PROPOSED INERT WASTE RECOVERY

PEACE WOOD QUARRY, SHELLEY, WEST YORKSHIRE

HYDROGEOLOGICAL RISK ASSESSMENT

Prepared for

Naylor Industries Limited

November 2024
Ref:233/04/pwq/epr/hra/1124

SMF S M Foster Associates Limited
Hydrological and Hydrogeological Consultants

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Document Revisions		
Ref:	Details	Date
1	**Draft**	**18/04/2023**
2	**R1**	**24/04/2023**
3	**2024 Update**	**05/11/2024**

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1. Introduction

1.1 Report context

This Hydrogeological Risk Assessment (HRA) relates to proposed inert waste recovery at Peace Wood Quarry, Shelley, West Yorkshire. The site is operated by Naylor Industries Limited, Clough Green, Cawthorne, Barnsley, South Yorkshire, S75 4AD. This report has been prepared by S M Foster Associates Limited, Hydrological and Hydrogeological Consultants, 7 Bownas Road, Boston Spa, Wetherby, West Yorkshire, LS23 6EX.

Peace Wood Quarry is established in the Pennine Lower Coal Measures. A quarry has been present at the site since the early 1980's. The quarry is intermittently operational. There has been no previous landfilling within the proposed permit boundary. Former mineral workings, now restored by backfilling with inert waste materials, are present to the east and south east of the application site.

An HRA for the quarry site was originally prepared in 2008[1] to support a planning application for quarry development. The Conceptual Hydrogeological Model (CHM) developed in the 2008 study was subsequently updated in 2019[2] as part of the process of discharging more recent planning conditions. Groundwater level and quality data has been intermittently collected at the site since 2017.

1.2 Conceptual hydrogeological site model

Assessment of existing hydrological and hydrogeological conditions at the site and surrounding area has been undertaken by reference to published information sources, site hydrological survey and reference to site specific ground investigation data.

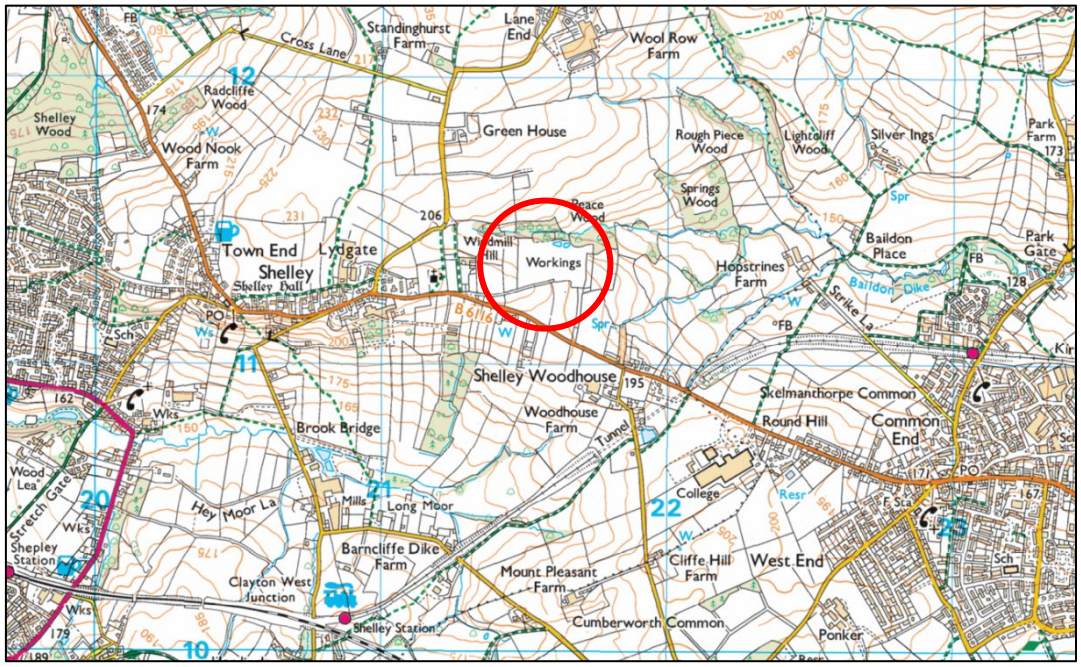
1.2.1 Site location, land-use and hydrological context

Peace Wood Quarry is located approximately 1km east of the village of Shelley in West Yorkshire. The quarry site is accessed via an access track from the B6116 Huddersfield Road. The site is bounded to the west and the south by previously undeveloped agricultural land. Peace Wood and Baildon Dike are situated adjacent to the northern site boundary and

[1] Fennel, Green & Bates (2008). Hydrogeological Risk Assessment
[2] Wardell Armstrong (2019). Peace Wood Quarry: Update of the existing hydrogeological conceptual model.

restored former mineral workings are located to the east and south east of the site. Site location is shown on Figure 1 and Drawing 233/04/01, which accompanies this report.

Figure 1: Site location © Ordnance Survey



The quarry is situated in a rural location. The nearest residential property is at Windmill Hill approximately 200m to the west and properties located along Huddersfield Road approximately 350m to the south east. Historic aerial photography indicates that the quarry commenced development at the eastern side of the current site with local development present by 1985. Over subsequent years, the excavation area was progressed westwards to the present day extents.

A search of environmental records for the site and surrounding area has confirmed that land to the east and south east of the current workings has previously been worked and subsequently restored. As confirmed on Envirocheck datasheets at Appendix A of this report, land in this area operated as a licenced landfill site with a licence to accept non-biodegradable (inert) waste materials. There are no records to indicate any form of waste containment at the landfill site. An aerial view of the site is presented as Figure 2. There are no other current or historic recorded industrial or commercial land-uses within the immediate vicinity of Peace Wood Quarry.

Peace Wood Quarry is located within the surface water catchment of Baildon Dike, a tributary of the River Dearne. As shown on Drawing 233/04/01, Baildon Dike flows west to east adjacent to the northern quarry boundary. Adjacent to the site, the beck flows through Peace Wood in a steeply sided channel before combining with several other tributary watercourses upstream of Skelmanthorpe.

FEH (Flood Estimation Handbook) catchment models indicate that, at the eastern end of Peace Wood close to the eastern site boundary, Baildon Dike drains a catchment of 0.59km^2 consisting of agricultural land to the north and west. The quarry site has a standard average

annual rainfall of 837mm with a baseflow index of 0.59, indicating a significant groundwater contribution to surface water flow.

Figure 2: Aerial view of Peace Wood Quarry and surrounding area © Ordnance Survey

As shown on Drawing 233/04/01, the only other surface watercourse in the vicinity of the site is Nicholas Spring stream that originates from Nicholas Spring just to the east of the quarry access track and flows in a north easterly direction to join Baildon Dike upstream of Hopstrines Farm, approximately 600m downstream of the eastern quarry boundary. In addition to Nicholas Spring, a second spring is located south of Huddersfield Road and to the west of Field End Farm, as shown on Drawing 233/04/01. It is also noted that Springs Wood is located on the northern bank of Baildon Dike approximately 250m downstream of the eastern quarry boundary.

As detailed in the Envirocheck datasheet at Appendix A, treated surface water from Peace Wood Quarry is discharged to Baildon Dike at the north eastern site boundary in accordance with a trade effluent discharge consent. There are no other licensed discharges to Baildon Dike upstream of the quarry site.

The current Environment Agency Flood Map for Planning confirms that the quarry and surrounding area is designated Flood Zone 1 and therefore is not considered to be at risk of fluvial flooding. An extract from the flood map is included as Figure 3. The Environment Agency surface water flood risk map for the area indicates that, with the exception of a shallow depression within the quarry site, the only areas considered to be at risk of surface water flooding are the routes of local surface watercourses. An extract from the map is included as Figure 4.

Figure 3: Environment Agency flood map extract for Peace Wood Quarry © Environment Agency

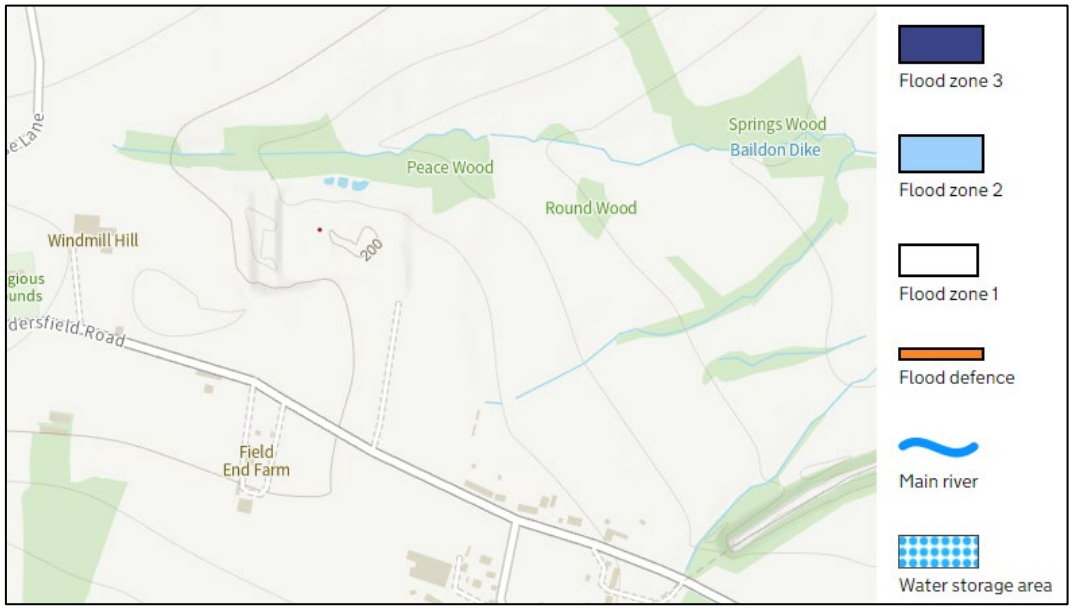
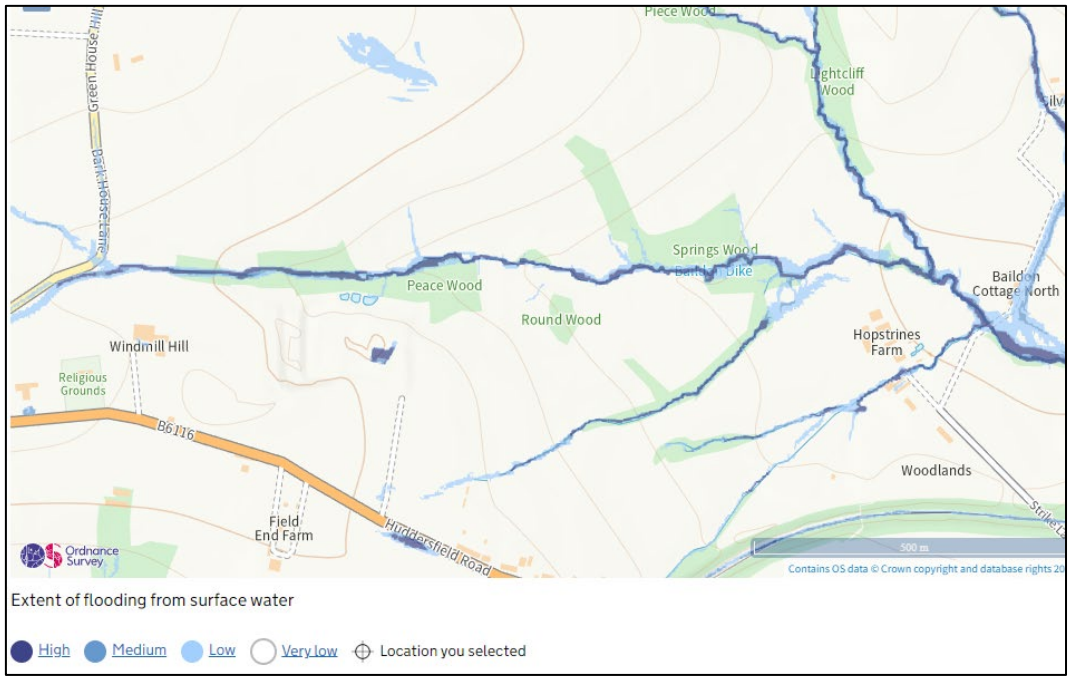


Figure 4: Environment Agency surface water flood risk map for Peace Wood Quarry
© Environment Agency



There is no surface water quality data for Baildon Dike in the vicinity of Peace Wood Quarry. Routine monitoring of the quality of surface water in Nicholas Spring has been undertaken since 2020. The analysis, which is restricted to a limited list of substances, indicates general compliance with freshwater EQS with no evidence of agricultural or industrial contamination. Water discharging to Baildon Dike from the quarry settlement lagoons is also routinely monitored. Discharge water quality is comparable to natural surface water quality in Nicholas Spring stream.

1.2.2 Local geology

British Geological Survey (BGS) mapping of the site and surrounding area indicates that Peace Wood Quarry is established in the Pennine Lower Coal Measures consisting of interbedded mudstone, siltstone and sandstone. There is no recorded superficial cover. An absence of superficial deposits at the site was confirmed by site investigations undertaken in 2008, 2016, 2017 and 2018.

Boreholes drilled at and in the vicinity of the quarry site have proven the following general geological succession.

Table 1: General geological succession at Peace Wood Quarry

Lithology	Thickness (m)
Weathered mudstone	0.7 – 2.0
Sandstone (Penistone Flag Sandstone)	2.8 – 7.1
Grey/Blue mudstone	3.2 – 8.9
Black carbonaceous mudstone	0.85 – 1.75
Fireclay	0.35 – 1.05
Mudstone	0.65 – 1.5
Sandstone	1.40+

The geological sequence is characterised by the presence of two sandstone units separated by a thicker mudstone/fireclay unit. Only one borehole penetrated the lower sandstone and proved mudstone beneath. The lower sandstone thickness was 1.70m. The upper Penistone Flag Sandstone is an orthogonally jointed blocky sandstone with average thickness of approximately 4m. Figure 5 presents a view of the upper sandstone in the south western quarry face.

Figure 5: Penistone Flag Sandstone in the south western face of Peace Wood Quarry

Mudstone units between the upper and lower sandstone formations consist of a sequence of thinly bedded brown mudstone, a shaley blue grey mudstone and basal horizon of black carbonaceous mudstone with underlying fireclay. The mudstone sequence is shown in Figure 6 which presents a view of the western quarry excavation below the upper sandstone.

Figure 6: Mudstone sequence at the western side of Peace Wood Quarry

The majority of the quarry floor is underlain by mudstone following extraction of the overlying upper sandstone and part of the underlying mudstone sequence. The thickness of mudstone beneath the floor and above the lower sandstone is undefined, but on the basis of on-site observation, is expected to extend to several metres.

Site observation indicates that the sandstone strata at the western end of the quarry are dipping gently to the north. Previous studies at the site have reported a stratigraphic dip of 3^{o} to the north east. Although the Lower Coal Measures in the surrounding area are extensively faulted there are no records of geological faulting within the quarry site.

1.2.3 Hydrogeology

The Pennine Lower Coal Measures bedrock is designated a Secondary A Aquifer by the Environment Agency, based on the following definition.

Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases form an important source of base flow to rivers.

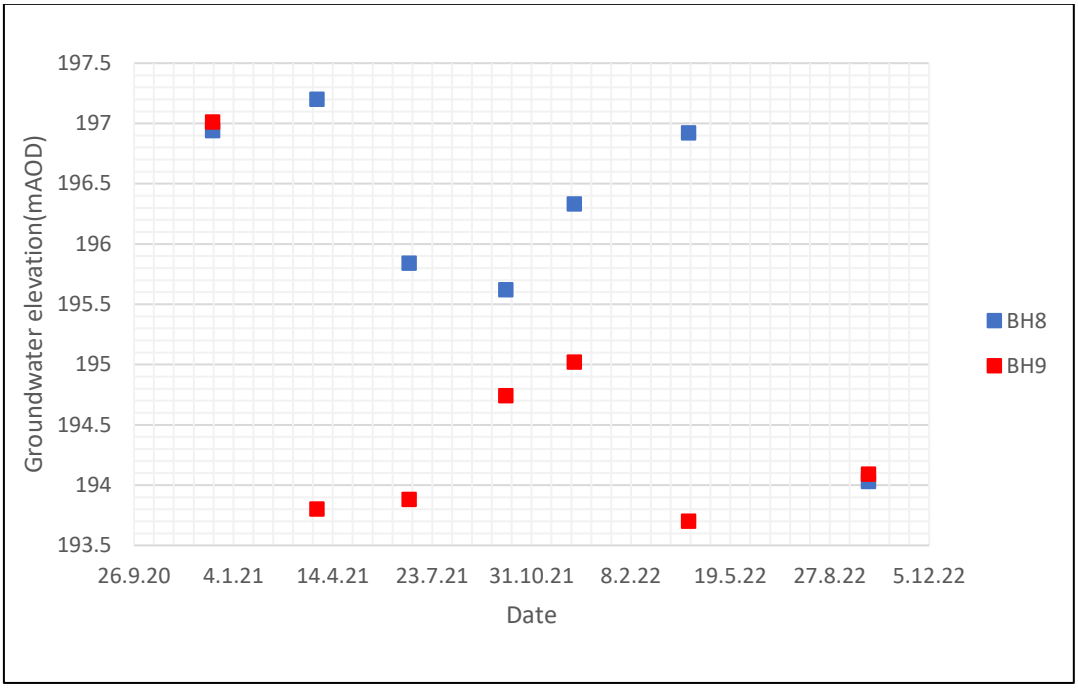
In general, coal measures strata consist of a sequence of interbedded mudstones, siltstones and sandstones, with associated coals and seatearth. Sandstone units within the sequence tend to have greatest capacity for storage and transmission of groundwater, although many

sandstone horizons are relatively impersistent and exhibit highly variable thickness. The highly indurated nature of most coal measures sandstones means that groundwater flow tends to occur via transmissive discontinuities, where present. Weathered or fractured sequences within coal measures mudstones may also have limited potential for storage and lateral transmission of groundwater. The interlayered nature of coal measures strata, dominated by lower permeability mudstones, tends to preclude the development of any significant vertical hydraulic continuity and hence the more permeable sandstone horizons tend to act as discrete aquifer units.

Site investigation boreholes drilled at the site and surrounding area since 2008 have identified the presence of groundwater within the lower coal measures strata. Boreholes drilled in 2017 recorded a groundwater elevation of 181.92mAOD in the lower sandstone unit and 196.71mAOD in the upper sandstone. Reference to available borehole logs indicates that groundwater in the lower sandstone is confined by the overlying mudstone and fireclay. Unconfined conditions were observed in the upper sandstone.

Groundwater levels have been monitored in a further two boreholes to the south of the current quarry excavation area since 2020. In the absence of borehole logs for these boreholes, it is not possible to define which strata are represented by groundwater level data, but it may be reasonable to assume that, if open through the full sequence penetrated, groundwater levels would tend to be dominated by the groundwater elevation in the unconfined upper sandstone unit. Monitoring results for Boreholes BH8 and BH9 are shown in Figure 7 and borehole locations are shown on Drawing 233/04/02.

Figure 7: Groundwater level variation in Boreholes BH8 and BH9 south of the application site.



Monitoring data indicates that the groundwater elevation in the upper sandstone unit ranges from an average value of approximately 194mAOD at BH9 to approximately 196mAOD at BH8. These levels are broadly consistent with the observed upper sandstone groundwater elevation in the 2017 boreholes.

Although the two sandstone units are the main water bearing units in the geological sequence encountered at Peace Wood Quarry, groundwater seepage from mudstone horizons has also been observed. During a site hydrological survey undertaken in April 2023, groundwater was observed seeping from the carbonaceous mudstone, above the fireclay, towards the base of the mudstone sequence. Accumulated groundwater can be observed around the periphery of the excavation, as shown in Figure 6.

Other evidence of the presence of groundwater in the coal measures sandstone units can be derived from the presence of springs in the area. As shown on Drawing 233/04/01, a spring forms the headwater of Nicholas Spring stream to the south east of the quarry site. Comparison of Ordnance Survey mapping with geological mapping of the area indicates that the spring emerges at the junction of the upper sandstone with the underlying mudstone. Ground level at the spring site is approximately 191mAOD. A second spring to the west of Field End Farm also emerges from the base of the upper sandstone at a surface elevation of approximately 195mAOD.

Available groundwater level data from borehole records and spring elevations has been used to construct an indicative groundwater contour map for the upper sandstone unit in the vicinity of Peace Wood Quarry. Indicative groundwater levels for the lower sandstone are also presented. It is recognised that the data used to produce groundwater contours extends across several years and may represent different seasonal conditions. Groundwater contours should therefore be considered as indicative only. Groundwater contours for both sandstone aquifers are shown on Drawing 233/04/02.

The above analysis suggests that groundwater in the upper sandstone unit is flowing in a south easterly direction with an average hydraulic gradient of approximately 0.016. Groundwater from the upper aquifer appears to be the source of spring flow at both springs to the south of the site. Groundwater contours reconfirm that the upper sandstone aquifer is not in hydraulic continuity with Baildon Dike.

Available evidence suggests that groundwater in the lower sandstone aquifer is flowing in a north easterly direction towards Baildon Dike and springs at Springs Wood. The lower sandstone appears to have the potential to provide baseflow to Baildon Dike downstream of Peace Wood Quarry.

A search of local agency records confirms that there are four licenced groundwater abstractions within a 1km radius of the centre of Peace Wood Quarry. Details are included in full in the Envirocheck datasheet at Appendix A and summarised in Table 2.

Table 2: Licenced groundwater abstractions within 1km radius of Peace Wood Quarry

Licence No.	Owner	Location	Distance from site (m)	Source
2/27/11/187	Armitage GC	Shelley	469 W	LCM
2/27/08/126	C & M Hall	Shelley	565 N	LCM
2/27/11/178	R & M Dearnley	Shelley	664 W	LCM
2/27/08/126	TR & C Hall	Shelley	860 N	LCM

Licenced abstractions 2/27/11/187 and 2/27/11/178 are both located upgradient of Peace Wood Quarry. The two abstractions under licence 2/27/08/126 located to the north of the quarry are located on the Falhouse Rock Sandstone which is stratigraphically above the Penistone Flags present at Peace Wood Quarry.

There are nominal 50m radius groundwater source protection zones (GPZ) around each of the licenced groundwater abstractions listed in Table 2 but the protection zones do not extend as far as the quarry site. The absence of superficial cover results in a groundwater vulnerability designation of 'medium' for the lower coal measures bedrock.

Groundwater quality data at three boreholes and three surface water monitoring points down-gradient of the quarry has been collected since 2020. Monitoring locations are defined as BH1, BH2, BH7, SWA1, SWA2 and SWA3 and shown on Drawing 233/04/02. Groundwater was sampled and tested to determine the concentration of the following parameters/substances.

pH
EC
DO
TDS
AmmN
Fluoride
Antimony
Arsenic
Cadmium
Nickel
Selenium
TPH $c_{5\text{-}10}$
PAH Tot.16

Groundwater samples were obtained from all six monitoring points approximately quarterly during the period December 2020 – January 2023. Analytical results are included in full at Appendix B.

Analysis of groundwater samples during the monitoring period indicate a general absence of antimony, arsenic, cadmium and TPH from groundwater down-gradient of the site. Ammoniacal nitrogen, fluoride, nickel and total PAH concentration exceeded the laboratory detection limit in most samples. Surface water samples were consistent with groundwater samples with the exception of the presence of arsenic at just above detection level at SWA3. Trends in the concentration of ammoniacal nitrogen, fluoride, nickel and total PAH are shown in the Figures 8-11.

Figure 8 demonstrates that ammoniacal nitrogen concentration in groundwater at BH1 and BH2 remained at or below the UKDWS of 0.5 mg/l throughout the monitoring period but was elevated in BH7. With the exception of a single sample in March 2021, ammoniacal nitrogen concentration in surface water samples remained below the UKDWS throughout the monitoring period.

The concentration of fluoride in groundwater and surface water samples remained below the UKDWS of 1.5 mg/l throughout the monitoring period. With the exception of a single sample from BH1 in October 2021, the concentration of nickel in groundwater and surface water remained below the UKDWS of 0.02 mg/l. The single exceedance is uncharacteristically high given previous and subsequent values and is considered likely to be erroneous.

Figure 8: Ammoniacal nitrogen concentration at monitoring points

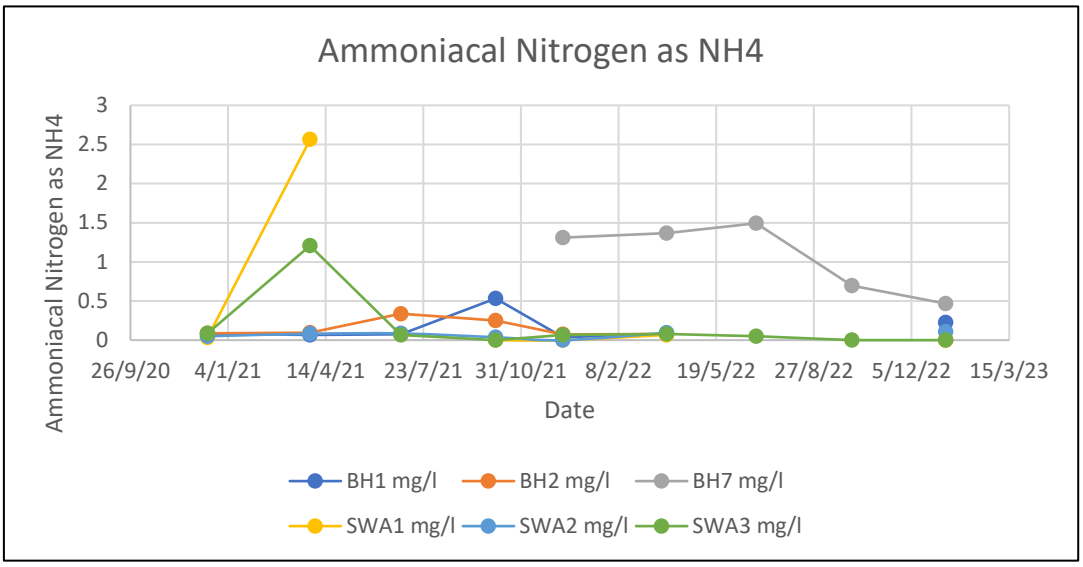


Figure 9: Fluoride concentration at monitoring points

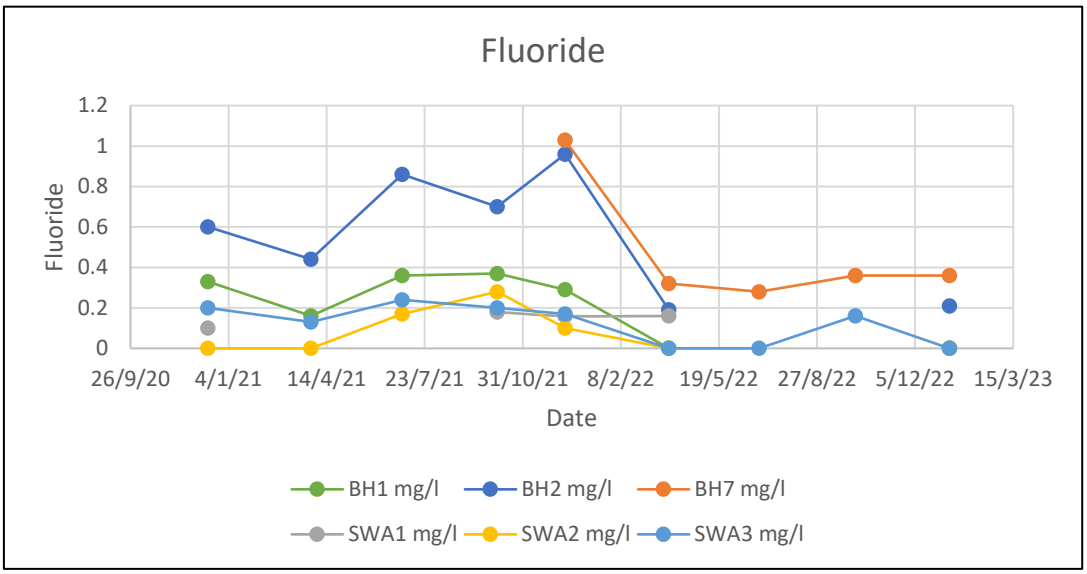


Figure 10: Nickel concentration at monitoring points

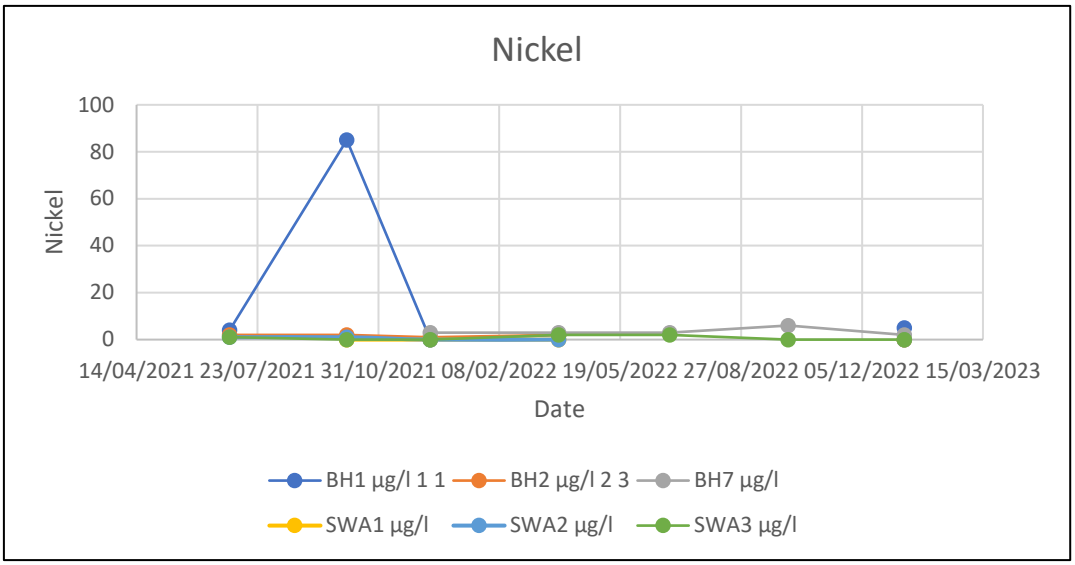
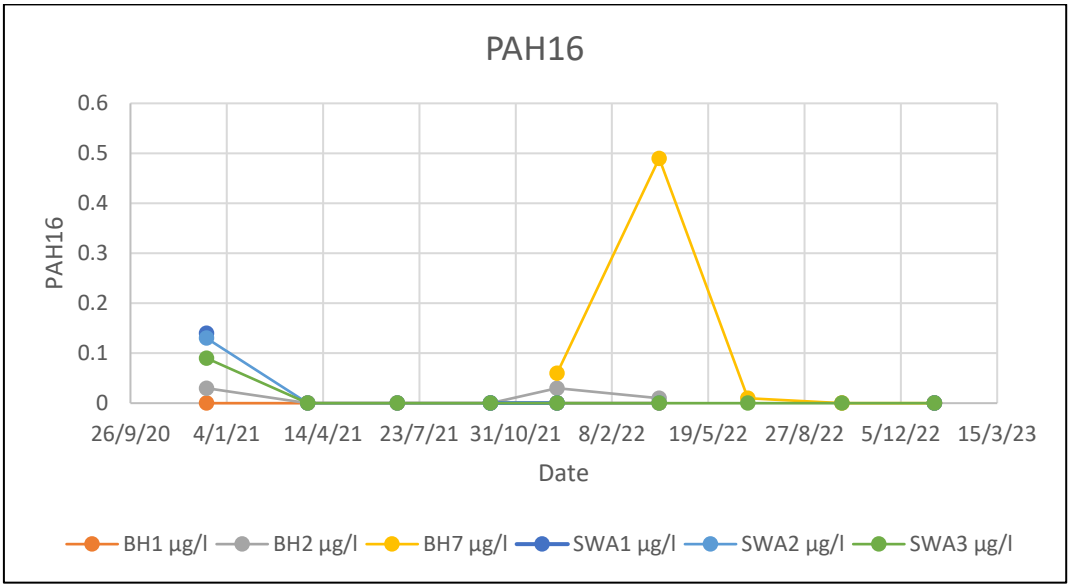


Figure 11: Total PAH concentration at monitoring points



The total of 16 PAH concentrations in groundwater and surface water remained below the relevant standard of 0.1 ug/l throughout the monitoring period, with the exception of a single elevated reading in BH7 in March 2022. Subsequent concentrations in the same borehole remained below UKDWS.

Water quality analysis has been undertaken at the spring source of Nicholas Spring stream since 2020. On the basis that the spring appears to be sourced from the upper sandstone unit, spring water quality can be considered indicative of background groundwater quality in the sandstone. A summary of analytical results in relation to relevant water quality standards is presented in Table 3 below.

Table 3: Indicative groundwater quality summary for Nicholas Spring (2020-2023)

Parameter	Units	Min	Mean	Max	UKDWS	MRV
pH		7.34	7.60	7.90		
EC	uS/cm	529	698	1026		
DO	mg/l	9.70	10.07	11.00		
TDS	mg/l	300	421	661		
AmmN	mg/l	0.03	0.18	2.56	0.5	
Fluoride	mg/l	0.10	0.15	0.18	1.5	
Antimony	µg/l	<1.0	<1.0	<1.0	5	
Arsenic	µg/l	<1.0	<1.0	<1.0	10	
Cadmium	µg/l	<0.20	<0.20	<0.20		0.1
Nickel	µg/l	<1.0	<1.0	<1.0	20	
Selenium	µg/l	<1.0	<1.0	<1.0	10	
PH $_{c5-10}$	µg/l	<1.0	<1.0	<1.0	10	
PAT Tot.16	µg/l	<0.01	<0.01	<0.01	0.1	

Spring water analysis indicates that the quality of groundwater in the upper sandstone is generally good with the concentration of all substances generally below the relevant EQS. The only exception is the maximum value for ammoniacal nitrogen which represents a single result taken on a day with 'very low flow' from the spring. Given that the spring is located at

the southern boundary of a former inert landfill area associated with backfilling previous quarry workings, there is no evidence to indicate contamination of groundwater as a consequence of historic landfilling.

1.2.4 Conceptual hydrogeological model

Potential hydrogeological impacts of the proposed development have been assessed by reference to a standard source-pathway-receptor approach to impact assessment. The source-pathway-receptor relationships at the site are illustrated through the development of a conceptual hydrogeological model which is presented on Drawings 233/04/02 and 233/04/03.

Sources

The site would be licensed to accept inert wastes only. For the purpose of this assessment it has been assumed that all waste received at the site would comply with the inert waste acceptance criteria (WAC). The inert waste WAC limit values have been used to derive a source term for risk modelling.

Limit value concentrations in mg/l have been derived by division of the L/S 10 l/kg leach test data by 10. The analysis indicates that several substances included in the WAC would be below the UK Drinking Water Standard (UKDWS) concentration at source and therefore achieve the relevant environmental assessment level (EAL) without any further attenuation. Such substances have been excluded from the source term for risk assessment. The source term has been developed from substances that would exceed the UKDWS at source. The source term used in all risk assessment is defined in Table 4.

Table 4: Inert waste source term derivation

Substance	Inert WAC limit value (mg/l)	EAL (mg/l)
Arsenic	0.05	0.01
Barium	2.00	1.00
Cadmium	0.004	0.0001
Lead	0.05	0.0002
Mercury	0.001	0.00001
Nickel	0.04	0.02

Pathways

At full development, the quarry excavation area would be as indicated on application drawing SQ/0922/PA-02(V5). The quarry floor would be underlain by a variable thickness of lower coal measures mudstone. The upper (Penistone Flags) sandstone has been removed across the site and is now only present at the southern quarry face. As a consequence there is no vertical pathway from the site to the upper sandstone. The lower sandstone is potentially present beneath the mudstone quarry floor across the entire site area. Available evidence indicates that the lower sandstone unit is potentially in hydraulic continuity with Baildon Dike downstream of the quarry site. There are, therefore, two potential contaminant migration pathways from the site, once restored in accordance with planning requirements through an inert waste recovery activity. Pathways are defined as follows.

Pathway 1 – Lateral drainage from inert waste deposits to the upper sandstone and migration to local spring receptors

Pathway 2 – Vertical drainage through in-situ lower coal measures mudstone to the lower sandstone and migration to Baildon Dike

Potential contaminant migration pathways are shown graphically on Drawing 233/04/03.

Contaminant migration characteristics via either pathway would be influenced by the hydrogeological properties of mudstone and sandstone formations and local groundwater flow conditions. There is no site-specific data to define the hydraulic conductivity of the lower coal measures at the quarry site. Reference to published data sets[3] indicates that coal measures sandstones are generally extremely hard and dense with little primary porosity and low intergranular permeability. Groundwater storage and movement occurs predominantly within and through fractures in the sandstones.

Analysis of core samples from coal measures sandstones indicates average Lower Coal Measures porosity and permeability of 15% and 0.42m/day respectively. There is very limited pumping test information on hydraulic properties of coal measures strata, with available data suggesting a transmissivity of 4 to 40m/day. If, for the dataset referenced, an average sandstone thickness of 10m is assumed, with fully saturated conditions, a hydraulic conductivity range of 0.4 to 4m/day results. On the basis of available information it is reasonable to assume that coal measures sandstones typically have intergranular permeability of around 0.4m/day (4.6 x 10^{-6}m/sec) with secondary fracture-based permeability an order of magnitude higher at around 4m/day (4.6 x 10^{-5} m/sec).

Laboratory hydraulic conductivity testing on coal measures mudstone at a nearby location returned a value of 8.8 x 10^{-13} m/sec. However, it is acknowledged that this is a rock mass hydraulic conductivity and may not be representative of mudstone hydraulic conductivity at site-scale when fracture induced secondary porosity is accounted for if present. A representative mudstone hydraulic conductivity value of 1 x 10^{-9} m/s has been assumed in the HRA.

Receptors

Baseline hydrogeological assessment has provided the basis to identify potential discharge points from the groundwater systems at and beneath the quarry site. Available evidence indicates that groundwater in the upper sandstone unit discharges to springs at Nicholas Spring and Field End Farm. The underlying lower sandstone unit may provide baseflow to Baildon Dike downstream of the quarry site.

Review of the location of local licenced groundwater abstractions in relation to hydrological and geological data for the area has demonstrated that all licenced abstractions within a 1km radius of the quarry are either up-gradient of the site or sourced from a different sandstone aquifer. Licenced groundwater abstractions are not considered to be receptors

[3] Environment Agency. (2000). The physical properties of minor aquifers in England and Wales. R&D publication 68. NERC 2000.

for groundwater flowing beneath the quarry site. On the basis of the above analysis, the following receptors are relevant to hydrogeological risk assessment.

- Groundwater in the Penistone Flags Sandstone
- Spring flow at Nicholas Spring and Field End Farm
- Groundwater in the lower sandstone
- Surface water in Baildon Dike

Groundwater receptors in both sandstone units are relevant to risk associated with migration of any hazardous substances where the relevant compliance point is the base of the unsaturated zone. For non-hazardous substances, the relevant compliance points are the downstream receptors at local springs and surface water systems.

2. Hydrogeological risk assessment

2.1 The nature of the hydrogeological risk assessment

Hydrogeological risk assessment has been undertaken on a tiered basis, in accordance with current Environment Agency guidance. The hydrogeological sensitivity of Peace Wood Quarry is considered to be relatively low. Although located on a Secondary A Aquifer, the aquifer designation primarily relates to the more permeable sandstone units within the Lower Coal Measures Formation beneath the site. The site is underlain by low permeability coal measures mudstone. Backfilled former mineral workings are present down-gradient of the current quarry workings and between the application site and natural groundwater receptors.

The proposed waste recovery activity would be restricted to importation of inert waste materials only. As a consequence, the activity would involve the use of materials with low polluting potential at a location with low hydrogeological sensitivity. Tier 1 – Qualitative risk screening has been undertaken to establish whether the activity would have the potential to introduce risk to local groundwater systems and surface water receptors. Where necessary, more detailed Tier 2 – Generic quantitative risk assessment has been undertaken in relation to specific receptors.

2.2 The proposed assessment scenarios

Risk assessment has been undertaken for the full operational phase of the recovery activity and for the post-completion period. It is assumed that recovery operations will take place over a period of up to 10 years. The site will then be restored by placement of soils to produce a suitable drainage profile. Completion risk assessment has been undertaken for the remaining period.

Lifecycle phases

The composition of waste accepted at the site is expected to remain relatively constant over the lifetime of the facility. Lifecycle phases are therefore restricted to pre and post operational phases in which there would be no major hydrogeological change.

2.3 The priority contaminants to be assessed

As described at Section 1.2.4, the priority contaminants to be modelled are those that form the inert waste source term. As the data is derived from single value limit values, the concentration of each priority substance is represented in the models as a single value. The source term is defined as shown in Table 5.

Table 5: Inert waste source term

Substance	Modelled concentration (mg/l)
Arsenic	0.05
Barium	2.00
Cadmium	0.004
Lead	0.05
Mercury	0.001
Nickel	0.04

2.4 Review of technical precautions

The site would be licensed to receive inert waste. As discussed at Section 1 of this report, the site is located on a Secondary A Aquifer. The quarry floor consists of low permeability coal measures mudstone that would form a natural hydraulic barrier between inert waste materials and the lower sandstone aquifer. The majority of the site has a basal elevation of 190 – 200 mAOD. Available borehole records indicate groundwater in the lower sandstone at an elevation of 181.92 mAOD demonstrating the presence of unsaturated conditions below the excavation floor.

The upper sandstone unit outcrops as an open face along part of the southern site boundary (see Figure 5). As recovery activity leads to infilling of the quarry site there would be no natural hydraulic barrier between the waste and the upper sandstone. It is therefore proposed that a low permeability attenuation layer would be placed adjacent to the upper sandstone outcrop along the southern face during infilling operations. The attenuation layer would be designed to achieve the equivalent protection of a 1m thick layer of 1 x 10^{-9}m/sec permeability.

2.5 Tier 1 – Qualitative risk screening

Tier 1 risk screening has been undertaken in accordance with Environment Agency guidance on groundwater risk assessment for environmental permitting. Derivation of a representative inert waste source term, as detailed at Section 1, has already involved initial risk screening to establish which substances potentially present in inert waste materials could be present at concentration above the relevant EQS. The analysis resulted in the conclusion that six substances could exceed the relevant EQS and should therefore be subject to further risk analysis.

Of the six priority substances, arsenic, cadmium, lead and mercury are defined as hazardous substances. Barium and nickel are defined as non-hazardous substances. The compliance point for hazardous substances is entry to groundwater i.e. the base of the unsaturated zone. Dilution and dispersion processes in the aquifer are therefore not relevant to risk assessment

for hazardous substances. Relevant attenuation processes are restricted to processes active during migration through the natural barrier/attenuating layer. For non-hazardous substances, the compliance point is defined as the relevant downstream receptor and therefore dilution in the aquifer is relevant.

Dilution factors for each of the two contaminant migration pathways have been calculated by comparison of potential leachate migration rates and groundwater flow rates beneath or adjacent to the quarry site.

A provisional estimate of the effect of attenuation processes in the unsaturated zone, consisting of the in-situ mudstone or a boundary attenuating layer, has been undertaken by estimation of substance retardation factors on the following basis.

Retardation factor (Rf) = 1 + (p/n) x Kd, where

p = bulk density of the mudstone (g/cm^3)
n = effective porosity of the mudstone
Kd = substance specific distribution coefficient (ml/g)

Retardation, resulting from a combination of processes including ion exchange, sorption, degradation and precipitation/dissolution, can result in significantly increased substance travel time leading to a reduction in peak concentration. Retardation effects have been estimated through calculation of changes to the groundwater recharge volume over an increased migration timescale and hence proportionate reduction in substance concentration. Mudstone properties and substance specific parameters have been derived from other quantitative studies of inert leachate migration through coal measures mudstone formations. Most quantitative assessments apply a range of Kd values to represent parameter uncertainty. For this provisional assessment, mean Kd values have been applied to represent reasonable 'worst case' conditions. The results are presented in Table 6.

Table 6: Estimated substance concentrations after attenuation

Substance	Inert WAC limit value (mg/l)	EAL (mg/l)	Assumed Kd	Retardation factor	Attenuated concentration at base of mudstone/barrier (mg/l)
Arsenic	0.05	0.005	100	9	0.006
Barium	2.00	1.00	300	25	0.08
Cadmium	0.004	0.0001	750	61	0.00007
Lead	0.05	0.0002	10000	801	0.00006
Mercury	0.001	0.00001	2000	160	0.000006
Nickel	0.04	0.02	400	32	0.0013

The results of provisional attenuation analysis as presented in Table 6 suggest that, at the base of the unsaturated zone, the concentration of all priority substances is likely to have been reduced to below the relevant EAL, with the exception of arsenic which just exceeds the EAL. The difference between the estimated attenuated concentrations and the relevant EAL is generally large enough to account for uncertainty and assumptions used in the

analysis. On the basis that the relevant compliance point for hazardous substances arsenic, cadmium, lead and mercury is the point of entry to groundwater in the upper or lower sandstone aquifer, the analysis indicates that there would be no discernible release of hazardous substances to groundwater with the possible exception of arsenic based on the 'worst case' assumptions used in the analysis.

For non-hazardous substances the relevant compliance point is the down-gradient boundary of the quarry site or defined down-gradient receptors. Dilution in the groundwater system is therefore relevant to non-hazardous substances. A dilution factor has been estimated by comparison of recharge rate over the quarry site and groundwater flow rate through either of the two sandstone aquifers beneath the site. Recharge is calculated as 20% of annual rainfall over an approximate site area of 45,000m^2, resulting in a site-wide recharge rate of approximately 20m^3/d. Groundwater flow is estimated for a mixing zone of 4m, a hydraulic gradient of 0.016 and an average hydraulic conductivity of 4.6 x 10^{-5}m/s, resulting in an average groundwater flow rate beneath the site of approximately 95m^3/d. The resultant dilution factor is therefore approximately 4.5. Non-hazardous substance concentrations after dilation are presented in Table 7.

Table 7: Estimated substance concentrations after attenuation and dilution

Substance	Inert WAC limit value (mg/l)	EAL (mg/l)	Attenuated concentration at base of mudstone/barrier (mg/l)	Concentration after attenuation and dilution (mg/l)
Arsenic	0.05	0.005	0.006	-
Barium	2.00	1.00	0.08	0.018
Cadmium	0.004	0.0001	0.00007	-
Lead	0.05	0.0002	0.00006	-
Mercury	0.001	0.00001	0.000006	-
Nickel	0.04	0.02	0.0013	0.0003

The effect of dilution would further reduce non-hazardous substance concentrations at the downstream compliance point of defined receptors.

The above Tier 1 Qualitative risk screening analysis indicates that, with the possible exception of arsenic, the proposed inert waste recovery activity at Peace Wood Quarry would not lead to unacceptable discharge of hazardous or non-hazardous substances to groundwater. All other substances are screened out following application of attenuation and dilution processes. It is noted that no account has been taken of substance dispersion in either the unsaturated mudstone or the saturated sandstone formations. Predicted substance concentrations at receptors are therefore expected to be worst case maximum concentrations. It is anticipated that when attenuated processes are fully accounted for there is unlikely to be any discernible release of arsenic at the base of the unsaturated zone.

2.6 Tier 2 – Generic quantitative risk assessment

As all priority substances are screened out during Tier 1 Qualitative risk screening, there is no requirement to progress to Tier 2 Generic quantitative risk assessment. However, it is

useful to consider the provisional quantitative data resulting from Tier I assessment as a basis for more detailed analysis of potential effects at defined receptors down-gradient of Peace Wood Quarry.

The conceptual hydrogeological model defines receptors of groundwater flowing beneath the quarry site as follows.

- Groundwater in the Penistone Flags Sandstone
- Spring flow at Nicholas Spring and Field End Farm
- Groundwater in the lower sandstone
- Surface water in Baildon Dike

Where data is available, the predicted inert waste substance concentration in groundwater can be compared to existing background groundwater quality as defined by analysis of groundwater emerging at Nicholas Spring. Comparison is included in Table 8 below.

Table 8: Comparison of predicted substance concentration with background groundwater quality

Parameter	Units	Min	Mean	Max	EAL	Predicted concentration at receptor
Cadmium	µg/l	<0.20	<0.20	<0.20	0.1	0.016
Nickel	µg/l	<1.0	<1.0	<1.0	20	0.3

Table 8 indicates that predicted substance concentrations at the down-gradient boundary of the quarry are equivalent to or below the substance concentration in background groundwater. It is noted that no account has been taken of substance dispersion in either the unsaturated mudstone or the saturated sandstone formations. Predicted substance concentrations at receptors are therefore expected to be worst case maximum concentrations.

2.7 Emissions to groundwater

Potential emissions of hazardous and non-hazardous substances to groundwater have been investigated through Tier 1 – Qualitative risk screening and Tier 2 – Generic quantitative risk assessment. The results are discussed at Sections 2.5 and 2.6.

2.7.1 Hazardous substances

Qualitative risk screening has indicated that, following inert waste recovery activity, there is unlikely to be any discernible release of hazardous substances to groundwater in the Lower Coal Measures Secondary A Aquifers at Peace Wood Quarry. It is considered that the use of conservative assumptions in the screening analysis allows for adequate representation of parameter uncertainty.

2.7.2 Non-hazardous pollutants

Qualitative risk screening has indicated that, following inert waste recovery activity, there would be no deterioration in the quality of groundwater in the Lower Coal Measures Secondary A Aquifers at Peace Wood Quarry. At the down-gradient compliance point all substances would be present at concentrations below the relevant EAL. It is considered that the use of conservative assumptions in the screening analysis allows for adequate representation of parameter uncertainty.

Generic quantitative risk assessment has demonstrated that the proposed development would have no adverse impact on groundwater quality at down-gradient receptors.

2.8 Hydrogeological completion criteria

Tier 1 and Tier 2 risk assessment has been undertaken for the site during recovery operations i.e. with inert waste materials fully open to rainfall recharge. As indicated on the proposed restoration scheme drawing SQ/0922/PA-05, the site would be restored with surface gradients designed to promote effective runoff of surface water. As a consequence, waste recharge rates would reduce following completion of inert waste deposition and site restoration. The site would therefore continue to meet the requirements of the Groundwater Regulations throughout its operational life and to the point of closure and permit surrender.

3. Requisite surveillance

3.1 The risk based monitoring scheme

3.1.1 Groundwater monitoring

The quality of groundwater will continue to be monitored down-gradient of the site throughout the recovery operation and any subsequent management period. As shown on Drawing 233/04/02, the site is already equipped with three down-gradient groundwater monitoring boreholes (BH01, BH02 & BH07). Groundwater level and quality has been monitored on a regular basis since 2020.

The existing monitoring network provides capability for down-gradient monitoring of groundwater quality at the downstream site boundary and at Nicholas Spring, the primary receptor. As discussed at Section 1.2.3, groundwater emerging from the Upper Sandstone is considered to be the source of water draining via Nicholas Stream. Monitoring location SWA1 is located at the upstream end of the watercourse providing a basis for monitoring groundwater quality prior to any impact of surface drainage. No additional groundwater monitoring boreholes are considered necessary.

It is proposed that groundwater quality monitoring at existing monitoring points BH01, BH02, BH07, continue on a quarterly basis, as at present. With no expectation of groundwater quality deterioration, it is proposed that permit limit values at each monitoring point could initially be established in relation background groundwater quality or the relevant EAL. Where present in background groundwater the proposed limit value has been set at maximum background concentration + 20% to allow for natural variation.

It is acknowledged that, whilst screened out in evaluation of inert waste WAC values, ammoniacal nitrogen, chloride and sulphate can be considered as general indicators of groundwater quality down-gradient of areas infilled with inert waste. Ammoniacal nitrogen is included in the current analytical suite for groundwater and surface water samples. It is recommended that chloride and sulphate are added to the analytical suite. Proposed limit values for the six priority substances are presented in Table 9.

Table 9: Proposed limit values

Substance	Inert WAC limit value (mg/l)	EAL (mg/l)	Max background groundwater (mg/l)	Proposed limit values (mg/l)
Ammoniacal nitrogen		0.5	2.6	3.12
Arsenic	0.05	0.005	0.0	0.005
Barium	2.00	1.00	-	1.0
Cadmium	0.004	0.0001	0.0	0.0001
Chloride	80	250	-	250
Lead	0.05	0.0002	-	0.0002
Mercury	0.001	0.00001	0.0	0.00001
Nickel	0.04	0.02	0.06	0.072
Sulphate	100	250	-	250

3.1.2 Surface water monitoring

Surface water quality will continue to be monitored at three locations (SWA1, SWA2 & SWA3) down-gradient of the site. The existing surface water monitoring network provides a basis for monitoring water quality in Baildon Dike tributaries down-gradient of the site and the off-site discharge of treated surface water runoff. Surface water quality would be monitored on a quarterly basis.

4. Conclusions

4.1 Compliance with the Groundwater Regulations 2009

The hydrogeology of the site and surrounding area has been determined through prior investigation and development of a conceptual hydrogeological model.

Tier 1 Qualitative risk screening has demonstrated that inert waste recovery operations at Peace Wood Quarry is unlikely to result in any discernible release of hazardous substances to groundwater and that there would be no deterioration in groundwater quality due to any release of non-hazardous substances.

Proposals for the monitoring of groundwater quality and the establishment of proposed permit limit values as part of the requisite surveillance program have been established.

The proposed development would therefore be compliant with the requirements of the Groundwater Regulations 2009.

For S M Foster Associates Limited

Stephen M Foster
BSc MSc PhD CGEOL MCIWEM CSi CEnv FIQ
Principal Consultant

Drawings

S M Foster Associates Limited
Hydrological and Hydrogeological Consultants

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Email:stephen.foster@smfassociates.co.uk

Approximate site boundary

CLIENT:
NAYLOR INDUSTRIES LIMITED

PROJECT:

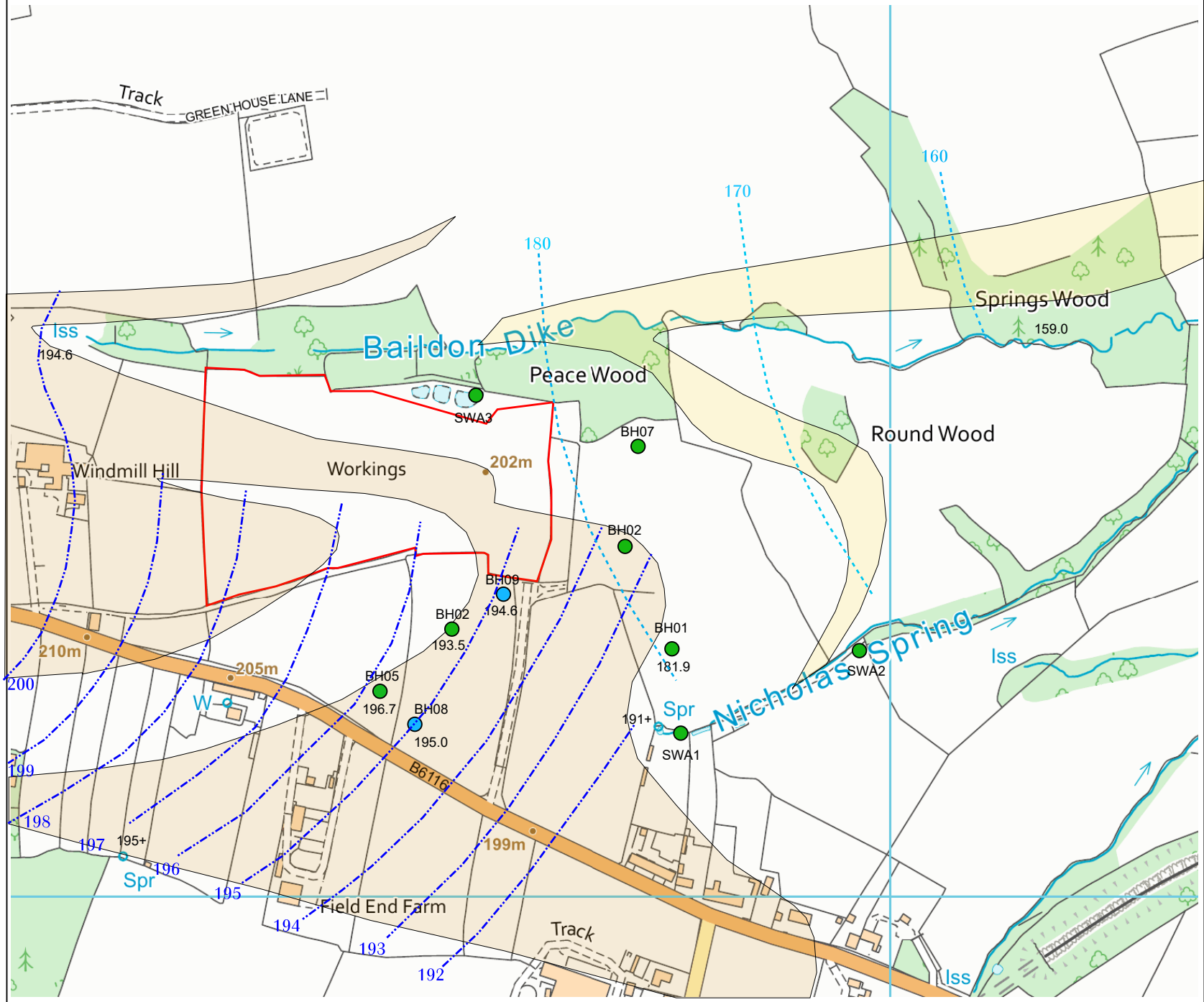
PROPOSED INERT WASTE RECOVERY, PEACE WOOD QUARRY, SHELLEY, WEST YORKSHIRE

HYDROGEOLOGICAL RISK ASSESSMENT

Ref:233/04/01/0423	Date: April 2023
Approved: smf	Rev:

DRAWING 233/04/01

SITE LOCATION AND LOCAL HYDROLOGY



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Email:stephen.foster@smfassociates.co.uk

Approximate site boundary

BH08 195.0 — Monitoring Borehole (2019) Groundwater level mAOD

BH05 196.7 — Monitoring Borehole (2017) Groundwater level mAOD

Approximate extent of upper sandstone outcrop (pre-quarry)

Approximate extent of lower sandstone outcrop

192 — Groundwater contour upper sandstone (mAOD)

170 — Groundwater contour upper sandstone (mAOD)

CLIENT:
NAYLOR INDUSTRIES LIMITED

PROJECT:
PROPOSED INERT WASTE RECOVERY, PEACE WOOD QUARRY, SHELLEY, WEST YORKSHIRE

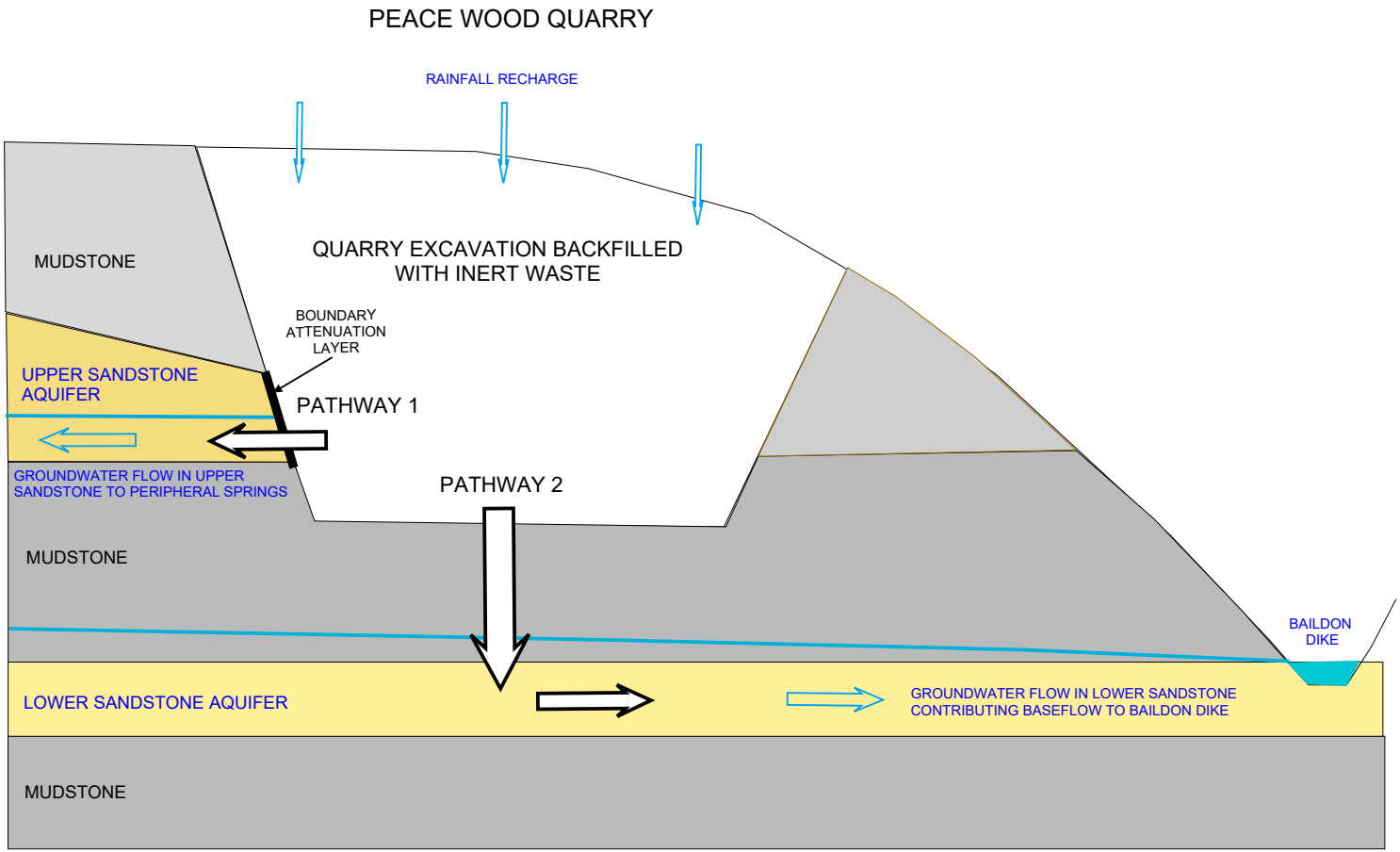
HYDROGEOLOGICAL RISK ASSESSMENT

Ref:233/04/02/0423	Date: April 2023
Approved: smf	Rev:

DRAWING 233/04/02
INDICATIVE GROUNDWATER CONTOUR PLAN

SW

NE



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PROJECT:
PROPOSED INERT WASTE RECOVERY, PEACE WOOD QUARRY, SHELLEY, WEST YORKSHIRE

HYDROGEOLOGICAL RISK ASSESSMENT

Ref:233/04/03/0423	Date: April 2023
Approved: smf	Rev: 1

DRAWING 233/04/03
CONCEPTUAL HYDROGEOLOGICAL MODEL

Appendix A

Envirocheck datasheets

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
309881560_1_1

Customer Reference:
233/04

National Grid Reference:
421550, 411350

Slice:
A

Site Area (Ha):
0.01

Search Buffer (m):
1000

Site Details:

P B Horticulture Ltd, Church View Nurseries
Huddersfield Road
Shelley
HUDDERSFIELD
HD8 8LF

Client Details:

Mr S Foster
SM Foster Associates Ltd
7 Bownas Road
Boston Spa
Leeds
LS23 6EX

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LANDMARK INFORMATION GROUP®

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Ove Arup Copyright Notice

Stantec Copyright Notice

Radon Potential dataset Copyright Notice

Natural Resources Wales Copyright Notice

Report Version v53.0

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes		n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1			3	8
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 3		Yes		
Pollution Incidents to Controlled Waters	pg 4				10
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 5				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 5			1	12 (*15)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 12	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 12	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones	pg 13				3
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 13		1	6	39

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 19			1	
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 19		2		
Licensed Waste Management Facilities (Locations)	pg 19			1	
Local Authority Landfill Coverage	pg 19	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Registered Landfill Sites	pg 20		2		
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 21	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 21			4	10
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 23	Yes	n/a	n/a	n/a
Mining Instability	pg 23	Yes	n/a	n/a	n/a
Man-Made Mining Cavities	pg 23			1	
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 23		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 24	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 24		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 24		Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 25				8
Fuel Station Entries	pg 25				2
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland	pg 26				2
Areas of Adopted Green Belt	pg 26	1			
Areas of Unadopted Green Belt	pg 26	1			
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 26	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	0	1	421545 411345
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	231	1	421750 411450
1	**Discharge Consents** Operator: Naylor Industries Ltd Property Type: Undefined Or Other Location: Peace Wood Quarry Huddersfield Road, Shelley, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C4969 Permit Version: 1 Effective Date: 15th February 1988 Issued Date: 15th February 1988 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage (Contaminated Surface Water, Not Waste Sites) Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Baildon Dike **Status: Transferred from COPA 1974** Positional Accuracy: Located by supplier to within 100m	A13NE (E)	269	2	421810 411390
2	**Discharge Consents** Operator: Naylor Industries Ltd Property Type: Undefined Or Other Location: Peace Wood Quarry Huddersfield Road, Shelley, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C4969 Permit Version: 1 Effective Date: 15th February 1988 Issued Date: 15th February 1988 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage (Contaminated Surface Water, Not Waste Sites) Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Baildon Dike **Status: Transferred from COPA 1974** Positional Accuracy: Located by supplier to within 10m	A13NE (E)	325	2	421870 411350
3	**Discharge Consents** Operator: Naylor Industries Ltd Property Type: Undefined Or Other Location: Peace Wood Quarry Huddersfield Road, Shelley, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C4969 Permit Version: 1 Effective Date: 15th February 1988 Issued Date: 15th February 1988 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage (Contaminated Surface Water, Not Waste Sites) Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Baildon Dike **Status: Transferred from COPA 1974** Positional Accuracy: Located by supplier to within 10m	A14SW (E)	434	2	421950 411190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: Yorkshire Water Services Ltd Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Roydhouse Sewage Treatment Works Roydhouse, Kirkburton, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 1362 Permit Version: 3 Effective Date: 30th July 1985 Issued Date: 30th July 1985 Revocation Date: 27th April 1986 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Baildon Dike **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	797	2	421800 412100
4	**Discharge Consents** Operator: Yorkshire Water Services Ltd Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Roydhouse Sewage Treatment Works Roydhouse, Kirkburton, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 1362 Permit Version: 2 Effective Date: 10th June 1983 Issued Date: 10th June 1983 Revocation Date: 29th July 1985 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Baildon Dike **Status: Transferred from 1978 Order** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	797	2	421800 412100
4	**Discharge Consents** Operator: Kirkburton Urban District Council Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Roydhouse Sewage Treatment Works Roydhouse, Kirkburton, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 1362 Permit Version: 1 Effective Date: 21st November 1961 Issued Date: 21st November 1961 Revocation Date: 9th June 1983 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Baildon Dike **Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	797	2	421800 412100
5	**Discharge Consents** Operator: Yorkshire Water Services Ltd Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Roydhouse Sewage Treatment Works Roydhouse, Kirkburton, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 4232(Ss) Permit Version: 3 Effective Date: 31st October 1996 Issued Date: 31st October 1996 Revocation Date: 9th December 1996 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Trib Of Baildon Dike **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	893	2	421800 412200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: Yorkshire Water Services Ltd Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Roydhouse Sewage Treatment Works Roydhouse, Kirkburton, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 4232(Ss) Permit Version: 2 Effective Date: 1st August 1996 Issued Date: 1st August 1996 Revocation Date: 30th October 1996 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status:** **Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	893	2	421800 412200
5	**Discharge Consents** Operator: Yorkshire Water Services Ltd Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Roydhouse Sewage Treatment Works Roydhouse, Kirkburton, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 4232(Ss) Permit Version: 1 Effective Date: 28th April 1986 Issued Date: 28th April 1986 Revocation Date: 31st July 1996 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Not Supplied **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	893	2	421800 412200
5	**Discharge Consents** Operator: Yorkshire Water Services Ltd Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Roydhouse Sewage Treatment Works Roydhouse, Kirkburton, Huddersfield, West Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 4232(Ss) Permit Version: 1 Effective Date: 28th April 1986 Issued Date: 28th April 1986 Revocation Date: 31st July 1996 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	893	2	421800 412200
6	**Discharge Consents** Operator: John A. Hinchcliffe Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Hopstrines Farm Bungalow, Strike Lane, Skelmanthorpe Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C5323 Permit Version: 1 Effective Date: 16th November 1988 Issued Date: 16th November 1988 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of Baildon Dyke **Status:** **Transferred from COPA 1974** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	966	2	422500 411200
	Nearest Surface Water Feature	A13NE (NE)	94	-	421600 411420

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Pollution Incidents to Controlled Waters** Property Type: Farm Location: Mouth/Source Holme Af Authority: Environment Agency, North East Region Pollutant: Animal Waste/Slurry Note: Not Supplied Incident Date: 18th June 1994 Incident Reference: 152347 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	570	2	421900 410900
8	**Pollution Incidents to Controlled Waters** Property Type: Other General Premises Location: Fenay Beck Authority: Environment Agency, North East Region Pollutant: Oils - Other Oil Note: Fish Killed: No Information Incident Date: 22nd January 1995 Incident Reference: SL950208 Catchment Area: Calder Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	658	2	420905 411195
8	**Pollution Incidents to Controlled Waters** Property Type: Other General Premises Location: Fenay Beck Authority: Environment Agency, North East Region Pollutant: Oils - Other Oil Note: Fish Killed: No Information Incident Date: 20th January 1995 Incident Reference: SL950204 Catchment Area: Calder Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	662	2	420900 411200
8	**Pollution Incidents to Controlled Waters** Property Type: Other General Premises Location: Fenay Beck Authority: Environment Agency, North East Region Pollutant: Oils - Other Oil Note: Fish Killed: No Information Incident Date: 20th January 1995 Incident Reference: SL950207 Catchment Area: Calder Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	663	2	420900 411195
9	**Pollution Incidents to Controlled Waters** Property Type: Domestic/Residential Location: Bretton/Source Dearne Afu Authority: Environment Agency, North East Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Not Supplied Incident Date: 31st March 1992 Incident Reference: 131761 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	757	2	422300 411300
10	**Pollution Incidents to Controlled Waters** Property Type: Other General Premises Location: COLNE Authority: Environment Agency, North East Region Pollutant: Oils - Other Oil Note: Fish Killed: No Information; Colne Incident Date: 19th January 1995 Incident Reference: SL950201 Catchment Area: Calder Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	760	2	420800 411200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Pollution Incidents to Controlled Waters** Property Type: Food industry Location: Shepley Dike, HUDDERSFIELD Authority: Environment Agency, North East Region Pollutant: Surcharged Sewage Note: No Fish Killed Incident Date: 1st April 1997 Incident Reference: SL970293 Catchment Area: Calder Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	847	2	421500 410500
12	**Pollution Incidents to Controlled Waters** Property Type: Farm Location: Bretton/Source Dearne Afu Authority: Environment Agency, North East Region Pollutant: Agricultural: Yard Run Off (Dirty Water) Note: Not Supplied Incident Date: 19th October 1991 Incident Reference: 127794 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	956	2	422500 411300
12	**Pollution Incidents to Controlled Waters** Property Type: Mixed Agricultural Location: Strike Lane, SKELMANTHORPE Authority: Environment Agency, North East Region Pollutant: Organic Wastes: Dairy / Parlour Washings Note: Park Gate Dike; Biology Affected; Fish Killed: No Information Incident Date: 29th September 1998 Incident Reference: SH980349 Catchment Area: Dearne Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14SE (E)	957	2	422500 411295
13	**Pollution Incidents to Controlled Waters** Property Type: Farm Location: Strike Lane Authority: Environment Agency, North East Region Pollutant: Agricultural: General Note: Not Supplied Incident Date: 28th January 1989 Incident Reference: 6741 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	968	2	422500 411500
	River Quality Name: Fenay_Beck/Shepley_Dike GQA Grade: River Quality B Reach: Upper_Cumberworth_Woodsome_R Estimated Distance (km): 9.6 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A7NW (SW)	993	2	420776 410718
14	**Water Abstractions** Operator: Armitage Garden Centre Licence Number: 2/27/11/187 Permit Version: 1 Location: Borehole-Lower Coal Measures-Pennine Garden Centre Authority: Environment Agency, North East Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Pennine Garden Centre, Huddersfield Road, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th April 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12SE (W)	469	2	421100 411200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	**Water Abstractions** Operator: C & M Hall Licence Number: 2/27/08/126 Permit Version: 4 Location: Borehole- Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 31st October 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SE (N)	565	2	421550 411910
15	**Water Abstractions** Operator: C & M Hall Licence Number: 2/27/08/126 Permit Version: 3 Location: Borehole- Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SE (N)	565	2	421550 411910
15	**Water Abstractions** Operator: T R & C Hall Licence Number: 2/27/08/126 Permit Version: 2 Location: Borehole- Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 18th September 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SE (N)	565	2	421550 411910
15	**Water Abstractions** Operator: T R & C Hall Licence Number: 2/27/08/126 Permit Version: 2 Location: Underground Strata - Coal Measures Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 18th September 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SE (N)	565	2	421550 411910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Water Abstractions** Operator: Mr & Mrs R & M Dearnley Licence Number: 2/27/11/178 Permit Version: 100 Location: Borehole - Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 27 Yearly Rate (m3): 9855 Details: Barkhouse Farm, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A12NE (W)	664	2	420900 411500
17	**Water Abstractions** Operator: T R & C Hall Licence Number: 2/27/08/126 Permit Version: 1 Location: Borehole- Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	860	2	421750 412180
17	**Water Abstractions** Operator: T R & C Hall Licence Number: 2/27/08/126 Permit Version: 1 Location: Borehole- Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: Household Water Supply: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	860	2	421750 412180
18	**Water Abstractions** Operator: C & M Hall Licence Number: 2/27/08/126 Permit Version: 4 Location: Borehole - Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 31st October 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	898	2	421820 412200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Water Abstractions** Operator: C & M Hall Licence Number: 2/27/08/126 Permit Version: 3 Location: Borehole - Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	898	2	421820 412200
18	**Water Abstractions** Operator: T R & C Hall Licence Number: 2/27/08/126 Permit Version: 2 Location: Borehole - Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 18th September 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	898	2	421820 412200
18	**Water Abstractions** Operator: T R & C Hall Licence Number: 2/27/08/126 Permit Version: 1 Location: Borehole - Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	898	2	421820 412200
18	**Water Abstractions** Operator: T R & C Hall Licence Number: 2/27/08/126 Permit Version: 1 Location: Borehole - Coal Measures - Shelley Authority: Environment Agency, North East Region Abstraction: Household Water Supply: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wool Row Farm, Roydhouse, Shelley, Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NE (N)	898	2	421820 412200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Shelley Textiles Ltd Licence Number: 2/27/11/165 Permit Version: Not Supplied Location: Weir On Shepley/Barncliffe Dike , At Se 208 106 Authority: Environment Agency, North East Region Abstraction: Unclassified (Other) Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Not Supplied Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SW (SW)	1054	2	420800 410600
	Water Abstractions Operator: J & W Blackburn Limited Licence Number: 2/27/11/163 Permit Version: Not Supplied Location: Pennine Nirseries, Shelley, HUDDERSFIELD Authority: Environment Agency, North East Region Abstraction: Unclassified (Other) Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 91 Yearly Rate (m3): 13700 Details: Not Supplied Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SW (SW)	1054	2	420805 410595
	Water Abstractions Operator: J & W Blackburn Limited Licence Number: 2/27/11/164 Permit Version: Not Supplied Location: Pennine Nurseries, Shelley, HUDDERSFIELD Authority: Environment Agency, North East Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 91 Yearly Rate (m3): 23000 Details: Status: Lapsed Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SW (SW)	1058	2	420800 410595
	Water Abstractions Operator: Firth Brothers (Shepley) Ltd Licence Number: 2/27/11/071 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North East Region Abstraction: General Industrial Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 591 Yearly Rate (m3): 136380 Details: Licence Lapsed Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A6NW (W)	1735	2	419900 410795

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Firth Brothers (Shepley) Ltd Licence Number: 2/27/11/082 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North East Region Abstraction: General Industrial Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 591 Yearly Rate (m3): 136380 Details: Coal Measures Licence Lapsed Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A6SW (SW)	1750	2	419940 410650
	Water Abstractions Operator: Hepworth Pipe Co Ltd Licence Number: 2/27/11/124 Permit Version: 100 Location: Spring - Coal Measures - Day Hole Workings Authority: Environment Agency, North East Region Abstraction: Mineral Products: General Use(High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 27 Yearly Rate (m3): 6800 Details: Workings At Cumberworth, Nr. Huddersfield Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 26th May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1764	2	421800 409600
	Water Abstractions Operator: Technifleece Ltd Licence Number: 2/27/08/091 Permit Version: 103 Location: Borehole - Coal Measures - Skelmathorpe Authority: Environment Agency, North East Region Abstraction: Textiles And Leather: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th March 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1811	2	423300 410900
	Water Abstractions Operator: Fleece Ltd Inc Dawson Fabrics Licence Number: 2/27/08/091 Permit Version: 102 Location: Borehole - Coal Measures - Skelmathorpe Authority: Environment Agency, North East Region Abstraction: Textiles & Leather: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st October 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1811	2	423300 410900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Fleece Ltd Inc Dawson Fabrics Licence Number: 2/27/08/091 Permit Version: 102 Location: Borehole - Coal Measures - Skelmathorpe Authority: Environment Agency, North East Region Abstraction: Textiles And Leather: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st October 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1811	2	423300 410900
	Water Abstractions Operator: Fleece Ltd Inc Dawson Fabrics Licence Number: 2/27/08/091 Permit Version: 102 Location: Borehole - Coal Measures - Skelmathorpe Authority: Environment Agency, North East Region Abstraction: Textiles And Leather: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st October 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1811	2	423300 410900
	Water Abstractions Operator: Dawson Fabrics Limited Licence Number: 2/27/08/091 Permit Version: 101 Location: Borehole - Coal Measures - Skelmathorpe Authority: Environment Agency, North East Region Abstraction: Textiles & Leather: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 6th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1811	2	423300 410900
	Water Abstractions Operator: Dawson Fabrics Limited Licence Number: 2/27/08/091 Permit Version: 101 Location: Borehole - Coal Measures - Skelmathorpe Authority: Environment Agency, North East Region Abstraction: Textiles And Leather: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 6th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1811	2	423300 410900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Dawson Fur Fabrics Limited Licence Number: 2/27/08/091 Permit Version: 100 Location: Borehole Authority: Environment Agency, North East Region Abstraction: Textiles And Leather: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 545 Yearly Rate (m3): 131000 Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th September 1977 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1811	2	423300 410900
	Water Abstractions Operator: Dawson Fur Fabrics Limited Licence Number: 2/27/08/091 Permit Version: 100 Location: Borehole Authority: Environment Agency, North East Region Abstraction: Textiles & Leather: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Greenside, Skelmanthorpe, W. Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th September 1977 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1811	2	423300 410900
	Water Abstractions Operator: Edwin Field & Sons Ltd Licence Number: 2/27/08/020 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North East Region Abstraction: General Industrial Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 91 Yearly Rate (m3): 22730 Details: Millstone Grit Licence Lapsed Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1870	2	423300 410700
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13NE (NE)	0	3	421545 411345
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (NE)	0	3	421545 411345
	Superficial Aquifer Designations No Data Available				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	**Source Protection Zones** Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone I (Inner Protection Zone): Travel time of 50 days or less to the groundwater source.	A18SE (N)	514	2	421551 411859
20	**Source Protection Zones** Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone I (Inner Protection Zone): Travel time of 50 days or less to the groundwater source.	A12NE (W)	613	2	420950 411489
21	**Source Protection Zones** Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone I (Inner Protection Zone): Travel time of 50 days or less to the groundwater source.	A18NE (N)	848	2	421807 412151
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1080.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baildon Dike Catchment Name: Don and Rother Primacy: 1	A13NW (N)	114	4	421542 411459
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	331	4	421806 411143
24	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 5.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	332	4	421806 411141
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	337	4	421809 411137
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: Underground Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	354	4	421830 411135

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	357	4	421834 411137
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 508.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A13SE (SE)	365	4	421850 411145
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 240.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8NW (SW)	570	4	421241 410864
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 304.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14SW (E)	588	4	422113 411193
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 289.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A18SE (N)	604	4	421686 411932
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 172.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8NE (S)	623	4	421570 410723
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 31.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8NW (S)	653	4	421429 410703
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 479.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A9NW (SE)	668	4	422084 410951
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 255.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8NW (S)	682	4	421414 410676

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8NW (S)	682	4	421415 410677
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 54.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A14NE (E)	714	4	422258 411374
38	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 30.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	721	4	421954 411938
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 46.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Nicholas Spring Catchment Name: Don and Rother Primacy: 1	A14NE (E)	724	4	422264 411428
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	739	4	421985 411938
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8NW (SW)	745	4	421208 410682
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 70.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8NW (SW)	745	4	421208 410682
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 269.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baildon Dike Catchment Name: Don and Rother Primacy: 1	A14NE (E)	754	4	422289 411463
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 205.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A7NE (SW)	767	4	421140 410695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 160.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	779	4	421933 412020
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 179.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	787	4	422061 411939
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	836	4	422204 411858
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 172.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	843	4	422208 411865
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A7SE (SW)	843	4	421206 410574
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 195.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A7SE (SW)	850	4	421196 410570
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14SE (E)	856	4	422395 411251
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14SE (E)	857	4	422397 411251
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 81.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14SE (E)	861	4	422401 411253

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 450.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SE (NE)	886	4	422350 411715
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 206.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Shepley Dike Catchment Name: Aire and Calder Primacy: 1	A7SE (SW)	889	4	421167 410541
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 276.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Shepley Dike Catchment Name: Aire and Calder Primacy: 1	A8SW (S)	893	4	421408 410463
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 75.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A7SE (SW)	899	4	421012 410623
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 85.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Shepley Dike Catchment Name: Aire and Calder Primacy: 1	A8SW (S)	906	4	421513 410440
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 247.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Shepley Dike Catchment Name: Aire and Calder Primacy: 1	A7SE (SW)	907	4	421067 410575
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 114.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A8SW (S)	918	4	421242 410479
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 142.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14SE (E)	924	4	422467 411297
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 121.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A7SE (SW)	925	4	420937 410649

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SE (NE)	926	4	422348 411806
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 443.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SE (NE)	927	4	422349 411806
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 58.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Shepley Dike Catchment Name: Aire and Calder Primacy: 1	A8SE (S)	928	4	421596 410419
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Aire and Calder Primacy: 1	A7NW (SW)	973	4	420827 410690
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 148.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Baildon Dike Catchment Name: Don and Rother Primacy: 1	A14NE (E)	986	4	422525 411455

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Shelley Woodhouse Name: Field End Farm Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD04803 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: 4400/(83)	A13SW (S)	358	2	421410 411014
69	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: Peace Wood Licence Number: 61050 Location: Huddersfield Road, Shelley, Huddersfield, West Yorkshire Licence Holder: Naylor Drainage Ltd Authority: Environment Agency - North East Region, Ridings Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) Max Input Rate: Small (Less than 25,000 tonnes per year) **Licence Status:** **Inactive** Issued: 11th April 1995 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A13NE (NE)	139	2	421663 411418
70	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: Peace Wood Licence Number: 61050 Location: Land/premises At, Huddersfield Road, Shelley, Huddersfield, West Yorkshire, HD8 8LH Licence Holder: Naylor Drainage Ltd Authority: Environment Agency - North East Region, Yorkshire Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) Max Input Rate: Not Supplied **Licence Status:** **Closure** Issued: 11th April 1995 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A13NE (NE)	141	2	421663 411421
71	**Licensed Waste Management Facilities (Locations)** Licence Number: 61050 Location: Land/premises At, Huddersfield Road, Shelley, Huddersfield, West Yorkshire, HD8 8LH Operator Name: Naylor Drainage Ltd Operator Location: Not Supplied Authority: Environment Agency - North East Region, Yorkshire Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) **Licence Status:** **Closed** Issued: 11th April 1995 Last Modified: 4th November 2000 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	299	2	421800 411500
	Local Authority Landfill Coverage Name: Kirklees Metropolitan Borough Council - Has not been able to supply Landfill data		0	5	421545 411345

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	**Registered Landfill Sites** Licence Holder: Naylor Drainage Ltd Licence Reference: WD20 W1156 (1481) Site Location: Peace Wood, Huddersfield Road, Shelley, Huddersfield, West Yorkshire Licence Easting: 421750 Licence Northing: 411350 Operator Location: Clough Green, Cawthorne, BARNSLEY, South Yorkshire, S75 4AD Authority: Environment Agency - North East Region, Ridings Area Site Category: Landfill Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Status: Operational as far as is knownOperational Dated: 1st November 2000 Preceded By Licence: WD20 W1156 (1481) Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Maximum Waste Permitted By Licence Ukw 21.01.01 Inert - Rock & Stone Ukw 21.01.02 Inert - Sub-Soils Ukw 21.02.02 Inert - Ceramics Ukw 21.02.03 Inert - Concrete/Mortar (Not Unused) Prohibited Waste: Liable To Cause Environmental Hazards Other Waste/Waste Not Otherwise Specified Poisonous, Noxious, Polluting Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs)	A13NE (E)	205	2	421750 411350
72	**Registered Landfill Sites** Licence Holder: Naylor Brothers Clayware Ltd Licence Reference: WD20 W1156 (1481) Site Location: Peace Wood, Huddersfield Road, Shelley, Huddersfield, West Yorkshire Licence Easting: 421750 Licence Northing: 411350 Operator Location: Clough Green, Cawthorne, BARNSLEY, South Yorkshire, S75 4AD Authority: Environment Agency - North East Region, Ridings Area Site Category: Landfill Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Status: Record supersededSuperseded Dated: 11th April 1995 Preceded By Licence: Not Given Superseded By Licence: WD20 W1156 (1481) Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Breeze Blocks/Building Sand/Gravel/ Tiles/Other Ceramic Mat'Ls/Slate Max.Waste Permitted By Licence Uncontam. Brick/Stone/Solid Conc./ Uncontam. Earth & Excav'N Waste Prohibited Waste: Liable To Cause Environmental Hazards Poisonous, Noxious, Polluting Wastes Special Wastes (As In '96 Regs) Waste N.O.S.	A13NE (E)	205	2	421750 411350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Pennine Lower Coal Measures Formation And South Wales Lower Coal Measures Formation (Undifferentiated)	A13NE (NE)	0	1	421545 411345
73	**BGS Recorded Mineral Sites** Site Name: Peace Wood Quarry Location: Skelmanthorpe, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 2570 Type: Opencast **Status: Active** Operator: Naylor Clayware Ltd Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Fireclay Positional Accuracy: Located by supplier to within 100m	A13SE (E)	259	1	421800 411300
73	**BGS Recorded Mineral Sites** Site Name: Peace Wood Quarry Location: Skelmanthorpe, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 2570 Type: Opencast **Status: Active** Operator: Naylor Clayware Ltd Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 100m	A13SE (E)	259	1	421800 411300
74	**BGS Recorded Mineral Sites** Site Name: Windmill House Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94653 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	274	1	421315 411493
75	**BGS Recorded Mineral Sites** Site Name: Wood Field House Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94654 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	277	1	421404 411107
76	**BGS Recorded Mineral Sites** Site Name: Springs Wood Coal Pit Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94659 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	529	1	421969 411660

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	**BGS Recorded Mineral Sites** Site Name: Green House Collieries Pit Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94631 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	771	1	421083 411962
78	**BGS Recorded Mineral Sites** Site Name: Green House Collieries Mine Location: Roydhouse, Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94629 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	796	1	422089 411925
79	**BGS Recorded Mineral Sites** Site Name: Green House Collieries Pit Location: Roydhouse, Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94628 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NW (N)	807	1	421539 412152
80	**BGS Recorded Mineral Sites** Site Name: Green House Colliery Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 13344 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Fireclay Positional Accuracy: Located by supplier to within 10m	A18NW (NW)	820	1	421225 412100
80	**BGS Recorded Mineral Sites** Site Name: Green House Colliery Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 13344 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NW (NW)	820	1	421225 412100
81	**BGS Recorded Mineral Sites** Site Name: Shelley Coal Pits Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94656 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A12SW (W)	846	1	420702 411284

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	**BGS Recorded Mineral Sites** Site Name: Shelley Coal Pits Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94657 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A12NW (W)	847	1	420709 411478
83	**BGS Recorded Mineral Sites** Site Name: Shelley Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94655 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A12SW (W)	866	1	420689 411217
84	**BGS Recorded Mineral Sites** Site Name: Green House Collieries Pit Location: Shelley, Huddersfield, West Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 94630 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	930	1	420969 412075
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NE (NE)	0	6	421545 411345
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NE (NE)	0	-	421545 411345
	Mining Instability Mining Evidence: Conclusive Rock Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NE (NE)	0	-	421545 411345
	Man-Made Mining Cavities Easting: 421600 Northing: 411700 Distance: 360 Quadrant Reference: A18 Quadrant Reference: SE Bearing Ref: N Cavity Type: Not supplied Commodity: Fireclay Solid Geology Detail: No Details Superficial Geology Detail: No Details	A18SE (N)	360	7	421600 411700
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	212	1	421521 411555

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	45	1	421562 411386
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	127	1	421561 411470
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (E)	132	1	421674 411319
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (N)	212	1	421521 411555
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	2	1	421545 411343
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	45	1	421562 411386
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	204	1	421712 411461
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	421545 411345

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	**Contemporary Trade Directory Entries** Name: Sovereign Agricultural Services Ltd Location: Wool Row Lane, Shelley, Huddersfield, West Yorkshire, HD8 8LW Classification: Agricultural Engineers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	881	-	420988 412027
86	**Contemporary Trade Directory Entries** Name: Tim Hoyle Location: Near Bank, Shelley, Huddersfield, HD8 8LS Classification: Digital Printing **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SW (W)	898	-	420703 411035
87	**Contemporary Trade Directory Entries** Name: Stargate Of Shelley Location: 4b, Near Bank, Shelley, HUDDERSFIELD, HD8 8LS Classification: Wrought Ironwork **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	905	-	420663 411145
88	**Contemporary Trade Directory Entries** Name: Star Garage Location: 165, Huddersfield Road, Shelley, Huddersfield, HD8 8LB Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	940	-	420615 411208
88	**Contemporary Trade Directory Entries** Name: Star Garage Location: 165, Huddersfield Road, Shelley, Huddersfield, HD8 8LB Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	943	-	420613 411206
88	**Contemporary Trade Directory Entries** Name: Bulk Transport Location: Near Bank Garage,Near Bank, Shelley, Huddersfield, West Yorkshire, HD8 8LS Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SW (W)	943	-	420613 411207
88	**Contemporary Trade Directory Entries** Name: Ian W Bentley Bulk Transport Location: Near Bank Garage, Shelley, Huddersfield, West Yorkshire, HD8 8LS Classification: Road Haulage Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12SW (W)	943	-	420613 411204
89	**Contemporary Trade Directory Entries** Name: Simpson Bros Quarries Location: The Saw Yard,Near Bank, Shelley, Huddersfield, West Yorkshire, HD8 8LS Classification: Quarries **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	976	-	420606 411080
90	**Fuel Station Entries** Name: Star Garage Location: Huddersfield Road , Shelley , Huddersfield, West Yorkshire, HD8 8LB Brand: Unbranded Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	941	-	420615 411208
90	**Fuel Station Entries** Name: Shelley Bank Service Station Location: 165, Penistone Road , Shelley , Huddersfield, West Yorkshire, HD8 8LB Brand: Uk Premises Type: Petrol Station **Status: Closed** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	944	-	420612 411206

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	**Ancient Woodland** Name: Springs Wood Reference: 1103281 Area(m²): 28437.36 Type: Ancient and Semi-Natural Woodland	A14NW (NE)	513	8	421976 411622
92	**Ancient Woodland** Name: Lightcliff Wood/Rough Piece Reference: 1103282 Area(m²): 42239.02 Type: Plantation on Ancient Woodland	A19SW (NE)	759	8	422107 411854
93	**Areas of Adopted Green Belt** Authority: Kirklees Metropolitan Borough Council Plan Name: Kirklees Unitary Development Plan **Status: Adopted** Plan Date: 1st March 1999	A13NE (NE)	0	9	421545 411345
94	**Areas of Unadopted Green Belt** Authority: Kirklees Metropolitan Borough Council Plan Name: Kirklees Local Plan **Status: Submission Draft** Plan Date: 25th April 2017	A13NE (NE)	0	9	421545 411345
95	**Nitrate Vulnerable Zones** Name: River Dearne Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NE (NE)	0	3	421545 411345

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	January 2020	Annual Rolling Update
Environment Agency - Head Office	June 2020	Annually
Kirklees Metropolitan Borough Council - Planning Services	October 2017	Annual Rolling Update
Wakefield City Metropolitan District Council - Environmental Health	October 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - North East Region	January 2023	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North East Region	March 2013	
Integrated Pollution Controls		
Environment Agency - North East Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - North East Region	January 2023	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	April 2014	Variable
Kirklees Metropolitan Borough Council - Environmental Health Department	April 2014	Variable
Wakefield City Metropolitan District Council - Environmental Health	June 2014	Variable
Local Authority Pollution Prevention and Controls		
Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	April 2014	Annual Rolling Update
Kirklees Metropolitan Borough Council - Environmental Health Department	April 2014	Annual Rolling Update
Wakefield City Metropolitan District Council - Environmental Health	June 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	April 2014	Variable
Kirklees Metropolitan Borough Council - Environmental Health Department	April 2014	Variable
Wakefield City Metropolitan District Council - Environmental Health	June 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2023	
Pollution Incidents to Controlled Waters		
Environment Agency - North East Region	December 1998	
Prosecutions Relating to Authorised Processes		
Environment Agency - North East Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - North East Region	March 2013	
Registered Radioactive Substances		
Environment Agency - North East Region	June 2016	As notified
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register		
Environment Agency - North East Region - Ridings Area	January 2023	Quarterly
Environment Agency - North East Region - Yorkshire Area	January 2023	Quarterly
Water Abstractions		
Environment Agency - North East Region	April 2023	Quarterly
Water Industry Act Referrals		
Environment Agency - North East Region	October 2017	
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually

Data Currency

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Source Protection Zones		
Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	February 2023	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	February 2023	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	February 2023	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	February 2023	Quarterly
Flood Defences		
Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines		
Ordnance Survey	January 2023	Quarterly
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified
Waste	**Version**	**Update Cycle**
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	March 2023	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North East Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - North East Region - Ridings Area	January 2023	Quarterly
Environment Agency - North East Region - Yorkshire Area	January 2023	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North East Region - Ridings Area	January 2023	Quarterly
Environment Agency - North East Region - Yorkshire Area	January 2023	Quarterly
Local Authority Landfill Coverage		
Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	February 2003	Not Applicable
Kirklees Metropolitan Borough Council - Planning Services	February 2003	Not Applicable
Wakefield City Metropolitan District Council - Environmental Health	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	October 2018	
Kirklees Metropolitan Borough Council - Planning Services	October 2018	
Wakefield City Metropolitan District Council - Environmental Health	October 2018	
Registered Landfill Sites		
Environment Agency - North East Region - Ridings Area	March 2006	Not Applicable
Environment Agency - North East Region - Yorkshire Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North East Region - Ridings Area	April 2018	
Environment Agency - North East Region - Yorkshire Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - North East Region - Ridings Area	June 2015	
Environment Agency - North East Region - Yorkshire Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	March 2023	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Kirklees Metropolitan Borough Council - Planning Services	August 2015	Variable
Wakefield City Metropolitan District Council	February 2016	Variable
Barnsley Metropolitan Borough Council - Planning Department	January 2016	Variable
Planning Hazardous Substance Consents		
Kirklees Metropolitan Borough Council - Planning Services	August 2015	Variable
Wakefield City Metropolitan District Council	February 2016	Variable
Barnsley Metropolitan Borough Council - Planning Department	January 2016	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	November 2022	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	
Cheshire Brine Subsidence Compensation Board (CBSCB)	November 2020	As notified
Coal Mining Affected Areas		
The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Mining Instability		
Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	September 2022	Annually
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	September 2022	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	January 2023	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	February 2023	Quarterly
Gas Pipelines		
National Grid	October 2021	Bi-Annually
Underground Electrical Cables		
National Grid	February 2023	Bi-Annually
Sensitive Land Use	**Version**	**Update Cycle**
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Barnsley Metropolitan Borough Council - Planning Department	July 2022	Quarterly
Kirklees Metropolitan Borough Council	July 2022	Quarterly
Wakefield City Metropolitan District Council	July 2022	Quarterly
Areas of Unadopted Green Belt		
Barnsley Metropolitan Borough Council - Planning Department	July 2022	Quarterly
Kirklees Metropolitan Borough Council	July 2022	Quarterly
Wakefield City Metropolitan District Council	July 2022	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	August 2022	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	April 2023	Bi-Annually
National Nature Reserves		
Natural England	February 2023	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2023	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	March 2023	Bi-Annually
Ramsar Sites		
Natural England	March 2023	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

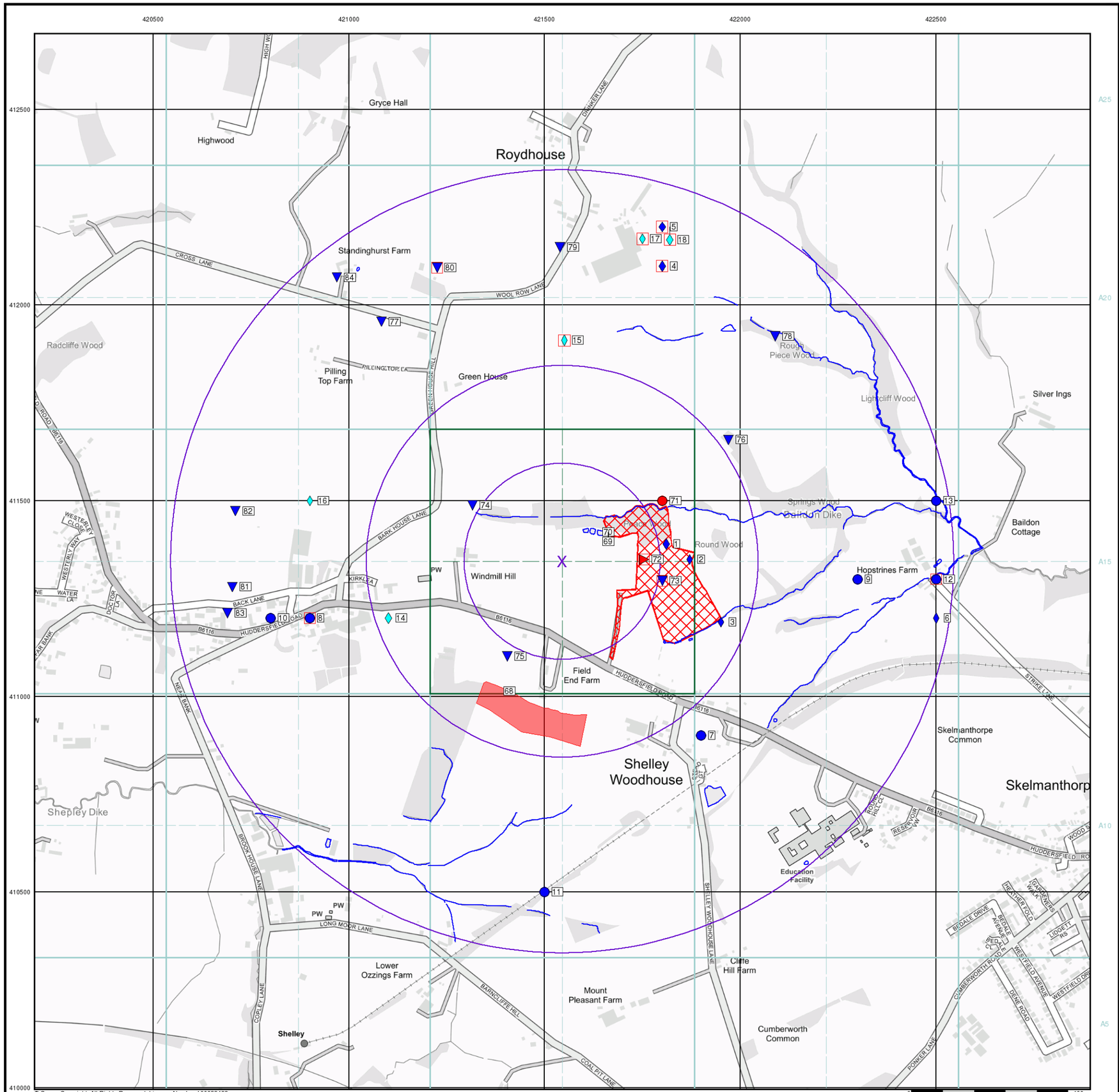
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
4	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	**Kirklees Metropolitan Borough Council - Planning Services** PO BOX B93, Civic Centre III, Off Market Street, Huddersfield, West Yorkshire, HD1 2JR	Telephone: 01484 221000 Fax: 01484 221613 Website: www.kirklees.gov.uk
6	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
7	**Stantec UK Ltd** Caversham Bridge House, Waterman Place, Reading, RG1 8DN	Telephone: 0118 950 0761 Email: pba.reading@stantec.com Website: www.stantec.com
8	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
9	**Kirklees Metropolitan Borough Council** Town Hall, Civic Centre, Huddersfield, West Yorkshire, HD1 2TA	Telephone: 01484 221000 Fax: 01484 442768 Website: www.kirklees.gov.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



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LANDMARK INFORMATION GROUP®

General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

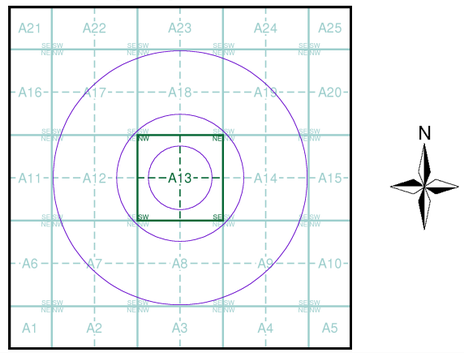
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Slice A



Order Details

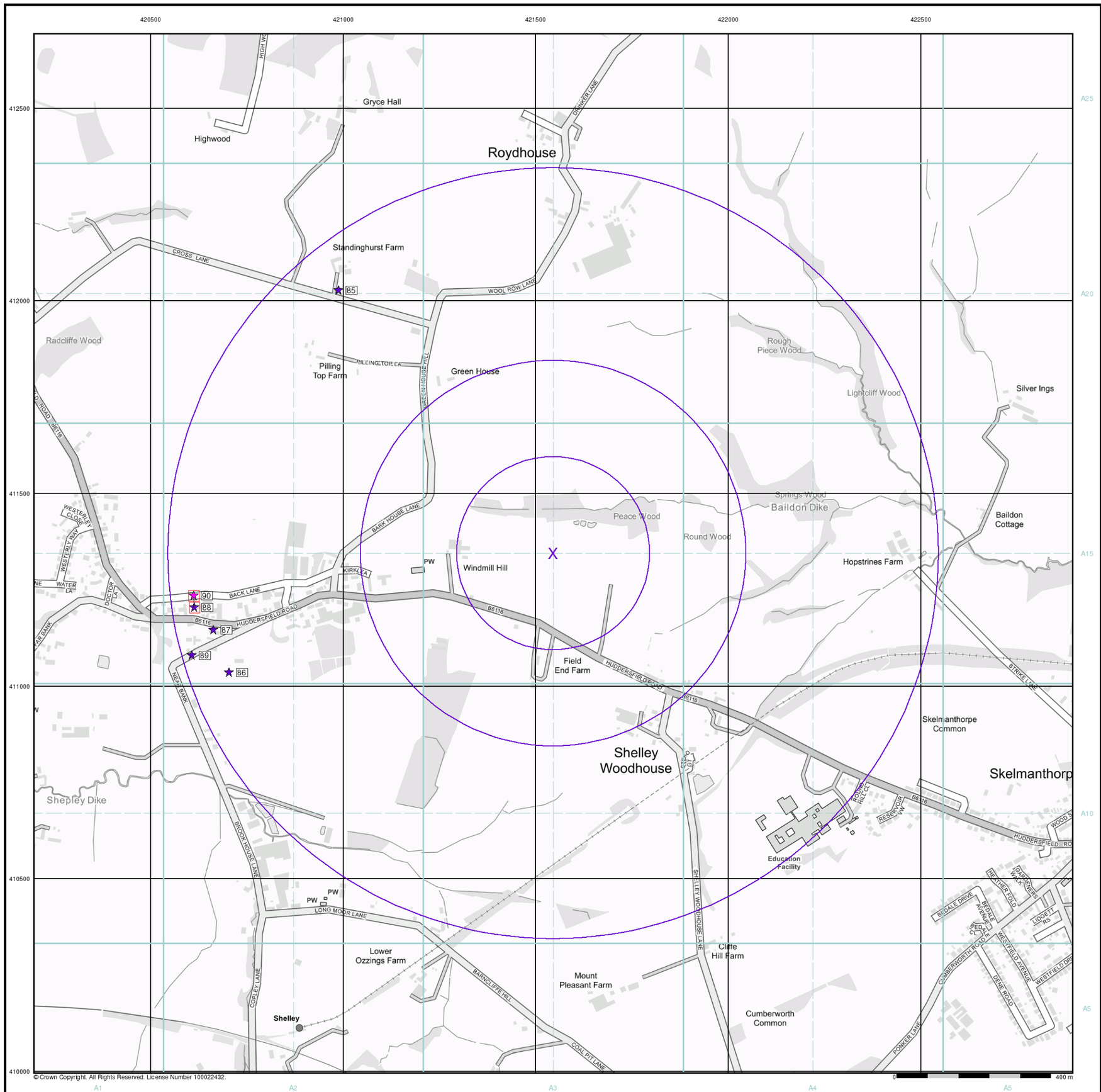
Order Number:	309881560_1_1
Customer Ref:	233/04
National Grid Reference:	421550, 411350
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

P B Horticulture Ltd, Church View Nurseries, Huddersfield Road, Shelley, HUDDERSFIELD, HD8 8LF

Landmark® INFORMATION GROUP

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



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Industrial Land Use Map

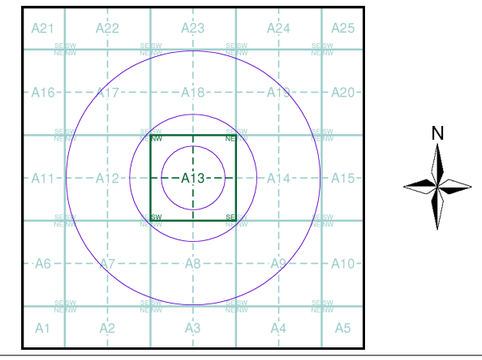
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Underground Electrical Cables

Industrial Land Use Map - Slice A



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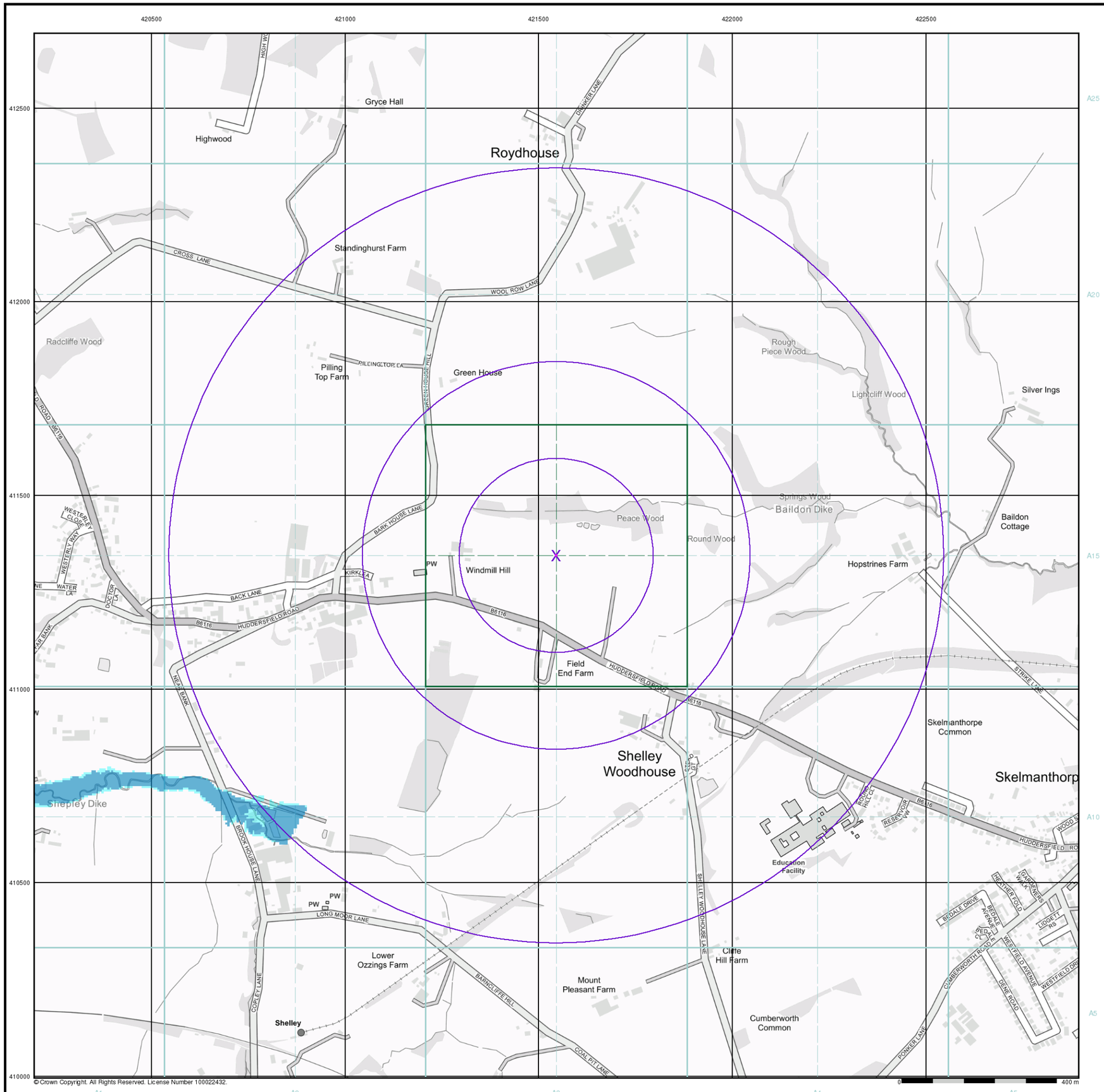

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LANDMARK INFORMATION GROUP®

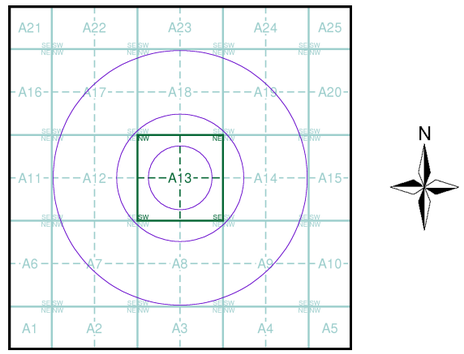
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



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Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

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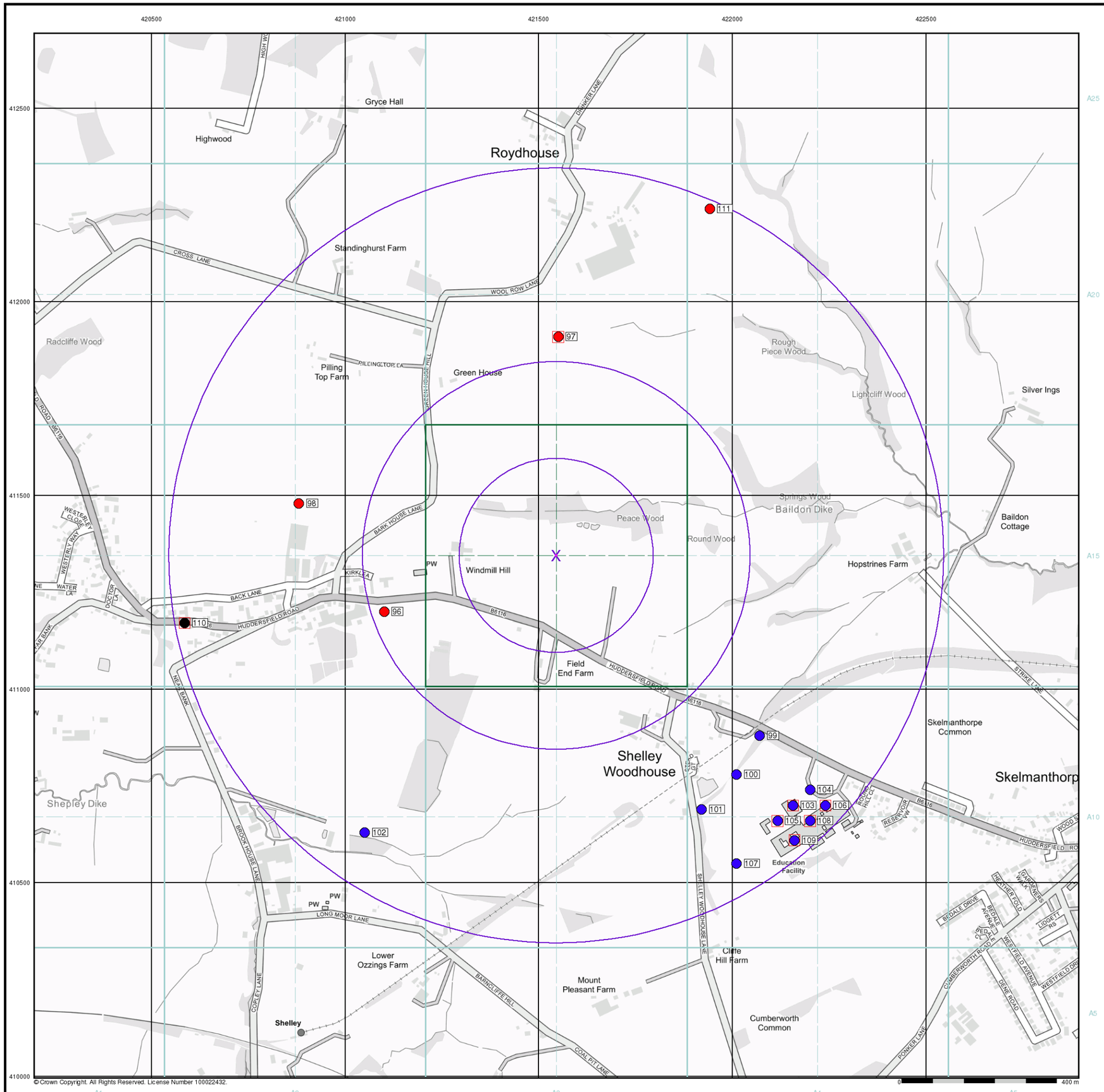

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General

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

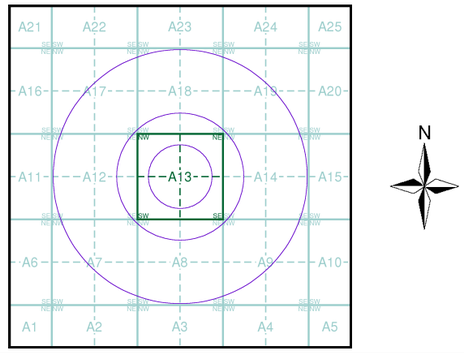
Agency and Hydrological (Boreholes)

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

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

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



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National Grid Reference:	421550, 411350
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Search Buffer (m):	1000

Site Details

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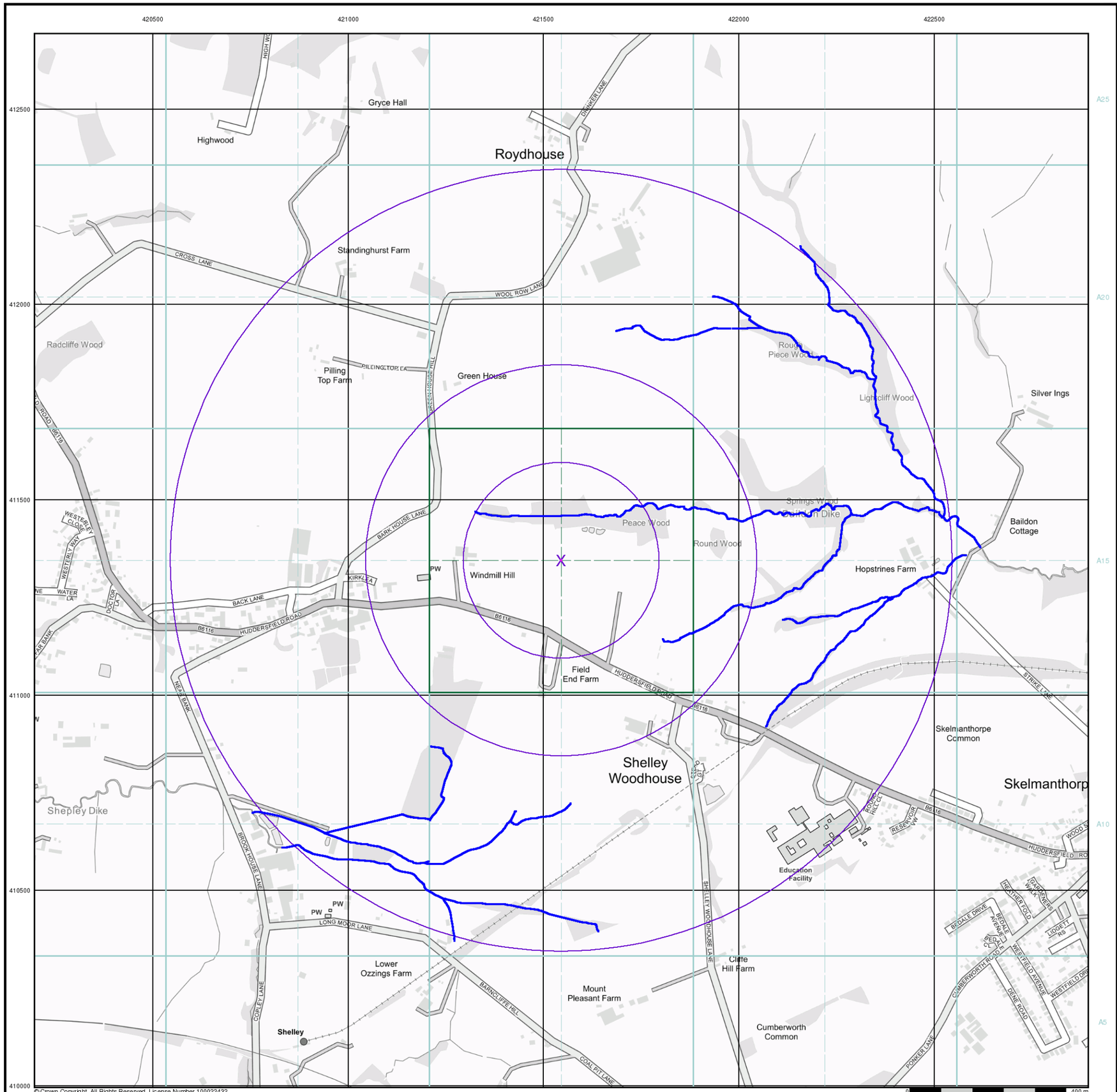

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LANDMARK INFORMATION GROUP®

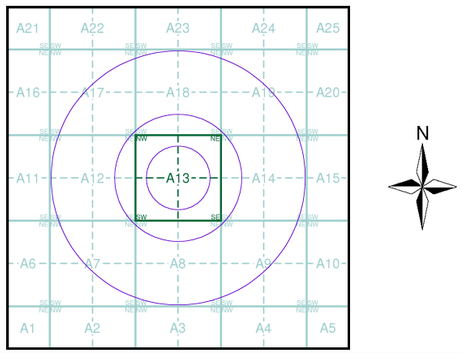
General

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

OS Water Network Data

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

OS Water Network Map - Slice A



Order Details

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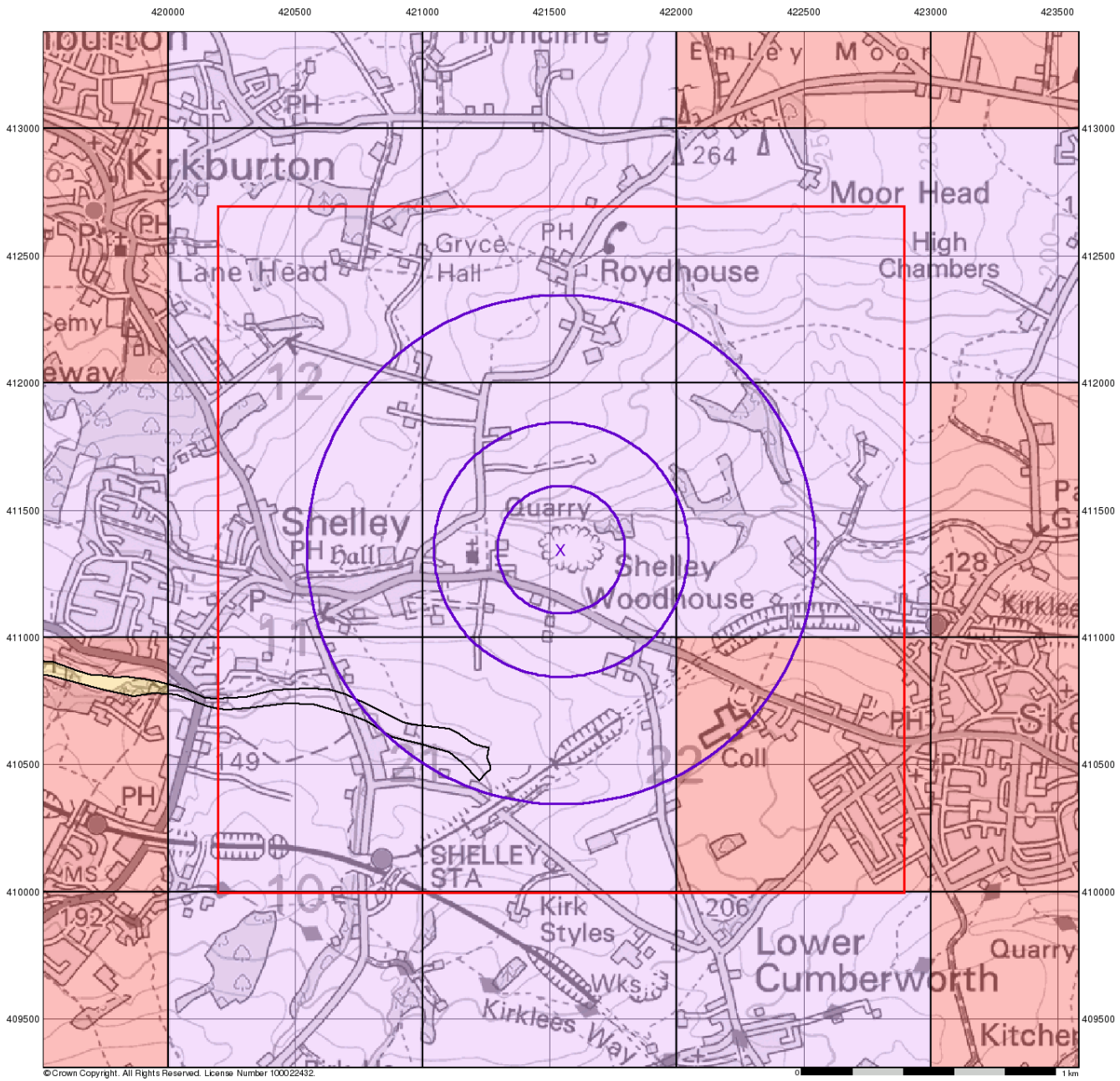

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LANDMARK INFORMATION GROUP®

Groundwater Vulnerability

General

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

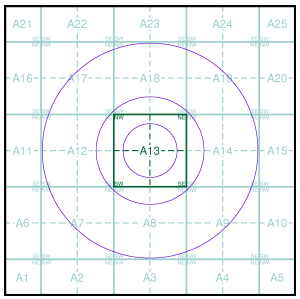
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	309881560_1_1
Customer Ref:	233/04
National Grid Reference:	421550, 411350
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

P B Horticulture Ltd, Church View Nurseries, Huddersfield Road, Shelley, HUDDERSFIELD, HD8 8LF

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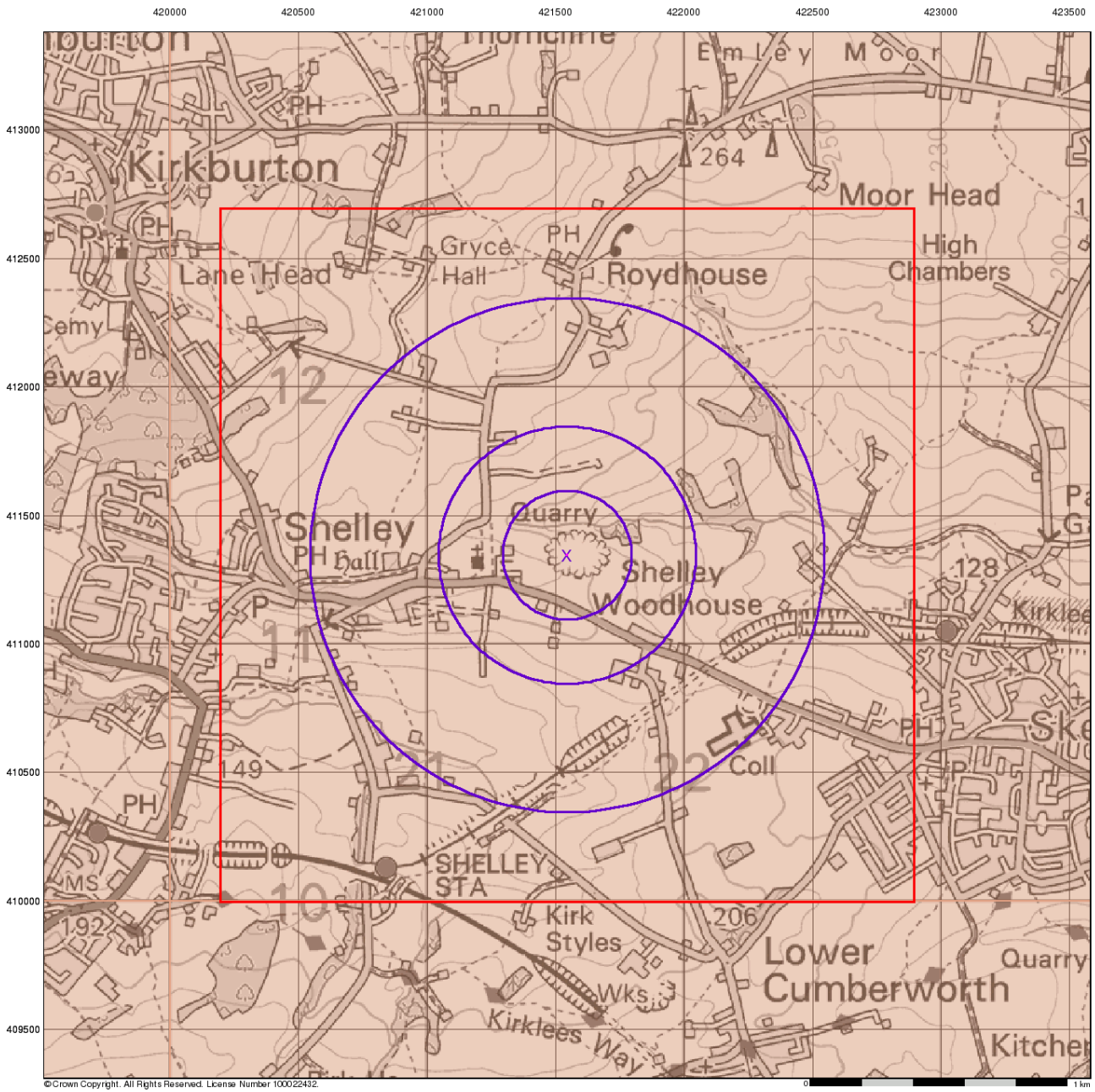

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LANDMARK INFORMATION GROUP®

Bedrock Aquifer Designation

General

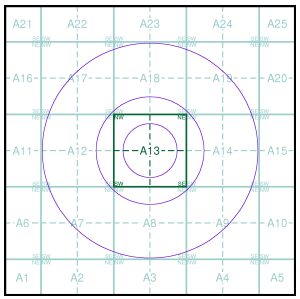
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	309881560_1_1
Customer Ref:	233/04
National Grid Reference:	421550, 411350
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

P B Horticulture Ltd, Church View Nurseries, Huddersfield Road, Shelley, HUDDERSFIELD, HD8 8LF

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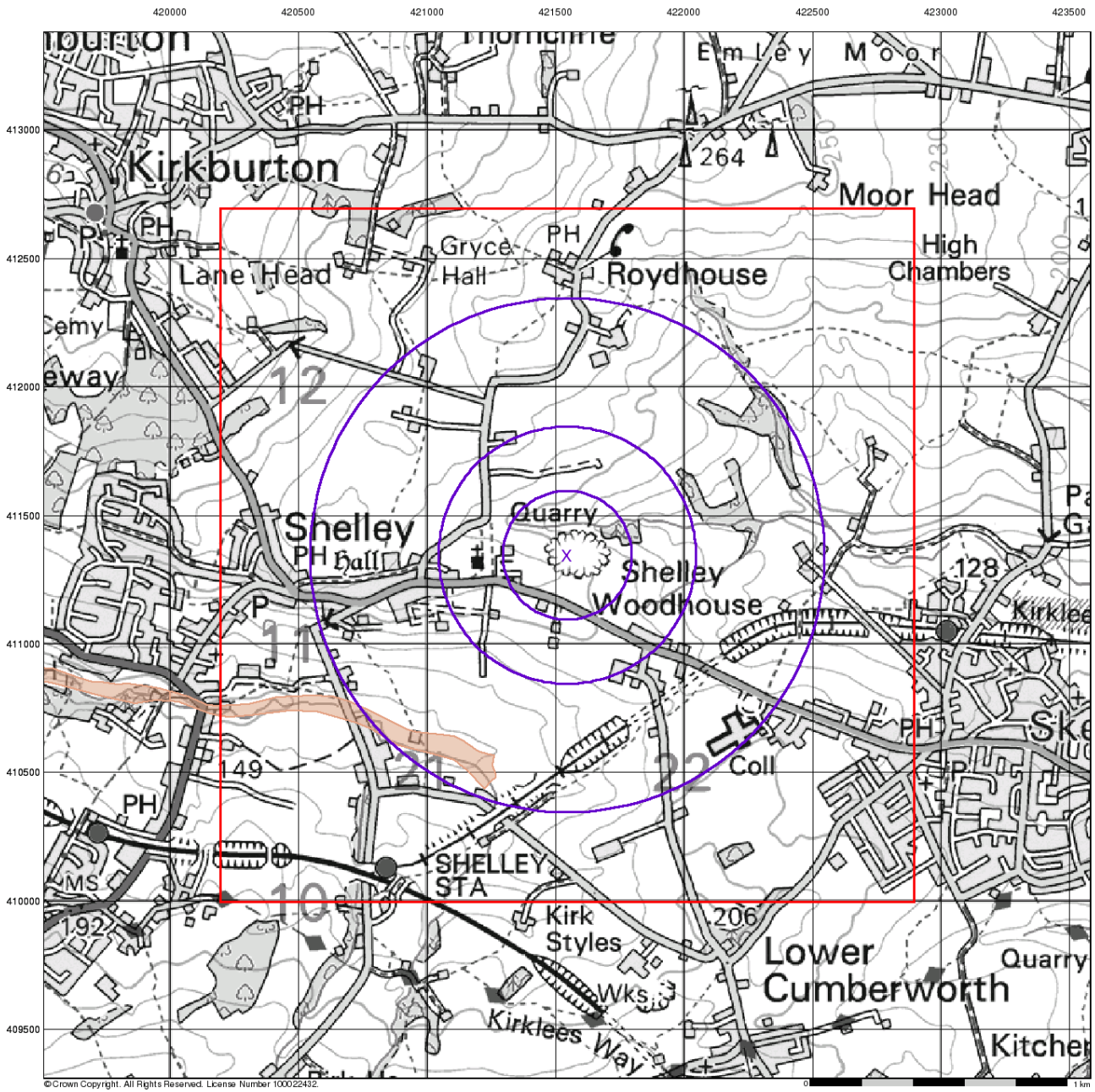

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Superficial Aquifer Designation

General

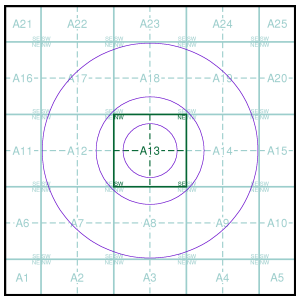
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



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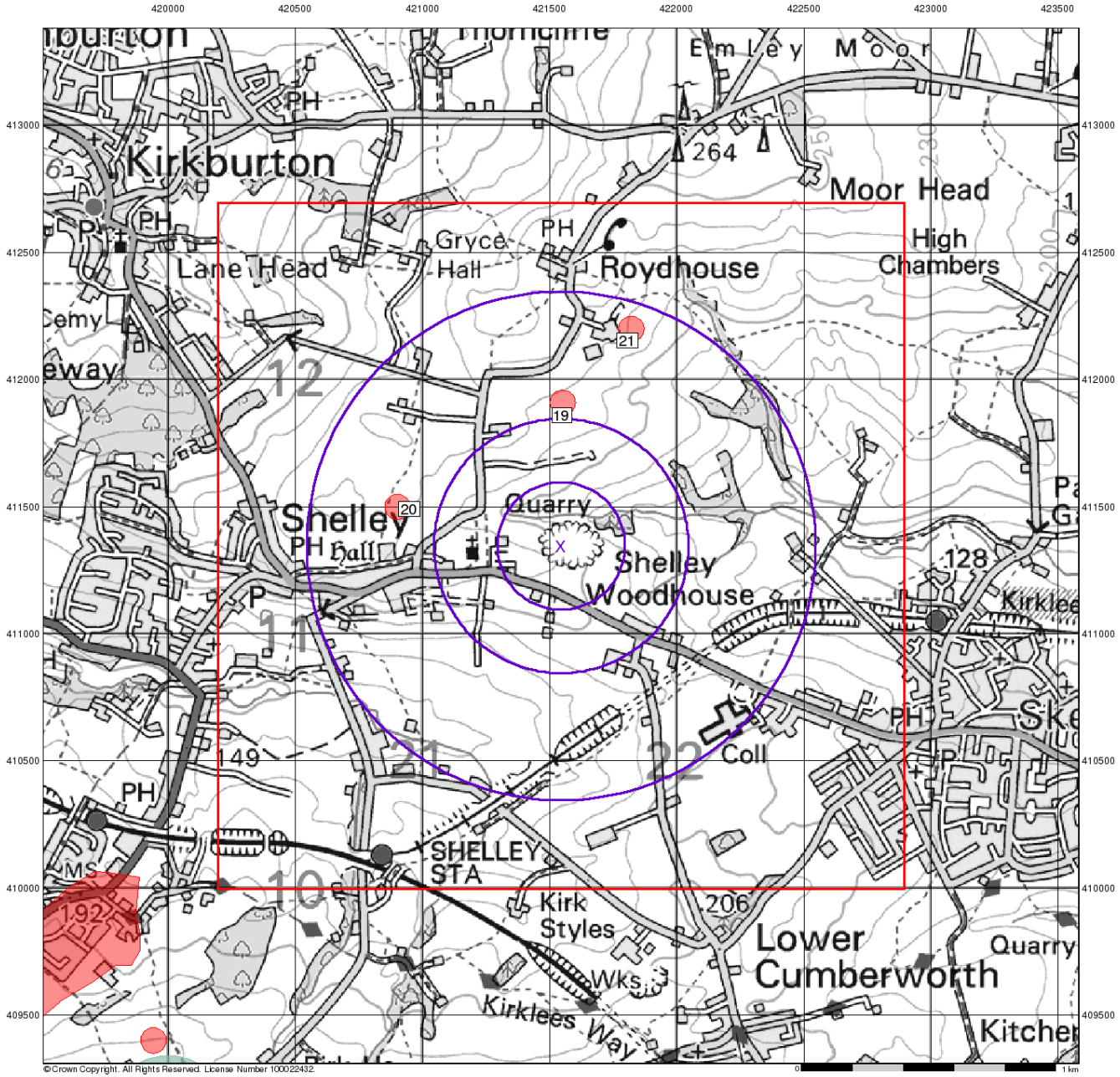

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Source Protection Zones

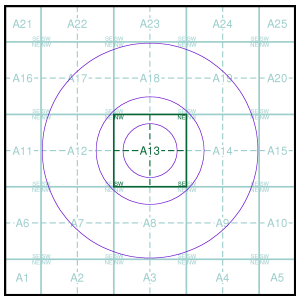
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



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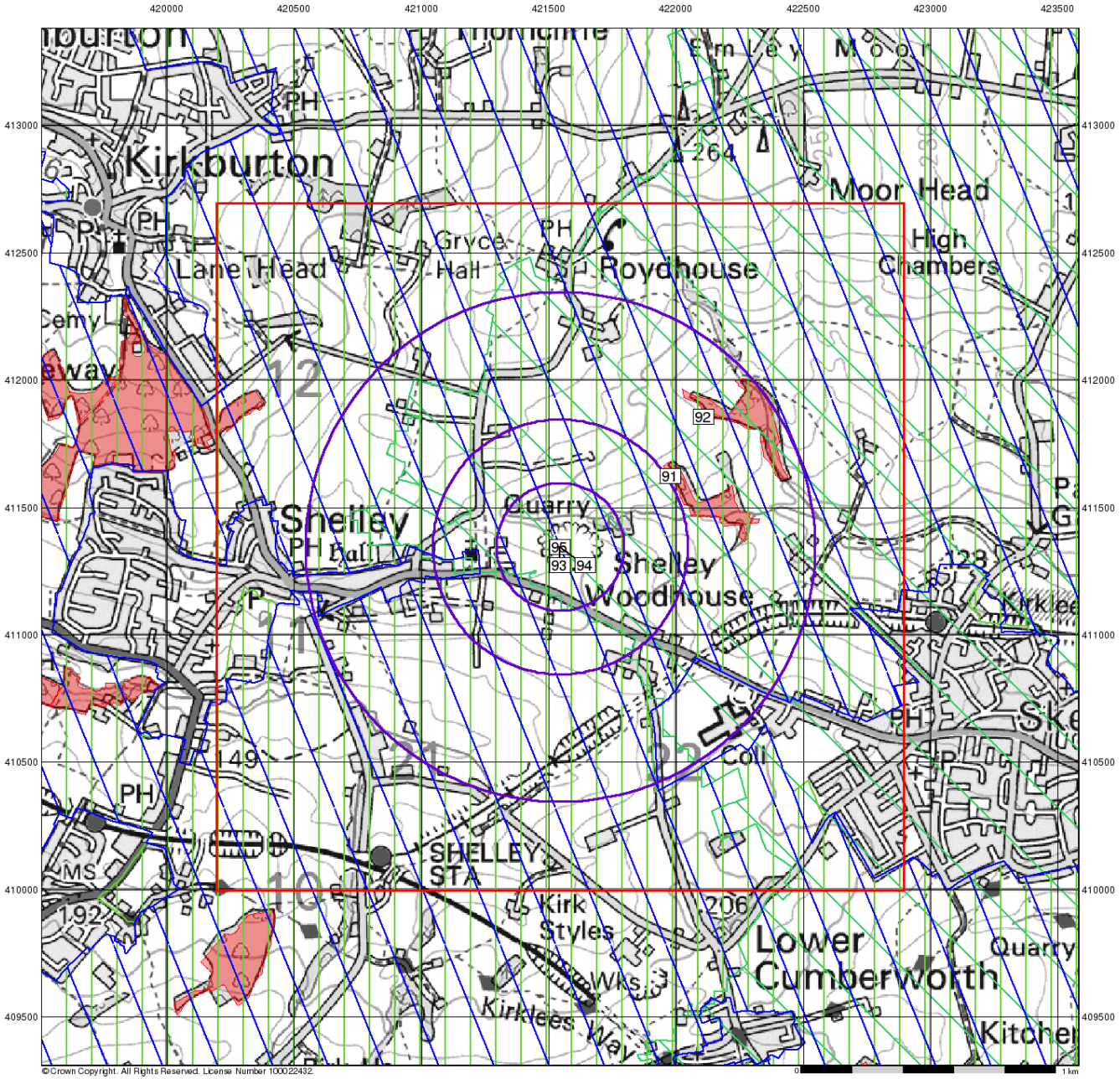

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Sensitive Land Uses

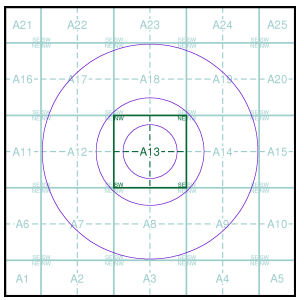
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



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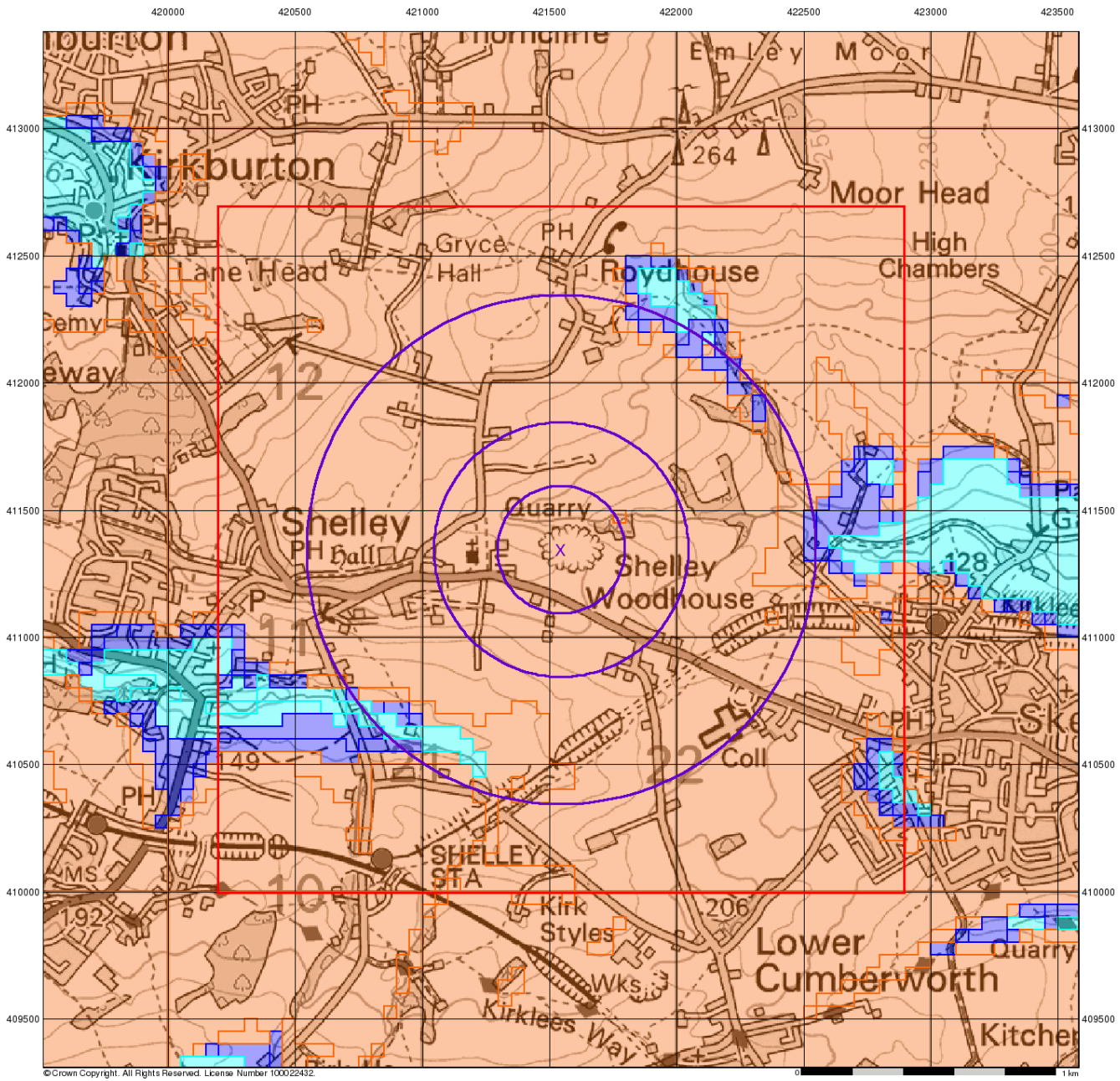

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LANDMARK INFORMATION GROUP®

BGS Flood GFS Data

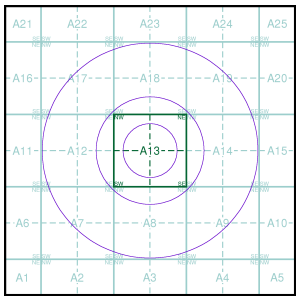
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



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Appendix B

Water quality data

BH1

Date	pH	Electrical Conductivity	Dissolved Oxygen	COD	BOD	Total Dissolved Solid	Ammoniacal nitrogen as NH4	Ammoniacal Nitrogen as NH3	Fluoride	DOC	Antimony (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Nickel (dissolved)	Selenium (dissolved)	VPH total (>C5-C10)	Total PAH 16MS (w)
	pH	µg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
14/12/2020	7.16	552	8.6	<5	2	310	0.084	0.079	0.33	1.4	<1	<1	<0.2	1	2	<1	<0.01
29/03/2021	6.99	512	6.8	<5	<1	251	0.065	0.061	0.16	1.6	<1	<1	<0.2	1	<1	<1	<0.01
30/06/2021	7.19	583	5.7	<5	<1	516	0.076	0.072	0.36	2.1	<1	<1	<0.2	4	1	<1	<0.01
05/10/2021	7.27	756	5.4	29	4	449	0.532	0.503	0.37	5.9	2	<1	0.3	85	<1	<1	<0.02
13/12/2021	7.47	588	9.4	29	<1	382	0.038	0.036	0.29	2.6	<1	<1	<0.2	<1	3	<1	<0.01
29/03/2022	6.59	696	5.5	11	<1	438	0.079	0.074	<0.10	6.4	<1	<1	<0.2	2	<1	<1	<0.01
29/06/2022	Bailer reel broke and blocked borehole																
05/10/2022	Borehole blocked																
09/01/2023	6.82	484	6.5	50	<1	413	0.228	0.215	<0.10	3.2	<1	<1	<0.2	5	1	<1	<0.01

BH2

Date	pH	Electrical Conductivity	Dissolved Oxygen	COD	BOD	Total Dissolved Solid	Ammoniacal nitrogen as NH4	Ammoniacal Nitrogen as NH3	Fluoride	DOC	Antimony (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Nickel (dissolved)	Selenium (dissolved)	VPH total (>C5-C10)	Total PAH 16MS (w)
	pH	µg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
14/12/2020	7.24	1078	3.6	26	9	616	0.085	0.081	0.6	6.3	<1	<1	<0.2	2	<1	<1	0.03
29/03/2021	7.1	1164	5.1	13	<1	741	0.095	0.089	0.44	6.3	<1	<1	<0.2	3	<1	<1	<0.01
30/06/2021	7.08	1252	1.9	27	19	1114	0.338	0.32	0.86	2.2	<1	<1	<0.2	2	<1	<1	<0.01
05/10/2021	7.03	1140	4.1	25	<1	841	0.249	0.235	0.7	8.7	<1	<1	<0.2	2	<1	<1	<0.01
13/12/2021	7.23	1318	3.9	14	9	865	0.073	0.069	0.96	5.8	<1	2	<0.2	1	<1	<1	0.03
29/03/2022	6.73	1551	3.8	12	<1	966	0.078	0.074	0.19	15.7	<1	<1	<0.2	2	<1	<1	0.01
29/06/2022	Bailer came up empty after at least 3 tries																
05/10/2022	Bailer came up empty after at least 3 tries																
09/01/2023	7.21	1170	5.8	30	1	932	<0.065	<0.061	0.21	4.1	<1	<1	<0.2	<2	<1	<1	<0.01

BH3

Date		pH	Electrical Conductivity	Dissolved Oxygen	COD	BOD	Total Dissolved Solid	Ammoniacal nitrogen as NH4	Ammoniacal Nitrogen as NH3	Fluoride	DOC	Antimony (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Nickel (dissolved)	Selenium (dissolved)	VPH total (>C5-C10)	Total PAH 16MS (w)
		pH	µg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
14/12/2020	Borehole was silted up, so no sample could be taken												<1					
29/03/2021	Borehole was silted up, so no sample could be taken												<1					
30/06/2021	Borehole was silted up, so no sample could be taken												<1					
05/10/2021	Bung could not be removed. BH3 lab results are for BH7.												<1					
13/12/2021	Samples taken from BH7 instead	7.21	1596	<0.5	77	3	1106	1.312	1.241	1.03	29.8	<1	2	<0.2	3	<1	<1	0.06
29/03/2022	Samples taken from BH7 instead	6.83	1898	1.6	42	2	1316	1.368	1.294	0.32	11.3	<1	<1	<0.2	3	<1	<1	0.49
29/06/2022	Samples taken from BH7 instead	7.01	1847	1.1	54	2	1631	1.493	1.412	0.28	51.2	<1		<0.2	3	<1	<1	0.01
05/10/2022	Samples taken from BH7 instead	7.25	2283	3.4	149	7	2163	0.698	0.66	0.36	29.7	2		<0.2	6	<1	<1	<0.01
09/01/2023	Samples taken from BH7 instead. The p	7.44	1040	4.6	78	<1	717	0.467	0.442	0.36	15.3	<1	<1	<0.2	2	<1	<1	<0.01

SWA1

Date	pH	Electrical Conductivity µg/l	Dissolved Oxygen mg/l	COD mg/l	BOD mg/l	Total Dissolved Solid mg/l	Ammoniacal nitrogen as NH4 mg/l	Ammoniacal Nitrogen as NH3 mg/l	Fluoride mg/l	DOC mg/l	Antimony (dissolved) µg/l	Arsenic (dissolved) µg/l	Cadmium (dissolved) µg/l	Nickel (dissolved) µg/l	Selenium (dissolved) µg/l	VPH total (>C5-C10) µg/l	Total PAH 16MS (w) µg/l
14/12/2020	7.82	537	10	15	1	300	0.034	0.032	0.1	2.2	<1	<1	<0.2	<1	<1	<1	0.14
29/03/2021	7.49	761	is	6			2.564	2.425		4.3	<1	<1	<0.2	<1	<1	<1	
30/06/2021																	
05/10/2021	7.9	754	9.7	6	<1	482	<0.026	<0.024	0.18	5	<1	<1	<0.2	<1	<1	<1	<0.02
13/12/2021	7.59	694	9.7	<5	<1	404	<0.026	<0.024	0.16	3.9	<1	<1	<0.2	<1	<1	<1	<0.01
29/03/2022	7.34	1026	11	14	<1	661	0.067	0.063	0.16	3.7	<1	<1	<0.2	<1	<1	<1	
29/06/2022																	
05/10/2022																	
09/01/2023	7.48	529	10	13	<1	343	<0.065	<0.061	<0.10	3.5	<1	<1	<0.2	<2	<1	<1	<0.01

SWA2

Date	pH	Electrical Conductivity µg/l	Dissolved Oxygen mg/l	COD mg/l	BOD mg/l	Total Dissolved Solid mg/l	Ammoniacal nitrogen as NH4 mg/l	Ammoniacal Nitrogen as NH3 mg/l	Fluoride mg/l	DOC mg/l	Antimony (dissolved) µg/l	Arsenic (dissolved) µg/l	Cadmium (dissolved) µg/l	Nickel (dissolved) µg/l	Selenium (dissolved) µg/l	VPH total (>C5-C10) µg/l	Total PAH 16MS (w) µg/l
14/12/2020	8.03	518	9.7	9	2	291	0.05	0.047	<0.10	2.7	<1	<1	<0.2	<1	<1	<1	0.13
29/03/2021	7.75	678	9.6	12	1	332	0.081	0.077	<0.10	5	<1	<1	<0.2	<1	<1	<1	<0.01
30/06/2021	7.77	881	8.9	<5	<1	684	0.085	0.081	0.17	5	<1	<1	<0.2	1	<1	<1	<0.01
05/10/2021	7.81	693	9.3	12	5	455	0.037	0.035	0.28	6	<1	<1	<0.2	1	<1	<1	<0.01
13/12/2021	7.93	657	10	6	<1	386	<0.026	<0.024	0.1	3.9	<1	<1	<0.2	<1	<1	<1	<0.01
29/03/2022	7.35	951	9.7	20	<1	525	0.094	0.089	<0.10	7.8	<1	<1	<0.2	<1	<1	<1	<0.01
29/06/2022	No flow																
05/10/2022	No flow																
09/01/2023	7.84	475	9.8	34	<1	317	0.109	0.103	<0.10	3.8	<1	<1	<0.2	<2	<1	<1	<0.01

SWA3

	pH	Electrical Conductivity µg/l	Dissolved Oxygen mg/l	COD mg/l	BOD mg/l	Total Dissolved Solid mg/l	Ammoniacal nitrogen as NH4 mg/l	Ammoniacal Nitrogen as NH3 mg/l	Fluoride mg/l	DOC mg/l	Antimony (dissolved) µg/l	Arsenic (dissolved) µg/l	Cadmium (dissolved) µg/l	Nickel (dissolved) µg/l	Selenium (dissolved) µg/l	VPH total (>C5-C10) µg/l	Total PAH 16MS (w) µg/l
14/12/2020	7.94	452	11	9	2	732	0.085	0.08	0.2	<0.2	<1	<1	<0.2	<1	3	<1	0.09
29/03/2021	7.78	645	9.6	5	2	303	1.206	<1.200	0.13	1.8	<1	<1	<0.2	<1	1	<1	<0.01
30/06/2021	7.34	412	2.9	8	<1	308	0.068	0.064	0.24	5.3	<1	1	<0.2	1	<1	<1	<0.01
05/10/2021	7.44	361	7	9	<1	265	<0.026	<0.024	0.2	3.8	<1	<1	<0.2	<1	<1	<1	<0.01
13/12/2021	7.49	459	6.3	15	2	323	0.065	0.061	0.17	2.9	<1	<1	<0.2	<1	3	<1	<0.01
29/03/2022	7.27	1082	9.5	12	<1	681	0.079	0.075	<0.10	4	<1	<1	<0.2	2	4	<1	<0.01
29/06/2022	7.46	755	5.1	43	<1	595	0.052	0.049	<0.10	21.2	<1	2	<0.2	2	<1	<1	<0.01
05/10/2022	7.46	608	5.1	34	8	468	<0.065	<0.061	0.16	7.5	<1	<1	<0.2	<2	<1	<1	<0.01
09/01/2023	7.59	765	9	9	<1	575	<0.065	<0.061	<0.10	<2.0	<1	<1	<0.2	<2	7	<1	<0.01