

APPLICATION FOR NEW GROUNDWATER ABSTRACTION LICENCE UNDER THE WATER RESOURCES (TRANSITIONAL PROVISIONS) REGULATIONS 2017

NATURAL RESOURCES WALES

WELSH SUPERFICIAL BOREHOLES



For

Radnor Hills Mineral Water Company Limited
Heartsease
Knighton
Powys
LD7 1LU

By

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Mold Web: www.envireauwater.co.uk
CH7 9EH

envireau
WATER

12 August 2019

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

Dear Sir/Madam,

THE WATER RESOURCES (TRANSITIONAL PROVISIONS) REGULATIONS 2017

RADNOR HILLS MINERAL WATER COMPANY LTD

APPLICATION FOR A NEW GROUNDWATER ABSTRACTION LICENCE FOR BOREHOLES AT RADNOR HILLS, HEARTSEASE, KNIGHTON, POWYS UNDER THE 'TRANSITIONAL REGULATIONS'

Please find enclosed a formal abstraction licence application on behalf of Radnor Hills Mineral Water Company Ltd, to cover their historic abstraction of groundwater from boreholes for use in the production and processing of bottled mineral and spring water and domestic water supply at Radnor Hills, Heartsease, Knighton, Powys.

Enclosed are:

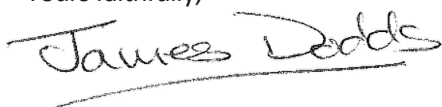
- Application form WRH along with an associated Figure and a Continuation Sheet for further information.
- A letter of authorisation from Radnor Hills Mineral Water Company Ltd allowing Envireau Water to sign forms relating to the abstraction licence application and liaise with the Natural Resources Wales on their behalf.
- Supporting evidence of historic abstraction

Please contact us on 01332 871882 to arrange payment of the £135 application fee by credit card.

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 us.

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

Yours faithfully,



James Dodds MSc CGeol FGS
Director, Water Management Specialist

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Revision	Details	Completed by	Date	Checked by	Date
REV01	FINAL	RH	23/08/2019	JED	23/08/2019
REV02					
REV03					
REV04					

APPLICATION FOR NEW GROUNDWATER ABSTRACTION LICENCE UNDER THE WATER RESOURCES (TRANSITIONAL PROVISIONS) REGULATIONS 2017

RADNOR HILLS MINERAL WATER COMPANY LIMITED

This application covers historical abstraction from groundwater by Radnor Hills Mineral Water Company Ltd (Radnor Hills) at their production factory in Heartsease.

Radnor Hills abstract from two different sources of supply (Bedrock and Superficial aquifers) and in both Wales and England. The abstraction arrangements are complicated and therefore the applications and supporting details are presented in this pack.

Three different applications are being made, and this pack relates to abstractions from the superficial deposits aquifer in Wales.

The site crosses the border between Wales and England; therefore applications are being made to Natural Resources Wales and the Environment Agency. For the sake of simplicity and transparency a single supporting information pack has been produced providing information on all the abstractions (15 in total). We recognise that not all of this information is applicable to each application.

This pack is supported by an Excel Workbook as an associated file submitted with the electronic application. The workbook provides a detailed breakdown of Radnor Hills Mineral Water Company Ltd water usage during the qualifying period. If that file does not accompany this copy of the pack, please contact your application reception centre or Envireau Water to request a copy.

Envireau Water
23/08/19

SECTION 1
LETTER OF AUTHORISATION

10 July 2019



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

Dear Sir/Madam,

THE WATER RESOURCES (TRANSITIONAL PROVISIONS) REGULATIONS 2017

RADNOR HILLS MINERAL WATER COMPANY LTD

**APPLICATION FOR A NEW GROUNDWATER ABSTRACTION LICENCE FOR BOREHOLES AT
RADNOR HILLS, HEARTSEASE, KNIGHTON, POWYS UNDER THE 'TRANSITIONAL REGULATIONS'**

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 submission of an application under the 'Transitional Regulations' for a new groundwater abstraction licence at Radnor Hills, Heartsease, Knighton, Powys

Yours faithfully,

William Watkins

Director

SECTION 2
APPLICATION FORM WRH



Application for a transitional water resources licence

Form WRH

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.

Contents

1 Application type and fee

2 Applicant and agent details
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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	<input type="text" value="135"/>		
Cheque	<input type="checkbox"/>		
Credit or debit card	<input checked="" type="checkbox"/>		
BACS transfer	<input type="checkbox"/>	BACS reference number	<input type="text" value="PRC"/>

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	<input type="checkbox"/>	Public body	<input type="checkbox"/>
Registered company	<input checked="" type="checkbox"/>	Organisation or group of individuals	<input type="checkbox"/>
Other	<input type="checkbox"/>	If 'Other', please specify	<input type="text"/>
Title	<input type="text" value="Mr"/>		<input type="text"/>

First name	William
Last name	Watkins
Company, charity, body, or trading name (if relevant)	Radnor Hills Mineral Water Company Ltd
Registered company or charity number (if relevant)	03258542
Address	Radnor Hills
	Heartsease
	Knighton
	Powys
Postcode	LD7 1LU
Telephone - mobile	
Telephone - office	01547 530220
Email address	william.watkins@radnorhills.co.uk

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	Welsh Auth Let	
Title	Mr	
First name	James	
Last name	Dodds	
Company or trading name	Envireau Water	
Position in company	Director, Water Management Specialist	
Address	Cedars Farm Barn	
	Market Street	

	Draycott
	Derbyshire
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	<input checked="" type="checkbox"/>	
Agent	<input type="checkbox"/>	
Other	<input type="checkbox"/>	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	<input checked="" type="checkbox"/>	
Agent	<input type="checkbox"/>	
Other	<input type="checkbox"/>	Please provide contact details for the operational contact on a separate referenced document, and tell us this reference below.
Document reference		

Abstraction records

Applicant	<input checked="" type="checkbox"/>	
Agent	<input type="checkbox"/>	
Other	<input type="checkbox"/>	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	Radnor Hills
-----------	--------------

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

Continuation Sheet

4.3 Do you have a legal right of access to the land where the abstraction takes 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

Figure 1

Radnor Hills Mineral Water Company Ltd has the right of access to the land at the Site as outlined in red on Figure 1 as the owners of the land

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

Continuation Sheet

See Continuation Sheet

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

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

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)

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

Document reference(s)

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
G	Borehole	SO 34630 72503	33mbgl	200	15 to 33mbgl	Sand and Gravels	N/A	11.38mbgl	11.98mbgl	18.6mbgl
H	Borehole	SO 34657 72430	60mbgl	200	24 to 60mbgl	Sand and Gravels	N/A	11.87mbgl	17.6mbgl	55mbgl
I	Borehole	SO 347143 72349	45.7mbgl	200	15.2 to 45.7mbgl	Sand and Gravels	N/A	10.3mbgl	15.54mbgl	28mbgl
J	Borehole	SO 34728 72531	27.5mbgl	250	12 to 27.5mbgl	Sand and Gravels	N/A	11.1mbgl	11.8mbgl	21mbgl
K	Borehole	SO 34853 72564	24.25mbgl	250	14 to 24.25mbgl	Sand and Gravels	N/A	10.2mbgl	11.27mbgl	20mbgl
L	Borehole	SO 34991 72595	27mbgl	200	9 to 27mbgl	Sand and Gravels	N/A	10mbgl	6.32mbgl	21mbgl

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

Document reference(s)

Continuation Sheet

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)

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)
				Year (cubic metres)	Day (cubic metres)	Hour (cubic metres)	Peak instantaneous flow rate (litres per second)	Maximum number of hours of abstraction per day		
01 January 2011 to 31 December 2011			All year, or months, or days (provide specific dates)							
01 January 2012 to 31 December 2012										
01 January 2013 to 31 December 2013										
01 January 2014 to 31 December 2014										
01 January 2015 to 31 December 2015										
01 January 2016 to 31 December 2016										
01 January 2017 to 31 December 2017										

See Continuation Sheet

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

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

Continuation Sheet

See Continuation Sheet & WS Historical Water Use.xlsx

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

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 WS Historical Water Usage.xlsx

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 Figure 1

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)
P	SO 35471 72837	194.4m ³ /day	EPR/AB3697CN

9.2 Please provide a description of discharge structures and equipment

Discharge occurs at the Effluent Treatment Plant (point P, Figure 1) and is conveyed through a lined swale system to the River Teme.

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

Document reference

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
*See Continuation Sheet					

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?

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

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

Agent to Radnor Hills Mineral Water Company Ltd

Today's date

23/08/2019

SECTION 3
CONTINUATION SHEET

THE WATER RESOURCES (TRANSITIONAL PROVISIONS) REGULATIONS 2017

APPLICATION FOR A NEW GROUNDWATER ABSTRACTION LICENCE AT RADNOR HILLS

Continuation Sheet

Overview/Background

Radnor Hills Mineral Water Company Ltd (Radnor Hills) abstract water for bottling of mineral and spring waters and the blending of syrups and juices to create a range of still and sparkling soft drinks. Their production facility has been operational since 1985.

Radnor Hills land crosses the border between England and Wales, with 12 boreholes in Wales and 3 in England. Water is abstracted from both bedrock and superficial geology for the processing and production of bottled still and sparkling soft drinks. As the site is not connected to a mains water supply, water for domestic (both residential and commercial) and general agricultural (poultry, sheep and agrochemical spraying) applications are also supplied by water abstracted from the boreholes.

Appendix A provides a summary of information on all 15 abstraction boreholes. Three groundwater applications are being submitted. One application for boreholes in England abstracting from superficial deposits; and two applications for boreholes in Wales, one for abstraction from superficial deposits and one for abstraction from bedrock. The three applications are Welsh Bedrock (WB), Welsh Superficial (WS) and English Superficial (ES).

For the sake of simplicity and more importantly transparency, a single continuation sheet has been prepared covering all three applications. This ensures that both Natural Resources Wales and the Environment Agency have access to the same information. It is recognised however, that some of the information presented in this continuation sheet is not specifically pertinent to every application.

Rights of access

Radnor Hills have the right of access to the land at the Site as outline in red on Figure 1 as the directors own the land.

Cross border applications

The Radnor Hills boreholes are located in both England and Wales (Figure 1). The Environment Agency (Steve Brown, Cameron Mills and Sue Forsyth) and Natural Resources Wales (Mary Beckett, Dave Jones and Owain Sheppard) have been contacted prior to the submission of the applications.

Source of supply

Water is abstracted from bedrock (Raglan Mudstone Formation) and superficial (sand and gravel) deposits at the Site. Borehole information for each abstraction point is included in Appendix A. Borehole logs, where available, are provided in Appendix B.

Abstraction history and evidence*Quantity of water abstracted*

Monthly abstraction volumes have been provided by Radnor Hills for the qualifying period for the Transitional Arrangements and are presented in the accompanying excel workbook 'Radnor Historical Usage.xlsx' for each individual borehole and each individual use. The workbook collates the information into annual totals for each of the groups of boreholes covering the different sources of supply and England and Wales. Summary information is provided in Appendix C and Appendix D.

Due to there being no historic requirement to meter exempt abstractions, individual meters were not installed on each borehole. Therefore, actual abstraction volumes have been compiled from a number of different sources as detailed below; bottling line metered flow rates and volumes; total product sales volumes; bottling efficiency adjustment; British Water – Codes of Practice guidance data on domestic water use; poultry and livestock numbers; cropping areas; and Environment Agency optimum water user criteria. The flow rates and volumes have been cross checked and verified against different data sources including the specification and performance of the borehole pumps and the volumes of water permitted for discharge. By using the verification processes, Envireau Water are satisfied that the monthly volumes per borehole, supplied by Radnor Hills are appropriate, evidenced and stand up to scrutiny.

Water Bottling

As discussed above, the detail of the monthly and annual volumes produced per borehole are summarised in Appendix C and presented in detail in the accompanying workbook. The workbook in particular provides a detailed breakdown of abstracted volumes. In order to verify that the monthly volumes are reasonable, a check has been carried out to compare the abstracted volumes with the volume of water (and other products) sold. The Radnor Hills Sage accounting and business management software contains data on total sales, broken down into the range of products produced. As 2017 was the year with the largest abstraction from all the boreholes combined, the verification exercise has been done on this year. The volume of water sold is not the same as the volume of water abstracted, as the volume sold does not take account of wastage, cleaning and rinsing and bottle over filling. The ratio between the amount of water sold in the products and the amount abstracted is referred to as the 'product ratio', which by definition will be greater than 1. Environment Agency Optimum Water Use data gives a typical product ratio of 1.6.

Evidence for the volume of water sold in 2017 has been taken from the company's Sage accounting and business management software and is presented in Appendix E. Table 1 provides a summary of the total volume of water sold and the total volume of water being applied for, based on the abstracted volumes in 2017.

Table 1 Comparison between water applied for and total volume sold

Year	Total Volume Sold (m ³)	Total Volume Applied For (m ³) (2017 abstracted volume)	Product Ratio
2017	182,786	267,643	1.46

Table 1 shows the product ratio for the bottling process for 2017, which is well below the Environment Agency's optimum water use value of 1.6. It is considered that this verification exercise demonstrates two things: firstly that the Radnor Hills operations are efficient in terms of water use; and secondly that the monthly abstraction volumes used to generate the total annual abstraction are realistic and that the evidence base is robust.

Actual abstraction rates (as opposed to volumes) from each borehole have been calculated based on original drilling / testing data, pump specifications and the operational experience of Radnor Hills staff and are provided in Appendices D and I and in the accompanying workbook. The values have been sanity checked against the performance specification of the bottling lines which require a specific flow rate. Operationally groups of boreholes are used to fill tanks that feed the process or bottling lines. Therefore, there is not a direct correlation between borehole abstraction rate and bottling rate.

Domestic (residential)

Radnor Hills includes 14 domestic properties with a total of 40 bedrooms accommodating 72 people all year. Domestic water volumes provided to the properties have been estimated based on the number of occupants and water flow rates as suggested in the British Water – Codes of Practice: Flows and Loads. Evidence for the residential properties is provided in Appendix F.

Domestic (commercial)

The Radnor Hills offices service about 206 people all year. Domestic water volumes provided to the offices have been estimated based on the number of occupants and water flow rates as suggested in the British Water – Codes of Practice: Flows and Loads. Evidence of employees is provided in Appendix G.

General Agricultural

The three main uses of water are poultry, sheep and crops (on which water is used for agrochemical spraying). Poultry water usage has been estimated based on the number of chicken houses and number of crops per year provided in Table 2 with evidence for these values in Appendix H.

Table 2 Poultry water usage information

Number of Houses	Water Use per House (m ³)	Crops per year	Annual Water Use (m ³)
6	300	8.1	14,580

Water use for sheep has been calculated by using a consumption per head from the Environment Agency optimum water use data. Evidence for the number of head of livestock in 2017 the highest use year, is given in Appendix H.

Agrochemical spraying has been undertaken on 296ha of land using 165l/ha water each spray. Cropping areas for 2017 are provided in Appendix H.

Aggregation of abstraction points

Water abstraction is to be aggregated based on water source, i.e. points A-F for Welsh Bedrock, points G-L for Welsh Superficial Sand and Gravel and points M-O for English Superficial Sand and Gravel. The summary tabs in the supporting excel workbook 'Radnor Historical Water Use.xlsx' show the aggregated volumes for each water use.

Method of abstraction

The pump make and model are identified in Appendix D along with the water usage for each borehole with pump specifications provided in Appendix I. Water is abstracted from the boreholes at Radnor Hills and distributed across the Site as shown in Figure 2.

Waste Minimisation

An inspection and maintenance program involves regular check of the distribution system for leaks as well as checks of the pressure within the system. Faults are recorded and repairs undertaken as quickly as possible.

The product ratio (table 1) demonstrates that waste minimisation is of a high standard at Radnor Hills.

Other Abstractions

There are no other abstractions than the 15 boreholes identified above.

Envireau Water
15/08/19

SECTION 4
FIGURES



envireau 
WATER

Site Location and Abstraction Points



SECTION 5
APPENDICES

APPENDIX A
BOREHOLE INFORMATION TABLE

Abstraction Point (Figure 1)	Radnor Reference	Application	Aquifer	Location	Borehole Depth (mbgl)	Diameter (mm)	Lining (mbgl)	Depth of pump (mbgl)	Rest Water Level (mbgl)	Pumped Water Level (mbgl)
A	RHC	WB	RMF*	SO 34021 71982	79	140	Screened 5.7 to 79	68	31.19	Unknown
B	RHP	WB	RMF*	SO 34193 72384	67	200	Screened 36.5 to 67	60	18.4	21.66
C	RHW	WB	RMF*	SO 34283 72273	73	200	Screened 36.5 to 73	22.5	15.5	22.52
D	RHO	WB	RMF*	SO 34399 72250	39.17	150	Screened 6 to 39.17	23.91	14	22.91
E	RHE	WB	RMF*	SO 34431 72246	60	200	Screened 36 to 60	23.47	17	22.47
F	RHUR	WB	RMF*	SO 34727 72160	61	200	Unknown	56	20.5	Up to 45
G	RHD	WS	Sand and Gravels	SO 34630 72503	33	200	Screened 15 to 33	18.6	11.38	11.98
H	RHD2	WS	Sand and Gravels	SO 34657 72430	60	200	Screened 24 to 60	55	11.87	17.60
I	RHF	WS	Sand and Gravels	SO 34713 72349	45.7	200	Screened 15.2 to 45.7	28	10.3	15.54
J	RHG3	WS	Sand and Gravels	SO 34728 72531	27.5	250	Screened 12 to 27.5	21	11.1	11.80
K	RHG2	WS	Sand and Gravels	SO 34853 72564	24.25	250	Screened 14 to 24.25	20	10.2	11.27
L	RHG	WS	Sand and Gravels	SO 34991 72595	27	200	Screened 9 to 27	21	10	6.32
M	RHM	ES	Sand and Gravels	SO 35099 72580	24	200	Screened 16.5-24	21	Unknown	7.00
N	RHLRN	ES	Sand and Gravels	SO 35189 72541	14	200	Screened 9-14	13.5	8.11	9.10
O	RHLRO	ES	Sand and Gravels	SO 35189 72541	16.5	152	Screened 11.5-14	12.5	9.15	9.08

**APPENDIX B
BOREHOLE LOGS**

RH ~~TOP~~
Point A - RH ~~CAVE~~

DISUSED B/H

350 metres S.W.H

THE CAVE SUPPLY

B/H-NO. 4

Powys Drilling Services

Borehole Record

Name of Customer MR WATKINS
Site Address RABNOR WATER HEARTEGASS KNIGHTON.

Date 26th Sept 2000

TOP HOLE

(79m)

N.G.R.

Borehole Dia. 5 1/2"Borehole Depth 260 ft

STRATA		Details and Remarks	Casing Details
From	To		
0	1 1/2	SOILS	19 ft
1 1/2	17	RED MARL.	PERMANENT GROUTED.
17	130	RED MUDSTONE	
130	145	GRAY SANDSTONE	
145	260	RED MUDSTONE.	
Pumping Details			
Water struck at		140' 170' & 200'	
Water rest level			
Draw down level			
Flow rate		APPROX 8 g/min WITH AIR TEST.	
Suction point			
Pump capacity			
Recovery to rest level			
Signature		B.K. Jones	

RHP --- hole and Installation Details

CUSTOMER Mr Watten S. DATE 3/3/97
 LOCATION Hemphill Lane, Bucknell

Depth of Hole and Dia. 220' x 57/8" (67m)

Steel Casing — Temporary or permanent 79' Permanent 6" (24m)

Well Liner — Plain or slotted (100') Slotted (120') Plain (30.48)

Rest Level (30.48m) (36.5m)

Draw - down

Pump — Make and type

High and Low Level YES

Man-hole Gate Valve
Tee-sweep

Trench work

Any internal plumbing?

Electric Cable

S.W.A. Cable

Float Switch or Pressure Switch Pressure

Alkathene

Yield 4/5 Sub / 1 gal. = 720

Date Commissioned

Storage Res. Plastic or Concrete and Capacity

Any other items

Powys Drilling Services

Borehole Record

Name of Customer Mr Watkins

Date 3rd March 9.

Site Address Henegast Farm.

N.G.R.

Borehole Dia. 5 7/8"

Borehole Depth 220'

STRATA		Details and Remarks	Casing Details
From	To		
T.P	76'	Silt + gravelly + Silty clay	
76'	89'	(Hard) very Soft	
89'	200'	Sand Stone Dark Red	
200'	225'	Red Marl (Soft) ← marl (marl is impervious)	
Pumping Details			
Water struck at 140' + 165' + 180'			
Water rest level			
Draw down level:			
Flow rate			
Suction point			
Pump capacity			
Recovery to rest level			
Signature			

G C Evans,

RHW

Powys Drilling Services

Borehole Record

Name of Customer

Mr Watkins, Woot-

Date 7.4.95

Site Address

Heolrhaf Farm.
Knighlton, Porthlyss.

N.G.R.

Borehole Dia.

Borehole Depth 24.0'

STRATA		Details and Remarks	Casing Details
From	To		
0"	3"	Top Soil	
3"	6'	orange clay + Stone S.	
6'	35'	Red S/S	
35'	71'	White Sand Stone.	
71'	240'	Red Sand Stone.	
Pumping Details			
Water struck at 120' 200'			
Water rest level			
Draw down level			
Flow rate 18 gal/min			
Suction point			
Pump capacity			
Recovery to rest level			
Signature			
P.C. Evans			

RHO

APPENDIX 1

HEARTSEASE : BOREHOLE DETAILS

SITE LOCATION

: J Watkins
Heartsease
Knighton
Powys

NGR : SO 344 723

DATE OF CONSTRUCTION : October 1985

DRILLER

: W B and A D Morgan
Lyonshall, Kington, Herefordshire

BOREHOLE DEPTH

: 39.17m

DIAMETER

: 152mm 102mm

LINING

: 152mm solid lining to 6m
102mm slotted lining to 39.17m

RWL

: 13.3 mbs

PUMP TYPE

: Godwin 13C19

PUMP SUCTION DEPTH

: 35 mbs

STRATA LOG

Top soil	0- 1.83m	
Overburden	- 5.18m	
Variegated sandstone	-26.21m	85 ft.
Confined aquifer	-39.17m	128 ft.

Bore hole No. 1

RHUR.

Borehole and Installation Details

NAME OF CUSTOMER MR. WATKINS DATE 18TH OCT 2003
LOCATION Radnor Hills Water Mr. Knighton
upper Peones
Depth of Hole and Dia. 8" hole drilled to 200ft. (61m)
Steel Casing - Temporary or Permanent 24 ft x 8" PERMANENT GROUTED.
Well Liner - Plain or slotted 200ft @ 6" hole with 100ft slotted.
Rest Level
Draw - down
Pump - Make and type
High and Low Level
Man-hole Gate Valve Tee-sweep NO MANHOLE REQUIRED
Trench work
Any internal plumbing?
Electric Cable
S.W.A. Cable
Float Switch or Pressure Switch
Alkathene
Yield APPROX 15 GPM WITH AIR TEST.
Date Commissioned
Storage Res. Plastic or Concrete and Capacity
Any other items

8 BAGS PEA GRAVEL.
10 BAGS CEMENT TO GROUT LINER.

Southern Boundary

RHD

POWYS DRILLING SERVICES **BOREHOLE CONSTRUCTION RECORD**

DUMBELLS

Customer Name MR. MARTINSSite Address RADNOR HILLS WATERNR. KINGTON.

DUMBELLS NO. 1.

N.G.R.

Location of B/Hole AGAINST 1ST HEDGECROFT TO LEFT OF CAR PARK.

Borehole Dia.	<u>200 mm</u>	Dia. from	<u>0</u>	to	<u>33</u>	m
		Dia. from		to		m
					<u>WITHDRAWN TO 12m</u>	
Casing Details	Solid Steel	<u>200</u>	mm from	<u>0</u>	to	<u>21</u>
			mm from		to	
						m
Liner Details	(mdpe - 100mm)	Plain	from	<u>0</u>	to	<u>15</u>
		Slotted	from	<u>15</u>	to	<u>33</u>
						m
Borehole Chamber Constructed?	Yes	<input checked="" type="radio"/>	No	<input type="radio"/>		

Strata Log

From	To	Description of Strata
0	2'	Soils
2	40'	SMALL STONES & CLAY - HARD.
40'	49'	VERY COMPACT VERY SMALL GRAVELS (DRY)
49	59'	LARGE GRAVELS CONTAINING 20 g/min
59	69'	RED STONY CLAY.
69'	109'	HARD RED CLAY.
		16 BAGS PEA GRAVEL.
		14 BAGS COMPACT FOR GRANT.

Date Drilling Commenced 20TH NOV 2007 Date Completed Drilling 27TH NOV 2007.Water Struck at 48ft 20 g/min & 69ft ANOTHER 30 g/min.Flow Rates APPROX 50 g/min WITH AIR TEST. Rest LevelDriller Signature B.K. JONES

3300

JR

RHD2

POWYS DRILLING SERVICES

BOREHOLE CONSTRUCTION RECORD

Customer Name MR. WATKINSSite Address RADNOR HILLSMR. KNIGHTON.

N.G.R.

DUMBELLS NO. 2.Location of B/Hole Highway Between Dumbells & Farm Boreholes.Borehole Dia. 200 mm Dia. from 0 to 18.60 m

Dia. from to m

Casing Details Solid Steel 200 mm from 0 to 18 m

mm from to m

Liner Details (mdpe - 100mm) Plain from 0 to 24 mSlotted from 24 to 60 m

Borehole Chamber Constructed?

Yes ☒ No ☐**Strata Log**

From	To	Description of Strata
0	2'	Soils
2	50'	Dry Stony Greenish Marl.
50	64'	Red Stony Marl (soft)
64	77'	Greenish Limestone
77'	109'	Red Sandstone.
109'	140'	Marl.
140	170'	Red Sandstone.
170	200'	Marl.

Date Drilling Commenced 25th SEPT 2009. Date Completed Drilling 29th SEPT 2009.Water Struck at 65 ft 90 ft & 150 ft.Flow Rates Approx 25 + g/min with Air Test. Rest LevelDriller Signature B. Kyferman

6-DEC-2001 10:02 FROM: W.B. & A.D. MORGAN LTD 01544267981

TO: 01547530651

P:2

WELL AND PUMP DATA

BGS 15.2.91

W. B. & A. D. MORGAN

Water Well Drilling,
Electrical Engineers and Pumping Specialists
The Old Vicarage, Lyonshall,
Kington, Herefordshire HR5 3LN
Telephone LYONSHALL (05448) 207571

Property owner's name and address

Mr WATKINS
HEARTSEASE FARM.
KNIGHTON
POWYS.

Remarks, Comments, etc.

2
e
2
2
4

Well depth

150'

Datum point from which all measurements are taken

SURFACE

Method of Drilling

☒ Rotary hammer ☐ F.O.A. ☐ Direct rotary

Use

☐ Domestic
☐ Irrigation
☐ Test Well

☐ Public supply
☐ Commercial
☐ Heating or cooling

☐ Industrial
☐ Monitoring
☒ ASPT

Temporary Casing

Hole Dia 12" in/cm Casing Size 10" in/cm Depth 40' in/m

Hole Dia _____ in/cm Casing Size _____ in/cm Depth _____ in/m

Hole Dia _____ in/cm Casing Size _____ in/cm Depth _____ in/m

Hole Dia _____ in/cm Casing Size _____ in/cm Depth _____ in/m

Permanent Casing

☐ Steel☒ PVC☐ Other☐ Threaded☐ Welded☐ Solvent

Hole Dia _____ in/cm Casing Size _____ in/cm Depth _____ in/m

Hole Dia _____ in/cm Casing Size _____ in/cm Depth _____ in/m

Intake Portion of Well

Screen type _____ or open hole from _____ in/m to _____ in/m

Manufacturer _____

Material _____

Dia. _____

Findings _____

Length _____

Set between _____ in/m and _____ in/m Slot _____

_____ in/m and _____ in/m Slot _____

_____ in/m and _____ in/m Slot _____

Filter Pack

Volume used 30 cwt Depth to top of f.p. _____

Grout

Used? ☒ Yes ☐ No Volume used 14 cwt☐ Neat Cement ☐ Bentonite ☐ _____

Method of Installation

Depth: from 50' in/m to 150' in/m

from _____ in/m to _____ in/m

Development

Method _____ Duration _____

Dates _____ Sand content after _____ hrs.

Static Water Level

_____ in/m ☐ below ☐ above grade

Date measured _____

Pumping Water Level

_____ in/m ☐ below ☐ above grade Date _____

After _____ hrs. pumping at _____ gpm/lpm

Pump

Date installed 10-10-91 Type Submersible

Manufacturer Godwin Model No. BC 19

H.P. 1.0 Volts 240 Capacity 300 G.P.M.

Depth of pump intake setting _____ No. of stages 19

Material of drop pipe PVC

Water Quality

Sample taken? ☐ Yes ☒ No

Where analyzed _____

NGR _____

Licence No. _____

Formation Log

Colour

Hardness

From

To

CLAY

Red

Soft

0'

10'

Boulder Clay

Red

Soft

10'

15'

Gravel Sand

15'

20'

Clay & Gravel

21'

35'

SANDSTONE

Red

Hard

35'

85'

AGGREGATE

85'

89'

SANDSTONE

White

Hard

89'

148'

Gravel Sand

148'

150'

(WATER BEARING)

Water Made @ 85' & 147' in/m

Drilling Crew John S. Arby Al Dando

Date started 21 June 91 completed 4 July 91

POWYS DRILLING SERVICES

BOREHOLE CONSTRUCTION RECORD

~~2111~~

Customer Name Radner hills - closest - RHD.

Site Address Knighton

Location of B/Hole 2nd hole in hay field N.G.R. (93)

Borehole Dia.	<u>200</u>	Dia. from	<u>0</u>	to	<u>27.5</u>	m
		Dia. from		to		m
Casing Details	Solid Steel	<u>200</u>	mm from	<u>0</u>	to	<u>12</u> m
			mm from		to	m
Liner Details	(mdpe - 100mm)	Plain	from	<u>0</u>	to	<u>12</u> m
		Slotted	from	<u>12</u>	to	<u>27.5</u> m
Borehole Chamber Constructed?		<input checked="" type="checkbox"/> / No				

Strata Log

From	To	Description of Strata
0'	8'	soil
8'	43'	Dry gravel gravel
43'	65'	Wet gravel
65'	91'	Clay
		1 ton Pea gravel
		8 bags cement grout

Date Drilling Commenced 15/6/15 Date Completed Drilling 29/6/15

Water Struck at 43-65'

Flow Rates 50 g/min + Rest Level 12

Driller Signature C R Hames

POWYS DRILLING SERVICES

BOREHOLE CONSTRUCTION RECORD

Customer Name Radnor hills - closest to RHG.
 Site Address Heartase
Knighton

N.G.R. _____

Location of B/Hole Hole No 1 nearest cottage (42)

Borehole Dia.	<u>200</u>	Dia. from	<u>0</u>	to	<u>24-25</u>	m	
		Dia. from		to		m	
Casing Details	Solid Steel	<u>200</u>	mm from	<u>0</u>	to	<u>14</u>	m
			mm from		to		m
Liner Details	(mdpe - 100mm)	Plain	from	<u>0</u>	to	<u>13</u>	m
		Slotted	from	<u>13</u>	to	<u>24-25</u>	m
Borehole Chamber Constructed?		<u>Yes</u> / No					

Strata Log

From	To	Description of Strata
0	5'	soil
5'	40'	Dry gravel
40'	45	clay
45'	60'	wet gravel
60	80	clay
<div style="margin-top: 20px;">$\frac{1}{2}$ ton per gravel</div> <div style="margin-top: 20px;">8 bags cement grout.</div>		

Date Drilling Commenced 23/5/15 Date Completed Drilling 18/5/15
 Water Struck at 45' - 60'
 Flow Rates 40 g/min + Rest Level 10 metres down
 Driller Signature C R Mores

(RH9)

POWYS DRILLING SERVICES

BOREHOLE CONSTRUCTION RECORD

RHG

Customer Name MR WATKINSSite Address RACINE HILLS WATERHARTSEBROKWINTONN.G.R. 50 349 725Location of B/Hole 300m before REEVES COTTAGE

Borehole Dia.	<u>200 mm</u>	Dia. from	<u>0</u>	to	<u>27</u>	m
		Dia. from		to		m
Casing Details	Solid Steel	<u>200</u>	mm from	<u>0</u>	to	<u>16 1/2</u>
			mm from		to	
Liner Details	(mdpe - 100mm)	Plain	from	<u>0</u>	to	<u>9</u>
		Slotted	from	<u>9</u>	to	<u>27</u>
Borehole Chamber Constructed?	Yes	<input checked="" type="radio"/> No				

Strata Log

From	To	Description of Strata
0	3'	SOILS
3	25'	DRY GRAVELS
25	55'	WGT GREY GRAVELS
55	90'	PINK COMPACT GRAVELS
1 Ton PEA GRAVEL		
6 BAGS CEMENT GROUT		
35ft casing withdrawn & back to yard		

Date Drilling Commenced 29th May 2012 Date Completed Drilling 7th June 2012Water Struck at 25ft & 70ft.Flow Rates Approx 50 G/min with Air Test. Rest LevelDriller Signature B.K. Jones

POWYS DRILLING SERVICES

BOREHOLE CONSTRUCTION RECORD

RAM.

Customer Name MR WATKINS

Site Address RAMMER & JONES WATER

HEARTSEASE

MR. KNIGHTON

N.G.R. SC 351 725

Location of B/Hole 150 m from REVERES Cottage.

Borehole Dia.	<u>200 mm</u>	Dia. from	<u>0</u>	to	<u>24</u>	m
		Dia. from		to		m
Casing Details	Solid Steel	<u>200</u>	mm from		to <u>21</u>	m
			mm from		to	m
Liner Details	(mdpe - 100mm)	Plain	from <u>0</u>	to	<u>24 16 1/2</u>	m
		Slotted	from <u>24 16 1/2</u>	to	<u>24</u>	m
Borehole Chamber Constructed?		Yes / <u>No</u>				

Strata Log

From	To	Description of Strata
0	4'	Soils
4	25'	BRN COMPACT GRAVELS
25	55'	VERY WET RED GRAVELS
55	75'	VERY WET GRAY GRAVELS
75	85'	MIXED RED CLAY & GRAVELS

COLLAPSED - COULDN'T HOLD OFF 1600.

3 1/4 Ton PEA GRAVELS
10 BAGS GROUT.

15 m CASING @ 200 mm
WITHDRAWN.

Date Drilling Commenced 12th June 2012 Date Completed Drilling 20th June 2012

Water Struck at 25 ft

Flow Rates APPROX 30 c/min? with AIR TEST Rest Level:

Driller Signature B. P. Jones

LRN

POWYS DRILLING SERVICES **BOREHOLE CONSTRUCTION RECORD**

Customer Name

MR WATKINS

REEVES NO 2

Site Address

H/GARTSBAGG

6" HOLE

NR KNIGHTON.

N.G.R.

Location of B/Hole

BEHIND COTTAGE 5 km. EAST FROM

Borehole Dia.	200 mm	Dia. from	0	to	14	m
		Dia. from		to		m
Casing Details	Solid Steel	200 mm	from	0	to	11.5
		mm from		to		m
Liner Details	(mdpe - 100mm)	Plain	from	0	to	9
		Slotted	from	9	to	14
Borehole Chamber Constructed?	Yes / <input checked="" type="radio"/> No					

Strata Log

From	To	Description of Strata
0	4'	Soils
4'	14'	Loose stone & soil
14'	30'	Boulder clay
30'	34'	River sand (fine)
34'	46'	Gravels

Date Drilling Commenced

14TH MAR 2006

Date Completed Drilling

28TH MARCH 2006

Water Struck at

34 ft.

Flow Rates

Approx 2.5 G/min with Air Test

Rest Level

Driller Signature

B.K. Jones

LR#0

B/U-3
REEVES
NO. 1.

Powys Drilling Services

Borehole Record

Name of Customer

Mr Watkins.

Date

16/12/99.

Site Address

COTTAGE.

Palmer hills Water
Houses.

N.G.R.

Borehole Dia.

6"

Borehole Depth

54'

STRATA		Details and Remarks	Casing Details
From	To		
0"	7"	Top Soil	54' x 6"
7"	39'	clay + Soil + Silt,	
39'	54'	clean gravels (upto 4")	
		(Total depth 16.5 m)	
Pumping Details			
Water struck at		39'	
Water rest level		30'	
Draw down level			
Flow rate		1,000 gal/hr	
Suction point			
Pump capacity			
Recovery to rest level			
Signature		G C Evans.	

APPENDIX C
ABSTRACTION VOLUMES BY USE

Welsh Bedrock Abstraction (A, B, C, D, E, F)						
Year	Water Bottling (m3/yr)	Domestic (Residential) (m3/yr)	Domestic (Commercial) (m3/yr)	General Agriculture (m3/yr)	Annual (m3/yr)	Average Daily (m3/day)
2011	30,226	1,862	9,052	19,128	60,267	165
2012	31,235	1,862	9,052	19,128	61,276	168
2013	27,176	1,862	9,052	19,128	57,217	157
2014	20,661	1,862	9,052	19,128	50,702	139
2015	53,274	1,588	4,581	11,964	71,406	196
2016	53,546	1,588	4,581	11,964	71,678	196
2017	62,247	1,588	4,581	11,964	80,379	220

Max

62,247

1,862

9,052

19,128

80,379

220

Welsh Superficial Abstraction (G, H, I, J, K, L)						
Year	Water Bottling (m3/yr)	Domestic (Residential) (m3/yr)	Domestic (Commercial) (m3/yr)	General Agriculture (m3/yr)	Annual (m3/yr)	Average Daily (m3/day)
2011	37,760	0	0	0	37,760	103
2012	50,610	0	0	0	50,610	139
2013	65,341	0	0	0	65,341	179
2014	78,056	0	0	0	78,056	214
2015	95,012	986	3,760	3,350	103,107	282
2016	119,283	986	3,760	3,350	127,378	349
2017	147,117	986	3,760	3,350	155,212	425
Max	147,117	986	3,760	3,350	155,212	425

English Superficial Abstraction (M, N, O)				
Year	Water Bottling (m3/yr)	Domestic (Residential) (m3/yr)	Annual (m3/yr)	Average Daily (m3/day)
2011	15,421	548	15,968	44
2012	16,621	548	17,168	47
2013	11,392	548	11,939	33
2014	13,262	548	13,809	38
2015	37,048	548	37,596	103
2016	60,286	548	60,833	167
2017	58,279	548	58,826	161

Max

60,286

548

60,833

167

APPENDIX D
WATER ABSTRACTION DETAILS

Abstraction Point (Figure 1)	Radnor Reference	Application	Use				Pump Make and Model	Capacity (m3/hr)
			Water Bottling	Domestic - Residential	Domestic - Commercial	General Agriculture		
A	RHC	WB	✓	✓	✓	✓	Grundfos SQE 5-60	5
B	RHP	WB	✓	✓		✓	Grundfos SQE 7-40	7
C	RHW	WB	✓				Grundfos SQE 7-40	7
D	RHO	WB	✓	✓			Grundfos SQE 5-60	5
E	RHE	WB	✓				Grundfos SQE 7-40	7
F	RHUR	WB	✓				Grundfos SQE 5-70	6
G	RHD	WS	✓				Grundfos SP 17-4	20
H	RHD2	WS	✓				Lowara 16GS 55	15.929
I	RHF	WS	✓	✓	✓	✓	Grundfos SP 17-10	20.5
J	RHG3	WS	✓				Grundfos SP 17-4	20
K	RHG2	WS	✓				Grundfos SP 17-4	20
L	RHG	WS	✓				Grundfos SP 17-4	20
M	RHM	ES	✓				Grundfos SP 17-4	20
N	RHLRN	ES	✓	✓			Grundfos SQE 7-40	7
O	RHLRO	ES	✓				Grundfos SQE 5-60	5

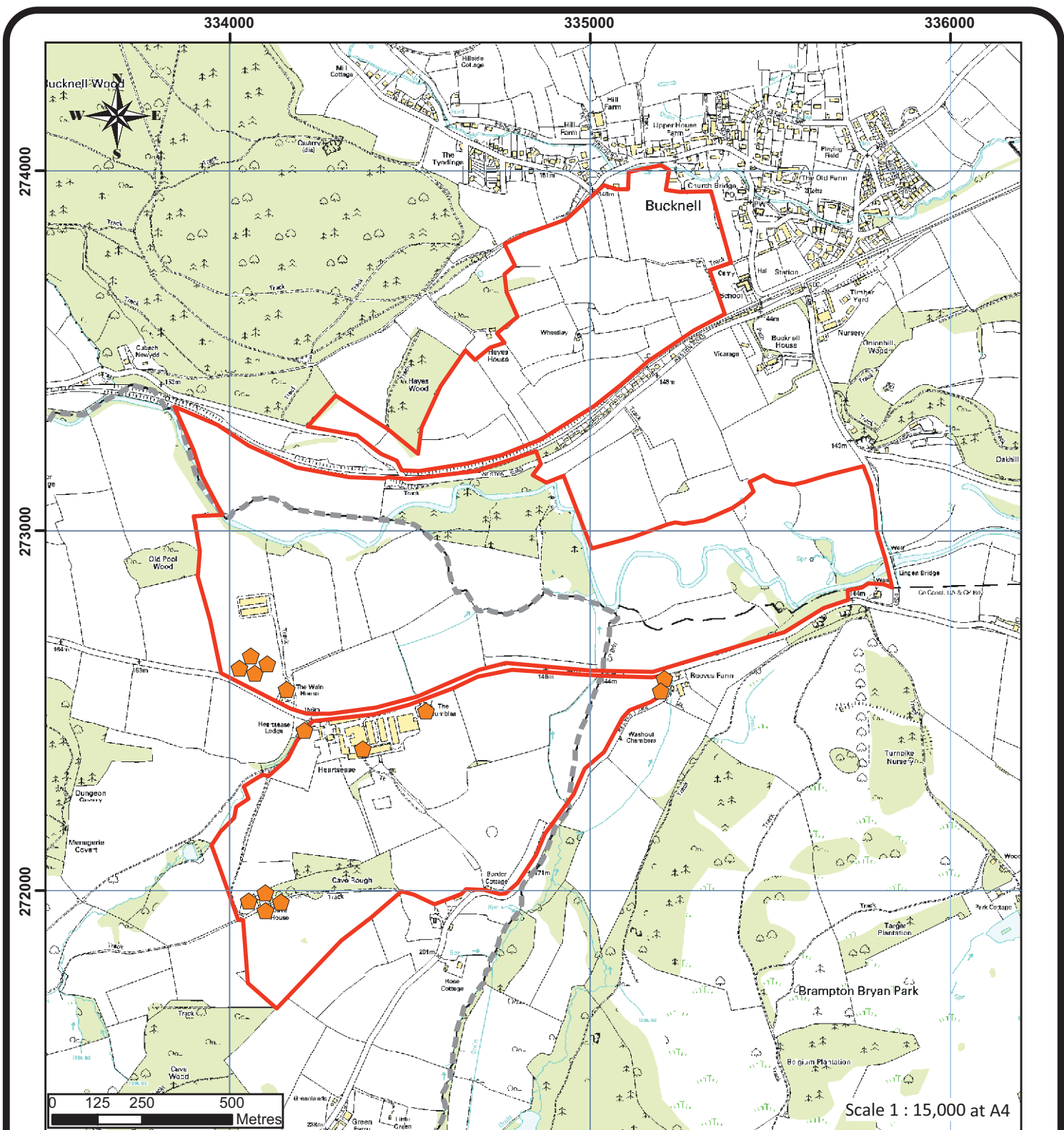
APPENDIX E
WATER BOTTLING EVIDENCE

131.682	84.435	151.952	87.029	147.332	113.676	86.408	60.014	93.186	133.932	104.811	46.112	26.735	110.465	31.684	198.176	70.024	67.704	23.982	158.652	111.072	165.396	82.475	122.016	104.134
135.872	90.485	159.168	91.201	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
139.872	94.583	163.340	92.784	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
143.872	98.681	167.336	96.879	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
147.872	102.779	171.330	100.976	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
151.872	106.877	175.324	105.074	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
155.872	110.975	179.318	109.172	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
159.872	115.073	183.312	113.270	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
163.872	119.171	187.306	117.368	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
167.872	123.269	191.300	121.466	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
171.872	127.367	195.294	125.564	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
175.872	131.465	199.288	129.662	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
179.872	135.563	203.282	133.760	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
183.872	139.661	207.276	137.858	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
187.872	143.759	211.270	141.956	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
191.872	147.857	215.264	146.054	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
195.872	151.955	219.258	150.152	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
199.872	156.053	223.252	154.250	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
203.872	160.151	227.246	158.348	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
207.872	164.249	231.240	162.446	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
211.872	168.347	235.234	166.544	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
215.872	172.445	239.228	170.642	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
219.872	176.543	243.222	174.740	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
223.872	180.641	247.216	178.838	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
227.872	184.739	251.210	182.936	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
231.872	188.837	255.204	187.034	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
235.872	192.935	259.198	191.132	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
239.872	197.033	263.192	195.230	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
243.872	201.131	267.186	199.328	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
247.872	205.229	271.180	203.426	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
251.872	209.327	275.174	207.524	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
255.872	213.425	279.168	211.622	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
259.872	217.523	283.162	215.720	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
263.872	221.621	287.156	219.818	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
267.872	225.719	291.150	223.916	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
271.872	229.817	295.144	228.014	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
275.872	233.915	299.138	232.112	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
279.872	238.013	303.132	236.210	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
283.872	242.111	307.126	240.308	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
287.872	246.209	311.120	244.406	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
291.872	250.307	315.114	248.504	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121.872	73.859	205.512	121.474	281.634	112.524	321.760	207.684	183.010	207.684	165.396	90.353	231.788	114.192
295.872	254.405	319.108	252.602	285.326	144.744	78.664	151.532	54.732	135.972	77.851	121													


185570	124005	631338	116212	64140	31343	137022	93050	81395	112867	192468	76138	76408	60072	31048	107088	46781	68240	55629	140400	32590
191692	711004	191692	191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	138193
191692	140344	81808	138193	900	123976	45554	126072	53496	97140	352704	110444	377672	126336	641200	276235	256260	115319	140344	81808	1

34,632	66,035	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,400	148,279	237,096	106,112	123,068	45,120	55,176	138,705	330,864	134,304	270,420	127,588	111,102	97,718	5,291,964
48,955	29,396	33,767	123,068	54,900	46,410	33,372	33,106	99,835	211,146	198,066	165,020	92,524	70,132	31,500	28,330	13,679,914
30,966	126,671	437,40														

APPENDIX F
DOMESTIC (RESIDENTIAL) EVIDENCE



KEY		
	Area Occupied	 English and Welsh Border
		⬠ Domestic Property

	Ref: P18-068 Radnor New Auth \ Appendix F Date: 12/08/2019	Radnor Hills Mineral Water Company Ltd 'Transition Regulations' Application
	Appendix F	Domestic Residential Property Locations

APPENDIX G
DOMESTIC (COMMERCIAL) EVIDENCE

DOMESTIC (COMMERCIAL) EVIDENCE

Radnor Hills Mineral Water Company employed a total of 206 staff within the qualifying period. Supporting evidence provided for this is:

- Employee name and employment code from 20th January 2017
- Example of a weekly timesheet for operatives (agency staff) 2017
- Historical employee data summary 2017

20/1/17 for Allen re: Llewellyn's license

12	000035	Mansfield	Siv Lenor
15	000053	Butler	Penelope Susan
17	000007	Farmer	Vivian Michael
18	000008	Cornes	Claire
19	000009	Watkins	Jane Lois
1433520	1	WATKINS	WILLIAM WALTER
1433523	433523	PRYCE	WAYNE MAURICE
1433526	433526	SANDERS	ANNE
1433529	433529	FARMER	ADAM MICH...
1433530	433530	Owen	Allen David
1433535	433535	Isaac	John Robert
1433536	433536	Sanders	Christopher Haydn
1433538	433538	LONG	JESSICA
1433540	433540	GRENNAN	PATRICK JA...
1433550	433550	Owen	Joanne Patricia
1433551	433551	Halmshaw	Paul
1433557	433557	POWKES	MATTHEW
1433558	433558	Butler	Christopher
1433560	433560	Morris	Gemma
1433561	433561	Pearson	Adam
1433562	433562	Evans	Douglas Gerald
1433563	433563	Evans	Nicholas
1433565	433565	Barker	Shane Anthony
1433566	433566	Rogers-Coltman	Julian
1433567	433567	Sparrow	Holly
1433568	433568	Footo	Dane
1433569	433569	Watkins	Kate
1433570	433570	James	Nathan
1433571	433571	Macfarlane	Graeme
1433572	433572	Byatt	James Joseph
1433573	433573	Talbot	Bradley Ja...

20/12/17

2	000035	Mansfield	Siv Lenor
5	000053	Butler	Penelope Susan
7	000007	Farmer	Vivian Michael
8	000008	Cornes	Claire
9	000009	Watkins	Jane Lois
433520	I	WATKINS	WILLIAM WALTER
433523	433523	PRYCE	WAYNE MAURICE
433526	433526	SANDERS	ANNE
433529	433529	FARMER	ADAM MICH...
433530	433530	Owen	Allen David
433535	433535	Isaac	John Robert
433536	433536	Sanders	Christopher Haydn
433538	433538	LONG	JESSICA
433540	433540	GRENNAN	PATRICK JA...
433550	433550	Owen	Joanne Patricia
433551	433551	Halmshaw	Paul
433557	433557	POWKES	MATTHEW
433558	433558	Butler	Christopher
433560	433560	Morris	Gemma
433561	433561	Pearson	Adam
433562	433562	Evans	Douglas Gerald
433563	433563	Evans	Nicholas
433565	433565	Barker	Shane Anthony
433566	433566	Rogers-Coltman	Julian
433567	433567	Sparrow	Holly
433568	433568	Foot	Dane
433569	433569	Watkins	Kate
433570	433570	James	Nathan
433571	433571	Macfarlane	Graeme
433572	433572	Byatt	James Joseph
433573	433573	Talbot	Bradley Ja...

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Historical Data Summary

[illegible]

523 Mr.	Scundu	27/12/2017
524 Mr.	Bialek	27/12/2017
525 Miss	Dragunaitė	27/12/2017
528 Mr.	Jonusis	27/12/2017
529 Mr.	Vidzenas	27/12/2017
533 Mr.	Marcisz	27/12/2017
535 Mr.	Condeescu	27/12/2017
538 Mr.	Mansfield	27/12/2017
539 Mr.	Ovanesyan	27/12/2017
540 Mr.	Lasecki	27/12/2017
541 Mr.	Proudman	27/12/2017
542 Miss	Pociute	27/12/2017
545 Mr.	Heseltine	27/12/2017
549 Miss	Tubute	27/12/2017
550 Mr.	Chojnacki	27/12/2017
553 Mr.	Jones	27/12/2017
554 Mr.	Kondraczuk	27/12/2017
555 Miss	Gabsyte	27/12/2017
556 Mr.	Angelov	27/12/2017
557 Mr.	Blythe	27/12/2017
558 Mrs.	Jones	27/12/2017
559 Mr.	Bond	27/12/2017
561 Mr.	Burgin-Lynch	27/12/2017
563 Mr.	Barrett	27/12/2017
564 Mr.	Harries	27/12/2017
567 Mr.	Roberts	27/12/2017
568 Mr.	Handke	27/12/2017
569 Mr.	Kniza	27/12/2017
574 Miss	Bowmes	27/12/2017
575 Miss	Hatfield	27/12/2017
576 Mr.	Sprigg	27/12/2017
582 Miss	Penlington	27/12/2017
586 Miss	Buceviciute	27/12/2017
588 Mr.	Eidintas	27/12/2017
590 Mr.	Bilt	27/12/2017
591 Miss	Reid	27/12/2017
592 Mr.	Rogowski	27/12/2017
593 Miss	Faferko	27/12/2017
594 Mr.	Zalandauskas	27/12/2017
595 Mr.	Stancu	27/12/2017
596 Ms.	Robertson	27/12/2017
597 Mr.	Cann	27/12/2017
599 Mr.	Magaharan	27/12/2017
600 Mr.	Davies	27/12/2017
602 Mr.	Prosser	27/12/2017
606 Miss	Powell	27/12/2017
Report Total		

WEEK BEGINNING 09/10/2017

	<u>OPERATIVES</u>	MON	TUES	WED	THUR	FRI	SAT	SUN	Total Hrs
1	Agnieszka Pazder	11.5	9.5	9.5	9.5	6			46
2	Camelia Condeescu				11.5	11.5	11.5	11.5	46
3	Gabriel Stancu	11.5	11.5	11.5	11.5	11.5			57.5
4	Hanna Czochoz	11.5				11.5	11.5	11.5	46
5	Katarzyna Zawadzka					11.5	11.5	11.5	34.5
6	Krzysztof Kelm					11.5	11.5		23
7	Lina Balciene	11.5	11.5	11.5	11.5				46
8									
9	Roman Zielski	11.5				11.5	11.5	11.5	46
10	Sylwia Faferko	11.5				11.5	11.5	11.5	46
11	Virginijus Zalandauskas	11.5	11.5	11.5	11.5				46
12	Anisoara Radu					11.5	11.5		23
13	Anna Paliczuk				11.5	11.5		11.5	34.5
14	Catalin Lazar	11.5	11.5	11.5				11.5	46
15	Costel-Marius-Leonard Tudor	11.5	11.5	11.5				11.5	46
16	Cristina Carabadjac	11.5	11.5	11.5	11.5				46
17	Dumitru Gavrila	11.5	11.5	11.5	11.5	11.5		11.5	69
18	Gerard Radu					11.5	11.5		23
19	Ionel Liviu Mihai			11.5					11.5
20	Ionela Tilita	11.5							11.5
21	Iulian Sorin Epuran	11.5	11.5	11.5	11.5				46
22	Kristina Armalyte	11.5	11.5	11.5	11.5				46
23	Krysztof Andula	11.5					11.5	11.5	34.5
24	Laima Kairaitiene	11.5	6						17.5
25	Laurentiu Cotitu					11.5	11.5	11.5	34.5
26	Liviu-Georgian Bejgu					11.5			11.5

[illegible]

APPENDIX H
GENERAL AGRICULTURE EVIDENCE

GENERAL AGRICULTURE EVIDENCE

Evidence is provided for the three general agricultural uses is provided below.

Poultry water use:

- The number of chicken crops a year is shown in the invoice for bird purchases for 2017
- The Environmental Permit shows the number of permitted chicken houses on the farm.

Sheep and lamb water use:

- Number of sheep in 2017
- Number of lambs sold in 2017.

Agrochemical Spraying:

- Cropping areas for 2017.

Date: 24/07/2019
Time: 13:48:07

Dumbles Poultry Limited
Customer Activity (Summary)

Page: 1

Date From: 01/01/2018
Date To: 01/02/2018
Inc b/fwd transaction: No
Exc later payment: No

Customer From: SUNVALLE
Customer To: SUNVALLE
Transaction From: 1
Transaction To: 99,999,999

**** NOTE: All report values are shown in Base Currency, unless otherwise indicated ****

A/C: SUNVALLE Name: Sun Valley Foods Ltd

Contact:

Tel: 01432 362 138

No	Items	Type	Date	Ref	Details	Value	O/S	Debit	Credit
2879	2	SI	08/01/2018	2028	Live Birds	317,013.24	0.00	317,013.24	
2881	1	SI	08/01/2018	BACS	Pay Adjustment	3,391.53	0.00	3,391.53	
2882	2	SI	08/01/2018	2028	New Build Premium	10,442.21	0.00	10,442.21	
2884	2	SC	08/01/2018	2028	Liveweight Adjustment	1,726.78	0.00		1,726.78
2894	1	SR	22/01/2018	Sunvalley	Sales Receipt	82,149.10	0.00		82,149.10
						<u>246,971.10</u>	<u>0.00</u>	<u>330,846.98</u>	<u>83,875.88</u>
Amount Outstanding						0.00			
Amount Paid this period						82,149.10			
Credit Limit £						0.00			

Date: 24/07/2019
Time: 13:44:54

Dumbles Poultry Limited **Customer Activity (Summary)**

Page: 1

Date From: 01/01/2017
Date To: 31/12/2017
Inc b/fwd transaction: No
Exc later payment: No

Customer From: SUNVALLE
Customer To: SUNVALLE
Transaction From: 1
Transaction To: 99,999,999

**** NOTE: All report values are shown in Base Currency, unless otherwise indicated ****

A/C: SUNVALLE		Name: Sun Valley Foods Ltd		Contact:		Tel: 01432 362 138			
No	Items	Type	Date	Ref	Details	Value	O/S	Debit	Credit
1998	1	SA	04/01/2017	Cargill	Payment on Account	76,975.44	0.00		76,975.44
2015	1	SR	04/01/2017	CONTRA	Contra Receipt	263,836.01	0.00		263,836.01
2102	4	SI	06/02/2017	cycle 2021	Live Birds	352,590.53	0.00	352,590.53	
2106	2	SC	06/02/2017	cycle2021	Liveweight Adjustment	3,543.77	0.00		3,543.77
2117	1	SR	21/02/2017	Cargill	Sales Receipt	77,127.69	0.00		77,127.69
2118	1	SD	22/02/2017		Sales Discount	0.10	0.00		0.10
2119	1	SR	22/02/2017	CONTRA	Contra Receipt	271,919.07	0.00		271,919.07
2191	5	SI	24/03/2017	2022	Live Birds	340,882.27	0.00	340,882.27	
2203	1	SR	05/04/2017	Sun Valley	Sales Receipt	90,468.05	0.00		90,468.05
2204	1	SR	06/04/2017	CONTRA	Contra Receipt	250,414.22	0.00		250,414.22
2306	4	SI	10/05/2017	2023	Live Birds	344,747.45	0.00	344,747.45	
2310	2	SC	10/05/2017	2023	Liveweight Adjustment	1,565.05	0.00		1,565.05
2321	1	SR	23/05/2017	Cragill	Sales Receipt	68,326.70	0.00		68,326.70
2323	1	SR	24/05/2017	CONTRA	Contra Receipt	274,855.70	0.00		274,855.70
2419	5	SI	29/06/2017	2024	Live Birds	338,854.58	0.00	338,854.58	
2424	1	SC	29/06/2017	2024	Full Crop Penalty	125.00	0.00		125.00
2432	1	SR	11/07/2017	SunValley	Sales Receipt	73,122.09	0.00		73,122.09
2433	1	SR	12/07/2017	CONTRA	Contra Receipt	265,607.49	0.00		265,607.49
2522	1	SI	17/07/2017	2024	Thin weight adjustment crop	3,316.25	0.00	3,316.25	
2523	1	SR	10/08/2017	Sun valley	Sales Receipt	3,316.25	0.00		3,316.25
2548	1	SA	23/08/2017	Cargill	Payment on Account	79,658.04	0.00		79,658.04
2554	5	SI	17/08/2017	2025	Live Birds	339,089.03	0.00	339,089.03	
2559	1	SC	17/08/2017	2025	Full Crop Penalty	50.00	0.00		50.00
2569	1	SR	30/08/2017	CONTRA	Contra Receipt	259,380.99	0.00		259,380.99
2662	5	SI	04/10/2017	2026	Live Birds	341,512.98	0.00	341,512.98	
2675	1	SR	16/10/2017	Sun Valley	Sales Receipt	77,884.04	0.00		77,884.04
2676	1	SR	27/10/2017	CONTRA	Contra Receipt	263,628.94	0.00		263,628.94
2735	5	SI	20/11/2017	2027	Live Bird Purchase	335,373.93	0.00	335,373.93	
2740	1	SC	20/11/2017	2027	Full Crop Penalty	50.00	0.00		50.00
2751	1	SR	05/12/2017	Cargill	Sales Receipt	76,919.05	0.00		76,919.05
2752	1	SR	15/12/2017	CONTRA	Contra Receipt	258,404.88	0.00		258,404.88
						<u>-340,811.55</u>	<u>0.00</u>	<u>2,396,367.02</u>	<u>2,737,178.57</u>
Amount Outstanding						0.00			
Amount Paid this period						2,731,844.65			
Credit Limit £						0.00			

Dumbles Poultry Farm

Permit number EPR/HP3936MT

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

Dumbles poultry farm is located at National Grid Reference SO 3406 7283 and is operated by a partnership. The site has six poultry houses that accommodate 250,000 broiler chickens.

All houses on site are ventilated via side fans with ridge air inlets, with additional ventilation provided by gable end fans used in periods of hot weather.

Roof water from all six houses and water draining from the yard drains to a dry ditch to the east of the site. This ditch is not a flowing ditch and acts as a soakaway. Water from the wash out of all of the houses will be contained in underground sealed tanks as per existing operations at the site.

Releases from this type of installation may include releases of ammonia and dust to air, releases to controlled water, land and groundwater and releases of odour and noise.

Two Sites of Special Scientific Interest (SSSI), two Special Areas of Conservation (SAC), five Local Wildlife Sites (LWS) and three Ancient Woodlands (AW) are located respectively within 10, 5 and 2 km radii of the site.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application received	Duly made 22/12/06	Application for intensive farming installation.
Additional information received	11/09/07	
Permit determined EPR/HP3936MT	31/03/08	Original permit issued to Mr J. Watkins, Mrs G. Watkins and Mr W. Watkins.
Application EPR/HP3936MT/V002	Duly made 07/06/10	Streamlined application to increase broiler places from 152,000 to 180,000.
Variation determined EPR/HP3936MT	23/06/10	Varied permit issued.

Status log of the permit

Description	Date	Comments
Application received EPR/HP3936MT/V003	Duly made 08/08/12	Application to expand to six poultry houses and to increase broiler places from 180,000 to 250,000.
Variation determined EPR/HP3936MT	18/10/12	Varied permit issued.
Variation issued EPR/HP3936MT/V004	15/06/18	Natural Resources Wales Variation and consolidation following the implementation of the Intensive Farming BAT conclusions.

End of introductory note

Bydd yr adran hon yn eich helpu i berw nodyn eich stock ar ôl ynydd. This section will assist you in completing your Annual Inventory return							
Blwyddyn / Year	Nifer y Defaid Magu ac Wŷn Benyw sydd wedi cael hwrdd / Number of Breeding Sheep & Ewe Lambs put to the ram		Defaid Eraill / Other Sheep		Geifr / Goats	Cyfanswm / Total	Dyddiad eu Cofnodi / Date Entered
	Mamogiaid / Ewes	Wŷn benyw / Ewe Lambs	Hyrddod / Rams	Eraill / Others			
20 17	1329	124	24	131		1604	1/1/17
20							
20							
20							
20							
20							
20							
20							

Date: 19/08/2019

Time: 11:41:13

J WATKINS & SON

Page: 1

Customer Activity (Detailed)

Date From: 01/01/2017
 Date To: 31/12/2017
 Transaction From: 1
 Transaction To: 99,999,999
 Inc b/fwd transaction: No
 Exc later payment: No

Customer From:
 Customer To: ZZZZZZZZ
 N/C From:
 N/C To: 99999999
 Dept From: 0
 Dept To: 999

** NOTE: All report values are shown in Base Currency, unless otherwise indicated **

A/C: 2SISTERS Name: Kepak

Contact:

Tel:

No	Type	Date	Ref	N/C	Details	Dept	T/C	Value	O/S	Debit	Credit	V	B
28921	SA	15/08/2017	2 Sisters	1200	Payment on Account	0	T9	5,289.74			5,289.74	-	R
28928	SI	04/08/2017	216060	4031	60 Lambs to St Merry Meats	1	T9	5,538.14		5,538.14		-	-
28931	SR	23/08/2017	CONTRA	1200	Contra Receipt	0	T9	248.40			248.40	-	R
28933	SI	17/08/2017	1413127	4031	Sale of 40 Lambs	1	T9	3,517.56		3,517.56		-	-
29009	SR	30/08/2017	2 Sisters	1200	Sales Receipt	0	T9	3,351.96			3,351.96	-	R
29010	SR	30/08/2017	CONTRA	1200	Contra Receipt	0	T9	165.60			165.60	-	R
29105	SI	12/09/2017	255091	4031	Sale of 50 lambs	1	T9	4,038.66		4,038.66		-	-
29151	SR	22/09/2017	2 Sisters	1200	Sales Receipt	0	T9	3,814.50			3,814.50	-	R
29152	SR	26/09/2017	CONTRA	1200	Contra Receipt	0	T9	224.16			224.16	-	R
29234	SA	12/10/2017	2 Sisters	1200	Payment on Account	0	T9	3,689.76			3,689.76	-	R
29266	SI	02/10/2017	275093	4031	50 Fat Lambs	1	T9	3,896.76		3,896.76		-	-
29268	SI	04/10/2017	277082	4031	Sale of 50 Lambs	1	T9	3,948.49		3,948.49		-	-
29270	SR	13/10/2017	CONTRA	1200	Contra Receipt	0	T9	207.00			207.00	-	R
29286	SR	16/10/2017	2 Sisters	1200	Sales Receipt	0	T9	3,741.49			3,741.49	-	R
29287	SR	17/10/2017	CONTRA	1200	Contra Receipt	0	T9	207.00			207.00	-	R
29342	SA	26/10/2017	2 Sisters	1200	Payment on Account	0	T9	2,568.78			2,568.78	-	R
29343	SA	27/10/2017	2 Sisters	1200	Payment on Account	0	T9	8,345.67			8,345.67	-	R
29357	SI	16/10/2017	289108	4031	sale of 34 Lambs	1	T9	2,709.54		2,709.54		-	-
29360	SI	17/10/2017	290008	4031	sale of 111 fat lambs	1	T9	8,805.21		8,805.21		-	-
29362	SR	27/10/2017	CONTRA	1200	Contra Receipt	0	T9	600.30			600.30	-	R
29395	SI	01/11/2017	305052	4031	50 Fat Lambs	1	T9	4,061.92		4,061.92		-	-
29411	SI	17/11/2017	321096	4031	Sale of 65 fat Lambs	1	T9	5,256.35		5,256.35		-	-
29420	SI	09/11/2017	313057	4031	SALE OF 110 FAT LAMBS	1	T9	8,916.33		8,916.33		-	-
29482	SR	11/11/2017	2 Sisters	1200	Sales Receipt	0	T9	3,854.92			3,854.92	-	R
29483	SR	21/11/2017	2 Sisters	1200	Sales Receipt	0	T9	8,460.93			8,460.93	-	R
29571	SR	28/11/2017	2 Sisters	1200	Sales Receipt	0	T9	4,987.25			4,987.25	-	R
29572	SR	29/11/2017	CONTRA	1200	Contra Receipt	0	T9	931.50			931.50	-	R
29651	SI	15/12/2017	349118	4031	50 Lambs	1	T9	4,061.26		4,061.26		-	-
29653	SR	27/12/2017	2 Sisters	1200	Sales Receipt	0	T9	3,842.26			3,842.26	-	R
29732	SA	08/12/2017	2 Sisters	1200	Payment on Account	0	T9	9,932.80			9,932.80	-	R
30045	SI	28/11/2017	332110	4031	Sale of 50 lambs	1	T9	4,174.55		4,174.55		-	-
30047	SI	28/11/2017	332117	4031	Sale of 80 Lambs	1	T9	6,296.45		6,296.45		-	-
Totals:								<u>757.20</u>	<u>0.00</u>	<u>65,221.22</u>	<u>64,464.02</u>		

Amount Outstanding 0.00
 Amount Paid this period 64,464.02
 Credit Limit £ 0.00
 Turnover YTD 87,442.76

800 lambs.

Date: 19/08/2019

Time: 11:41:13

J WATKINS & SON

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Customer Activity (Detailed)

A/C:	MCC	Name:		McCartneys Autioneers		Contact:		Tel:					
No	Type	Date	Ref	N/C	Details	Dept	T/C	Value	O/S	Debit	Credit	V	B
27600	SR	04/01/2017	O	1200	Sales Receipt	0	T9	3,608.70			3,608.70	-	R
27601	SR	04/01/2017	CONTRA	1200	Contra Receipt	0	T9	199.53			199.53	-	R
27657	SR	04/01/2017	P	1200	Sales Receipt	0	T9	910.98			910.98	-	R
27658	SD	04/01/2017	P	4009	Sales Discount	0	T9	0.01			0.01	-	-
27659	SR	04/01/2017	CONTRA	1200	Contra Receipt	0	T9	34.02			34.02	-	R
27800	SI	13/01/2017	235147	4031	51 Store Sheep	1	T9	2,840.00		2,840.00		-	-
27801	SI	16/01/2017	235351	4032	18 Butchers Ewes, 52 finished	1	T9	5,030.16		5,030.16		-	-
27804	SR	24/01/2017	S	1200	Sales Receipt	0	T9	4,755.31			4,755.31	-	R
27805	SR	24/01/2017	S	1200	Sales Receipt	0	T9	2,736.30			2,736.30	-	R
27806	SR	24/01/2017	CONTRA	1200	Contra Receipt	0	T9	378.55			378.55	-	R
28085	SA	06/03/2017	McCartneys	1200	Payment on Account	0	T9	781.32			781.32	-	R
28177	SI	23/02/2017	000005	4032	15 Cull Ewes, - Knighton	1	T9	840.00		840.00		-	-
28179	SR	11/04/2017	CONTRA	1200	Contra Receipt	0	T9	58.68			58.68	-	R
28539	SI	05/06/2017	00061	4031	Sale of 34 Lambs	1	T9	3,265.29		3,265.29		-	-
28541	SI	12/06/2017	000057	4031	Sale of 23 lambs	1	T9	1,957.30		1,957.30		-	-
28547	SR	14/06/2017	McCartneys	1200	Sales Receipt	0	T9	3,104.26			3,104.26	-	R
28549	SR	21/06/2017	McCartneys	1200	Sales Receipt	0	T9	1,856.07			1,856.07	-	R
28550	SR	22/06/2017	CONTRA	1200	Contra Receipt	0	T9	262.26			262.26	-	R
28672	SI	03/07/2017	00055	4031	11 Lambs - at Ludlow	1	T9	773.30		773.30		-	-
28676	SR	12/07/2017	McCartneys	1200	Sales Receipt	0	T9	732.57			732.57	-	R
28677	SR	12/07/2017	CONTRA	1200	Contra Receipt	0	T9	40.73			40.73	-	R
28691	SI	10/07/2017	000056	4031	41 Finished Lambs	1	T9	3,453.84		3,453.84		-	-
28745	SI	31/07/2017	000058	4031	18 Finished Lambs - Ludlow	1	T9	1,177.40		1,177.40		-	-
28794	SR	18/07/2017	McCartneys	1200	Sales Receipt	0	T9	3,279.08			3,279.08	-	R
28827	SR	03/08/2017	CONTRA	1200	Contra Receipt	0	T9	174.76			174.76	-	R
28839	SR	09/08/2017	McCartneys	1200	Sales Receipt	0	T9	1,114.30			1,114.30	-	R
28840	SR	11/08/2017	CONTRA	1200	Contra Receipt	0	T9	63.10			63.10	-	R
28904	SI	07/08/2017	000057	4031	47 Finished Lambs	1	T9	3,687.70		3,687.70		-	-
28906	SR	16/08/2017	McCartneys	1200	Sales Receipt	0	T9	3,495.87			3,495.87	-	R
28907	SR	23/08/2017	CONTRA	1200	Contra Receipt	0	T9	191.83			191.83	-	R
29103	SI	11/09/2017	000059	4032	34 Cull Ewes	1	T9	2,043.50		2,043.50		-	-
29146	SR	20/09/2017	MCC Ludlow	1200	Sales Receipt	0	T9	1,915.62			1,915.62	-	R
29147	SR	20/09/2017	CONTRA	1200	Contra Receipt	0	T9	127.88			127.88	-	R
Totals:								-4,753.24	0.00	25,068.49	29,821.73		
Amount Outstanding					0.00								
Amount Paid this period					29,821.72								
Credit Limit £					0.00								
Turnover YTD					18,793.60								

A/C: MCC KING		Name: McCartneys Kington		Contact:		Tel: 01544 230316	
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No	Type	Date	Ref	N/C	Details	Dept	T/C	Value	O/S	Debit	Credit	V	B
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*** No Transactions

277 lambs.

Date: 19/08/2019

Time: 11:41:13

J WATKINS & SON

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Customer Activity (Detailed)

A/C: MCKKNIGH Name: McCartneys Knighton

Contact: Jenny Layton

Tel: 01547 528 621

No	Type	Date	Ref	N/C	Details	Dept	T/C	Value	O/S	Debit	Credit	V	B
27590	SR	04/01/2017	O	1200	Sales Receipt	0	T9	1,810.40			1,810.40	-	R
27591	SR	04/01/2017	CONTRA	1200	Contra Receipt	0	T9	105.20			105.20	-	R
27595	SR	04/01/2017	O	1200	Sales Receipt	0	T9	1,830.66			1,830.66	-	R
27596	SR	04/01/2017	CONTRA	1200	Contra Receipt	0	T9	74.34			74.34	-	R
27605	SR	04/01/2017	O	1200	Sales Receipt	0	T9	800.44			800.44	-	R
27606	SR	04/01/2017	CONTRA	1200	Contra Receipt	0	T9	48.56			48.56	-	R
27779	SI	05/01/2017	234645	4032	19 Hoggets	1	T9	1,387.00		1,387.00		-	-
27781	SR	13/01/2017	Q	1200	Sales Receipt	0	T9	1,312.56			1,312.56	-	R
27782	SR	13/01/2017	CONTRA	1200	Contra Receipt	0	T9	74.44			74.44	-	R
27833	SI	20/01/2017	235785	4032	Sale of 2 Store Sheep	1	T9	132.00		132.00		-	-
27835	SR	02/02/2017	U	1200	Sales Receipt	0	T9	123.51			123.51	-	R
27838	SR	03/02/2017	CONTRA	1200	Contra Receipt	0	T9	8.49			8.49	-	R
28466	SA	30/05/2017	MCC - Sale	1200	Payment on Account	0	T9	2,203.03			2,203.03	-	R
28496	SI	18/05/2017	000007	4031	25 Fat Lambs	1	T9	2,325.00		2,325.00		-	-
28498	SR	09/06/2017	CONTRA	1200	Contra Receipt	0	T9	121.67			121.67	-	R
28500	SR	29/05/2017	McCartneys	1200	Sales Receipt	0	T9	0.30			0.30	-	R
28538	SI	01/06/2017	000006	4031	Sale of 36 Lambs	1	T9	3,376.80		3,376.80		-	-
28540	SI	08/06/2017	000008	4031	Sale of 36 Lambs	1	T9	3,384.00		3,384.00		-	-
28546	SR	12/06/2017	McCartneys	1200	Sales Receipt	0	T9	3,202.03			3,202.03	-	R
28548	SR	19/06/2017	McCartneys	1200	Sales Receipt	0	T9	3,208.94			3,208.94	-	R
28552	SR	22/06/2017	CONTRA	1200	Contra Receipt	0	T9	349.83			349.83	-	R
28580	SI	29/06/2017	000008	4031	82 Finished Lambs	1	T9	6,886.00		6,886.00		-	-
28649	SR	10/07/2017	MCC	1200	Sales Receipt	0	T9	6,524.90			6,524.90	-	R
28650	SR	10/07/2017	CONTRA	1200	Contra Receipt	0	T9	361.10			361.10	-	R
28674	SI	06/07/2017	000006	4031	78 Finished lambs	1	T9	7,147.00		7,147.00		-	-
28729	SI	13/07/2017	000011	4031	36 Finished Lambs	1	T9	3,210.80		3,210.80		-	-
28733	SR	17/07/2017	McCartneys	1200	Sales Receipt	0	T9	6,779.35			6,779.35	-	R
28734	SR	17/07/2017	CONTRA	1200	Contra Receipt	0	T9	367.65			367.65	-	R
28801	SR	24/07/2017	McCartneys	1200	Sales Receipt	0	T9	3,042.72			3,042.72	-	R
28829	SR	03/08/2017	CONTRA	1200	Contra Receipt	0	T9	168.08			168.08	-	R
29016	SI	24/08/2017	000004	4031	Sale of 22 Lambs	1	T9	1,712.00		1,712.00		-	-
29052	SR	04/09/2017	McCartneys	1200	Sales Receipt	0	T9	1,617.94			1,617.94	-	R
29053	SR	05/09/2017	CONTRA	1200	Contra Receipt	0	T9	94.06			94.06	-	R
29063	SI	31/08/2017	000012	4031	32 Finished lambs, 1 x	1	T9	2,844.00		2,844.00		-	-
29098	SR	11/09/2017	McCartneys	1200	Sales Receipt	0	T9	2,693.00			2,693.00	-	R
29099	SR	13/09/2017	CONTRA	1200	Contra Receipt	0	T9	151.00			151.00	-	R
29154	SI	21/09/2017	000008	4032	61 Buthers Ewes	1	T9	3,544.50		3,544.50		-	-
29177	SR	02/10/2017	McCartneys	1200	Sales Receipt	0	T9	3,310.73			3,310.73	-	R
29292	SR	17/10/2017	CONTRA	1200	Contra Receipt	0	T9	233.77			233.77	-	R
29337	SI	12/10/2017	000004	4031	44 Lambs	1	T9	3,344.00		3,344.00		-	-
29338	SI	12/10/2017	000004	4032	46 Cull Ewes	1	T9	2,492.00		2,492.00		-	-
29339	SR	23/10/2017	MCC	1200	Sales Receipt	0	T9	5,489.80			5,489.80	-	R
29340	SR	27/10/2017	CONTRA	1200	Contra Receipt	0	T9	346.20			346.20	-	R
29405	SI	09/11/2017	000009	4031	47 Lambs	1	T9	3,525.00		3,525.00		-	-
29406	SI	09/11/2017	000009	4032	40 Cull Ewes	1	T9	2,269.00		2,269.00		-	-
29408	SR	20/11/2017	MCC	1200	Sales Receipt	0	T9	5,454.17			5,454.17	-	R
29409	SR	23/11/2017	CONTRA	1200	Contra Receipt	0	T9	339.83			339.83	-	R
29591	SI	30/11/2017	000010	4032	Sale of 10 Cull Ewes	1	T9	400.00		400.00		-	-
29592	SR	11/12/2017	McCartneys	1200	Sales Receipt	0	T9	367.36			367.36	-	R
29594	SR	01/12/2017	CONTRA	1200	Contra Receipt	0	T9	32.64			32.64	-	R
29625	SI	01/12/2017	000009	4031	20 tEX mIXED lAMBS	1	T9	1,150.00		1,150.00		-	-
29627	SI	07/12/2017	000007	4031	35 Lambs	1	T9	2,485.00		2,485.00		-	-
29648	SI	15/12/2017	000005	4031	29 Mixed Lambs	1	T9	1,639.80		1,639.80		-	-
29650	SR	27/12/2017	McCartneys	1200	Sales Receipt	0	T9	1,575.08			1,575.08	-	R
29748	SR	14/12/2017	MCCARTNEY	1200	Sales Receipt	0	T9	1,103.56			1,103.56	-	R
29753	SR	18/12/2017	McCartneys	1200	Sales Receipt	0	T9	2,347.06			2,347.06	-	R
29763	SA	27/12/2017	McCartneys	1200	Payment on Account	0	T9	2,778.26			2,778.26	-	R
30690	SI	14/12/2017	000005	4031	sale of 38 Lambs	1	T0	2,933.60		2,933.60		R	-
Totals:								<u>-4,265.16</u>	<u>0.00</u>	<u>56,187.50</u>	<u>60,452.66</u>		

Amount Outstanding 0.00
Amount Paid this period 60,452.66
Credit Limit £ 0.00
Turnover YTD 35,524.80

End of Report

560 lambs.

Total = 1637 lambs.

CROASE FARM PARTNERSHIP, CROASE FARM PARTNERSHIP, KNIGHTON, United Kingdom

Crop	Variety	Field	Field Block	Crop Block	Cropped Area (ha)
Spr Wheat	Belepi	CROASE 4 BOG			3.10
Total Crop (Spr Wheat) (6.80%)					3.10
W Oilseed Rape	Crome	CROASE 3 LH			3.00
	Crome	CROASE 5 FAR FIELD			5.30
	Crome	CROASE 6 CALIFORNIA			4.40
	Crome	new field			9.71
Total Crop (W Oilseed Rape) (49.19%)					22.41
W Wheat	Graham	CROASE 1 LH			3.20
	Graham	CROASE 2 LH			4.45
	Graham	CROASE 7 CHICKEN			12.40
Total Crop (W Wheat) (44.01%)					20.05

Total Cropped Area 45.56

Heartsease Farm , Heartsease Farm, Knighton, Powys, LD7 1LU, United Kingdom
Tel: 01547530220

Crop	Variety	Field	Field Block	Crop Block	Cropped Area (ha)
Grassland	-	grass with thistles			4.00
	-	GRASSLAND with Docks			10.00
Total Crop (Grassland) (8.43%)					14.00
Spr Oats	Canyon	BARN PIECE			5.00
	Canyon	HAGLEY 1			9.60
	Canyon	over river			6.80
	Canyon	RIVER MEADOW			5.00
Total Crop (Spr Oats) (15.90%)					26.40
W Oilseed Rape	Campus	Pipe Aston 4054			6.54
	Campus	Pipe Aston 4817			10.16
	Campus	Pipe Aston 4997			8.08
	Campus	Pipe Aston 5677			7.07
	Campus	Pipe Aston 5941			4.05
	Campus	Pipe Aston 6137			3.15
	Campus	Pipe Aston 7347			2.73
	Campus	Pipe Aston 7478			5.10
	Campus	Pipe Aston 8863			2.54
	Campus	Pipe Aston 8988			6.41
Total Crop (W Oilseed Rape) (33.63%)					55.83
W Wheat	Costello	HAGLEY 4 A			2.40
	Costello	HAGLEY 6			13.00
	Costello	HAGLEY 7			10.90
	Costello	HAGLEY 8			1.90
Total Variety (Costello)					28.20
W Wheat	Graham	BROADWARD			12.00
	Graham	HAGLEY 2			12.00
	Graham	HAGLEY 3			7.90
	Graham	HAGLEY 5			5.70
	Graham	PRESTEIGNE			4.00
Total Variety (Graham)					41.60
Total Crop (W Wheat) (42.04%)					69.80

Total Cropped Area 166.03

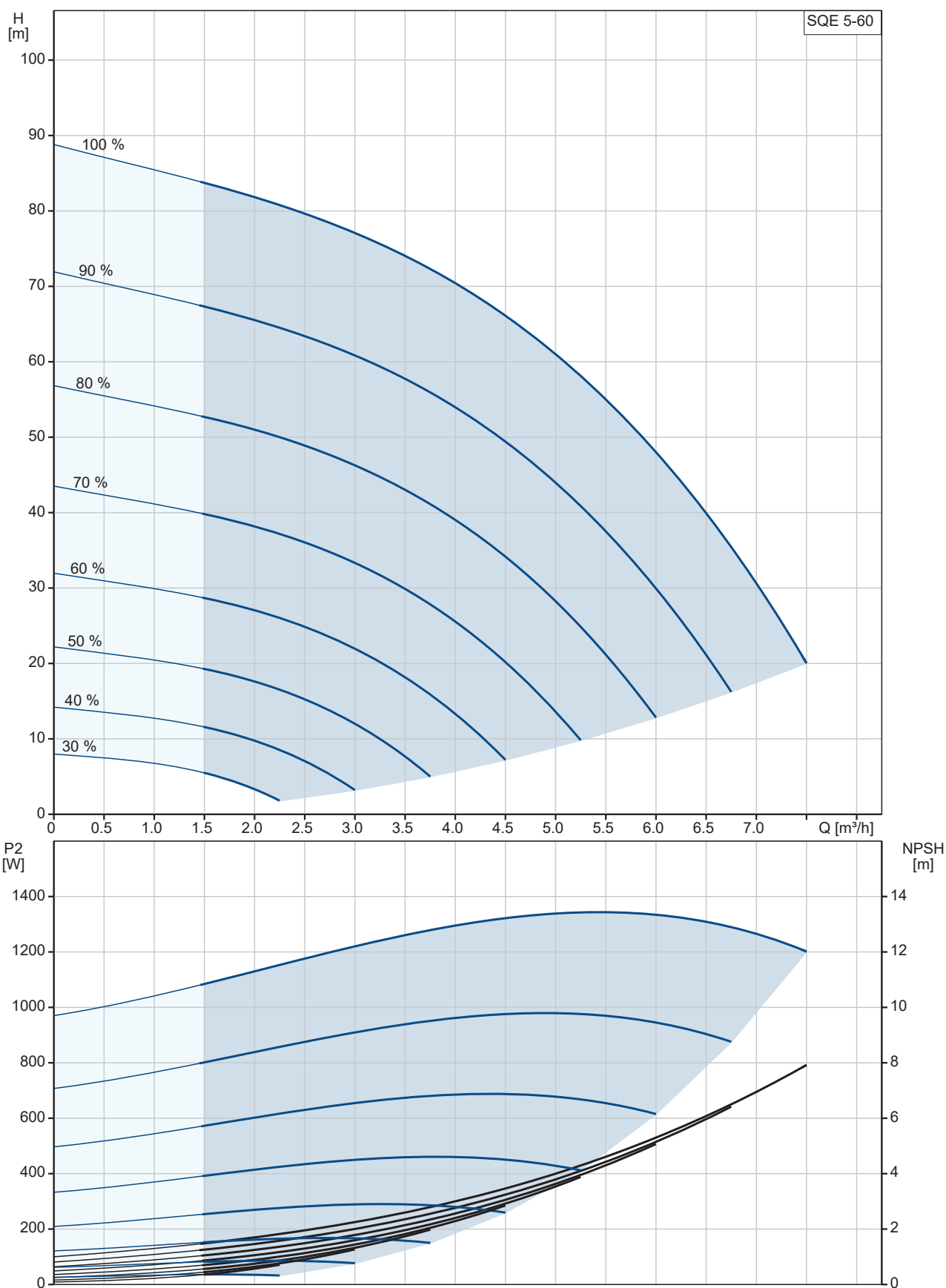
STANAGE FARM, STANAGE PARK , KNIGHTON , LD7 1LT, United Kingdom
Tel: 01547530300

Crop	Variety	Field	Field Block	Crop Block	Cropped Area (ha)
Spr Oats	Canyon	19 Acres 6487 (6487)			7.67
	Canyon	Above Milebrook House 8657 (8657)			6.68
	Canyon	Big Pound Field 0894 (0894)			4.00
	Canyon	Dry Brook 8462 (8462)			6.00
	Canyon	Flat Field 5700/5686 (5700)			1.70
	Canyon	Gravel Pits 6172 (6172)			3.54
	Canyon	Hendre 7516 6930 (7516 6930)			4.92
	Canyon	Little pound Field 2786 (2786)			2.41
	Canyon	Orchard Field 4584 (4584)			5.50
	Canyon	Park Field 3867 (3867)			2.00
	Canyon	The Lawn Meadow 4560 (4560)			6.48
	Canyon	Top Flat Field 0992 (0992)			3.80
	Canyon	Top Pasture 8985 (8985)			5.05
Total Crop (Spr Oats) (70.96%)					59.75
W Wheat	Costello	Cubbage Brums 7716 (7716)			7.70
	Costello	Heartsease Meadow 8573 (8573)			4.45
	Costello	Lodge Piece 0246 (0246)			4.18
	Costello	Park Field 3867 (3867)			2.86
	Costello	Park Meadow 0471 (0471)			5.26
Total Crop (W Wheat) (29.04%)					24.45

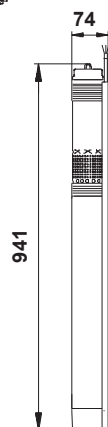
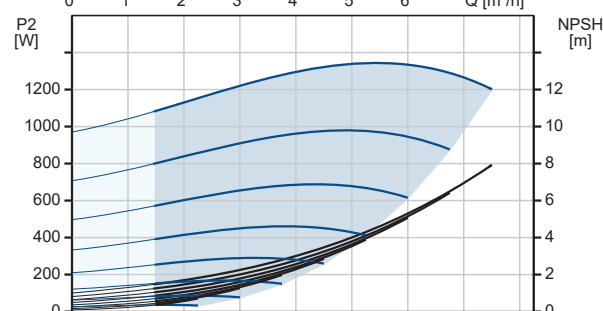
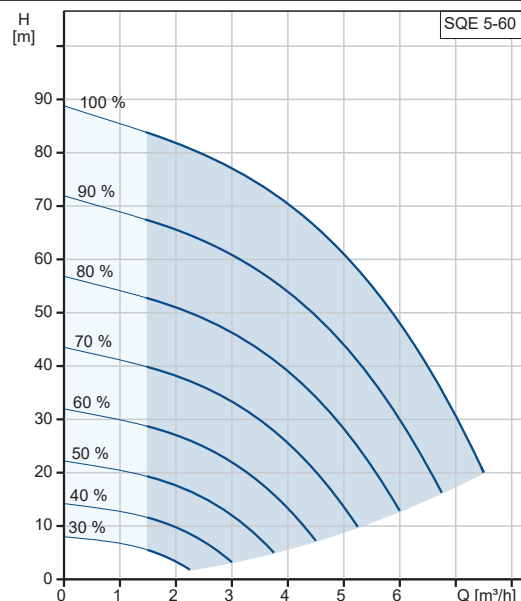
Total Cropped Area 84.20

APPENDIX I
PUMP SPECIFICATIONS

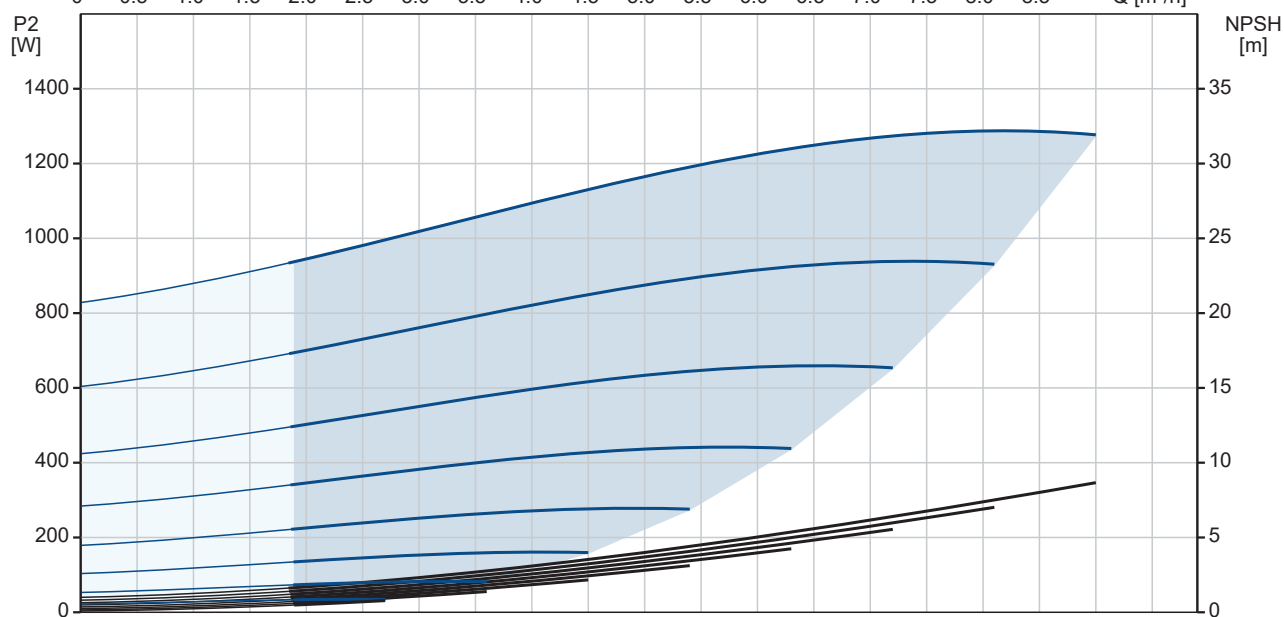
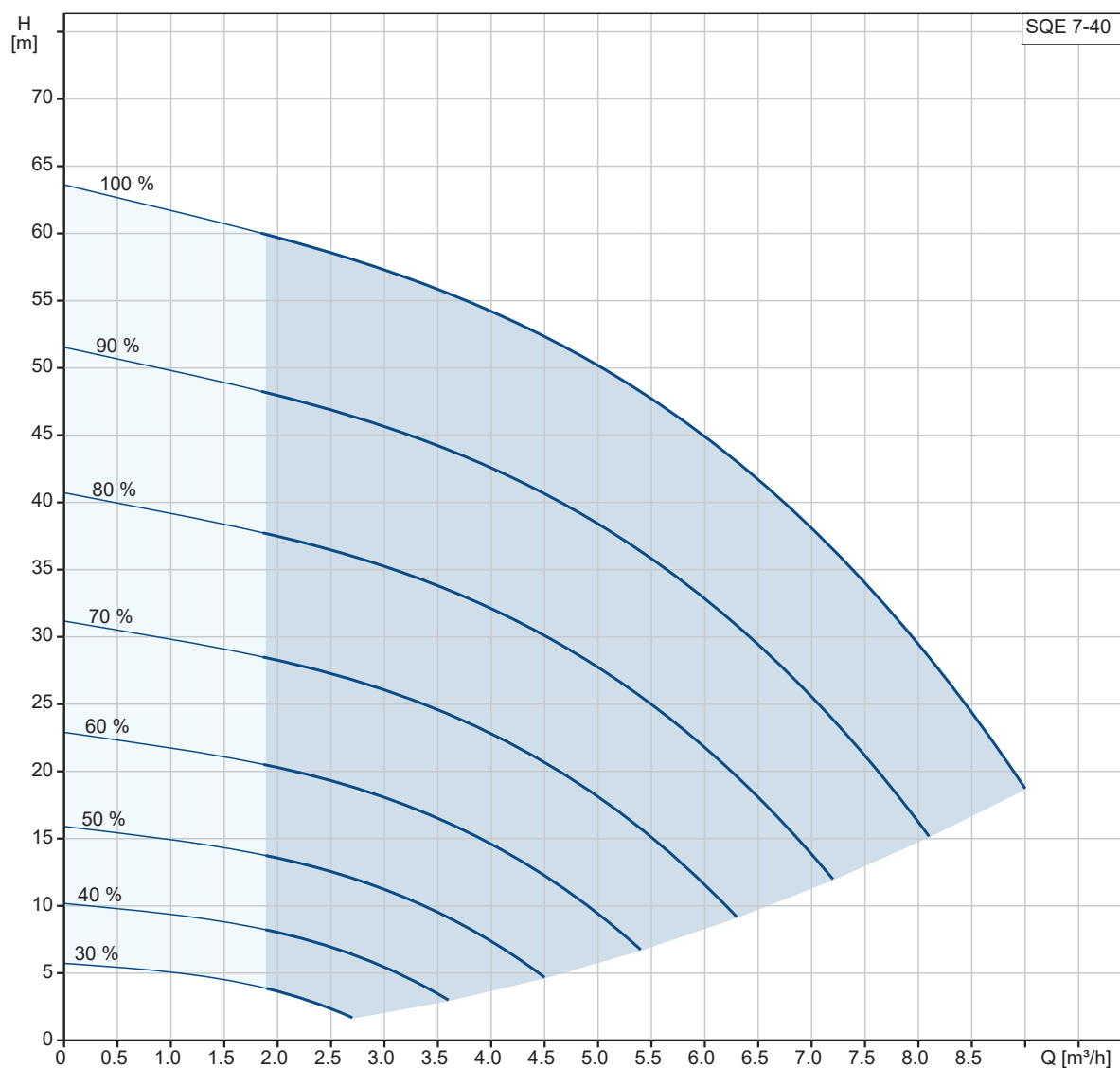
96510167 SQE 5-60 50 Hz



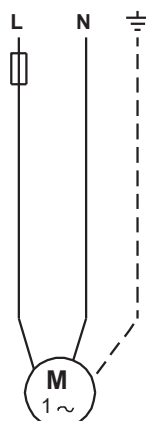
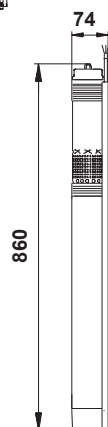
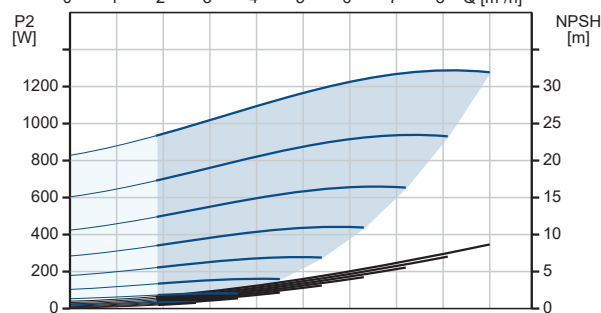
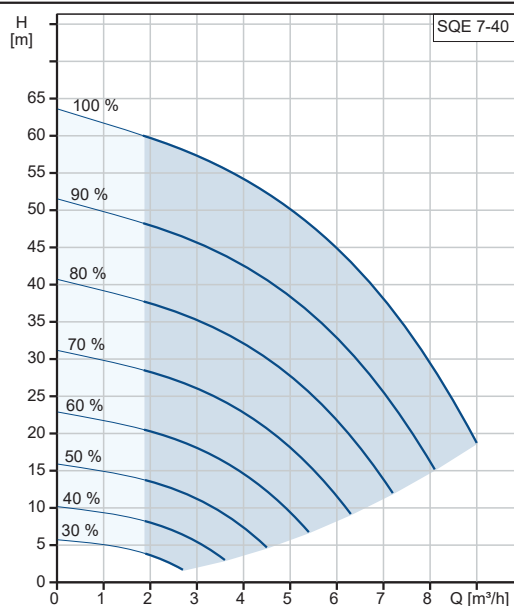
Description	Value
General information:	
Product name:	SQE 5-60
Product No:	96510167
EAN number:	5700396502755
Technical:	
Pump speed on which pump data are based:	10700 rpm
Rated flow:	5 m³/h
Rated head:	61 m
Stages:	5
Approvals on motor nameplate:	CE,UL,CUL
Curve tolerance:	ISO9906:2012 3B
Pump No:	96080411
Model:	B
Valve:	pump with built-in non-return valve
Materials:	
Pump:	Polyamide / Stainless steel
	DIN W.-Nr. 1.4301
	AISI 304
Impeller:	Polyamide
Motor:	Stainless steel
	DIN W.-Nr. 1.4301
	AISI 304
Installation:	
Pump outlet:	Rp 1 1/2
Minimum borehole diameter:	76 mm
Liquid:	
Pumped liquid:	Water
Maximum liquid temperature:	35 °C
Max liquid t at 0.15 m/sec:	35 °C
Selected liquid temperature:	20 °C
Density at selected liquid temperature:	998.2 kg/m³
Electrical data:	
Motor type:	MSE3
Power input - P1:	2.32 kW
Rated power - P2:	1.55 kW
Mains frequency:	50 Hz
Rated voltage:	1 x 200-240 V
Rated current:	11.2 A
Power factor:	1.00
Rated speed:	10700 rpm
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Motor protec:	Y
Thermal protec:	internal
Length of cable:	1.5 m
Motor No:	96160856
Controls:	
CU 300/CU 301:	communication with CU 300/CU 301 possible
Others:	
Net weight:	6.4 kg
Gross weight:	7.1 kg
Shipping volume:	0.011 m³
Sales region:	EU/S-AMREG/APREG
Danish VVS No.:	388445460



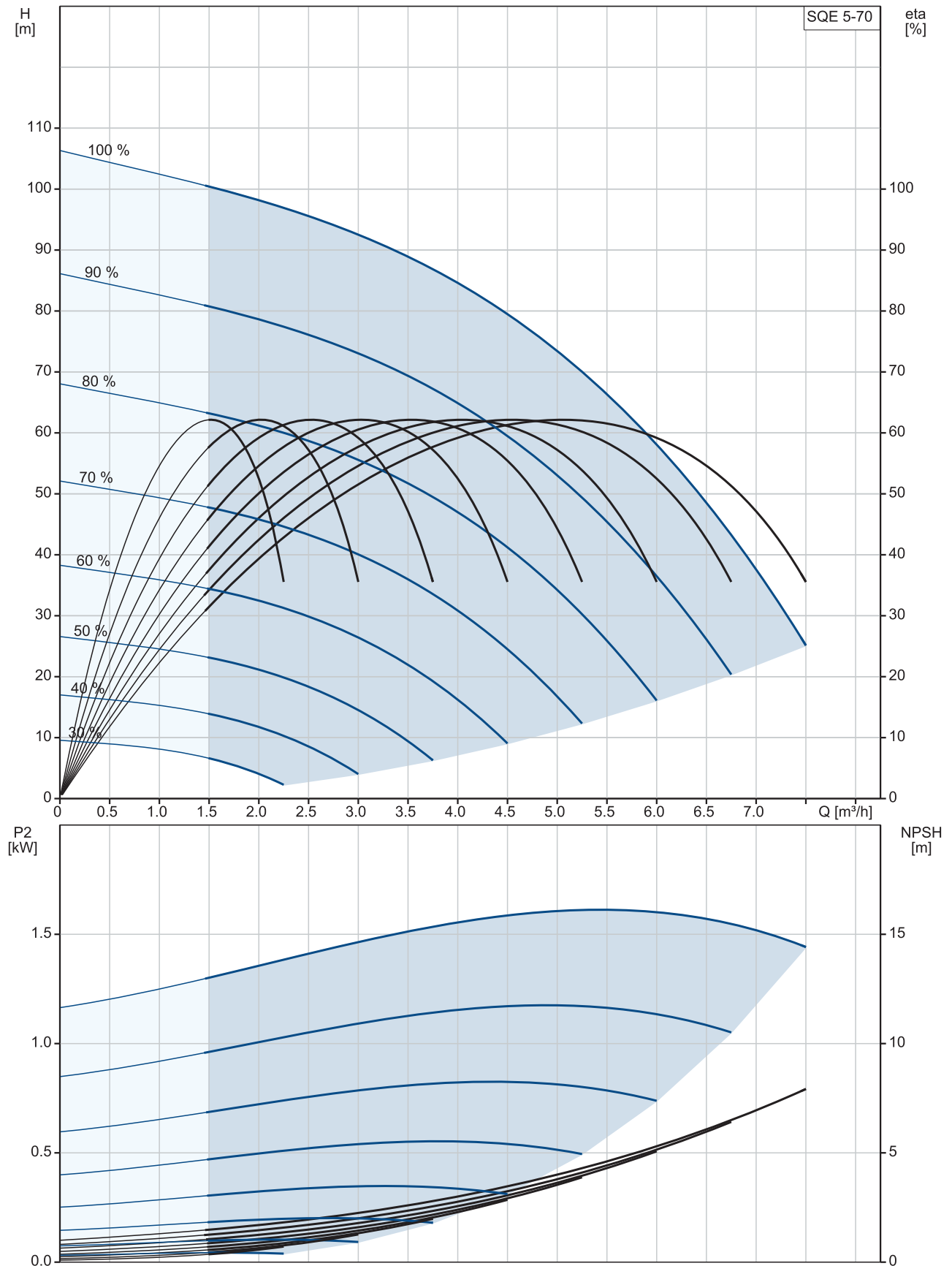
96160533 SQE 7-40 50 Hz



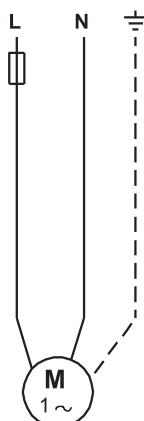
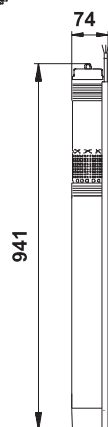
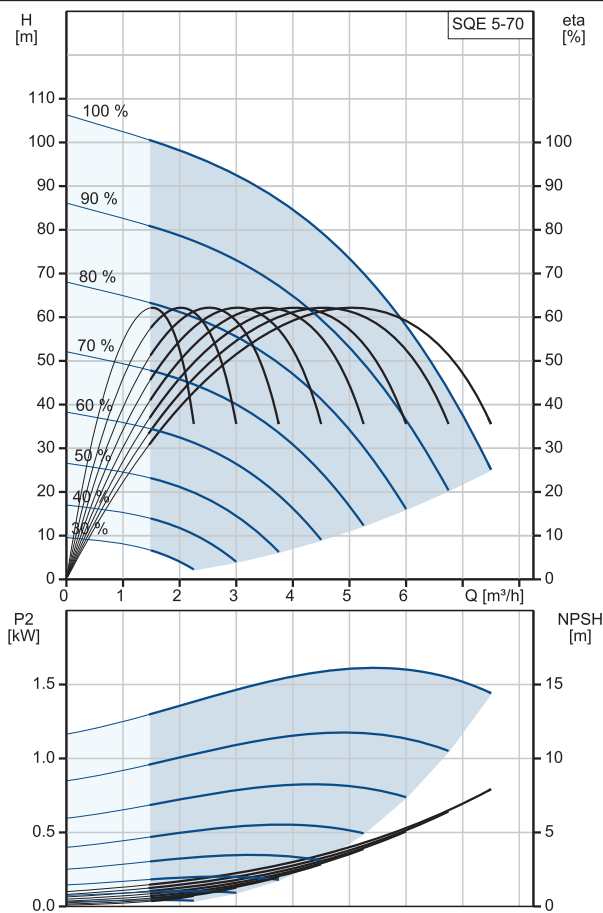
Description	Value
General information:	
Product name:	SQE 7-40
Product No:	96160533
EAN number:	5700398881070
Technical:	
Pump speed on which pump data are based:	10700 rpm
Rated flow:	7 m³/h
Rated head:	38 m
Stages:	3
Approvals on motor nameplate:	CE,UL,CUL
Curve tolerance:	ISO9906:2012 3B
Pump No:	96080401
Model:	B
Valve:	pump with built-in non-return valve
Materials:	
Pump:	Polyamide / Stainless steel
	DIN W.-Nr. 1.4301
	AISI 304
Impeller:	Polyamide
Motor:	Stainless steel
	DIN W.-Nr. 1.4301
	AISI 304
Installation:	
Pump outlet:	Rp 1 1/2
Minimum borehole diameter:	76 mm
Liquid:	
Pumped liquid:	Water
Maximum liquid temperature:	35 °C
Max liquid t at 0.15 m/sec:	35 °C
Selected liquid temperature:	20 °C
Density at selected liquid temperature:	998.2 kg/m³
Electrical data:	
Motor type:	MSE3
Power input - P1:	2.32 kW
Rated power - P2:	1.55 kW
Mains frequency:	50 Hz
Rated voltage:	1 x 200-240 V
Rated current:	11.2 A
Power factor:	1.00
Rated speed:	10700 rpm
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Motor protec:	Y
Thermal protec:	internal
Length of cable:	1.5 m
Cable kit:	Y
Motor No:	96160856
Controls:	
CU 300/CU 301:	communication with CU 300/CU 301 possible
Others:	
Net weight:	6.1 kg
Gross weight:	7.1 kg
Shipping volume:	0.01 m³
Sales region:	Australia



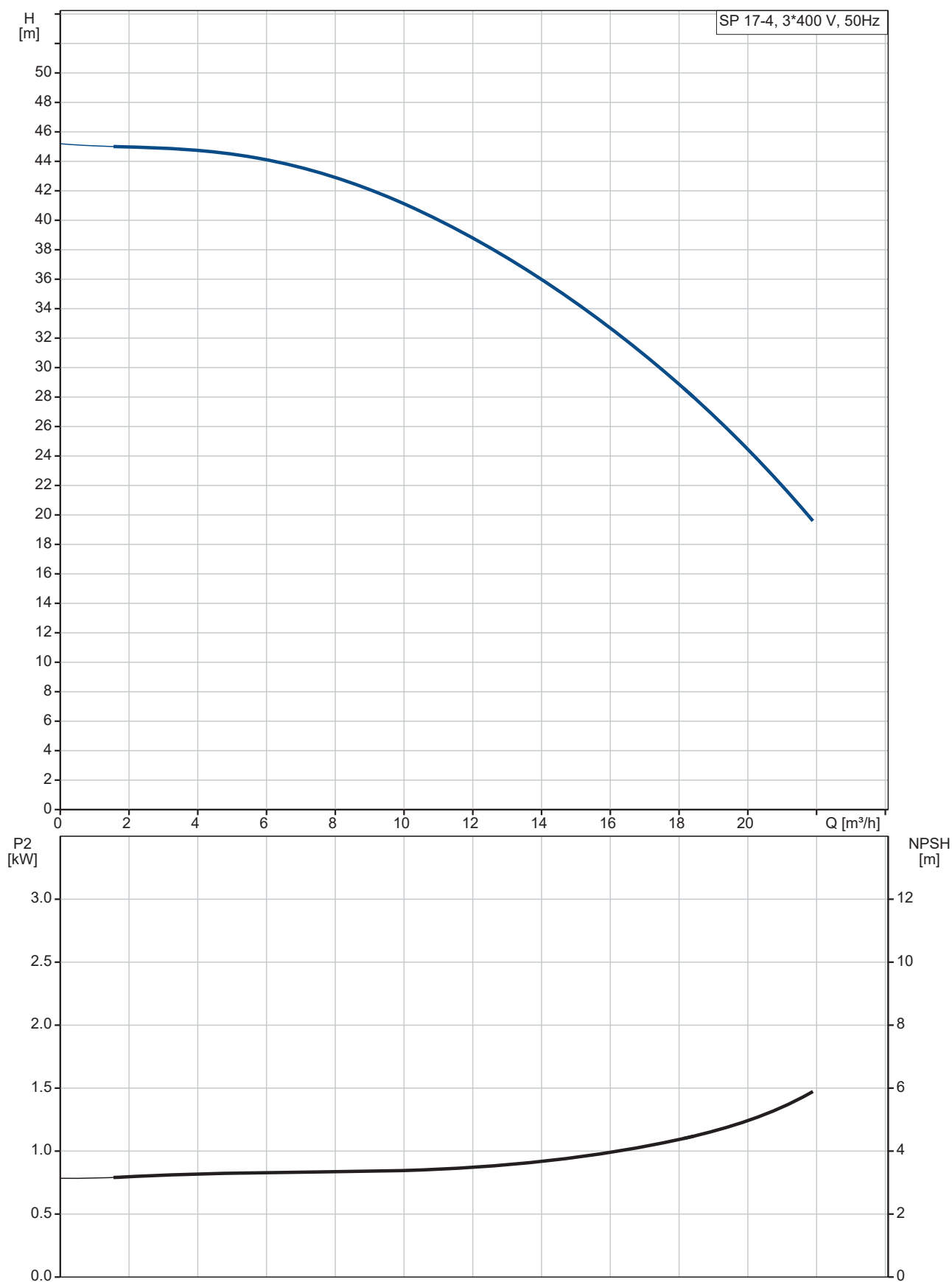
96510168 SQE 5-70 50 Hz



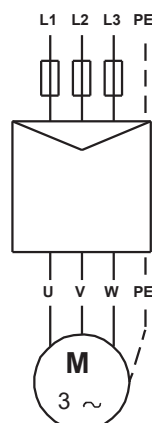
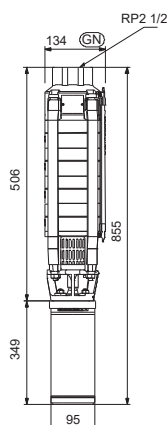
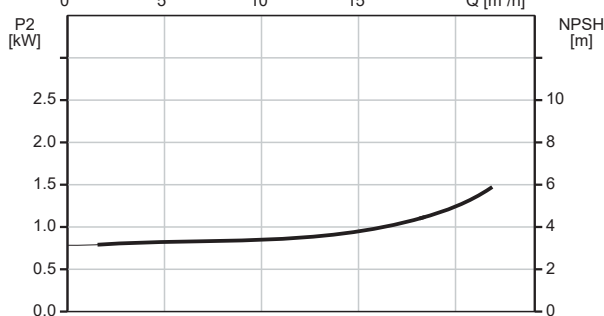
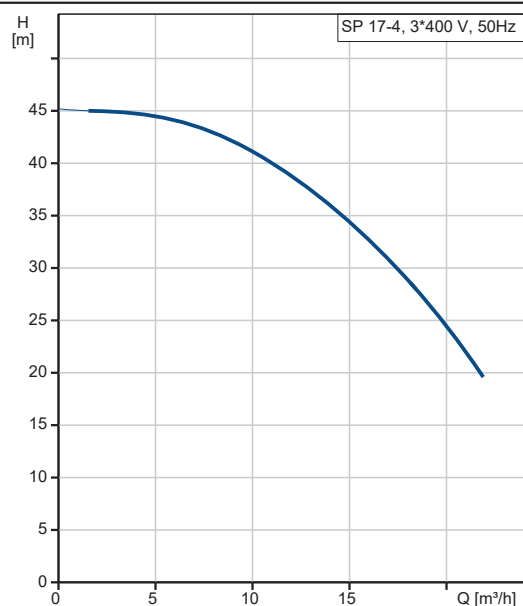
Description	Value
General information:	
Product name:	SQE 5-70
Product No:	96510168
EAN number:	5700396502762
Technical:	
Pump speed on which pump data are based:	10700 rpm
Rated flow:	5 m ³ /h
Rated head:	73 m
Stages:	6
Approvals on motor nameplate:	CE,UL,CUL
Curve tolerance:	ISO9906:2012 3B
Pump No:	96080412
Model:	B
Valve:	pump with built-in non-return valve
Materials:	
Pump:	Polyamide / Stainless steel DIN W.-Nr. 1.4301 AISI 304
Impeller:	Polyamide
Motor:	Stainless steel DIN W.-Nr. 1.4301 AISI 304
Installation:	
Pump outlet:	Rp 1 1/2
Minimum borehole diameter:	76 mm
Liquid:	
Pumped liquid:	Water
Maximum liquid temperature:	35 °C
Max liquid t at 0.15 m/sec:	35 °C
Selected liquid temperature:	20 °C
Density at selected liquid temperature:	998.2 kg/m ³
Electrical data:	
Motor type:	MSE3
Power input - P1:	2.54 kW
Rated power - P2:	1.85 kW
Mains frequency:	50 Hz
Rated voltage:	1 x 200-240 V
Rated current:	12.3 A
Power factor:	1.00
Rated speed:	10700 rpm
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Motor protec:	Y
Thermal protec:	internal
Length of cable:	1.5 m
Motor No:	96160857
Controls:	
CU 300/CU 301:	communication with CU 300/CU 301 possible
Others:	
Net weight:	6.4 kg
Gross weight:	7.1 kg
Shipping volume:	0.011 m ³
Sales region:	EU/S-AMREG/APREG
Danish VVS No.:	388445470



12A01904 SP 17-4 50 Hz



Description	Value
General information:	
Product name:	SP 17-4
Product No:	12A01904
EAN number:	5700391130960
Technical:	
Pump speed on which pump data are based:	2900 rpm
Rated flow:	17 m³/h
Rated head:	32 m
Stages:	4
Impeller reduc.:	NONE
Shaft seal for motor:	LIPSEAL
Approvals on nameplate:	CE,EAC
Curve tolerance:	ISO9906:2012 3B
Model:	B
Valve:	YES
Motor version:	T40
Materials:	
Pump:	Stainless steel
	EN 1.4301
	AISI 304
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Motor:	Stainless steel
	DIN W.-Nr. 1.4301
	AISI 304
Installation:	
Pump outlet:	RP2 1/2
Motor diameter:	4 inch
Liquid:	
Pumped liquid:	Water
Maximum liquid temperature:	40 °C
Max liquid t at 0.15 m/sec:	40 °C
Selected liquid temperature:	20 °C
Density at selected liquid temperature:	998.2 kg/m³
Electrical data:	
Motor type:	MS402
Applic. motor:	GRUNDFOS
Rated power - P2:	2.2 kW
Power (P2) required by pump:	2.2 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-400-415 V
Rated current:	5.50-5.50-5.70 A
Starting current:	440-460-470 %
Cos phi - power factor:	0.85-0.82-0.77
Rated speed:	2850-2860-2870 rpm
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	B
Motor protec:	NONE
Thermal protec:	external
Built-in temp. transmitter:	no
Motor No:	79192007
Others:	
Minimum efficiency index, MEI $\eta_{\%}$:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	22.2 kg



50 Hz



LENNTECH

e-GS Series

4" SUBMERSIBLE
ELECTRIC PUMPS

ErP 2009/125/EC

Cod. 191005671 Rev. A Ed.06/2017

 **LOWARA**
a xylem brand

16GS SERIES

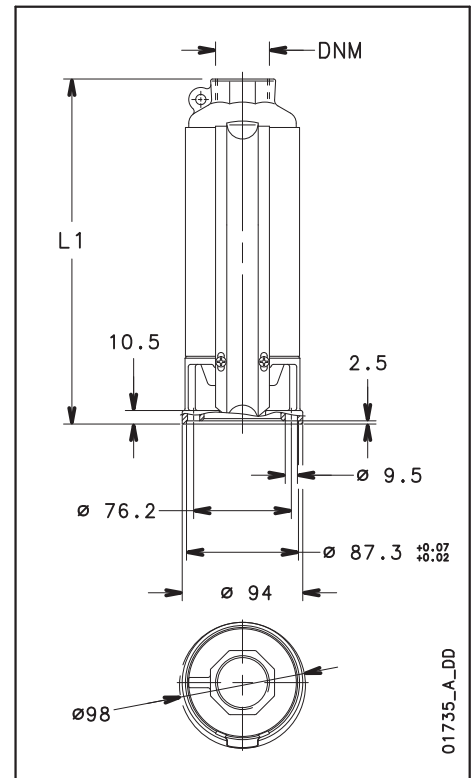
OPERATING CHARACTERISTICS AT 50 Hz

PUMP TYPE	N. OF STAGES	MOTOR POWER		MEI ⁽¹⁾ ≥	Q = DELIVERY					
					l/min 0	170	205	260	310	367
		m3/h 0	10,2		12,3	15,6	18,6	22,0		
H = TOTAL HEAD METRES COLUMN OF WATER										
16GS15	8	1,5	2	0,4	38,0	30,6	27,6	22,1	16,4	9,2
16GS22	12	2,2	3	0,4	56,9	45,9	41,4	33,2	24,6	13,9
16GS30	16	3	4	0,4	75,6	60,6	54,9	44,7	34,0	20,3
16GS40	21	4	5,5	0,4	98,0	76,7	69,3	56,4	43,2	25,3
16GS55R	25	5,5	7,5	0,4	120,0	96,1	87,1	70,9	54,0	32,2
16GS55	29	5,5	7,5	0,4	142,0	113,7	103,1	83,9	63,9	38,1

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

16gs-2p50-en_e_th

(1) Index of efficiency MEI.



16GS..4OS SERIES DIMENSIONS AND WEIGHTS

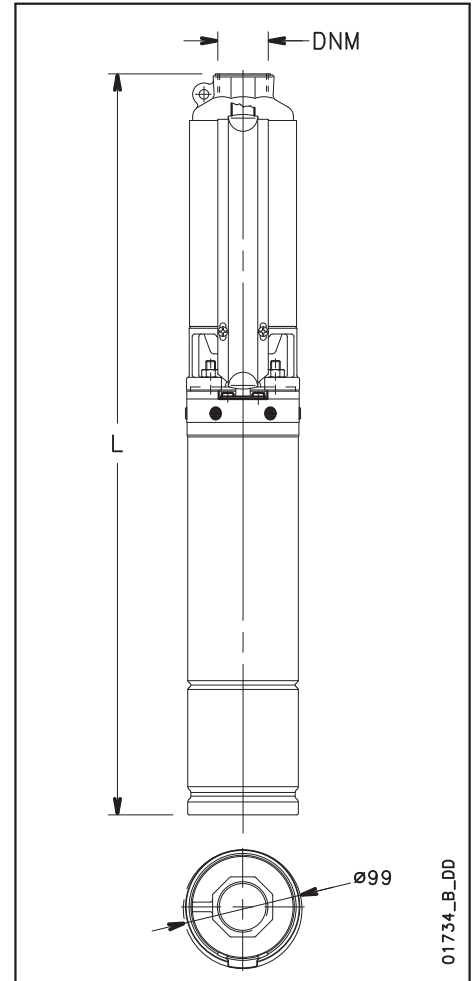
ELECTRIC PUMP TYPE*	N. OF STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT kg	ELECTRIC PUMP WEIGHT kg
			L1	L		
16GS15M-4OS	8	Rp 2	681	1131	6,2	18,5
16GS22M-4OS	12	Rp 2	953	1453	8,5	23,1
16GS15T-4OS	8	Rp 2	681	1096	6,2	17,1
16GS22T-4OS	12	Rp 2	953	1403	8,5	20,9
16GS30T-4OS	16	Rp 2	1224	1674	10,8	24,2
16GS40T-4OS	21	Rp 2	1619	2189	14,7	32,0
16GS55RT-4OS	25	Rp 2	1891	2521	16,9	37,7
16GS55T-4OS	29	Rp 2	2163	2793	19,2	40,0

* Pump and motor are supplied uncoupled in two separated packages if:

16gs-4os-2p50-en_c_id

- the motor is single-phase ≥ 2,2 kW or three-phase ≥ 3 kW

- or the total length is > 1500 mm



16GS..L4C SERIES DIMENSIONS AND WEIGHTS

ELECTRIC PUMP TYPE*	N. OF STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT kg	ELECTRIC PUMP WEIGHT kg
			L1	L		
16GS15M-L4C	8	Rp 2	681	1074	6,2	18,7
16GS22M-L4C	12	Rp 2	953	1366	8,5	22,5
16GS15T-L4C	8	Rp 2	681	1029	6,2	18,0
16GS22T-L4C	12	Rp 2	953	1346	8,5	21,1
16GS30T-L4C	16	Rp 2	1224	1768	10,8	31,2
16GS40T-L4C	21	Rp 2	1619	2233	14,7	38,2
16GS55RT-L4C	25	Rp 2	1891	2575	16,9	43,7
16GS55T-L4C	29	Rp 2	2163	2847	19,2	46,0

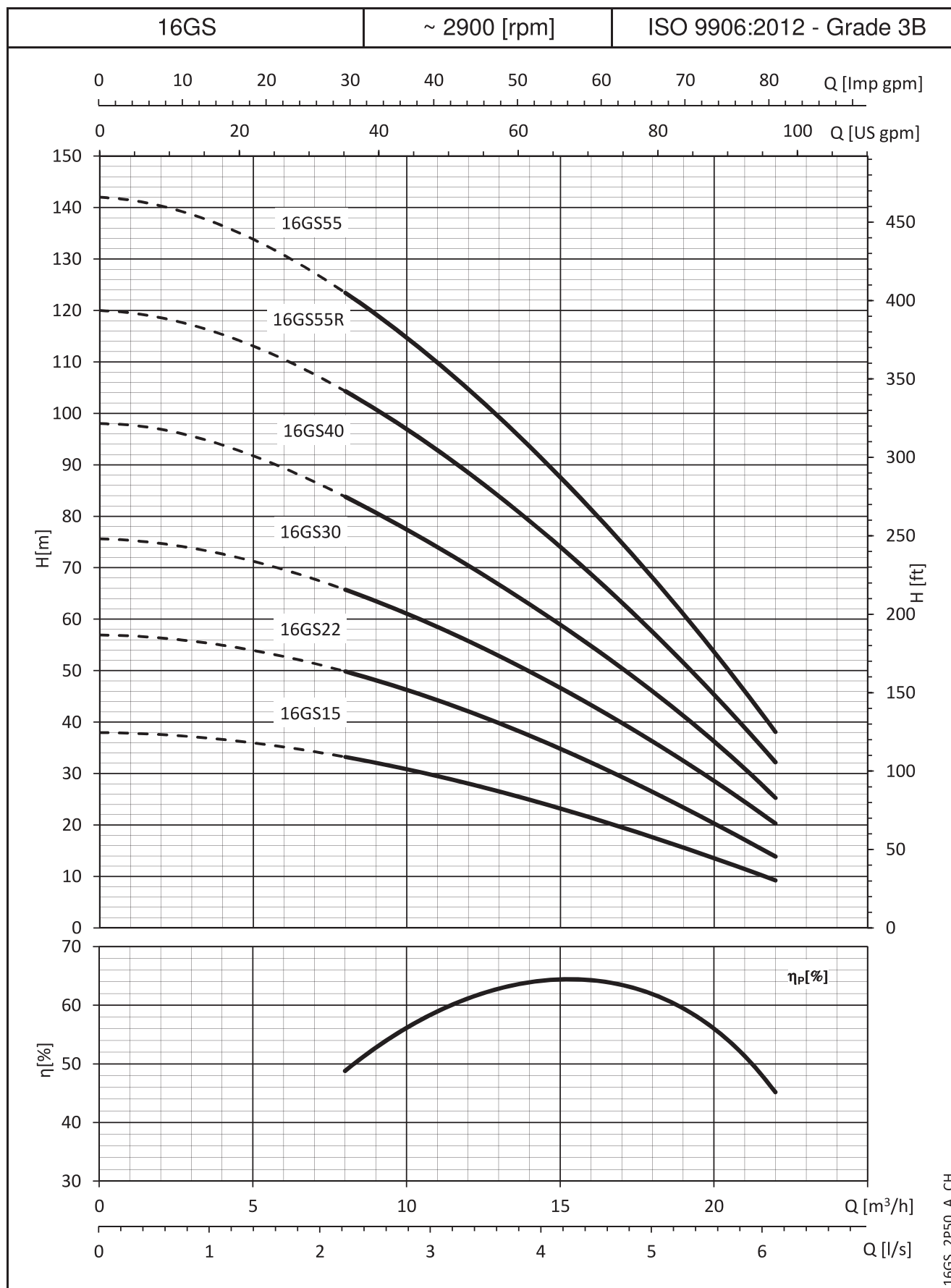
* Pump and motor are supplied uncoupled in two separated packages if:

16gs-l4c-2p50-en_c_id

- the motor is single-phase ≥ 2,2 kW or three-phase ≥ 3 kW

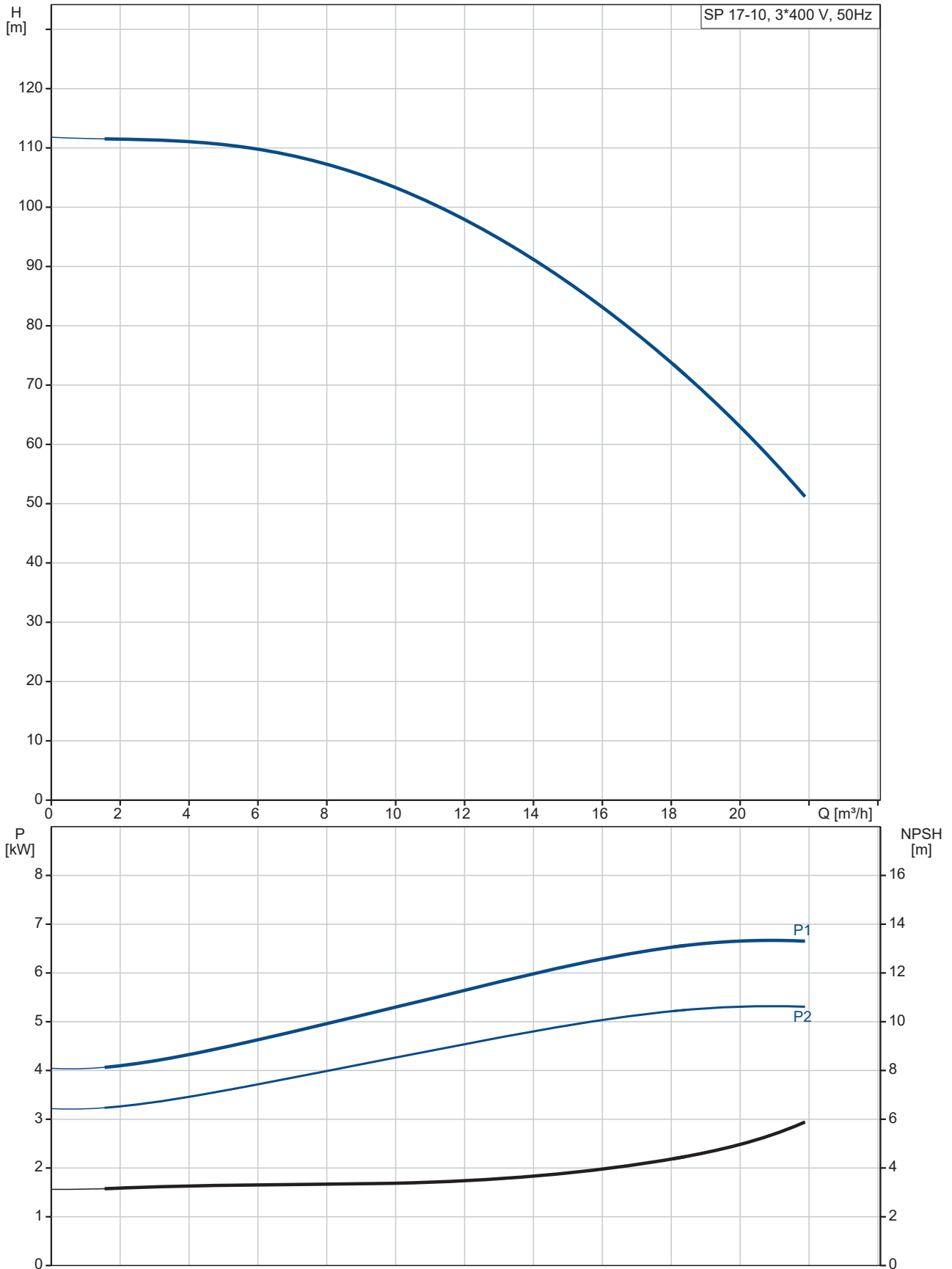
- or the total length is > 1500 mm

16GS SERIES OPERATING CHARACTERISTICS AT 50 Hz

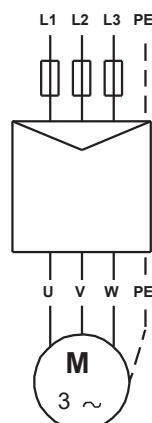
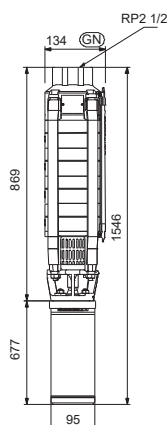
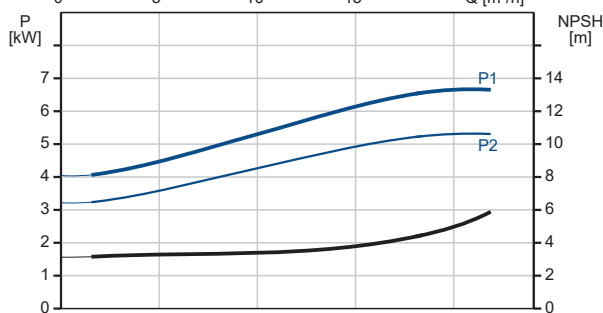
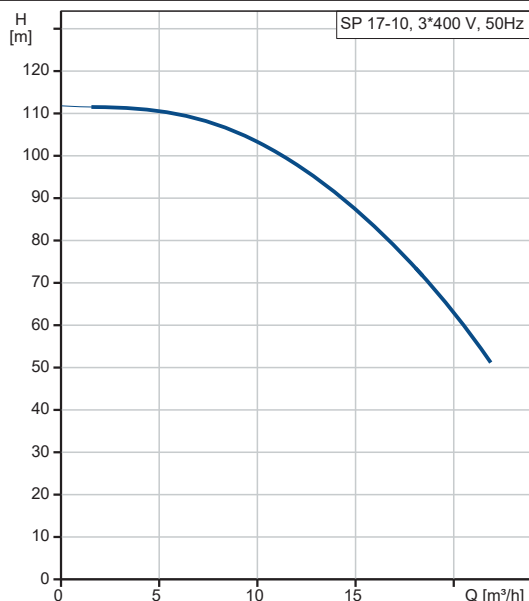


These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

12A01910 SP 17-10 50 Hz



Description	Value
General information:	
Product name:	SP 17-10
Product No:	12A01910
EAN number:	5700391131202
Technical:	
Pump speed on which pump data are based:	2900 rpm
Rated flow:	17 m³/h
Rated head:	81 m
Stages:	10
Impeller reduc.:	NONE
Shaft seal for motor:	HM/CER
Approvals on nameplate:	CE,EAC
Curve tolerance:	ISO9906:2012 3B
Model:	B
Valve:	YES
Motor version:	T40
Materials:	
Pump:	Stainless steel
	EN 1.4301
	AISI 304
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Motor:	Stainless steel
	DIN W.-Nr. 1.4301
	AISI 304
Installation:	
Pump outlet:	RP2 1/2
Motor diameter:	4 inch
Liquid:	
Pumped liquid:	Water
Maximum liquid temperature:	40 °C
Max liquid t at 0.15 m/sec:	40 °C
Selected liquid temperature:	20 °C
Density at selected liquid temperature:	998.2 kg/m³
Electrical data:	
Motor type:	MS4000
Applic. motor:	GRUNDFOS
Rated power - P2:	5.5 kW
Power (P2) required by pump:	5.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-400-415 V
Rated current:	13.0-13.0-13.4 A
Starting current:	480-530-550 %
Cos phi - power factor:	0.85-0.81-0.76
Rated speed:	2850-2860-2870 rpm
Start. method:	direct-on-line
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Motor protec:	NONE
Thermal protec:	external
Built-in temp. transmitter:	yes
Motor No:	79195511
Others:	
Minimum efficiency index, MEI $\eta_{\%}$:	0.70
ErP status:	EuP Standalone/Prod.
Net weight:	44.5 kg



SECTION 6
EXCEL WORKBOOK

EXCEL WORKBOOK

RADNOR HISTORICAL WATER USAGE

This pack is supported by an Excel Workbook as an associated file submitted with the electronic application. The workbook provides a detailed breakdown of Radnor Hills Mineral Water Company Ltd water usage during the transitional period. If that file does not accompany this copy of the pack, please contact your application reception centre or Envireau Water to request a copy.