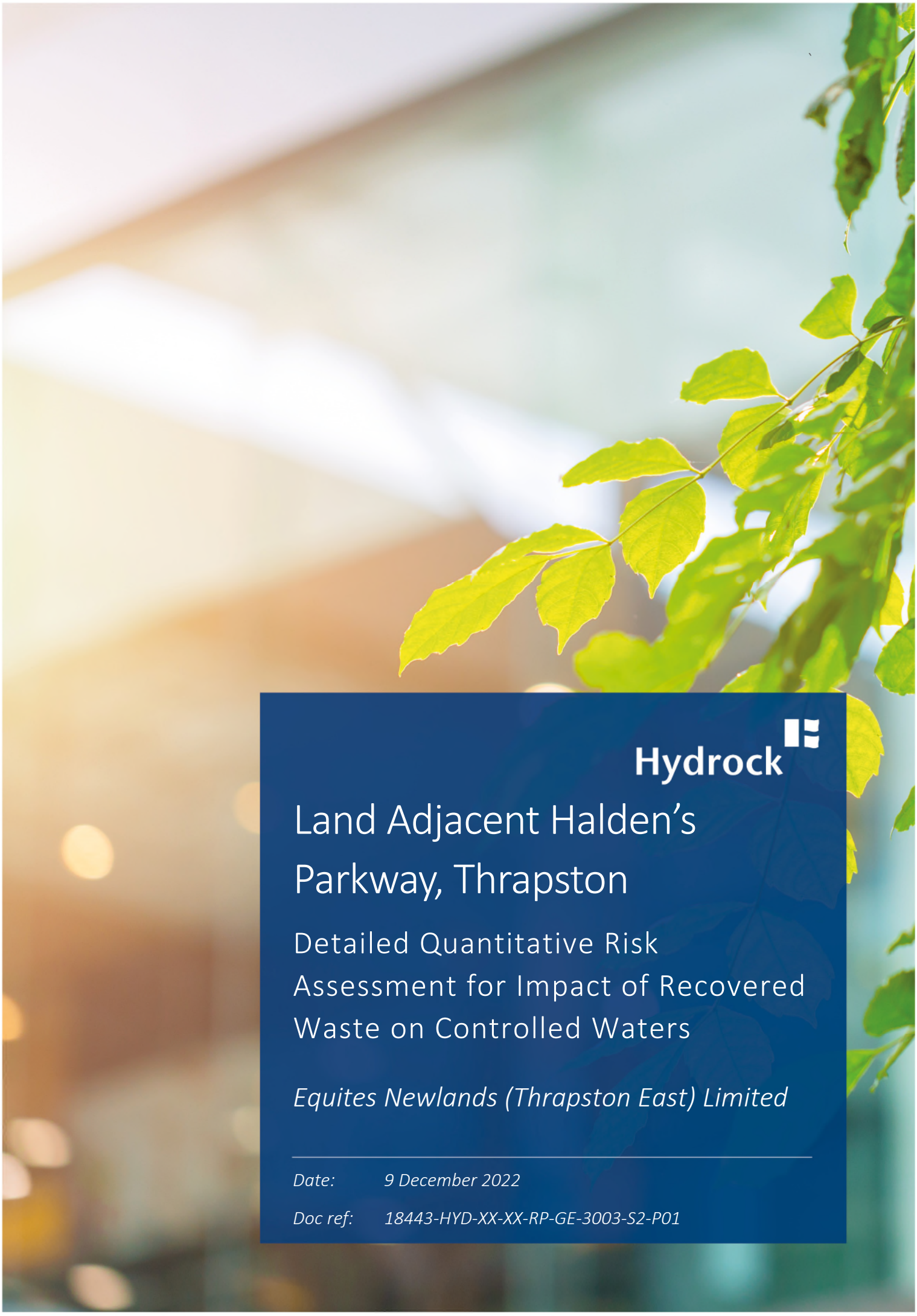

Hydrock

Land Adjacent Halden's Parkway, Thrapston

Detailed Quantitative Risk Assessment for Impact of Recovered Waste on Controlled Waters

Equites Newlands (Thrapston East) Limited

Date: *9 December 2022*

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1. INTRODUCTION

1.1 Background

This Detailed Quantitative Risk Assessment (DQRA) has been prepared by Hydrock Consultants Limited (Hydrock) on behalf of Equites Newlands (Thrapston East) Limited (the Client) for Land Adjacent Halden's Parkways, Thrapston, herein referred to as the site. The site is approximately 74.83 ha (184.90 acres) in area and currently comprises open agricultural land with hedge and tree lined fields, with Castle Manor Farm, associated buildings and hardstanding in the central east of the site. The site includes a historical sand gravel quarry and subsequent landfill.

The report is written to support a Waste Recovery Plan for the landfill. Works are ongoing with regard to the closure and surrender of the landfill, and with regard the planning application for the proposed development. This report is written based on the assumption that:

1) The landfill will be closed and surrendered before a Waste Recovery Plan and subsequent Deposit for Recovery permit can be granted.

2) The site will receive planning permission for re-development, and the final planning conditions will be in line with the draft planning conditions already provided to Hydrock.

1.2 Project Description

The site is located to the north of the A14 on the eastern edges of Thrapston, Northamptonshire, with the National Grid Reference of the approximate centre of the site is 501800E, 278350N. A Site Location Plan (Hydrock Drawing 18443-HYD-XX-ZZ-DR-GE-1001) is included in Appendix A.

This project comprises the development of a logistics facility as shown by the pHp Architects drawing 'Indicative Masterplan and Plot 1 Details', reference HRT-pHp-01-XX-DR-A-4432-012-P18, provided at Appendix A, which indicates approximately 186,177 sq.m (2,004,000 sq. ft.) of warehouses floor space, with a total of 197,790 sq.m (2,129,000 sq. ft.) of development.

Planning Permission (reference NE/22/00151/FUL) has been submitted to and registered by North Northamptonshire Council (NNC), as part of a Hybrid planning application comprising:

- Outline permission sought for storage and distribution (Use Class B8) and ancillary office space. The development incorporates the erection of up to 200,000 sq.m (Gross Internal Area including potential mezzanines) storage and distribution (Use Class B8) space.
- Full permission sought for a building measuring 49,704 sq.m to include B8 storage and ancillary office space to meet the needs of a specific occupier (referred to as Plot 1).

In addition to the above, the proposed development includes:

- Demolition of all existing buildings and structures to enable the development of the site.
- Earthworks to create a development plateau across the site, and to form landscaped bunding, focused around the northern and eastern edges of the site.
- Provision for new drainage features as part of a site-wide sustainable drainage strategy.
- Provision of on-site landscaping and new habitat creation, including on the landscape bunding, to deliver new and retained existing green infrastructure which supports biodiversity, and to help screen the site from outside view.

- Highways improvements to deliver the site access from Huntingdon Road, including upgrade works at the A14 junction 13, and the junction with the A605 to the west of the site and traffic calming measures along Islington.
- Diversion of the existing access track to the retained farm buildings to the south of the site adjacent to the A14.

Draft planning conditions have been reviewed in the writing of this report and this report will require update and review when the final planning conditions are issued.

The project will include creating a suitable development plateau and forming landscaped screening mounds, with the site levels set as per the engineering and landscape requirements, all in accordance with the masterplan and planning conditions imposed by NNC as the Local Planning Authority (LPA).

A large quantity of site-won material is required to construct the landscape bund. To comply with draft and anticipated Planning Conditions, waste materials already located within the development footprint (from the permitted landfill area) will, along with other natural and Made Ground materials present on-site, be used and it is the re-use of site-won soils, namely the recovered waste materials, to form the landscape bund that requires consideration in relation to impact on Controlled Waters.

1.3 Objectives

The objective of this report is to undertake a DQRA in order to derive reuse criteria for re-use of site-won soils to be used in forming the landscape bund at the site.

This will be undertaken by developing a proposed future ground model for the site, identifying the relevant receptor and utilising ConSim to derive the reuse criteria.

1.4 Available Information

The DQRA is based on the site investigation works previously undertaken by Hydrock and reporting undertaken by others, as well as the proposed waste recovery works at the site, as detailed in the following reports:

- Tetra Tech. February 2021. 'Rectory Farm, Thrapston Landfill – Closure Report.' Ref B026487.
- Hydrock. January 2022. 'Land Adjacent Haldens Parkway, Thrapston. Desk Study Report'. Reference 18443-HYD-XX-XX-RP-GE-1002-S2-P05;
- Hydrock. December 2022. 'Land Adjacent Haldens Parkway, Thrapston. Ground Investigation Report – Factual Data and Ground Model'. Reference 18443-HYD-XX-XX-RP-GE-1003-S2-P07.
- Hydrock. April 2022. 'Land Adjacent Haldens Parkway, Thrapston. Ground Investigation Report – Geotechnical Interpretation'. Reference 18443-HYD-XX-XX-RP-GE-1004-S2-P06.
- Hydrock. April 2022. 'Land Adjacent Haldens Parkway, Thrapston. Ground Investigation Report – Geo-environmental Interpretation'. Reference 18443-HYD-XX-XX-RP-GE-1005-S2-P06.
- Hydrock. 2022. 'Land Adjacent Haldens Parkway, Thrapston. Environmental Statement Chapter 10: Ground Conditions'. Reference 18443-HYD-XX-XX-RP-GE-1006.
- Hydrock. April 2022. 'Land Adjacent Haldens Parkway, Thrapston. Regulatory Framework for Materials Management'. Reference 18443-HYD-XX-XX-RP-GE-1007-S2-P03.
- Hydrock. April 2022. 'Land Adjacent Haldens Parkway, Thrapston. Remediation Strategy and Verification Plan – Enablement Phase'. Reference 18443-HYD-XX-XX-RP-GE-3001-S2-P01.

- Hydrock. May 2022. 'Land Adjacent Haldens Parkway, Thrapston. Remediation Strategy and Verification Plan – Construction Phase'. Reference 18443-HYD-XX-XX-RP-GE-3002-S2-P01.
- Hydrock. May 2022. 'Land Adjacent Haldens Parkway, Thrapston. Geotechnical Design Report'. Reference 18443-HYD-XX-ZZ-RP-GE-4001-S4-P02.
- Hydrock. December 2022. 'Land Adjacent Haldens Parkway, Thrapston. Waste Recovery Plan'. Reference 18443-HYD-XX-XX-RP-GE-3004-S0-P02.
- Hydrock. August 2022. 'Rectory Farm (Thrapston) Landfill (EPR/BT9879IY). Hydrogeological Risk Assessment Review. 23880-HYD-XX-XX-RP-GE-0003-S2-P03.

This report should be read in conjunction with the above documents, copies of which are available on request.

1.5 Limitations

The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, all potential environmental constraints or liabilities associated with the site may not have been revealed.

The report has been prepared for the exclusive benefit of Equites Newlands (Thrapston East) Limited and those parties designated by them for the purpose of providing information on the remediation and validation works to be undertaken during the enablement and construction phase of the development. The report contents should only be used in that context. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

Hydrock has used reasonable skill, care and diligence in the assessment of the site. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred. Information provided by third parties has been used in good faith and is taken at face value. However, Hydrock cannot guarantee the accuracy or completeness of any information provided by others.

The work has been carried out in general accordance with recognised best practice as detailed in guidance documents such 'Land Contamination: Risk Management' (LCRM) (EA, 2021), BS 5930:2015+A1:2020, BS 10175:2011+A2:2017 and 'Land Contamination: Remedial Targets Methodology' (LCRTM) (EA, 2014).

For details and additional requirements with regards the requirements of waste recovery, the Waste Recovery Plan should be consulted, no details related to waste recovery are provided in this report.

Geotechnical Design is not considered here and whilst there is reference to geotechnical works, reference should be made to the Geotechnical Design Report (GDR) (and associated Earthworks Specification) (EWS) for further information with regards to geotechnical works.

2. SITE SETTING

2.1 Site Areas

Throughout this report (and historical reports), the site has been subdivided into six areas as shown on Hydrock Drawing 18443-HYD-XX-ZZ-DR-GE-1033 in Appendix A with land use described below at the time of the site reconnaissance:

- Field 1 – Overgrown/dis-used field in the south-west. Former sand and gravel pit and subsequent inert landfill.
- Field 2 – Cropped field in the north-east.
- Field 3 – Cropped field in the north.
- Field 4 – Cropped field in the north-west.
- Field 5 – Cropped field in the south and centre.
- Area 6 – Castle Manor Farm and surrounding area.

2.2 Site Description

Currently, the site comprises predominantly arable land subdivided into four fields (Fields 2 to 5) with Castle Manor Farm (Area 6) located in the central east of the site.

Castle Manor Farm, encompasses an area of approximately 660m^2 and comprises: a residential property (Oak Cottage) in the west; two farm buildings (barns) and concrete laydown yard in the centre; an additional brick building; and a small pond.

Around the farm complex the soft landscaping is grassed with two areas of overgrown land in the east. There is a former chicken shed with suspected asbestos sheet roofing in the northern overgrown area of the farmyard. There is an above ground storage tank (AST) present on the eastern end of the main barn.

An additional field (Field 1) in the south-west of the site is the former sand and gravel pit and subsequent inert landfill. This has an uneven surface and above ground borehole covers were noted within this field. A bungalow and laydown area are present in the west of Field 1.

The site generally slopes down from the south-west corner (68m OD) towards the north-east and from the north-west (65mOD) towards the east reaching a low point of 44mOD in the north of the site. The site also slopes from the south-east (53.50mOD) towards the north and from the north-east corner (50m OD) towards the west, to this lowest point in the north-east central area (44mOD) in the north. This forms a valley feature splitting into two arms (although still sloping at a slightly reduced gradient), one in the north-east with an arm extending towards the south-west and south. A Topographical Site Survey (Stafsurv Drawing 11396a-0) is included in Appendix A.

2.3 Site History

The site is shown as open farmland from the earliest available maps (1885) with Rectory Farm shown in the central east of the site and a pond to the west of the farm. From 1885, in the south-east corner of the site, potential earthworks are shown extended off-site to the south, labelled 'Old Stone Pits'. The boundaries of the 'Old Stone Pits' are not shown on historical maps from 1982, potentially indicating infilling.

'The Bungalow' is shown on mapping from 1974, midway along the western site boundary. From 2008 onwards, aerial imagery shows the area adjacent to the north of 'The Bungalow' to be used for vehicle and subsequently materials storage.

Rectory Farm Quarry and Landfill, operated by Mick George Ltd. was permitted as a landfill in 2004 in the western part of the development site. The quarry and landfill site operated from 2000 to 2015, initially for extracting sand and gravel and then (post 2004), for the deposition of 'inert' waste in the gravel pit void (the permitted landfill).

As shown on Hydrock Drawing 18443-HYD-XX-ZZ-DR-GE-1033 in Appendix A, the former quarry and landfill is present within the south-west part of the site (Field 1 and part of Field 5), and comprised a total of eight cells. The settlement lagoons were present in the central north of the site (Field 5).

The landfill was fully restored by 2018 and the permitted landfill boundary is shown on Hydrock Drawing 18443-HYD-XX-ZZ-DR-GE-1033, included in Appendix A and further information is provided in Section 2.4.

2.4 Rectory Farm, Thrapston, Landfill

As shown in the Site Areas Plan (Hydrock Drawing 18443-HYD-XX-ZZ-DR-GE-1033) included in Appendix A, the landfill is located on the western side of the site.

2.4.1 Landfill History

Planning permission to open a quarry for sand and gravel was granted in 2000 and required progressive restoration back to agricultural land by the importation of inert waste followed by 1m of restoration soils, including 0.3m of topsoil. It is understood that these restoration requirements were complied with.

The landfill features a 'geological barrier comprising an engineered clay basal and side slope liner'.

Waste tipping started in 2004 and ceased in 2015. Since tipping ceased, the site has been subject to monitoring of gas, groundwater and surface water. The landfill was restored by 2018, is due to be closed in late 2022 and works are continuing, towards surrender, with the aim of surrendering the permit in early 2023. No unacceptable issues are evident and the site is reported to be stable and secure.

A history of the permitting is presented in Table 2.1.

Table 2.1: Rectory Farm, Thrapston Planning and Permitting History

Date	Application Reference	Description
29/12/2000	EN/01/23C	Application for extraction of sand and gravel with restoration to agricultural use by importation of inert waste (including the provision for recycling waste).
08/08/2002	PRNNF12740	Trade discharges for mineral workings, effective between 8th July 2002 and revocation date 11th December 2006.
28/04/2003	BT9879IY	Land fill permit application.
05/07/2004		Permit Determined. 75,000T limit per year.
17/10/2006	EP3837LU	Variation Notice.

Date	Application Reference	Description
05/07/2007	EN/01/23C	Removal of conditions 7 & 8 of planning application EN/01/23C which restricted works in area for road improvements, allowing additional areas to be included.
11/01/2008	PP3233XK	Variation Notice – Increased tonnage of annual waste. 300,000T per year.
22/01/2009	07/00035/MIN	Extension of end date to 30th September 2015.
Anticipated late 2022	-	Closure.
Anticipated late 2022	-	Surrender.

The area of the permitted operations is presented in Figure 2.1 (not to scale). The original is provided in Variation Notice Number EP3837LU, for Permit number BT9879IY, provided in the Desk Study (Hydrock Report 18443-HYD-XX-XX-RP-GE-1002).

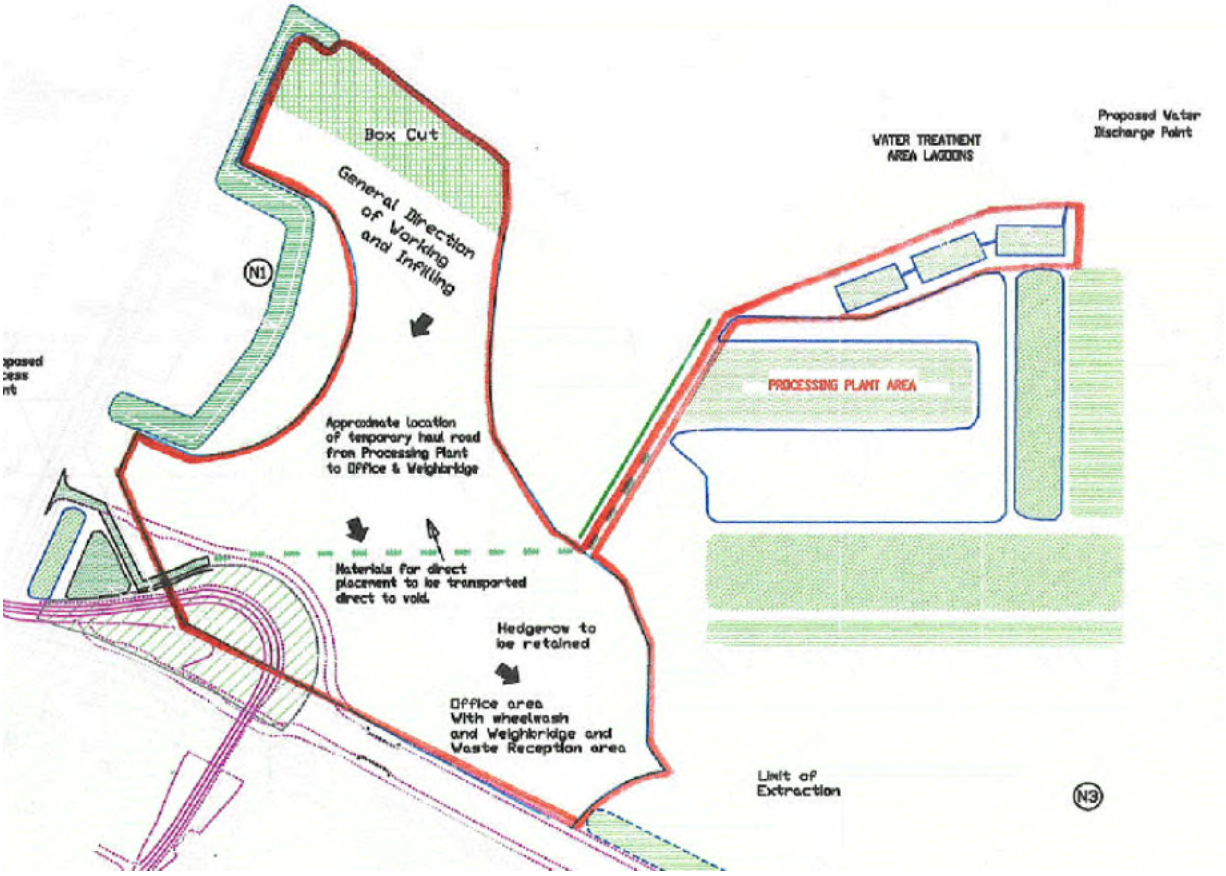


Figure 2.1: Extent of Landfill Environmental Permit (red line)

2.4.1 Accepted Waste

The list of permitted wastes is presented in Table 2.2.

Table 2.2: Waste Acceptance Conditions

EWC Code	Description	Restrictions
17 01 01	Concrete	Selected C&D waste only [(1)]
17 01 02	Bricks	Selected C&D waste only [(1)]
17 01 03	Tiles and Ceramics	Selected C&D waste only [(1)]
17 01 07	Mixtures of concrete, bricks, tile and ceramics	Selected C&D waste only [(1)]
17 01 04	Soil and stones	Excluding topsoil, peat; excluding soil and stones from contaminated sites

[(1)] Selected construction and demolition waste (C & D waste) with low content of other materials (like metals, plastic, organics, wood, rubber etc. The origin of the waste must be known.

No C & D waste from constructions polluted with inorganic or dangerous substances e.g., because of production processes in the construction, soil pollution, storage and use of pesticides or other dangerous substances etc. unless it is made clear that the demolished construction was not significantly polluted.

No C & D waste from constructions treated, covered or painted with materials containing dangerous substances in significant amounts.

The above conditions give a reasonable indication of the nature of materials expected when the waste is recovered.

2.4.2 Landfill Hydrogeology

The landfill waste would be expected to have a low-to-moderate porosity and permeability attributable to the granular nature of the materials balanced by poor sorting and compaction when placed.

In addition, the waste is understood to have been tipped in cells, so hydraulic continuity though the waste mass may be constrained accordingly. Whilst leachate might be expected to accumulate in the waste over time, the Tetra Tech Closure Report notes that:

'…there will be no leachate generated at the site and therefore no leachate management or monitoring is required'.

If leachate is present there will be no hydraulic continuity with groundwater outside of the site due to the presence of the geological barrier.

2.5 Current Ground Model

2.5.1 Geology

Extracts of the geological maps are presented in Figure 2.2 and Figure 2.3, and the confirmed geological sequence following ground investigation is summarised in Table 2.3. The acronyms shown in Figure 2.3 are defined in Table 2.3.

The approximate development site boundary is shown in red, with the approximate Landfill Permit and Waste Recovery Area shown in blue.

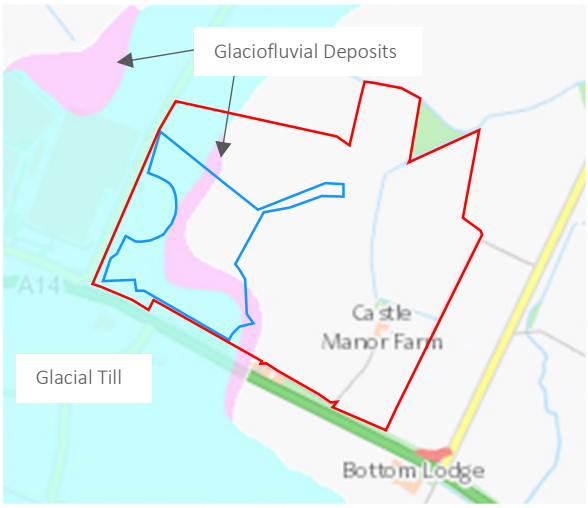


Figure 2.2: Geology - Superficial Deposits

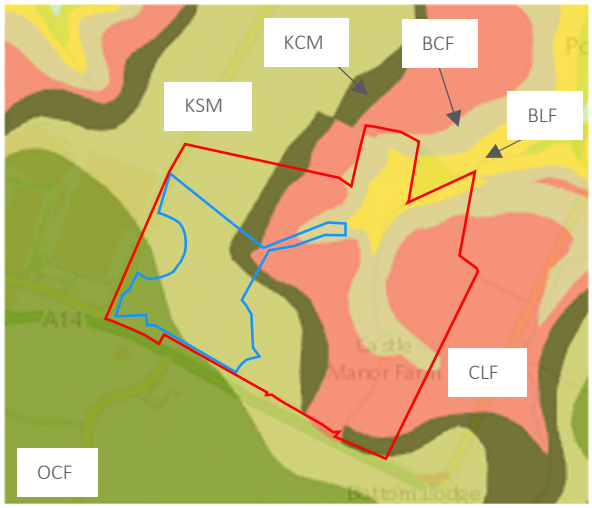


Figure 2.3: Geology - Bedrock

Table 2.3: Confirmed Geological Sequence

Name	Location and Depth	Description
Agriculturally Disturbed Topsoil	In the agricultural fields to depths of between 0.05m and 0.70m below ground level (bgl).	Firm to stiff brown slightly gravelly clay. Gravel comprises sub-angular to sub-rounded fine to coarse limestone, sandstone, flint and quartz.
Made Ground: • General Made Ground • Topsoil Made Ground • Landfill Made Ground	General Made Ground: in the farm yard and access track, 'Old Stone Pits' and backfilled settlement ponds to depths of between 0.28m and 3.70m bgl.	Concrete hard standing (farm yard and access track) or soft to firm greyish brown, orangish brown and yellowish brown sandy gravelly clay ('Old Stone Pits' and backfilled settlement ponds). Gravel comprises to fine to coarse angular to sub-rounded fine to coarse sandstone, chalk, limestone, coal, brick, concrete and asphalt.
	Topsoil Made Ground: in the south-west above the landfill and sporadically across the rest of the site to depths of between 0.10m and 0.90m bgl	Soft to firm dark to light brown slightly sandy slightly gravelly clay with frequent rootlets. Gravels comprise fine to coarse, angular to sub-rounded brick, chalk, flint, limestone, sandstone and ash.
	Landfill Made Ground: in the south-west to depths of between 0.50m bgl and 11.90m bgl. Becomes deeper towards the west and south.	Highly varied, comprising a mixture of soft to firm grey, yellowish brown, brown and orangish brown slightly sandy gravelly clay. Gravel comprises angular to sub-rounded fine to coarse of flint, sandstone, ironstone, chalk, limestone and brick, locally with wood and organic material.
Buried Topsoil	Two locations (TP113 & TP117) in the west of the site, underlying the Landfill to depths of between 0.70m and 2.00m bgl.	Stiff greyish brown sandy clay.
Head	East of the site on the steeper slopes and at the base of the central and northern lower areas from typically 51m OD.	Firm to stiff light brown, orangish brown and yellowish brown sandy slightly gravelly clay / clayey gravelly sand. Gravel consists of fine to coarse sub-angular to rounded limestone, flint, chalk and mudstone.

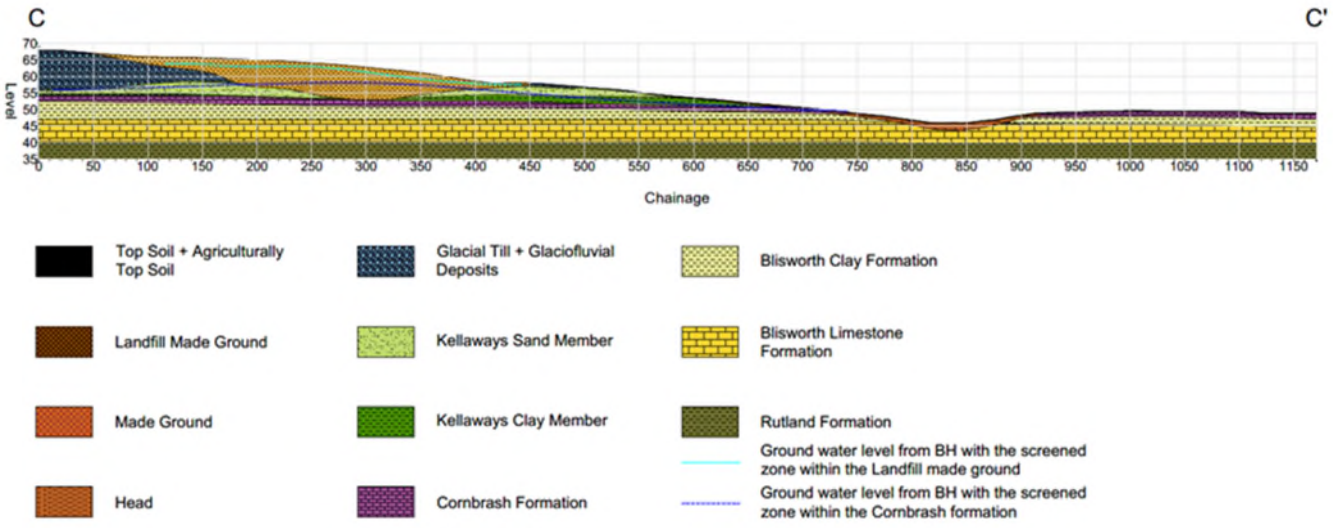
Name	Location and Depth	Description
Alluvium	Underlying the Made Ground in one location (RBH-110) in the north-east of the site between 0.40m and 2.90m depth.	Soft to firm brown sandy slightly gravelly clay / brown gravelly sand. Gravel consists of fine to coarse, sub-angular to sub-rounded flint and limestone.
Glacial Till – Oadby Member	In the west of the site, typically underlying the Topsoil and beneath the landfill where the landfill cuts through the Glacial Till as part of sand and gravel extraction works, to depths of between 0.15m and 8.30m bgl. The base of the unit is at approximately 58m OD in the south-west.	Stiff to very stiff grey and greyish brown slightly sandy slightly gravelly clay. Gravel is fine to coarse, sub-angular to rounded flint, sandstone, limestone and chalk.
Glaciofluvial Deposits	In the west of the site, typically underlying the Glacial Till at depths of between 0.30m and 12.10m bgl, generally 60m to 67m OD. Assumed to have been removed as part of gravel extraction works.	Dense to very dense orange brown, greyish brown and reddish-brown gravelly sand and localised form orange brown and bluish grey sandy clay. Gravels comprised fine to coarse, sub-angular to rounded limestone, flint, sandstone and ironstone.
Oxford Clay Formation (OCF)	Not encountered during investigation works.	Published description: Silicate -mudstone, grey with sporadic beds of limestone.
Kellaways Sand Member (KSM)	In the west of the site, underlying the Glaciofluvial Deposits/ Glacial Till and beneath the landfill where superficial deposits have been removed as part of gravel extraction works, to depths of between 0.30m and 11.00m bgl. Outcrops in the central western part of the site. The base of the Kellaways Sand Member and boundary with the Kellaways Clay Member is roughly at 54m OD.	Yellowish brown and orangish brown clayey slightly gravelly sand. Gravel is sub-angular to rounded fine to coarse, sandstone, limestone, ironstone and siltstone. Published description: Silicate sandstone and siltstone, pale grey with interbeds of sandy and silty mudstone (typically 3, to 5m within the East Midlands).
Kellaways Clay Member (KCM)	In the west of the site, underlying the Kellaways Sand Member to depths of between 0.20m and 12.40m bgl and outcropping in the centre of the site. The base of the Kellaways Clay Member and boundary with the underlying Cornbrash Limestone Formation is roughly at 53m OD.	Firm to stiff bluish grey, light grey or dark grey sandy slightly gravelly clay. Gravel is fine to coarse, sub-angular to sub-rounded fine sandstone with rare shell fragments. Published description: Grey mudstone (typically 2 to 3m within the East Midlands).
Cornbrash Limestone Formation (CLF)	Underlying the Kellaways Clay Member across the entire site at deeper depths towards the south-west of site and outcropping in the north-east of the site. The base of the Cornbrash Limestone Formation and the boundary with the underlying Blisworth Clay Formation is roughly at 50m OD.	Extremely weak to strong, grey to light brown occasionally shelly limestone. Published description: Medium to fine grained, blueish grey, weathering olive or yellowish-brown limestone (up to 10.50m thick but generally 2-4m).
Blisworth Clay Formation (BCF)	Underlying the Agriculturally Disturbed Topsoil and Head Deposits in the central north-eastern part of the site and underlying the Cornbrash Limestone Formation across the rest of the site, to depths of between 0.20m and >16.00m bgl.	Firm to very stiff light grey, bluish grey and dark grey occasionally fissured, slightly gravelly clay. Gravels comprising sub-angular to sub-rounded fine to coarse limestone and chert.

Name	Location and Depth	Description
	The base of the Blisworth Clay Formation and the boundary with the underlying Blisworth Limestone Formation is approximately at 46m OD.	Published description: Silicate mudstone, grey with frequent fossils, rootlets and ironstone nodules (typically, 2-4m thick).
Blisworth Limestone Formation (BLF)	Underlying the Agriculturally Disturbed Topsoil and Head Deposits in the central north-eastern part of site and underlying the Blisworth Clay Formation across the rest of the site, to depths of between 0.28m and >15.00m bgl. The base of the Blisworth Limestone Formation and the boundary with the underlying Rutland Formation is approximately 39m OD.	Weak to strong grey limestone. Published description: Pale grey or off-white yellowish limestone (typically, 6-7m thick).
Rutland Formation	Underlying the Blisworth Limestone Formation in four locations (RBH-112, RBH-116, RBH-206 & RBH-208) in the central east of the site at depths of between 6.60m and 8.30m bgl.	The Rutland Formation generally consisted of stiff bluish grey clay with frequent shell fragments and weak dark grey siltstone. Published description: Grey mudstone and siltstone (typically, 8-12 m thick).
Stamford Member	Not encountered during investigation works.	Published description: Greenish grey to yellowish and white sandstone or siltstone (typically 4-5m thick).

The bedrock deposits as described above are presented in Figure 2.4 below with the general stratigraphy dipping slightly towards the north-east and outcropping progressively downslope:

Indicative Cross Sections (Hydrock Drawing 18443-HYD-XX-ZZ-DR-GE-1014) and a plan showing the outcrop levels of solid geology below superficial deposits (Hydrock Drawing 18443-HYD-XX-ZZ-DR-GE-1015) are presented in Appendix A.

Figure 2.4: Geological cross section extract (Section C – C' from Hydrock Drawing HYD-XX-ZZ-DR-GE-1014)



2.5.2 Visual and Olfactory Evidence of Contamination

Hydrocarbon, humic or sulphurous odours were noted within the Landfill Made Ground at a number of locations, although these odours were not accompanied by any significant visual evidence of contamination and were not confined to any particular depth.

2.5.3 Obstructions

Generally, no significant obstructions were encountered.

2.5.4 Hydrogeology

Aquifer Designations

The Alluvium, Glaciofluvial Deposits, Kellaways Sand Member and the Cornbrash Formation are classified as 'Secondary A' aquifers. The Rutland Formation is classified as a 'Secondary B' aquifer. The Head deposits and Oadby Member are classified as 'Secondary Undifferentiated' aquifers. The Blisworth Limestone Formation is classified as a 'Principal' aquifer. The Oxford Clay Formation, Kellaways Clay Member and Blisworth Clay Formation are classified as 'Unproductive Strata'.

Groundwater Utilisation

The site is not within a Source Protection Zone and there are no active licensed groundwater abstractions within 1km of the site.

Aquifer System

Information on the hydraulic characteristics of the geological units has been abstracted from Allen et al (1997) and Jones et al (2000).

Regionally, the Kellaways Sand yields small supplies of groundwater. However, hydraulic conductivity values are very low, partly due to high fines content of the sands. On a regional scale, hydraulic heads in the Kellaways Sand are generally above the underlying Blisworth Limestone, indicating a downwards hydraulic gradient from the sand to the Limestone (Mather et al., 1998 as referenced by Jones at al., 2000).

However, on a local scale the low permeability Kellaways Clay Member and the Blisworth Clay would be expected to act as aquicludes between the Kellaways Sand Member and underlying units.

Regionally (but not locally), the Cornbrash provides small, intermittent groundwater supplies which tend to dry out during drought episodes, especially if hydraulically separate from the Blisworth Limestone. In the East Midlands, the thin Cornbrash Formation is an unimportant aquifer, due to its separation from the underlying Blisworth Limestone by the Blisworth Clay. The inferred geological sequence presented in Section 2.5.1 indicates that these conditions (that is, unit thinness and separation from the underlying Blisworth Limestone by the Blisworth Clay) apply locally to the site.

While a high permeability is expected via fracture flow within the Cornbrash Limestone, Mackay and Cooper (1996) quoted a field permeability of 7.5 x 10^{-5} m/d at Elstow, Bedford (approximately 32km south of the site).

Recharge Storage and Flow

Four main hydraulic units are present beneath site: shallow, groundwater within the landfill waste and deeper groundwater bodies within the Kellaways Sand Member, the Cornbrash Limestone Formation and the Blisworth Limestone Formation. These deeper units are separated by layers deemed to be aquicludes, that is the Kellaways Clay and the Blisworth Clay.

Groundwater (leachate) in the waste is either connate, upstream groundwater inflow, or recharge through the restoration soils, all of which are expected to be quantitatively small.

Whilst groundwater has been encountered in the Glaciofluvial Deposits, the Glacial Till and the Kellaways Clay, recharge to these units is expected to be limited because of the low permeability conditions.

Recharge to the Kellaways Sand Member is expected to occur locally at outcrop, but may be limited by the semi-permeable nature of the lithology. Storage is not expected to be significant enough to sustain groundwater supply locally. Groundwater flow direction for this unit is not known for certain but is expected to follow topography. In parts, the Kellaways Sand may be unsaturated.

Recharge to the Cornbrash Limestone is expected to occur at outcrop east of the landfill site. Some recharge may occur locally via the overlying Kellaways Sand Member, where the Kellaways Clay Member is absent. Storage within the Cornbrash is not expected to be significant, given the limited thickness of the unit beneath the site. Groundwater flow direction for this unit is towards the east following topographic profile.

Recharge to the Blisworth Limestone is expected to occur at outcrops to the east of the landfill site. Recharge may also occur via high permeability overlying deposits (e.g., Head Deposits) where the Blisworth Clay Member is absent. Whilst aquifer storage might be expected to be significant given the Principal Aquifer status of the unit, this may not apply locally given the limited thickness. Groundwater flow beneath the site within the Blisworth Formation is generally towards the north-east following topographic profile.

Hydraulic Continuity

Borehole logs and geological sections for the site suggest that at the base of the landfill there is the potential for hydraulic continuity between the waste and the Kellaways Sand or the landfill waste and the Cornbrash, depending on whether or not the Kellaways Clay is present or absent.

However, this hydraulic continuity is limited by the presence of an engineered clay layer placed at the base and sides of the excavation before tipping.

The three main natural hydraulic units (that is, the Kellaways Sand Member, the Cornbrash Limestone Formation and Blisworth Limestone Formation) are not expected to be in hydraulic continuity with each other given the presence of confining clay layers between each of the units.

Groundwater elevations within the Blisworth Limestone are consistently lower than groundwater elevations within the Cornbrash Limestone Formation, indicating two separate groundwater bodies, with no or limited hydraulic continuity between the two.

2.5.5 Hydrology

A small pond is present on site, to the east of Castle Manor Farm.

Surface water ditches are present in the centre of the site flowing to the central north. Another surface water ditch is present on the northern boundary. All surface water drainage then flows to the north-east to join Thorpe Brook, which ultimately joins the River Nene 3km to the north at approximately 20m lower than the lowest point on site.

The Kellaways Sand Member, Cornbrash Limestone Formation, and Blisworth Limestone Formation potentially provide baseflow to site drainage leading to Thorpe Brook and the River Nene. However, the generally dry nature of ditches downstream of the site suggest that the baseflow contribution is locally very small due to the low throughput of water.

There is no evidence of current leachate breakout, nor is there evidence of significant contamination of the surface waters by landfill leachate. This is supported by surface water sampling, where results did not indicate any contaminants above the background concentrations, as detailed in the Ground Investigation Report – Geo-environmental Interpretation (Hydrock Report 18443-HYD-XX-XX-RP-GE-1005).

3. CONCEPTUAL SITE MODEL

3.1 Proposed Earthworks

In order to achieve proposed site levels, cutting and filling of the site is required. A large cut to fill operation to create a development platform will be undertaken across the site with up to 11.00m of cut in the south-west (with the potential for additional over-excavation to remove geotechnically unsuitable soils) and up to 8.00m of fill (plus replacement of over-excavation) in the north to create a development platform at 53.72m OD.

Surrounding landscape screening bunds of up to 10.50m above the development platform in the north (64m AOD) and 7.50m above the development platform in the east (61m AOD) are proposed at slope angles of a maximum 1:3 gradient with cut slopes at 1:3.5 gradient in the south and west. The landscape bunds will be constructed using recovered waste materials as well as re-using natural materials and other (non-waste) Made Ground. The proposed levels are shown in the Parameters Plan (pHp architects Drawing HRT-PHP-01-XX-DR-A-4432-014-P36) in Appendix A.

It is understood that approximately 1,524,752m^3 of cut will be required (including 216,290m^3 of topsoil strip), with fill requirements of approximately 987,715m^3 for the development platform and 904,050m^3 required to construct the landscape screening bunds. 66,510m^3 of topsoil will also be required for cover on the landscape bund and cut faces around the development plateau, with 6,190m^3 topsoil cover required for the attenuation features. In addition to the above, over-excavation of soils will also be required to remove geotechnically unsuitable soils and to obtain geotechnically suitable fill for the various parts of the site.

Proposed final levels are shown in Stafsurv Drawing 116861-0, a Preliminary Materials Management Strategy (Hydrock Drawing 18443-HYD-XX-XX-DR-GE-1023 Sheets 1 and 2) and a proposed development layout (pHp Architects Drawing HRT-PHP-01-XX-DR-A-4432-012-P18) are presented in Appendix A.

3.2 Proposed Ground Model

Based on the proposed earthworks discussed in Section 3.1 and the ground model presented in Section 2.5, the ground model in relation to the landscape bund (post development, as approved by Planning Permission) adopted for the DRQA is presented below and shown in the Indicative Cross Sections (Deposit for Recovery Area) (Hydrock Drawing 14865-HYD-XX-XX-DR-GE-1034) included in Appendix A. Further drawings showing the proposed construction of the landscape bund and the geology at the cut depth are included in Appendix A.

- Recovered Waste Material within the bund will be present at thicknesses mostly between 5m and 11m along the northern arm, and around 10m thickness on the eastern arm.
- The bund will have a basal layer of compacted low permeability Class 7 type fill distinct from the Recovered Waste Material that will be placed above. This layer is subject to final detailed design and may comprise a synthetic alternative depending on available volumes of suitable materials. However, for the purpose of the ground model a thickness of 0.5m has been adopted.
- The basal layer will sit on either Head in the central part of each arm only, or the Cornbrash Formation, with the geological sequence below being the Blisworth Clay (except under Head Deposits), Blisworth Limestone and the Rutland Formation. For the purpose of this DQRA, in order to produce one set of criteria suitable for all areas of the bund, it is conservatively assumed that the basal layer will sit on the more permeable Cornbrash Formation.

- Drainage layers will be included within the landscape bund in order to promote lateral migration of rainwater and perched water within the structure rather than vertical migration, as well as the basal layer (subject to detailed design).
- The base of the Cornbrash Limestone Formation is roughly at 50m OD and development plateau will be created at 53.72m OD, therefore a thickness ranging between 3.5m and 4m is considered reasonable for purpose of the ground model.
- The Blisworth Clay and/or Head are expected to act as aquitards to the Blisworth Limestone below, resulting in no (or negligible) hydraulic continuity with the Cornbrash Formation. The ground model therefore conservatively considers the less sensitive Cornbrash Formation as the aquifer, rather than the Blisworth Limestone.
- The Kellaways Sand will be cut off from groundwater migrating onto the site by the surface water drainage.
- Although a shallow groundwater body has been identified across the Kellaways Sand, Glacial Till and Glaciofluvial Deposits, based on the proposed ground model and the expected nature of the Recovered Waste Material and other fill materials that will be suitable for use, the groundwater table is expected to generally be present within the Cornbrash Formation.
- Based on groundwater readings to date, groundwater within the Cornbrash Formation in areas beneath and in the vicinity of the bund (RBH113, RBH119, RBH201, RBH202 and RBH215) is currently resting at elevations ranging from 59.65m OD to 42.87m OD, flowing towards the north-east. Groundwater gradients have been calculated ranging from 0.008 to 0.014. The gradient of 0.008 was calculated for the first visit and for all 22 subsequent visits the gradient is between 0.012 and 0.014. Figures showing the groundwater level contours and flow direction are presented in Appendix B. Gradients have also been calculated based on the surface topography, ranging from 0.010 to 0.013, therefore the values of 0.010 and 0.014 are considered to be suitable for the assessment.
- For the purpose of the model, as the groundwater levels currently recorded will be skewed by the landfill materials and with well screens spanning multiple geological units, it is conservatively assumed that groundwater will present 0.20m below the basal layer of the bund.

3.3 Contaminant Linkages

In addition to the ground model, the CSM includes a site-specific qualitative description of the source(s) of contamination, the pathway(s) by which contaminants may migrate through the environmental media, and the populations (human or ecological) that may potentially be exposed. This relationship is commonly known as a Source-Pathway-Receptor (SPR) or contaminant linkage.

Where one or more elements of the contaminant linkage are missing, the exposure pathway is considered to be incomplete, and no further assessment is required.

3.3.1 Sources

In accordance with EA guidance (EA, 2006), it was assumed that the source was a declining source as no further waste will be deposited within the bund on the site, therefore a finite volume of potential leachate from the Recovered Waste Material has the potential to migrate to the groundwater.

Generic quantitative risk assessment (GQRA) for Controlled Waters was completed as part of previous investigation works, as presented in Hydrock's Ground Investigation Report – Geo-environmental

Interpretation (18443-HYD-XX-XX-RP-GE-1005) where groundwater results were screened against water quality targets (WQTs) based on protection of human health (based on Drinking Water Standards (DWS)) and for protection of aquatic ecosystems (Environmental Quality Standards (EQS)).

The findings of the GQRA are summarised as:

- Whilst concentrations of CoPC are elevated above the WQTs, the majority of these are present in upgradient samples, and are considered representative of concentrations within the wider groundwater environment.
- Concentrations of chloride, ammonium and ammoniacal nitrogen are elevated above the WQTs within the landfill. However, rapid degradation and dilution of these elements is occurring as water migrates away from the landfill, both vertically and laterally.
- The underlying Principal Aquifer (Blisworth Limestone Aquifer) appears to be unaffected by CoPC elevated above background concentrations and there are no active licensed groundwater abstractions within 1km of the site.
- Surface waters do not appear to have been impacted by CoPC above background concentrations and there are no active licensed surface water discharge consents or abstractions within 1km of the site.
- Based on the investigation works undertaken to date and subject to agreement with the Environment Agency, Hydrock does not believe the site poses a significant risk to Controlled Waters.

The proposed development includes excavation and treatment of soils prior to replacement of geotechnically and chemically suitable material only, which should significantly reduce the risk of future leachate generation and migration. It also noted that construction of the development will significantly reduce rainwater infiltration and, by collection of surface water in the drainage system, surface run-off.

CoPC Selection

The Water Framework Directive (2000/60/EC) and Groundwater Daughter Directive (2006/118/EC) require prevention of inputs of hazardous substances into groundwater subject to various exemptions. Select hazardous substances have been carried forward in the DQRA in order to provide a robust set of re-use criteria. Where groups of CoPC have not been identified as potential risks at the site, such as polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) and petroleum hydrocarbons, these have not been carried forward, even if they are designated as hazardous substances.

Although identified as hazardous substances, chromium VI and mercury have not been carried forward as they have not been identified within soils or groundwater at the site.

GQRA for water samples taken from within the Made Ground Landfill, identified the CoPC presented in Table 3.1.

As presented in Section 2.5.4, it is considered unlikely that any groundwater beneath the site is going to be utilised as a drinking water source. Therefore, the GQRA only considers exceedances in terms of EQS.

Table 3.1: Summary of Made Ground Landfill Controlled Waters GQRA

Chemical of potential concern	WQT (µg/l)	Basis for WQT	No. samples	No. samples above LoD	Min. (µg/l)	Max. (µg/l)	No. samples exceeding WQT and above LoD
Cobalt	3	EQS	9	9	2.9	19	7
Chromium (III)	4.7	EQS	9	1	<1	6.9	1
Iron	1,000	EQS	9	9	30	43,000	1
Manganese	219.55	PNEC	9	9	600	4,700	9
Nickel	11.5	PNEC	9	9	5.4	23	2
Ammoniacal Nitrogen (N)	300	EQS	9	9	1,100	7,500	9
Chloride	250,000	EQS	9	9	41,000	270,000	2
Sulphate (SO_4^{2-})	400,000	EQS	9	9	312,000	1,490,000	5

Boreholes upgradient of the landfill installed into the underlying Cornbrash Limestone Formation record exceedances with regards to the WQTs for iron, manganese and sulphate. The exceedances for these CoPC are considered representative of the wider groundwater environment, being either naturally occurring or at regional scale background concentrations and are not considered further in this assessment.

Cobalt, chromium (III) and nickel are slightly elevated when compared to the EQS. These contaminants are carried forward within the DQRA.

With regard to chloride, there were two exceedances of the WQT, and these were marginal (maximum 270,000µg/l compared to WQTs of 250,000µg/l) therefore chloride was not considered to require further assessment and was not carried forward within the DQRA.

Ammoniacal nitrogen is carried forward within the DQRA as a single CoPC.

In addition to the CoPC identified through Controlled Waters GQRA (landfill), elevated benzo(a)pyrene (BaP), was noted in samples from the Landfill Made Ground exceeding the assessment criteria for human health. BaP is also considered as a hazardous substance. Therefore, it was considered prudent to include BaP in the DQRA as an indicator compound for carcinogenic PAHs.

Arsenic and lead have been included as potentially present hazardous substances.

The final CoPC to be carried forward in the DQRA are:

- Arsenic [HS]
- Chromium III [GQRA]
- Cobalt [GQRA]
- Lead [HS]
- Nickel [GQRA]
- Ammoniacal Nitrogen [GQRA]

Selection based on:

GQRA – Generic Quantitative Risk Assessment

HS – Hazardous Substance

3.3.2 Pathways

Potential pathways by which contaminants are assumed to migrate in this assessment are:

- Leaching of CoPC from the Recovered Waste Material through the unsaturated zone (USZ) to groundwater; and
- Transport of leached CoPC within groundwater to surface waters.

3.3.3 Receptors

The following receptors have been identified for the proposed ground model:

- Groundwater in natural strata below the landscape bund: Secondary A Aquifer status of the Cornbrash Limestone.
- Surface water: regarded under proposed conditions to be restricted to Thorpe Brook and the River Nene.

4. CONSIM MODELLING

4.1 ConSim Model Selection

The DQRA was undertaken using ConSim, software designed to provide an assessment of the risk that is posed to groundwater by leaching contaminants.

ConSim models contaminant mobilisation and transport based on the CSM using site-specific data (where available) and published literature values.

ConSim offers a probabilistic methodology (Monte Carlo simulations) to allow full incorporation of data uncertainty such that the assessment may be rational and consistent. Therefore, where a range of values are available these were adopted in the model using the appropriate probabilistic setting and where a single value is available this was adopted as a deterministic value.

4.2 Methodology

For the purpose of the DQRA, the specific approach used is based on EA guidance presented in *Guidance on the Assessment and Interrogation of Subsurface Analytical Contaminant Fate and Transport Models* (EA, 2001), *Remedial Targets Methodology – Hydrogeological Risk Assessment for Land Contamination* (EA, 2006) and also LCRM (EA, 2021).

The methodology is based on a staged approach, a series of 'Levels' (1- 3a). With successive Levels, the data requirements and the sophistication of the analysis increase but the confidence in the predicted impact also increases. The assessment considered in the processes in Levels 1 to 3a are summarised Table 4.1.

Table 4.1: Main processes considered in the assessment

Level	Soil Source	Groundwater Source
1	Partition into Leachate*	Not applicable, assessment starts at Level 2
2	As above, plus attenuation in the USZ and dilution in the aquifer	Direct comparison with quality standards only
3	As above, plus lateral attenuation in the saturated zone to off-site compliance point	Lateral attenuation in the saturated zone to off-site compliance point
4	Does not incorporate level 1 and 2 assessments but mainly simulates saturated transport to off-site compliance point	Lateral attenuation in the saturated zone to off-site compliance point
Notes: * soil leachate extraction test results used if available and appropriate.		

The DQRA adopts Level 3 as the appropriate level for this assessment. This considers the potential impacts of the chemicals of potential concern (CoPC) present in the landfill and leachate through the USZ as well as lateral migration through the aquifer to the closest identified receptor, Thorpe Brook, approximately 230m east from the edge of the landscape bund. The surface water bodies are shown on Hydrock Drawing 18443-HYD-XX-XX-DR-GE-1039 in Appendix A.

The current Environment Agency guidance on groundwater (EA, 2017) states that the default compliance point distance should be 50m for the following scenarios:

- "for all hazardous substances in all aquifers" (that is, those already in the groundwater or inputs from soils that cannot be prevented); or
- "for non-hazardous pollutants in groundwater with a strategic resource potential."

The shortest distance along the groundwater flowpath between the edge of the bund and Thorpe Brook is approximately 230m. As such, the use of a 50m compliance point distance is considered to be conservative and has been adopted for non-hazardous substances based on the guidance.

Specific input parameters and justifications for their choice are shown in the following sections. Where site-specific values are available, these are utilised. However, there are a number of input parameters where best estimate published literature values were used due to the lack of site-specific data.

Retardation of contaminants (adsorption to soils) as they migrate through the subsurface is represented by the adoption of partition coefficients when using ConSim. As retardation is a strong function of the adopted partition coefficients, a small change in the value will cause large changes in retardation factors. For the purpose of this assessment, the model has been run assuming retardation in the USZ and the aquifer as it is likely to be occurring due to the presence of clayey horizons.

It is assumed no degradation occurs for metals.

The reuse criteria have been determined by running the models iteratively, varying the input values until the predicted groundwater concentrations at the model receptors/compliance points are below the compliance criteria. The compliance point for non-hazardous substances is a generic 50m distance and the compliance criteria are the EQS (or PNEC where available) (see Hydrock Report 18443-HYD-XX-XX-RP-GE-1005). For hazardous substances, the compliance point is the point of entry into the underlying groundwater for each source zone and compliance criteria are the UKTAG concentrations in groundwater below which the danger of deterioration in the quality of the receiving groundwater is avoided.

4.3 Model

The model is run with the 'source' (recovered waste material) located directly above a cohesive low permeability basal layer. The basal layer represents the upper part of the USZ and provides attenuation. The basal layer is underlain by the residual lower USZ.

The source terms / re-use criteria inputs are represented as a triangular source distribution using a lower value or detection limit (based on the site investigation data) as the minimum value, and a higher concentration (equivalent to the re-use criteria) for both the most likely and maximum value. When screening / testing material for re-use during the development, using a range represents the likelihood that some of the concentrations will be below the upper value. The source term has been represented conservatively however, by assuming both the most likely and maximum concentrations are equivalent to the upper value i.e. skewing the distribution such that the majority of the source term is assumed to comprise material with concentrations equal to the upper value.

The concentrations were adjusted until the predicted 95th percentile concentrations were below the EQS or UKTAG value at the appropriate compliance points.

4.4 Source Area

The area of the landscape bund which is to be constructed from Recovered Waste Material is considered to represent the source area. In accordance with EA guidance (EA, 2006), it was assumed that the source was a declining source as a finite volume of leachate from the Recovered Waste Material has the potential to migrate to the groundwater.

Based on the data review, the parameters presented in Table 4.2 were considered appropriate for the source area. The Recovered Waste Material that is geotechnically suitable is expected to be a gravelly clay material, which will be compacted during placement, resulting in low permeability and with several drainage layers present, resulting in higher porosity and reduced saturation.

Table 4.2: Source Parameters

Parameter	Unit	Distribution	Input Value(s)	Reference / Justification
Dry Bulk Density	g/cm^3	Single	1.9	GDR / EWS
Air filled porosity	fraction	Uniform	0.175, 0.266	70% of the total porosity value from ConSim, for fine gravel.
Water filled porosity	fraction	Uniform	0.075, 0.114	30% of the total porosity value from ConSim, for fine gravel.
Thickness	m	Uniform	4.5, 10	Proposed thickness based on bund design, minus basal layer thickness. Conservative assumption as Recovered Waste Materials will only be part of the bund, and will be supplemented by other non-waste materials.
Infiltration	mm/year	Triangular	35, 55, 73	10% of minimum, average and maximum annual rainfall for the period 2010 to 2021, based on Met Office station at Cambridge NIAB approximately 56km to the south-east. 10% has been adopted to reflect the design of the bund, with drainage layers, sloping sides and vegetative cover. Most rainfall will run off or be removed via the drainage layers and infiltration at the base of the bund will be minimal.

4.5 Modelled Contaminants

The CoPC identified in groundwater, as discussed in Section 3.3.1, are considered to be the main risk drivers for the site in relation to Controlled Waters. In addition to the identified CoPC several additional chemicals have also been selected for inclusion, in order to provide reuse criteria for a broader suite of contaminants. These CoPC were selected where identified as being 'elevated' in soils, i.e. above the human health GAC or for being classed as hazardous substances under The Water Framework Directive (2000/60/EC) and Groundwater Daughter Directive (2006/118/EC).

The reuse criteria have been determined by running the models iteratively, varying the input values until the predicted groundwater concentrations at the model receptors/compliance points are below the compliance criteria.

Table 4.3 shows the chemical parameters adopted for the assessment.

Table 4.3: Adopted Chemical Parameters

Chemical	Unit	Distribution	Input Value(s)	Reference / Justification
Leachate Concentration				
Arsenic	mg/l	Log Triangle	0.0015, 1250000, 1250000	Low number as minimum. Likely and maximum value based on iterative process discussed above.
Chromium		Log Triangle	0.002, 585000, 585000	
Cobalt		Log Triangle	0.002, 1, 1	
Lead		Log Triangle	0.002, 296000, 296000	
Nickel		Log Triangle	0.005, 1, 1	
Ammoniacal Nitrogen		Log Triangle	0.15, 15, 15	
Partition Coefficients – All Strata				
Arsenic	ml/g	Uniform	200, 400	ConSim value for Glacial Till (unspecified pH): 249.6 used as minimum. EA 2009 supplementary As report: 500 used as maximum. 20% reduction applied for conservatism.
Chromium		Log Uniform	772, 3840	ConSim value for glacial till (unspecified pH): 965.6 used as minimum. RIVM, 2001: 4800 used as maximum. 20% reduction applied for conservatism.
Cobalt		Uniform	36, 45	RAIS, 2022: 45 used as minimum. ConSim value for glacial till (unspecified pH): 55.7 used as maximum. 20% reduction applied for conservatism.
Lead		Uniform	348, 800	ConSim value for glacial till (unspecified pH): 434.6 used as minimum. CL:AIRE 2014: 1000 used as maximum. 20% reduction applied for conservatism.

Chemical	Unit	Distribution	Input Value(s)	Reference / Justification
Nickel		Log Uniform	69, 400	ConSim value for glacial till (unspecified pH): 85.7 used as minimum. EA 2009 supplementary Ni report: 500 used as maximum. 20% reduction applied for conservatism.
Ammoniacal Nitrogen		Uniform	0.4, 0.7	Buss et al, 2004 values for clayey sand and gravel: 0.4 to 0.9
Solubility				
Arsenic	mg/l	Single	1250000	EA, 2009 supplementary information for arsenic
Chromium			585000	ADSDR, 2008
Cobalt			1000	US National Toxicology Program, 1992, at 20°C
Lead			296000	Appendix H, C4SL Report
Nickel			2500000	EA, 2009 supplementary information for nickel
Ammoniacal Nitrogen			482000	RAIS, 2022
Half-life				
Arsenic	years	Single	$9.9 \times 10^{+11}$	ConSim. No degradation occurring.
Chromium		Single	$9.9 \times 10^{+11}$	ConSim. No degradation occurring.
Cobalt		Single	$9.9 \times 10^{+11}$	ConSim. No degradation occurring.
Lead		Single	$9.9 \times 10^{+11}$	ConSim. No degradation occurring.
Nickel		Single	$9.9 \times 10^{+11}$	ConSim. No degradation occurring.
Ammoniacal Nitrogen		Uniform	1, 6	Buss et al, 2004.

Background concentrations were not applied in the model.

4.6 Unsaturated zone

The Recovered Waste Material will overlie the basal layer and unsaturated Cornbrash Formation, which is expected to be the main water bearing unit and is described in further detail in Section 4.7.

Based on the proposed ground model, groundwater is expected to be present at varying depths within the Cornbrash Formation, therefore, for the purpose of deriving reuse criteria, the USZ is considered to comprise the basal layer and part of the Cornbrash Formation. The basal layer is modelled from 54.22m OD to 53.72m OD, to give a thickness of 0.50m. The USZ within the Cornbrash Formation is modelled with the water present at 53.52m OD (0.20m beneath the basal layer) to give a thickness of 0.20m.

Table 4.4: Unsaturated Zone Parameters

Parameter	Unit	Distribution	Input Value(s)	Reference / Justification
Pathway 1 – Basal Layer				
Thickness	m	Single	0.50	Thickness of basal layer.
Water Filled Porosity	fraction	Uniform	0.17, 0.30	50% of the value for total porosity from ConSim, for clay.
Dry Bulk Density	g/cm^3	Uniform	1.00, 2.40	Value adopted from ConSim, for clay.
Unsaturated Hydraulic Conductivity	m/s	Log Uniform	1 x 10^{-8}, 1 x 10^{-6}	Conservative assumed values.
Vertical Dispersivity	m	Single	0.05	10% of thickness.
Pathway 2 – Unsaturated Cornbrash Formation				
Thickness	m	Single	0.20	Thickness of unsaturated Cornbrash Formation.
Water Filled Porosity	fraction	Uniform	0.1, 0.25	Smith-Carrington et al (1983) reported interconnected porosities of 10%-25% in the Lincolnshire Limestone (Allen et al, 1997).
Dry Bulk Density	g/cm^3	Uniform	1.74, 2.79	Value adopted from ConSim, for limestone.
Unsaturated Hydraulic Conductivity	m/s	Log Uniform	1 x 10^{-9}, 7.5 x 10^{-5}	Minimum value adopted from ConSim, for limestone. Maximum value based on Mackay and Cooper (1996).
Vertical Dispersivity	m	Log Uniform	0.02, 0.34	10% of thickness.

4.7 Aquifer

The hydrogeology of the area is discussed in Section 2.5.4. The aquifer is the Cornbrash Formation, which is expected to provide base flow to the surface water bodies in the vicinity of the site (Thorpe Brook and River Nene). For both models, the saturated zone within the Cornbrash Formation is modelled with the water present at 53.55m OD (0.20m beneath the basal layer), to give a thickness range between 3.30m and 3.80m.

Table 4.5: Aquifer Parameters

Parameter	Unit	Distribution	Input Value(s)	Reference / Justification
Thickness	m	Uniform	3.30, 3.80	Thickness of saturated Cornbrash Formation.
Dry Bulk Density	g/cm^3	Uniform	1.74, 2.79	Value adopted from ConSim, for limestone.
Mixing Zone Thickness	m	-	-	Calculated.
Hydraulic Conductivity	m/s	Log Uniform	1 x 10^{-9}, 7.5 x 10^{-5}	Minimum value adopted from ConSim, for limestone.

Parameter	Unit	Distribution	Input Value(s)	Reference / Justification
				Maximum value based on Mackay and Cooper (1996).
Effective Porosity	fraction	Uniform	0.1, 0.25	Smith-Carrington et al (1983) reported interconnected porosities of 10%-25% in the Lincolnshire Limestone (Allen et al, 1997).
Hydraulic Gradient	-	Uniform	0.010, 0.014	Values based on current groundwater levels (calculated from post-Ground Investigation monitoring) in RBH104 and RBH113.
Groundwater Flow Direction	Degrees	Single	80	Flow to the north-east.
Longitudinal Dispersivity	m	Single	5	10% of horizontal pathway, minimum distance.
Lateral Dispersivity	m	Single	1.5	30% of longitudinal dispersivity.

4.8 Receptor

As discussed in Section 4.2, The compliance point for non-hazardous substances is a generic 50m distance and the compliance criteria are the EQS (or PNEC where available) (see Hydrock Report 18443-HYD-XX-XX-RP-GE-1005). For hazardous substances, the compliance point is the point of entry into the underlying groundwater for each source zone and compliance criteria are the UKTAG values.

5. COMPLIANCE CONTROLS

5.1 Target Concentrations

Target concentrations (TCs) include chemical compliance criteria based on the following:

- UKTAG - limit for hazardous substances at the base of the USZ.
- EQS/PNEC - limit at the compliance point for non-hazardous substances.

The TCs are summarised in Table 5.1. The ConSim model has been run to derive re-use criteria that are compliant with the TCs.

Table 5.1: Target Concentrations

CoPC	UKTAG (mg/l)	EQS/PNEC (mg/l))	TC (mg/l))	Source
Arsenic	0.005	0.05	0.005	UKTAG
Chromium III	NA	0.0047	0.0047	EQS
Cobalt	NA	0.003	0.003	EQS
Lead	0.005	0.0068	0.005	UKTAG
Nickel	NA	0.0115	0.0115	PNEC
Ammoniacal Nitrogen	NA	0.3	0.3	EQS
* Equivalent UKTAG value calculated in line with UKTAG technical document. Based on UK DWS for Sum 4 PAHs.				

5.2 Time Elapsed

The ConSim model has been run with 1001 iterations as consistent with recommended EA practice (CONSIM). The number of iterations is required to enable a 95th percentile result to be calculated which could be considered representative and reasonable.

The 95th percentile value indicates that there is a 95% probability that the predicted result will exist below this value i.e. there is a 1 in 20 chance that it will be above. The most likely scenario would be equivalent to the 50th percentile, while the 95th percentile is considered to be suitable to represent reasonable worst-case scenarios.

The Remedial Targets Methodology suggests that it is acceptable for no remedial action to be required where the remedial target has been exceeded at the receptor but the impact of the contamination is localised around the source and travel times exceed 1,000 years.

The time steps were extended to cover 20,000 years in order to assess the pattern of CoPC breakthrough and the time elapsed before peak concentrations. Each model simulation has been used to predict receptor CoPC concentrations periodically at 10, 100, 250, 500, 1,000, 2,500, 5,000, 10,000 and 20,000 years after present.

6. RESULTS OF MODELLING

6.1 Re-use Criteria

Graphical representations of the modelling are provided in Appendix C, along with the model outputs.

Based on the volumes noted in Section 3.1, the landfill material (597,530m^3) will make up 66% of the material used in the bund construction (total 904,050m^3). It is therefore proposed that the recovered waste material will be reused in the least sensitive areas, preliminary identified as the eastern arm of the bund and the far west of the northern arm, avoiding the sink feature in the centre of the site, where the superficial deposits sit on the Blisworth Limestone.

The reuse criteria are presented in Table 6.1.

Table 6.1: Reuse Criteria

CoPC	Retarded travel time to base of USZ (years)	Retarded travel time to 50m compliance point (years)	Reuse Criteria (mg/l)
Arsenic	8654.76	-	*
Chromium III	-	-	*
Cobalt	-	32765.4	1
Lead	16822.8	-	*
Nickel	-	175188	1
Ammoniacal Nitrogen	-	510.395	15
Notes: * No exceedance at receptor after 20,000 years at solubility therefore not considered as a CoPC for this model			

6.2 Sensitivity Analysis

A large number of components are used in modelling groundwater flow and contaminant migration. ConSim makes use of random sampling using 1001 iterations for the ranges of values of inputs. Because of the range of input values, the model automatically carries out the equivalent of sensitivity analysis, provided that the input values cover a reasonable range. Random sampling results in some combinations of input values being at the most sensitive end of the range. Use of 95th percentiles produces numbers that are conservative and protective of the environment.

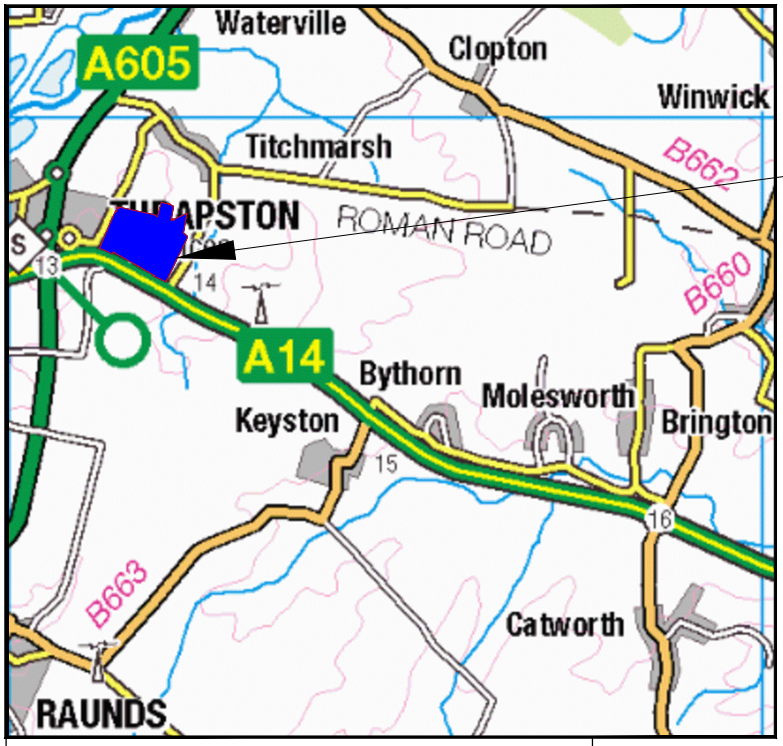
The choice of input values has been based on site specific values wherever possible, thus reducing the uncertainty that would apply if reference values were used. No site-specific partition coefficients have been measured in the laboratory from soils taken from the site which is an uncertainty of one of the key inputs. A reduction of 20% of the values has been applied in order to provide conservatism based on this uncertainty.

Uncertainty arises in the volume of infiltration through contaminated soils and groundwater levels. Higher than predicted rainfall and infiltration may increase the volume of leachate from contaminated soils, but to some extent this would be offset by the increased dilution from infiltration outside the source zones increasing groundwater flow.

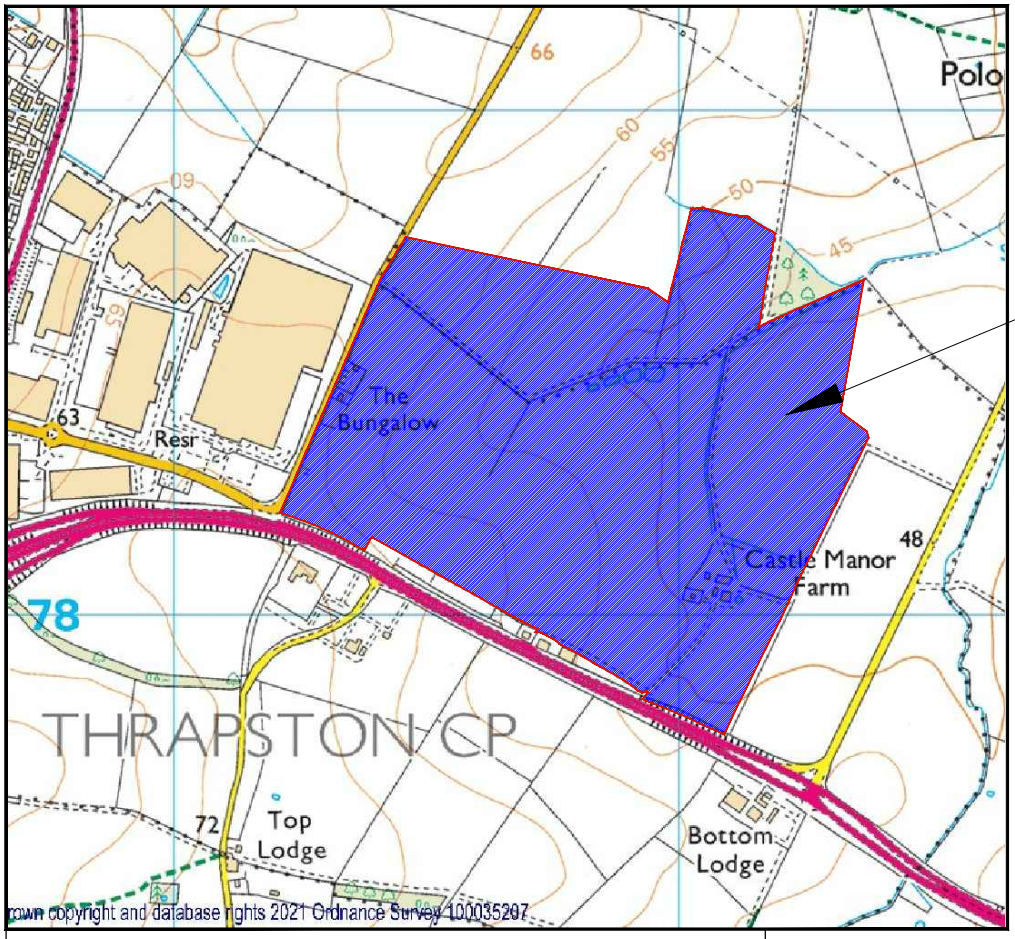
No further action is proposed for sensitivity analysis.

Appendix A Drawings

OS NORTH



THE SITE



THE SITE

REV						
P03	Client Name Updated					
	NT	15.12.21	NT	15.12.21	AB	15.12.21
P02						
	SD	08.11.21	NT	08.11.21	AB	08.11.21
P01	FIRST ISSUE					
	SD	16.08.21	NT	16.08.21	AB	16.08.21
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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CLIENT

Equites Newlands (Thrapston East) Limited

PROJECT

LAND ADJACENT HALDENS PARKWAY
THRAPSTON

TITLE

SITE LOCATION PLAN

HYDROCK PROJECT NO.	SCALE @ A4
C-18443-C	See Drawing

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO. (PROJECT - ORIGINATOR-VOLUME-LEVEL-TYPE-ROLE-NUMBER)	REVISION
18443-HYD-XX-ZZ-DR-GE-1001	P03

Areas Schedule									Parking and docks - figures quoted are minimum, plots may allow additional.						Plot Areas
Plot No.	Warehouse GIA SQFT	Warehouse GIA SQM	Offices GIA SQFT	Offices GIA SQM	Hub Office SQFT	Hub Office SQM	Total GIA SQFT	Total GIA SQM	Car Parking @1/120sqm	HGV Parking	Docks	Level Access	cycles	PTW's	Plot Areas
1	500000	46451	25000	2323	10000	929	535000	49704	414	142	68	8	100	16	11.061 ha / 27.09 acres
2	360000	33445	15000	1394	5000	465	380000	35304	294	85	48	8	70	12	8.145 ha / 20.13 acres
3	594000	55184	25000	2323	10000	929	629000	58436	487	201	72	8	117	18	13.130 ha / 32.44 acres
4	550000	51097	25000	2323	10000	929	585000	54348	454	202	72	8	109	17	13.043 ha / 32.23acres
Total	2,004,000	186,177	90,000	8,363	35,000	3,252	2,129,000	197,790	1649	630	260	32	396	63	

Revisions:

P14	Permissive Routes added	04.01.22 RG
P15	Update to correct parking no. discrepancy	06.01.22 RG
P16	Status updated to Planning	17.01.22 RG
P17	Minor correction to rounding within Areas stated	31.01.22 RG
P18	Foul Pumping Station added.	03.02.22 RG

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pHp architects

HUNTINGDON ROAD THRAPSTON

INDICATIVE MASTERPLAN AND PLOT 1 DETAILS

Status	PLANNING
Drawn by : RG	Checked by : RM
Date	01/04/2021

Document Number:

Project Code Zone Level-Info Type Role Job No. Drg No. Revison

HRT-PHP-01-XX-DR-A-4432-012-P18

Scale@ A1 1:2000

0 50m 100m

OS NORTH

Materials storage area

Field 2 (crops)

Field 3 (crops)

Drainage ditch heading northeast towards Thorpe Brook

Drainage ditch

Settlement ponds (Backfills)

Drainage ditch

Field 1 (grass)

KSM

Quarry/landfill

CB

KCM

Blisworth Clay

CB

Site entrance

Site entrance

Field 4 (crops)

OX

Concrete access track

Field 5 (crops)

Chicken barn (ACM roof)

Area 6 (grass)

Overhead High Voltage cables

AST

Pond

Farm buildings (offsite)

Residential property

Gravel track

Field 5 (crops)

AST (plastic)

Stone Pits

KEY

- Site Boundary (approximate)
- Waste Recovery Area
- Deposit for Recovery Area
- Drainage ditch (direction of flow)
- Old Stone Pits (approximate) Historical 1885

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.
3. This drawing has been based on the following drawings and information:
3. This drawing has been based on the Stafsurv Drawing, 'Huntingdon Road, Thrapston. Topographic Survey'. Ref: 11521a-0, dated 10/03/21.

REV.	REVISION NOTES/COMMENTS	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	FIRST ISSUE	RT	30.08.22	CO	30.08.22	AB	30.08.22

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CLIENT: EQUITES NEWLANDS (THRPASTON EAST) LTD

PROJECT: LAND ADJACENT TO HALDEN PARKWAY, THRAPSTON

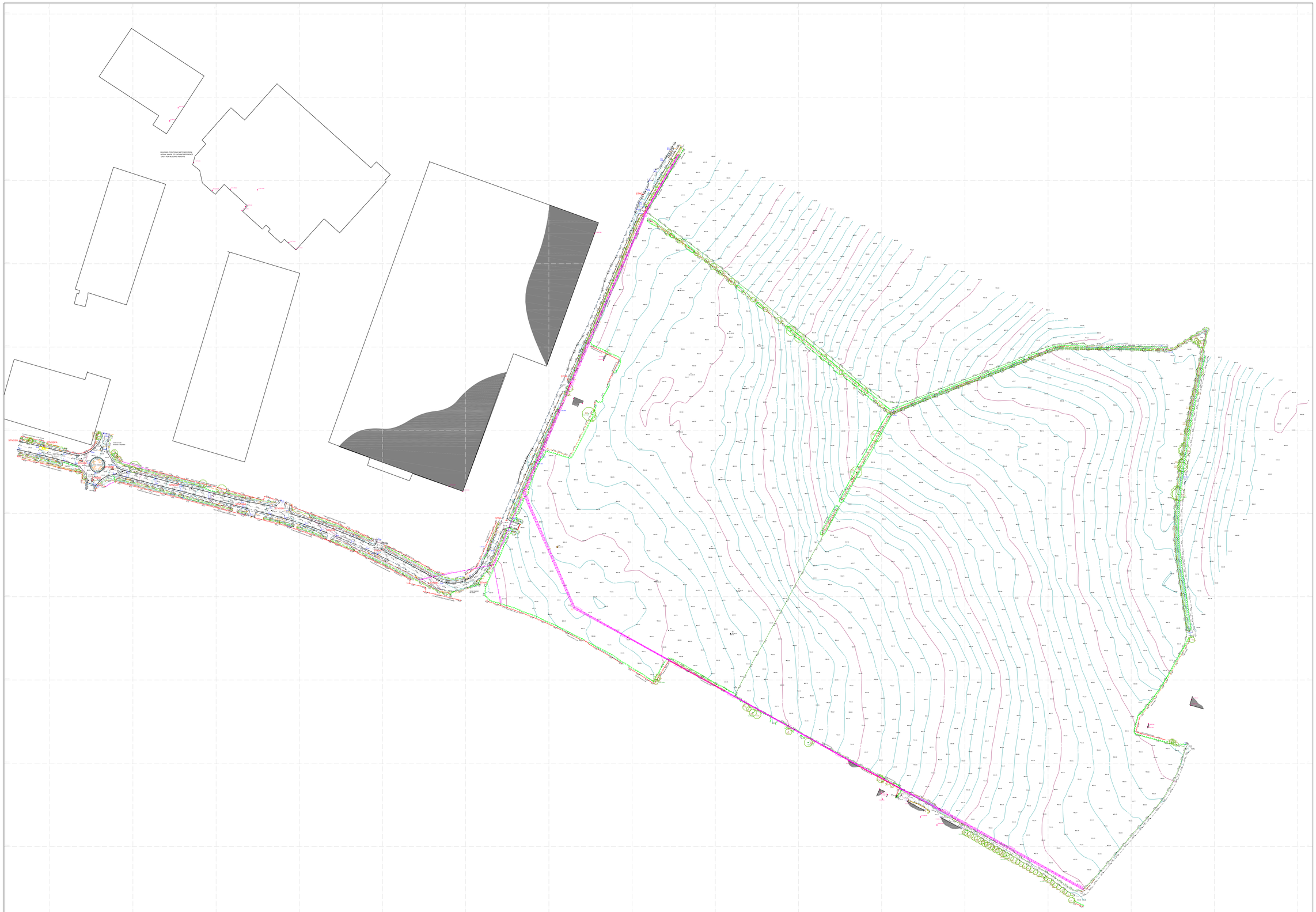
TITLE: SITE FEATURES PLAN

HYDROCK PROJECT NO.	SCALE @ A0
C-18443	1:1500

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO. (PROJECT-CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 18443-HYD-XX-ZZ-DR-GE-1033

REVISION: P01



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NOTES

Boundaries surveyed are physical features and may not necessarily represent the legally conveyed ownership.

Tree Spreads, Girths and Heights are approximate, any tree species identified should not be relied upon and checked by a specialist if critical

Underground drainage depths, pipe sizes and runs have been recorded from the surface and may have been estimated or assumed

Features surveyed off site such as buildings and trees may have been recorded remotely and may not be shown in full detail due to access / sighting restrictions

SURVEY CONTROL

THIS SURVEY IS ORIENTATED TO ORDNANCE SURVEY GRID NORTH WITH A TRUE OSGB36 CO-ORDINATE NEAR THE CENTRE OF THE SURVEY.

THE SURVEY IS PLOTTED TO A FLAT PLANE GRID. HORIZONTAL MEASUREMENTS TAKEN FROM THIS SURVEY WILL BE TRUE DISTANCES

REFER TO SURVEY CONTROL STATION LISTING FOR RE-ESTABLISHING CONTROL ON SITE

LEVELS RELATE TO OON

Name	Easting	Northing	Height
STNA	501248.866	278291.800	67.359
STNAA	501100.627	278256.411	70.585
STNAB	501155.461	278216.408	70.245
STNAC	501213.534	278219.045	69.037
STNB	501322.725	278461.432	66.166
STNC	501413.129	278683.442	65.612

CLIENT

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SITE

HUNTINGDON ROAD
THRAPSTON

PROJECT

TOPOGRAPHICAL SURVEY

SCALE

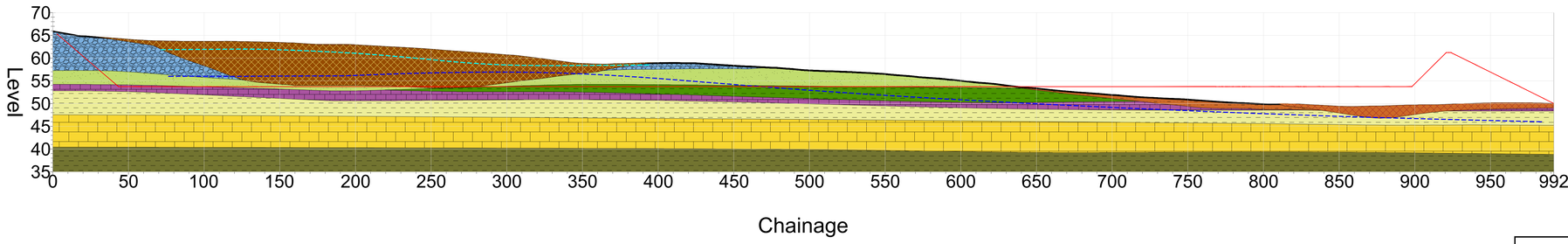
1:500 @ A0

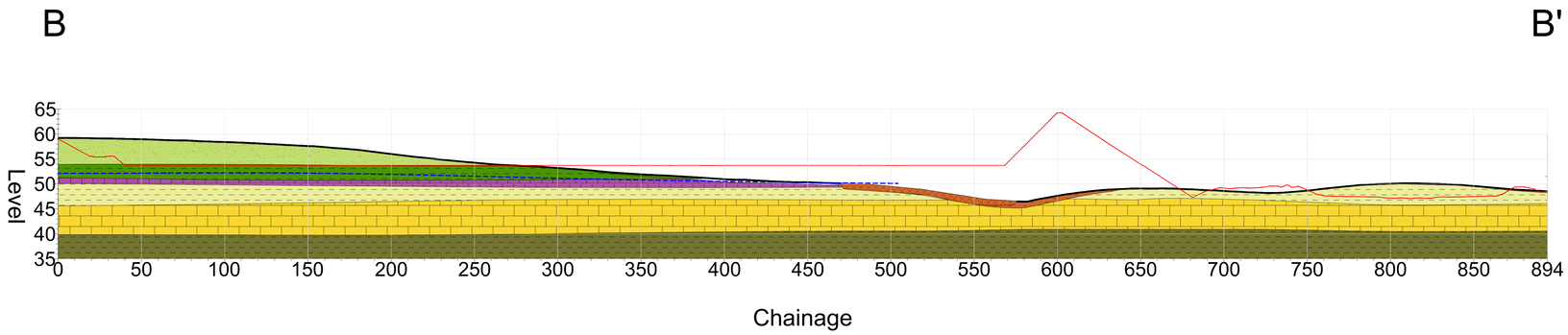
DATE

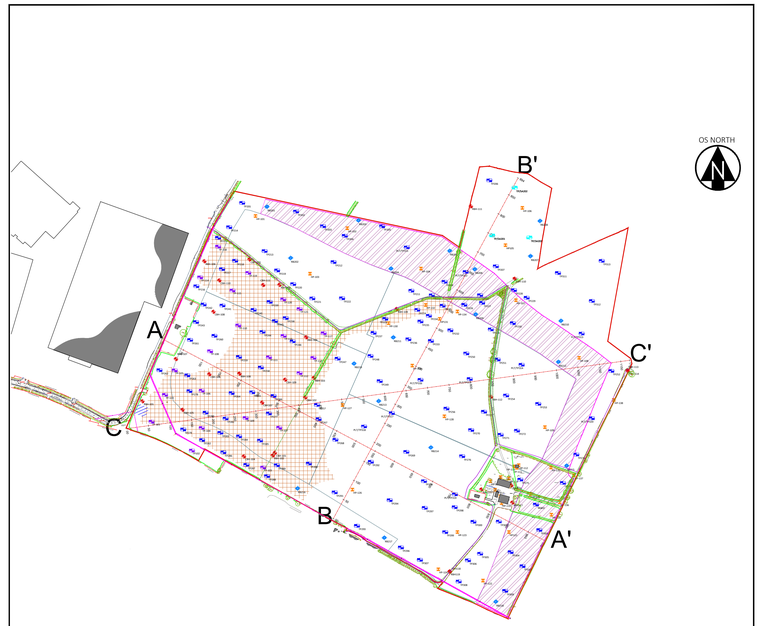
21/12/2020

DRAWING No.

11396a-0







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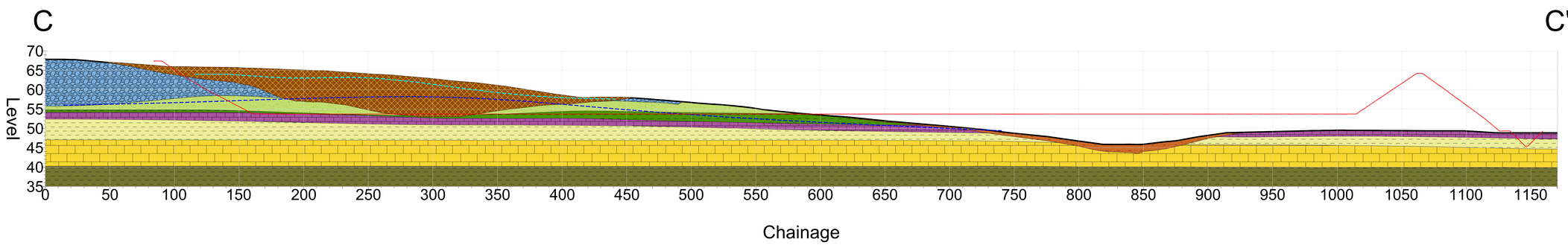

KEY

- Top Soil + Agriculturally Top Soil
- Landfill Made Ground
- Made Ground
- Head
- Glacial Till + Glaciofluvial Deposits
- Kellaways Sand Member
- Kellaways Clay Member
- Cornbrash Formation
- Blisworth Clay Formation
- Blisworth Limestone Formation
- Rutland Formation
- Ground water level from BH with the screened zone within the Landfill made ground
- Ground water level from BH with the screened zone within the Cornbrash formation
- Proposed ground level
- Site Boundary (approximate)
- TPXX Trial Pit
- BHXX Cable Percussion Borehole
- RBHXX Rotary Percussion / Core Borehole
- HP## Hand Dug Excavation Pit

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.
3. This drawing has been based on the following drawings and information: Stafsurv Drawing 'Huntingdon Road, Thrapston. Topography Survey', Ref: 11521a-0, dated 10/03/21
4. Surfaces have been created using Hydrock Site Investigation data (July 2021 and December 2021). Levels and depths are accurate at investigation locations. Between investigation locations, levels and depths have been extrapolated and are indicative only.

REV						
P04	ADDITION OF PROPOSED GROUND LEVEL					
	RT	23/08/22	CD	23/08/22	AB	23/08/22
P03	THIRD ISSUE (after detailed SI)					
	RT	13/04/22	NT	13/04/22	AB	13/04/22
P02	CLIENT DETAILS AMMENDED					
	NT	15/12/21	AB	15/12/21	AB	15/12/21
P01	FIRST ISSUE					
	RT	04/10/21	NS/NT	04/10/21	AB	04/10/21
	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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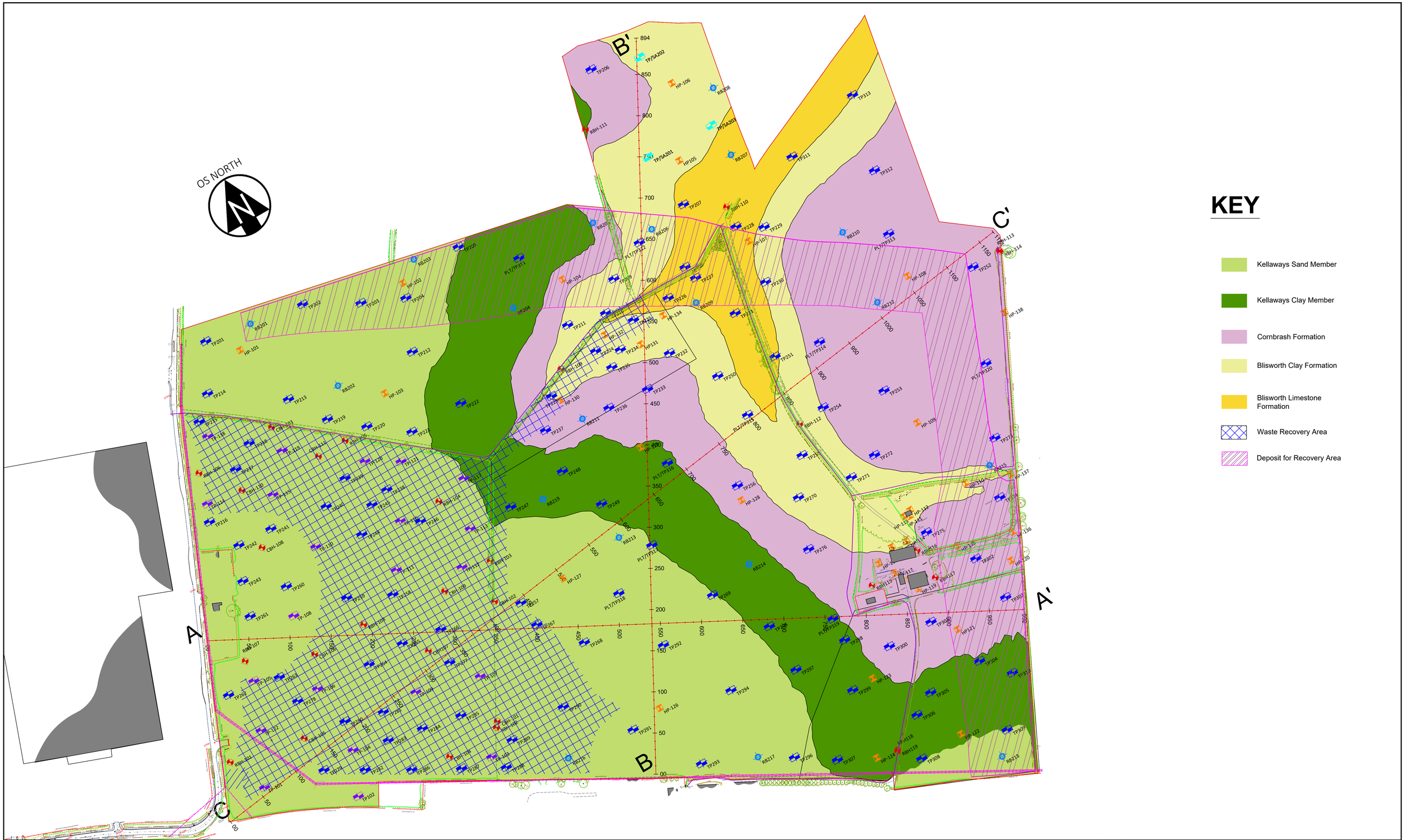
PROJECT
LAND ADJACENT HALDENS PARKWAY THRAPSTON

TITLE
INDICATIVE CROSS SECTIONS

HYDROCK PROJECT NO.	SCALE @ A0
C-18443	1:1250 or as shown

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
18443-HYD-XX-ZZ-DR-GE-1014	P04



KEY

- Site Boundary (approximate)
- TPXX Trial Pit
- BHXX Cable Percussion Borehole
- RBHXX Rotary Percussion / Core Borehole
- HP## Hand Dug Excavation Pit

NOTES

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2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.

3. This drawing has been based on the following drawings and information: Stafsurv Drawing 'Huntignton Road, Thrapston. Topography Survey'. Ref: 11521a-0, dated 10/03/21

4.Surfaces have been created using Hydrock Site Investigation data (July 2021 and December2021). Levels and depths are accurate at investigation locations. Between investigation locations, levels and depths have been extrapolated and are indicative only.

REV.						
P04	FORTH ISSUE					
	RT	30.08.22	CD	30.08.22	AB	30.08.22
P3	THIRD ISSUE (After detailed SI)					
	RT	30.03.22	NT	30.03.22	AB	30.03.22
P2	CLIENT DETAILS AMMENDED					
	NT	15.12.21	AB	15.12.21	AB	15.12.21
P1	FIRST ISSUE					
	RT	06.10.21	NS/NT	06.10.21	AB	06.10.21
	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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PROJECT: LAND ADJACENT HALDENS PARKWAY THRAPSTON

TITLE: SOLID GEOLOGY - OUTCROP LEVEL BELLOW SUPERFICIALS

HYDROCK PROJECT NO.: C-18443

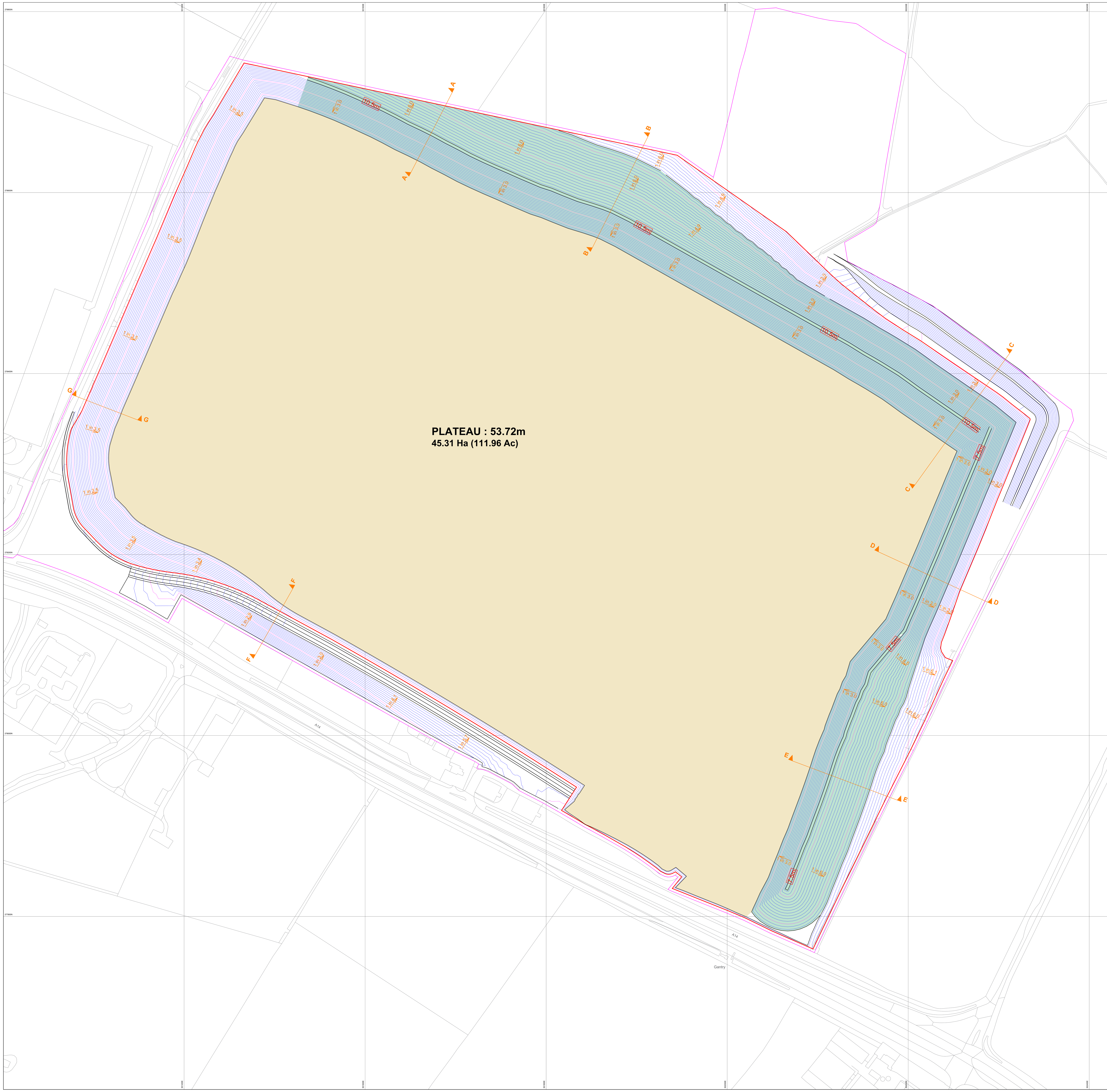
SCALE @ A1: 1:2000

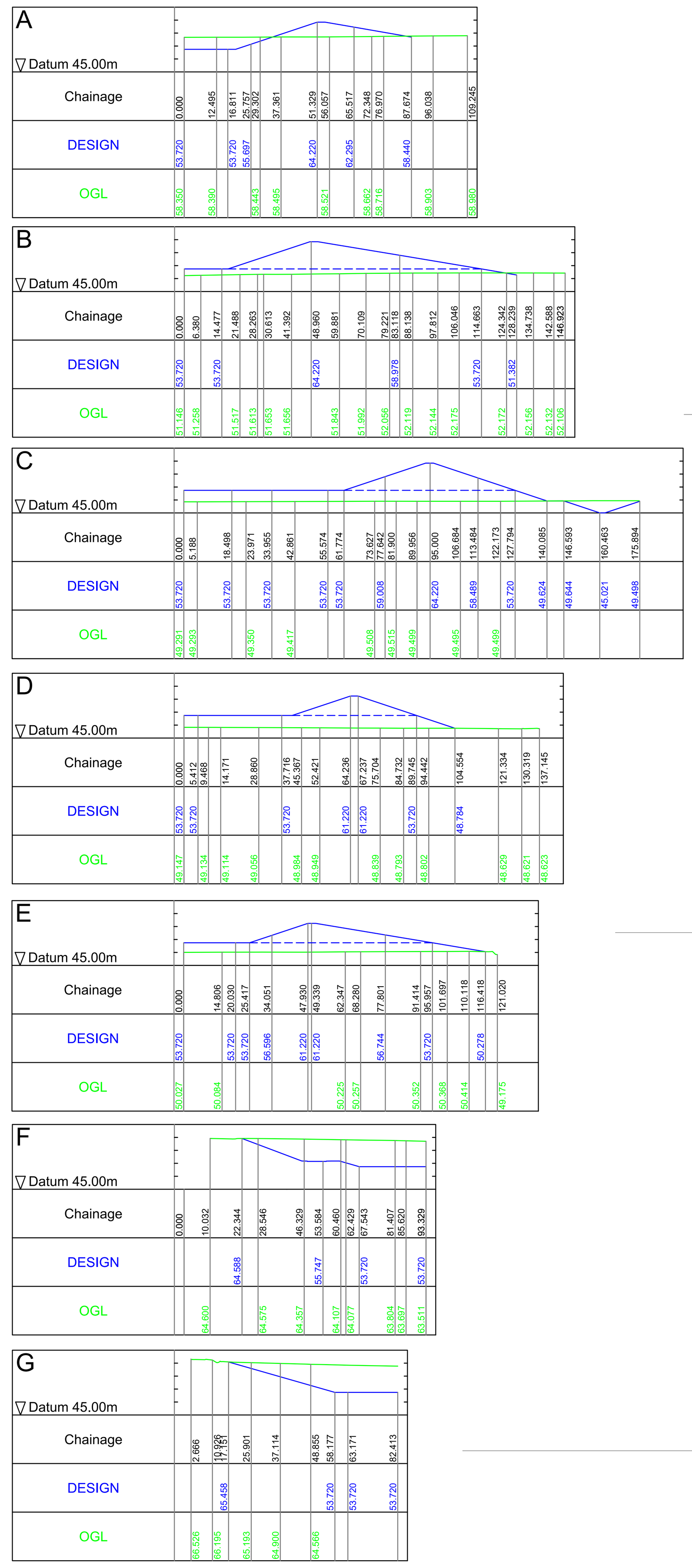
PURPOSE OF ISSUE: SUITABLE FOR INFORMATION

STATUS: S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 18443-HYD-XX-ZZ-DR-GE-1015

REVISION: P04





ASSUMPTIONS :

Plateau Batters are 3m Offset from Existing Boundaries
North and East Outer Batters are at 1:6
South & West Plateau Batters are at 1:3.5
Mound & Plateau Batters Adjacent to Watercourse are at 1:3
Inner Face of Screening Mounds are at 1:3
Northern Mound is 10.5m High From Plateau Level
Eastern Mound is 7.5m High From Plateau Level

SITE STRIP :

300mm Deep Site Strip	(642,751m²)	**192,825m³**

EARTHWORKS :

Cut & Fill Following the Site Strip to the Plateau Level of 53.72 :

CUT	1,600,193m³
FILL	1,307,021m³
SURPLUS	**293,072m³**

SCREENING MOUNDS :

Material Required to Construct Screening Mounds	**485,897m³**
Less Surplus From Earthworks	293,072m³
Less Surplus From Topsoil Strip	192,825m³
OVERALL MATERIAL BALANCE	**0m³**

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NOTES

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SITE

HUNTINGDON ROAD
THRAPSTON

PROJECT

PROPOSED PLATEAU
& MOUND - LEVELS & LAYOUT

SCALE	DATE
1:1250 @ A0	15/06/2021

DRAWING No.

11686a-0

SCHEDULE OF PARAMETERS

Development Zone	Number of Units	Maximum development floor space in m²	Minimum to Maximum finished floor level (in m above ordnance datum)	Maximum building height measured to roof ridge / highest point (in metres above ordnance datum)
Plateau Area	2 to 6	200,000	54.50 to 55.50	79.50

SuDS PONDS

BIODIVERSITY AREA

ROAD TO TITCHMARSH VILLAGE

Islington

65.50

59.79

54.11

64.22m AOD (10.5m) to crest of Northern bund

47.18

46.95

50.01

61.22m AOD (7.5m) to crest of Eastern bund

65.70

OVERALL RED LINE AREA
74.66 ha / 184.50 acres

Earthworks Plateau
53.72 AOD

FUTURE DEVELOPMENT PLATEAU

65.86

64.92

65.59

68.35

69.33

65.62

64.81

61.52

58.66

53.64

52.35

66.50

Huntingdon Road

A14

Gantry

70.9m

53.6m

LEGEND

- Landscaping, Biodiversity and SuDS zone including earth bunding & batters 27.14ha / 67.06ac
- Future Development Plateau 34.49ha / 85.23ac
- Plot 01 Development plateau (plot layout to be approved by detailed drawings and plan)
- Outline Application Red Line
- Plot 1 Detailed Application
- Farm buildings and yards to be demolished to the East of the site
- Bungalow and associated buildings to the West of the site to be demolished
- Area for Development Signage
- 47.18 Existing site levels AOD indicated thus
- Landscape bund to North & East boundary
- Embankments to create building plateau
- Drainage ditch to the NE boundary
- Detailed site and Plot 01 access
- Existing farm track retained
- Re-routed farm track
- Existing farm track to be removed
- Potential 'Greenway Route'
- Proposed on-site Permissive Route
- Potential off-site Permissive Route

Revisions:

P34	On-site permissive route amended. Roundabout, cycle path and footpath updated to South-West corner of site.	06.12.22. WE.
P35	Label in key amended.	07.12.22. WE.
P36	Roundabout detail reverted to LWL design.	09.12.22. WE.

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pHp architects

HUNTINGDON ROAD THRAPSTON

PARAMETERS PLAN

Status	PLANNING
Drawn by : RG	Checked by : RM
Date	01/04/2021

Document Number:

Project Code Zone Level-Info Type Role Job No. Drg.No. Revision

HRT-PHP-01-XX-DR-A-4432-014-P36

Scale@ A1 1:2000

0 50m 100m

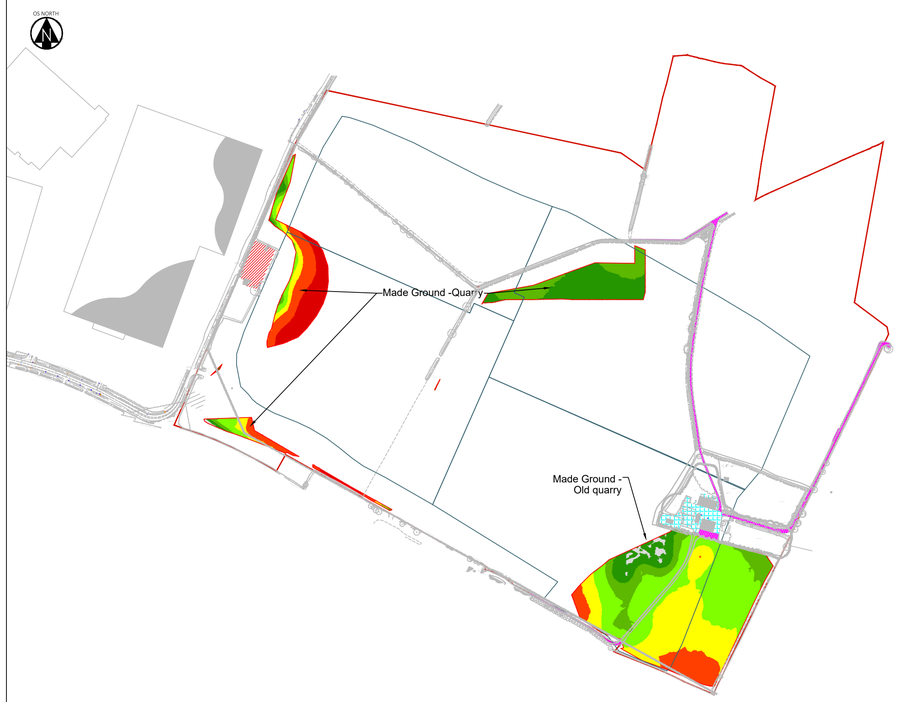
Stage 1
Topsoil removal

Agricultural Topsoil
Area = 497415m^2
Average thickness = 0.3m
Volume = 149225m^3

Topsoil Made Ground external to WML
Area = 75875m^2
Average thickness = 0.3m
Volume = 22765m^3

Topsoil Made Ground in WML area
Area = 147660m^2
Average thickness = 0.3m
Volume = 44,300m^3

Stage 2
Removal of Made Ground outside waste management license



Made Ground - Western buildings
Area = 2750m^2
Average Thickness MG = 0.5m
Volume = 1373.8m^3

Made Ground - Concrete
Area =4129m^2
Average Thickness MG = 0.20m
Volume = 825m^3

Made Ground - Roads
Area = 5750m^2
Average Thickness MG = 0.5m
Volume = 2870m^3

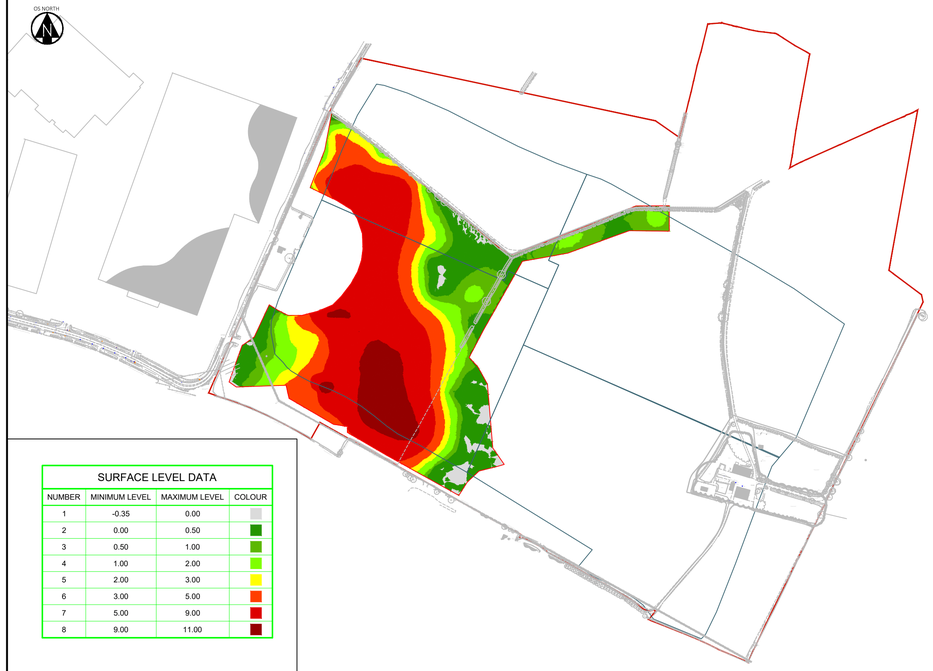
SURFACE LEVEL DATA

NUMBER	MINIMUM LEVEL	MAXIMUM LEVEL	COLOUR
1	-0.35	0.00	
2	0.00	0.50	
3	0.50	1.00	
4	1.00	2.00	
5	2.00	3.00	
6	3.00	5.00	
7	5.00	9.00	
8	9.00	11.00	

Made Ground - Quarry
Volume = 64,675m^3

Made Ground - Old Quarry
Volume = 89,355m^3

Stage 3
Removal of Made Ground within waste management license.

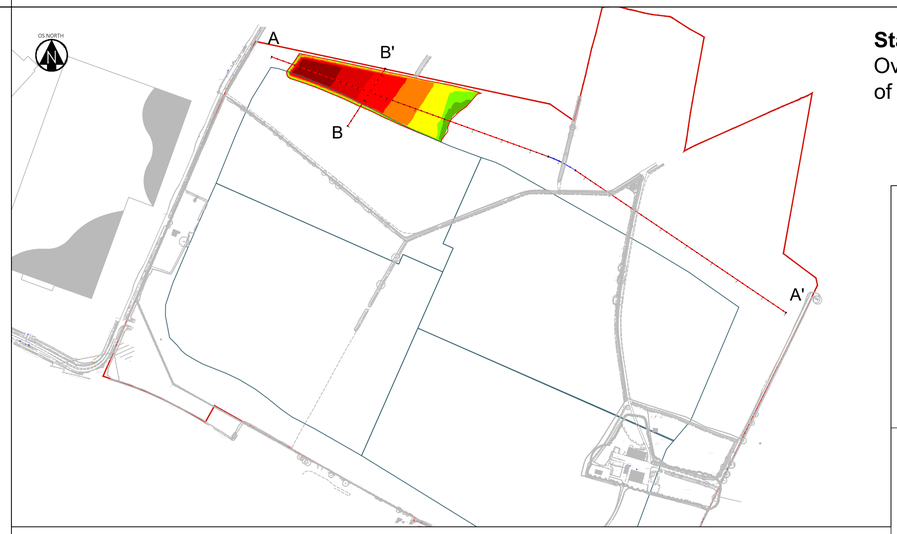


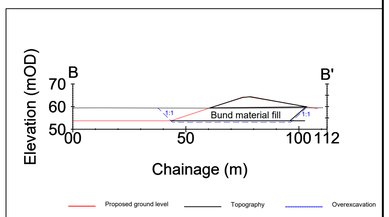
SURFACE LEVEL DATA

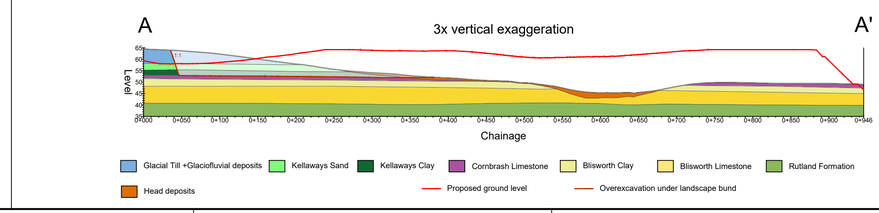
NUMBER	MINIMUM LEVEL	MAXIMUM LEVEL	COLOUR
1	-0.35	0.00	
2	0.00	0.50	
3	0.50	1.00	
4	1.00	2.00	
5	2.00	3.00	
6	3.00	5.00	
7	5.00	9.00	
8	9.00	11.00	

Made Ground - Landfill waste management license
Total Volume = 597,530m^3

Stage 4
Overexcavation under Northern section of bund to top of Cornbrash Limestone







SURFACE LEVEL DATA

NUMBER	MINIMUM LEVEL	MAXIMUM LEVEL	COLOUR
1	0.00	-1.00	
2	-1.00	-2.00	
3	-2.00	-3.00	
4	-3.00	-5.00	
5	-5.00	-7.00	
6	-7.00	-9.00	
7	-9.00	-11.00	

Total volume removed = 93,265m^3
Volume of Head material =3,230m^3
Volume of Glacial material = 25,690m^3
Volume of Kellaways Sand = 30,970m^3
Volume of Kellaways Clay =32,275m^3

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.
3. This drawing is to aid the formulation of the Waste Recovery Plan and the Materials Management Plan for the proposed Enablement Works. The responsibility for writing, declaring, managing and verifying the Materials Management Plan remains with the Contractor. In addition, the responsibility for preparing and obtaining the Deposit for Recovery Permit remains with the Contractor
4. This drawing presents one option for materials management; other options are able to be undertaken by the Contractor,
5. This drawing is preliminary, subject to update following further site investigation and design.
6. Site investigation and assessment is presented in the following documents:
   - Hydrock. November 2021. 'Ground Conditions Desk Study Report', Ref: 18443-HYD-XX-XX-RP-GE-1002
   - Hydrock. April 2022.'Factual and Ground Model Report', Ref: 18443-HYD-XX-XX-RP-GE-1003
   - Hydrock. April 2022. 'Geotechnical Interpretation', Ref: 18443-HYD-XX-XX-RP-GE-1004
   - Hydrock. April 2022. ' Geo-environmental Interpretation', Ref: 18443-HYD-XX-XX-RP-GE-1005
7. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred.
8. All works are to be undertaken as per the requirements of the Geotechnical Design and the Deposit for Recovery Permit, the Earthworks Specification, the Remediation Strategy, the Materials Management Plan and the Waste Recovery Plan. There is likely to be additional monitoring, sampling and testing requirements required as part of the Waste Recovery Plan and the Deposit for Recovery Permit. These requirements are not known at the current time.
9. Levels drawings as provided by the Stafsurv (11686a-0-3D) and LIDAR.
10. All volume estimates are indicative only and no reliance can be placed on these. Contractors are to form their own opinions with regards to likely excavation and disposal volumes. Volumes estimates are rounded to the nearest 5m^3
11. Temporary stockpiling and double handling will be required as necessary and the Contractor is to have allowed for this.
12. Pumping (and treatment) of groundwater as necessary are to be included and remain the Contractors responsibility.
13. Temporary works remain the Contractors responsibility.
14. There remains the potential to encounter asbestos in all Made Ground across the site. It the responsibility of the Contractor to manage all asbestos related management issues and Regulatory compliance.

REV.	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P4	TOPSOIL RESOIL THICKNESS UPDATE					
	RT	17.08.22	NS	17.08.22	IG	17.08.22
P3	UPDATE AFTER CLIENT DISCUSSION					
	RT	26.05.22	RB	26.05.22	AB	26.05.22
P2	SECOND ISSUE					
	RT	29.04.22	RB	29.04.22	AB	29.04.22
P1	FIRST ISSUE					
	RT	03.02.22	RB	03.02.22	AB	03.02.22

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CLIENT
EQUITES NEWLANDS (THRAPSTON EAST) LTD

PROJECT
LAND ADJACENT HALDENS PARKWAY THRAPSTON

TITLE
PRELIMINARY MATERIALS MANAGEMENT STRATEGY
SKETCH 1 of 2

HYDROCK PROJECT NO.
C-18443

SCALE @ A1
1:5000

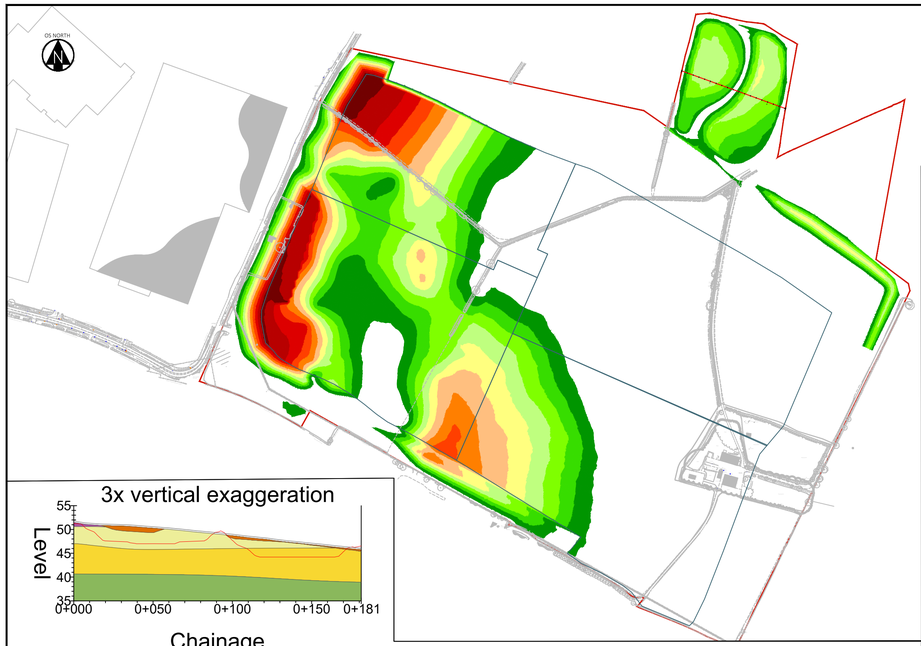
PURPOSE OF ISSUE
WORK IN PROGRESS

STATUS
S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)
18443-HYD-XX-XX-DR-GE-1023

REVISION
P4

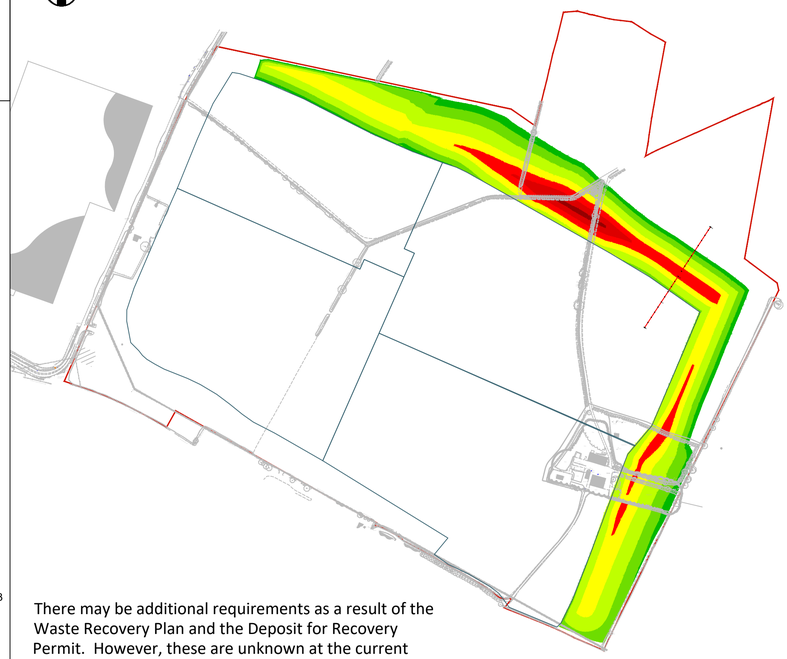
Stage 5
Excavate to cut surface



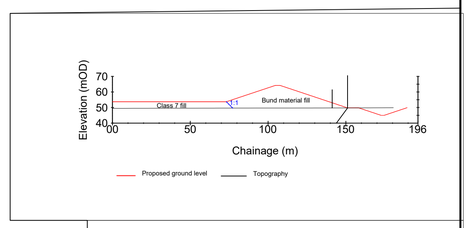
SURFACE LEVEL DATA			
NUMBER	MINIMUM LEVEL	MAXIMUM LEVEL	COLOUR
1	-10.71	-10.00	
2	-10.00	-9.00	
3	-9.00	-8.00	
4	-8.00	-7.00	
5	-7.00	-6.00	
6	-6.00	-5.00	
7	-5.00	-4.00	
8	-4.00	-3.00	
9	-3.00	-2.00	
10	-2.00	-1.00	
11	-1.00	0.00	

Total volume removed = 996,345 m^3
Volume of Head = 4,510 m^3
Volume of Glacial material = 395,335 m^3
Volume of Kellaways Sand = 424,490 m^3
Volume of Kellaways Clay = 89,525 m^3
Volume of Cornbrash Limestone = 14,935 m^3
Volume of Blissworth Clay= 48,670 m^3
Volume of Blissworth Limestone= 18,880 m^3

Stage 6
Place WML topsoil, landfill, Made ground, and Head deposits, into the landscape bund



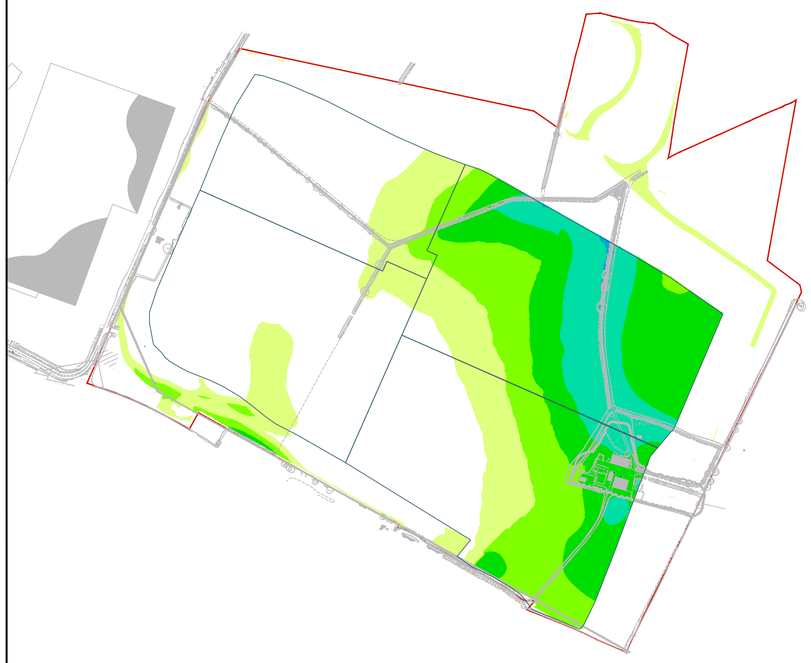
There may be additional requirements as a result of the Waste Recovery Plan and the Deposit for Recovery Permit. However, these are unknown at the current stage.



SURFACE LEVEL DATA			
NUMBER	MINIMUM LEVEL	MAXIMUM LEVEL	COLOUR
1	0.00	2.00	
2	2.00	5.00	
3	5.00	9.00	
4	9.00	12.00	
5	12.00	15.00	
6	15.00	18.00	
7	18.00	19.00	

Fill Landscape bund Volume= 904,050m^3

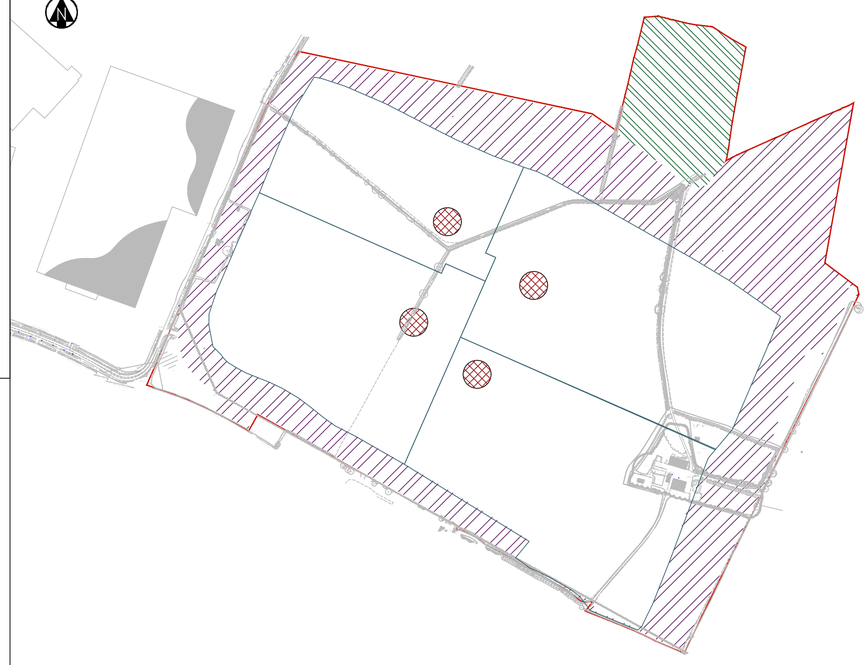
Stage 7
Place natural material to final levels



SURFACE LEVEL DATA			
NUMBER	MINIMUM LEVEL	MAXIMUM LEVEL	COLOUR
1	0.00	2.00	
2	2.00	4.00	
3	4.00	6.00	
4	6.00	8.00	
5	8.00	10.00	
6	10.00	12.00	
7	12.00	20.00	

Plot Fill Volume= 987,715 m^3

Stage 8
Topsoil placement on landscape bund, slope and biodiversity area



Topsoil cover
Area = 221,690m^2
Average thickness = 0.3m
Volume = 66,510m^3

Topsoil cover - SUDs basin area
Area = 41,250m^2
Average thickness = 0.15m
Volume = 6,190m^3

Temporary stockpile of Topsoil on development plots (30000m3 allowance)

NOTES

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   - Hydrock. April 2022.'Factual and Ground Model Report', Ref: 18443-HYD-XX-XX-RP-GE-1003
   - Hydrock. April 2022. 'Geotechnical Interpretation', Ref: 18443-HYD-XX-XX-RP-GE-1004
   - Hydrock. April 2022. ' Geo-environmental Interpretation', Ref: 18443-HYD-XX-XX-RP-GE-1005
7. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred.
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REV.	REVISION NOTES/COMMENTS	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P4	TOPSOIL RESOIL THICKNESS UPDATE	RT	17.08.22	NS	17.08.22	IG	17.08.22
P3	UPDATE AFTER CLIENT DISCUSSION	RT	26.05.22	RB	26.05.22	AB	26.05.22
P2	SECOND ISSUE	RT	29.04.22	RB	29.04.22	AB	29.04.22
P1	FIRST ISSUE	RT	03.02.22	RB	03.02.22	AB	03.02.22

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TEL: 01604 842 888
E-Mail: northampton@hydrock.com
or visit www.hydrock.com

CLIENT: EQUITES NEWLANDS (THRAPSTON EAST) LTD

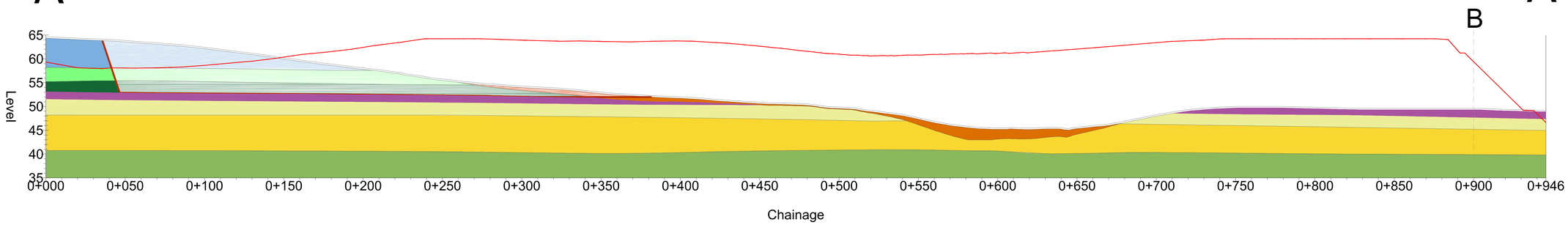
PROJECT: LAND ADJACENT HALDENS PARKWAY THRAPSTON

TITLE: PRELIMINARY MATERIALS MANAGEMENT STRATEGY
SKETCH 2 of 2

HYDROCK PROJECT NO.: C-18443
SCALE @ A1: 1:5000
PURPOSE OF ISSUE: WORK IN PROGRESS
STATUS: S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 18443-HYD-XX-XX-DR-GE-1023
REVISION: P3

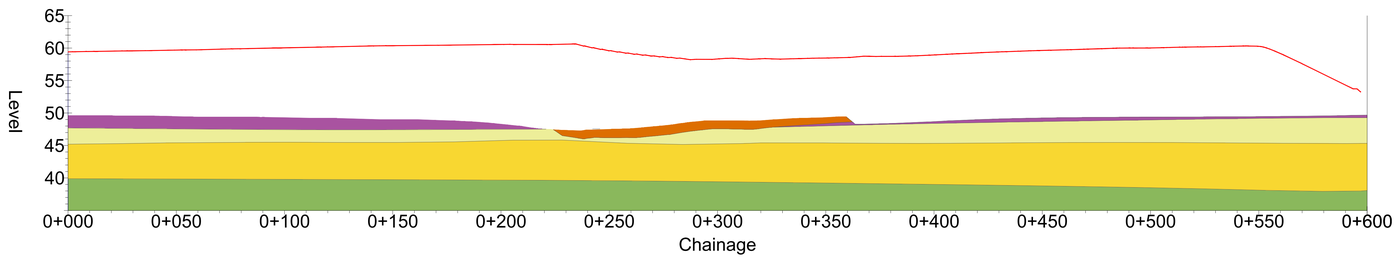
A

A'

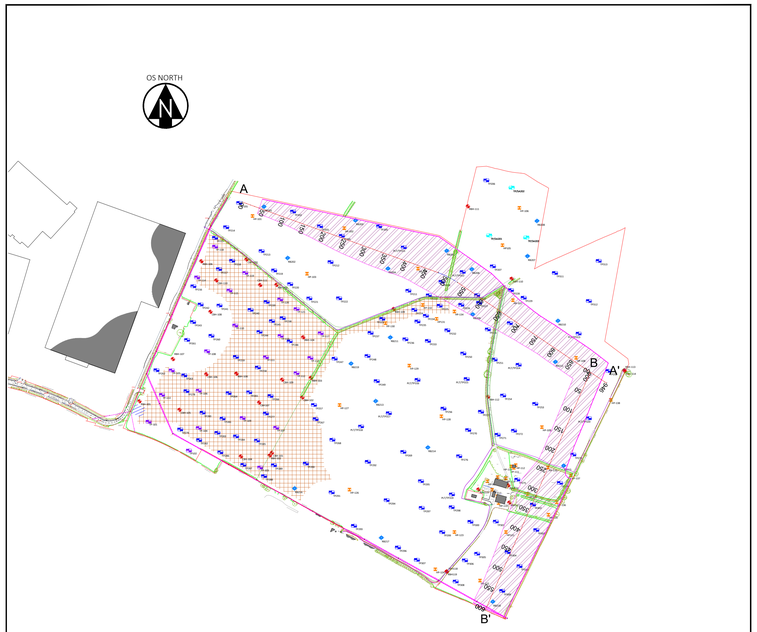


B

B'



3x vertical exaggeration



SCALE: 1:5000

Glacial Till +Glaciofluvial deposits

Kellaways Sand

Kellaways Clay

Cornbrash Limestone

Blisworth Clay

Blisworth Limestone

Rutland Formation

Head deposits

Made Ground

Proposed ground level

Overexcavation under landscape bund

KEY

Site Boundary (approximate)

TPXX Trial Pit

BHXX Cable Percussion Borehole

RBHXX Rotary Percussion / Core Borehole

HP## Hand Dug Excavation Pit

NOTES

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2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.

3. This drawing has been based on the following drawings and information:
Stafsurv Drawing 'Huntington Road, Thrapston. Topography Survey'. Ref: 11521a-0, dated 10/03/21

4.Surfaces have been created using Hydrock Site Investigation data (July 2021 and December 2021). Levels and depths are accurate at investigation locations. Between investigation locations, levels and depths have been extrapolated and are indicative only.

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Hawthorn Park
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t: +44 (0) 1604 842888
e: northampton@hydrock.com
or visit www.hydrock.com

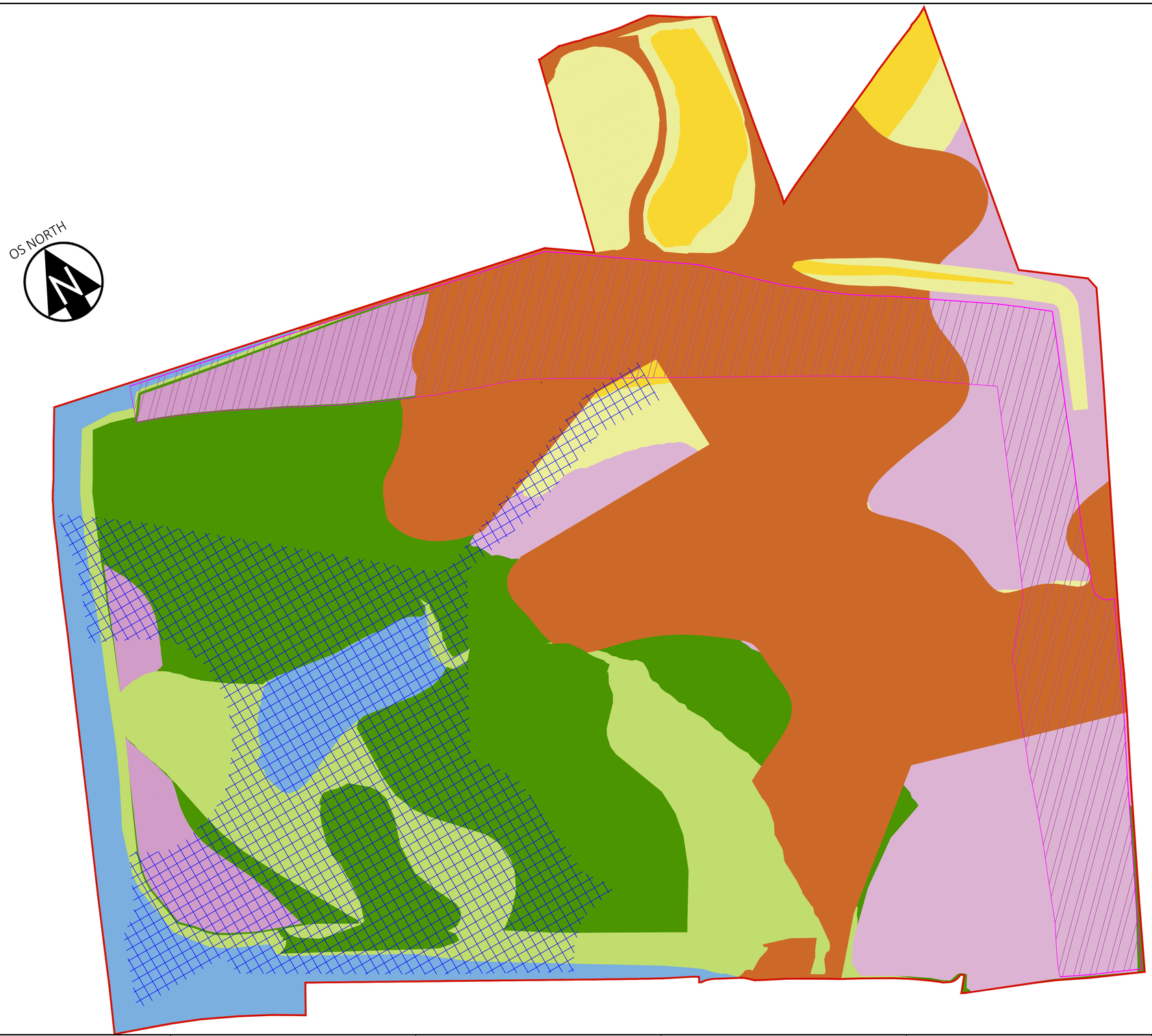
REV.	FIRST ISSUE					
P01	RT	30.08.22	CD	30.08.22	AB	30.08.22
	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

CLIENT: EQUITES NEWLANDS (THRAPSOTN EAST) LTD

PROJECT: LAND ADJACENT HALDENS PARKWAY THRAPSTON

TITLE: INDICATIVE CROSS SECTIONS
Deposit for Recovery Area

HYDROCK PROJECT NO.	SCALE @ A0
C-18443	1:1250 or as shown
PURPOSE OF ISSUE: SUITABLE FOR INFORMATION	STATUS: S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 18443-HYD-XX-ZZ-DR-GE-1034	REVISION: P01



KEY

- Waste Recovery Area
- Head
- Glacial Till + Glaciofluvial Deposits
- Kellaways Sand Member
- Kellaways Clay Member
- Cornbrash Formation
- Blisworth Clay Formation
- Blisworth Limestone Formation
- Deposit for Recovery Area

KEY

NOTES

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3. This drawing has been based on the following drawings and information:
Stafsurv Drawing 'Huntignton Road, Thrapston. Topography Survey'. Ref: 11521a-0, dated 10/03/21

REV.						
P02	SECOND ISSUE					
	RT	30.08.22	CD	30.08.22	AB	30.08.22
P1	FIRST ISSUE					
	NS	04.02.22	AB	04.02.22		
REV.	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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CLIENT
EQUITES NEWLANDS (THRAPSTON EAST) LTD

PROJECT
LAND ADJACENT HALDENS PARKWAY THRAPSTON

TITLE
Expected geology at final cut level

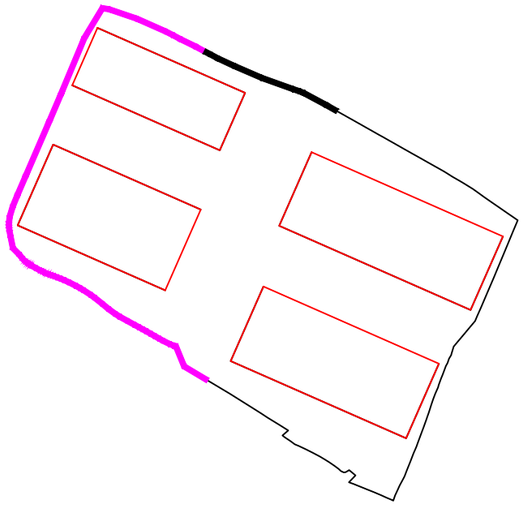
HYDROCK PROJECT NO.	SCALE @ A1
C-18443	1:2000

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

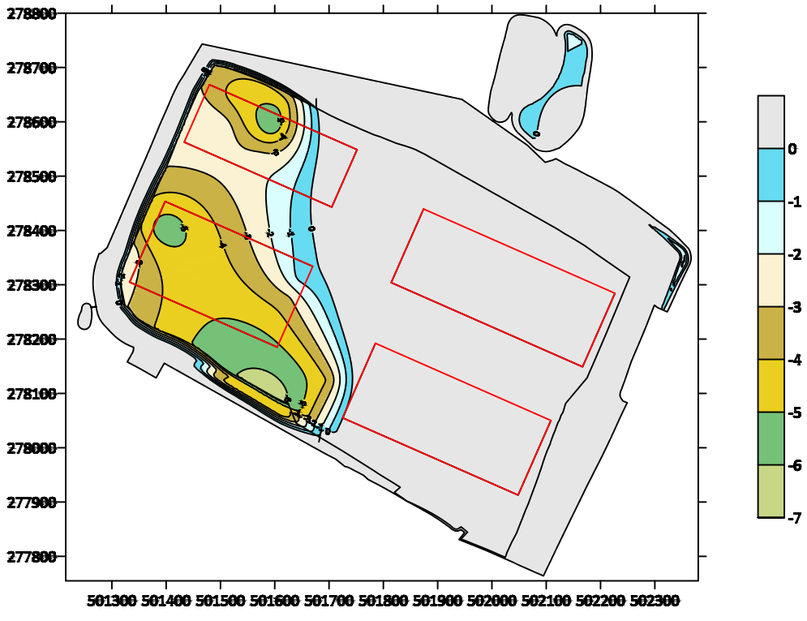
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)
18443-HYD-XX-ZZ-DR-GE-1026

REVISION
P2

OS NORTH

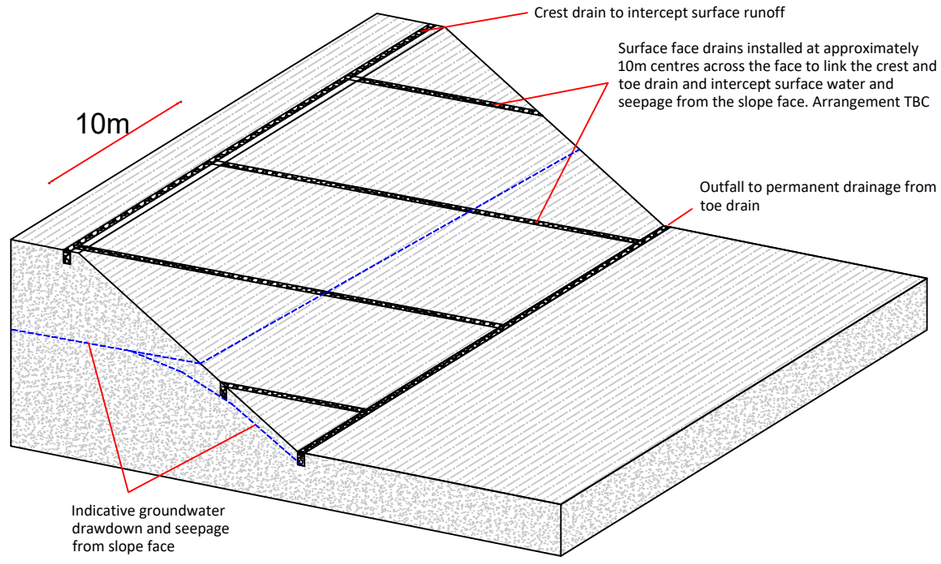


Conjectured Groundwater Level Above Development Platform Level Based on Ground Investigation Data



SCALE 1:10000

Schematic Arrangement of Slope Face Drainage (where required, subject ot site observations)



N.T.S.

KEY

- Toe drain to cut slope and additional drainage to face as required (see schematic)
- Toe drain to cut slope

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2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.
3. This drawing has been based on the following drawings and information: Indicative Masterplan reference HRT-pHp-01-XX-DR-A-4432-012-P18.
4. Temporary Drainage during construction is to be designed by the Contractor.
5. Permanent toe drain to be designed by the enablement works civil engineer.

REV.							
P1	FIRST ISSUE						
	RB	04/05/22	AB	04/05/22			
REV.	REVISION NOTES/COMMENTS						
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE	

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E-Mail: northampton@hydrock.com
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CLIENT: EQUITIES NEWLANDS (THRAPSTON EAST) LIMITED

PROJECT: HALDEN PARKWAY, THRAPSTON

TITLE: EARTHWORKS DRAINAGE REQUIREMENTS

HYDROCK PROJECT NO.: 18443

SCALE @ A3: AS SHOWN

PURPOSE OF ISSUE: SUITABLE FOR INFORMATION

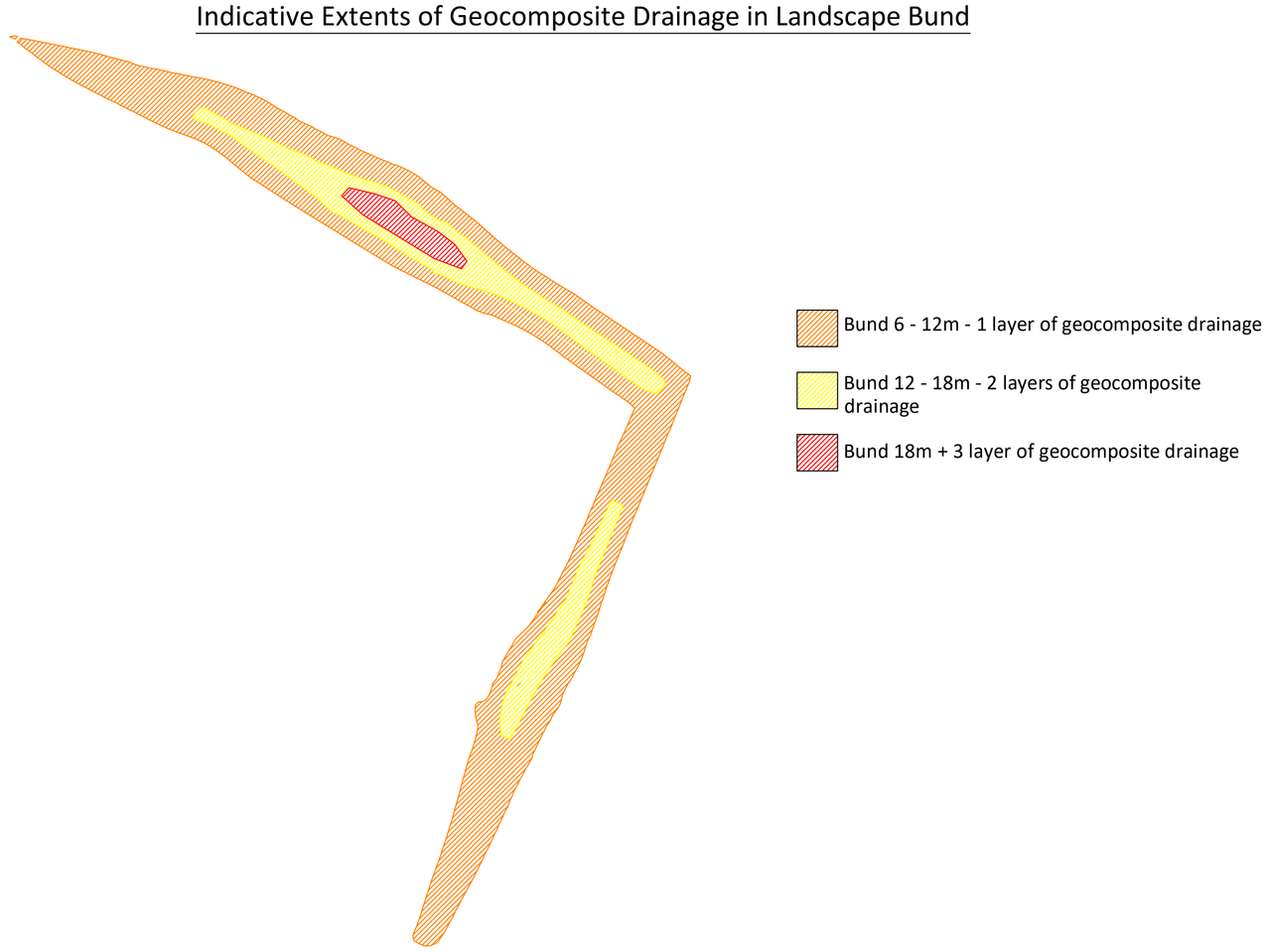
STATUS: S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 18443-HYD-XX-ZZ-DR-GE-1027

REVISION: P1

OS NORTH

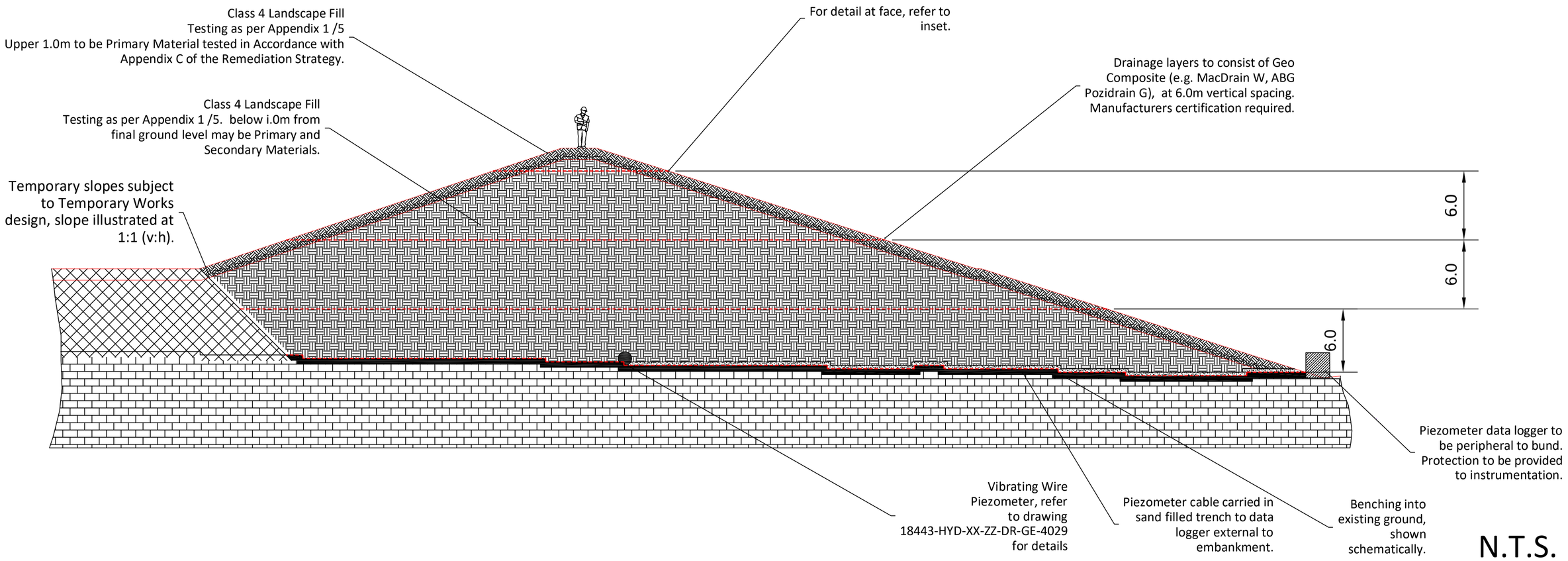
Indicative Extents of Geocomposite Drainage in Landscape Bund



- Bund 6 - 12m - 1 layer of geocomposite drainage
- Bund 12 - 18m - 2 layers of geocomposite drainage
- Bund 18m + 3 layer of geocomposite drainage

SCALE 1:4000

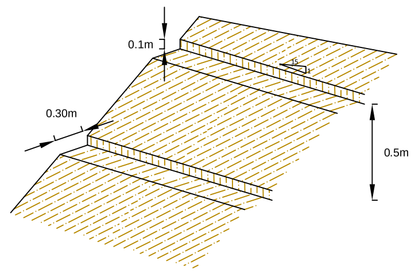
Schematic Landscape Bund Construction



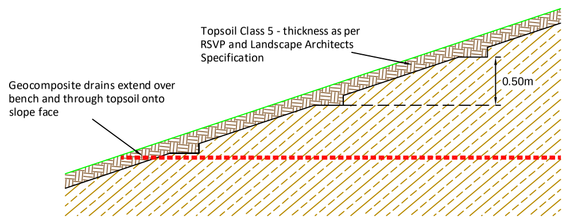
N.T.S.

Inset

Slope Benching / Scarifying Detail
To be undertaken before drainage installation and topsoiling



Finishing Detail



N.T.S.

KEY

- Class 4 Landscape Fill
- Class7 Selected Fill
- Sand Fill Trench
- Basal Layer
- Cornbrash Limestone
- Geocomposite Drainage

NOTES

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3. This drawing has been based on the following drawings and information: 11686a-0, Proposed Plateau and Bund Levels, 15/06/21.

REV.						
P2	INCLUDES BASAL LAYER					
	CLD	28/11/22	AB	28/11/22		
P1	FIRST ISSUE					
	RB	04/05/22	AB	04/05/22		
	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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PROJECT: HALDEN PARKWAY, THRAPSTON

TITLE: LANDSCAPE BUND CONSTRUCTION

HYDROCK PROJECT NO.: 18443

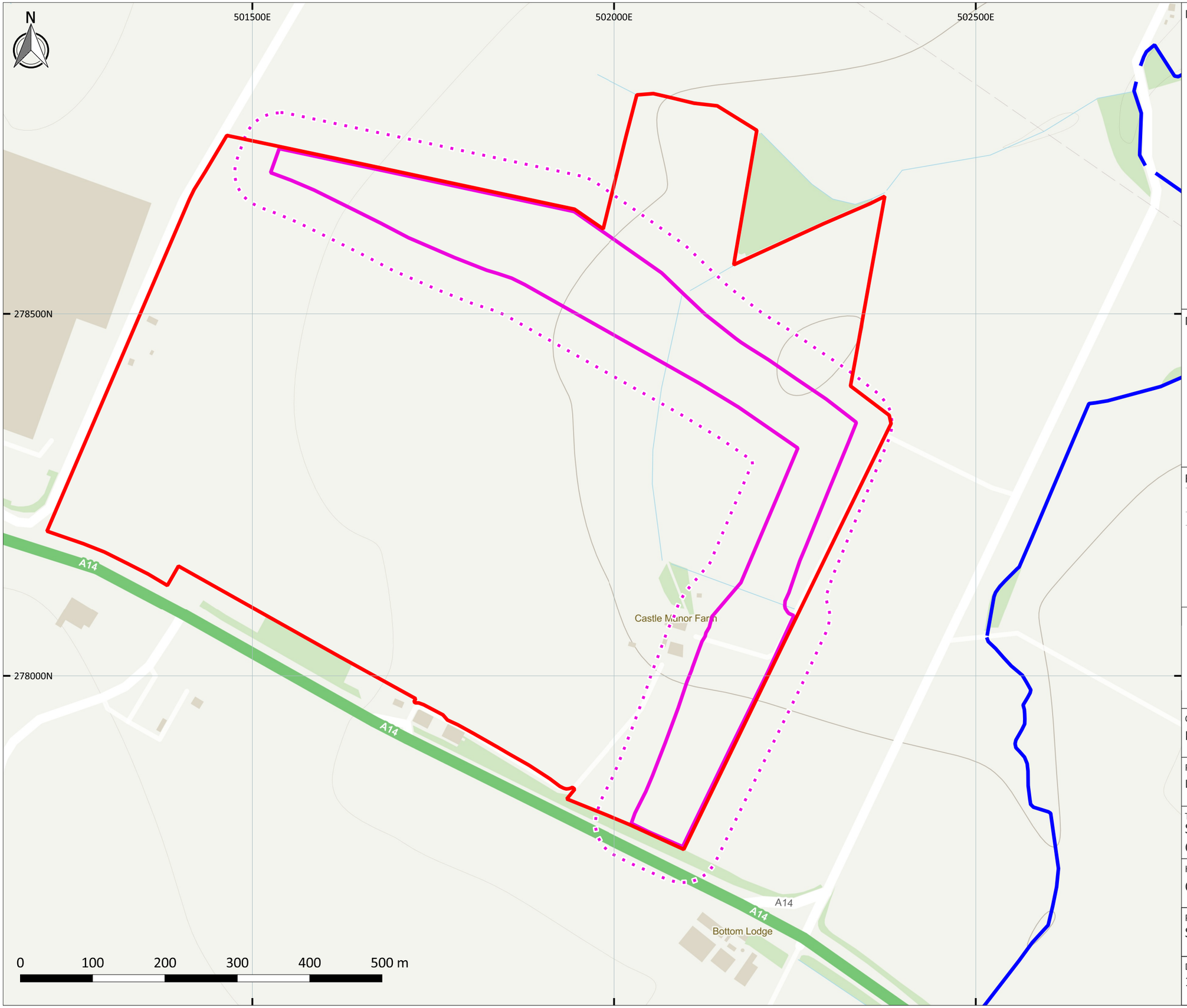
SCALE @ A1: AS SHOWN

PURPOSE OF ISSUE: SUITABLE FOR INFORMATION

STATUS: S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER): 18443-HYD-XX-XX-DR-GE-1028

REVISION: P2



KEY PLAN

- Site Boundary
- Landscape Bund
- 50m Bund Buffer
- Surface Water

NOTES

1. Contains OS data © Crown copyright and database right (2022)

REVISIONS

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	CLD	AB	16/11/22	First issue

Hydrock

CLIENT
EQUITES NEWLANDS (THRAPSTON EAST) LTD

PROJECT
LAND ADJACENT HALDENS PARKWAY THRAPSTON

TITLE
SURFACE WATER FEATURES AND DQRA COMPLIANCE POINTS

HYDROCK PROJECT NO.	SCALE @ A3
C-18443	1:5,000

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO.	REVISION
18443-HYD-XX-XX-DR-GE-1039	P01

Appendix B Groundwater Contour Plans

Groundwater Contours

Groundwater contours for specified dates in 2022 are shown in the Figures below. Measured groundwater levels were reduced to groundwater elevations using site datum levels and computed as contours using Surfer.

Cornbrash Limestone Formation

Contours for groundwater levels in the Cornbrash Limestone Formation (July 2022) are shown in Figure B.1. In general groundwater flow within the Cornbrash Limestone Formation is towards the east following topographic profile. Groundwater levels recorded at RBH-102 are anomalous and have been removed from the dataset.

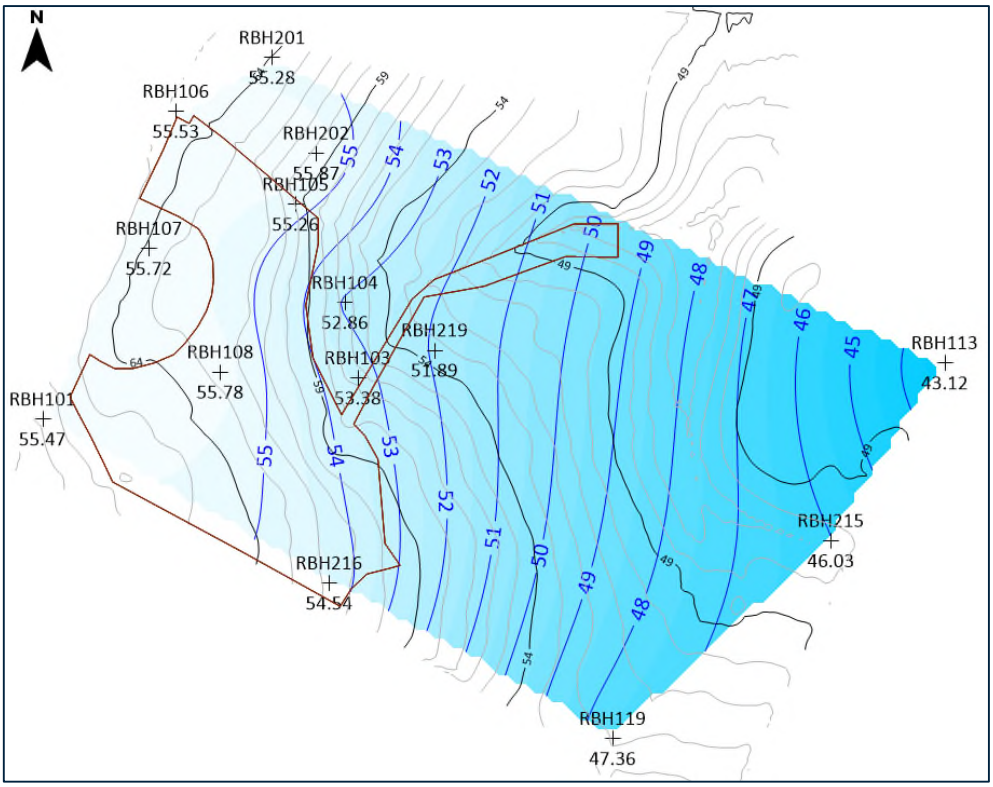


Figure B.1: Groundwater contour plot (blue) for Cornbrash Limestone Formation 04/07/2022

Blisworth Limestone Formation

The Blisworth Limestone Formation is separated from the Cornbrash Limestone Formation by the Blisworth Clay Formation. Groundwater flow beneath the site within the Blisworth Limestone Formation is generally towards the north east following topographic profile as shown in Figure B.2.

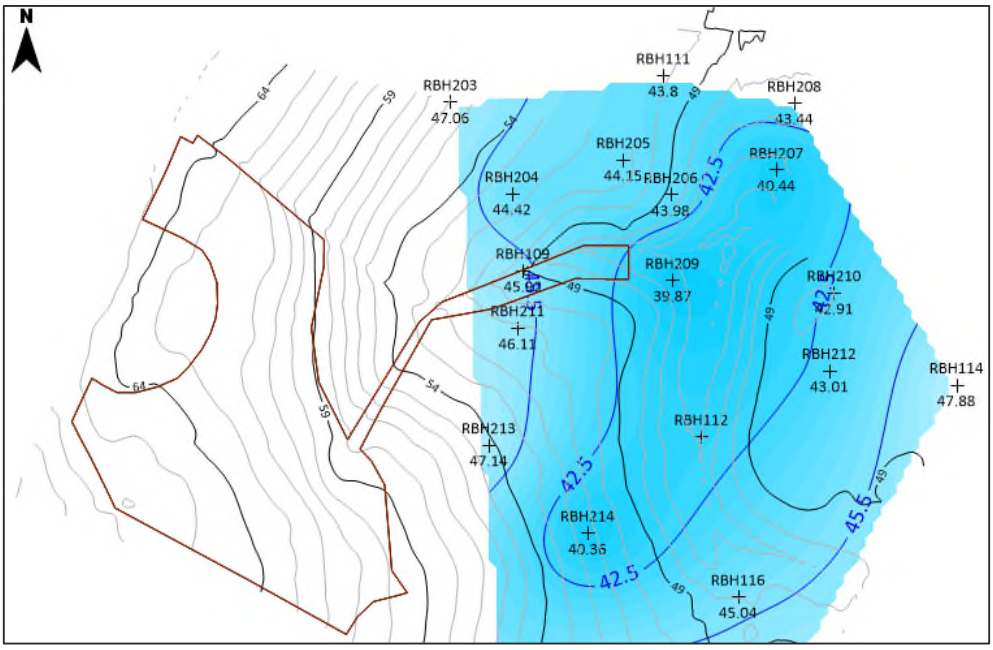


Figure B.2: Groundwater contour plot for Blisworth Limestone Formation 04/07/2022

Hydraulic Continuity

Figure B.3 shows that groundwater elevations within the Blisworth Limestone Formation are consistently lower than groundwater elevations within the Cornbrash Limestone Formation, indicating two separate groundwater bodies, with no or limited hydraulic continuity between the two.

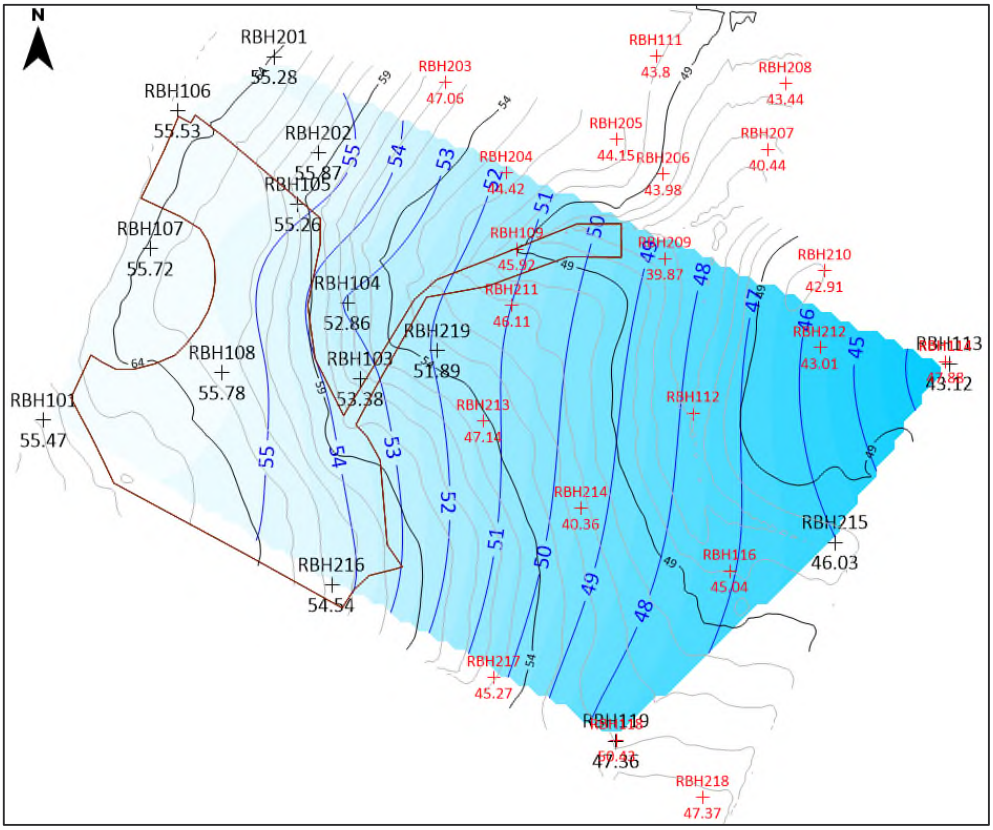
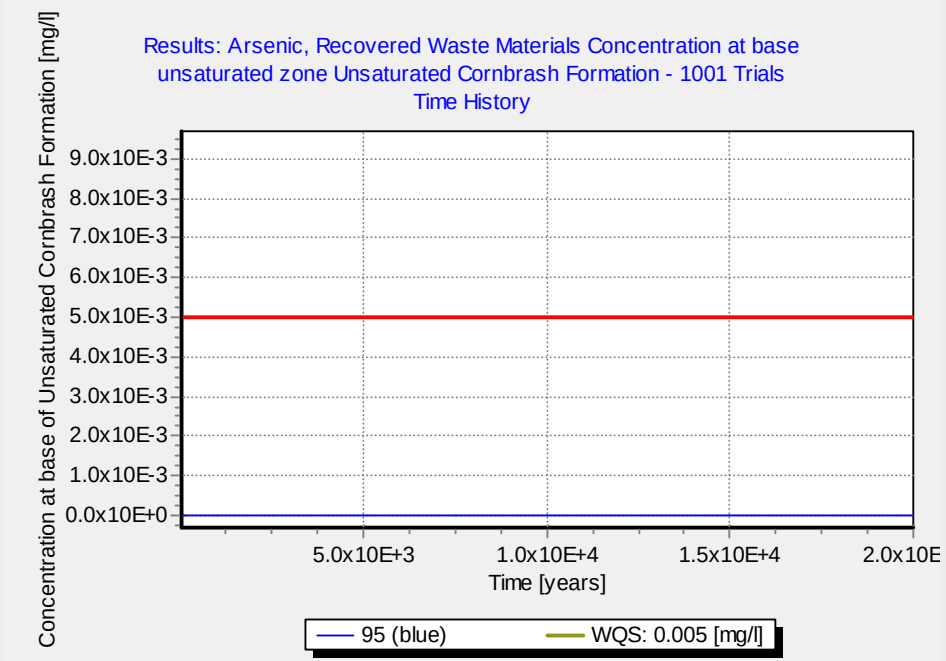


Figure B.3: Groundwater elevations (black) and contours (blue) in the Cornbrash Limestone and groundwater elevations in the Blisworth Limestone (red) 04-05/07/2022

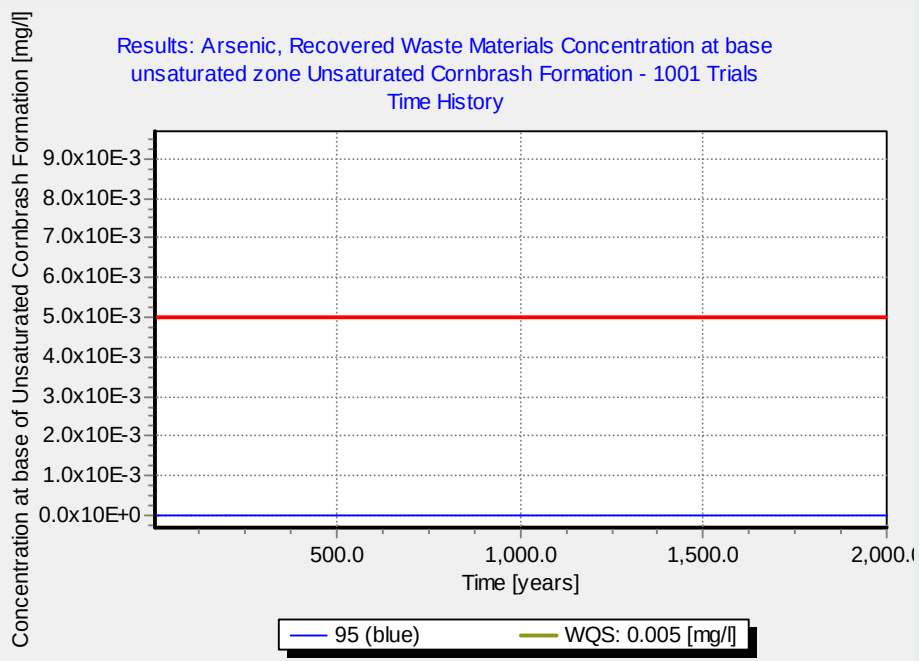
Appendix C ConSim Modelling Results

Graphical Modelled Results

Arsenic



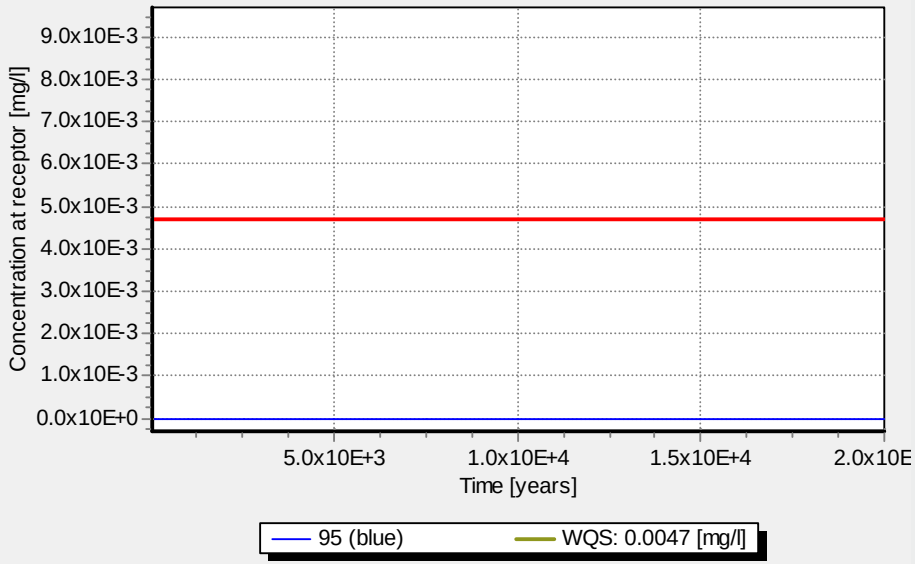
HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52



HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

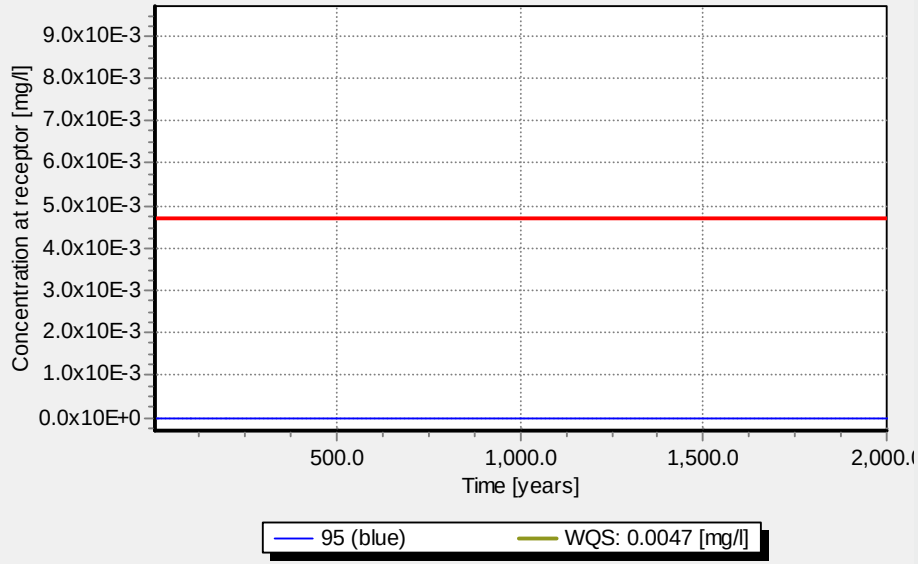
Chromium

Results: Chromium, Recovered Waste Materials Receptor concentration Generic 50m - 1001 Trials
Time History



HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

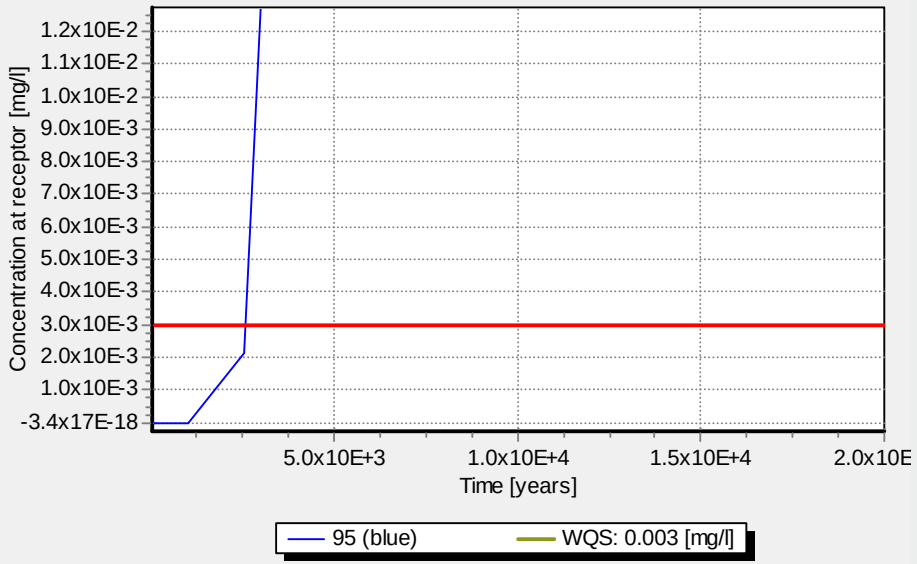
Results: Chromium, Recovered Waste Materials Receptor concentration Generic 50m - 1001 Trials
Time History



HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

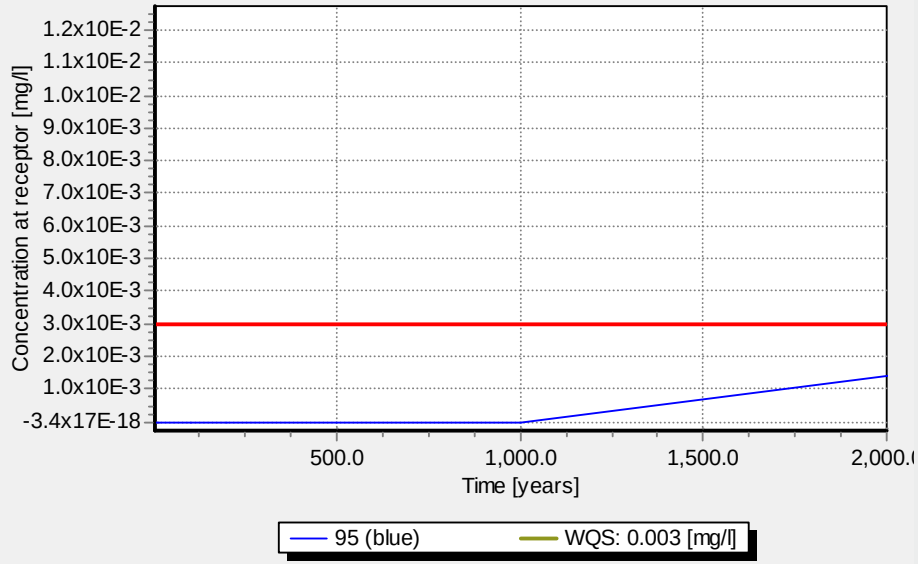
Cobalt

Results: Cobalt, Recovered Waste Materials Receptor concentration Generic 50m - 1001 Trials
Time History



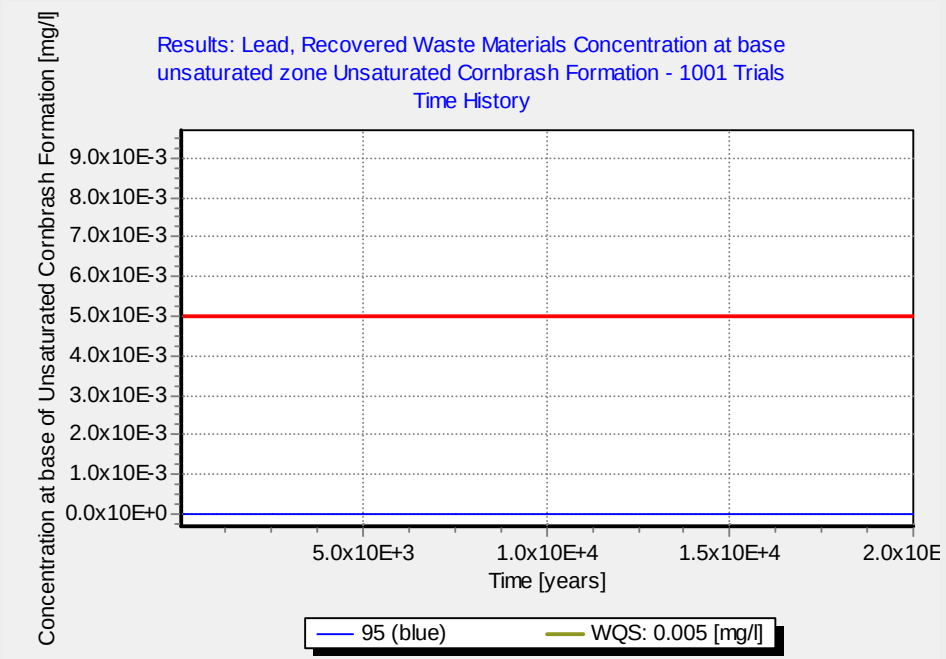
HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

Results: Cobalt, Recovered Waste Materials Receptor concentration Generic 50m - 1001 Trials
Time History

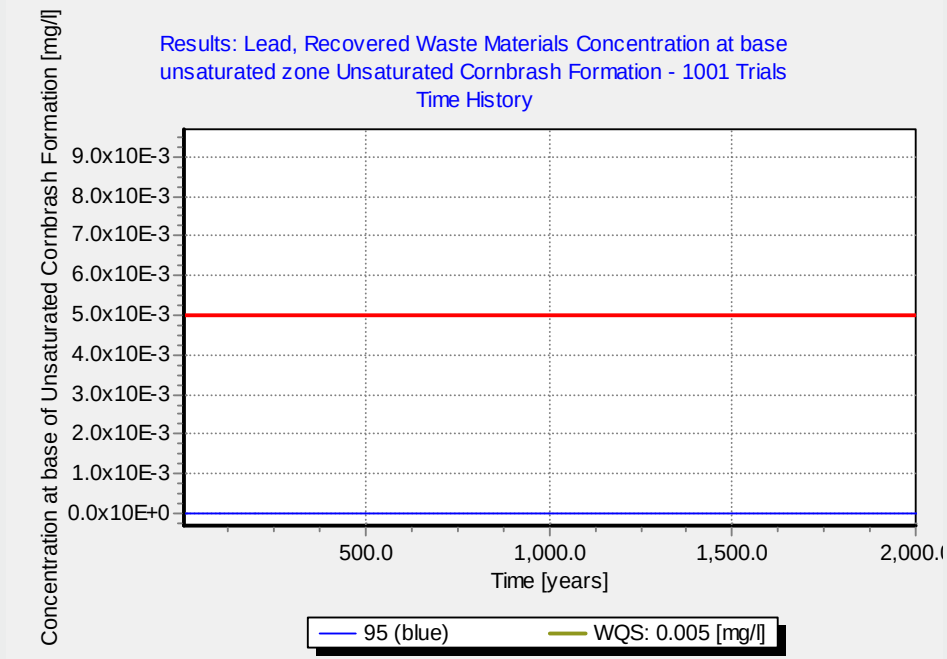


HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

Lead

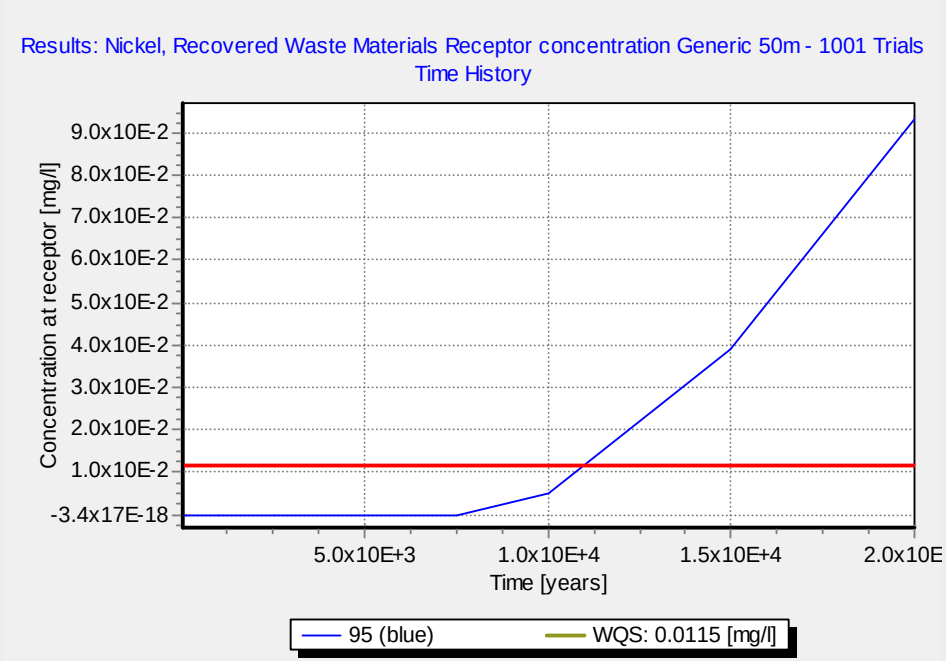


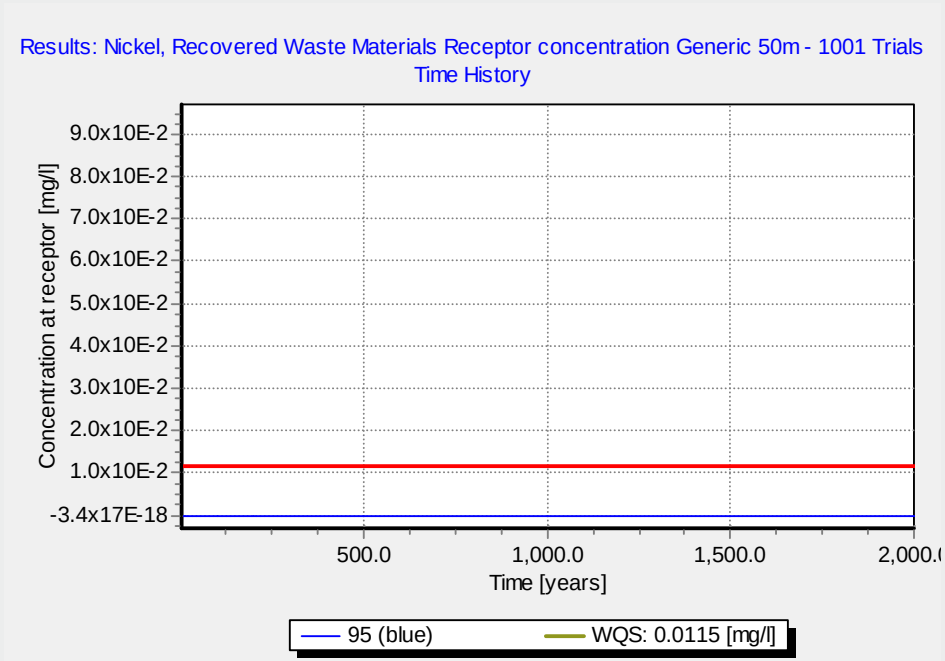
HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52



HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

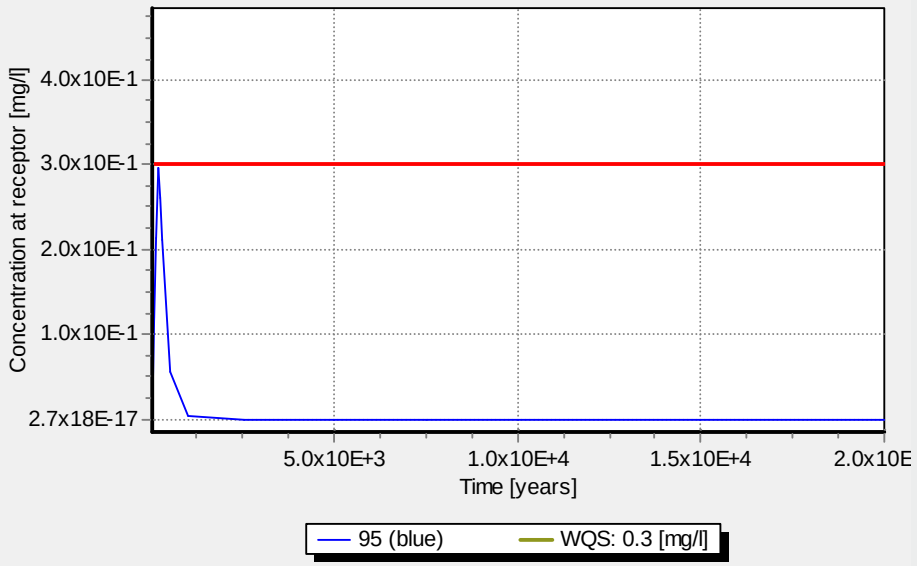
Nickel


Results: Nickel, Recovered Waste Materials Receptor concentration Generic 50m - 1001 Trials
Time History
9.0x10E-2
8.0x10E-2
7.0x10E-2
6.0x10E-2
5.0x10E-2
4.0x10E-2
3.0x10E-2
2.0x10E-2
1.0x10E-2
-3.4x17E-18
Concentration at receptor [mg/l]
5.0x10E+3
1.0x10E+4
1.5x10E+4
2.0x10E
Time [years]
95 (blue)
WQS: 0.0115 [mg/l]
HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52


Results: Nickel, Recovered Waste Materials Receptor concentration Generic 50m - 1001 Trials
Time History
9.0x10E-2
8.0x10E-2
7.0x10E-2
6.0x10E-2
5.0x10E-2
4.0x10E-2
3.0x10E-2
2.0x10E-2
1.0x10E-2
-3.4x17E-18
Concentration at receptor [mg/l]
500.0
1,000.0
1,500.0
2,000.
Time [years]
95 (blue)
WQS: 0.0115 [mg/l]
HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

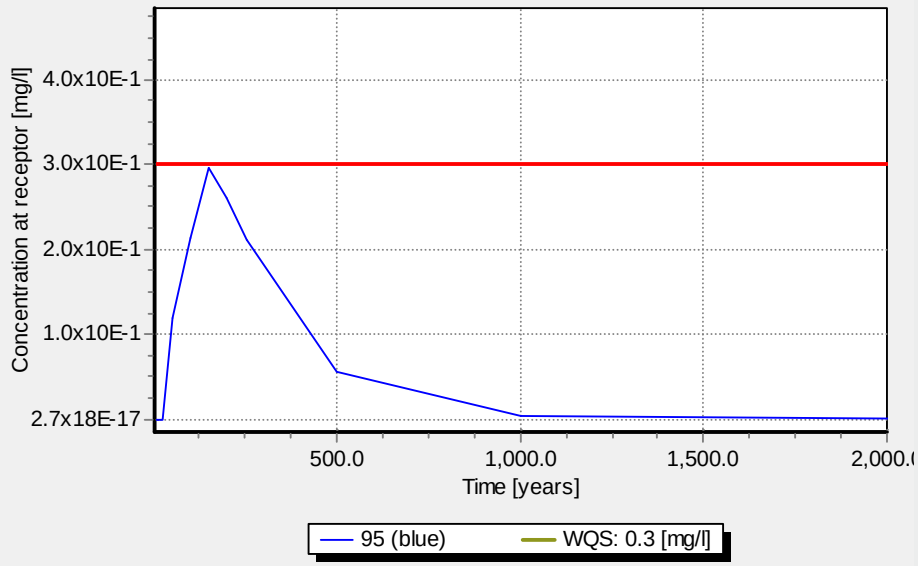
Ammoniacal Nitrogen

ts: Ammoniacal Nitrogen, Recovered Waste Materials Receptor concentration Generic 50m - 1001
Time History



HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

ts: Ammoniacal Nitrogen, Recovered Waste Materials Receptor concentration Generic 50m - 1001
Time History



HYDROCK CONSULTANTS\18443 - Huntingdon Road, Thrapston\01_WIP\CA_Calculation\G\C
2022-11-15 21:58:52

Model Outputs

Recovered Waste Materials - Arsenic

Concentration at Source [mg/l] - 10 years

05% of values less than 0.0844792	10% of values less than 0.672406	25% of values less than 39.074
50% of values less than 3151.56	75% of values less than 69022.4	90% of values less than 355196
Minimum 0.00276342	an 685764	Maximum 1.2401E+006
Mean 104646	SD 232930	Variance 5.42566E+010

Concentration at Source [mg/l] - 100 years

05% of values less than 0.084376	10% of values less than 0.671355	25% of values less than 39.0076
50% of values less than 3147.93	75% of values less than 68934.8	90% of values less than 354857
Minimum 0.00276143	an 684929	Maximum 1.23887E+006
Mean 104508	SD 232626	Variance 5.41147E+010

Concentration at Source [mg/l] - 250 years

05% of values less than 0.0842044	10% of values less than 0.669605	25% of values less than 38.8972
50% of values less than 3141.89	75% of values less than 68789	90% of values less than 354293
Minimum 0.00275812	an 682235	Maximum 1.23681E+006
Mean 104279	SD 232119	Variance 5.38793E+010

Concentration at Source [mg/l] - 500 years

05% of values less than 0.0839191	10% of values less than 0.6667	25% of values less than 38.7138
50% of values less than 3131.86	75% of values less than 68546.7	90% of values less than 353355
Minimum 0.0027526	an 679949	Maximum 1.23338E+006
Mean 103899	SD 231278	Variance 5.34894E+010

Concentration at Source [mg/l] - 1000 years

05% of values less than 0.0833515	10% of values less than 0.660927	25% of values less than 38.3497
50% of values less than 3111.89	75% of values less than 68073	90% of values less than 351485
Minimum 0.00274161	an 675399	Maximum 1.22656E+006
Mean 103144	SD 229607	Variance 5.27193E+010

Concentration at Source [mg/l] - 2500 years

05% of values less than 0.0816715	10% of values less than 0.643907	25% of values less than 37.2779
50% of values less than 3052.74	75% of values less than 66269.6	90% of values less than 345936
Minimum 0.00270889	an 659921	Maximum 1.20632E+006
Mean 100914	SD 224686	Variance 5.04836E+010

Recovered Waste Materials - Arsenic

Concentration at Source [mg/l] - 5000 years

05% of values less than 0.0789464	10% of values less than 0.616508	25% of values less than 35.5576
50% of values less than 2956.64	75% of values less than 62801.6	90% of values less than 336882
Minimum 0.00265522	Maximum 1.17333E+006	
Mean 97315.9	SD 216779	Variance 4.69933E+010

Concentration at Source [mg/l] - 10000 years

05% of values less than 0.073766	10% of values less than 0.565158	25% of values less than 32.8616
50% of values less than 2661.08	75% of values less than 57269.5	90% of values less than 319479
Minimum 0.00255106	Maximum 1.11002E+006	
Mean 90542.7	SD 202005	Variance 4.08059E+010

Concentration at Source [mg/l] - 20000 years

05% of values less than 0.0638047	10% of values less than 0.503139	25% of values less than 29.9162
50% of values less than 2104.39	75% of values less than 50354.2	90% of values less than 274292
Minimum 0.00235482	Maximum 1.0167E+006	
Mean 78520.1	SD 176112	Variance 3.10156E+010

Recovered Waste Materials - Chromium

Concentration at Source [mg/l] - 10 years

05% of values less than 0.19733	10% of values less than 1.56846	25% of values less than 60.5217
50% of values less than 2897.74	75% of values less than 41360.9	90% of values less than 210498
Minimum 0.00415169an 339255	Maximum 582535	
Mean 56709.4	SD 118088	Variance 1.39447E+010

Concentration at Source [mg/l] - 100 years

05% of values less than 0.197282	10% of values less than 1.5683	25% of values less than 60.5134
50% of values less than 2897.37	75% of values less than 41356.7	90% of values less than 210445
Minimum 0.00415051an 339171	Maximum 582235	
Mean 56696.4	SD 118061	Variance 1.39384E+010

Concentration at Source [mg/l] - 250 years

05% of values less than 0.197201	10% of values less than 1.56804	25% of values less than 60.4996
50% of values less than 2896.75	75% of values less than 41349.7	90% of values less than 210357
Minimum 0.00414855an 339031	Maximum 581735	
Mean 56674.9	SD 118016	Variance 1.39279E+010

Concentration at Source [mg/l] - 500 years

05% of values less than 0.197066	10% of values less than 1.56761	25% of values less than 60.4766
50% of values less than 2895.73	75% of values less than 41338.1	90% of values less than 210210
Minimum 0.00414529an 338797	Maximum 580902	
Mean 56638.9	SD 117942	Variance 1.39104E+010

Concentration at Source [mg/l] - 1000 years

05% of values less than 0.196797	10% of values less than 1.56674	25% of values less than 60.4306
50% of values less than 2893.68	75% of values less than 41314.9	90% of values less than 209916
Minimum 0.00413876an 338331	Maximum 579279	
Mean 56567.2	SD 117795	Variance 1.38756E+010

Concentration at Source [mg/l] - 2500 years

05% of values less than 0.195991	10% of values less than 1.56413	25% of values less than 60.2929
50% of values less than 2887.55	75% of values less than 40961.3	90% of values less than 209037
Minimum 0.00411924an 336937	Maximum 577722	
Mean 56352.5	SD 117353	Variance 1.37717E+010

Recovered Waste Materials - Chromium

Concentration at Source [mg/l] - 5000 years

05% of values less than 0.194656	10% of values less than 1.55886	25% of values less than 60.064
50% of values less than 2877.37	75% of values less than 40730.1	90% of values less than 207580
Minimum 0.00408691	an 335397	Maximum 575137
Mean 55996.9	SD 116622	Variance 1.36007E+010

Concentration at Source [mg/l] - 10000 years

05% of values less than 0.192013	10% of values less than 1.53455	25% of values less than 59.6089
50% of values less than 2840.05	75% of values less than 40399.4	90% of values less than 204698
Minimum 0.00402301	an 333201	Maximum 570011
Mean 55294.2	SD 115181	Variance 1.32667E+010

Concentration at Source [mg/l] - 20000 years

05% of values less than 0.186834	10% of values less than 1.48707	25% of values less than 58.709
50% of values less than 2747.22	75% of values less than 39670.8	90% of values less than 199052
Minimum 0.00389819	an 325758	Maximum 563396
Mean 53921.3	SD 112380	Variance 1.26292E+010

Recovered Waste Materials - Cobalt

Concentration at Source [mg/l] - 10 years

05% of values less than 0.00793715	10% of values less than 0.0131572	25% of values less than 0.0404321
50% of values less than 0.159123	75% of values less than 0.421831	90% of values less than 0.66783
Minimum 0.00248266	an 0.80684	Maximum 0.995567
Mean 0.255781	SD 0.259403	Variance 0.0672898

Concentration at Source [mg/l] - 100 years

05% of values less than 0.00787625	10% of values less than 0.0130279	25% of values less than 0.0401106
50% of values less than 0.157315	75% of values less than 0.41727	90% of values less than 0.661746
Minimum 0.00246158	an 0.798991	Maximum 0.987243
Mean 0.253417	SD 0.256966	Variance 0.0660317

Concentration at Source [mg/l] - 250 years

05% of values less than 0.00777578	10% of values less than 0.0128656	25% of values less than 0.0396652
50% of values less than 0.154347	75% of values less than 0.410864	90% of values less than 0.651729
Minimum 0.00242683	an 0.783172	Maximum 0.973823
Mean 0.24953	SD 0.252967	Variance 0.0639921

Concentration at Source [mg/l] - 500 years

05% of values less than 0.00761117	10% of values less than 0.0125995	25% of values less than 0.0386821
50% of values less than 0.150489	75% of values less than 0.400608	90% of values less than 0.636236
Minimum 0.00237	s than 0.765023	Maximum 0.954741
Mean 0.243193	SD 0.246466	Variance 0.0607455

Concentration at Source [mg/l] - 1000 years

05% of values less than 0.00729233	10% of values less than 0.0120315	25% of values less than 0.0367388
50% of values less than 0.143291	75% of values less than 0.377662	90% of values less than 0.604212
Minimum 0.0022603	an 0.723983	Maximum 0.918557
Mean 0.231032	SD 0.234059	Variance 0.0547837

Concentration at Source [mg/l] - 2500 years

05% of values less than 0.00616694	10% of values less than 0.0103394	25% of values less than 0.0310254
50% of values less than 0.120542	75% of values less than 0.318608	90% of values less than 0.518445
Minimum 0.00196074	an 0.61051	Maximum 0.821773
Mean 0.198308	SD 0.201116	Variance 0.0404476

Recovered Waste Materials - Cobalt

Concentration at Source [mg/l] - 5000 years

05% of values less than 0.00462698	10% of values less than 0.00808851	25% of values less than 0.0239364
50% of values less than 0.0938724	75% of values less than 0.23988	90% of values less than 0.399575
Minimum 0.00136331	an 0.480045	Maximum 0.682593
Mean 0.154324	SD 0.157802	Variance 0.0249016

Concentration at Source [mg/l] - 10000 years

05% of values less than 0.00277008	10% of values less than 0.00473381	25% of values less than 0.0143671
50% of values less than 0.057438	75% of values less than 0.146026	90% of values less than 0.244368
Minimum 0.000599512	1 0.299614	Maximum 0.479092
Mean 0.0947299	SD 0.100486	Variance 0.0100975

Concentration at Source [mg/l] - 20000 years

05% of values less than 0.00085625	10% of values less than 0.00155916	25% of values less than 0.00480229
50% of values less than 0.0201755	75% of values less than 0.0534738	90% of values less than 0.10107
Minimum 0.000115933	1 0.128115	Maximum 0.290069
Mean 0.0374775	SD 0.0449845	Variance 0.0020236

Recovered Waste Materials - Lead

Concentration at Source [mg/l] - 10 years

05% of values less than 0.135403	10% of values less than 0.739508	25% of values less than 28.7806
50% of values less than 1262.46	75% of values less than 25624.3	90% of values less than 131510
Minimum 0.00290887an 210655	Maximum 293106	
Mean 33062.3	SD 66531.9	Variance 4.42649E+009

Concentration at Source [mg/l] - 100 years

05% of values less than 0.135319	10% of values less than 0.738717	25% of values less than 28.7639
50% of values less than 1261.86	75% of values less than 25610.2	90% of values less than 131463
Minimum 0.00290621an 210570	Maximum 292942	
Mean 33040.2	SD 66488	Variance 4.42065E+009

Concentration at Source [mg/l] - 250 years

05% of values less than 0.135178	10% of values less than 0.7374	25% of values less than 28.736
50% of values less than 1260.86	75% of values less than 25586.6	90% of values less than 131385
Minimum 0.00290179an 210429	Maximum 292669	
Mean 33003.5	SD 66414.9	Variance 4.41094E+009

Concentration at Source [mg/l] - 500 years

05% of values less than 0.134944	10% of values less than 0.735212	25% of values less than 28.6895
50% of values less than 1259.2	75% of values less than 25547.4	90% of values less than 131254
Minimum 0.00289443an 210193	Maximum 292215	
Mean 32942.3	SD 66293.4	Variance 4.39482E+009

Concentration at Source [mg/l] - 1000 years

05% of values less than 0.134476	10% of values less than 0.73203	25% of values less than 28.5969
50% of values less than 1255.89	75% of values less than 25469.2	90% of values less than 130431
Minimum 0.00287976an 209723	Maximum 291308	
Mean 32820.4	SD 66051.2	Variance 4.36276E+009

Concentration at Source [mg/l] - 2500 years

05% of values less than 0.133083	10% of values less than 0.723795	25% of values less than 28.3208
50% of values less than 1245.99	75% of values less than 24945.2	90% of values less than 127897
Minimum 0.00283622an 208319	Maximum 288605	
Mean 32457.7	SD 65331.3	Variance 4.26818E+009

Recovered Waste Materials - Lead

Concentration at Source [mg/l] - 5000 years

05% of values less than 0.130793	10% of values less than 0.712911	25% of values less than 27.8665
50% of values less than 1213.66	75% of values less than 24062.1	90% of values less than 124544
Minimum 0.00276511an 205670	Maximum 285227	
Mean 31863.2	SD 64153.5	Variance 4.11567E+009

Concentration at Source [mg/l] - 10000 years

05% of values less than 0.12633	10% of values less than 0.696042	25% of values less than 26.592
50% of values less than 1171.42	75% of values less than 23014.7	90% of values less than 119394
Minimum 0.00262818an 199654	Maximum 279221	
Mean 30710.6	SD 61878.1	Variance 3.8289E+009

Concentration at Source [mg/l] - 20000 years

05% of values less than 0.117857	10% of values less than 0.634303	25% of values less than 23.8359
50% of values less than 1091.29	75% of values less than 21754.7	90% of values less than 109314
Minimum 0.00237434an 182819	Maximum 267586	
Mean 28543.5	SD 57627.8	Variance 3.32096E+009

Recovered Waste Materials - Nickel

Concentration at Source [mg/l] - 10 years

05% of values less than 0.0138327	10% of values less than 0.0268954	25% of values less than 0.0734569
50% of values less than 0.213674	75% of values less than 0.50129	90% of values less than 0.78106
Minimum 0.00542981an 0.880512	Maximum 0.997094	
Mean 0.311144	SD 0.281032	Variance 0.0789787

Concentration at Source [mg/l] - 100 years

05% of values less than 0.0138158	10% of values less than 0.0268528	25% of values less than 0.0733819
50% of values less than 0.213038	75% of values less than 0.499701	90% of values less than 0.778026
Minimum 0.00541411an 0.877853	Maximum 0.995687	
Mean 0.310362	SD 0.280312	Variance 0.0785746

Concentration at Source [mg/l] - 250 years

05% of values less than 0.0137878	10% of values less than 0.026782	25% of values less than 0.0731566
50% of values less than 0.212419	75% of values less than 0.498044	90% of values less than 0.773975
Minimum 0.00538806an 0.874586	Maximum 0.993823	
Mean 0.309063	SD 0.27912	Variance 0.0779081

Concentration at Source [mg/l] - 500 years

05% of values less than 0.0137412	10% of values less than 0.0266643	25% of values less than 0.0726383
50% of values less than 0.211104	75% of values less than 0.494688	90% of values less than 0.766632
Minimum 0.00534491an 0.866827	Maximum 0.990724	
Mean 0.306916	SD 0.277159	Variance 0.076817

Concentration at Source [mg/l] - 1000 years

05% of values less than 0.0136484	10% of values less than 0.0263098	25% of values less than 0.0715427
50% of values less than 0.208261	75% of values less than 0.488545	90% of values less than 0.752007
Minimum 0.00525965an 0.853817	Maximum 0.984556	
Mean 0.30268	SD 0.273324	Variance 0.0747059

Concentration at Source [mg/l] - 2500 years

05% of values less than 0.0129043	10% of values less than 0.0252189	25% of values less than 0.0683583
50% of values less than 0.201108	75% of values less than 0.468615	90% of values less than 0.718811
Minimum 0.00501194an 0.818734	Maximum 0.966279	
Mean 0.29044	SD 0.262478	Variance 0.0688948

Recovered Waste Materials - Nickel

Concentration at Source [mg/l] - 5000 years

05% of values less than 0.0122891	10% of values less than 0.023219	25% of values less than 0.0639121
50% of values less than 0.186918	75% of values less than 0.439982	90% of values less than 0.660202
Minimum 0.00462474	an 0.774405	Maximum 0.936569
Mean 0.271486	SD 0.246344	Variance 0.0606854

Concentration at Source [mg/l] - 10000 years

05% of values less than 0.0105201	10% of values less than 0.0201807	25% of values less than 0.0532071
50% of values less than 0.166471	75% of values less than 0.375144	90% of values less than 0.583915
Minimum 0.00364173	an 0.698059	Maximum 0.879861
Mean 0.238312	SD 0.219802	Variance 0.0483127

Concentration at Source [mg/l] - 20000 years

05% of values less than 0.00808201	10% of values less than 0.0144613	25% of values less than 0.0392097
50% of values less than 0.124261	75% of values less than 0.280849	90% of values less than 0.472151
Minimum 0.0021656	an 0.571458	Maximum 0.819157
Mean 0.186695	SD 0.181589	Variance 0.0329744

Recovered Waste Materials - Ammoniacal Nitrogen

Concentration at Source [mg/l] - 10 years

05% of values less than 0.364174	10% of values less than 0.63711	25% of values less than 1.47511
50% of values less than 3.83057	75% of values less than 7.96201	90% of values less than 11.4789
Minimum 0.167433 than 12.5543	Maximum 14.3083	
Mean 4.95953	SD 3.98808	Variance 15.9048

Concentration at Source [mg/l] - 100 years

05% of values less than 0.196015	10% of values less than 0.290926	25% of values less than 0.799963
50% of values less than 1.94592	75% of values less than 4.06894	90% of values less than 6.06663
Minimum 0.0664283 an 7.22358	Maximum 9.57723	
Mean 2.65599	SD 2.23603	Variance 4.99981

Concentration at Source [mg/l] - 250 years

05% of values less than 0.0587287	10% of values less than 0.0936234	25% of values less than 0.255641
50% of values less than 0.677608	75% of values less than 1.47163	90% of values less than 2.37328
Minimum 0.0099343 an 3.14725	Maximum 5.34606	
Mean 1.00806	SD 1.00553	Variance 1.01109

Concentration at Source [mg/l] - 500 years

05% of values less than 0.0054465	10% of values less than 0.0121458	25% of values less than 0.0376573
50% of values less than 0.103479	75% of values less than 0.310792	90% of values less than 0.59601
Minimum 0.000418579 n 0.938357	Maximum 2.14528	
Mean 0.234099	SD 0.320226	Variance 0.102545

Concentration at Source [mg/l] - 1000 years

05% of values less than 2.4296E-005	10% of values less than 0.000100759	25% of values less than 0.000660071
50% of values less than 0.00348081	75% of values less than 0.0163319	90% of values less than 0.0472514
Minimum 3.11372E-007 0.0933238	Maximum 0.363836	
Mean 0.0185852	SD 0.0419272	Variance 0.00175789

Concentration at Source [mg/l] - 2500 years

05% of values less than 1.43782E-012	10% of values less than 4.01183E-011	25% of values less than 2.38728E-009
50% of values less than 1.43131E-007	75% of values less than 3.68016E-006	90% of values less than 4.42783E-005
Minimum 1.99493E-017 0.000155637	Maximum 0.00246927	
Mean 3.83496E-005	SD 0.00018545	Variance 3.43917E-008

Recovered Waste Materials - Ammoniacal Nitrogen

Concentration at Source [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.73472E-018
50% of values less than 5.87095E-015	75% of values less than 4.11483E-012	90% of values less than 5.10624E-010
Minimum 0ڋes less than 6.61104E-009	Maximum 6.50529E-007	
Mean 5.19141E-009	SD 3.90085E-008	Variance 1.52166E-015

Concentration at Source [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڋes less than 1.17094E-017	Maximum 5.17123E-014	
Mean 2.71895E-016	SD 2.85649E-015	Variance 8.15952E-030

Concentration at Source [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڋes less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Arsenic

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 2230.22	10% of values less than 2516.27	25% of values less than 3166.3
50% of values less than 4035.44	75% of values less than 5154.15	90% of values less than 6266.14
Minimum 1370.17s than 7157.99	Maximum 10304.7	
Mean 4254.41	SD 1500.51	Variance 2.25154E+006

Recovered Waste Materials - Chromium

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1202.46	10% of values less than 1546.34	25% of values less than 2789.58
50% of values less than 7577.68	75% of values less than 18245.9	90% of values less than 34311.8
Minimum 536.407s than 44497.3	Maximum 76076.8	
Mean 13215.2	SD 14299.6	Variance 2.0448E+008

Recovered Waste Materials - Cobalt

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 341.963	10% of values less than 372.795	25% of values less than 456.486
50% of values less than 567.799	75% of values less than 693.148	90% of values less than 816.812
Minimum 242.98ss than 888.706	Maximum 1246.28	
Mean 585.578	SD 168.906	Variance 28529.1

Recovered Waste Materials - Lead

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 4184.3	10% of values less than 4811.03	25% of values less than 5970.96
50% of values less than 7824.48	75% of values less than 10034.1	90% of values less than 12356
Minimum 2700.04s than 13808.7	Maximum 19092.8	
Mean 8272.1	SD 3037.18	Variance 9.22445E+006

Recovered Waste Materials - Arsenic

Unretarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 1.54507	10% of values less than 1.67093	25% of values less than 1.91852
50% of values less than 2.26541	75% of values less than 2.62306	90% of values less than 2.99537
Minimum 1.1464ss than 3.24706	Maximum 4.2308	
Mean 2.30903	SD 0.52243	Variance 0.272933

Retarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 2970.94	10% of values less than 3301.65	25% of values less than 4169.46
50% of values less than 5335.4	75% of values less than 6691.84	90% of values less than 7887.55
Minimum 1510.69s than 8654.76	Maximum 13229.9	
Mean 5515.26	SD 1854.23	Variance 3.43818E+006

Recovered Waste Materials - Chromium

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1202.46	10% of values less than 1546.34	25% of values less than 2789.58
50% of values less than 7577.68	75% of values less than 18245.9	90% of values less than 34311.8
Minimum 536.407s than 44497.3	Maximum 76076.8	
Mean 13215.2	SD 14299.6	Variance 2.0448E+008

Recovered Waste Materials - Cobalt

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 341.963	10% of values less than 372.795	25% of values less than 456.486
50% of values less than 567.799	75% of values less than 693.148	90% of values less than 816.812
Minimum 242.98ss than 888.706	Maximum 1246.28	
Mean 585.578	SD 168.906	Variance 28529.1

Recovered Waste Materials - Lead

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 4184.3	10% of values less than 4811.03	25% of values less than 5970.96
50% of values less than 7824.48	75% of values less than 10034.1	90% of values less than 12356
Minimum 2700.04s than 13808.7	Maximum 19092.8	
Mean 8272.1	SD 3037.18	Variance 9.22445E+006

Recovered Waste Materials - Nickel

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 865.298	10% of values less than 1036.18	25% of values less than 1417.47
50% of values less than 2278.61	75% of values less than 3557.71	90% of values less than 4925.93
Minimum 545.655s than 5857.02	Maximum 11032.8	
Mean 2673.91	SD 1620.71	Variance 2.6267E+006

Recovered Waste Materials - Chromium

Unretarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 1.54507	10% of values less than 1.67093	25% of values less than 1.91852
50% of values less than 2.26541	75% of values less than 2.62306	90% of values less than 2.99537
Minimum 1.1464ss than 3.24706	Maximum 4.2308	
Mean 2.30903	SD 0.52243	Variance 0.272933

Retarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 2387.3	10% of values less than 4414.24	25% of values less than 9287.03
50% of values less than 17466	75% of values less than 29433.3	90% of values less than 42709.9
Minimum 866.168s than 51943	Maximum 94495.1	
Mean 21070.6	SD 15732.7	Variance 2.47517E+008

Recovered Waste Materials - Cobalt

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 341.963	10% of values less than 372.795	25% of values less than 456.486
50% of values less than 567.799	75% of values less than 693.148	90% of values less than 816.812
Minimum 242.98ss than 888.706	Maximum 1246.28	
Mean 585.578	SD 168.906	Variance 28529.1

Recovered Waste Materials - Lead

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 4184.3	10% of values less than 4811.03	25% of values less than 5970.96
50% of values less than 7824.48	75% of values less than 10034.1	90% of values less than 12356
Minimum 2700.04s than 13808.7	Maximum 19092.8	
Mean 8272.1	SD 3037.18	Variance 9.22445E+006

Recovered Waste Materials - Nickel

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 865.298	10% of values less than 1036.18	25% of values less than 1417.47
50% of values less than 2278.61	75% of values less than 3557.71	90% of values less than 4925.93
Minimum 545.655s than 5857.02	Maximum 11032.8	
Mean 2673.91	SD 1620.71	Variance 2.6267E+006

Recovered Waste Materials - Ammoniacal Nitrogen

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 6.15471	10% of values less than 6.71405	25% of values less than 7.9372
50% of values less than 9.53909	75% of values less than 11.6123	90% of values less than 13.645
Minimum 4.67251s than 14.8499	Maximum 21.3118	
Mean 9.95152	SD 2.72675	Variance 7.43514

Recovered Waste Materials - Cobalt

Unretarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 1.54507	10% of values less than 1.67093	25% of values less than 1.91852
50% of values less than 2.26541	75% of values less than 2.62306	90% of values less than 2.99537
Minimum 1.1464ss than 3.24706	Maximum 4.2308	
Mean 2.30903	SD 0.52243	Variance 0.272933

Retarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 433.237	10% of values less than 481.011	25% of values less than 595.911
50% of values less than 740.748	75% of values less than 897.619	90% of values less than 1036.3
Minimum 287.556s than 1125.46	Maximum 1582.37	
Mean 755.881	SD 217.309	Variance 47223.2

Recovered Waste Materials - Lead

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 4184.3	10% of values less than 4811.03	25% of values less than 5970.96
50% of values less than 7824.48	75% of values less than 10034.1	90% of values less than 12356
Minimum 2700.04s than 13808.7	Maximum 19092.8	
Mean 8272.1	SD 3037.18	Variance 9.22445E+006

Recovered Waste Materials - Nickel

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 865.298	10% of values less than 1036.18	25% of values less than 1417.47
50% of values less than 2278.61	75% of values less than 3557.71	90% of values less than 4925.93
Minimum 545.655s than 5857.02	Maximum 11032.8	
Mean 2673.91	SD 1620.71	Variance 2.6267E+006

Recovered Waste Materials - Ammoniacal Nitrogen

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 6.15471	10% of values less than 6.71405	25% of values less than 7.9372
50% of values less than 9.53909	75% of values less than 11.6123	90% of values less than 13.645
Minimum 4.67251s than 14.8499	Maximum 21.3118	
Mean 9.95152	SD 2.72675	Variance 7.43514

Recovered Waste Materials - Lead

Unretarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 1.54507	10% of values less than 1.67093	25% of values less than 1.91852
50% of values less than 2.26541	75% of values less than 2.62306	90% of values less than 2.99537
Minimum 1.1464ss than 3.24706	Maximum 4.2308	
Mean 2.30903	SD 0.52243	Variance 0.272933

Retarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 5484.3	10% of values less than 6241.22	25% of values less than 8129.26
50% of values less than 10314.1	75% of values less than 12869.7	90% of values less than 15136.9
Minimum 2700.04s than 16822.8	Maximum 25836.8	
Mean 10626.7	SD 3621.42	Variance 1.31146E+007

Recovered Waste Materials - Nickel

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 865.298	10% of values less than 1036.18	25% of values less than 1417.47
50% of values less than 2278.61	75% of values less than 3557.71	90% of values less than 4925.93
Minimum 545.655s than 5857.02	Maximum 11032.8	
Mean 2673.91	SD 1620.71	Variance 2.6267E+006

Recovered Waste Materials - Ammoniacal Nitrogen

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 6.15471	10% of values less than 6.71405	25% of values less than 7.9372
50% of values less than 9.53909	75% of values less than 11.6123	90% of values less than 13.645
Minimum 4.67251s than 14.8499	Maximum 21.3118	
Mean 9.95152	SD 2.72675	Variance 7.43514

Recovered Waste Materials - Nickel

Unretarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 1.54507	10% of values less than 1.67093	25% of values less than 1.91852
50% of values less than 2.26541	75% of values less than 2.62306	90% of values less than 2.99537
Minimum 1.1464ss than 3.24706	Maximum 4.2308	
Mean 2.30903	SD 0.52243	Variance 0.272933

Retarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 1181.81	10% of values less than 1448.43	25% of values less than 2083.67
50% of values less than 3114.21	75% of values less than 4386.63	90% of values less than 5953.45
Minimum 570.07ss than 6856.79	Maximum 11767.7	
Mean 3439.62	SD 1810.48	Variance 3.27784E+006

Recovered Waste Materials - Ammoniacal Nitrogen

Unretarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 1.383	10% of values less than 1.46686	25% of values less than 1.66387
50% of values less than 1.91811	75% of values less than 2.27497	90% of values less than 2.57052
Minimum 1.1464ss than 2.8218	Maximum 3.60111	
Mean 1.98762	SD 0.438831	Variance 0.192572

Retarded Travel Time to Base of Unsaturated Zone Basal Layer [years]

05% of values less than 6.15471	10% of values less than 6.71405	25% of values less than 7.9372
50% of values less than 9.53909	75% of values less than 11.6123	90% of values less than 13.645
Minimum 4.67251s than 14.8499	Maximum 21.3118	
Mean 9.95152	SD 2.72675	Variance 7.43514

Recovered Waste Materials - Ammoniacal Nitrogen

Unretarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 1.54507	10% of values less than 1.67093	25% of values less than 1.91852
50% of values less than 2.26541	75% of values less than 2.62306	90% of values less than 2.99537
Minimum 1.1464ss than 3.24706	Maximum 4.2308	
Mean 2.30903	SD 0.52243	Variance 0.272933

Retarded Travel Time to Base of Unsaturated Zone Unsaturated Cornbrash Formation [years]

05% of values less than 7.49455	10% of values less than 8.309	25% of values less than 10.1279
50% of values less than 12.3366	75% of values less than 14.7501	90% of values less than 17.2131
Minimum 4.67251s than 18.6614	Maximum 26.2729	
Mean 12.5782	SD 3.42348	Variance 11.7202

Recovered Waste Materials - Arsenic

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Arsenic

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 610.415	Maximum 607284	
Mean 6979.65	SD 50385.5	Variance 2.5387E+009

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Arsenic

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 103.103	75% of values less than 17306.9	90% of values less than 148928
Minimum 0ڶes less than 448627	Maximum 1.05502E+006	
Mean 57187.6	SD 156701	Variance 2.45553E+010

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڶes less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10000 years

05% of values less than 0.0622705	10% of values less than 0.538955	25% of values less than 33.8703
50% of values less than 2457.7	75% of values less than 59194.9	90% of values less than 310332
Minimum 0ڶes less than 584707	Maximum 1.13668E+006	
Mean 91145.9	SD 204616	Variance 4.18678E+010

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڶes less than 0	Maximum 22808.8	
Mean 22.786	SD 720.917	Variance 519721

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 20000 years

05% of values less than 0.0675631	10% of values less than 0.526334	25% of values less than 31.6365
50% of values less than 2326.94	75% of values less than 52726.4	90% of values less than 290797
Minimum 0.00242483ڶn 545244	Maximum 1.05955E+006	
Mean 83337.9	SD 186465	Variance 3.47693E+010

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڶes less than 0	Maximum 1.00159E+006	
Mean 3283.92	SD 42932.6	Variance 1.84321E+009

Recovered Waste Materials - Chromium

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Chromium

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 261912	
Mean 443.727	SD 8649.46	Variance 7.48131E+007

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4980.14
Minimum 0ues less than 51124.2	Maximum 532870	
Mean 12611.3	SD 58343.6	Variance 3.40398E+009

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Chromium

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 217.05	90% of values less than 28792
Minimum 0ues less than 161878	Maximum 569452	
Mean 21772.7	SD 79147.4	Variance 6.26431E+009

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 2.87969	75% of values less than 4343.6	90% of values less than 85150.4
Minimum 0ues less than 222835	Maximum 571268	
Mean 30129.8	SD 89581	Variance 8.02476E+009

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0.0511304
50% of values less than 200.949	75% of values less than 17170	90% of values less than 158061
Minimum 0ues less than 268116	Maximum 564650	
Mean 40978.7	SD 100355	Variance 1.00711E+010

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Cobalt

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0.510651	
Mean 0.000510141	SD 0.0161401	Variance 0.000260504

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Cobalt

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0282807	90% of values less than 0.246502
Minimum 0ues less than 0.393744	Maximum 0.909358	
Mean 0.0604876	SD 0.139012	Variance 0.0193243

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 1000 years

05% of values less than 0.00524226	10% of values less than 0.00920744	25% of values less than 0.0313956
50% of values less than 0.124772	75% of values less than 0.327548	90% of values less than 0.570558
Minimum 0ues less than 0.682297	Maximum 0.909369	
Mean 0.208847	SD 0.221141	Variance 0.0489033

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 2500 years

05% of values less than 0.00664922	10% of values less than 0.0110061	25% of values less than 0.0330344
50% of values less than 0.128988	75% of values less than 0.34033	90% of values less than 0.546179
Minimum 0.00206876an 0.653228	Maximum 0.854785	
Mean 0.210173	SD 0.212682	Variance 0.0452335

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0.691199	
Mean 0.00309014	SD 0.0340546	Variance 0.00115971

Recovered Waste Materials - Cobalt

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 5000 years

05% of values less than 0.00490564	10% of values less than 0.00869703	25% of values less than 0.0254949
50% of values less than 0.101794	75% of values less than 0.260189	90% of values less than 0.42901
Minimum 0.0014893ɹan 0.506033	Maximum 0.707013	
Mean 0.164095	SD 0.167105	Variance 0.027924

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ɹes less than 0.0923119	Maximum 0.81621	
Mean 0.0188538	SD 0.0889953	Variance 0.00792016

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10000 years

05% of values less than 0.00293742	10% of values less than 0.00490993	25% of values less than 0.0153481
50% of values less than 0.0620752	75% of values less than 0.156846	90% of values less than 0.261457
Minimum 0.000654916ɹ 0.319755	Maximum 0.497192	
Mean 0.101009	SD 0.106318	Variance 0.0113035

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.103472
Minimum 0ɹes less than 0.286829	Maximum 0.65676	
Mean 0.0340909	SD 0.103715	Variance 0.0107567

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 20000 years

05% of values less than 0.000917102	10% of values less than 0.00166084	25% of values less than 0.00527255
50% of values less than 0.022453	75% of values less than 0.0575184	90% of values less than 0.108831
Minimum 0.000126647ɹ 0.1378	Maximum 0.301027	
Mean 0.0401589	SD 0.0475296	Variance 0.00225906

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0590651	90% of values less than 0.196088
Minimum 0ɹes less than 0.334366	Maximum 0.766401	
Mean 0.0587121	SD 0.117768	Variance 0.0138694

Recovered Waste Materials - Lead

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Lead

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Lead

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.408257
Minimum 0 values less than 761.003	Maximum 189283	
Mean 1689.71	SD 12922.4	Variance 1.6699E+008

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0 values less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 76.2635	75% of values less than 6162.82	90% of values less than 62392.2
Minimum 0 values less than 121245	Maximum 269583	
Mean 17755.3	SD 45049.4	Variance 2.02945E+009

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0 values less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 20000 years

05% of values less than 0.117714	10% of values less than 0.660834	25% of values less than 24.557
50% of values less than 1083.02	75% of values less than 21669.3	90% of values less than 113066
Minimum 0.00252655 values less than 183088	Maximum 272551	
Mean 28698.4	SD 57811.3	Variance 3.34215E+009

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0 values less than 0	Maximum 58.9366	
Mean 0.0615574	SD 1.86465	Variance 3.47693

Recovered Waste Materials - Nickel

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Nickel

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0.110662	Maximum 0.746567	
Mean 0.0167066	SD 0.0734575	Variance 0.00539601

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.0204897	75% of values less than 0.223995	90% of values less than 0.49322
Minimum 0ues less than 0.606583	Maximum 0.940714	
Mean 0.144641	SD 0.214503	Variance 0.0460113

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Nickel

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0.00485272	25% of values less than 0.0361662
50% of values less than 0.147012	75% of values less than 0.390069	90% of values less than 0.641857
Minimum 0ڈes less than 0.753739	Maximum 0.952079	
Mean 0.238979	SD 0.244167	Variance 0.0596175

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڈes less than 0	Maximum 0.23037	
Mean 0.00023014	SD 0.0072813	Variance 5.30173E-005

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10000 years

05% of values less than 0.0113216	10% of values less than 0.0210181	25% of values less than 0.0568589
50% of values less than 0.176125	75% of values less than 0.396098	90% of values less than 0.613319
Minimum 0ڈes less than 0.716439	Maximum 0.896062	
Mean 0.250164	SD 0.22938	Variance 0.052615

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڈes less than 0	Maximum 0.760428	
Mean 0.00530269	SD 0.0508826	Variance 0.00258904

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 20000 years

05% of values less than 0.00874388	10% of values less than 0.0154952	25% of values less than 0.0430999
50% of values less than 0.136723	75% of values less than 0.302372	90% of values less than 0.493305
Minimum 0.00249085ڈn 0.590484	Maximum 0.840638	
Mean 0.199201	SD 0.190734	Variance 0.0363794

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڈes less than 0.129082	Maximum 0.937102	
Mean 0.0203018	SD 0.0915665	Variance 0.00838443

Recovered Waste Materials - Ammoniacal Nitrogen

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.222069	75% of values less than 2.01152	90% of values less than 4.62924
Minimum 0ر‌es less than 5.87955	Maximum 9.97863	
Mean 1.32452	SD 1.99524	Variance 3.98098

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ر‌es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 100 years

05% of values less than 0.127482	10% of values less than 0.196839	25% of values less than 0.451224
50% of values less than 1.28758	75% of values less than 2.65615	90% of values less than 3.92335
Minimum 0.0314272ר‌an 4.77011	Maximum 7.69986	
Mean 1.73824	SD 1.53462	Variance 2.35505

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.559066
Minimum 0ر‌es less than 2.68619	Maximum 9.5113	
Mean 0.307154	SD 1.10027	Variance 1.21059

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 250 years

05% of values less than 0.0409831	10% of values less than 0.0640568	25% of values less than 0.15888
50% of values less than 0.435767	75% of values less than 0.963896	90% of values less than 1.54222
Minimum 0.00724383ג‌an 1.99683	Maximum 4.02876	
Mean 0.65854	SD 0.672565	Variance 0.452344

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.574066	90% of values less than 2.27146
Minimum 0ر‌es less than 3.885	Maximum 9.32158	
Mean 0.66758	SD 1.45396	Variance 2.11399

Recovered Waste Materials - Ammoniacal Nitrogen

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 500 years

05% of values less than 0.00373618	10% of values less than 0.00880266	25% of values less than 0.0241283
50% of values less than 0.0696565	75% of values less than 0.195241	90% of values less than 0.382958
Minimum 0.000305217า 0.538487	Maximum 1.49742	
Mean 0.152177	SD 0.206453	Variance 0.042623

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0.0490067
50% of values less than 0.301119	75% of values less than 1.03039	90% of values less than 2.37433
Minimum 0ฺes less than 3.31231	Maximum 9.03924	
Mean 0.812221	SD 1.20935	Variance 1.46253

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 1000 years

05% of values less than 1.96169E-005	10% of values less than 6.96195E-005	25% of values less than 0.000417519
50% of values less than 0.00243865	75% of values less than 0.0106341	90% of values less than 0.0320061
Minimum 2.36016E-007 0.0537203	Maximum 0.241126	
Mean 0.0119285	SD 0.0261873	Variance 0.000685774

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 1000 years

05% of values less than 0.000314374	10% of values less than 0.000820366	25% of values less than 0.00435609
50% of values less than 0.020683	75% of values less than 0.083757	90% of values less than 0.235467
Minimum 0ฺes less than 0.462018	Maximum 5.2073	
Mean 0.109309	SD 0.340346	Variance 0.115835

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 2500 years

05% of values less than 1.25999E-012	10% of values less than 2.97218E-011	25% of values less than 2.13513E-009
50% of values less than 1.08668E-007	75% of values less than 3.16834E-006	90% of values less than 3.35131E-005
Minimum 1.10674E-017 0.000105621	Maximum 0.00575335	
Mean 2.82726E-005	SD 0.000208969	Variance 4.36681E-008

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 2500 years

05% of values less than 3.81298E-011	10% of values less than 3.95595E-010	25% of values less than 2.4281E-008
50% of values less than 7.85191E-007	75% of values less than 1.84739E-005	90% of values less than 0.000155801
Minimum 6.71043E-016 0.000449224	Maximum 0.0637354	
Mean 0.000182398	SD 0.00216589	Variance 4.69108E-006

Recovered Waste Materials - Ammoniacal Nitrogen

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.84161E-018
50% of values less than 6.11872E-015	75% of values less than 3.65466E-012	90% of values less than 3.92793E-010
Minimum 0ues less than 4.79332E-009	Maximum 1.26668E-005	
Mean 1.57412E-008	SD 4.00856E-007	Variance 1.60686E-013

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.87063E-017
50% of values less than 4.26781E-014	75% of values less than 2.83956E-011	90% of values less than 1.56978E-009
Minimum 0ues less than 1.68803E-008	Maximum 0.000140322	
Mean 1.53632E-007	SD 4.43603E-006	Variance 1.96783E-011

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.99027E-020
Minimum 0ues less than 1.17232E-017	Maximum 6.13987E-011	
Mean 6.15457E-014	SD 1.94062E-012	Variance 3.76601E-024

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.15972E-019
Minimum 0ues less than 5.27392E-017	Maximum 6.80172E-010	
Mean 6.80173E-013	SD 2.14982E-011	Variance 4.62171E-022

Concentration at Base of Unsaturated Zone Basal Layer [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Base of Unsaturated Zone Unsaturated Cornbrash Formation [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Arsenic

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 217958	
Mean 740.304	SD 9934.59	Variance 9.86961E+007

Recovered Waste Materials - Arsenic

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 456.343	90% of values less than 33701.8
Minimum 0	es less than 122445	Maximum 836291
Mean 23581.8	SD 92123.7	Variance 8.48677E+009

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10000 years

05% of values less than 0.0140617	10% of values less than 0.142023	25% of values less than 14.66
50% of values less than 1515.72	75% of values less than 32019.4	90% of values less than 192674
Minimum 0	es less than 416891	Maximum 1.10974E+006
Mean 64463.5	SD 165963	Variance 2.75438E+010

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 20000 years

05% of values less than 0.0365697	10% of values less than 0.339783	25% of values less than 19.1454
50% of values less than 1594.77	75% of values less than 32751	90% of values less than 181615
Minimum 0.00102011	an 411868	Maximum 1.07316E+006
Mean 63043.5	SD 159491	Variance 2.54374E+010

Recovered Waste Materials - Chromium

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 15.0871	
Mean 0.0284285	SD 0.634152	Variance 0.402149

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0.0708971	Maximum 182499	
Mean 559.091	SD 6844.66	Variance 4.68494E+007

Recovered Waste Materials - Chromium

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.34275
Minimum 0ډes less than 750.263	Maximum 291105	
Mean 1924.21	SD 14555	Variance 2.11849E+008

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.183558	90% of values less than 3066.45
Minimum 0ډes less than 24976.1	Maximum 445654	
Mean 6186.84	SD 31954.4	Variance 1.02108E+009

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.423601	75% of values less than 1521.5	90% of values less than 36005.8
Minimum 0ډes less than 122370	Maximum 500937	
Mean 16702.6	SD 55580.7	Variance 3.08922E+009

Recovered Waste Materials - Cobalt

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ر‌es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ر‌es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ر‌es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.00703626
Minimum 0ر‌es less than 0.0738359	Maximum 0.616071	
Mean 0.0123477	SD 0.0547755	Variance 0.00300036

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0.00833458
50% of values less than 0.0492784	75% of values less than 0.174574	90% of values less than 0.413095
Minimum 0ر‌es less than 0.522079	Maximum 0.912929	
Mean 0.128247	SD 0.176807	Variance 0.0312608

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 2500 years

05% of values less than 0.00319724	10% of values less than 0.0058384	25% of values less than 0.0210073
50% of values less than 0.0809663	75% of values less than 0.22913	90% of values less than 0.480099
Minimum 0.000162672ر 0.587352	Maximum 0.863625	
Mean 0.161243	SD 0.191075	Variance 0.0365097

Recovered Waste Materials - Cobalt

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 5000 years

05% of values less than 0.00258416	10% of values less than 0.00449804	25% of values less than 0.0165262
50% of values less than 0.0632586	75% of values less than 0.179199	90% of values less than 0.377925
Minimum 0.000128433า 0.451514	Maximum 0.705324	
Mean 0.126091	SD 0.149521	Variance 0.0223566

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10000 years

05% of values less than 0.00151099	10% of values less than 0.00282938	25% of values less than 0.00984238
50% of values less than 0.0377809	75% of values less than 0.107457	90% of values less than 0.232885
Minimum 6.68962E-005 0.277151	Maximum 0.4876	
Mean 0.0770417	SD 0.0932583	Variance 0.00869711

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 20000 years

05% of values less than 0.000461406	10% of values less than 0.000914926	25% of values less than 0.00330696
50% of values less than 0.0136859	75% of values less than 0.0400132	90% of values less than 0.0865691
Minimum 1.52837E-005 0.115452	Maximum 0.263539	
Mean 0.0301505	SD 0.0399007	Variance 0.00159206

Recovered Waste Materials - Lead

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Recovered Waste Materials - Lead

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 130598	
Mean 356.355	SD 4854.72	Variance 2.35683E+007

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 289.733	90% of values less than 17145.5
Minimum 0ues less than 57651.6	Maximum 225419	
Mean 8029	SD 27738	Variance 7.69395E+008

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 20000 years

05% of values less than 0.0431668	10% of values less than 0.243313	25% of values less than 9.5668
50% of values less than 642.417	75% of values less than 12260.1	90% of values less than 68996.8
Minimum 0ues less than 132611	Maximum 264691	
Mean 20566.1	SD 46684.6	Variance 2.17945E+009

Recovered Waste Materials - Nickel

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0.371822	
Mean 0.00216068	SD 0.0213361	Variance 0.000455231

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0317714	90% of values less than 0.204065
Minimum 0ues less than 0.351127	Maximum 0.801568	
Mean 0.0546416	SD 0.127013	Variance 0.0161324

Recovered Waste Materials - Nickel

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0.0101272
50% of values less than 0.0716941	75% of values less than 0.232942	90% of values less than 0.484736
Minimum 0ɹes less than 0.615467	Maximum 0.93485	
Mean 0.159001	SD 0.202745	Variance 0.0411057

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10000 years

05% of values less than 0.00571531	10% of values less than 0.0103764	25% of values less than 0.0339739
50% of values less than 0.108933	75% of values less than 0.285026	90% of values less than 0.507608
Minimum 0ɹes less than 0.618782	Maximum 0.894974	
Mean 0.188855	SD 0.201397	Variance 0.0405608

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 20000 years

05% of values less than 0.0044233	10% of values less than 0.00834978	25% of values less than 0.0252926
50% of values less than 0.0855285	75% of values less than 0.228384	90% of values less than 0.398577
Minimum 0.000221729า 0.504689	Maximum 0.827378	
Mean 0.152346	SD 0.166391	Variance 0.027686

Recovered Waste Materials - Ammoniacal Nitrogen

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.2492
Minimum 0	es less than 2.28971	Maximum 7.12217
Mean 0.346234	SD 0.948701	Variance 0.900033

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 100 years

05% of values less than 0.0491773	10% of values less than 0.0900992	25% of values less than 0.236837
50% of values less than 0.707962	75% of values less than 1.72634	90% of values less than 2.98565
Minimum 0.00463946	an 3.73842	Maximum 6.95347
Mean 1.17756	SD 1.2466	Variance 1.55402

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 250 years

05% of values less than 0.0157674	10% of values less than 0.0286678	25% of values less than 0.0772738
50% of values less than 0.237787	75% of values less than 0.613562	90% of values less than 1.15228
Minimum 0.00108819	an 1.55149	Maximum 3.16824
Mean 0.442519	SD 0.529087	Variance 0.279933

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 500 years

05% of values less than 0.00174115	10% of values less than 0.00320411	25% of values less than 0.0124946
50% of values less than 0.040753	75% of values less than 0.121542	90% of values less than 0.260248
Minimum 4.67609E-005	0.420013	Maximum 1.21344
Mean 0.101641	SD 0.159836	Variance 0.0255475

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 1000 years

05% of values less than 1.06833E-005	10% of values less than 3.3756E-005	25% of values less than 0.000248538
50% of values less than 0.00132395	75% of values less than 0.00617178	90% of values less than 0.0198178
Minimum 8.63452E-008	0.0355663	Maximum 0.321238
Mean 0.00811738	SD 0.0219811	Variance 0.000483169

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 2500 years

05% of values less than 6.42756E-013	10% of values less than 1.70053E-011	25% of values less than 1.18798E-009
50% of values less than 5.52128E-008	75% of values less than 1.54012E-006	90% of values less than 1.57459E-005
Minimum 1.58203E-017	5.48116E-005	Maximum 0.00817475
Mean 2.43069E-005	SD 0.000273199	Variance 7.46374E-008

Recovered Waste Materials - Ammoniacal Nitrogen

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.08374E-018
50% of values less than 2.57347E-015	75% of values less than 2.04769E-012	90% of values less than 2.20887E-010
Minimum 0ues less than 2.36739E-009	Maximum 1.79979E-005	
Mean 2.03255E-008	SD 5.69129E-007	Variance 3.23908E-013

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 5.06942E-021
Minimum 0ues less than 6.56563E-018	Maximum 8.72394E-011	
Mean 8.72913E-014	SD 2.75737E-012	Variance 7.6031E-024

Diluted Concentration [mg/l] Unsaturated Cornbrash Formation - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Arsenic

Unretarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 4.34811	10% of values less than 5.77616	25% of values less than 10.5402
50% of values less than 20.641	75% of values less than 33.9673	90% of values less than 49.5897
Minimum 2.14262s than 61.6561	Maximum 121.347	
Mean 24.8676	SD 18.7898	Variance 353.057

Retarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 13627.5	10% of values less than 18185.9	25% of values less than 36624.3
50% of values less than 77206.6	75% of values less than 130451	90% of values less than 193320
Minimum 4833.98s than 229126	Maximum 494547	
Mean 92766.4	SD 70811.5	Variance 5.01427E+009

Chromium

Unretarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 4.34811	10% of values less than 5.77616	25% of values less than 10.5402
50% of values less than 20.641	75% of values less than 33.9673	90% of values less than 49.5897
Minimum 2.14262s than 61.6561	Maximum 121.347	
Mean 24.8676	SD 18.7898	Variance 353.057

Retarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 63445.6	10% of values less than 93434.7	25% of values less than 195211
50% of values less than 421429	75% of values less than 789582	90% of values less than 1.33008E+006
Minimum 6252.82s than 1.64489E+006	Maximum 3.85452E+006	
Mean 585601	SD 550713	Variance 3.03285E+011

Cobalt

Unretarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 4.34811	10% of values less than 5.77616	25% of values less than 10.5402
50% of values less than 20.641	75% of values less than 33.9673	90% of values less than 49.5897
Minimum 2.14262s than 61.6561	Maximum 121.347	
Mean 24.8676	SD 18.7898	Variance 353.057

Retarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 1856.54	10% of values less than 2514.73	25% of values less than 5082.39
50% of values less than 10563.5	75% of values less than 17459	90% of values less than 25147.4
Minimum 792.004s than 30377.1	Maximum 51283.7	
Mean 12458.1	SD 9038.42	Variance 8.1693E+007

Lead

Unretarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 4.34811	10% of values less than 5.77616	25% of values less than 10.5402
50% of values less than 20.641	75% of values less than 33.9673	90% of values less than 49.5897
Minimum 2.14262s than 61.6561	Maximum 121.347	
Mean 24.8676	SD 18.7898	Variance 353.057

Retarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 24146.2	10% of values less than 34008.9	25% of values less than 73518.7
50% of values less than 145731	75% of values less than 254587	90% of values less than 352912
Minimum 8828.78s than 438107	Maximum 776933	
Mean 176750	SD 134871	Variance 1.81903E+010

Nickel

Unretarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 4.34811	10% of values less than 5.77616	25% of values less than 10.5402
50% of values less than 20.641	75% of values less than 33.9673	90% of values less than 49.5897
Minimum 2.14262s than 61.6561	Maximum 121.347	
Mean 24.8676	SD 18.7898	Variance 353.057

Retarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 7449.6	10% of values less than 10622.8	25% of values less than 19508.5
50% of values less than 40219.4	75% of values less than 74955.1	90% of values less than 117767
Minimum 3082.57s than 161510	Maximum 453606	
Mean 55842.4	SD 51987.3	Variance 2.70267E+009

Ammoniacal Nitrogen

Unretarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 4.34811	10% of values less than 5.77616	25% of values less than 10.5402
50% of values less than 20.641	75% of values less than 33.9673	90% of values less than 49.5897
Minimum 2.14262s than 61.6561	Maximum 121.347	
Mean 24.8676	SD 18.7898	Variance 353.057

Retarded Travel Time to Recovered Waste Materials Receptor [years]

05% of values less than 29.9156	10% of values less than 39.936	25% of values less than 81.0555
50% of values less than 163.862	75% of values less than 270.382	90% of values less than 385.859
Minimum 10.7954s than 468.286	Maximum 747.634	
Mean 192.615	SD 139.568	Variance 19479.3

Arsenic

Concentration at Recovered Waste Materials Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Arsenic

Concentration at Recovered Waste Materials Receptor [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ډes less than 0	Maximum 35582.6	
Mean 35.547	SD 1124.66	Variance 1.26486E+006

Concentration at Recovered Waste Materials Receptor [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ډes less than 0	Maximum 81223.9	
Mean 227.287	SD 3171.94	Variance 1.00612E+007

Concentration at Recovered Waste Materials Receptor [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.065833
Minimum 0ډes less than 546.533	Maximum 292603	
Mean 1728.8	SD 13812.8	Variance 1.90793E+008

Chromium

Concentration at Recovered Waste Materials Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Chromium

Concentration at Recovered Waste Materials Receptor [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0	Maximum 59.9172	
Mean 0.0598574	SD 1.8938	Variance 3.58649

Concentration at Recovered Waste Materials Receptor [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0	Maximum 253.07	
Mean 0.252817	SD 7.99876	Variance 63.9802

Cobalt

Concentration at Recovered Waste Materials Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0.101661	
Mean 0.000142231	SD 0.00341527	Variance 1.16641E-005

Concentration at Recovered Waste Materials Receptor [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0.0144681	Maximum 0.48964	
Mean 0.00496612	SD 0.0303393	Variance 0.000920475

Cobalt

Concentration at Recovered Waste Materials Receptor [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0414476
Minimum 0ڕes less than 0.112515	Maximum 0.639482	
Mean 0.0178198	SD 0.0630326	Variance 0.00397311

Concentration at Recovered Waste Materials Receptor [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0301466	90% of values less than 0.125768
Minimum 0ڕes less than 0.27621	Maximum 0.649757	
Mean 0.0414595	SD 0.0954179	Variance 0.00910458

Concentration at Recovered Waste Materials Receptor [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0.00117236
50% of values less than 0.0161992	75% of values less than 0.0670442	90% of values less than 0.184198
Minimum 0ڕes less than 0.284805	Maximum 0.576186	
Mean 0.0596313	SD 0.0983438	Variance 0.0096715

Lead

Concentration at Recovered Waste Materials Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Lead

Concentration at Recovered Waste Materials Receptor [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0.239653	
Mean 0.000239413	SD 0.0075747	Variance 5.73761E-005

Concentration at Recovered Waste Materials Receptor [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 12004.4	
Mean 32.3984	SD 543.076	Variance 294931

Nickel

Concentration at Recovered Waste Materials Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Nickel

Concentration at Recovered Waste Materials Receptor [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0	Maximum 0.128299	
Mean 0.000467953	SD 0.00541151	Variance 2.92844E-005

Concentration at Recovered Waste Materials Receptor [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0.0217201	Maximum 0.489343	
Mean 0.00614287	SD 0.0352324	Variance 0.00124132

Concentration at Recovered Waste Materials Receptor [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.000844806	90% of values less than 0.0675256
Minimum 0ڕes less than 0.150256	Maximum 0.626815	
Mean 0.0233841	SD 0.0730652	Variance 0.00533853

Ammoniacal Nitrogen

Concentration at Recovered Waste Materials Receptor [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Recovered Waste Materials Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0238598	90% of values less than 0.218282
Minimum 0ues less than 0.439737	Maximum 2.42388	
Mean 0.0819482	SD 0.260956	Variance 0.0680983

Concentration at Recovered Waste Materials Receptor [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.00741364	75% of values less than 0.0531665	90% of values less than 0.157554
Minimum 0ues less than 0.288997	Maximum 1.7647	
Mean 0.060568	SD 0.143875	Variance 0.0207

Concentration at Recovered Waste Materials Receptor [mg/l] - 500 years

05% of values less than 8.3981E-010	10% of values less than 1.971E-006	25% of values less than 0.000299024
50% of values less than 0.00229183	75% of values less than 0.0114725	90% of values less than 0.0375984
Minimum 0ues less than 0.0750942	Maximum 0.403265	
Mean 0.0148211	SD 0.0368409	Variance 0.00135726

Concentration at Recovered Waste Materials Receptor [mg/l] - 1000 years

05% of values less than 3.20079E-009	10% of values less than 1.09556E-007	25% of values less than 4.67065E-006
50% of values less than 6.41868E-005	75% of values less than 0.000464428	90% of values less than 0.00224084
Minimum 9.32607E-019 0.00464061	Maximum 0.0759539	
Mean 0.00103275	SD 0.00384131	Variance 1.47557E-005

Concentration at Recovered Waste Materials Receptor [mg/l] - 2500 years

05% of values less than 1.17536E-015	10% of values less than 8.71961E-014	25% of values less than 1.38217E-011
50% of values less than 1.74171E-009	75% of values less than 6.40848E-008	90% of values less than 1.18167E-006
Minimum 5.51212E-023 4.72627E-006	Maximum 0.000507493	
Mean 1.84532E-006	SD 1.75921E-005	Variance 3.09481E-010

Ammoniacal Nitrogen

Concentration at Recovered Waste Materials Receptor [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 1.45068E-020
50% of values less than 6.72429E-017	75% of values less than 5.8143E-014	90% of values less than 1.10615E-011
Minimum 0ues less than 1.28656E-010	Maximum 1.2029E-007	
Mean 2.58979E-010	SD 4.0047E-009	Variance 1.60376E-017

Concentration at Recovered Waste Materials Receptor [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 3.76825E-022
Minimum 0ues less than 2.13348E-019	Maximum 6.75811E-015	
Mean 1.47281E-017	SD 2.32525E-016	Variance 5.40678E-032

Concentration at Recovered Waste Materials Receptor [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Arsenic

Unretarded Travel Time to Generic 50m [years]

05% of values less than 5.36556	10% of values less than 6.91744	25% of values less than 13.0839
50% of values less than 23.8415	75% of values less than 38.0833	90% of values less than 54.3094
Minimum 2.4599ss than 66.873	Maximum 128.53	
Mean 28.0792	SD 19.9083	Variance 396.342

Retarded Travel Time to Generic 50m [years]

05% of values less than 16456.3	10% of values less than 23119.6	25% of values less than 47189.5
50% of values less than 89975.3	75% of values less than 146822	90% of values less than 210598
Minimum 6154.18s than 248407	Maximum 523982	
Mean 105189	SD 75135.9	Variance 5.64541E+009

Chromium

Unretarded Travel Time to Generic 50m [years]

05% of values less than 5.36556	10% of values less than 6.91744	25% of values less than 13.0839
50% of values less than 23.8415	75% of values less than 38.0833	90% of values less than 54.3094
Minimum 2.4599ss than 66.873	Maximum 128.53	
Mean 28.0792	SD 19.9083	Variance 396.342

Retarded Travel Time to Generic 50m [years]

05% of values less than 78527.8	10% of values less than 120610	25% of values less than 237958
50% of values less than 492919	75% of values less than 894485	90% of values less than 1.46624E+006
Minimum 10077.1s than 1.82944E+006	Maximum 4.12983E+006	
Mean 665474	SD 593072	Variance 3.51734E+011

Cobalt

Unretarded Travel Time to Generic 50m [years]

05% of values less than 5.36556	10% of values less than 6.91744	25% of values less than 13.0839
50% of values less than 23.8415	75% of values less than 38.0833	90% of values less than 54.3094
Minimum 2.4599ss than 66.873	Maximum 128.53	
Mean 28.0792	SD 19.9083	Variance 396.342

Retarded Travel Time to Generic 50m [years]

05% of values less than 2291.2	10% of values less than 3244.46	25% of values less than 6434.59
50% of values less than 12398.7	75% of values less than 19603.4	90% of values less than 27265.3
Minimum 888.366s than 32765.4	Maximum 54324.5	
Mean 14128.3	SD 9542.58	Variance 9.10608E+007

Lead

Unretarded Travel Time to Generic 50m [years]

05% of values less than 5.36556	10% of values less than 6.91744	25% of values less than 13.0839
50% of values less than 23.8415	75% of values less than 38.0833	90% of values less than 54.3094
Minimum 2.4599ss than 66.873	Maximum 128.53	
Mean 28.0792	SD 19.9083	Variance 396.342

Retarded Travel Time to Generic 50m [years]

05% of values less than 29696.6	10% of values less than 41412.9	25% of values less than 92321.6
50% of values less than 171901	75% of values less than 283153	90% of values less than 386961
Minimum 10920.6s than 471354	Maximum 831871	
Mean 200640	SD 143358	Variance 2.05514E+010

Nickel

Unretarded Travel Time to Generic 50m [years]

05% of values less than 5.36556	10% of values less than 6.91744	25% of values less than 13.0839
50% of values less than 23.8415	75% of values less than 38.0833	90% of values less than 54.3094
Minimum 2.4599ss than 66.873	Maximum 128.53	
Mean 28.0792	SD 19.9083	Variance 396.342

Retarded Travel Time to Generic 50m [years]

05% of values less than 9250.83	10% of values less than 12679.8	25% of values less than 24526.7
50% of values less than 47056.3	75% of values less than 83333.4	90% of values less than 133265
Minimum 3662.73s than 175188	Maximum 480830	
Mean 63331	SD 56088.9	Variance 3.14596E+009

Ammoniacal Nitrogen

Unretarded Travel Time to Generic 50m [years]

05% of values less than 5.36556	10% of values less than 6.91744	25% of values less than 13.0839
50% of values less than 23.8415	75% of values less than 38.0833	90% of values less than 54.3094
Minimum 2.4599ss than 66.873	Maximum 128.53	
Mean 28.0792	SD 19.9083	Variance 396.342

Retarded Travel Time to Generic 50m [years]

05% of values less than 35.631	10% of values less than 49.9569	25% of values less than 105.085
50% of values less than 191.074	75% of values less than 301.205	90% of values less than 418.27
Minimum 13.2457s than 510.395	Maximum 806.157	
Mean 218.475	SD 147.441	Variance 21738.7

Arsenic

Concentration at Generic 50m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Arsenic

Concentration at Generic 50m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 77912.3	
Mean 106.573	SD 2536.44	Variance 6.43354E+006

Concentration at Generic 50m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 12.4646	Maximum 295172	
Mean 1051.64	SD 11357.9	Variance 1.29001E+008

Chromium

Concentration at Generic 50m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Chromium

Concentration at Generic 50m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 196.232	
Mean 0.196036	SD 6.2023	Variance 38.4686

Cobalt

Concentration at Generic 50m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0.0235499	
Mean 2.59027E-005	SD 0.000747565	Variance 5.58854E-007

Concentration at Generic 50m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0.0021326	Maximum 0.177555	
Mean 0.00113744	SD 0.0080627	Variance 6.50072E-005

Cobalt

Concentration at Generic 50m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.018254
Minimum 0ڕes less than 0.0595542	Maximum 0.494413	
Mean 0.00976796	SD 0.0399772	Variance 0.00159818

Concentration at Generic 50m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0154777	90% of values less than 0.0966922
Minimum 0ڕes less than 0.171516	Maximum 0.652575	
Mean 0.0308412	SD 0.080945	Variance 0.00655209

Concentration at Generic 50m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0.000180554
50% of values less than 0.0128315	75% of values less than 0.0640238	90% of values less than 0.183134
Minimum 0ڕes less than 0.298586	Maximum 0.654129	
Mean 0.0585953	SD 0.101444	Variance 0.0102909

Lead

Concentration at Generic 50m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Lead

Concentration at Generic 50m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 2575.86	
Mean 3.24078	SD 83.2242	Variance 6926.26

Nickel

Concentration at Generic 50m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Nickel

Concentration at Generic 50m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0	Maximum 0.046758	
Mean 0.000142301	SD 0.00207368	Variance 4.30015E-006

Concentration at Generic 50m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0.00508427	Maximum 0.284758	
Mean 0.00272029	SD 0.0176934	Variance 0.000313055

Concentration at Generic 50m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0264533
Minimum 0ڕes less than 0.0933336	Maximum 0.628707	
Mean 0.0148039	SD 0.058068	Variance 0.00337189

Ammoniacal Nitrogen

Concentration at Generic 50m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ډes less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Generic 50m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.114297
Minimum 0ډes less than 0.214925	Maximum 1.78074	
Mean 0.0446309	SD 0.167664	Variance 0.0281113

Concentration at Generic 50m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.00286132	75% of values less than 0.0355591	90% of values less than 0.10977
Minimum 0ډes less than 0.210331	Maximum 1.6019	
Mean 0.0441939	SD 0.115473	Variance 0.013334

Concentration at Generic 50m [mg/l] - 500 years

05% of values less than 0	10% of values less than 2.49138E-007	25% of values less than 0.000125882
50% of values less than 0.00159074	75% of values less than 0.00879548	90% of values less than 0.0299182
Minimum 0ډes less than 0.0556455	Maximum 0.333788	
Mean 0.0113254	SD 0.0290139	Variance 0.000841809

Concentration at Generic 50m [mg/l] - 1000 years

05% of values less than 1.21207E-009	10% of values less than 3.54069E-008	25% of values less than 2.7051E-006
50% of values less than 4.46048E-005	75% of values less than 0.000343278	90% of values less than 0.00152658
Minimum 9.35057E-020 0.00329302	Maximum 0.0451993	
Mean 0.000754595	SD 0.00271134	Variance 7.35135E-006

Concentration at Generic 50m [mg/l] - 2500 years

05% of values less than 6.13907E-016	10% of values less than 4.48213E-014	25% of values less than 8.97936E-012
50% of values less than 1.17995E-009	75% of values less than 4.14547E-008	90% of values less than 8.02275E-007
Minimum 9.03742E-024 3.35797E-006	Maximum 0.000302003	
Mean 1.21966E-006	SD 1.07766E-005	Variance 1.16136E-010

Ammoniacal Nitrogen

Concentration at Generic 50m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 8.00936E-021
50% of values less than 3.60476E-017	75% of values less than 3.83371E-014	90% of values less than 7.03311E-012
Minimum 0ues less than 7.14928E-011	Maximum 7.1583E-008	
Mean 1.55226E-010	SD 2.37841E-009	Variance 5.65685E-018

Concentration at Generic 50m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.77542E-022
Minimum 0ues less than 1.21119E-019	Maximum 4.02172E-015	
Mean 8.33259E-018	SD 1.36588E-016	Variance 1.86563E-032

Concentration at Generic 50m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Arsenic

Unretarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 7.20516	10% of values less than 10.1361	25% of values less than 22.7942
50% of values less than 38.6228	75% of values less than 55.4783	90% of values less than 73.4751
Minimum 3.70991s than 89.0808	Maximum 158.4	
Mean 41.4333	SD 25.2845	Variance 639.306

Retarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 24332.5	10% of values less than 35724.4	25% of values less than 86636.4
50% of values less than 143361	75% of values less than 213067	90% of values less than 283330
Minimum 9986.63s than 329055	Maximum 646374	
Mean 156841	SD 95887	Variance 9.19431E+009

Chromium

Unretarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 7.20516	10% of values less than 10.1361	25% of values less than 22.7942
50% of values less than 38.6228	75% of values less than 55.4783	90% of values less than 73.4751
Minimum 3.70991s than 89.0808	Maximum 158.4	
Mean 41.4333	SD 25.2845	Variance 639.306

Retarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 128128	10% of values less than 207079	25% of values less than 418544
50% of values less than 771300	75% of values less than 1.40059E+006	90% of values less than 2.03727E+006
Minimum 25978.6s than 2.56639E+006	Maximum 5.27461E+006	
Mean 997583	SD 788259	Variance 6.21353E+011

Cobalt

Unretarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 7.20516	10% of values less than 10.1361	25% of values less than 22.7942
50% of values less than 38.6228	75% of values less than 55.4783	90% of values less than 73.4751
Minimum 3.70991s than 89.0808	Maximum 158.4	
Mean 41.4333	SD 25.2845	Variance 639.306

Retarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 3390.28	10% of values less than 5102.67	25% of values less than 12567
50% of values less than 20446.4	75% of values less than 28549.5	90% of values less than 36706
Minimum 1289.04s than 42809.1	Maximum 66968.5	
Mean 21072.8	SD 11998.1	Variance 1.43955E+008

Lead

Unretarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 7.20516	10% of values less than 10.1361	25% of values less than 22.7942
50% of values less than 38.6228	75% of values less than 55.4783	90% of values less than 73.4751
Minimum 3.70991s than 89.0808	Maximum 158.4	
Mean 41.4333	SD 25.2845	Variance 639.306

Retarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 44196.9	10% of values less than 64851.7	25% of values less than 160734
50% of values less than 281832	75% of values less than 413229	90% of values less than 539253
Minimum 18300.2s than 629156	Maximum 1.0603E+006	
Mean 299975	SD 184617	Variance 3.40836E+010

Nickel

Unretarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 7.20516	10% of values less than 10.1361	25% of values less than 22.7942
50% of values less than 38.6228	75% of values less than 55.4783	90% of values less than 73.4751
Minimum 3.70991s than 89.0808	Maximum 158.4	
Mean 41.4333	SD 25.2845	Variance 639.306

Retarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 13834.7	10% of values less than 20801.7	25% of values less than 41061.5
50% of values less than 76629	75% of values less than 127287	90% of values less than 193139
Minimum 4704.29s than 239654	Maximum 594026	
Mean 94468.5	SD 74972.2	Variance 5.62082E+009

Ammoniacal Nitrogen

Unretarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 7.20516	10% of values less than 10.1361	25% of values less than 22.7942
50% of values less than 38.6228	75% of values less than 55.4783	90% of values less than 73.4751
Minimum 3.70991s than 89.0808	Maximum 158.4	
Mean 41.4333	SD 25.2845	Variance 639.306

Retarded Travel Time to Thorpe Brook 230m [years]

05% of values less than 51.8978	10% of values less than 78.9692	25% of values less than 194.873
50% of values less than 313.427	75% of values less than 444.162	90% of values less than 564.692
Minimum 23.258ss than 659.485	Maximum 1067.05	
Mean 326	SD 186.116	Variance 34639

Arsenic

Concentration at Thorpe Brook 230m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Arsenic

Concentration at Thorpe Brook 230m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 966.591	
Mean 0.965626	SD 30.551	Variance 933.366

Concentration at Thorpe Brook 230m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 83601.5	
Mean 265.885	SD 3535.76	Variance 1.25016E+007

Chromium

Concentration at Thorpe Brook 230m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Chromium

Concentration at Thorpe Brook 230m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Cobalt

Concentration at Thorpe Brook 230m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0.0720979	
Mean 0.000238107	SD 0.00301358	Variance 9.08168E-006

Cobalt

Concentration at Thorpe Brook 230m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0.010703	Maximum 0.155372	
Mean 0.00204075	SD 0.0106111	Variance 0.000112595

Concentration at Thorpe Brook 230m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0149607
Minimum 0ڕes less than 0.0500691	Maximum 0.358865	
Mean 0.00787657	SD 0.0302224	Variance 0.000913396

Concentration at Thorpe Brook 230m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0218563	90% of values less than 0.102259
Minimum 0ڕes less than 0.235452	Maximum 0.562638	
Mean 0.0349419	SD 0.0848373	Variance 0.00719736

Lead

Concentration at Thorpe Brook 230m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Lead

Concentration at Thorpe Brook 230m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 2.88529	
Mean 0.00307576	SD 0.0913942	Variance 0.00835289

Nickel

Concentration at Thorpe Brook 230m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 1000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 2500 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Nickel

Concentration at Thorpe Brook 230m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0	Maximum 0.00864146	
Mean 8.63283E-006	SD 0.000273131	Variance 7.46003E-008

Concentration at Thorpe Brook 230m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0	Maximum 0.0786042	
Mean 0.000430065	SD 0.00438077	Variance 1.91911E-005

Concentration at Thorpe Brook 230m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ڕes less than 0.0112868	Maximum 0.263874	
Mean 0.00304217	SD 0.0171706	Variance 0.000294831

Ammoniacal Nitrogen

Concentration at Thorpe Brook 230m [mg/l] - 10 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Concentration at Thorpe Brook 230m [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0103698
Minimum 0ues less than 0.0669612	Maximum 0.512107	
Mean 0.00902143	SD 0.0374742	Variance 0.00140432

Concentration at Thorpe Brook 230m [mg/l] - 250 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.00261907	90% of values less than 0.0310339
Minimum 0ues less than 0.0702075	Maximum 0.467609	
Mean 0.0123753	SD 0.0408464	Variance 0.00166843

Concentration at Thorpe Brook 230m [mg/l] - 500 years

05% of values less than 0	10% of values less than 0	25% of values less than 2.47326E-007
50% of values less than 0.000167703	75% of values less than 0.00267882	90% of values less than 0.0128167
Minimum 0ues less than 0.0219297	Maximum 0.226547	
Mean 0.0047013	SD 0.0143991	Variance 0.000207333

Concentration at Thorpe Brook 230m [mg/l] - 1000 years

05% of values less than 3.52053E-012	10% of values less than 4.04591E-010	25% of values less than 2.41962E-007
50% of values less than 8.42849E-006	75% of values less than 9.4991E-005	90% of values less than 0.000568118
Minimum 0ues less than 0.00148147	Maximum 0.0104324	
Mean 0.000295819	SD 0.00105763	Variance 1.11859E-006

Concentration at Thorpe Brook 230m [mg/l] - 2500 years

05% of values less than 9.09609E-018	10% of values less than 1.31372E-015	25% of values less than 8.99706E-013
50% of values less than 1.80275E-010	75% of values less than 9.58983E-009	90% of values less than 1.80509E-007
Minimum 3.30227E-027 1.20784E-006	Maximum 3.48916E-005	
Mean 3.50544E-007	SD 2.22257E-006	Variance 4.93981E-012

Ammoniacal Nitrogen

Concentration at Thorpe Brook 230m [mg/l] - 5000 years

05% of values less than 0	10% of values less than 0	25% of values less than 5.35915E-022
50% of values less than 5.03374E-018	75% of values less than 6.31877E-015	90% of values less than 1.0905E-012
Minimum 0ues less than 1.33885E-011	Maximum 8.27026E-009	
Mean 2.95865E-011	SD 3.21611E-010	Variance 1.03434E-019

Concentration at Thorpe Brook 230m [mg/l] - 10000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 8.91924E-024
Minimum 0ues less than 1.19653E-020	Maximum 4.64639E-016	
Mean 1.26807E-018	SD 1.82846E-017	Variance 3.34326E-034

Concentration at Thorpe Brook 230m [mg/l] - 20000 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0ues less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Aquifer Flow [m³/yr]

Recovered Waste Materials

05% of values less than 2.81873	10% of values less than 4.67302	25% of values less than 27.3779
50% of values less than 311.871	75% of values less than 6075.6	90% of values less than 30394.5
Minimum 1.25833s than 55302	Maximum 117175	
Mean 8753.87	SD 19613	Variance 3.84671E+008

Appendix D ConSim Model

Project: Land Adjacent Halden's Parkway, Thrapston

Project Number: 18443

Project Details

Title: Land Adjacent Halden's Parkway, Thrapston

Project Number: 18443

Prepared By: Claire Daly

Date: 2022-11-15 21:58:52

Client Name: Equites Newlands (Thrapston East) Limited

Comments:

Checked by Leon Warrington

Consim version 2.05

Simulation Level

Level 3

Simulation Parameters

Iterations 1001

Timeslices:1, 10, 25, 50, 100, 150, 200, 250, 500, 1000, 2500, 5000, 7500, 10000, 15000, 20000

Water Quality Standard

User Defined

Source

Recovered Waste Materials
Dry Bulk Density [g/cm³] SINGLE(1.9)
Air Filled Porosity [fraction] UNIFORM(0.175,0.266)
Water Filled Porosity [fraction] UNIFORM(0.075,0.114)
Thickness [m] UNIFORM(4.5,10)
Contaminated Land
Declining Source Term

Overall Unsaturated Zone Thickness [m] SINGLE(0.7)

Infiltration

Infiltration [mm/year] TRIANGULAR(35,55,73)

Source Inventory:

Arsenic
Measured as Leachable Concentrate — Leachate Concentration [mg/l] LOGTRIANGULAR(0.0015,1.25e+006,1.25
Inorganic
Partition Coefficient [ml/g] UNIFORM(200,400)

Chromium
Measured as Leachable Concentrate — Leachate Concentration [mg/l] LOGTRIANGULAR(0.002,585000,585000)
Inorganic
Partition Coefficient [ml/g] LOGUNIFORM(772,3840)

Cobalt
Measured as Leachable Concentrate — Leachate Concentration [mg/l] LOGTRIANGULAR(0.002,1,1)
Inorganic
Partition Coefficient [ml/g] UNIFORM(36,45)

Lead
Measured as Leachable Concentrate — Leachate Concentration [mg/l] LOGTRIANGULAR(0.002,296000,296000)
Inorganic
Partition Coefficient [ml/g] UNIFORM(348,800)

Nickel
Measured as Leachable Concentrate — Leachate Concentration [mg/l] LOGTRIANGULAR(0.005,1,1)
Inorganic
Partition Coefficient [ml/g] LOGUNIFORM(69,400)

Ammoniacal Nitrogen

Measured as Leachable Concentrate

Leachate Concentration [mg/l] LOGTRIANGULAR(0.15,15,15)

Inorganic

Partition Coefficient [ml/g] UNIFORM(0.4,0.7)

Unsaturated Pathway: Basal Layer

Active
Porous Medium
Thickness [m] SINGLE(0.5)
Dry Bulk Density [g/cm³] UNIFORM(1,2.4)
Vertical Dispersivity [m] SINGLE(0.05)
Water Filled Porosity [fraction] UNIFORM(0.17,0.3)
Unsaturated Conductivity [m/s] LOGUNIFORM(1e-008,1e-006)

Unsaturated Pathway Contaminants

Arsenic
Partition Coefficient [ml/g] UNIFORM(200,400)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Chromium
Partition Coefficient [ml/g] LOGUNIFORM(77,3840)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Cobalt
Partition Coefficient [ml/g] UNIFORM(36,45)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Lead
Partition Coefficient [ml/g] UNIFORM(348,800)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Nickel
Partition Coefficient [ml/g] LOGUNIFORM(69,400)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Ammoniacal Nitrogen
Partition Coefficient [ml/g] UNIFORM(0.4,0.7)
Simulate Degradation in Dissolved Phase only
Halflife [years] UNIFORM(1,6)

Unsaturated Pathway: Unsaturated Cornbrash Formation

Active

Porous Medium

Thickness [m] SINGLE(0.2)

Dry Bulk Density [g/cm³] UNIFORM(1.74,2.79)

Vertical Dispersivity [m] LOGUNIFORM(0.02,0.34)

Water Filled Porosity [fraction] UNIFORM(0.1,0.25)

Unsaturated Conductivity [m/s] LOGUNIFORM(1e-009,7.5e-005)

Unsaturated Pathway Contaminants

Arsenic

Partition Coefficient [ml/g] UNIFORM(200,400)

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(9.9e+011)

Chromium

Partition Coefficient [ml/g] LOGUNIFORM(772,3840)

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(9.9e+011)

Cobalt

Partition Coefficient [ml/g] UNIFORM(36,45)

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(9.9e+011)

Lead

Partition Coefficient [ml/g] UNIFORM(348,800)

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(9.9e+011)

Nickel

Partition Coefficient [ml/g] LOGUNIFORM(69,400)

Simulate Degradation in Dissolved Phase only

Halflife [years] SINGLE(9.9e+011)

Ammoniacal Nitrogen

Partition Coefficient [ml/g] UNIFORM(0.4,0.7)

Simulate Degradation in Dissolved Phase only

Halflife [years] UNIFORM(1,6)

Aquifer Pathway

Thickness [m] UNIFORM(3.3,3.8)
Dry Bulk Density [g/cm³] UNIFORM(1.74,2.79)
Calculated Mixing Zone Thickness
Hydraulic Conductivity [m/s] LOGUNIFORM(1e-009,7.5e-005)
Effective Porosity [fraction] UNIFORM(0.1,0.25)
Hydraulic Gradient UNIFORM(0.01,0.014)
Groundwater Flow Direction (degrees), 80.00
Longitudinal Dispersivity [m] SINGLE(5)
Lateral Dispersivity [m] SINGLE(1.5)

Contaminant Inventory

Arsenic
Partition Coefficient [ml/g] UNIFORM(200,400)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Chromium
Partition Coefficient [ml/g] LOGUNIFORM(772,3840)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Cobalt
Partition Coefficient [ml/g] UNIFORM(36,45)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Lead
Partition Coefficient [ml/g] UNIFORM(348,800)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Nickel
Partition Coefficient [ml/g] LOGUNIFORM(69,400)
Simulate Degradation in Dissolved Phase only
Halflife [years] SINGLE(9.9e+011)

Ammoniacal Nitrogen
Partition Coefficient [ml/g] UNIFORM(0.4,0.7)
Simulate Degradation in Dissolved Phase only
Halflife [years] UNIFORM(1,6)

Receptor

Recovered Waste Materials Recep	X 502340.104651	Y 278347.585332
Generic 50m	X 502378.520081	Y 278373.298632
Thorpe Brook 230m	X 502546.099361	Y 278435.707467

Input Correlations

No Correlations