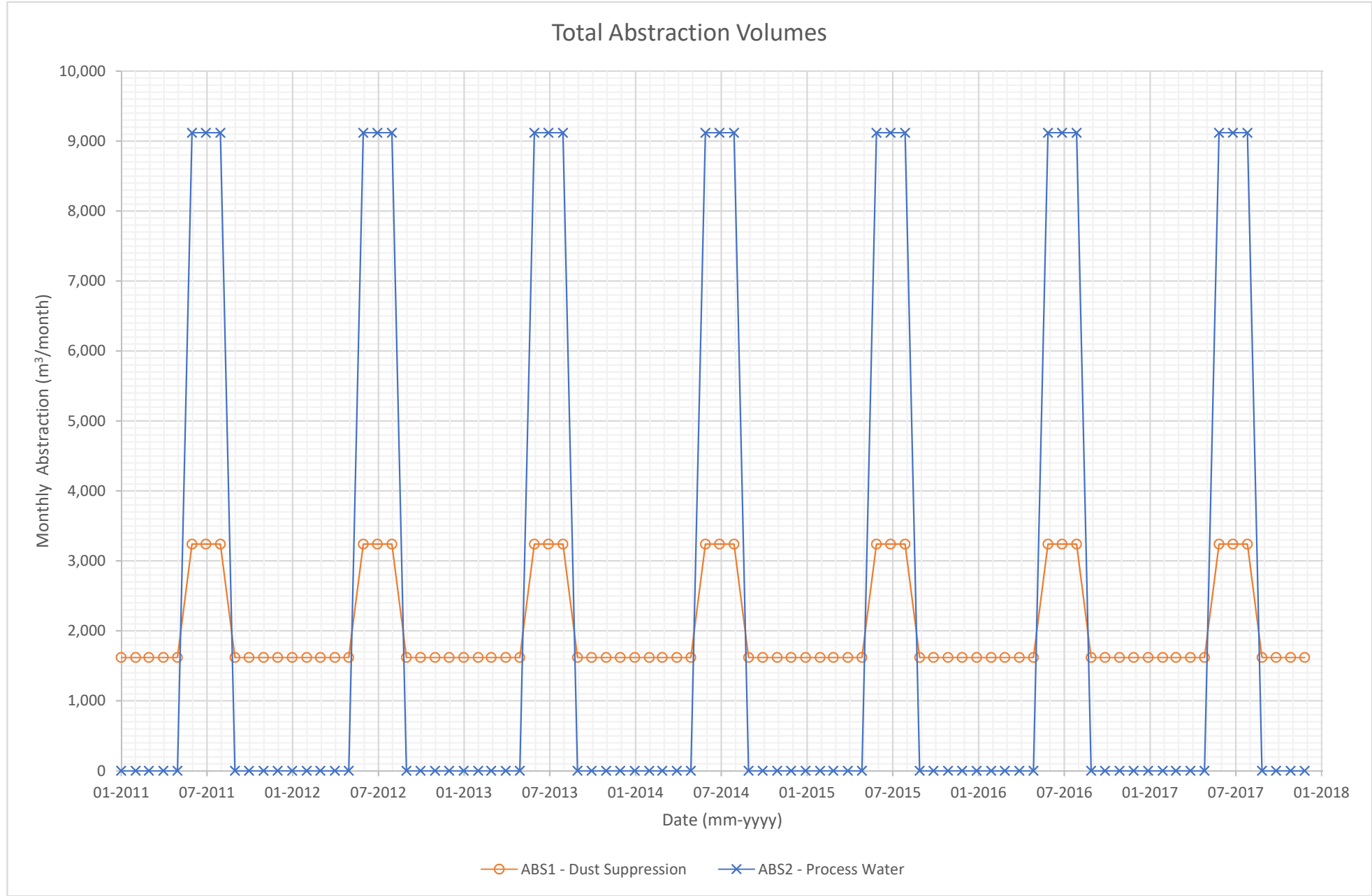
<u>Information</u>	
Maximum Tanker Volume	27

Breedon Southern Penrhyn Quarry : Dust Supression Abstraction Volumes

	2011	2012	2013	2014	2015	2016	2017	Maximum
January	1620	1620	1620	1620	1620	1620	1620	1620
February	1620	1620	1620	1620	1620	1620	1620	1620
March	1620	1620	1620	1620	1620	1620	1620	1620
April	1620	1620	1620	1620	1620	1620	1620	1620
May	1620	1620	1620	1620	1620	1620	1620	1620
June	3240	3240	3240	3240	3240	3240	3240	3240
July	3240	3240	3240	3240	3240	3240	3240	3240
August	3240	3240	3240	3240	3240	3240	3240	3240
September	1620	1620	1620	1620	1620	1620	1620	1620
October	1620	1620	1620	1620	1620	1620	1620	1620
November	1620	1620	1620	1620	1620	1620	1620	1620
December	1620	1620	1620	1620	1620	1620	1620	1620
Total	24300	24300	24300	24300	24300	24300	24300	

Breedon Southern Penrhyn Quarry : Process Water Abstraction Volumes

	2011	2012	2013	2014	2015	2016	2017	Maximum
January	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
June	9120	9120	9120	9120	9120	9120	9120	9120
July	9120	9120	9120	9120	9120	9120	9120	9120
August	9120	9120	9120	9120	9120	9120	9120	9120
September	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0
Total	27360	27360	27360	27360	27360	27360	27360	



APPENDIX B
PUMP INFORMATION

BREEDON SOUTHERN LIMITED – PENRHYN QUARRY

APPLICATION FOR A FULL ABSTRACTION LICENCE

Appendix B

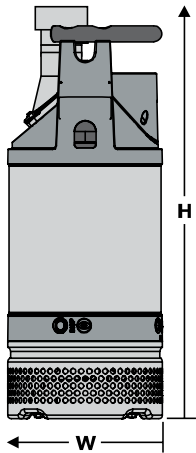
Pump within the South Pit Sump



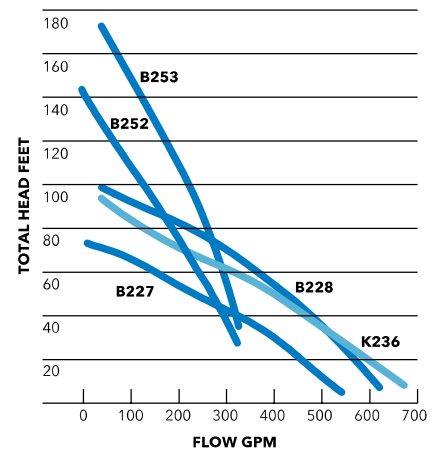
Pump within the Lord Pump Shaft: Flygt BS2670 60m below ground



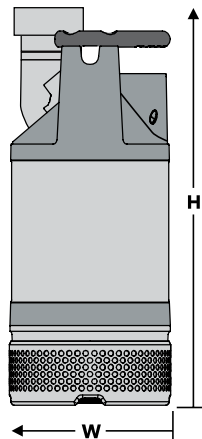
BS/KS 2640



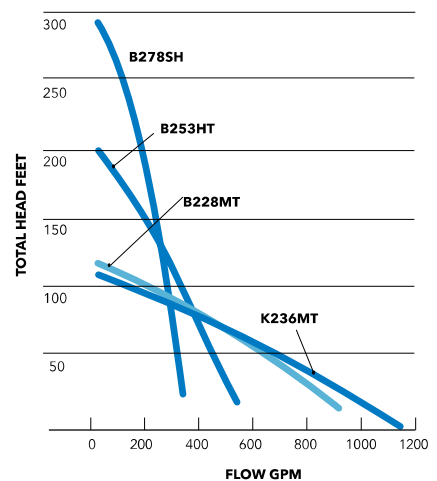
Model number: 2640.181
 Motor rating: 1ø: 6 HP @ 3475 RPM
 3ø: 8.9 HP @ 3495 RPM
 Voltage (1ø): 230V
 Full load amps: 17A
 Voltage (3ø): 208V 230V 460V 575V
 Full load amps: 24A 22A 11A 8.5A
 Versions: 3" High head
 Imp. Code B252 (1ø), B253 (3ø)
 4" Standard
 Imp. Code K235 (1ø), K236, B228 (3ø)
 Hose connection: Male NPT
 Pump dimensions: 11 1/4" W (max.) x 29" H (max.)
 Max. weight (lbs.): 110
 Description: Aluminum and stainless steel construction; open non-clog (K) or extra wear resistant (B) closed impellers, rests on bottom strainer.
 Options: Warm liquid 70°C version available; 2640.081 MSHA approved version.



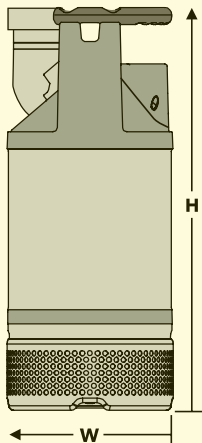
BS/KS 2660



Model number: 2660.181
 Motor rating: 15 HP @ 3495 RPM
 Voltage (3ø): 208V 230V 460V 575V
 Full load amps: 39A 35A 18A 14A
 Versions: 3" High head
 Imp. Code 253 (HT), 278 (SH)
 4" & 6" Standard
 Imp. Code B228 (MT), K236 (MT)
 Hose connection: Male NPT
 Pump dimensions: 13 3/4" W (max.) x 32" (35" SH) H (max.)
 Max. weight (lbs.): 172 (212 SH)
 Description: Aluminum and stainless steel construction; extra wear resistant closed impellers, rests on bottom strainer.
 Options: Warm liquid 70°C version available; 2660.081 MSHA approved version.



BS 2670



Model number: 2670.181
 Motor rating: 27 HP @ 3490 RPM
 Voltage (3ø): 230V 460V 575V
 Full load amps: 61A 31A 25A
 Versions: 4" High head
 Imp. Code 253
 6" Standard
 Imp. Code 228
 Hose connection: Male NPT
 Pump dimensions: 16" W (max.) x 38" H (max.)
 Max. weight (lbs.): 289
 Description: Aluminum and stainless steel construction; extra wear resistant closed impellers; rests on bottom strainer.
 Options: Warm liquid 70°C version available; 2670.081 MSHA approved version.

