Land Northeast of Junction 10, M42 Motorway

Phase II Ground Investigation Report

September 2021

Hodgetts Estates
CORE 42
Dordon
Tamworth
Staffordshire
B78 1SZ

Final Report

Report No. 70530-2 Rev 2

Document Verification

Prepared for	Prepared by
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Report Number	Revision	Date	Comments
70530-2	0	12/11/20	First Issue.
70530-2	1	11/03/21	Update regarding earthworks proposals
70530-2	2	30/09/21	Removal of earthworks proposals.

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1 Introduction

Ground and Project Consultants Ltd (GPCL) has been instructed by Hodgetts Estates to carry out a Phase II Ground Investigation for a plot of land to the northeast of Junction 10 on the M42 Motorway.

A Desk Study and Preliminary Risk Assessment was previously carried out by GPCL, reported under Reference 70530-1. The most relevant information is included in this report, however, the Desk Study should be referred to for more detail.

The objectives of this report are to ascertain the expected ground conditions at the site and to assess the implications for the proposed development.

The scope of this report is as follows:

- A ground investigation including window trial pits and cable percussive boreholes;
- Develop a ground model that summarises the ground investigation data, and highlight any uncertainties;
- Provide a geo-environmental appraisal for the site;
- Provide a geotechnical appraisal of the proposals for the site.

2 Site Information

The information on the site and surrounding area has been summarised from the Desk Study Report (Reference 70530-1). Where appropriate, figures and tables have been provided throughout the report for ease of assessment.

2.1 Site Location

The site is located at Watling Street (A5), Dordon, B78 1TB. The National Grid Reference for the site is 424850 300921. The site is adjacent to J10 of the M42, approximately 5km to the southeast of Tamworth town centre. The location of the site is indicated on Figure 1 below.

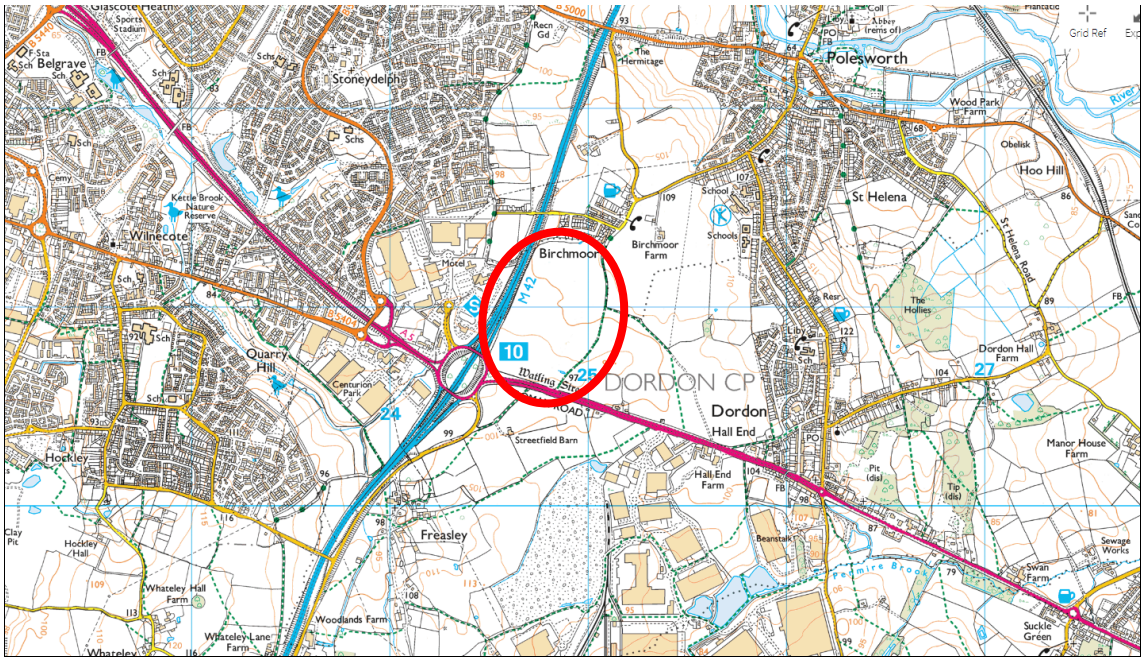

Figure 1: Site Location (Ordnance Survey Data © Crown copyright and database right 2020)

2.2 Proposals

The site is proposed to be developed for a logistics end-use. However, no layout plans or proposed loads are available.

2.3 Site Description and Topography

The site has dimensions of approximately 750m by 450m (32.36ha) and comprises agricultural land with a small area of hardstanding to the southeast of the site off the A5 at the site entrance. From the Ordnance Survey plan the site is at 105m AOD in the northeast and 95m in the southwest, giving a slope angle of less than 1 degree.

The site is bounded by the A5 to the south, the M42 to the west, the village of Birchmoor to the north and agricultural land to the east. The A5 has a layby adjacent to the south of the site.

2.4 Site History

The earliest available historical map records indicate that the site has been recorded as agricultural land from pre-1883. Present on-site in 1883 are two barns towards the centre of the site and a pond towards the north western boundary of the site. From 1901, it is shown that a barn described as 'Leisure Barn' is present towards the centre of the site. From 1925, a sheepwash is shown to have been developed towards the southeast of the site, before being removed by 1971. From 1989, the barns and pond present on site have been removed and the site at present currently lies undeveloped.

The area surrounding the site has been predominantly used for agricultural land and mining, with collieries present 400m both north and south of the site in 1883. There is also an old marl pit 300m south of the site during the same period. By 1901, the colliery to the north of the site has been marked as disused, and by 1971 the colliery is now labelled as a disused tip. From 1971 residential properties with an associated electricity substation have been developed as part of Birchmoor towards the northern boundary of the site. By 1989 the M42 has now been developed along the west of the site, and from 1993 an associated services area with a petrol station is now present from 60m towards the southwest of the site.

2.5 Geology

The site is on the boundary of BGS sheets 154 Lichfield and 155 Coalville. The available geological maps indicate the site is underlain by Halesowen Formation (mudstone, siltstone and sandstone) with no superficial deposits. The Halesowen Formation is recorded to be 60m to 120m thick, overlying the Pennine Middle Coal Measures. A fault is shown close to the southern boundary, and is downthrown to the north.

The Coal Authority Report for the site indicates that it is within the potential zone of influence of seven recorded coal seams from 60m to 200m bgl. There are no coal mine entries or coal outcrops in the proximity of the site. The report states that the site is free from coal mining related risk and no further action is required.

The site is in a very low radon risk zone, with less than 1% of properties above the action level.

2.6 Hydrology and Hydrogeology

The closest waterbody is Kettle Brook located 325m to the southwest of the site, which is a recorded Local Nature Reserve. The site is outside of a flood risk zone from rivers. A high surface water flooding risk is indicated in the south of the site. In this location a rainfall event is anticipated in 30-year period that results in surface water flooding with a depth greater than 1m.

The Halesowen Formation is designated as a Secondary A Aquifer. There are no groundwater abstraction licenses within proximity to the site and the site is not in a Source Protection Zone.

2.7 UXO Risk

The freely available Zetica UXO risk map indicates that the site is in a low risk area from potential unexploded bombs. No further action is considered necessary.

2.8 Environmental Information

There are four recent industrial land uses within 250m of the site. These include an electricity substation 125m to the north, a windscreen repair company 140m to the northeast, a petrol station and motorway service station 180m (to its centre point) to the northwest.

There are no historical or active landfill sites within 250m the site. The historical landfills associated with the collieries are over 350m away and are therefore unlikely to impact the site. There are no waste treatment sites near the site.

There are no pollution incidents in proximity to the site.

Environmentally sensitive sites include deciduous woodland 44m to the west and 84m to the southwest.

3 Preliminary Contamination Risk Assessment

This section comprises a conceptual site model and preliminary risk assessment for the site. A full description of the model can be found in the Desk Study Report.

Table 1: Conceptual Site Model

Source / Hazard	Pathway	Receptor	Risk Rating
Made Ground on site from the demolished barn	Inhalation, dermal contact, ingestion	Construction workers	Medium
	Inhalation (dust), dermal contact, ingestion from limited landscaping to the perimeter of the site.	Future workers	Low
	Migration / leaching	Secondary A Aquifer	Low
	Direct contact	Water Supply Pipes	Low
	Direct contact	Concrete	Medium
Chemicals from the historical sheep wash	Inhalation, dermal contact, ingestion	Construction workers	Medium
	Inhalation, dermal contact, ingestion from potential landscaping	Future workers	Low
	Migration / leaching	Secondary A Aquifer	Low
Ground gases from on and off site Made Ground sources, mine gas and radon.	Inhalation	Future workers	Low
Coal Mining	Ground movement	Settlement of building structures	Low
UXO	Direct contact	Construction workers	Low

Risk Rating (probability versus severity)

Negligible	Unlikely to be a source, pathway or receptor and insignificant consequence.
Low	Possible to likely source with insignificant consequence or unlikely to possible source with minor to moderate consequences.
Medium	Certain source with insignificant consequence to unlikely source with major consequence.
High	Likely to certain source and minor to moderate consequence or likely source with moderate to high consequence
Very High	Certain source with major consequence.

The conceptual site model indicates that there is a medium risk to human health receptors and a low risk to controlled waters from potential contaminants from the historical site uses. The risk to human health is a consequence of potential direct contact with contaminants from the historical sheep wash and potential Made Ground on site.

4 Ground Investigation

4.1 Fieldwork and Laboratory Testing

The ground investigation works were undertaken by Applied Geology Ltd on 17th to 22nd September 2020 and a copy is included in Appendix B. The scope of the ground investigation included the following:

- 8 No. cable percussive boreholes to depths of up to refusal at depths of between 1.94m and 2.63m bgl (4 No. installed for ground gas and groundwater monitoring);
- 31 No. machine excavated trial pits to depths of between 2.3m and 2.9m bgl.

Geotechnical testing included the following:

- 5 No. Atterberg Limit and moisture content tests;
- 28 No. particle size distribution tests;
- 3 No. compaction tests;
- 34 No. BRE sulphate tests.

Thirty samples of Topsoil and shallow Halesowen Formation were sent for a generic suite of common contaminants including organic content, metals, polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, and xylenes (BTEX), Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG) and an asbestos screen.

Four ground gas and groundwater monitoring visits have been carried out between 29th September and 21st October 2020.

4.2 Ground Model

The ground investigation revealed the geology comprises Topsoil up to 0.4m bgl, overlying the Halesowen Formation. Groundwater was encountered in the very south of the site at between 0.9m and 2.6m bgl.

Table 2: Summary of Ground Conditions

Strata	Description	Depth to base of strata (m bgl)	Thickness of Strata (m)	SPT N Values
Topsoil	Brown clayey gravelly sand with frequent rootlets. Gravel consists of fine to medium subangular to subrounded sandstone, mudstone and occasional quartzite. Slightly gravelly sandy clay in TP6.	0.20 - 0.40	0.20 - 0.40	N/A
Weathered Halesowen Formation - granular	Light brown slightly clayey gravelly sand. Gravel is fine to coarse subangular to rounded mudstone, sandstone and siltstone.	1.00 - 2.90	0.60-2.70	25 - 50
Weathered Halesowen Formation – cohesive	Firm to stiff slightly gravelly sandy clay. Gravel is fine to coarse subangular to subrounded mudstone and sandstone	1.00 - 2.70	0.40 - >0.90	30-35
Halesowen Formation- sandstone	Extremely weak to weak Sandstone.	>2.9	>0.30 - >1.50	>50
Groundwater	Groundwater encountered in TP11 and TP27. Groundwater encountered at 1.90m and 2.0m bgl respectively. Monitoring indicated groundwater levels of between 0.9m and 1.0m bgl in CP7 and 2.6m bgl in CP1.	0.9->2.6	N/A	N/A

4.3 Topsoil

Topsoil was encountered in each exploratory hole location up to a depth of between 0.2m-0.4m bgl. The Topsoil typically consisted of clayey gravelly sand with frequent rootlets. Gravel consisted of fine to medium subangular to subrounded sandstone, mudstone and occasional quartzite. The depth to the base of the Topsoil is shown to be relatively uniform across the site, with a typical depth of between 0.35m-0.40m bgl.

Topsoil comprising of clay was encountered at one location at exploratory hole TP6 to a depth of 0.35m bgl, towards the northwest corner of the site. The strata consisted of brown slightly gravelly sandy clay with frequent rootlets. Gravel was recorded as being fine to coarse subangular to subrounded mudstone.

4.4 Completely Weathered Halesowen Formation – Granular

Unlithified sand forming part of the Halesowen Formation underlies the Topsoil and was present in all exploratory hole locations, with the exception of TP1 and TP12 towards the southwest corner of the site, which contained cohesive material underlying the Topsoil. The base of the strata is typically between 1.5-1.7m bgl, thickening towards the southeast of the site in TP27-31 to depths of between 1.8m-2.9m bgl where it overlies the sandstone. It is typically described as

being light brown slightly clayey gravelly sand. Gravel is fine to coarse subangular to rounded mudstone, sandstone and siltstone.

Seventeen particle size distribution tests were conducted on the Weathered Halesowen granular deposits, which gave proportions between of 0% and 15% cobbles, between 6% and 77% gravel, between 3% and 72% sand and between 6% and 50% silt and clay. The typical proportions were 1% cobbles, 23% gravel, 51% sand and 25% silt and clay, being slightly gravelly silty/clayey sand with a low cobble content

SPT N-values for the granular Halesowen Formation ranged from N=25-50 correlating to medium dense to very dense.

Three compaction tests were carried out on the shallow Halesowen Formation, typically comprising slightly gravelly clayey sand. The maximum dry density was given as between 1.90Mg/m^3 and 1.94Mg/m^3 and an optimum moisture content of 11% and 12%.

4.5 Completely Weathered Halesowen Formation - Cohesive

Cohesive deposits forming part of the Halesowen Formation were encountered in exploratory holes CP1, TP1, TP4, TP9, TP12, TP25 and TP26 towards the southern area of the site, as well as in CP2 and TP4 along the northwestern site boundary. The depth to the base of the strata was 1.0m-2.3m bgl towards the south of the site, with a thickness of between 0.4m-2.3m. The clay appears to be a northwest-southeast trending band encountered initially beneath the topsoil (CP1, TP1, TP12 and TP26) becoming deeper and thinner to the north, encountered at 1.2-1.3m bgl. Towards the northwest, in CP2, the cohesive stratum was encountered from beneath the Topsoil, and was 1.5m thick. In TP4, the clay was encountered from 1.8m bgl, and was >0.9m thick.

The cohesive bands of the Halesowen Formation were described as being firm to stiff slightly gravelly sandy clay. Gravel was fine to coarse subangular to subrounded mudstone, siltstone and sandstone lithorelicts.

SPT testing gave N-values of N=30-35, correlating to a very stiff clay.

Five Atterberg test results in the cohesive Halesowen Formation recorded liquid limits of between 22% and 52% (corrected to 21% and 51%), plastic limits of between 17% and 28% (corrected to 13% and 27%) and a plasticity index of between 5% and 24% (corrected to 4% and 24%). The test results indicate that samples from TP1, TP12, TP25 and TP26 in the south of the site are clays of low plasticity and low volume change potential. The sample from TP9 is described as being a low plasticity silt. Results from TP4 in the northwest of the site indicate that the clay is of high plasticity and has a medium volume change potential. The moisture contents were recorded between 9% and 18%, having a very stiff consistency.

4.6 Halesowen Formation - Sandstone

The Halesowen Formation became rock strength sandstone from depths of between 1.8m-2.5m bgl. Within the boreholes it was described as extremely weak sandstone recovered as silty sand. Within the trial pits it was recovered as a sandy gravel with frequent cobbles of angular to rounded sandstone. The gravel was described as fine to coarse angular sandstone and siltstone.

The stratum is interpreted as being a highly weathered sandstone with siltstone bands. Below the depth to which the exploratory holes could penetrate, i.e. below 1.9m-2.9m bgl, the grade is likely to be moderately to slightly weathered.

SPT N-values for the extremely weathered sandstone were all N>50, classifying the Sandstone as rock.

Six particle size distribution tests were carried out on disturbed samples of the Halesowen Formation Sandstone. These gave proportions of between 0% and 27% cobbles, between 25% and 60% gravel, between 13% and 54% sand and between 6% and 21% silt and clay. The typical proportions were 12% cobbles, 44% gravel, 32% sand and 12% silt and clay, indicating the excavated material is slightly sandy clayey/silty gravel with a medium cobble content.

4.7 Groundwater and Ground Gas Monitoring

Groundwater strikes were encountered in TP11 and TP27 towards the southern boundary of the site, to depths of 1.9m and 2.0m bgl respectively within the granular weathered Halesowen Formation. During ground monitoring water levels were recorded up to 0.88m in CP7 and 2.61m bgl in CP1, both in the south of the site. CP4 and CP6 in the north of the site remained dry.

Ground gas monitoring has been carried out on four occasions between 29th September and 21st October 2020. Ground gas readings have recorded methane volumes as less than detection, carbon dioxide between 0.2% and 1.9% and oxygen levels at near atmospheric levels between 19.3% and 20.7%. Gas flow has been recorded at between 0l/h and 0.1l/h. Based on the highest flow rate and carbon dioxide readings the site has a gas screening value of 0.0019 l/hr.

5 Geo-environmental Assessment

The site is proposed to be developed for a logistics end-use. Therefore, the results of the chemical testing carried out by Applied Geology Ltd have been assessed against criteria assuming a proposed land use scenario being commercial/ industrial and a 1% soil organic matter. Results from the laboratory chemical testing are included in Appendix C.

5.1 Human Health Risk Assessment

In total, twenty-three samples of Topsoil and six samples of the Halesowen Formation were analysed for a suite of contaminants. The results of chemical testing on all twenty-nine samples within the Topsoil and Halesowen Formation, showed no exceedances in screening values for metals, Polycyclic Aromatic Hydrocarbons (PAHs), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and Total Petroleum Hydrocarbons (TPHs).

Recorded concentration levels of TPHs, BTEX and PAHs were all below detection levels within all sample locations, except low concentrations of PAH in the Topsoil at TP11 in the very southwest of the site.

No asbestos was recorded within all twenty-nine samples on site.

There is negligible risk to human health receptors.

5.2 Controlled Waters Risk Assessment

Based on the recorded contaminant concentrations described in Section 5.1 and the proposals for the site to comprise widely of hard standing, it is considered that the site presents a negligible risk to any surrounding controlled waters.

5.3 Soil Waste

Results from the chemical analysis of soil samples on site indicate that the Topsoil and Halesowen granular material would be suitable for re-use. The Topsoil was typically described as clayey gravelly sand. No sharps or plastic were recorded. The chemical test results of the Topsoil gave organic matter at between 1.5% and 4.1% and a pH between 6.3 and 7.2. Full testing following BS 3882:2015 “Specification for topsoil” should be carried out for any Topsoil that is to be reused off site.

It is not anticipated that soil will be sent for off-site disposal for this development, however, should soils be required to be disposed of, then it would be necessary to determine the waste classification of the material in accordance with current legislation. The chemical results indicate that the Topsoil and Halesowen granular soils are likely to meet inert waste criteria.

6 Geotechnical Assessment

It is understood that the proposal for the site is to be the construction of a commercial development for the logistics end-use. No proposed drawings have been provided. The final loadings and structures to be constructed on site are currently unknown. Earthworks are proposed to level the site, with a maximum cut and fill of 5m.

The general ground conditions across the site comprise of Topsoil to depths of between 0.2m-0.4m bgl, overlying medium to very dense sand with clay bands to depths of 0.4m-2.7m bgl, overlying sandstone to an unknown depth. Groundwater was encountered at depths of between 0.9m and 2.6m bgl towards the south of the site.

6.1 Foundations

It is considered that the likely structural loads could be supported by conventional shallow foundations bearing upon the dense to very dense clayey sand. The estimated bearing capacity for these deposits is approximately 300kN/m^2. The minimum depth of the foundations is recommended to be at 0.75m. In areas where excavations encounter clays at the proposed foundation level, excavations should be extended to a minimum depth of 1.0m bgl into stiff clay.

If shallow foundations are not appropriate for the structural loads, then it is recommended that deeper trench fill foundations will be possible, bearing onto the sandstone anticipated at depths of between 1.8m and 2.5m bgl. The estimated bearing capacity for the sandstone is approximately 500kN/m^2.

It is anticipated that some earthworks will be carried out at the site. Where there is fill, the material will be required to be engineered to a high specification to allow the required bearing capacity. The use of other ground improvement techniques or piles should be considered as an alternative.

The ground investigation and results should be reviewed by a geotechnical engineer once the detailed drawings of the proposed structures and development are available.

Groundwater is not expected to be encountered during excavations towards the north of the site, however, groundwater may be encountered at depths from 0.9m bgl towards the southern boundary of the site. From the Ordnance Survey plan the site is at approximately 95m in the southwest where groundwater was encountered and therefore groundwater can be assumed to be encountered from approximately 94m AOD. It is noted that the ground investigation was carried out in dryer months and therefore shallower groundwater may be anticipated during wet weather conditions. In addition, the area to the south of the site is in a lower topographical area to the rest of the site with a high risk of surface water flooding.

6.2 Floor Slabs

It is considered that the medium to very dense granular sand, or very stiff clay of the Halesowen Formation would be a competent bearing stratum for a floor slab in a commercial development. The concrete floor slabs and underlying sub-base should be designed to accommodate the

design loads once known. Any fill material will be required to be appropriately engineered to support floor slabs.

The gas monitoring has indicated the site is characteristic situation 1 and no radon risk has been identified. Therefore, no ground gas protection measures are considered necessary at the site.

6.3 Earthworks

It is anticipated that earthworks will be required at the site. It is anticipated that the **completely weathered** Halesowen Formation would be suitable for re-use as general fill within the development using conventional earthmoving and compaction techniques.

Compaction tests within the granular Halesowen Formation give optimum moisture contents at 11% and 12%. Moisture contents of the cohesive Halesowen Formation were typically between 9% and 12%, with one at 18%, generally dry of plastic limit. This suggests that the granular Halesowen Soils are likely to be acceptable as a Class 1A general fill. The cohesive soils are likely to be acceptable as Class 2B dry cohesive general fill. It is recommended that further compaction testing and possibly earthworks trials are carried out to assess the acceptability and classification of the soils to be reused in more detail.

Trial pit records from the ground investigation show that groundwater can be expected towards the south of the site to depths of 0.9m and 2.6m bgl. If the development proposals require excavation to depths of greater than 1m bgl in the south or perched groundwater is encountered in the coarse-grained strata, it will be necessary to adopt a dewatering technique. In addition, the groundwater level in the north of the site is unknown and should be confirmed not to be within the range of any proposed cut depth.

6.4 Pavement Design

The access road and subgrade bearing paved areas is likely to consist of medium to very dense clayey sand or firm to stiff sandy clay. A preliminary design CBR value of 5% is recommended for the cohesive deposits, and 20% for the granular deposits. In-situ testing should be undertaken during construction to confirm that the design values adopted have been achieved.

6.5 Soakaway Design

Soakaway testing at the site was not conducted during the ground investigation. Should soakaways be adopted as part of the proposal, it is considered that the slightly gravelly silty/clayey sands may be suitable for the adoption of soakaway drainage. Based on BS8004, a fine sand with silt and clay laminae typically has a permeability range of between $1x10^{-4.5}$ and $1x10^{-6.5}$m/s which is within the lower range of good to poor permeability.

6.6 Concrete Classification

The results from the chemical analysis on samples indicate the site has a concrete design designation of DS-1 and an Aggressive Chemical Environment for Concrete of AC-1 according to BRE Special Digest 1:2005 Design Sulphate Class. Therefore, no special precautions are considered necessary for the site. A summary of the characteristic values and design class for each stratum is presented below in Table 3.

Table 3: Characteristic Values for Assessing the Design of Concrete

Strata	Sulphate – 2:1 water soluble (mg/l)	Total Potential Sulphate (%)	pH	Design Sulphate Class	ACEC Class
Halesowen Formation	50	0.03	5.3	DS-1	AC-1

7 Conclusions and Recommendations

- Topsoil was encountered up to 0.4m bgl, overlying the Halesowen Formation. The Halesowen Formation was weathered to a sand or clay, becoming rock strength sandstone from 1.8m and 2.5m bgl.
- Groundwater was encountered towards the south of the site from 0.9m. A surface water flooding risk was also identified in south of the site from the desk study data. Groundwater level should be confirmed in the north of the site to the depth of the proposed cut levels.
- The geo-environmental assessment of the site found that all samples of Topsoil and Halesowen Formation recorded contaminant concentrations well below their relevant screening criteria.
- The site is characterised as characteristic situation 1, where no ground gas protection measures are considered necessary for the site.
- It is considered that the Halesowen Formation would be a suitable bearing stratum for shallow foundations.
- An allowable bearing capacity of 500kN/m^2 is considered appropriate for the sandstone, assuming a foundation width of 1m.
- Where there is fill, the material will be required to be engineered to a high specification to allow the required bearing capacity.
- A design CBR value of 5% is considered appropriate for the cohesive deposits and 20% for the granular deposits.
- Based on the results from the BRE SD-1 Suite testing, it is considered the site has a concrete classification of Design Sulphate Class DS-1 and an Aggressive Chemical Environment for Concrete as AC-1. Therefore, no special precautions are necessary at the site.

8 References

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- Guidance within Waste Sampling and Testing for Disposal to Landfill. Environment Agency. 2013.
- The LQM/CIEH S4ULS for Human Health Risk Assessment. Land Quality Press. 2015.
- SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document. DEFRA. December 2014.
- United Kingdom Water Industry Research (UKWIR) Report 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' 2011. Waste (England and Wales) Regulations. 2014.

Appendix A

Drawings and Plots

Notes:

Please note Title Plans have been scaled using Ordnance Survey features which may have altered over time. Complete accuracy cannot be guaranteed without further on-site survey.

Any dimensions given are to be confirmed with site measure.

NB.

- **SUBJECT TO SURVEYS, CONSTRAINTS & PLANNING.**
- **RED LINE BLUE LINE INDICATIVE ONLY.**

0m 20m 40m 60m 80m 100m

North

RED LINE BOUNDARY
80.63 acres / 32.36 Ha

OTHER LAND UNDER THE CONTROL OF THE APPLICANT
102.97 acres / 41.67 Ha

Rev	Revision Description	Date	Author/ Reviewer
P3	Boundaries updated to client comments	15.10.20	MM/NH
P2	Blue line revised.	12.08.20	MB/NH
P1	First Issue	11.08.20	MB/NH

PRELIMINARY

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Project
LAND WEST OF J10, M42

Client
HODGETTS ESTATES

Drawing Title
RED AND BLUE LINE PLAN

Scale	Size	Drawn	Checked	Date
1:2000	A1	MB	NH	11/08/2020

Project	Originator	Zone	Level	Type	Role	Number	Rev.
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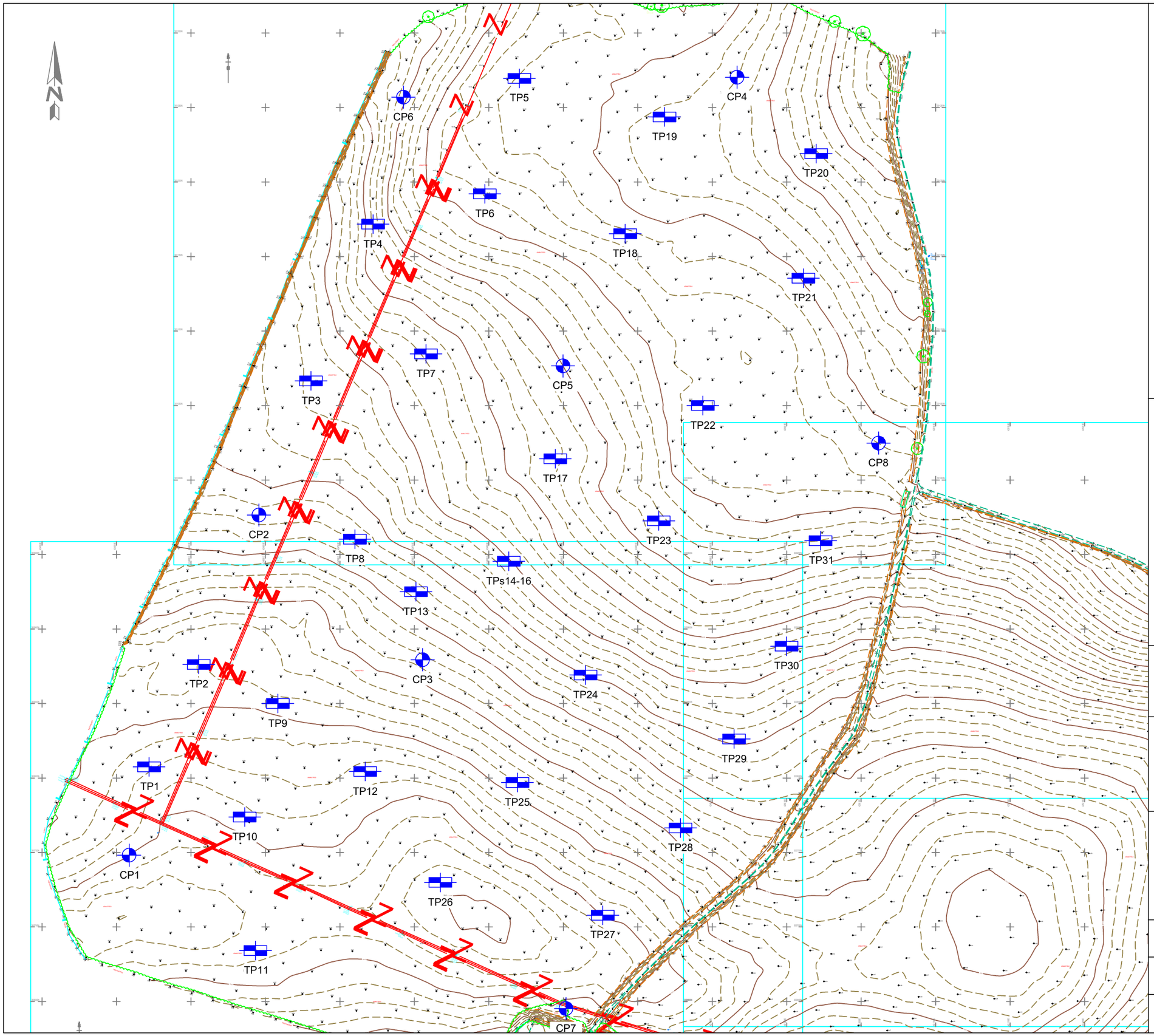

KEY:

TP1 — Trial Pit

CP1 — Cable Percussion Borehole

Drawing based on Malcolm Hughes drawing No: 56080_01_01 dated 01/09/2020.

APPLiED GEOLOGY

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Client: GROUND AND PROJECT CONSULTANTS

Project: TAMWORTH

Title: EXPLORATORY HOLE LOCATION PLAN

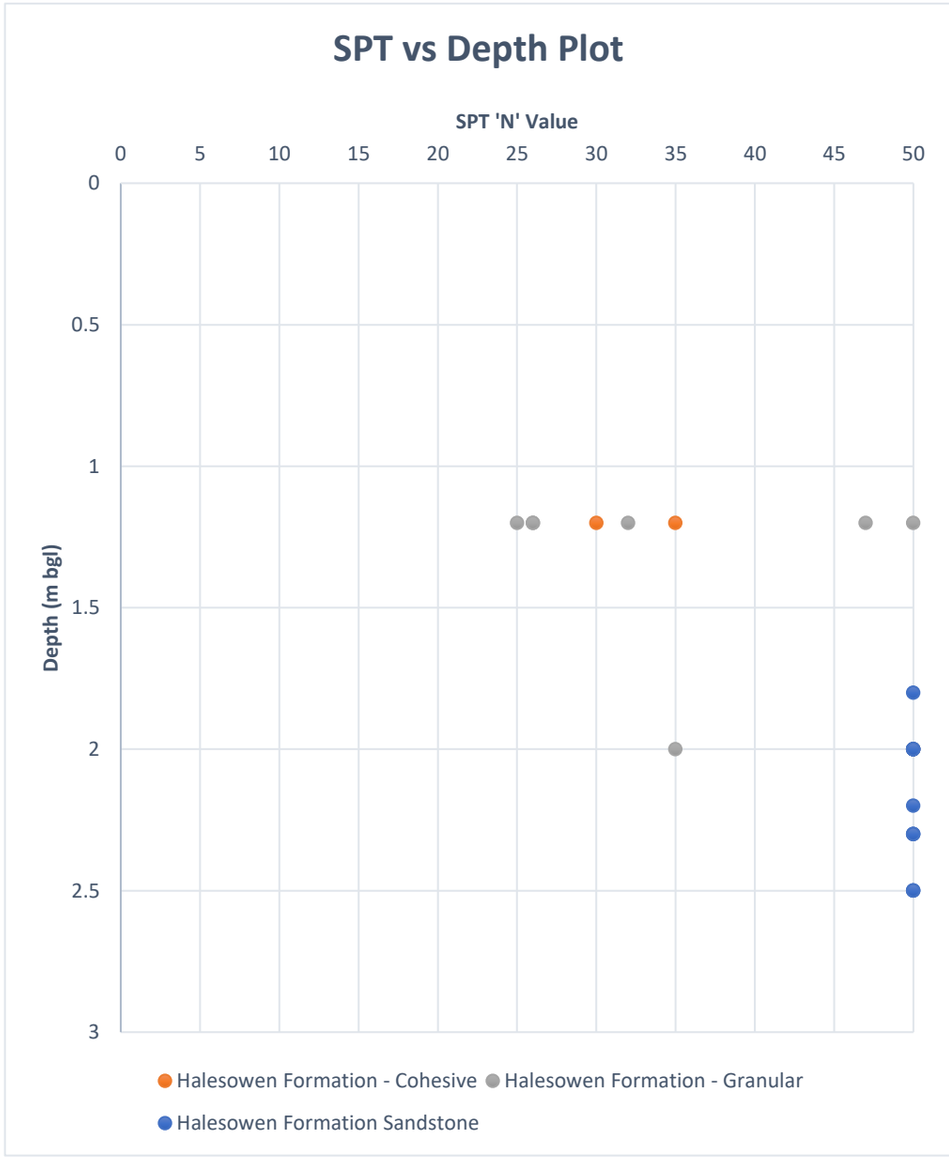
Drawn By:	Checked By:	Paper Size:
FD	CS	A3

Scale:	Date:
1:2500	13.10.2020

Drawing No:	Revision:
AG3185-20-02	0

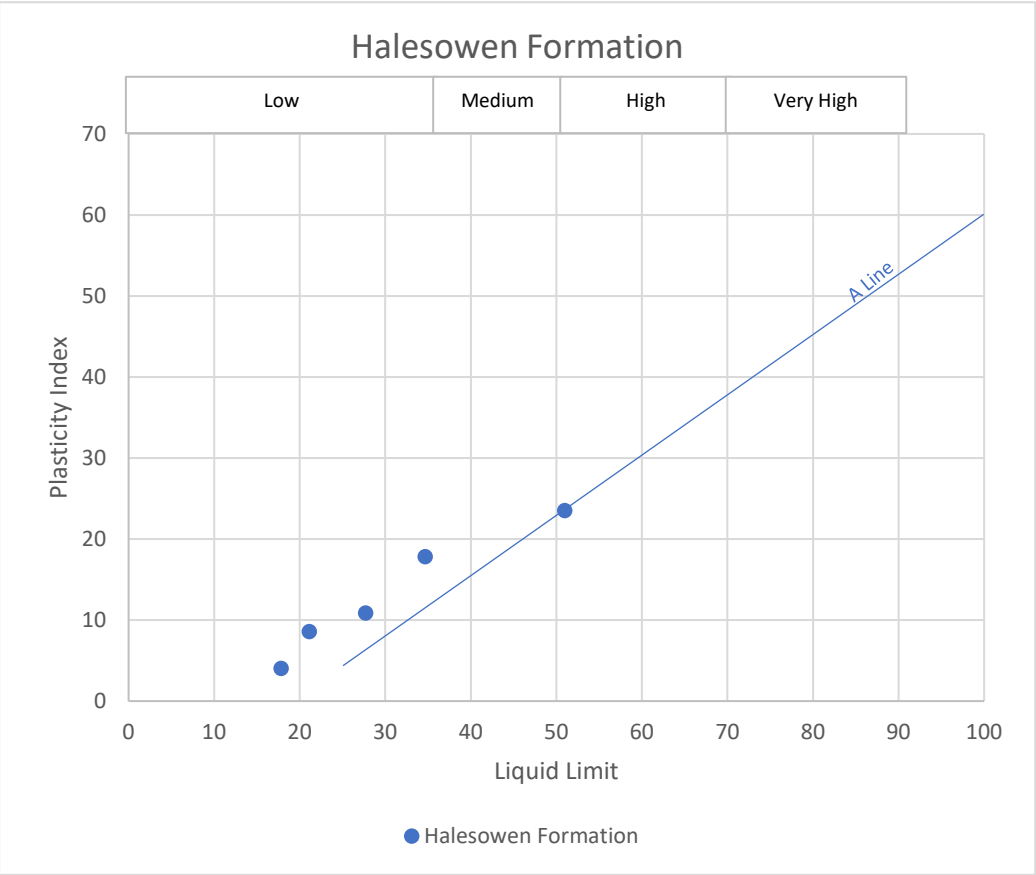
Ground and Project CONSULTANTS LTD

Project:	Jn 10 M42		
Project No.	70530		
Calc Title:	SPT vs Depth Plot		
Date:	22 October 2020	**Rev**	0



Ground and Project CONSULTANTS LTD

Project:	Jn 10 M42		
Project No.	70530		
Calc Title:	Plasticity Chart - corrected		
Date:	04 November 2020	**Rev**	0



Ground and Project CONSULTANTS LTD

Project:	Jn 10 M42		
Project No.	70530		
Calc Title:	Chemical test results against screening values		
Date:	22 October 2020	**Rev**	1

	Location Reference		TP14	TP15	TP16	TP17	TP27	TP27	TP1	TP4	TP3	TP4	TP5	TP7	TP2	TP10	TP11	Residential with Plant Uptake	Residential without Plant Uptake	Allotments	Commercial / Industrial	Public Open Space (Residential)	Public Open Space (Parks)
	Depth (m bgl)		0.20	0.20	0.20	0.20	0.20	1.00	0.20	0.80	0.20	0.20	0.20	0.20	0.80	0.20	0.20						
	Stratum		Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Halesown Formation	Topsoil	Halesowen Formation	Topsoil	Topsoil	Topsoil	Topsoil	Halesown Formation	Topsoil	Topsoil						
	Determinand	**Units**																					
	Organic Matter (%)	%	2.3	4.1	1.8	1.9	2.4	< 0.1	2.3	0.3	1.8	1.5	1.7	1.7	< 0.1	1.8	2.3						
Metalloids	Arsenic	mg/kg	7.1	7.8	6.9	7.4	5.5	4.3	6.7	6.1	6.3	5.9	6.6	7.3	3.1	8.5	8.7	37	40	43	640	79	170
	Beryllium	mg/kg	0.78	0.86	0.8	0.86	0.93	0.71	0.91	0.68	0.8	0.67	0.78	0.84	0.86	0.78	1.1	1.7	1.7	35	12	2.2	63
	Boron	mg/kg	5.9	4.9	4.3	4.8	5.1	4.6	4.8	2.8	4.9	3.4	4.3	4.4	1.8	3.3	3.8	290	11000	45	240000	21000	46000
	Cadmium	mg/kg	0.3	0.3	0.2	0.3	0.3	< 0.2	0.3	0.2	0.4	0.2	0.3	0.3	0.3	0.3	0.4	11	85	1.9	190	120	532
	Chromium VI	mg/kg	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	6	6	1.8	33	7.7	220
	Chromium III	mg/kg	21	34	56	23	27	16	25	20	25	21	22	23	21	25	29	910	910	18000	8600	1500	33000
	Chromium (total)	mg/kg	21	36	57	25	28	16	28	20	27	22	23	24	21	27	30						
	Copper	mg/kg	19	16	11	13	12	9.6	11	4.6	9.8	9.1	12	11	6.7	7.8	13	2400	7100	520	68000	12000	44000
	Lead	mg/kg	38	40	32	27	24	8.6	34	40	38	31	29	32	84	37	51	200	310	80	2330	630	1300
	Mercury (total)	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	1.2	1.2	2.1	58	16	30
	Nickel	mg/kg	19	21	21	22	23	17	20	25	22	20	22	22	27	21	22	180	180	230	980	230	3400
	Selenium	mg/kg	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	250	430	88	12000	1100	1800
	Vanadium	mg/kg	28	30	29	31	35	22	38	21	35	28	31	32	22	34	43	410	1200	91	9000	2000	5000
	Zinc	mg/kg	89	81	71	72	71	30	71	68	91	72	69	73	120	67	83	3700	40000	620	730000	81000	170000
Polycyclic Aromatic Hydrocarbons (PAH) Congeners	Naphthalene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.3	2.3	4.1	190	4900	1200
	Acenaphthylene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	210	3000	34	84000	15000	29000
	Acenaphthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	170	2900	28	83000	15000	29000
	Fluorene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	170	2800	27	63000	9900	20000
	Phenanthrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	95	1300	15	22000	3100	62000
	Anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2400	31000	380	520000	74000	150000
	Fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.44	280	1500	52	23000	3100	6300
	Pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.46	620	3700	110	54000	7400	15000
	Benzo[a]anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.26	7.2	11	2.9	170	29	49
	Chrysene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.29	15	30	4.1	350	57	93
	Benzo[b]fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.6	3.9	0.99	44	7.1	13
	Benzo[k]fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	77	110	37	1200	190	370
	Benzo[a]pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.2	3.2	0.97	35	5.7	11
	Indeno[1,2,3-cd]pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	27	45	9.5	500	82	150
	Dibenzo[a,h]anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.24	0.31	0.14	3.5	0.57	1.1
	Benzo[g,h,i]perylene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	320	360	290	3900	640	1400
	C4SL BaP surrogate marker	*mg/kg*																*5*	*5.3*	*5.7*	*77*	*10*	*21*
	Phenols	mg/kg																280	750	66	760	760	760
BTEX	Benzene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.087	0.38	0.017	27	72	90
	Toluene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	130	880	22	56000	56000	870000
	Ethylbenzene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	47	83	16	5700	24000	17000
	m&p Xylene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	56	79	29	5900	41000	17000
	o-Xylene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	60	88	28	6600	41000	17000
Petroleum Hydrocarbon Fractions	Aliphatic EC >C5-C6	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	42	42	730	3200	570000	95000
	Aliphatic EC >C6-C8	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	100	100	2300	7800	600000	150000
	Aliphatic EC >C8-C10	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	27	27	320	2000	13000	14000
	Aliphatic EC >C10-C12	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	130	130	2200	9700	13000	21000
	Aliphatic EC >C12-C16	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1100	1100	11000	59000	13000	25000
	Aliphatic EC >C16-C21	mg/kg	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	-	-	-	-	-	-
	Aliphatic EC >C21-C35	mg/kg	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	65000	65000	260000	1600000	250000	450000
	Aliphatic EC >C35-C44	mg/kg	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	65000	65000	260000	1600000	250000	450000
	Total Aliphatic Hydrocarbons	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10						
	Aromatic EC >C5-C7 (benzene)	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	70	370	13	26000	56000	76000
	Aromatic EC >C7-C8 (toluene)	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	130	860	22	56000	56000	87000
	Aromatic EC >C8-C10	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	34	47	8.6	3500	5000	7200
	Aromatic EC >C10-C12	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	74	250	13	16000	5000	9200
	Aromatic EC >C12-C16	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	140	1800	23	36000	5100	10000
	Aromatic EC >C16-C21	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	260	1900	46	28000	3800	7600
	Aromatic EC >C21-C35	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	1100	1900	370	28000	3800	7800
	Aromatic EC >C35-C44	mg/kg	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	1100	1900	370	28000	3800	7800
	Total Aromatic Hydrocarbons	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10						

from LQM / CIEH Suitable 4 Use Levels (S4ULs), 2015, as an initial screen to

Public Health England recommends the use of a surrogate marker approach for C4SL has been used for lead since there is no S4UL

Ground and Project CONSULTANTS LTD

Project:	Jn 10 M42		
Project No.	70530		
Calc Title:	Chemical test results against screening values		
Date:	22 October 2020	**Rev**	1

	Location Reference		TP12	TP13	TP18	TP16	TP20	TP21	TP21	TP23	TP24	TP14	TP26	TP28	TP30	TP31	**Residential with Plant Uptake**	**Residential without Plant Uptake**	**Allotments**	**Commercial / Industrial**	**Public Open Space (Residential)**	**Public Open Space (Parks)**
	Depth (m bgl)		0.20	0.20	0.20	0.60	0.20	0.20	0.80	0.20	0.20	0.50	0.20	0.20	0.20	0.20						
	Stratum		Topsoil	Topsoil	Topsoil	Halesown Formation	Topsoil	Topsoil	Halesown Formation	Topsoil	Topsoil	Halesown Formation	Topsoil	Topsoil	Topsoil	Topsoil						
	Determinand	**Units**																				
	Organic Matter (%)	%	2	1.7	1.7	0.2	1.9	2	0.2	1.9	1.9	1.1	2.6	1.9	1.6	1.7						
Metalloids	Arsenic	mg/kg	7.1	6.5	6.8	3	6.4	6.9	3.6	6.2	5.8	4.3	8	5.8	6.8	7.2	37	40	43	640	79	170
	Beryllium	mg/kg	0.97	0.8	0.77	0.83	0.82	0.86	0.87	0.82	0.82	0.72	1.2	0.85	0.93	0.99	1.7	1.7	35	12	2.2	63
	Boron	mg/kg	3.4	3.2	2.2	2	3.4	3.6	2	3.3	3.9	3.6	5.5	4.3	4.2	4.6	290	11000	45	240000	21000	46000
	Cadmium	mg/kg	0.4	0.3	0.3	< 0.2	0.3	0.4	< 0.2	0.3	0.3	< 0.2	0.4	0.3	0.3	0.3	11	85	1.9	190	120	532
	Chromium VI	mg/kg	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	6	6	1.8	33	7.7	220
	Chromium III	mg/kg	27	24	24	22	24	23	22	23	25	21	35	26	27	27	910	910	18000	8600	1500	33000
	Chromium (total)	mg/kg	28	25	24	22	26	25	22	25	26	23	37	27	27	28						
	Copper	mg/kg	11	10	13	6	16	14	7.2	12	12	7.3	13	12	13	12	2400	7100	520	68000	12000	44000
	Lead	mg/kg	54	31	26	12	23	26	5.1	21	21	21	48	20	19	23	200	310	80	2330	630	1300
	Mercury (total)	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	1.2	1.2	2.1	58	16	30
	Nickel	mg/kg	18	21	20	26	21	22	27	20	21	22	26	20	24	24	180	180	230	980	230	3400
	Selenium	mg/kg	< 1.0	< 1.0	1	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	1.1	250	430	88	12000	1100	1800
	Vanadium	mg/kg	38	36	34	20	34	33	22	32	34	24	49	35	35	37	410	1200	91	9000	2000	5000
	Zinc	mg/kg	81	71	66	47	69	72	46	66	70	59	100	68	68	74	3700	40000	620	730000	81000	170000
Polycyclic Aromatic Hydrocarbons (PAH) Congeners	Naphthalene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.3	2.3	4.1	190	4900	1200
	Acenaphthylene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	210	3000	34	84000	15000	29000
	Acenaphthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	170	2900	28	83000	15000	29000
	Fluorene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	170	2800	27	63000	9900	20000
	Phenanthrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	95	1300	15	22000	3100	62000
	Anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2400	31000	380	520000	74000	150000
	Fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	280	1500	52	23000	3100	6300
	Pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	620	3700	110	54000	7400	15000
	Benzo[a]anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	7.2	11	2.9	170	29	49
	Chrysene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	15	30	4.1	350	57	93
	Benzo[b]fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.6	3.9	0.99	44	7.1	13
	Benzo[k]fluoranthene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	77	110	37	1200	190	370
	Benzo[a]pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.2	3.2	0.97	35	5.7	11
	Indeno[1,2,3-cd]pyrene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	27	45	9.5	500	82	150
	Dibenzo[a,h]anthracene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.24	0.31	0.14	3.5	0.57	1.1
	Benzo[g,h,i]perylene	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	320	360	290	3900	640	1400
	C4SL BaP surrogate marker	*mg/kg*															*5*	*5.3*	*5.7*	*77*	*10*	*21*
	Phenols	mg/kg															280	750	66	760	760	760
BTEX	Benzene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.087	0.38	0.017	27	72	90
	Toluene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	130	880	22	56000	56000	870000
	Ethylbenzene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	47	83	16	5700	24000	17000
	m&p Xylene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	56	79	29	5900	41000	17000
	o-Xylene	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	60	88	28	6600	41000	17000
Petroleum Hydrocarbon Fractions	Aliphatic EC >C5-C6	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	42	42	730	3200	570000	95000
	Aliphatic EC >C6-C8	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	100	100	2300	7800	600000	150000
	Aliphatic EC >C8-C10	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	27	27	320	2000	13000	14000
	Aliphatic EC >C10-C12	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	130	130	2200	9700	13000	21000
	Aliphatic EC >C12-C16	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	1100	1100	11000	59000	13000	25000
	Aliphatic EC >C16-C21	mg/kg	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	-	-	-	-	-	-
	Aliphatic EC >C21-C35	mg/kg	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	65000	65000	260000	1600000	250000	450000
	Aliphatic EC >C35-C44	mg/kg	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	65000	65000	260000	1600000	250000	450000
	Total Aliphatic Hydrocarbons	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10						
	Aromatic EC >C5-C7 (benzene)	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	70	370	13	26000	56000	76000
	Aromatic EC >C7-C8 (toluene)	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	130	860	22	56000	56000	87000
	Aromatic EC >C8-C10	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	34	47	8.6	3500	5000	7200
	Aromatic EC >C10-C12	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	74	250	13	16000	5000	9200
	Aromatic EC >C12-C16	mg/kg	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	140	1800	23	36000	5100	10000
	Aromatic EC >C16-C21	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	260	1900	46	28000	3800	7600
	Aromatic EC >C21-C35	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	1100	1900	370	28000	3800	7800
	Aromatic EC >C35-C44	mg/kg	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4	1100	1900	370	28000	3800	7800
	Total Aromatic Hydrocarbons	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10						

from LQM / CIEH Suitable 4 Use Levels (S4ULs), 2015, as an initial screen to

Public Health England recommends the use of a surrogate marker approach for C4SL has been used for lead since there is no S4UL

Appendix B
Utility Drawings

Enquiry Confirmation

LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

Enquirer

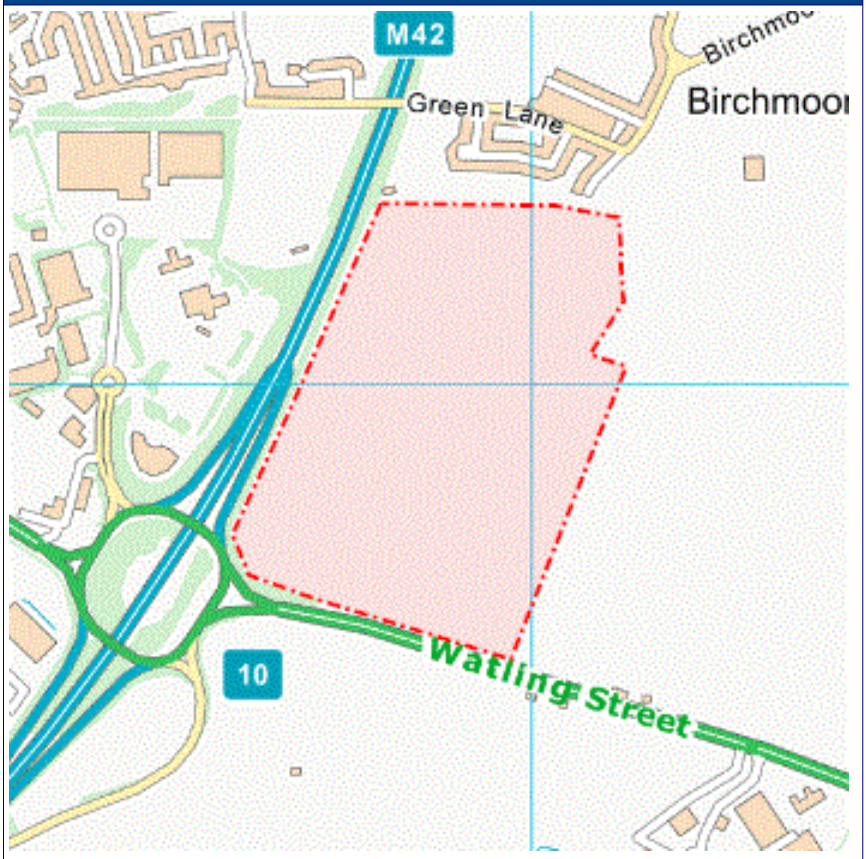
Name	Miss Janice Sheldon	Phone	[redacted]
Company	Applied Geology Ltd	Mobile	Not Supplied
Address	Unit 23 Abbey Park, Stareton Kenilworth Warwickshire CV8 2LY		
Email	[redacted]		

Enquiry Details

Scheme/Reference	AG3185-20		
Enquiry type	Planned Works	Work category	Development Projects
Start date	14/09/2020	Work type	Commercial/industrial
End date	30/11/2020	Site size	341146 metres square
Searched location	XY= 424850, 300921	Work type buffer*	75 metres
Confirmed location	424827 300883		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works			

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

Site Map



Enquiry Confirmation

LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.linesearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Notes. Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LinesearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. LSBUD Members who have assets registered within your search area. ("Affected")
   a. These LSBUD Members will either:
      i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.

      ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.

2. LSBUD Members who do not have assets registered within your search area. ("Not Affected")

3. Non LSBUD Members who may have assets within your search area. Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 7 bar asset, all National Grid Electricity Transmission assets and National Grid's Gas Distribution Limited above 2 bar asset.

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com

Enquiry Confirmation

LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members			
Asset Owner	**Phone/Email**	**Emergency Only**	**Status**
ESP Utilities Group	01372227560	01372227560	Await response
Mainline Pipelines Limited	08454378293 mainlinepipelines@fishergerman.co.uk	08007560804	Email Additional Info
National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	0800688588 plantprotection@cadentgas.com	Gas 0800111999 Electricity 0800404090	Email Additional Info
Western Power Distribution	08000963080	08006783105	Await response

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

List of not affected LSBUD members		
AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
BP Exploration Operating Company Limited	BPA	Carrington Gas Pipeline
CATS Pipeline c/o Wood Group PSN	Cemex	Centrica Storage Ltd
Chrysaor Production (UK) Limited	CLH Pipeline System Ltd	CNG Services Ltd
Concept Solutions People Ltd	ConocoPhillips (UK) Teesside Operator Ltd	Diamond Transmission Corporation
DIO (MOD Abandoned Pipelines)	Drax Group	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESSAR
Esso Petroleum Company Limited	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Gtt	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Jurassic Fibre Ltd
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Murphy Utility Assets	Northumbrian Water Group
NPower CHP Pipelines	NYnet Ltd	Oikos Storage Limited
Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Portsmouth Water	Premier Transmission Ltd (SNIP)
Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)	RWEnpower (Little Barford and South Haven)
SABIC UK Petrochemicals	Scottish and Southern Electricity Networks	Scottish Power Generation
Seabank Power Ltd	SES Water	SGN
Shell	Shell NOP	SSE (Peterhead Power Station)
SSE Enterprise Telecoms	SSE Generation Ltd	SSE Utility Solutions Limited
Tata Communications (c/o JSM Construction Ltd)	Total (Colnbrook & Colwick Pipelines)	Total Finaline Pipelines

Transmission Capital	UK Power Networks	Uniper UK Ltd
University of Cambridge Granta Backbone Network	Vattenfall	Veolia ES SELCHP Limited
Veolia ES Sheffield Ltd	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Westminster City Council	Zayo Group UK Ltd c/o JSM Group Ltd	

Enquiry Confirmation

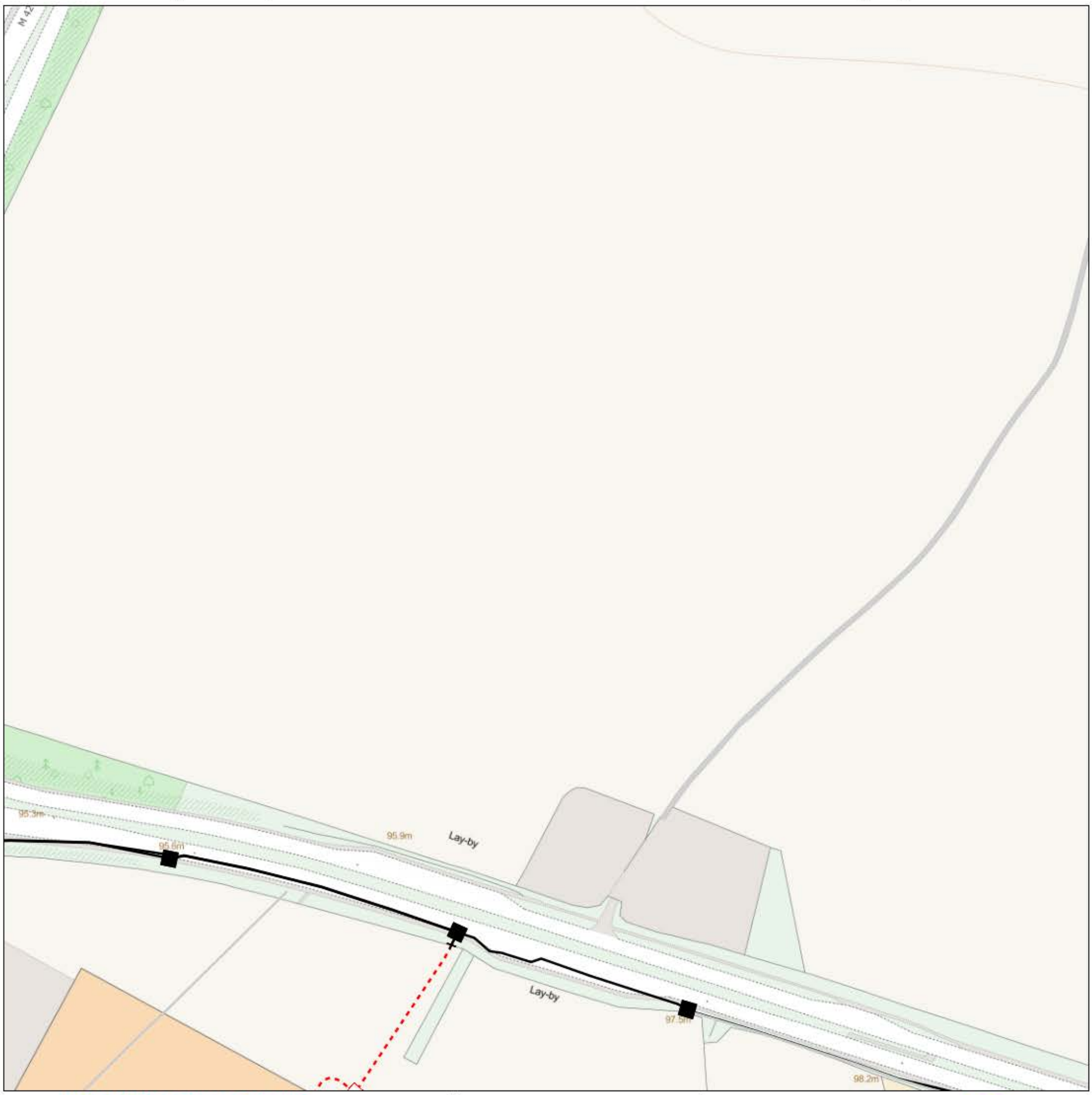
LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

The following Non-LSBUD Members may have assets in your search area. It is YOUR RESPONSIBILITY to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	**Preferred contact method**	**Phone**	**Status**
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08000232023	Not Notified
Cadent Gas	plantprotection@cadentgas.com	0800688588	Not Notified
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@lastmile-uk.com	01698404646	Not Notified
ENGIE	nrswa.uk@engie.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
KPN (c/-Instalcom)	kpn.plantenquiries@instalcom.co.uk	n/a	Not Notified
Mobile Broadband Network Limited	mbnlplantenquiries@turntown.com	01212 621 100	Not Notified
Severn Trent Water	www.stwater.co.uk/building-and-developing/estimators-and-maps/request-a-water-sewer-map	03456016616	Not Notified
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Warwickshire CC (St Lighting)	streetlighting@warwickshire.gov.uk	01926736573	Not Notified
Warwickshire CC (Traffic Signals)	signals@warwickshire.gov.uk	01926412810	Not Notified

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

Accidents happen

If you do damage any Openreach equipment please let us know by calling 0800 023 2023 (opt 1 + opt 1) and we can get it fixed ASAP

KEY TO BT SYMBOLS

	Planned	*Live*
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	*In Place*	*Pending Remove*	*Not In Use*
Power Cable				
Power Duct				N/A

BT Ref : DSX02374Y
Map Reference : (centre) SK2481200748
Easting/Northing : (centre) 424812,300748
Issued : 07/09/2020 14:37:53

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply

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KEY TO BT SYMBOLS

	Planned	*Live*
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

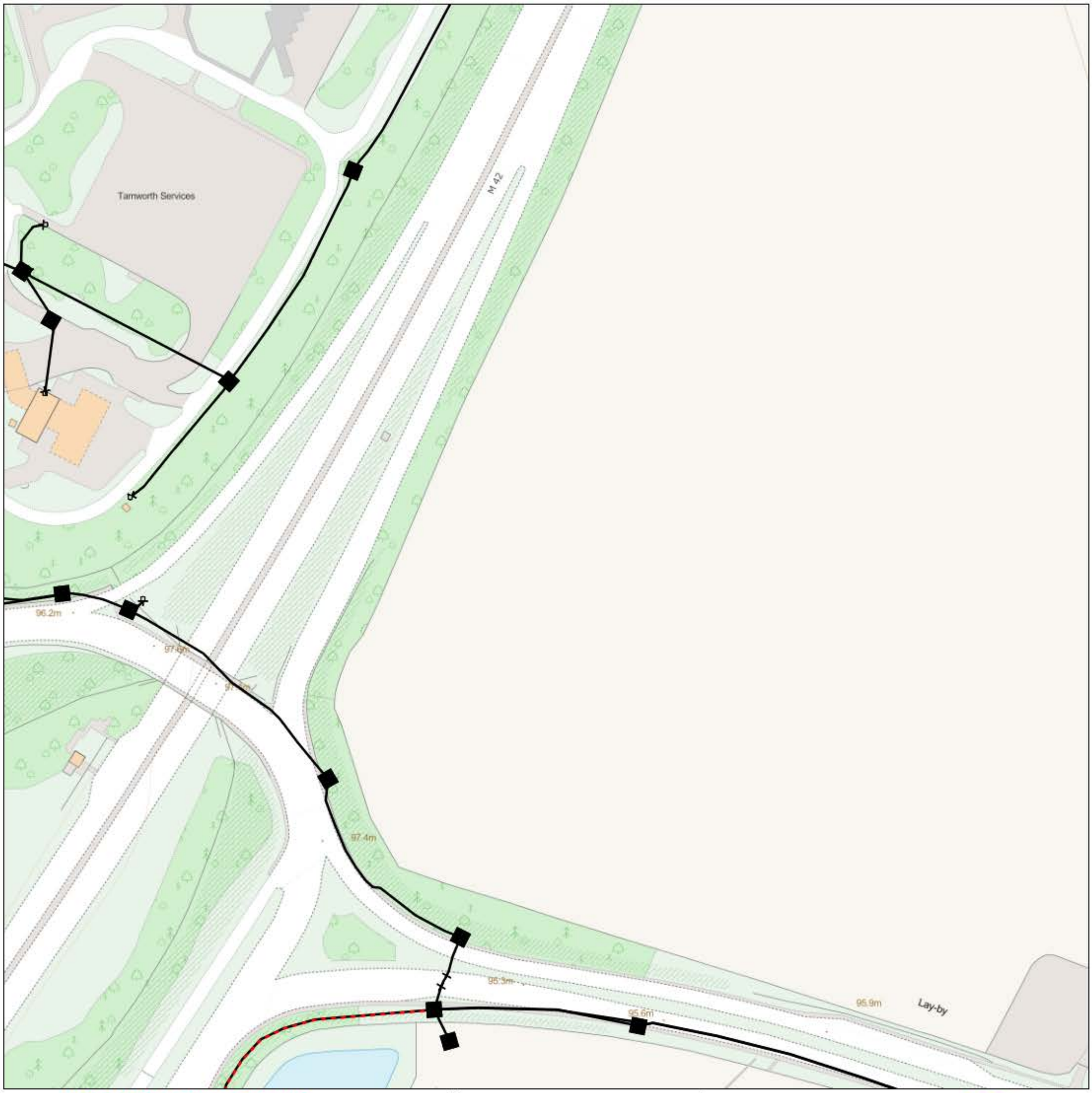
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	*In Place*	*Pending Remove*	*Not In Use*
Power Cable				
Power Duct				N/A

BT Ref : GFK02378K
Map Reference : (centre) SK2488201189
Easting/Northing : (centre) 424882,301189
Issued : 07/09/2020 14:37:06

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



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www.openreach.co.uk/cbyd

Accidents happen

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KEY TO BT SYMBOLS

	Planned	*Live*
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	*In Place*	*Pending Remove*	*Not In Use*
Power Cable				
Power Duct				N/A

BT Ref : LMF02394U
Map Reference : (centre) SK2459600826
Easting/Northing : (centre) 424596,300826
Issued : 07/09/2020 14:40:02

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply

IMPORTANT WARNING

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	Planned	*Live*
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

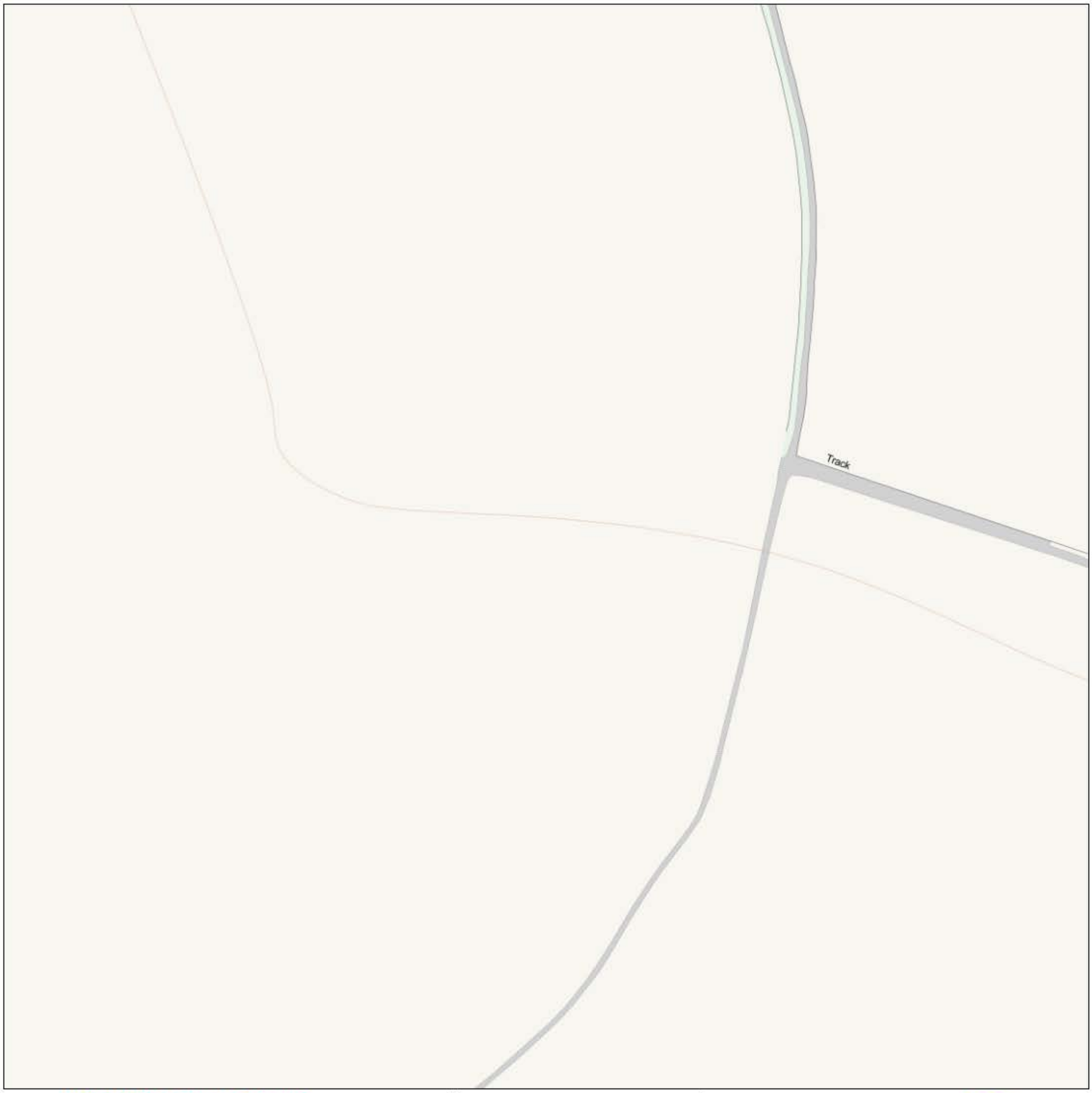
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	*In Place*	*Pending Remove*	*Not In Use*
Power Cable				
Power Duct				N/A

BT Ref : RKT02374Z
Map Reference : (centre) SK2483400998
Easting/Northing : (centre) 424834,300998
Issued : 07/09/2020 14:37:28

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

Accidents happen

If you do damage any Openreach equipment please let us know by calling 0800 023 2023 (opt 1 + opt 1) and we can get it fixed ASAP

KEY TO BT SYMBOLS

	Planned	*Live*
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

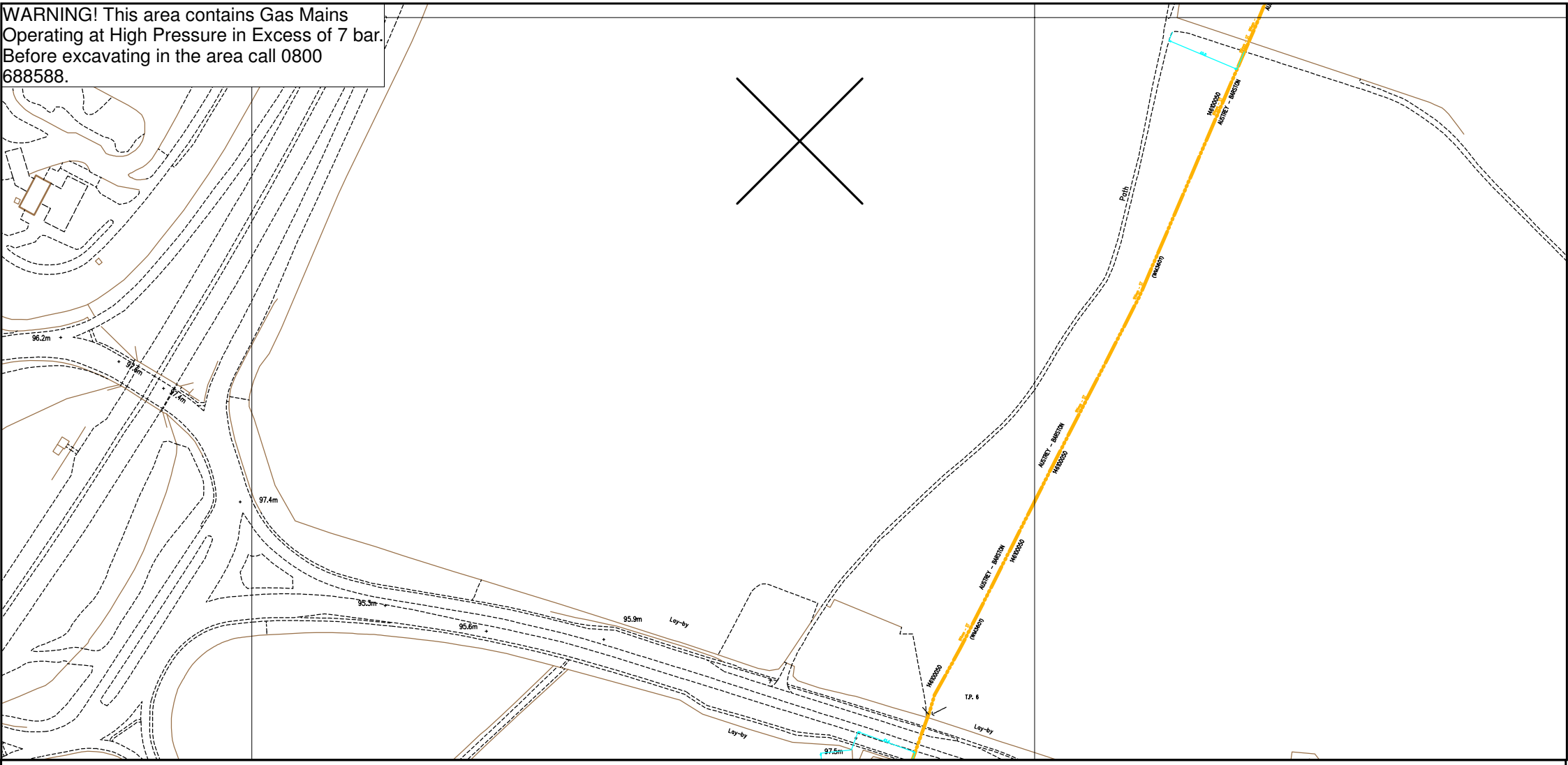
Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	*In Place*	*Pending Remove*	*Not In Use*
Power Cable				
Power Duct				N/A

BT Ref : TYN02407F
Map Reference : (centre) SK2497600958
Easting/Northing : (centre) 424976,300958
Issued : 07/09/2020 14:40:17

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

WARNING! This area contains Gas Mains Operating at High Pressure in Excess of 7 bar. Before excavating in the area call 0800 688588.



SCALE: Not to scale

USER ID: Felicity.Downing

DATE: 07/09/2020

EXTRACT DATE: 10/06/2020

MAP REF: SK2400

CENTRE: 424840, 300767

LP MAINS

MP MAINS

IP MAINS

LHP MAINS

Some examples of Plant Items:

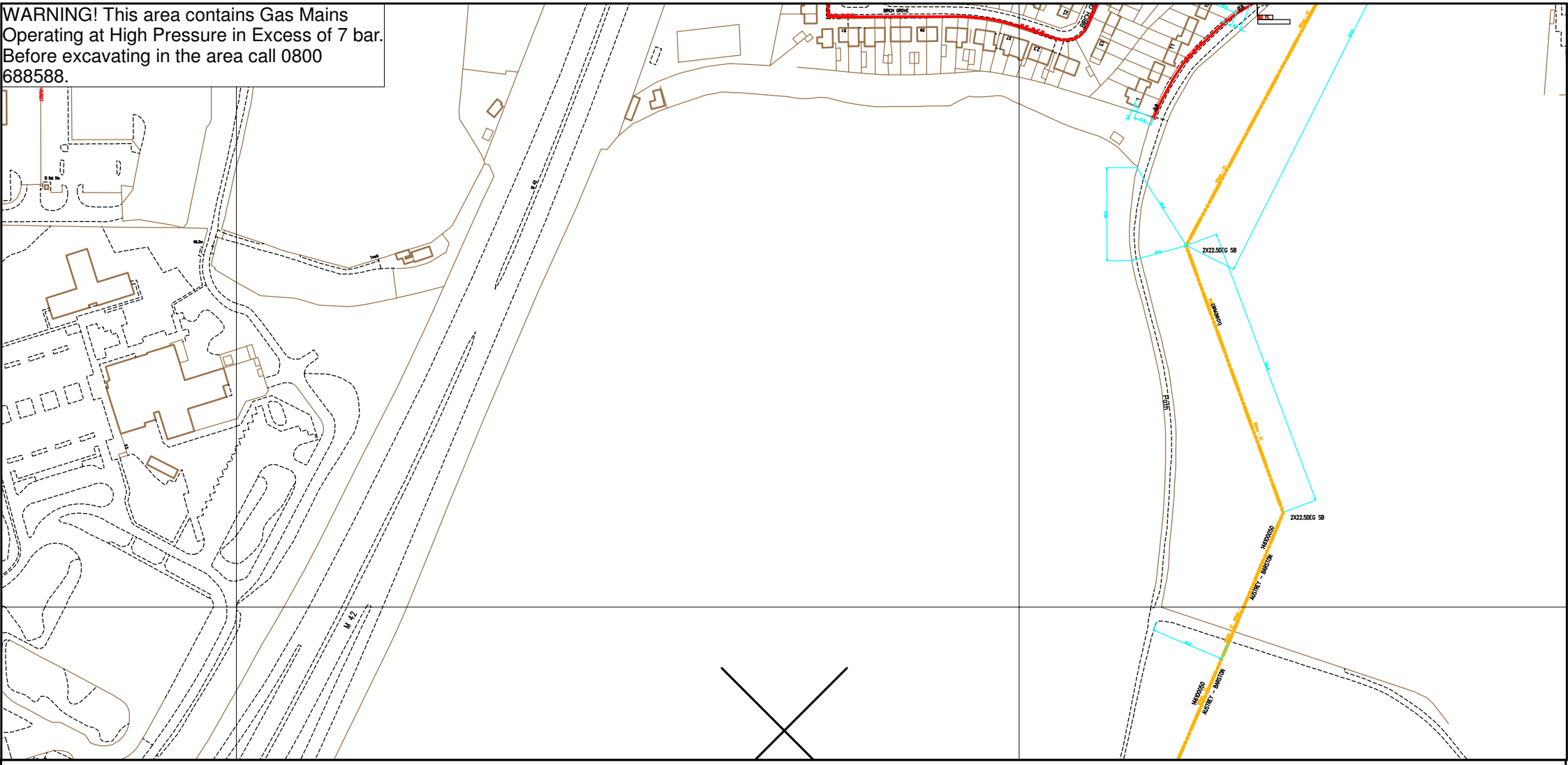
Valve | Depth of Cover | Syphon | Diameter Change | Material Change | Out of Standard Service

This plan shows those pipes owned by Cadent Gas Ltd in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Ltd or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm) A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.

MAPS Viewer Version 5.8.0.1

Local Machine

WARNING! This area contains Gas Mains Operating at High Pressure in Excess of 7 bar. Before excavating in the area call 0800 688588.



SCALE: Not to scale

USER ID: Felicity.Downing

DATE: 07/09/2020

EXTRACT DATE: 10/06/2020

MAP REF: SK2401

CENTRE: 424850, 301144

LP MAINS

MP MAINS

IP MAINS

LHP MAINS

Some examples of Plant Items:

Valve | Depth of Cover | Syphon | Diameter Change | Material Change | Out of Standard Service

This plan shows those pipes owned by Cadent Gas Ltd in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Cadent Gas Ltd or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm) A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.

MAPS Viewer Version 5.8.0.1

Local Machine

Cadent Reference WM_GW2B_3WL_1264971-2 Customer Reference AG3185-20

Tajinder.Bhamra <Tajinder.Bhamra@cadentgas.com>

Tue 9/8/2020 11:14 AM

To: Janice Sheldon <janice.sheldon@appliedgeology.co.uk>

Dear Janice,

We've completed our investigations and confirm we need to carry out a site visit before you start **any** work. The site visit is a critical part in our assessment. This allows us to inspect the area and agree safe working methods whilst working near our pipes.

Please contact us via email or phone to arrange a site visit. 0121 333 2387.

Your work can't proceed until a site visit has been arranged and the works in question have been discussed.

If you need any further information or have any questions about this, please give us a call on 0121 333 2387.

Yours sincerely

Plant Protection Team

Plant Protection
Cadent
Block 1; Floor 1
Brick Kiln Street
Hinckley
LE10 0NA
E-mail: plantprotection@cadentgas.com
Telephone: +44 (0)800 688588

National Gas Emergency Number:
0800 111 999*

National Grid Electricity Emergency Number:
0800 40 40 90*
* Available 24 hours, 7 days/week.
Calls may be recorded and monitored.

www.cadentgas.com

Janice Sheldon
Applied Geology Ltd
Unit 23
Abbey Park
Stareton
Kenilworth
CV8 2LY

Date: 07/09/2020
Our Ref: WM_GW2B_3WL_1264971
Your Ref: LSBUD-200907-19850841
RE: Scheduled Works, Location N/A

Thank you for your enquiry which was received on 07/09/2020.
Please note this response is valid for 28 days.

An assessment has been carried out with respect to Cadent Gas Limited, National Grid Electricity Transmission plc's and National Grid Gas Transmission plc's apparatus. Please note it does not cover the items listed in the section "Your Responsibilities and Obligations", including gas service pipes and related apparatus.
For details of Network areas please see the Cadent website (http://cadentgas.com/Digging-safely/Dial-before-you-dig) or the enclosed documentation.

Your proposal as currently specified **is in proximity to Cadent and/or National Grid apparatus**, which may impact, and possibly prevent, your proposed activities for safety and/or legal reasons.

Please log in to the Cadent self-service Plant Enquiries system (https://www.beforeyoudig.cadentgas.com) to continue with your enquiry. The details from your Linesearch enquiry will already be on the system. Use the search function to find it, and you can base your full enquiry on the same details, while marking up a more precise location.

You must not commence any work until you have complied with all of the guidance provided and been contacted by all teams (if any) listed in the response to your full enquiry.

Your Responsibilities and Obligations

It is your responsibility to ensure that the information you have submitted is accurate and that all relevant documents including links are provided to all persons (either direct labour or contractors) working for you near Cadent and/or National Grid's apparatus, e.g. as contained within the Construction (Design and Management) Regulations.

This assessment solely relates to Cadent Gas Limited, National Grid Electricity Transmission plc (NGET) and National Grid Gas Transmission plc (NGGT) and apparatus. This assessment does **NOT** include:

- Cadent and/or National Grid's legal interest (easements or wayleaves) in the land which restricts activity in proximity to Cadent and/or National Grid's assets in private land. You must obtain details of any such restrictions from the landowner in the first instance and if in doubt contact Plant Protection.
- Gas service pipes and related apparatus
- Recently installed apparatus
- Apparatus owned by other organisations, e.g. other gas distribution operators, local electricity companies, other utilities, etc.

It is **YOUR** responsibility to take into account whether the items listed above may be present and if they could be affected by your proposed activities. Further "Essential Guidance" in respect of these items can be found on either the National Grid or Cadent website.

This communication does not constitute any formal agreement or consent for any proposed development work; either generally or with regard to Cadent and/or National Grid's easements or wayleaves nor any planning or building regulations applications.

Cadent Gas Limited, NGGT and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements.

If you require further assistance please contact the Plant Protection team via e-mail (click here) or via the contact details at the top of this response.

Yours faithfully

Plant Protection Team

ENQUIRY SUMMARY

Received Date
07/09/2020

Your Reference
LSBUD-200907-19850841

Location
Centre Point: 424827, 300925
X Extent: 656
Y Extent: 758

Map Options
Paper Size: A3
Orientation: PORTRAIT
Requested Scale: 2500
Actual Scale: N/A
Real World Extents: N/A

Start Date
14/09/2020

[redacted]

Enquirer Details
Organisation Name: Applied Geology Ltd
Contact Name: Janice Sheldon
Address: Unit 23,Abbey Park, Stareton,Kenilworth,CV8 2LY

Description of Works
Development Projects

Enquiry Type
Scheduled Works

Activity Type
Development Project

Work Types
Work Type: Piling (Vibration)

Our Ref: MLP//LSBUD-200907-19850841
Your Ref: AG3185-20

Date: 08-09-2020

For the attention of Miss Janice Sheldon
Applied Geology Ltd
Abbey Park
Stareton
Kenilworth
Warwickshire
CV8 2LY

Fisher German LLP
Mainline Pipelines Limited
PO BOX 9856
Ashby de la Zouch
LE65 9BZ

0845 4378293
mainlinepipelines@fishergerman.co.uk
fishergerman.co.uk

Dear Sir/Madam

MAINLINE PIPELINES LIMITED – Kingsbury to Nottingham
SCHEME: AG3185-20

Thank you for your notice dated 07-09-2020 with regard to the above proposed works. We can confirm that it would appear from your plan/s that your works **will affect** our client's apparatus. Prior to any works commencing, you should contact **Mr Richard Gent or Mr Harry Fromant on 0845 4378293** so that a site meeting can be arranged to discuss these works in more detail.

IN ORDER FOR THESE WORKS TO PROCEED SAFELY YOU MUST DO THE FOLLOWING:
- **ARRANGE SUPERVISION THROUGH THIS OFFICE AT LEAST 48 HOURS IN ADVANCE.**
- **PROVIDE DETAILS OF THE JOB TO BE CARRIED OUT, INCLUDING A METHOD STATEMENT, SITE LOCATION, DETAILED PLANS AND SITE CONTACT INFORMATION IN ADVANCE OF THE WORKS.**

YOU SHOULD NOTE THAT NO WORKS OF ANY KIND, EITHER BY HAND OR MACHINE IS PERMITTED WITHIN OUR CLIENT'S 6 METRE "SAFETY ZONE" (3M EITHER SIDE OF THE PIPELINE) WITHOUT PRIOR NOTIFICATION TO OURSELVES TO ENSURE THE INTEGRITY OF OUR CLIENT'S APPARATUS.

We enclose for your information an A3 plan showing the approximate location of our client's apparatus where it crosses your area of concern. In addition, please refer to https://www.linesearchbeforeudig.co.uk/linesearchbeforeudig-support for a copy of our client's "Special Requirements for Safe Working in Close Proximity to High Pressure Oil Pipelines" booklet - a guidelines booklet detailing the sorts of precautions that should be taken when in the vicinity of our client's apparatus – together with a copy of the Marker Post brochure. Hard copies of these documents are available on request.

THIS RESPONSE AND ANY RELATED INFORMATION MUST BE FORWARDED TO THE PERSON RESPONSIBLE FOR THESE WORKS.

Yours faithfully

Mr Richard Gent / Mr Harry Fromant
For and on behalf of FISHER GERMAN LLP

Fisher German, as agents acting on behalf of our client, as detailed above, will store and process your data in full compliance with our legal obligations. Our client may need to share this information with other third parties to support their operational activities. This information will not be sold or made available for marketing purposes. Further details about how your data will be used can be found on our client's website, https://www.valero.com/en-us/PrivacyStatement or by contacting us by email: dataprotection@fishergerman.co.uk or telephone: 01530 410813.

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WARNING

This drawing is not to be used for construction purposes.The location of the pipe must be verified and pegged by the pipeline operator before any excavation or construction begins.

For further details contact:
FISHER GERMAN on 0800 7560804

Map data

FISHER GERMAN

MAINLINE PIPELINES LIMITED

Kingsbury to Nottingham

Drawing Number			
Issue		East	424806
Status	Checked	North	300618
Date	08/09/2020	Not to scale	

Fw: LSBUD-200907-19850841

Felicity Downing <Felicity.Downing@appliedgeology.co.uk> Created on 08/09/2020 09:09

Good afternoon
We are planning on undertaking a ground investigation at the below site from Monday 14th September 2020, and the LSBUD search we have undertaken has shown that Mainline Pipelines Limited are an affected Asset Owner and that we should contact yourselves with
more information.
Site Address (please see attached site location plan):
-Land off Watling Street
Dordon
Warwickshire
B78 1TB (nearest postcode)
-424850,300921 (approx centre of site)
We are planning on undertaking 8No Cable Percussion Boreholes and 32No Trial Pits to c. 3m bgl- as shown in the attached Proposed Exploratory Hole Location Plan.
Please let me know if you require any further information.
Kind regards
Felicity Downing BSc (Hons)
Graduate Geologist

Unit 23, Abbey Park, Stareton, Kenilworth, Warwickshire CV8
2LY. tel: 02476 511822
First Floor, Lowton Business Park, Newton Road, Lowton St. Maryâ€™s, Warrington, WA3 2AN. tel: 01925
738599

[redacted]

web: www.appliedgeology.co.uk

Company Registration No. 6882453. Unit 23, Abbey Park, Stareton, Kenilworth, Warwickshire CV8 2LY
From: noreply@linesearchbeforeudig.co.uk <noreply@linesearchbeforeudig.co.uk>
[redacted]
Subject: LSBUD-200907-19850841

Thank you for using our service - please find attached your LSBUD enquiry confirmation. Please ensure that this document is passed to those undertaking the works (if relevant).
Please DO NOT respond directly to this email. If you have any queries contact LSBUD by email or phone quoting your LSBUD reference number.
LinesearchbeforeUdig Limited
Tel: 0845 437 7365
Email: enquiries@linesearchbeforeudig.co.uk

To improve the satisfaction of our customers, we have partnered with the online review community, Trustpilot, to collect reviews.
Would you kindly spare a minute to review how our service has been?

Felicity Downing <Felicity.Downing@appliedgeology.co.uk> Created on 08/09/2020 09:09

https://www.trustpilot.com/evaluate/www.lsbud.co.uk
All reviews will be visible immediately.

Enquiry Confirmation

LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

Enquirer

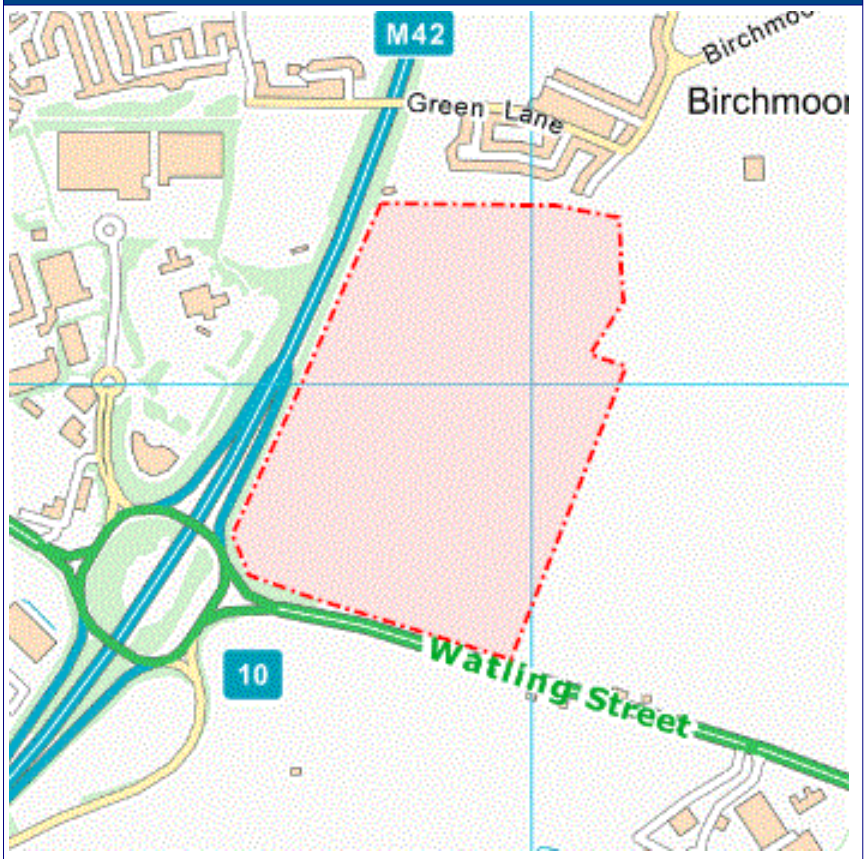
Name	Miss Janice Sheldon	Phone	
Company	Applied Geology Ltd	Mobile	Not Supplied
Address	Unit 23 Abbey Park, Stareton Kenilworth Warwickshire CV8 2LY		
Email			

Enquiry Details

Scheme/Reference	AG3185-20		
Enquiry type	Planned Works	Work category	Development Projects
Start date	14/09/2020	Work type	Commercial/industrial
End date	30/11/2020	Site size	341146 metres square
Searched location	XY= 424850, 300921	Work type buffer*	75 metres
Confirmed location	424827 300883		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works			

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

Site Map



Enquiry Confirmation

LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.linesearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Notes. Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LinesearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. LSBUD Members who have assets registered within your search area. ("Affected")
   a. These LSBUD Members will either:
      i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.

      ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.

2. LSBUD Members who do not have assets registered within your search area. ("Not Affected")

3. Non LSBUD Members who may have assets within your search area. Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 7 bar asset, all National Grid Electricity Transmission assets and National Grid's Gas Distribution Limited above 2 bar asset.

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com

Enquiry Confirmation

LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members			
Asset Owner	**Phone/Email**	**Emergency Only**	**Status**
ESP Utilities Group	01372227560	01372227560	Await response
Mainline Pipelines Limited	08454378293 mainlinepipelines@fishergerman.co.uk	08007560804	Email Additional Info
National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	0800688588 plantprotection@cadentgas.com	Gas 0800111999 Electricity 0800404090	Email Additional Info
Western Power Distribution	08000963080	08006783105	Await response

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

List of not affected LSBUD members		
AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
BP Exploration Operating Company Limited	BPA	Carrington Gas Pipeline
CATS Pipeline c/o Wood Group PSN	Cemex	Centrica Storage Ltd
Chrysaor Production (UK) Limited	CLH Pipeline System Ltd	CNG Services Ltd
Concept Solutions People Ltd	ConocoPhillips (UK) Teesside Operator Ltd	Diamond Transmission Corporation
DIO (MOD Abandoned Pipelines)	Drax Group	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESSAR
Esso Petroleum Company Limited	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Gtt	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Jurassic Fibre Ltd
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Murphy Utility Assets	Northumbrian Water Group
NPower CHP Pipelines	NYnet Ltd	Oikos Storage Limited
Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Portsmouth Water	Premier Transmission Ltd (SNIP)
Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)	RWEnpower (Little Barford and South Haven)
SABIC UK Petrochemicals	Scottish and Southern Electricity Networks	Scottish Power Generation
Seabank Power Ltd	SES Water	SGN
Shell	Shell NOP	SSE (Peterhead Power Station)
SSE Enterprise Telecoms	SSE Generation Ltd	SSE Utility Solutions Limited
Tata Communications (c/o JSM Construction Ltd)	Total (Colnbrook & Colwick Pipelines)	Total Finaline Pipelines

Transmission Capital	UK Power Networks	Uniper UK Ltd
University of Cambridge Granta Backbone Network	Vattenfall	Veolia ES SELCHP Limited
Veolia ES Sheffield Ltd	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Westminster City Council	Zayo Group UK Ltd c/o JSM Group Ltd	

Enquiry Confirmation

LSBUD Ref: 19850841

Date of enquiry: 07/09/2020
Time of enquiry: 14:14

The following Non-LSBUD Members may have assets in your search area. It is YOUR RESPONSIBILITY to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	**Preferred contact method**	**Phone**	**Status**
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08000232023	Not Notified
Cadent Gas	plantprotection@cadentgas.com	0800688588	Not Notified
CenturyLink Communications UK Limited	plantenquiries@instalcom.co.uk	02087314613	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@lastmile-uk.com	01698404646	Not Notified
ENGIE	nrswa.uk@engie.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
KPN (c/-Instalcom)	kpn.plantenquiries@instalcom.co.uk	n/a	Not Notified
Mobile Broadband Network Limited	mbnlplantenquiries@turntown.com	01212 621 100	Not Notified
Severn Trent Water	www.stwater.co.uk/building-and-developing/estimators-and-maps/request-a-water-sewer-map	03456016616	Not Notified
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Warwickshire CC (St Lighting)	streetlighting@warwickshire.gov.uk	01926736573	Not Notified
Warwickshire CC (Traffic Signals)	signals@warwickshire.gov.uk	01926412810	Not Notified

Please send payments & correspondence to:

Severn Trent Searches
PO Box 10155
Nottingham NG1 9HQ

DX 723860 Nottingham 43

Tel: 0115 971 3550
Fax: 0115 971 3551

Company No: 2562471
VAT Number: GB486985565
Tax Point: 10 September 2020

Applied Geology Ltd
Unit 23 Abbey Park
Stareton
Kenilworth
CV8 2LY

Account Number: **520167**
Order Number: **60100346**

Your Ref: **AG3185-20**

Search Enquiry

Thank you for your enquiry of: 9 September 2020 - Completed on 10 September 2020

The Water and Sewerage records have been checked and the findings are enclosed for your information. If you need to discuss any of the points raised within the attached, please contact the Customer Service Team at the above address.

Search Completed on:

Land off Watling Street Warwickshire Dordon B78 1TB

Residential CON29DW	£47.00 + £9.40 (VAT)

Total excl. VAT	£47.00
VAT @ 20.0 %	£9.40
Total incl. VAT	£56.40

Payment received with thanks.

CON29DW
DRAINAGE AND WATER ENQUIRY

SEVERN TRENT

Order Date: **Wednesday, 9 September 2020**
Order No: **60100346**
Customer Ref: **AG3185-20**

Applied Geology Ltd

Unit 23 Abbey Park
Stareton
Kenilworth
CV8 2LY

Severn Trent Searches has carried out enquiries into the following property, in line with its published terms of sale upon request from Applied Geology Ltd

Land off
Watling Street
Warwickshire
Dordon
B78 1TB

In response to the enquiry for drainage and water information, this search report was prepared following examination of either the following original records or summary records derived from the original: the Map of Public Sewers, the Map of Waterworks, Water and Sewer Billing Records, Adoption of Public Sewer Records, Building Over Public Sewer Records, the Register of Properties subject to Internal Foul Flooding, the Register of Properties subject to Poor Water Pressure and the Drinking Water Register. Should the property not fall entirely within the Severn Trent Water or Hafren Dyfrdwy Regions, a copy of the records held by South Staffordshire Water or other relevant Water Company will be searched also. Severn Trent Searches is responsible for the accuracy of the information contained within the search report.

From 1st October 2011 ownership of private sewers and lateral drains changed in accordance with The Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011.The contents of this search reflect these changes.

For further information please visit: www.severntrentsearches.com/category/Sewer-Transfer/

Interpretation of Drainage and Water Enquiry.

Appendix 1 of this report contains definitions of terms and expressions identified.

Enquiries and Responses.

The Search Report on the above property was completed on 10 Sep, 2020 by Camilla Soames, a technician employed by Severn Trent Searches. In the event of any queries about the preparation of this search report, enquiries should be directed to:

enquiries@severntrentsearches.com

Or the Customer Service Manager, Severn Trent Searches at the address below.

Severn Trent Searches
PO Box 10155
Nottingham
NG1 9HQ
Tel: 0115 971 3550

or

Severn Trent Searches
DX 723860
Nottingham 43

If you have any general enquires regarding the information provided in a search report please visit:

www.searchfaqt.com

Severn Trent Searches has put in place procedures to ensure that customers receive support in the event of any complaint. Our formal Complaints Procedure is set out in Appendix 2 and our Terms and Conditions of sale are set out in Appendix 4.

ORDER SUMMARY

To help understand the implications of the Drainage and Water Enquiries Report a summary guide to the content of the full report is provided below. This guide should be read in the context of and with reference to the full report and associated guidance notes.

The following 3 classifications have been used to highlight whether or not the response to a particular question is something that would normally be expected or otherwise. The classifications are intended purely as a guide to assist in the understanding of the Report and do not imply that the property is fit to purchase or otherwise and this decision will rest with the prospective purchaser and their professional advisers.

✓ This response represents the typical situation for a residential property.

⚐ The attention of the purchaser is drawn to this response. Further information can be found in the Guidance Notes accompanying the relevant question, the purchaser may wish to make further investigations into this situation.

✘ This response represents an uncommon situation for a residential property and the purchaser should carefully consider its implications.

SEVERN TRENT

ORDER SUMMARY

10 September 2020

Land off, Watling Street, Warwickshire, Dordon, B78 1TB

Question		Answer
Maps		
1.1	Where relevant, please include a copy of an extract from the public sewer map.	**Map Provided** ✓
1.2	Where relevant, please include a copy of an extract from the map of waterworks.	**Map Provided** ✓
Drainage		
2.1	Does foul water from the property drain to a public sewer?	**No** ✗
2.2	Does surface water from the property drain to a public sewer?	**No** ✗
2.3	Is a surface water drainage charge payable?	**No** ✓
2.4	Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?	**Yes** ⚑
2.4.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?	**No** ✓
2.5	Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?	**Yes** ✓
2.5.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?	**No** ✓
2.6	Are any sewers or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?	**No** ✓
2.7	Has a Sewerage Undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?	**No** ✓
2.8	Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?	**No** ✓
2.9	Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.	**See Details** ✓
Water		
3.1	Is the property connected to mains water supply?	**No** ✗
3.2	Are there any water mains, resource mains or discharge pipes within the boundaries of the property?	**No** ✓
3.3	Is any water main or service pipe serving, or which is proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?	**No** ✓
3.4	Is the property at risk of receiving low water pressure or flow?	**No** ✓
3.5	What is the classification of the water supply for the property?	**See Details** ✓
3.6	Please include details of the location of any water meter serving the property.	**N/A** ✓
Charging		
4.1.1	Who is responsible for providing the sewerage services for the property?	**See Answer** ✓
4.1.2	Who is responsible for providing the water services for the property?	**See Answer** ✓
4.2	Who bills the property for sewerage services?	**N/A** ✗
4.3	Who bills the property for water services?	**N/A** ✗
4.4	What is the current basis for charging for sewerage and water services at the property?	**Not Charged** ⚑
4.5	Will the basis for charging for sewerage and water services at the property change as a consequence of a change of occupation?	**See Details** ✓

Severn Trent Water Limited, Severn Trent Centre, 2 St John's Street, Coventry, CV1 2LZ

Date of Issue: **10 September 2020**

SEWER RECORD Land off, Watling Street, Warwickshire, Dordon, B78 1TB

Severn Trent Water Limited, Severn Trent Centre, 2 St John's Street, Coventry, CV1 2LZ

Date of Issue: **10 September 2020**

WATER RECORD Land off, Watling Street, Warwickshire, Dordon, B78 1TB

Severn Trent Water Limited, Severn Trent Centre, 2 St John's Street, Coventry, CV1 2LZ

MAP KEYS

Sewer Record

- Public Combined Gravity Sewer
- Public Foul Gravity Sewer
- Public Surface Water Gravity Sewer
- Combined Use Pressurised Sewer
- Foul Use Pressurised Sewer
- Surface Water Pressurised Sewer
- Abandoned Gravity Sewer
- Private Gravity Sewer
- Section 104 Gravity Sewer
- Transferred Gravity Sewer
- Highway Drain (Not STW)
- Vent Column
- Waste Water Storage
- Culverted Watercourse (Not STW)
- Protective Strip
- Sewage Pumping Facility
- Sewage Facility Connection Inlet / Outlet
- Hyrdrobrake
- Lamphole
- Outfall
- Overflow
- Penstock
- Petrol Interceptor
- Sewage Treatment Works (STW)
- Sewer Blockage
- Sewer Collapse
- Sewer Chemical Injection Point
- Sewer Junction
- Sewerage Air Valve
- Sewerage Hatch Box Point
- Sewerage Isolation Valve
- Soakaway
- Surface Water Manhole
- Blind Shaft
- Combined Use Manhole
- Disposal Site (DS)
- Flushing Chamber
- Foul Use Manhole
- Grease Trap
- Head Node

Notes

The majority of private gravity sewers and lateral drains shown in magenta transferred into public ownership in October 2011, providing they met the relevant criteria. Please note that private pressurised sewers and drains within the boundary of the property they serve remain private.
Sewers shown in green which remain the subject of an adoption agreement under Section 102 or 104 of the Water Industry Act (1991) are not the responsibility of the Sewearge Undertaker.
Please refer to response to Question 2.6 in search report to check current status of the sewers.
All Sewers that have been transferred to the Sewerage Undertaker after 1st October 2011, which they have a record of but have not surveyed and confirmed, are shown in orange.
Please note, the full extent and route of these sewers may not be plotted on the sewer map.
By October 1st 2016 any private pumping station and associated apparatus serving a lateral drain or sewer which was operational before July 1st 2011 will have transferred over to the Sewerage Undertaker's responsibility and become a public asset (subject to any appeals).

Water Record

- Distribution Main
- Trunk Main (local/primary)
- Strategic Main
- Fire Supply Main
- Fire Main
- Non-Domestic Customer Service Pipe
- Domestic Customer Service Pipe
- Abandoned Main
- Elevated Main
- Aqueduct
- Duct
- Pre-1937 Properties
- SSSI Area
- Protective Strip
- Pumping Facility
- Booster Facility
- Potable Water Storage
- Water Tower
- Well / Borehole
- Intake
- Water Treatment Works / Chamber
- Draw-off Tower
- Bowser Point
- Water Facility Connection
- Pipe Support Structure
- Open Pipe
- Discharge
- End Cap
- Water Isolation Valve (Closed)
- Water Isolation Valve (Open)
- Water Isolation Valve (Partially Open)
- Water Air Valve
- Pressure Reducing Valve
- Pressure Sustaining Valve
- Non-Return Valve
- Float Valve
- Hydrant (Single/Double)
- Washout (Single/Double)
- Bulk Meter
- Water Hatch Box
- Pressure Tapping
- Insertion Flow Meter Point
- Change in Characteristic
- Marker Post
- Cable Junction
- Anode
- Boundary Box
- Stop Tap
- Cross Piece
- Strainer
- Listening Post
- Revenue Meter
- Housing, Building (B)
- Housing, Kiosk (K)
- Housing, Other
- Quality Sample Point

For a detailed glossary of the above terminology please visit: www.severntrentsearches.com/glossary

Question 1.1

Q1.1

Where relevant, please include a copy of an extract from the public sewer map.

A copy of an extract from the public sewer map is included in which the location of the property is identified.

✓ **Map Provided**

Guidance Notes

Pipes that are shown on the public sewer map as sewers, disposal mains or lateral drains are defined as those for which the Sewerage Undertaker holds statutory responsibility under the Water Industry Act 1991. The Sewerage Undertaker is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only. Sewers or lateral drains indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an "as constructed" record. It is recommended that these details are checked with the developer. Please note that following the private sewer transfer on October 1st 2011 there may be additional public assets other than those indicated on the map. Particular attention should be paid to public pumping stations (indicated on the plan by a black triangle) which will have associated pressurised sewers serving the pumping station which may not be plotted on the sewer plan even if they have transferred into public ownership. Assets other than public sewers, disposal mains or lateral drains may be shown on the copy extract, for information.

Question 1.2

Q1.2

Where relevant, please include a copy of an extract from the map of waterworks.

A copy of an extract from the map of waterworks is included in which the location of the property is identified.

✓ **Map Provided**

Guidance Notes

Pipes that are shown on the map of waterworks as water mains, resource mains or discharge pipes are defined as those for which a Water Undertaker holds statutory responsibility under the Water Industry Act 1991. Assets other than water mains, resource mains or discharge pipes may be shown on the plan, for information only. Water Undertakers are not responsible for private water mains or private service pipes connecting the property to the public water main and do not hold details of these. These may pass through land outside of the control of the seller, or may be shared with adjacent properties. The buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal. The extract of the map of waterworks shows water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Question 2.1

Q2.1

Does foul water from the property drain to a public sewer?

Records indicate that foul water from the property does not drain to a public sewer. ✘ **No**

Guidance Notes

The connection status of the property is based on information held on the billing records by the responsible water company. In this case we have been unable to find any billing records confirming a connection from the property to the public sewerage system. If any current billing records can be provided to us confirming a connection for this service, please provide this to us and we will amend the search accordingly. It is possible that the property may have a connection to the public sewerage system but is not currently being billed for this service. If this is the case then the property owner should contact the responsible water company to arrange for the connection status to be checked and, if confirmed as connected, for the property to be brought into charge for this service. Should the billing records be amended, we will be pleased to amend the report, free of charge, upon request. If foul water does not drain to the public sewerage system the property may have private facilities in the form of a cesspit, septic tank or other type of treatment plant. The requirement to register a Septic tank with the Environment Agency was passed in regulations set in 2010 by the Department for Environment, Food and Rural Affairs (Defra) and the Welsh Government, as part of the implementation of the European Union Water Framework Directive. All domestic septic tanks in Wales need to be registered by December 2011 . This is not currently a requirement in England pending the outcome of a joint Environment Agency /Government review. It is recommended all details are checked with the current owner as buyers in Wales may need to register before the deadline. Also note that the general binding rules for Septic tanks and discharge to the ground changed on January 1st 2015. Please visit https://www.gov.uk/guidance/general-binding-rules-small-sewage-discharge-to-the-ground for more details.

Question 2.2

Q2.2

Does surface water from the property drain to a public sewer?

Records indicate that surface water from the property does not drain to a public sewer. ✘ **No**

Guidance Notes

If the property was constructed recently the surface water drainage may be served by a Sustainable Drainage System (SuDS) which does not form part of the public sewer network. Further information may be available from the developer or Question 3.3 of the CON29 from the local authority. The connection status of the property listed in this search is based on information held on the billing records by the responsible water company. Sewerage Undertakers are not responsible for any private drains and private sewers that do not connect the property to the public sewerage system, and do not hold details of these. The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility with other users, if the property is served by a private sewer which also serves other properties but does not connect into the public sewerage system. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal. If surface water does not drain to the public sewerage system the property may have private facilities in the form of a soakaway or private connection to a watercourse.

Question 2.3 Q2.3

Is a surface water drainage charge payable?

Records confirm that a surface water drainage charge is not payable for the property.

✓ **No**

Guidance Notes

Where surface water from a property does not drain to the public sewerage system no surface water drainage charges are payable. If the property was constructed recently the surface water drainage may be served by a Sustainable Drainage System (SuDS) which does not form part of the public sewer network. Further information may be available from the developer or Question 3.3 of the CON29 from the local authority.

Question 2.4 Q2.4

Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?

Yes

The public sewer map included indicates that there is a public sewer, disposal main, lateral drain or other public sewer asset within or close to the boundaries of the property. Please note, from 1st October 2011 it is likely there is additional lateral drains and/or public sewers which are not recorded on the public sewer map but which may prevent or restrict development of the property. Please see Appendix 3 for details.

Guidance Notes

The approximate boundary of the property has been determined by reference to the Ordnance Survey record. Please note that following the private sewer transfer on October 1st 2011 the majority of private sewers and lateral drains connected to the public network as of 1st July 2011 transferred into public ownership and therefore there may be additional public assets within or close to the boundary which may not be shown on the public sewer plan. Please see Appendix 3 for further details. The presence of public asset running within the boundary of the property may restrict further development. If there are any plans to develop the property further enquiries should be made to the sewerage undertaker's Build Over department. The sewerage undertaker has a legal right of access to carry out work on its assets, subject to notice. This may result in employees of the Company or its contractors needing to enter the property to carry out work.

Question 2.4.1

Q2.4.1

Does the public sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?

✓ **No**

The public sewer map does not indicate a public pumping station or other ancillary apparatus within the boundaries of the property. However, as of 1st October 2016, any pumping station that was contructed prior to 1st July 2011 and serves more than one property will become the responsibility of the sewerage undertaker. Although the sewerage undertaker has no record of any pumping station at this property there may be pumping stations which meet the adoption criteria which they are not aware of and are not recorded on the public sewer map.

Guidance Notes

The approximate boundary of the property has been determined by reference to the Ordnance Survey record. Please note that privately owned pumping stations built prior to 1st July 2011 which serve more than one property and pump to the existing public sewer are eligible for transfer into public ownership as of 1st October 2016. Pumping stations that serve a single property but sit outside the curtilage of that property will also be eligible for transfer. Please see Appendix 3 for further details. Any other ancillary apparatus is shown on the public sewer map and is referenced on the map key. A full glossary is also available on our website at www.severntrentsearches.com/glossary/

Question 2.5

Q2.5

Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?

✓ **Yes**

The public sewer map included indicates that there is a public foul sewer or public sewer asset within 30.48 metres (100 feet) of a building within the property.

Guidance Notes

The public sewer map shows the location of public sewers. Please note that from 1st October 2011, private sewers and lateral drains connected to the public network as of 1st July 2011 transferred into public ownership and from that date there may be public sewers closer to the property than those shown on the map. The presence of a public foul sewer within 30.48 metres (100 feet) of the building(s) within the property can result in the Local Authority requiring a property to be connected to the public foul sewer. The measure is estimated from the Ordnance Survey record, between the building(s) within the boundary of the property and the nearest public foul sewer.

Question 2.5.1

Q2.5.1

Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?

✓ **No**

The public sewer map does not indicate a public pumping station or other ancillary apparatus within 50m of a building within the property. However, following the transfer of some private pumping stations into public ownership, from 1st October 2016 there may be public pumping stations which are not marked on the public sewer map.

Guidance Notes

The public sewer map shows the location of public pumping stations, pressurised mains and other ancillary apparatus. Please note that privately owned pumping stations built prior to 1st July 2011 which serve more than one property and pump to the existing public sewer are eligible for transfer into public ownership as of 1st October 2016. Pumping stations that serve a single property but sit outside the curtilage of that property will also be eligible for transfer. Pumping stations also have pressurised sewers associated with them and these may not be plotted on the public sewer map if the sewerage undertaker is unaware of the pumping station. The presence of a pumping station, pressurised rising main or other ancillary apparatus may restrict further development. Please see Appendix 3 for further details. Any other ancillary apparatus is shown on the public sewer map and is referenced on the map key. A full glossary is also available on our website at www.severntrentsearches.com/glossary/.

Question 2.6

Q2.6

Are any sewers or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?

✓ **No**

The property is part of an established development and is not subject to an adoption agreement.

Guidance Notes

The majority of private sewers and lateral drains subject to adoption agreements were transferred into public ownership from 1st October 2011 and there may therefore be additional public sewers other than those shown on the plan. Further details can be found in Appendix 3. Buyers should consult with the current owner to ascertain the extent of their liability for privately held assets.

Question 2.7

Q2.7

Has a Sewerage Undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?

✓ **No**

There are no records in relation to any approval or consultation about plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain. However, the Sewerage Undertaker might not be aware of a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain.

Guidance Notes

Buildings or extensions erected over a public sewer, disposal main or lateral drain in contravention of building controls or which conflict with the provisions of the Water Industry Act 1991, may have to be removed or altered. Please note that from 1st October 2011 the majority of private sewers and lateral drains connected to the public network as of 1st July 2011 transferred into public ownership and there may therefore be formerly private sewers and lateral drains which will have been built over. Please visit www.severntrentsearches.com/category/sewer-transfer for further information.

Question 2.8

Q2.8

Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?

✓ **No**

The property is not recorded as being at risk of internal flooding due to overloaded public sewers.

Guidance Notes

A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded. "Internal flooding" from public sewers is defined as flooding which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes. "At Risk" properties are those that the Sewerage Undertaker is required to include in the Regulatory Register that is reported annually to the Water Services Regulation Authority. These are defined as properties that have suffered or are likely to suffer internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Sewerage Undertaker's reporting procedure. Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the "At Risk" register. Please note that from 1st October 2011 the majority of private sewers and lateral drains connected to the public network as of 1st July 2011 transferred into public ownership. Details of formerly private sewers at risk from internal flooding are not recorded in the Regulatory Register and will not be added until a flooding occurrence. There may therefore be public sewers at risk from internal flooding that are not recorded on the "At Risk" register.

Question 2.9

Q2.9

Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.

✓ **See Details**

The nearest sewage treatment works is 1.263 KM to the South West of the property. The name of the nearest sewage treatment works is Freasley.

Guidance Notes

The nearest sewage treatment works will not always be the sewage treatment works serving the catchments within which the property is situated. The Sewerage Undertaker's records were inspected to determine the nearest sewage treatment works. It should be noted therefore that there may be private sewage treatment works closer than the one detailed above that have not been identified.

Question 3.1

Q3.1

Is the property connected to mains water supply?

✘ **No**

Records indicate that the property is not connected to the mains water supply and water may, therefore, be provided by virtue of a private supply.

Guidance Notes

The connection status of the property is based on information held on the billing records by the responsible water company. In this case we have been unable to find any billing records confirming a connection to the property from the mains water supply. If any current billing records can be provided to us confirming a connection for this service please provide this to us and we will amend the search accordingly. It is possible that the property may have a connection to the mains water supply but is not currently being billed for this service. If this is the case then the property owner should contact the responsible water company's billing department to arrange for the connection status to be checked and, if confirmed as connected, for the property to be brought into charge for this service. Should the billing records be amended, we will be pleased to amend the report, free of charge, upon request. Alternatively, this property maybe connected to a private water supply or indirectly supplied by a third party who is connected to the public water supply and it is recommended this is checked with the current owner. Details of private supplies or third party private arrangements are not kept by the Company.

Question 3.2

Q3.2

Are there any water mains, resource mains or discharge pipes within the boundaries of the property?

✓ **No**

The map of waterworks does not indicate any water mains, resource mains or discharge pipes within the boundaries of the property.

Guidance Notes

The approximate boundary of the property has been determined by reference to the Ordnance Survey record. The presence of a public water main, resource main or discharge pipe within the boundary of the property may restrict further development within it. Water Undertakers have a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of the Company or its contractors needing to enter the property to carry out work.

Question 3.3

Q3.3

Is any water main or service pipe serving, or which is proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?

✓ **No**

Records confirm that water mains or service pipes serving the property are not the subject of an existing adoption agreement or an application for such an agreement.

Guidance Notes

Where the property is part of a very recent or ongoing development and the water mains and service pipes are not the subject of an adoption application, buyers should consult with the developer to confirm that the Water Undertaker will be asked to provide a water supply to the development or to ascertain the extent of any private water supply system for which they will hold maintenance and renewal liabilities.

Question 3.4

Q3.4

Is the property at risk of receiving low water pressure or flow?

✓ **No**

Records confirm that the property is not recorded on a register kept by the Water Undertaker as being at risk of receiving low water pressure or flow.

Guidance Notes

'Low water pressure' means water pressure below the regulatory reference level which is the minimum pressure when demand on the system is not abnormal. Water Undertakers are required to include in the Regulatory Register that is reported annually to the Water Services Regulation Authority properties receiving pressure below the reference level, provided that allowable exclusions do not apply (i.e. events which can cause pressure to temporarily fall below the reference level).Water Companies are required to include in the Regulatory Register that is reported annually to the Director General of Water Services properties receiving pressure below the reference level, provided that allowable exclusions do not apply (i.e. events which can cause pressure to temporarily fall below the reference level). The reference level of service is a flow of 9 litres/minute at a pressure of 10 metres head on the customer's side of the main stop tap (mst). The reference level of service must be applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap. The reference level applies to a single property. Where more than one property is served by a common service pipe, the flow assumed in the reference level must be appropriately increased to take account of the total number of properties served. For two properties, a flow of 18 litres/minute at a pressure of 10 metres head on the customer's side of the mst is appropriate. For three or more properties the appropriate flow should be calculated from the standard loadings provided in BS806-3 or Institute of Plumbing handbook.Allowable exclusions: The Company is required to include in the Regulatory Register properties receiving pressure below the reference level, provided that allowable exclusions listed below do not apply. Abnormal demand: This exclusion is intended to cover abnormal peaks in demand and not the daily, weekly or monthly peaks in demand which are normally expected. Companies should exclude from the reported DG2 figures properties which are affected by low pressure only on those days with the highest peak demands. During the report year Companies may exclude, for each property, up to five days of low pressure caused by peak demand. Planned maintenance: Companies should not report under DG2 low pressures caused by planned maintenance. It is not intended that Companies identify the number of properties affected in each instance. However, Companies must maintain sufficiently accurate records to verify that low pressure incidents that are excluded from DG2 because of planned maintenance are actually caused by maintenance. One-off incidents: This exclusion covers a number of causes of low pressure, mains bursts, failures of Company equipment (such as PRVs or booster pumps), firefighting and action by a third party. However, if problems of this type affect a property frequently, they cannot be classed as one-off events and further investigation will be required before they can be excluded.

Question 3.5

Q3.5

What is the classification of the water supply for the property?

✓
See Details

The water supplied to the property has an average water hardness of 68.17 mg/l calcium which is defined as Moderately Hard by Severn Trent Water.

Guidance Notes

Neither hard nor soft water is considered to pose any risk to health. Hardness comes from naturally occurring calcium and magnesium mineral salts which are dissolved from the rocks through which rain water flows. Hardness is expressed as the equivalent amount of calcium carbonate in parts per million (mg/l). Hard water causes scaling in hot water systems, kettles, electric irons and domestic appliances. Scaling of heating elements may shorten their life and may make appliances less efficient. More information is available on the water undertaker's website.

Water hardness can be expressed in various indices for example the hardness settings for dishwashers are commonly expressed in Clark's degrees, but check with the manufacturer as there are also other units. The following table explains how to convert mg/l calcium and mg/l calcium carbonate classifications.

TO CONVERT FROM:	TO CLARK DEGREES	TO FRENCH DEGREES	TO GERMAN DEGREES
mg/l calcium	multiply by 0.18	multiply by 0.25	multiply by 0.14
mg/l calcium carbonate	multiply by 0.07	multiply by 0.10	multiply by 0.056

Question 3.6

Q3.6

Please include details of the location of any water meter serving the property.

✓
N/A

Records indicate that the property is not served by a water meter. Where the property is not served by a meter and the customer wishes to consider this method of charging they should contact:

Severn Trent Water
PO Box 5310
Coventry
CV3 6SD

Tel: 0345 7500 500 For Billing Enquiries only
Tel: 0345 7090 646 For Metering Enquiries only
Tel: 0115 971 3550 For Search Enquiries only

http://www.stwater.co.uk

Question 4.1.1

Q4.1.1

Who is responsible for providing the sewerage services for the property?

✓ **See Answer**

The Sewerage Undertakers for the area are:

Severn Trent Water
PO Box 5310
Coventry
CV3 6SD

Tel: 0345 7500 500 For Billing Enquiries only
Tel: 0345 7090 646 For Metering Enquiries only
Tel: 0115 971 3550 For Search Enquiries only

http://www.stwater.co.uk

Question 4.1.2

Q4.1.2

Who is responsible for providing the water services for the property?

✓ **See Answer**

The Water Undertakers for the area are:

Severn Trent Water
PO Box 5310
Coventry
CV3 6SD

Tel: 0345 7500 500 For Billing Enquiries only
Tel: 0345 7090 646 For Metering Enquiries only
Tel: 0115 971 3550 For Search Enquiries only

http://www.stwater.co.uk

Question 4.2

Q4.2

Who bills the property for sewerage services?

✘ **N/A**

The property is not billed for sewerage services.

Question 4.3

Q4.3

Who bills the property for water services?

The property is not billed for water services.

N/A

Question 4.4

Q4.4

What is the current basis for charging for sewerage and water services at the property?

Not Charged

Records indicate that this property is not currently charged for sewerage and water services

Guidance Notes

Water and Sewerage Companies full charges are set out in their charges schemes which are available from the Company free of charge upon request.

Question 4.5

Q4.5

Will the basis for charging for sewerage and water services at the property change as a consequence of a change of occupation?

See Details

The undertaker has the power to install a water meter at a property as a consequence of a change of occupation at any time under Section 144B of the Water Industry Act (1991). However there will be no change in the current charging arrangements as a consequence of a change of occupation.

Guidance Notes

Water and Sewerage Companies full charges are set out in their charges schemes which are available from the Company free of charge upon request. The Company may install a meter at the premises where a buyer makes a change of use of the property or where the buyer uses water for watering the garden, other than by hand (this includes the use of sprinklers) or automatically replenishing a pond or swimming pool with a capacity greater than 10,000 litres.

Appendix 1

Terms and Expressions in this Report

'the 1991 Act' means the Water Industry Act 1991[61];

'the 2000 Regulations' means the Water Supply (Water Quality) Regulations 2000[62];

'the 2001 Regulations' means the Water Supply (Water Quality) Regulations 2001[63];

'adoption agreement' means an agreement made or to be made under Section 51A(1) or 104(1) of the 1991 Act[64];

'bond' means a surety granted by a developer who is a party to an adoption agreement;

'bond waiver' means an agreement with a developer for the provision of a form of financial security as a substitute for a bond;

'calendar year' means the twelve months ending 31st December;

'discharge pipe' means a pipe which discharges are made or are to be made under Section 165(1) of the 1991 Act;

'disposal main' means (subject to section 219(2) of the 1991 Act) any outfall pipe or other pipe which - (a) is a pipe for the conveyance of effluent to or from any sewage disposal works, whether of a Sewerage Undertaker or of any other person; and (b) is not a public sewer;

'drain' means (subject to Section 219(2) of the 1991 Act) a drain used for the drainage of one building or of any buildings or yards appurtenant to buildings within the same curtilage;

'effluent' means any liquid, including particles of matter and other substance in suspension in the liquid;

'financial year' means the twelve months ending with 31st March;

'lateral drain' means - (a) that part of a drain which runs from the curtilage of a building (or buildings or yards within the same curtilage) to the sewer with which the drain communicates or is to communicate; or (b) (if different and the context so requires) the part of a drain identified in a declaration of vesting made under Section 102 of the 1991 Act or in an agreement made under Section 104 of that Act[65];

'licensed water supplier' means a company which is the holder for the time being of a water supply license under Section 17A(1) of the 1991 Act[66];

'maintenance period' means the period so specified in an adoption agreement as a period of time - (a) from the date of issue of a certificate by a Sewerage Undertaker to the effect that a developer has built (or substantially built) a private sewer or lateral drain to that Undertakers satisfaction; and (b) until the date that private sewer or lateral drain is vested in the Sewerage Undertaker;

'map of waterworks' means the map made available under Section 198(3) of the 1991 Act[67] in relation to the information specified in subsection (1A);

'private sewer' means a pipe or pipes which drain foul or surface water, or both, from premises, and are not vested in a Sewerage Undertaker;

'public sewer' means, subject to Section 106(1A) of the 1991 Act[68], a sewer for the time being vested in a Sewerage Undertaker in its capacity as such, whether vested in that Undertaker - (a) by virtue of a scheme under Schedule 2 to the Water Act 1989[69]; (b) by virtue of a scheme under Schedule 2 to the 1991 Act[70]; (c) under Section 179 of the 1991 Act[71]; or (d) otherwise;

'public sewer map' means the map made available under Section 199(5) of the 1991 Act[72];

'resource main' means (subject to Section 219(2) of the 1991 Act) any pipe, not being a trunk main, which is or is to be used for the purpose of- (a) conveying water from one source of supply to another, from a source of supply to a regulating reservoir or from a regulating reservoir to a source of supply; or (b) giving or taking a supply of water in bulk;

'sewerage services' includes the collection and disposal of foul and surface water and any other services which are required to be provided by a Sewerage Undertaker for the purpose of carrying out its functions;

'Sewerage Undertaker' means the company appointed to be the Sewerage Undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated;

'surface water' includes water from roofs and other impermeable surfaces within the curtilage of the property;

'water main' means (subject to Section 219(2) of the 1991 Act) any pipe, not being a pipe for the time being vested in a person other than the Water Undertaker, which is used or to be used by a Water Undertaker or licensed water supplier for the purpose of making a general supply of water available to customers or potential customers of the Undertaker or supplier, as distinct from for the purpose of providing a supply to particular customers;

'water meter' means any apparatus for measuring or showing the volume of water supplied to, or of effluent discharged from any premises;

'water supplier' means the company supplying water in the water supply zone, whether a Water Undertaker or licensed water supplier;

'water supply zone' in relation to a calendar year, means the names and areas designated by a Water Undertaker within its area of supply that are to be its water supply zones for that year,

'Water Undertaker' means the company appointed to be the Water Undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated.

In this Report, references to a pipe, including references to a main, a drain or a sewer, shall include references to a tunnel or conduit which serves or is to serve as the pipe in question and to any accessories for the pipe.

Appendix 2

Residential Drainage and Water Search Complaint Procedure

As a minimum standard Severn Trent Searches, PO Box 10155, Nottingham, NG1 9HQ:

Will endeavour to resolve any telephone contact or complaint at the time of the call. However, if that isn't possible, we will investigate and research the matter in detail and provide a written response within 5 working days of receipt of your complaint.

Depending on the scale of investigation required, we will keep you informed of the progress and update you with new timescales if necessary.

If we fail to give you a written substantive response within 5 working days Severn Trent Searches will compensate our client the original fee paid for a Severn Trent CON29DW Drainage and Water enquiry, regardless of the outcome of your complaint.

If we find your complaint to be justified, or we have made any errors that substantially change the outcome in your search result, we will automatically refund the search fee to the ordering party. We will provide them with a revised search and also undertake the necessary action, as within our control, to put things right as soon as practically possible. Customers will be kept informed of the progress of any action required.

If the search takes us longer than 10 working days to complete and we have not communicated the reasons for the delay we will provide the search free of charge.

A complaint will normally be dealt with fully within 20 working days of the date of its receipt. If there are valid reasons for the consideration taking longer you will be kept fully informed in writing or via telephone or email, as you prefer, and receive a proposed solution or final response at the very latest within 40 working days.

If you are still not satisfied with our response or action we will refer the matter to a Senior Manager/ Company Director for resolution. At your request we will liaise with a representative acting on your behalf.

If you are not satisfied with the resolution offered in the final response or the timescale * within which the final response or proposed solution was issued, you may refer the complaint to The Property Ombudsman scheme (TPOs), contact details below. We will co-operate fully with the independent adjudicator during the consideration of a complaint by the TPOs and comply with any decision.

*40 working days

Complaints should be sent to:
Customer Services
Severn Trent Searches
PO Box 10155, Nottingham, NG1 9HQ.
Tel: 0115 971 3550
Email: enquiries@severntrentsearches.com

TPOs can be contacted at:
The Property Ombudsman scheme
Milford House, 43 - 55 Milford Street,
Salisbury, Wiltshire, SP1 2PB.
Tel: 01722 333306
Fax: 01722 332296
E-mail: admin@tpos.co.uk
Website: www.tpos.co.uk

Appendix 3

Private sewer transfer - notes for property owners and conveyancers

The Transfer

The private sewer transfer occurred in October 2011, and was designed to bring the majority of private sewers in England and Wales into public ownership.

Drains, lateral drains and sewers - definitions
A drain is a disposal pipe serving a single property or properties (such as flats) within a single curtilage. A lateral drain is any section of that drain which extends beyond the curtilage of the property. A sewer is a disposal pipe serving two or more separate properties. Full legal definitions of these terms can be found in Appendix 1.

Assets transferred into public ownership
The majority of all sewers and lateral drains that were connected to the public system prior to 1st July 2011 transferred into public ownership on 1st October 2011. Water companies were given five years to identify and adopt private pumping stations and associated apparatus, ending in October 2016.

Assets not transferred into public ownership
Some assets were excluded from the transfer, including:
Any assets not connected prior to 1st July 2011. These will transfer under a secondary scheme at a later date.
Drains within the boundary of the property they serve.
Sewers on Crown Land (such as prisons) where notice has been received from the relevant authority that the sewers should be exempt.
Sewers owned by Railway Authorities.
Sewers and drains which do not discharge to the public system, such as Sustainable Drainage Systems.
Drainage systems contained within a single property curtilage (e.g. retail parks, caravan parks).
Private Pumping stations and associated pressurised mains which serve one property.
Sewers where the owner successfully appeals to OFWAT to retain ownership (see below).
Private treatment works, septic tanks and cesspits.

Appeals
Any owner of a private sewer, lateral drain or pumping station had the right to appeal of OFWAT to retain ownership. These had to be lodged before 30th September 2011* OFWAT then determined whether the asset in question should be exempt from the transfer. During the appeal process, assets remained private.

*Appeals process differs slightly for pumping stations, Visit OFWAT's website for more details (ofwat.gov.uk).

Procedures for new sewers

The Flood and Water Management Act 2010
Once Section 42 of the Flood and Water Management Act 2010 comes into force, adoption of all new sewers which connect to the public network will be mandatory. A new national Mandatory Build Standard will also be introduced specifying the standards to which new sewers must be built.

Issues for property owners

Liability
Since the transfer, the majority of property owners have a greatly reduced liability for repairs to the drainage system. Should the search indicate the property is not connected to mains drainage or that there are no public assets nearby, it is recommended that further investigations be made into the drainage arrangements, as the property owner may have a substantial liability.

Sewers within property boundaries
The transfer resulted in a greater number of public sewers and lateral drains within property boundaries, many of which are not plotted on the Public Sewer Map. Property owners need to be aware that Severn Trent Water have statutory rights of access to land where their assets are located should they need to access the mains.
There are also formerly private sewers which have been built over without the Sewerage Undertaker's consent. Providing normal planning procedures were followed, this should not present any significant issues, although property owners need to be aware that the Sewerage Undertaker may need to access the sewer.

Developing Properties
Building over or close to a public asset requires the consent from Severn Trent Water. This includes transferred private sewers and lateral drains within property boundaries. Full details can be found on the Severn Trent Water website. The water company has a dedicated Build-Over Team that can guide a property owner on their required process, should the owner be considering building an extension or conservatory over or near to a public sewer. The Build-Over Team will usually require the owner to commission a CCTV survey of the sewers within the boundary of the property, which will determine their exact position and condition of the private and public sewers. Details of companies that carry out CCTV surveys can be found online or contact the Build-Over Team directly on 0345 2667930.

What to do if there is a blockage in the Sewer within the property boundary
If there is a problem with a pipe within the property boundary, the occupier should call Severn Trent Water on 0800 783 4444. The Sewerage Undertaker will then decide whether this is a private matter or if they are responsible. The Sewerage Undertaker may charge the homeowner for clearing a blockage etc for which they are not responsible. Any works needed would be agreed beforehand.

Updates to the CON29DW

Section 104 sites
The transfer applied to sites undergoing adoption under Section 104 of the Water Industry Act (1991). However, some assets on these sites, such as pumping stations, sewers connected after July 2011 and surface water sewers not connecting to the public system, were not included in the transfer. In these circumstances the search will continue to show a Section 104 agreement in place.

Sewers and lateral drains within property boundaries
Because private sewers were not previously required to be recorded on the public sewer records there are circumstances when we are unable to confirm the location of transferred sewers. On these occasions, the CON29DW report will advise as to whether there is likely to be a public asset within the boundary.

Proximity of sewers to the property
The majority of properties - particularly within urban areas - will have public sewers within 100 feet (30.48 metres). In the case of transferred assets not being shown on public sewer record, there will be occasions when we are unable to confirm this. In these circumstances we will advise whether there are likely to be assets in close proximity to the property. The absence of nearby public sewers could result in a property owner having a substantial liability for repairs to the drainage system.

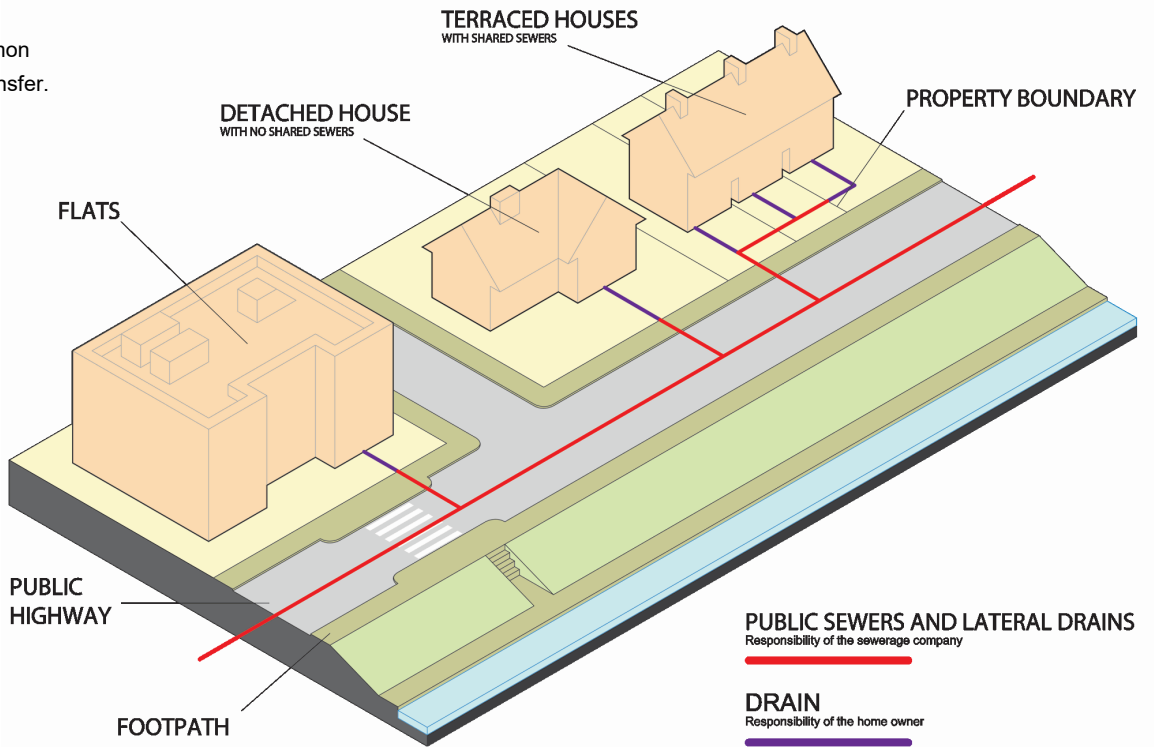
Building over public sewers
A number of formerly private sewers have been built over and are now the responsibility of Severn Trent Water. Although the search will highlight whether there has been a build over enquiry to Severn Trent Water, this will only apply to sewers which were public at the time of development.

Sewer flooding
Whilst the search will still report the risk of sewer flooding to a property, following the transfer there is the possibility of sewer flooding from transferred sewers which will not have been previously recorded. The register will be updated as and when there is an occurrence.

Pumping Stations
The search indicates whether a transferred pumping station is located either within a property boundary, or within 50 metres of the property. Transferred pumping stations - which will not always have been built to Severn Trent Water's standards - initially require regular inspection and maintenance, which may prove disruptive. On occasion, there may be private pumping stations of which we are unaware. In these instances, please contact Severn Trent Water on 0800 783 444 or email privatepumpingstations@severntrent.co.uk

Typical Examples

This diagram reflects some common scenarios following the sewer transfer.



Terraced Properties
It is common for terraced properties to have a public sewer passing within the property boundary. There are some exceptions, such as an end terrace upstream of neighbouring properties as the section of drain will only serve that one property and so will remain private. Besides the situation shown in the diagram, a common alternative arrangement is for terraced houses to be served by a shared sewer to the rear which may also run in passageways between properties to join the main sewer in the highway.

Semi-detached
The majority of semi-detached properties are connected to the public sewer via a shared connection. The section of drain which serves both properties is now public. Typically, the public sewer will be within the boundary of the property which is downstream on the drainage system as most sewers work on a gravity system.

Detached Properties
It is common for most detached properties to be connected to the public sewer via a direct connection. Therefore, for many detached properties it is unlikely that assets within the boundary of the property will have transferred. But the individual drainage arrangements at a specific property should be checked if details are required.

Flats/Apartments
Any shared drainage systems within a property curtilage remain private. This means with flats, only drains and sewers outside the boundary have transferred.

Appendix 4 DRAINAGE & WATER ENQUIRY (DOMESTIC) TERMS AND CONDITIONS

These Terms govern the basis on which the Report is supplied and the basis upon which the Customer and the Client have relied upon the Report.

Definitions

'Apparatus' means the sewers, disposal mains or lateral drains, water mains, resource mains or discharge pipes and associated infrastructure for which an Undertaker holds statutory responsibility under the Water Industry Act 1991 shown on the map attached to the Report;

'Client' means the person who is the intended recipient of the Report with an actual or potential interest in the Property including their mortgage lender.

'Company' means Severn Trent Property Solutions, the company producing the Report.

'Customer' means the person placing the Order, either on its own behalf as Client, or, as an agent for or a reseller to a Client.

'Order' means any request completed by the Customer requesting the Report in accordance with the Company's order procedure.

'Report' means the drainage and/or water report prepared by the Company in respect of the Property.

'Partner Undertakers' means Severn Trent Water Ltd, Hafren Dyfrdwy Ltd or South Staffordshire Water Plc.

'Person' means any individual, firm, body corporate, unincorporated association or partnership.

'Property' means the address or location supplied by the Customer in the Order which satisfies one or more of the requirements set out in paragraph 2.1.

'Purpose' shall have the meaning set out in paragraph 2.2.

'Terms' means these CON29DW Drainage and Water Enquiry (DOMESTIC) Terms and Conditions.

'Third Party Undertaker' means any Undertaker other than a Partner Undertaker.

'Undertaker' means a Sewerage and/or Water Undertaker (both as defined in the Water Industry Act 1991) providing water and sewerage services.

1. Agreement

1.1 The Company agrees to supply the Report to the Customer and, if applicable, the Customer shall provide the Report to the Client, subject to these Terms to the exclusion of all other terms and conditions including any terms and conditions which the Customer and/or Client purports to apply under any Order, confirmation of Order or any other document. The scope and limitations of the Report are described in paragraph 2 of these Terms.

1.2 Where the Customer is not the Client, then the Customer shall ensure that these Terms are brought to the attention of the Client on or prior to the Customer placing the Order and that the Terms are provided with any copy of the Report provided by the Customer to the Client. The Customer is responsible for making sure that the Client is aware of the limitations and exclusions that are contained in these Terms and must draw the Client's attention to any disclaimers set out in the Report.

1.3 The Customer agrees that the placing of an Order for a Report indicates its acceptance of these Terms.

1.4 Where the Customer is placing an Order on behalf of a Client, it warrants and represents to the Company that it is authorised to accept these Terms on behalf of the Client and to bind the Client to these Terms.

2. The Report

2.1 This Report (unless it is for a Residential Multisite CON29DW Drainage & Water Enquiry) should only be used where the Property, which is the subject of the Report, is:

2.1.1 a single, residential, domestic property

2.1.2 land or buildings being or to be developed as a single, residential, domestic property.

2.1.3. not for carrying out any trade, business or commercial activities.

2.2 The Report is produced solely for use by the Client for the intended purpose of the Report (the "**Purpose**"). The Purpose is the identification of the location and connection of existing drainage and/or water services at the Property in relation to the individual domestic property transaction in respect of the Property which is in the contemplation of the Client at the time of ordering the Report. The Company shall not be liable in any circumstances in connection with the Report if it is used for any other purpose.

2.3 Whilst the Company will use its reasonable skill and care in producing the Report, it is provided to the Customer on the basis that the Customer and the Client acknowledge and agree to the following:-

2.3.1 the information contained in the Report details only the location and connection of existing drainage and/or water services at the Property at the date stated in the Report;

2.3.2 the Company's obligation in respect of the Report is to correctly reproduce and compile the information provided by the Partner Undertakers and any Third Party Information (in accordance with paragraph 3.5);

2.3.3 the Report does not give details about the actual state or condition of the Property or the existing drainage and/or water services nor should it be used or taken to indicate actual suitability or unsuitability of the Property for any particular purpose, or relied upon for determining saleability or value, or used as a substitute for any physical investigation or inspection. Further advice and information from appropriate experts and professionals should always be obtained if the Customer or the Client requires;

2.3.4 the information contained in the Report is dependent upon the accuracy of the information supplied by the Customer or Client including, but not limited to the address of the Property and any plan of the Property;

2.3.5 the statements in the Report marked as "Guidance Notes" are intended to be general statements and advice in addition to the report on the Property. The Company cannot ensure that any such guidance notes are accurate, complete or valid and accepts no liability for such general statements and advice provided; and

2.3.6 Without prejudice to all other Terms, the Company accepts responsibility for the inaccuracy of location, or missing apparatus contained in the Maps within the Report that arise as a result of negligence.

2.3.7 Notwithstanding clause 2.3.5, for the purposes of this Report, the Company will not seek to rely on any statements and/or disclaimer shown on any Maps which limits liability in relation to the accuracy and/or location of apparatus.

2.4 The Client and/or Customer shall notify the Company as soon as is practicable if it becomes aware of any defect or inaccuracy in the Report.

2.5 In Providing you with this Report, the Company will comply with the Drainage & Water Searches Network (DWSN) Standards.

3. Cancellation rights

As a consumer

3.1 Where the Customer is an individual consumer (and not acting for purposes wholly or mainly relating to their trade, business, craft or profession), they have specific legal rights relating to cancellation of any Order they may place. They may cancel an Order at any time within 14 days after the day on which the contract is entered into ("Cancellation Period").

3.2 To exercise the right to cancel, they must tell the Company of their decision to cancel this contract by a clear statement.

3.3 Where they are ordering a Report as a consumer, due to their cancellation rights, The Company will not process the Order or provide the Report to them before the end of the Cancellation Period unless they provide their express consent and they acknowledge that they will lose the right to cancel the contract under regulation 29(1) of the Consumer Contracts (Information, Cancellation, and Additional Charges) Regulation 2013.

3.4 In addition to these rights, where the Company is able to, they will cancel any Order in accordance with their cancellation policy, which can be found on www.severntrentsearches.com.

As a Business

3.5 The Cancellation Period does not apply to the Order if the Customer is placing the Order wholly or mainly for purposes relating to their trade, business, craft or profession.

3.6 If the Customer cancels their Order other than in accordance with this clause they may be liable for the payment of certain fees which are recoverable as detailed in the cancellation policy at: www.severntrentsearches.com.

4. Limitation of Liability

4.1 The Company does not exclude its liability (if any) to the Customer and/or the Client:

4.1.1 for personal injury or death resulting from the Company's negligence;

4.1.2 for any matter for which it would be illegal for the Company to exclude or to attempt to exclude its liability;

4.1.3 for fraud or fraudulent misrepresentation;

4.1.4 for breach of its obligations arising under Section 2 Supply of Goods and Services Act 1982; or

4.1.5 arising under Section 2(3) Consumer Protection Act 1987.

4.2 Subject to paragraph 4.1 the Company accepts no responsibility for and excludes its liability (whether for breach of contract, negligence or any other tort, under statute or statutory duty, restitution or otherwise at all) for:

4.2.1 any inaccuracy or error in the Report based on incomplete or inaccurate information supplied by the Customer and/or the Client;

4.2.2 any use of the Report by the Customer for any purpose other than the Purpose;

4.2.3 any change in the location and connection of existing drainage and/or water services at the Property after the date stated in the Report.

4.3 The Company shall not be in breach of these Terms or otherwise liable to the Customer and/or the Client for any failure to provide or delay in providing the Report to the extent that such failure or delay is due to an event or circumstance beyond the reasonable control of the Company including but not limited to any delay, failure of or defect in any machine, processing system or transmission link or any failure or default of a supplier or sub-contractor of the Company or any provider of any third party Information except to the extent that such failure or delay is caused by the negligence of the Company.

5 Intellectual Property Rights

5.1 The Customer acknowledges that the Report they receive is confidential and is intended for (a) their own internal or personal purposes and/or (b) where they are trading as a business, the personal use of the Client. The Report shall not be used or copied (in whole or in part) for any other use whatsoever, whether for commercial gain or otherwise.

5.2 The Company grants the Customer a non-exclusive and non-transferable licence:

a to make copies of the Reports (except the Map) for their own internal purposes;

b to incorporate the Reports (other than the Map) into any written advice they provide in the normal course of their business; and

c to disclose the Reports, where they are trading as a business, in the normal course of their business to:

i the Client; and or

ii anyone who is acquiring or considering acquiring an interest in or charge over the property to which the Report relates, and their professional advisers.

5.3 The Customer must not alter any part of the Report including altering, removing or obscuring any logos and/or branding which is contained in a Report.

5.4 All intellectual property rights, including trademarks, domain names and copyright in the Reports are owned by the Company and/or its licensors.

5.5 Any Maps contained in any Report are protected by Crown Copyright. The Maps must not be used for any purpose other than as part of the Report. Neither the Customer nor anyone to whom it provides the Report may reproduce the Maps without paying for a separate licence from Ordnance Survey.

5.6 No intellectual or other property rights are transferred or licensed to the Customer or where they are trading as a business to the Client or any other person except to the extent set out in these terms.

5.7 The Customer agrees to compensate the Company against any losses, costs, claims, damages and/or expenses which it incurs and/or suffers as a result of any breach of any intellectual property rights or obligations set out in any of the Terms by the Customer, or where the Customer is trading as a business to the Client or any party to whom it provides a copy of the Report.

5.8 The enquiries contained in the Report are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL and must not be used for any purpose outside the context of the Report.

5.9 The obligation to procure the compliance of the Client to the obligations set out in this paragraph 5 and in paragraph 7.5 shall not apply to customers who are bona fide legal advisers recharging the cost of the Report to the Client as a disbursement.

6. Payment

6.1 Unless otherwise stated all prices are inclusive of VAT. The Customer shall pay the price of the Report specified by the Company, without any set off, deduction or counterclaim. Unless the Customer or Client has an account with the Company for payment for Reports, the Company must receive payments for Reports in full before the Report is produced. For Customers or Clients with accounts, payment terms will be as agreed with the Company.

7. General

7.1 If any provision of these Terms is or becomes invalid or unenforceable, it will be taken to be removed from the rest of these terms to the extent that it is invalid or unenforceable. No other provision of these terms shall be affected.

7.2 Any failure by the Company to enforce any breach of the Terms shall not be deemed to be a waiver of any future breach of the Terms by the Customer or Client.

7.3 Nothing in these Terms shall in any way restrict the Customer or Client's statutory or any other rights of access to the information contained in the Report.

7.4 The Company and the Customer agree and where the Customer is not the Client, the Customer shall procure that the Client agrees that these Terms contain all the terms which the Company and the Customer and/or the Client have agreed in relation to the subject matter of these Terms and supersede any prior written or oral agreements, representations or understandings between any of them in relation to such subject matter. Nothing in this paragraph 7.5 will exclude any liability which one party would otherwise have to another party in respect of any statements made fraudulently.

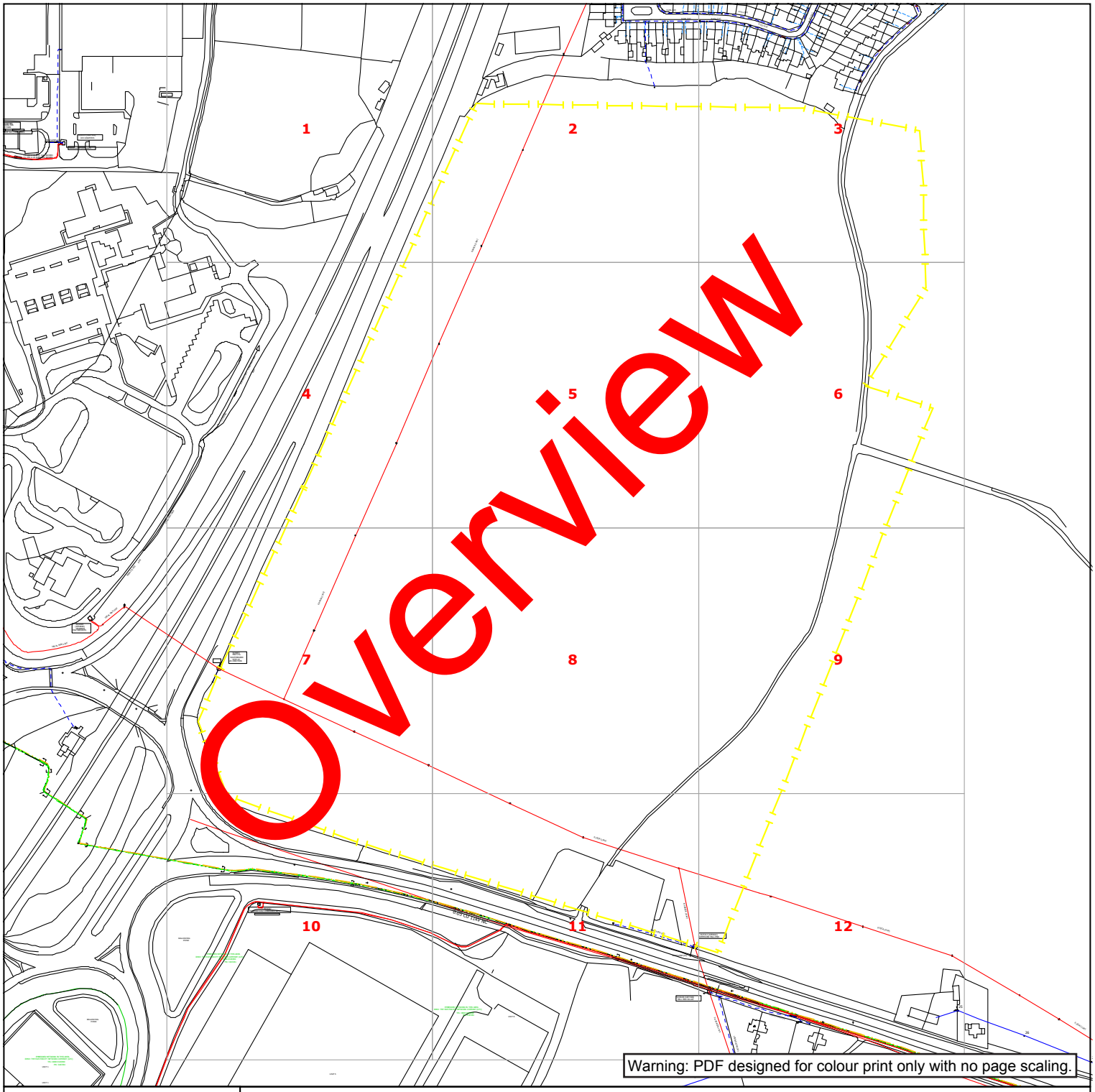
7.6 The Company may assign, delegate, licence, hold on trust or sub-contract all or any part of its rights and obligations under these Terms. The Customer/Client is not permitted to assign all or any part of its rights and obligations under these Terms and/or under the Report.

Customer Complaints procedure:

The Company offers a robust complaints procedure which can be found on our website www.severntrentsearches.com.

If your complaint has gone through our complaints procedure and you are dissatisfied with the response or it has exceeded our response timescales, you may refer your complaint for consideration under The Property Ombudsman Scheme (TPOs). You can obtain further information by visiting www.tpos.co.uk or email admin@tpos.co.uk.

Severn Trent Searches is a trading name of Severn Trent Property Solutions. Registered in England and Wales no.08181033 Registered office, Severn Trent Centre, 2 St John's Street, Coventry, CV1 2LZ.



WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales

Contact Us

Mapping Enquiries:

All areas 0121 623 9780

General Enquiries:

All areas 0800 096 3080

Date Requested: 07/09/2020

Job Reference: 19850841

Site Location: 424827 300925

Requested by:

Miss Janice Sheldon

Your Scheme/Reference:

AG3185-20

Link Box

Site Location

Line/Area

Overhead Line

- PL
- Service
- LV
- HV (11kV)
- HV (33kV)
- HV (66kV)
- HV (132kV)

Underground Cable

SURF Telecoms

PME Earth

Underground Earth

Pilot Cables

Pole Mounted Transformer

Ground Mounted Transformer

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed. Services or recent additions to the network may not be shown.
- Cables, overhead lines & substations owned by other electricity network owners or private companies may be present and may not be shown.
- You should always verify exact locations of cables using a cable locator and by careful use of hand tools in accordance with HSE guidance note HSG47.
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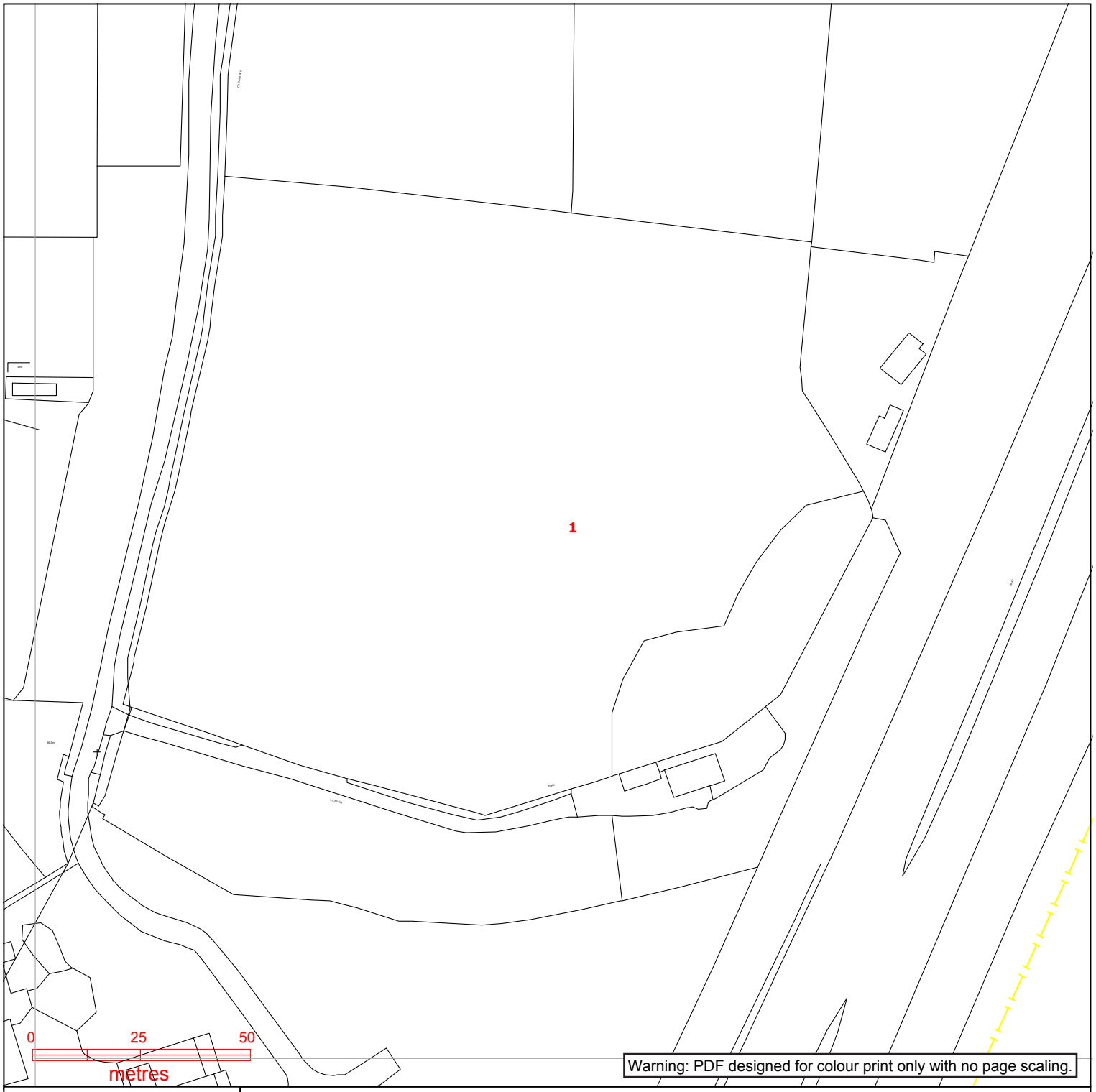
Report damage immediately – KEEP EVERYONE AWAY FROM THE AREA

0800 6783 105



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WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales

Contact Us

Mapping Enquiries:

All areas 0121 623 9780

General Enquiries:

All areas 0800 096 3080

Date Requested: 07/09/2020

Job Reference: 19850841

Site Location: 424827 300925

Requested by:

Miss Janice Sheldon

Your Scheme/Reference:

AG3185-20

Exact Scales:

1:1250 Area or Circle dig site

1:500 Line dig site

Link Box

Site Location

Line/Area

Overhead Line

- PL
- Service
- LV
- HV (11kV)
- HV (33kV)
- HV (66kV)
- HV (132kV)

Underground Cable

SURF Telecoms

S — S

PME Earth

E

Underground Earth

Pilot Cables

P — P

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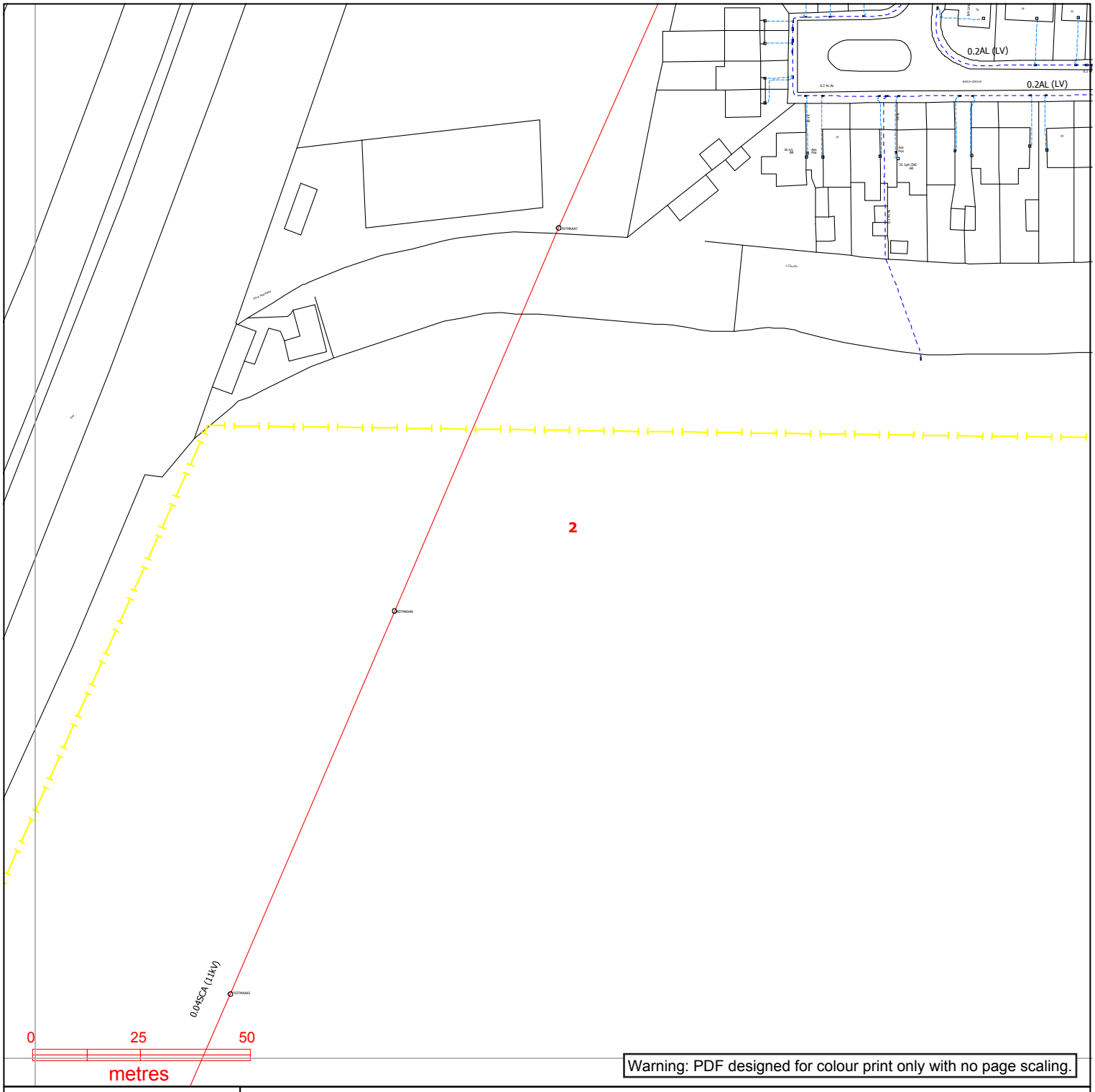

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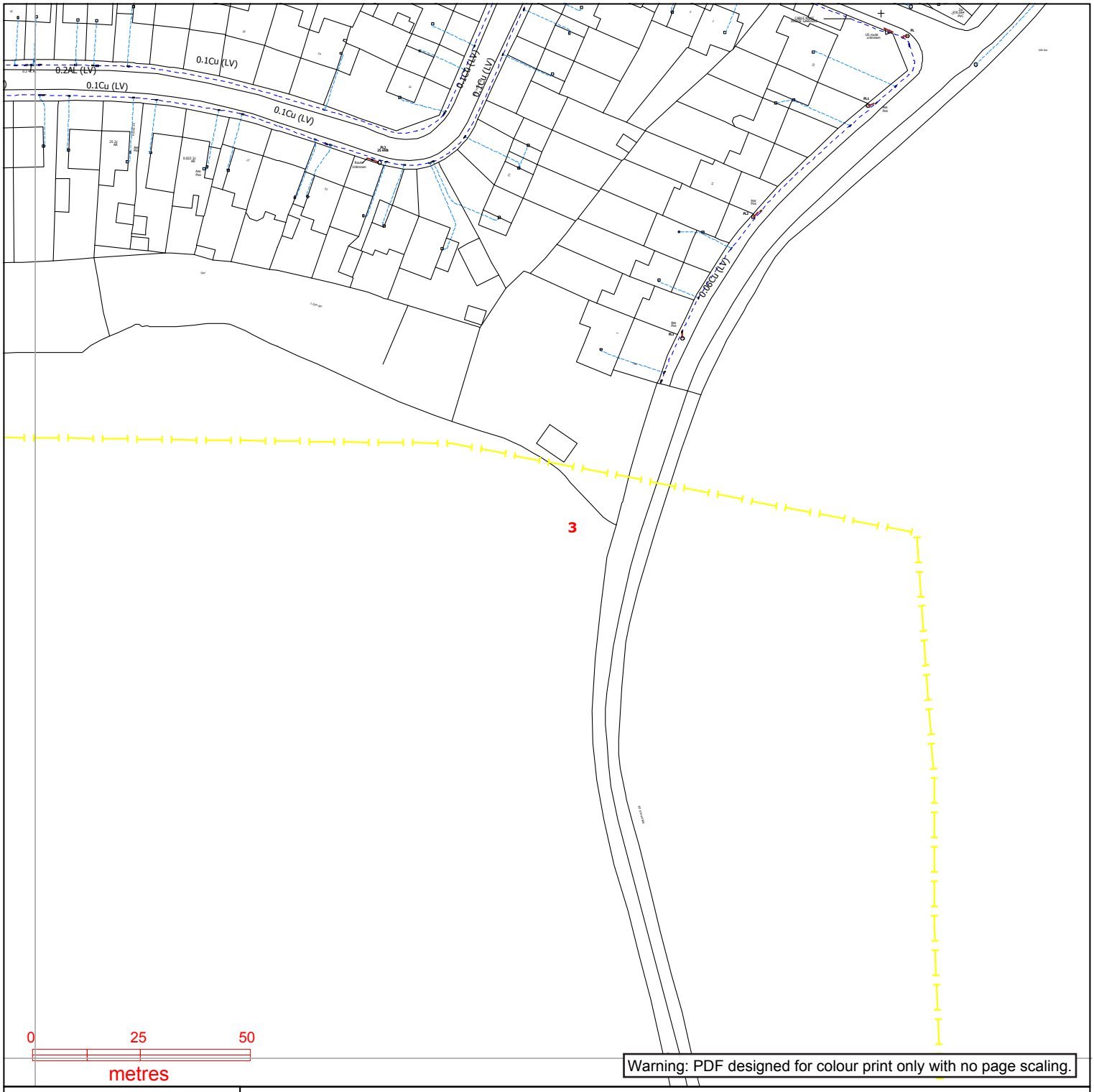

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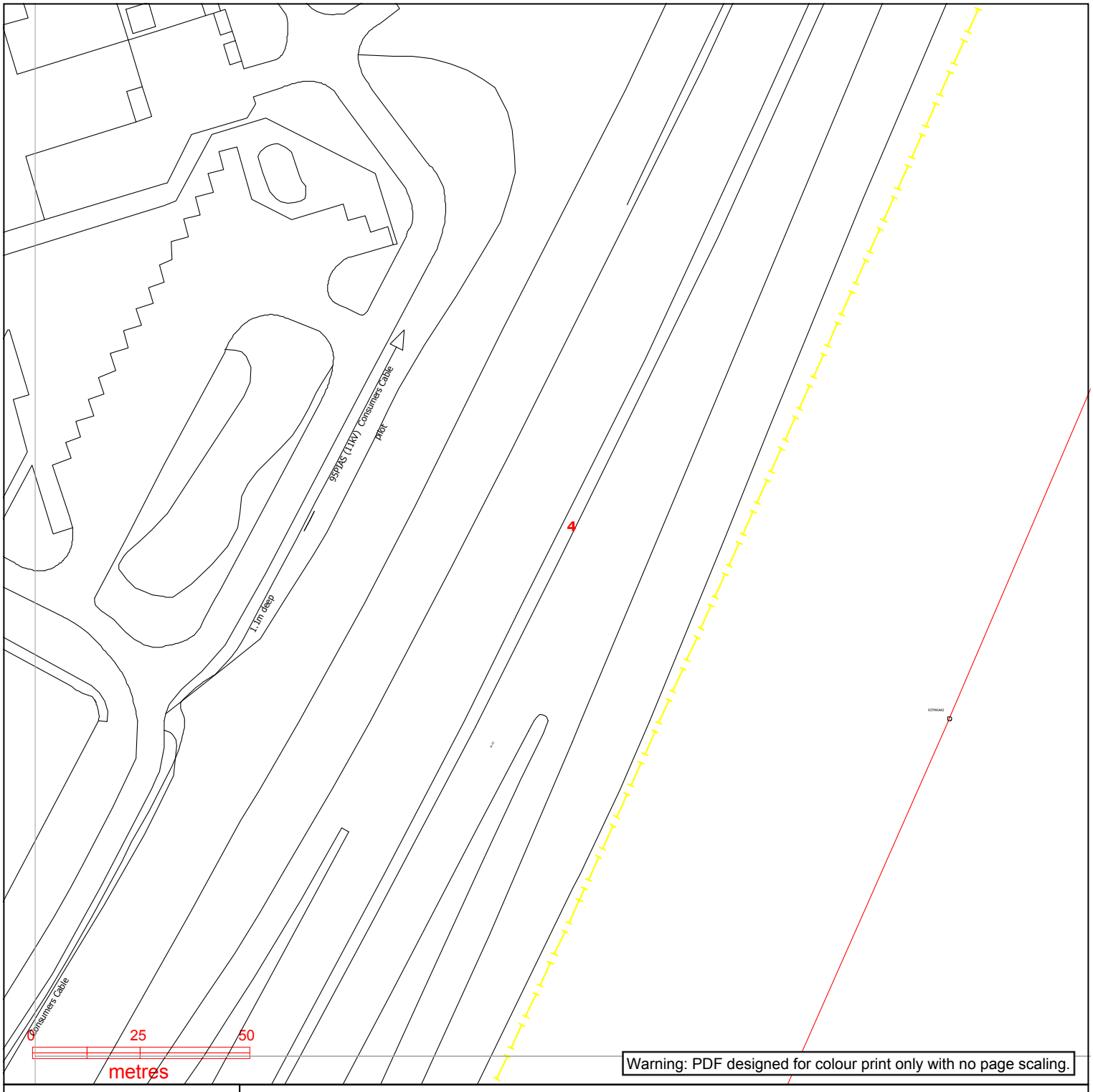

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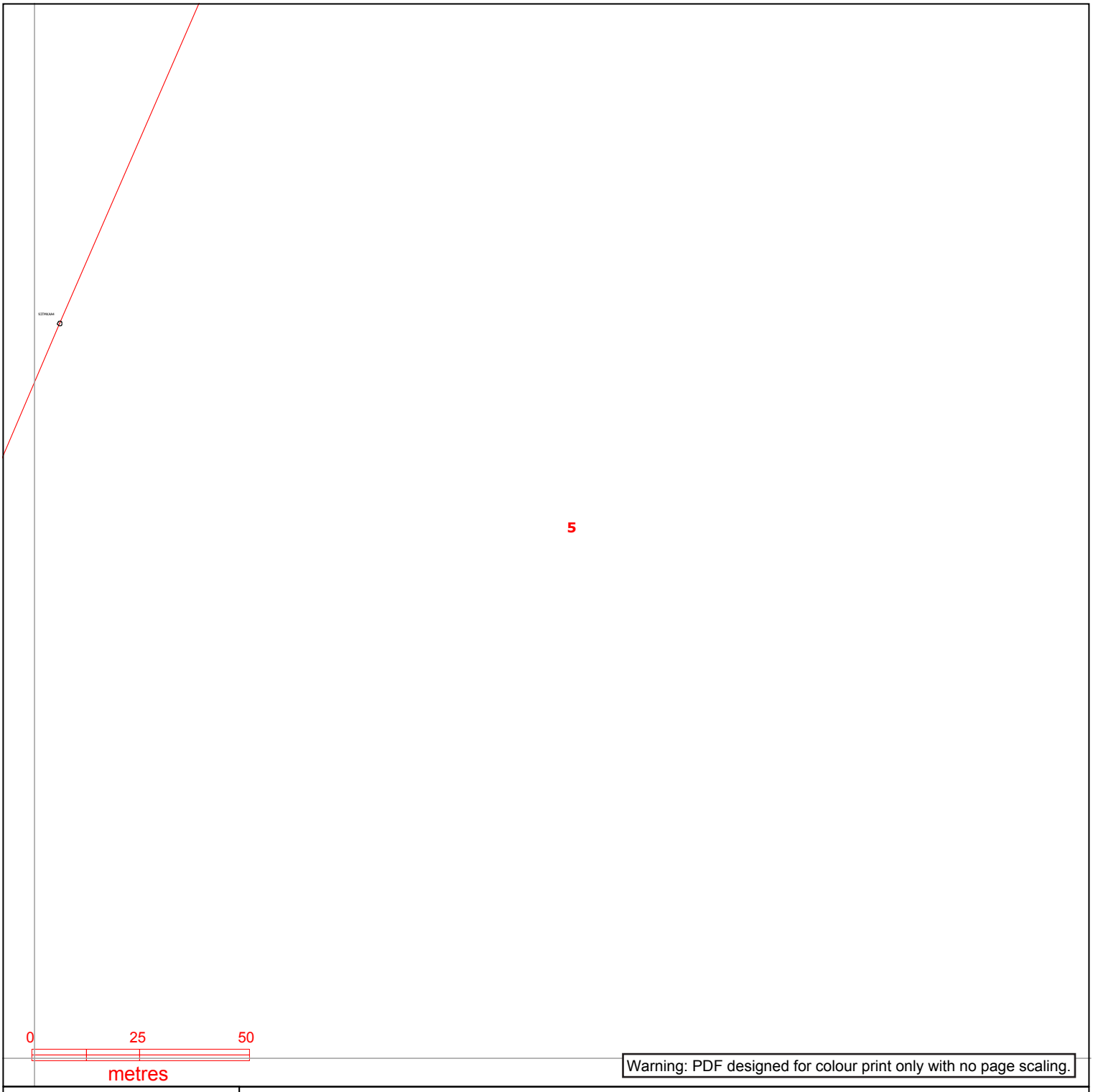

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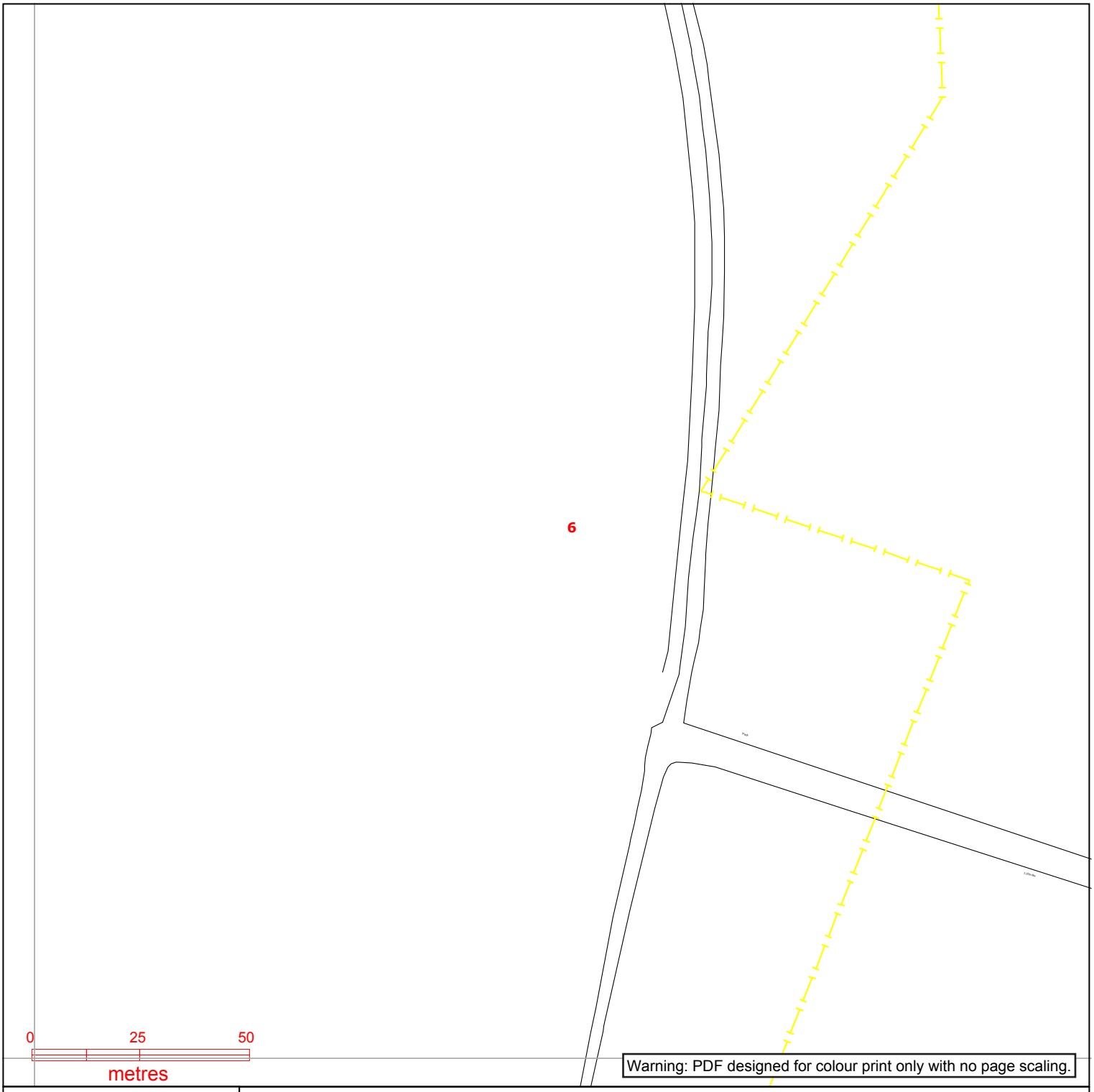

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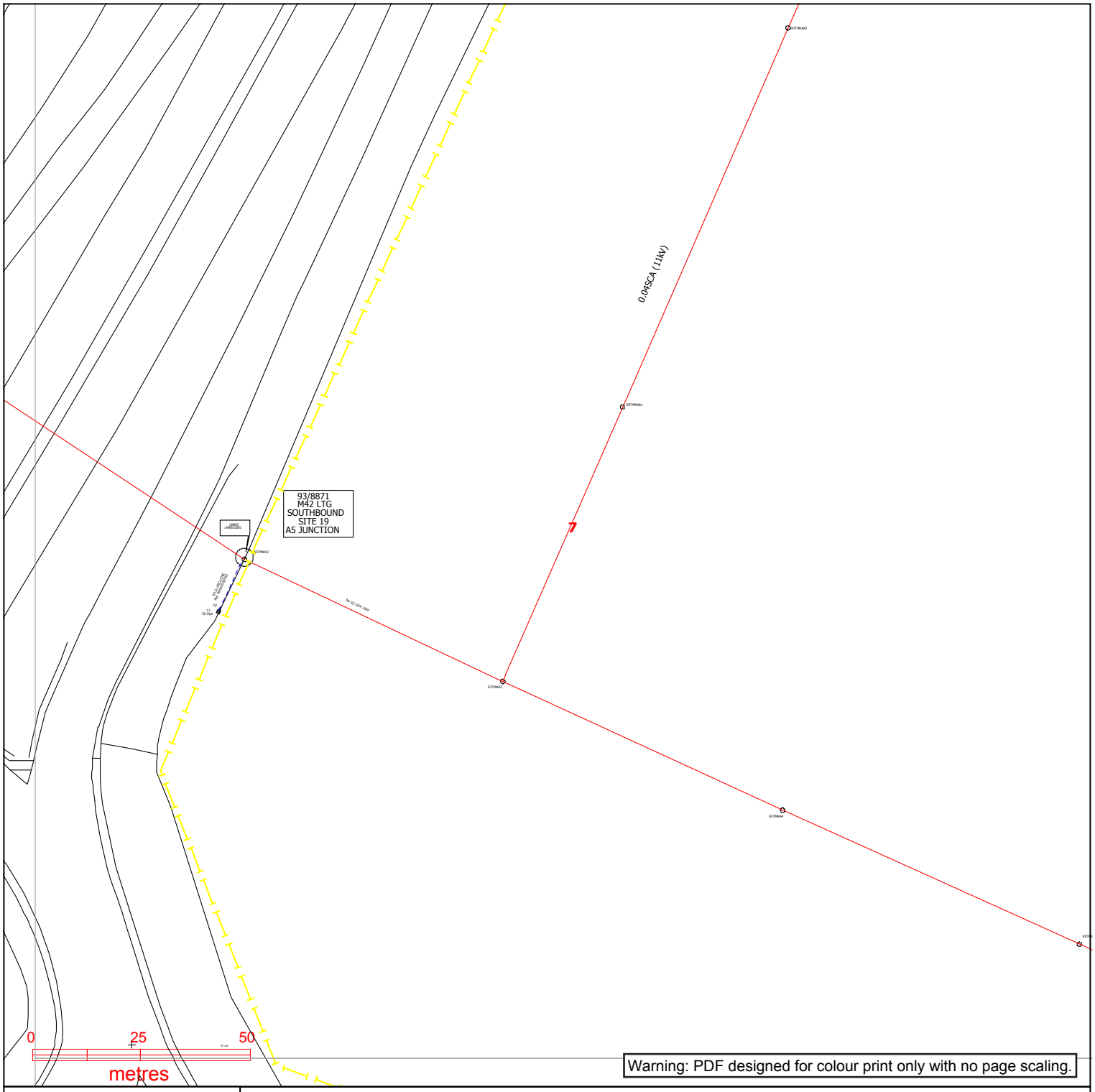

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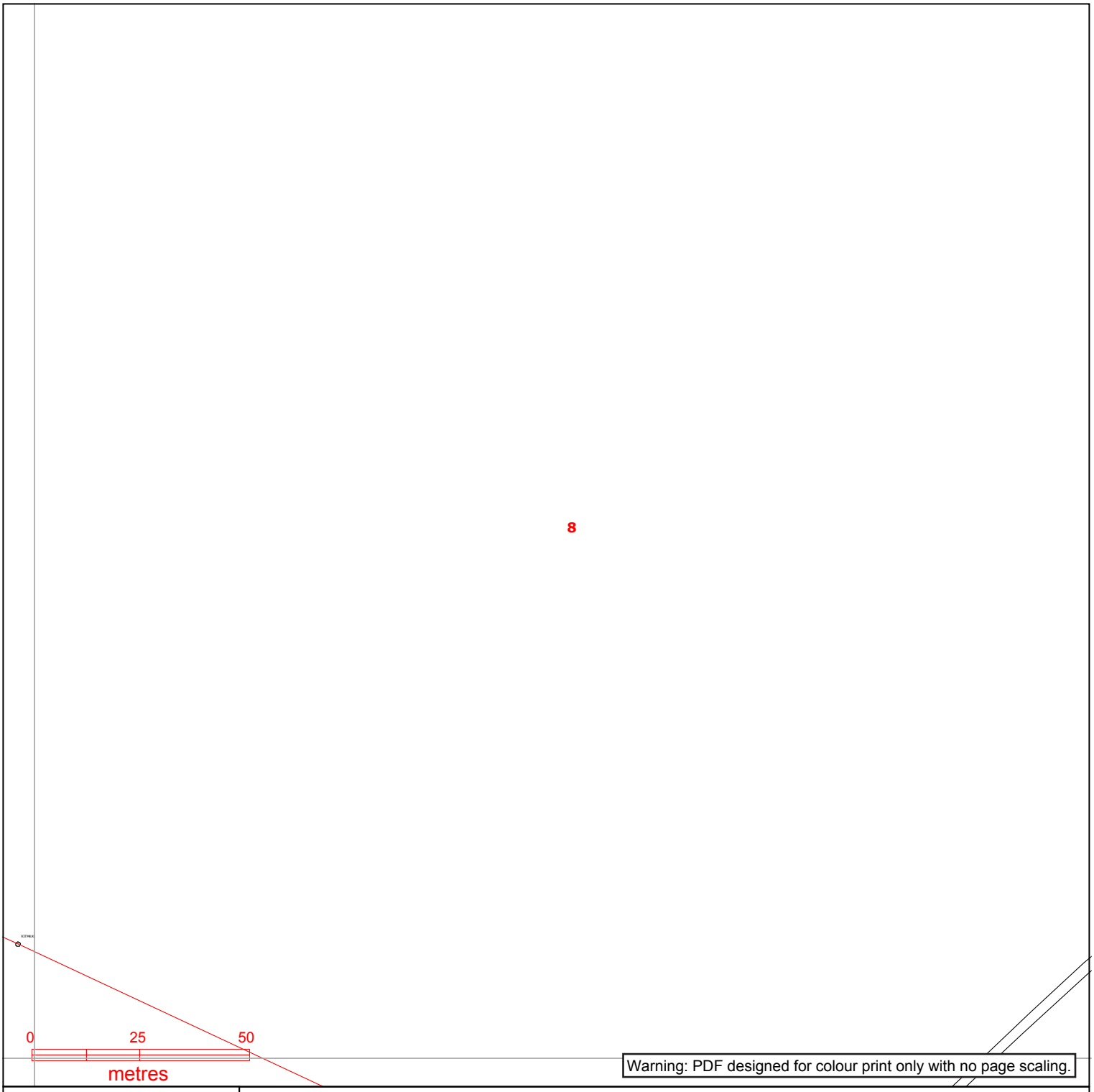

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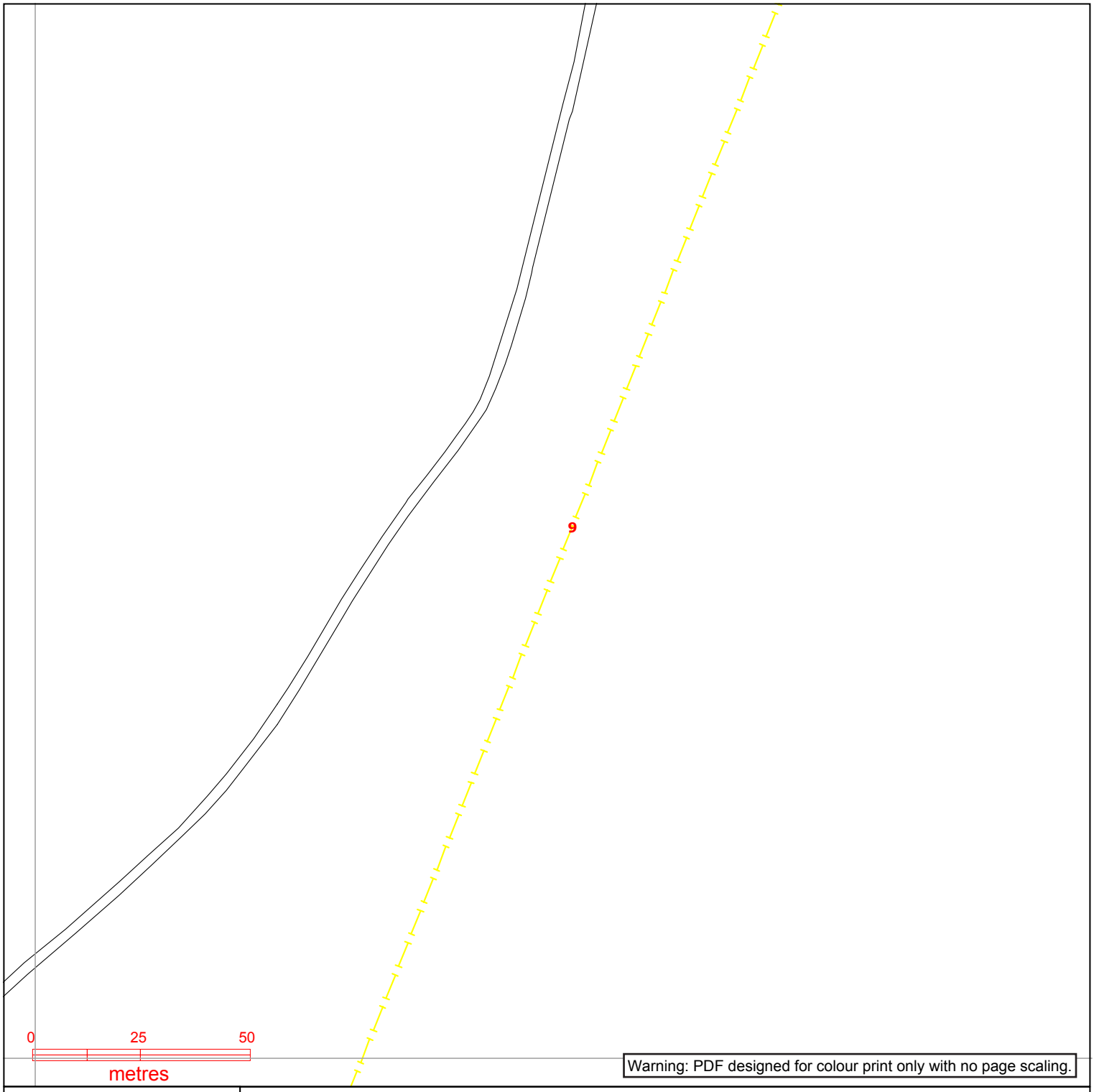

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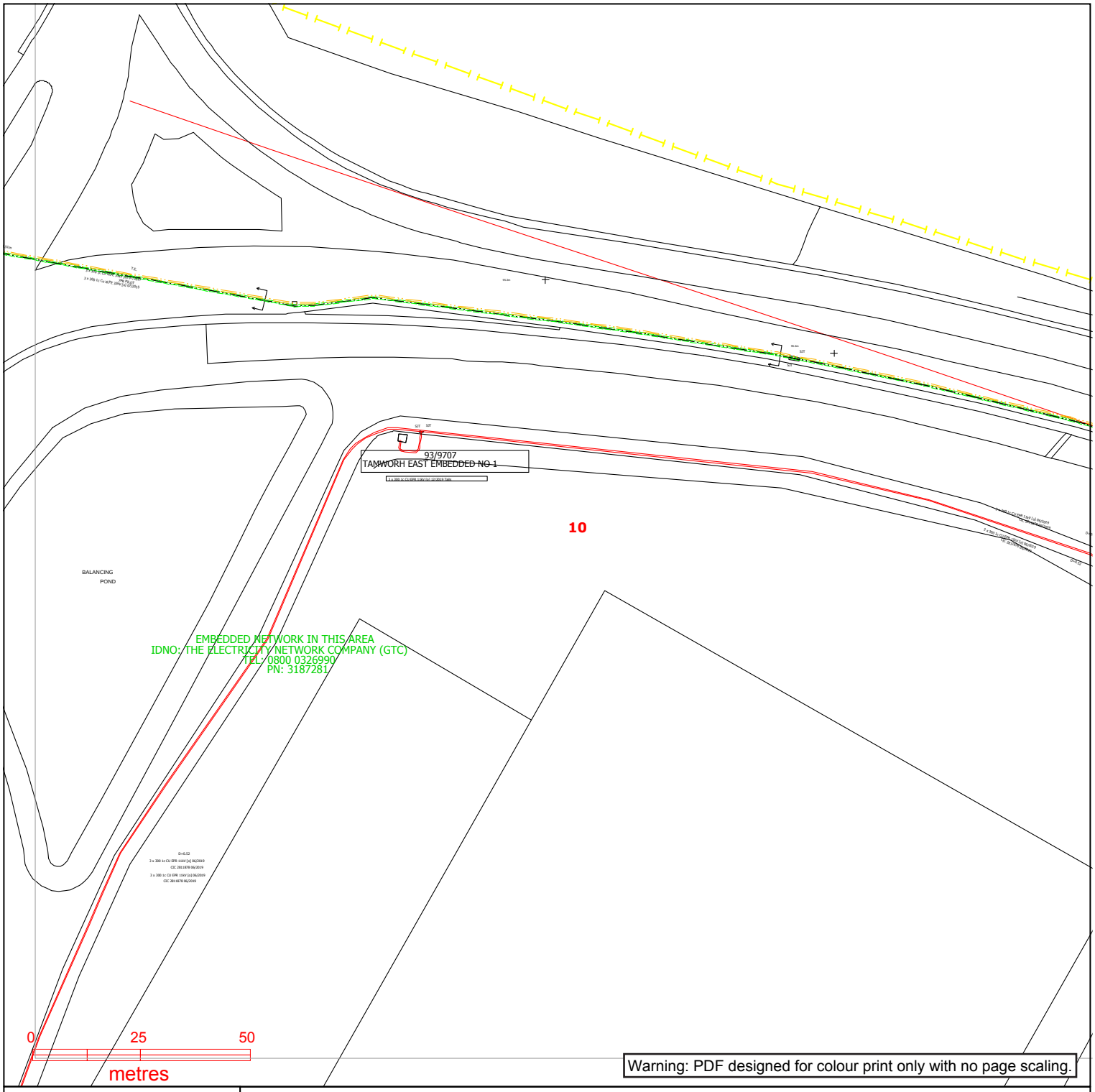

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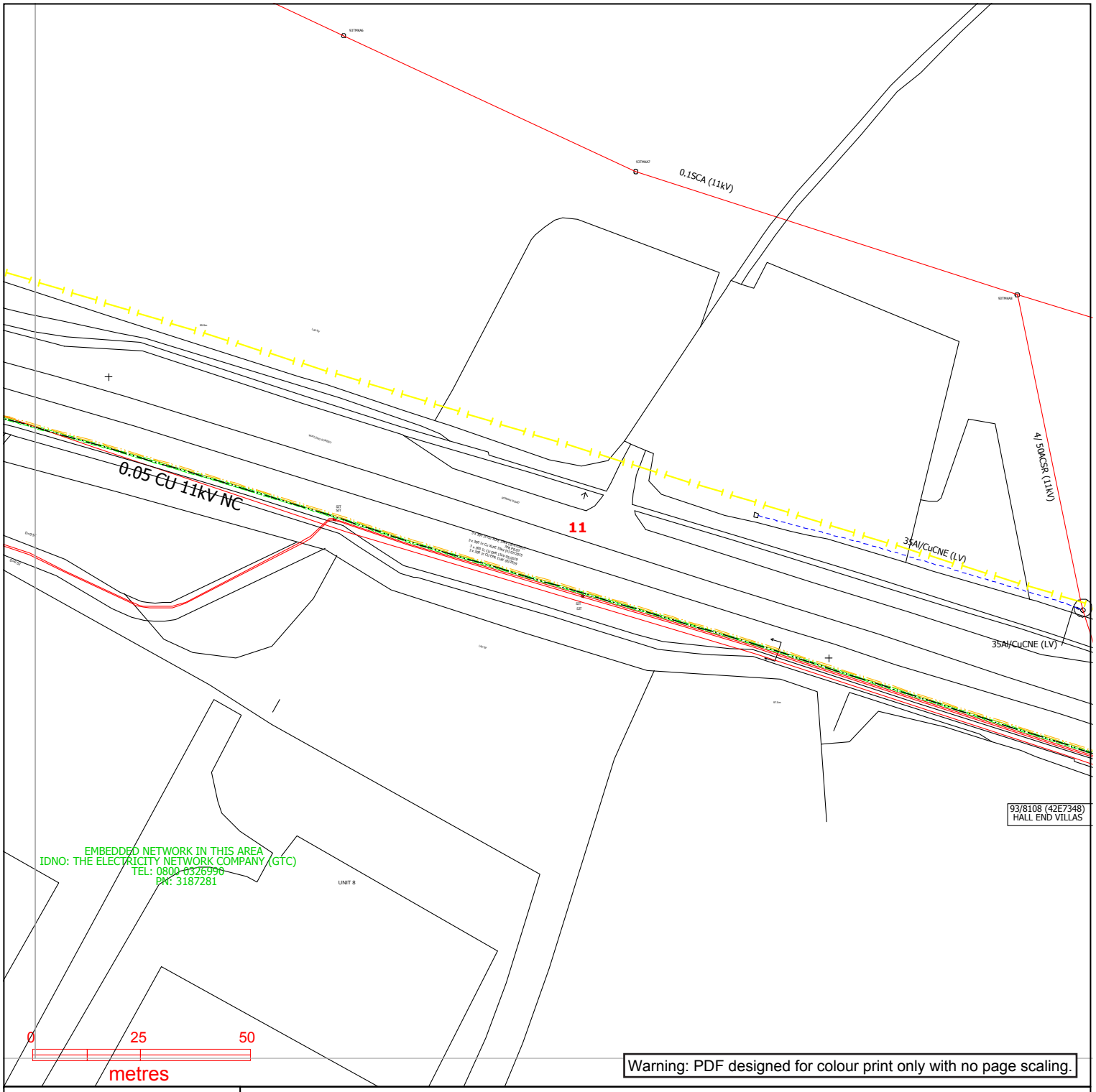

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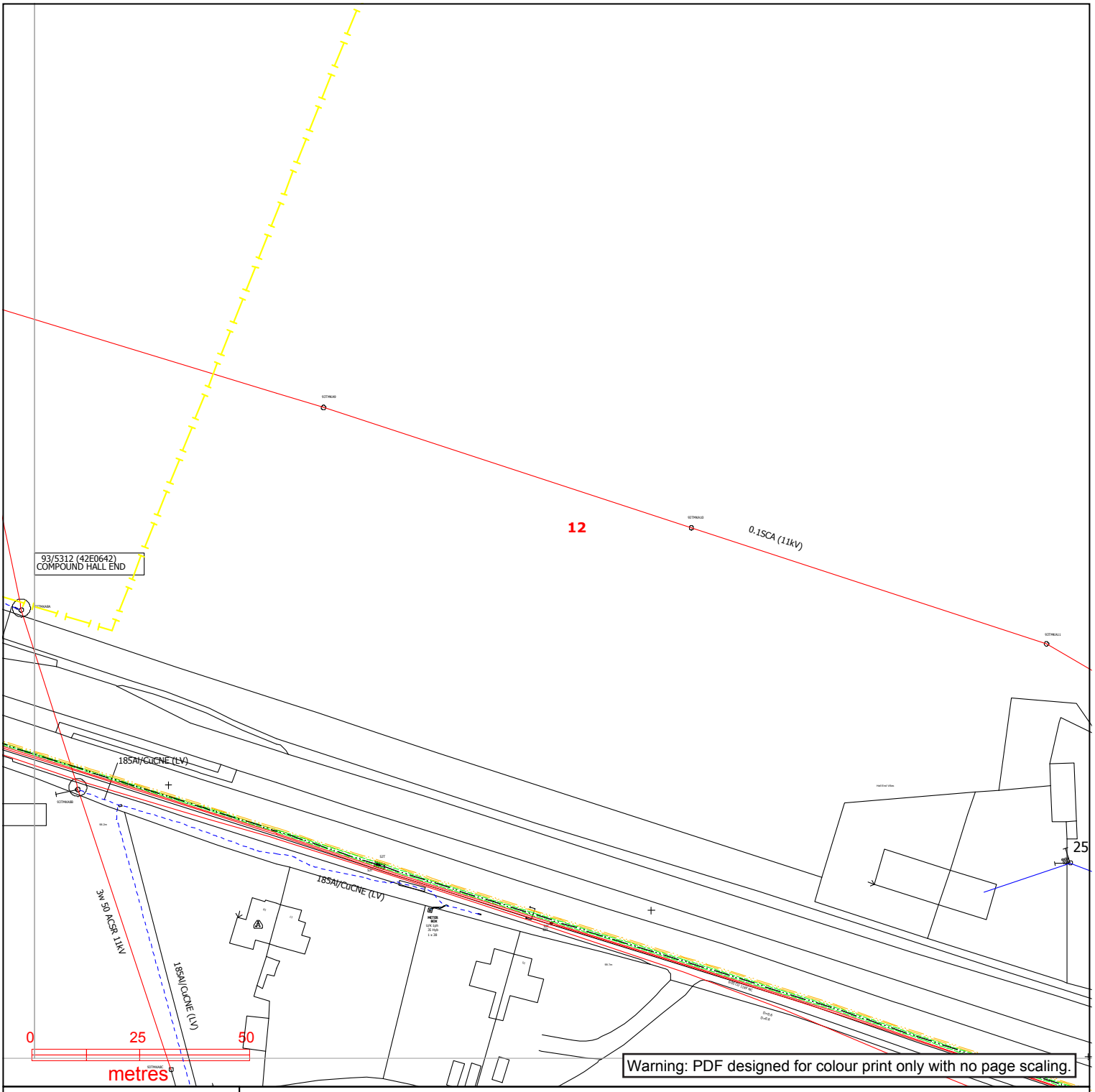

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Electricity Network Information Plans Fees 01 December 2015

WESTERN POWER DISTRIBUTION
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LinesearchbeforeUdig (LSBUD) – online service

Non Chargeable e.g. Local Authority, Utility, Architect, Developer, Electrical Design Consultants or, Independent Connection Providers (ICP) including contractors excavating on their behalf	
LSBUD internet/email	Free
Chargeable - Commercial use of plans and data e.g. Solicitor, Conveyancer, Search Company. Including, but not limited to, resellers and speculative consultancy	
LSBUD internet/email (Pay As You Go and **Monthly Invoice***)	£15 per enquiry

***Monthly Invoice - Standard payment terms are 30 days net of receipt of invoice**

Paper Plans – Map Response Team (see below for contact details)

Private Domestic Enquiry e.g. homeowner requesting plans of their own property	
Single Paper Plan Postal service	Free
Chargeable e.g. Solicitor, Conveyancer, Search Company, Local Authority, Utility, Architect, Consultant, Developer or, Independent Connection Providers (ICP) including contractors excavating on their behalf. Including, but not limtied to, resellers and speculative consultancy	
Single Paper Plan Postal service	£30.00 *Multiple plans price on application*

- All prices are **exclusive of VAT**
- Plans are not suitable for black and white photocopying

To register for **LSBUD** go to http://www.westernpower.co.uk/locationplans or http://www.linesearchbeforeudig.co.uk

For more information please contact the Map Response Team:

Email: WPDWebMap@westernpower.co.uk

Post: Map Response Team, Western Power Distribution, Mapping Centre
Toll End Road, Tipton, West Midlands DY4 0HH

Phone: 0121 623 9780

Fax: 0121 623 9223

Our Ref: 19850841 Your Ref: AG3185-20

Monday, 07 September 2020

Janice Sheldon
Unit 23 Abbey Park, Stareton
Kenilworth
Warwickshire
CV8 2LY

Western Power Distribution,
Mapping Centre
Toll End Road
Tipton
West Midlands
United Kingdom
DY4 0HH
www.westernpower.co.uk

Map Response
T 0121 623 9780
WPDMapResponse
@westernpower.co.uk

LinesearchbeforeUdig
Help Desk 0845 437 7365

Dear Janice Sheldon

Thank you for your enquiry dated Monday, 07 September 2020

I now enclose a copy of our plan showing existing Western Power Distribution (WPD) Electricity / WPD Surf Telecom apparatus in the vicinity of your proposed works. This information is given as a general guide only and its accuracy cannot be guaranteed. Please note that all WPD equipment on site should be assumed to be LIVE until WPD prove otherwise and provide you with confirmation to this effect in writing. Recent additions to our network, or service connections between the main cable and a building or street lamp may not be shown.

Damage to underground cables and contact with overhead lines can cause severe injury or may prove fatal. If you are excavating on site in the vicinity of either WPD Electrical apparatus or WPD Surf Telecom apparatus you must comply with the requirements of the following:-

Health & Safety Executive guidance HS(G)47, Avoiding Danger from underground services.

Work taking place in the vicinity of our plant is also regulated under the:-

Electricity at Work Regulations 1989, Health and Safety Act 1974, CDM Regulations 2015.
Safe working procedures should be defined and practiced

Please ensure that the use of mechanical excavators in the vicinity of our plant is kept to a minimum. WPD Surf Telecom ducts contain fibre cables, which are expensive to repair. Therefore, extreme care must be taken whilst working in the vicinity of these ducts, hand digging methods being used to determine their precise position.

If there are overhead lines crossing your site and your proposal involves building works which may infringe the clearance to our overhead system then you should call the relevant general enquiries number (see page 2 of this letter) for advice. Where overhead lines cross your site you must comply with the requirements of Health & Safety Executive guidance as laid down in GS6, Avoidance of Danger from Overhead Electric Lines.

Where diversions to WPD apparatus are needed to allow change to occur on site, the cost of these alterations may be charged to the persons responsible for the works.

If you require advice in connection with your proposals please contact the relevant general enquiries number (see page 2 of this letter)

Following consultation the local Western Power Distribution team will where necessary prepare detailed proposals and provide a quotation for any necessary alterations and/or development of our equipment on the site.

Yours sincerely
WPD Map Response Team

Western Power Distribution PLC
South West - 02366894
South Wales - 02366985
East Midlands - 02366923
West Midlands - 03600574

Registered in
England and Wales

Registered Office:
Avonbank
Feeder Road
Bristol
BS2 0TB

Safety Documents:
https://www.westernpower.co.uk/customers-and-community/health-safety/public-safety-advice

Contact Us

Emergency or Power Supply issues
In an emergency call 105, 24 hours a day.

Mapping Enquiries
If you have an enquiry relating to this letter or the attached map plan, please contact us using the following information:

Telephone	0121 623 9780
Email	WPDMapResponse@westernpower.co.uk

General Enquiries
If you have a general enquiry, please call us on the following telephone number:

All areas	0800 096 3080

LinesearchbeforeUdig
If you have an enquiry relating to the use of the LinesearchbeforeUdig website please contact LinesearchbeforeUdig using the following information:

Telephone	0845 437 7365
Email	enquiries@linesearchbeforeudig.co.uk
Website	www.linesearchbeforeudig.co.uk

Safety Documents:
https://www.westernpower.co.uk/customers-and-community/health-safety/public-safety-advice

Steps to help keep you safe

- **If you are working within 10 metres of our 33kV, 66kV, 132kV underground electricity cables or within 10 metres of an overhead electricity line you should call the relevant General Enquiries for free safety advice.**

  Safety Documents – please download our informative safety documents to help ensure that you, your staff and the public are kept safe whilst working in the vicinity of electricity.
  https://www.westernpower.co.uk/customers-and-community/health-safety/public-safety-advice

- **Make sure you have up to date plans** - remember that recent additions to our network or service connections between the main cable and a building or street lamp may not be shown.

- **Look for signs of service cables -** an electricity meter box or nearby streetlamp may give you an indication that service cables are present in your area of work.

- **Non WPD Network -** electricity cables, lines and equipment owned by others may also be present in addition to WPD network. They are unlikely to be shown on our plans.

- **Use a cable locator** - trace electricity cables and mark the position of them using paint or other waterproof marking on the ground.

- **Hand dig trial holes** - to confirm the position of cables in close proximity to your area of your work and use spades and shovels rather than picks, pins or forks.

- **Have an emergency plan** - so that everyone working on site understands what to do in the event of an underground electricity cable being damaged or contact being made with an overhead electricity line.

- **If you are working within 10 metres** of an overhead electricity line then it may be necessary for you to erect warning signs and markers, or height restriction goal posts. Ensure that you comply with the requirements of Health & Safety Executive guidance laid down in GS6, Avoidance of Danger from Overhead Electric Lines.

- **If you are erecting a structure** that could allow anyone standing on it, or its access device (ladder, scaffold, MEWP), to come within 3m of any overhead electric line then **you must inform us**. This is your duty and a legal requirement under the Electricity Safety, Quality & Continuity Regulations 2002.

- **If you cannot work safely** around the underground electricity cable or overhead electricity line, then you may need to get it moved to allow your works to go ahead. Call the general enquiry numbers above for guidance.

- **It is possible that cables or pipes may be embedded in concrete** - electricity cables embedded in concrete MUST be made 'dead' by Western Power Distribution or the cable owner before the concrete is broken out. Alternatively, another safe way of working should be agreed.

Cables are sometimes covered by tiles or a marker tape - these can be concrete, polythene or earthenware and are a useful early warning of the presence of cables; you should avoid disturbing any tiles or tape to expose the cable. Not all cables have these warning indicators.

Appendix C

Ground Investigation Data

BOREHOLE LOG - CABLE PERCUSSION

CP1

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	17/09/2020 **Coordinates**	**Scale**	1:50
End	17/09/2020 **Ground Level**	**Total Depth**	2.56m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.00					Very stiff light brown and grey sandy CLAY.			
B	1.20				(2.30)				
D	1.20								
S	1.20	N = 30							
D	2.00								
S	2.00	N >50							
					2.30				
D	2.50				(0.26)	Extremely weak light brown SANDSTONE recovered as silty sand.			
S	2.50	N >50			2.56	End of Borehole at 2.56m			

Chiselling		
From	To	Duration (hh:mm)
2.30	2.50	00:15

Groundwater Strikes				
Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy SI

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 2.50m bgl

Diameter: 150mm to 2.50m

Exploratory hole logs should be read in conjunction with key sheets

APPLiED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

CP2

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	18/09/2020 **Coordinates**	**Scale**	1:50
End	18/09/2020 **Ground Level**	**Total Depth**	2.52m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.00				(0.30)	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to coarse subangular to subrounded sandstone.			
					0.30	(TOPSOIL)			
						Very stiff light brown and grey sandy CLAY.			
					(1.50)				
B	1.20								
D	1.20								
S	1.20	N = 35							
					1.80				
						Extremely weak light brown SANDSTONE recovered as silty sand.			
D	2.00								
S	2.00	N >50			(0.72)				
D	2.30								
S	2.30	N >50			2.52				
						End of Borehole at 2.52m			

Chiselling

From	To	Duration (hh:mm)
2.10	2.30	00:15

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy SI

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation:

Diameter: 150mm to 2.30m

Exploratory hole logs should be read in conjunction with key sheets

APPLiED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

CP3

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	18/09/2020 **Coordinates**	**Scale**	1:50
End	18/09/2020 **Ground Level**	**Total Depth**	2.63m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.00				(0.30)	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to coarse angular to subrounded sandstone.			
					0.30	(TOPSOIL)			
						Light brown slightly gravelly very clayey SAND. Gravel is fine angular sandstone.			
					(1.20)				
B	1.20					*From 1.20m bgl: dense.*			
D	1.20								
S	1.20	N = 47			1.50	Extremely weak light brown SANDSTONE recovered as clayey very sandy fine to coarse angular gravel.			
D	2.00								
S	2.00	N >50			(1.13)				
D	2.50								
S	2.50	N >50			2.63	End of Borehole at 2.63m			

Chiselling

From	To	Duration (hh:mm)
2.20	2.50	00:15

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy SI

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation:

Diameter: 150mm to 2.50m

Exploratory hole logs should be read in conjunction with key sheets

APPLiED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

CP4

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	22/09/2020 **Coordinates**	**Scale**	1:50
End	22/09/2020 **Ground Level**	**Total Depth**	2.35m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.40)	Brown slightly clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded sandstone.			
B	0.50				0.40	(TOPSOIL)			
						Brown very clayey SAND.			
					(1.30)				
B	1.20					*From 1.20m bgl: medium dense.*			
D	1.20								
S	1.20	N = 25							
					1.70				
						Extremely weak light brown SANDSTONE recovered as very sandy fine to coarse angular gravel.			
D	2.00				(0.65)				
S	2.00	N >50							
D	2.30				2.35				
S	2.30	N >50				End of Borehole at 2.35m			

Chiselling

From	To	Duration (hh:mm)
2.10	2.30	00:15

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy SI

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter pipe installed to 2.60m bgl

Diameter: 150mm to 2.30m

APPLiED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

CP5

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	22/09/2020 **Coordinates**	**Scale**	1:50
End	22/09/2020 **Ground Level**	**Total Depth**	2.46m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.30)	Brown slightly gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded sandstone.			
					0.30	(TOPSOIL)			
						Light brown silty SAND.			
					(1.30)				
S	1.20	N = 26				*From 1.20m bgl: medium dense.*			
					1.60				
						Extremely weak light brown SANDSTONE recovered as gravelly sand. Gravel is fine to medium angular sandstone.			
S	2.00	N >50			(0.86)				
S	2.30	N >50							
					2.46	End of Borehole at 2.46m			

Chiselling		
From	To	Duration (hh:mm)
2.10	2.30	00:15

Groundwater Strikes				
Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy SI

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation:

Diameter: 150mm to 2.30m

Exploratory hole logs should be read in conjunction with key sheets

APPLiED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

CP6

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	22/09/2020	**Coordinates**	**Scale** 1:50
End	22/09/2020	**Ground Level**	**Total Depth** 1.94m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.00				(0.30)	Brown gravelly clayey SAND with frequen rootlets. Gravel is fine to medium subangular to subrounded sandstone. (TOPSOIL)			
					0.30	Light brown silty SAND.			
					(1.20)				
B	1.20								
D	1.20								
S	1.20	N >50			1.50				
					(0.44)	Extremely weak light brown SANDSTONE recovered as very sandy fine to coarse angular gravel.			
D	1.80								
S	1.80	N >50			1.94	End of Borehole at 1.94m			

Chiselling

From	To	Duration (hh:mm)
1.60	1.80	00:15

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy SI

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 1.80m bgl.

Diameter: 150mm to 1.80m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

CP7

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	22/09/2020	**Coordinates**	**Scale** 1:50
End	22/09/2020	**Ground Level**	**Total Depth** 2.53m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.00				(1.00)	Dark brown gravelly clayey SAND. Gravel is fine to coarse angular to subangular brick, coal fragments and sandstone. (MADE GROUND)			
					1.00				
B	1.20					Dense light brown very clayey SAND.			
D	1.20								
S	1.20	N = 32			(1.40)				
B	2.00								
D	2.00								
D	2.00				2.40				
S	2.00	N = 35			(0.13)	Extremely weak light brown sandstone recovered as sandy fine to coarse angular gravel.			
D	2.50				2.53				
S	2.50	N >50				End of Borehole at 2.53m			

Chiselling

From	To	Duration (hh:mm)
2.30	2.50	00:15

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy CP

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 2.50m bgl

Diameter: 150mm to 2.50m

Exploratory hole logs should be read in conjunction with key sheets

APPLiED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

CP8

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Start	22/09/2020 **Coordinates**	**Scale**	1:50
End	22/09/2020 **Ground Level**	**Total Depth**	2.21m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.20				(0.20) 0.20	Dark brown silty SAND with frequent rootlets. (TOPSOIL)			
						Light brown very clayey SAND.			
					(1.60)				
B	1.20					*From 1.20m bgl: medium dense.*			
D	1.20								
S	1.20	N = 26							
					1.80				
S	2.00	N >50			(0.41)	Extremely weak light brown SANDSTONE recovered as silty gravelly sand. Gravel is fine to coarse angular sandstone.			
S	2.20	N >50			2.21	End of Borehole at 2.21m			

Chiselling		
From	To	Duration (hh:mm)
2.00	2.20	00:15

Groundwater Strikes				
Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: Lundy SI

Logged: CS

Checked: PG

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation:

Diameter: 150mm to 2.20m

APPLiED GEOLOGY

TRIAL PIT LOG

TP1

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.50m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
D	0.80			(0.65) 1.00	E	Stiff grey and light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to subangular sandstone.		
B	1.80			(1.50)	E	Extremely weak light brown SANDSTONE recovered as clayey very sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone. Cobbles are angular sandstone.		
				2.50	VH	End of Trial Pit at 2.50m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.50m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP2

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL)		
				0.40	E	Light brown and reddish brown slightly gravelly clayey SAND. Gravel is fine to coarse subangular to subangular sandstone and mudstone.		
D	0.80			(0.60)				
				1.00	E	Extremely weak light brown SANDSTONE recovered as clayey very sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular siltstone and sandstone. Cobbles are angular to subangular		
B	1.80			(1.40)				
				2.40	VH	End of Trial Pit at 2.40m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable.

Remarks: Trial pit completed at 2.40m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP3

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)		Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
				0.40	E			
					E	Light brown clayey very gravelly SAND with rare cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
B	0.80			(0.70)				
				1.10				
					E	Extremely weak light brown SANDSTONE slightly clayey gravelly sand with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are subangular to rounded sandstone.		
B	1.80			(1.20)				
				2.30	VH	End of Trial Pit at 2.30m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.30m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP4

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.70m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D	0.20			(0.35)		Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
ES	0.20			0.35	E			
					E	Light brown silty GRAVEL and SAND with rare cobbles. Gravel is fine to coarse angular to subangular siltstone and sandstone. Cobbles are angular sandstone.		
B	0.80			(1.45)				
				1.80		Stiff to very stiff grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and siltstone.		
					E			
D	2.30			(0.90)				
				2.70	VH	End of Trial Pit at 2.70m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.70m bgl.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP5

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D	0.20			(0.35)		Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
ES	0.20			0.35	E			
					E	Light brown very gravelly very clayey SAND with rare cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
B	0.70			(0.85)				
				1.20	E	Extremely weak light brown SANDSTONE recovered as sandy gravel. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
				(1.10)				
B	2.00							
				2.30	VH	End of Trial Pit at 2.30m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.30m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP6

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35)		Brown slightly gravelly sandy CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone. (TOPSOIL)		
				0.35	E	Light brown gravelly SAND. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
B	0.70			(1.05)	E			
				1.40		Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
B	1.80			(1.00)	E			
				2.40	VH	End of Trial Pit at 2.40m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.40m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP7

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.60m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D	0.20			(0.35)		Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
ES	0.20			0.35	E			
					E	Light brown gravelly very clayey SAND. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
B	0.70			(1.15)				
				1.50				
					E	Extremely weak light brown SANDSTONE sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
B	2.00			(1.10)				
				2.60	VH	End of Trial Pit at 2.60m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.60m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP8

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.60m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)		Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and siltstone. (TOPSOIL)		
				0.40	E			
B	0.70			(1.10)	E	Light brown slightly clayey gravelly SAND. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
				1.50				
B	1.80			(1.10)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.60	VH	End of Trial Pit at 2.60m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.60m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP9

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	16/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.70m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E E	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.70			(0.85)		Light brown very clayey very gravelly SAND. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
D	1.50			1.20 (0.40) 1.60	E	Stiff brown and grey slightly gravelly sandy CLAY. Gravel is fine to coarse angular to subangular sandstone.		
B	2.00			(1.10)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular siltstone and sandstone. Cobbles are angular sandstone.		
				2.70	VH	End of Trial Pit at 2.70m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.70m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP10

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.70			(0.95) 1.30	E	Brown and grey slightly clayey gravelly SAND. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
B	1.80			(1.00) 2.30	E VH	Extremely weak brown and grey SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular siltstone and sandstone. Cobbles are angular sandstone. End of Trial Pit at 2.30m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.30m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP11

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.70			(1.05)	E	Brown and grey slightly sandy clayey GRAVEL with rare cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
B	1.80			1.40 (1.00)	E	Extremely weak brown and grey SANDSTONE recovered as clayey very gravelly sand. Gravel is fine to coarse angular to subangular sandstone and siltstone.		▼
				2.40	VH	End of Trial Pit at 2.40m		

Method: JCB 3CX Excavator

Groundwater: Groundwater encountered at 1.90m bgl. Groundwater remained at 1.90m bgl after 20 minutes.

Stability: Stable

Remarks: Trial pit completed at 2.40m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP12

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded sandstone and mudstone. (TOPSOIL)		
D	0.60			0.40 (0.70)	E	Stiff grey and light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to subangular mudstone and sandstone.		
B	1.50			1.10 (1.30)	E	Extremely weak grey and brown SANDSTONE recovered as very sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone, siltstone, and mudstone. Cobbles are angular to subangular mudstone and sandstone.		
				2.40	VH	End of Trial Pit at 2.40m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.40m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP13

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown gravelly clayey SAND with frequent rootlets Gravel is fine to coarse angular to subrounded mudstone and sandstone. (TOPSOIL)		
				0.40				
D	0.70			(0.60)	E	Reddish brown to brown slightly clayey gravelly SAND. Gravel is fine to coarse angular to subangular mudstone and sandstone.		
				1.00				
B	1.50			(1.40)	E	Extremely weak light brown SANDSTONE recovered as clayey sandy gravel with frequent cobbles. Gravel is fine to coarse angular to subangular mudstone, sandstone, siltstone. Cobbles are angular sandstone.		
				2.40	VH	End of Trial Pit at 2.40m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.40m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP14

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.50m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown clayey gravely SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.50			0.40	E	Light reddish brown slightly clayey gravelly SAND. Gravel is fine to coarse angular to subangular mudstone and sandstone.		
B	1.30			(1.20)				
B	1.90			1.60	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				(0.90)				
				2.50	VH	End of Trial Pit at 2.50m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.50m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP15

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D	0.20			(0.35)	E	Brown slightly gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and siltstone. (TOPSOIL)		
ES	0.20			0.35				
B	0.60			(1.15)	E	Light reddish brown gravelly very clayey SAND. Gravel is fine to coarse angular to subangular sandstone and mudstone.		
B	1.30			1.50				
B	2.00			(0.80)	E	Extremely weak light brown SANDSTONE light brown sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.30	VH	End of Trial Pit at 2.30m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.30m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP16

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D	0.20			(0.35)	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
ES	0.20			0.35				
B	0.60				E	Light reddish brown slightly clayey gravelly SAND. Gravel is fine to medium angular to subangular sandstone and mudstone.		
				(1.25)				
B	1.30							
				1.60		Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
B	2.00			(0.70)	E			
				2.30	VH	End of Trial Pit at 2.30m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.30m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP17

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.30) 0.30	E	Brown slightly gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.80			(1.20)	E	Light reddish brown gravelly very clayey gravelly SAND. Gravel is fine to coarse angular to subangular mudstone and sandstone.		
B	1.80			1.50 (0.80)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular siltstone and sandstone. Cobbles are angular sandstone.		
				2.30	VH	End of Trial Pit at 2.30m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.30m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP18

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	17/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.45m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown slightly gravelly clayey SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.70			(1.15)	E	Light reddish brown gravelly very clayey SAND. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
B	1.90			1.50 (0.95)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.45	VH	End of Trial Pit at 2.45m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.45m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

TRIAL PIT LOG

TP19

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.45m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown slightly clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.70			(1.35)	E	Light brown slightly clayey gravelly SAND. Gravel is fine to coarse angular to subangular mudstone and sandstone.		
B	1.80			1.70 (0.75)	E	Extremely weak light brown SANDSTONE recovered as clayey sandy gravel with frequent cobbles. Gravel is fine to coarse angular to subangular siltstone and sandstone. Cobbles are angular sandstone.		
				2.45	VH	End of Trial Pit at 2.45m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.45m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP20

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.50m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.80			(1.15)	E	Light brown gravelly very clayey SAND. Gravel is fine to coarse angular to subangular sandstone and mudstone.		
B	1.80			1.50 (1.00)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.50	VH	End of Trial Pit at 2.50m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.50m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP21

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.80			0.40 (1.20)	E	Light brown gravelly very clayey SAND with rare cobbles. Gravel is fine to coarse angular to subangular mudstone sandstone and siltstone. Cobbles are angular to subangular sandstone.		
B	1.90			1.60 (0.80)	E	Extremely weak light brown SANDSTONE sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.40	VH	End of Trial Pit at 2.40m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.40m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP22

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.60m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.80			(1.55)	E	Light brown slightly clayey gravelly SAND. Gravel is fine to coarse angular to subangular mudstone, sandstone and siltstone.		
B	2.00			1.90 (0.70)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.60	VH	End of Trial Pit at 2.60m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.60m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP23

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.70m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.35) 0.35	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL)		
B	0.70			(1.35)	E	Light brown gravelly very clayey SAND. Gravel is fine to coarse angular to subangular mudstone, sandstone and siltstone.		
B	2.00			1.70 (1.00)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.70	VH	End of Trial Pit at 2.70m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.70m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP24

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.50m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
				0.40				
B	0.70			(1.30)	E	Light brown slightly clayey gravelly SAND. Gravel is fine to coarse angular to subangular mudstone, sandstone and siltstone.		
				1.70				
B	2.00			(0.80)	E	Extremely weak light brown SANDSTONE recovered as very clayey very gravelly sand. Gravel is fine to coarse angular to subangular sandstone and siltstone.		
				2.50	E	End of Trial Pit at 2.50m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.50m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP25

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.35m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
				0.40				
D ES B	0.70 0.70 0.80			(0.90)	E	Light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to subangular sandstone, mudstone and siltstone.		
				1.30				
D	1.50			(0.40)	E	Stiff light brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and sandstone.		
				1.70				
B	1.90			(0.65)	E	Extremely weak light brown SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				2.35	VH	End of Trial Pit at 2.35m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.35m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP26

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	18/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.60m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Brown clayey gravelly SAND with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)		
				0.40	E	Firm to stiff grey and light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to subangular mudstone and sandstone.		
D ES	0.70 0.70			(0.70)				
				1.10	E	Light brown and grey gravelly very clayey SAND. Gravel is fine to coarse angular to subangular mudstone, sandstone and siltstone.		
B	1.40			(0.90)				
				2.00	E	Extremely weak light brown-grey SANDSTONE recovered as sandy gravel with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone and siltstone. Cobbles are angular sandstone.		
				(0.60)				
				2.60	VH	End of Trial Pit at 2.60m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.60m bgl on sandstone bedrock.

Length:	2.50m
Width:	0.70m
Logged:	JW
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP27

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	21/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.90m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Dark grey slightly gravelly very silty SAND with frequent rootlets. Gravel is fine to medium subangular to rounded sandstone and quartzite. (TOPSOIL)		
				0.40		Reddish brown and light grey mottled brown gravelly very clayey SAND with occasional cobbles. Gravel is fine to coarse angular sandstone. Cobbles are angular sandstone. *At 0.80m bgl: ceramic land drain encountered in a north pit face at a NE-SW orientation*		
B D ES	1.00 1.00 1.00			(1.60)	E			
				2.00	E	Extremely weak brown & light grey SANDSTONE recovered as clayey sandy gravel with frequent cobbles. Gravel is angular fine to coarse sandstone. Cobbles are angular sandstone.		
B	2.30			(0.90)				
				2.90	VH	End of Trial Pit at 2.90m		

Method: JCB 3CX Excavator

Groundwater: Groundwater encountered at 2.00m bgl.

Stability: Stable.

Remarks: Trial pit completed at 2.90m bgl on sandstone bedrock.

Length:	2.10m
Width:	0.65m
Logged:	CS
Checked:	PG

TRIAL PIT LOG

TP28

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	21/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40) 0.40	E	Dark brown silty SAND with frequent rootlets. (TOPSOIL)		
B D ES	0.70 0.70 0.70			(1.60)	E	Brown gravelly very silty SAND with rare cobbles. Gravel is fine to coarse angular sandstone. Cobbles are subangular sandstone. *Below 1.50m bgl: occasional cobbles of sandstone.*		
B	1.60			2.00 (0.30) 2.30	M VH	Extremely weak brown SANDSTONE recovered as sandy gravel with frequent cobbles. Gravel is fine to coarse angular sandstone. Cobbles are angular sandstone. End of Trial Pit at 2.30m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.30m bgl on sandstone bedrock.

Length:	2.10m
Width:	0.65m
Logged:	CS
Checked:	PG

TRIAL PIT LOG

TP29

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	21/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Dark brown slightly gravelly silty SAND with frequent rootlets. Gravel is fine angular to subangular sandstone. (TOPSOIL)		
				0.40				
B D ES	0.60 0.60 0.60					Brown to light brown silty very sandy GRAVEL. Gravel is fine to coarse angular sandstone.		
				(1.40)	E			
				1.80	M			
B	2.00			(0.60)		Extremely weak brown SANDSTONE recovered as sandy gravel with frequent cobbles. Gravel is fine to coarse angular sandstone. Cobbles are angular sandstone.		
				2.40	VH	End of Trial Pit at 2.40m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.40m bgl on sandstone bedrock.

Length:	2.10m
Width:	0.65m
Logged:	CS
Checked:	PG

APPLIED GEOLOGY

TRIAL PIT LOG

TP30

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	21/09/2020	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.50m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D ES	0.20 0.20			(0.40)	E	Dark brown silty SAND with frequent rootlets. (TOPSOIL)		
				0.40				
B D ES	0.70 0.70 0.70				E	Brown gravelly silty SAND with occasional cobbles. Gravel is fine to coarse angular sandstone. Cobbles are angular sandstone.		
				(1.70)				
B	1.60							
				2.10	M	Extremely weak brown SANDSTONE recovered as sandy gravel with frequent cobbles. Gravel is fine to coarse angular sanstone. Cobbles are angular sandstone.		
				(0.40)	VH			
				2.50		End of Trial Pit at 2.50m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.50m bgl on sandstone bedrock.

Length:	2.10m
Width:	0.65m
Logged:	CS
Checked:	PG

APPLiED GEOLOGY

TRIAL PIT LOG

TP31

Project	Tamworth	**Project No.**	AG3185-20
Client	Ground and Project Consultants	**Sheet**	1 of 1
Date	21/09/2020	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	2.25m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.40)	E	Dark brown silty SAND with frequent rootlets. (TOPSOIL)		
D	0.30							
ES	0.30			0.40				
						Light brown to brown silty gravelly SAND. Gravel is fine to coarse angular sandstone.		
B	0.70							
D	0.70							
ES	0.70				E			
				(1.50)				
B	1.80							
				1.90	M	Extremely weak brown SANDSTONE recovered as sandy gravel with frequent cobbles. Gravel is fine to coarse angular to subangular sandstone. Cobbles are angular sandstone.		
				(0.35)	VH			
B	2.20			2.25				
						End of Trial Pit at 2.25m		

Method: JCB 3CX Excavator

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit completed at 2.25m bgl on sandstone bedrock.

Length:	2.10m
Width:	0.65m
Logged:	CS
Checked:	PG

APPLiED GEOLOGY

TERRA TEK
SITE INVESTIGATION & LABORATORY SERVICES

Applied Geology Ltd
Unit 23 Abbey Park
Stareton
Kenilworth
Warwickshire
CV8 2LY
For the attention of Carl Sellers

Report No: B24927
Issue No 01

LABORATORY TEST REPORT

Project Name	**TAMWORTH**		
Project Number	**B24927**	Date samples received	05/10/2020
Your Ref		Date written instructions received	05/10/2020
Purchase Order	16041	Date testing commenced	05/10/2020

Please find enclosed the results as summarised below

Figure / Table	Test Quantity	Description	ISO 17025 Accredited
1	29	Client Specified Suite - Soil	Yes
App S1	~	Sample Descriptions - Soil	N/A
App S2	~	Deviating Samples - Soil	N/A
App S3	~	Summary of In-House Analytical Test Methods - Soil	N/A

Remarks :

Issued by : Stephen Langman Date of Issue : 19/10/2020

Approved Signatories : S. Langman 19/10/2020
S Langman (Laboratory Coordinator), D Bowen (Production Manager)

Key to symbols used in this report
S/C : Testing was sub-contracted

Unless we are notified to the contrary, samples will be disposed after a period of one month from this date.
The results reported relate to samples received in the laboratory only.
All results contained in this report are provisional unless signed by an approved signatory
This report should not be reproduced except in full without the written approval of the laboratory.
Under multisite accreditation the testing contained in this report may have been performed at another Terra Tek laboratory.
The enclosed results remain the property of Terra Tek Limited and we reserve the right to withdraw
our report if we have not received cleared funds in accordance with our standard terms and conditions
Only those results indicated in this report are UKAS accredited and any opinions or interpretations expressed are outside the scope of UKAS accreditation.
Feedback on the this report may be left via our website www.terratek.co.uk/contact-us

mCERTS UKAS TESTING 0126 30 YEARS 1990-2020

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Offices in Airdrie, Birmingham, Belfast and Aston Clinton
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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Sample Identification				Lab Sample ID	Sulphate (acid soluble as SO4) %	Sulphate (soluble in 2:1 water extract) as SO4 g/l	pH	Total Sulphur %
Hole	Depth m	Sample Ref	Sample Type					
TP1	0.80		T	747358	0.02	0.04	7.0	0.01
TP4	2.30		T	747359	0.02	0.02	8.2	<0.01
TP9	1.50		T	747360	0.02	0.02	7.5	<0.01
TP12	0.60		T	747361	0.02	0.04	7.5	<0.01
TP25	1.50		T	747362	0.03	0.04	5.6	0.01
TP26	0.70		T	747363	0.03	0.05	7.1	0.01
TP1	1.80		B	747364	0.02	0.03	6.9	<0.01
TP3	0.80		B	747365	0.02	0.02	6.9	<0.01
TP5	0.70-1.00		B	747367	0.02	0.01	6.7	<0.01
TP7	0.70-1.20		B	747368	0.02	0.02	6.7	<0.01
Limits of Detection					0.01	0.01	~	0.01
Terra Tek Analysis Method					TP171 M	TP169 M	TP019 M	TP129 M
Accreditation M=Mcerts U=UKAS N=No accreditation								

Originator	Checked & Approved
DAB	S. Langran 19/10/2020

BRE SD1 SUITE - SOIL

Figure 1

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Sample Identification				Lab Sample ID	Sulphate (acid soluble as SO4) %	Sulphate (soluble in 2:1 water extract) as SO4 g/l	pH	Total Sulphur %
Hole	Depth m	Sample Ref	Sample Type					
TP9	0.70-1.00		B	747369	0.02	0.02	7.0	<0.01
TP11	0.70-1.00		B	747370	0.02	0.02	7.0	<0.01
TP13	1.50-2.00		B	747371	0.03	0.04	7.2	<0.01
TP15	0.60-0.80		B	747372	0.02	0.01	7.1	<0.01
TP17	0.80-1.20		B	747373	0.01	<0.01	6.8	<0.01
TP19	1.80-2.20		B	747374	0.02	0.04	7.1	<0.01
TP21	0.80-1.20		B	747375	0.02	<0.01	7.0	<0.01
TP23	0.70-1.10		B	747376	0.02	<0.01	6.9	<0.01
TP25	0.80-1.00		B	747377	0.04	0.05	5.7	0.02
TP27	1.00		B	747378	0.03	0.03	6.8	0.01
Limits of Detection					0.01	0.01	~	0.01
Terra Tek Analysis Method					TP171	TP169	TP019	TP129
Accreditation M=Mcerts U=UKAS N=No accreditation					M	M	M	M

Originator	Checked & Approved
DAB	S. Langran 19/10/2020

BRE SD1 SUITE - SOIL

Figure 1

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Sample Identification				Lab Sample ID	Sulphate (acid soluble as SO4) %	Sulphate (soluble in 2:1 water extract) as SO4 g/l	pH	Total Sulphur %
Hole	Depth m	Sample Ref	Sample Type					
TP29	0.60		B	747379	0.02	<0.01	6.9	<0.01
TP31	1.80		B	747380	0.02	0.01	7.0	<0.01
TP18	0.70-1.00		B	747381	0.02	0.01	6.9	<0.01
TP24	2.00-2.30		B	747382	0.02	<0.01	7.2	<0.01
TP11	1.80		B	747383	0.02	0.03	6.7	<0.01
TP4	0.80-1.30		B	747384	0.02	0.01	7.0	<0.01
TP20	1.20		B	747385	0.02	0.01	7.0	<0.01
TP2	1.80		B	747386	0.02	0.03	6.9	<0.01
TP28			B	747387	0.02	<0.01	7.0	<0.01
Limits of Detection					0.01	0.01	~	0.01
Terra Tek Analysis Method					TP171	TP169	TP019	TP129
Accreditation M=Mcerts U=UKAS N=No accreditation					M	M	M	M

Originator	Checked & Approved
DAB	S. Langran 19/10/2020

BRE SD1 SUITE - SOIL

Figure 1

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Sample Identification				Lab Sample ID	Date Sampled	Temperature on receipt °C	PRIMARY MATRIX	Secondary Matrix	Additional matrix	% Loss at 30C	% Retained 2mm
Exploratory Hole	Depth m	Sample Ref	Sample Type								
TP12	0.60		T	747361	17/09/20	14.0	Sandy CLAY	Fine gravel		10.1	16.3
TP25	1.50		T	747362	18/09/20	14.0	CLAY	Fine gravel		7.7	22.8
TP26	0.70		T	747363	18/09/20	14.0	CLAY	Fine gravel		12.9	25
TP1	1.80		B	747364	16/09/20	14.0	Sandy CLAY	Fine to medium gravel		11	16.4
TP3	0.80		B	747365	16/09/20	14.0	Clayey SAND	Fine to medium gravel		10.4	18.5
TP5	0.70-1.00		B	747367	16/09/20	14.0	Clayey SAND	Fine to medium gravel		9.1	17.8
TP7	0.70-1.20		B	747368	16/09/20	14.0	Clayey SAND	Fine to medium gravel		10.5	10.6
TP9	0.70-1.00		B	747369	16/09/20	14.0	Clayey SAND	Fine to medium gravel		8.9	12.1
TP11	0.70-1.00		B	747370	17/09/20	14.0	Clayey SAND	Fine to medium gravel		9.4	18.2
TP13	1.50-2.00		B	747371	17/09/20	14.0	Clayey SAND	Fine to medium gravel		7.8	32
TP15	0.60-0.80		B	747372	17/09/20	14.0	Sandy CLAY	Fine to medium gravel		11.5	16.6
TP17	0.80-1.20		B	747373	17/09/20	14.0	Clayey SAND	Fine to medium gravel		10.3	10.1
TP19	1.80-2.20		B	747374	18/09/20	14.0	CLAY	Fine gravel		14.9	13.5
TP21	0.80-1.20		B	747375	18/09/20	14.0	Clayey SAND	Fine to medium gravel		8.3	14.3
TP23	0.70-1.10		B	747376	18/09/20	14.0	Clayey SAND	Fine to medium gravel		8.2	15.8

Notes

Terra Tek are accredited for clay, sand and loam matrix types only, where they constitute the major component of the sample. Other coarse granular materials such as gravel, are not accredited where they comprise the major component of the sample.

Results are expressed on a dry-weight basis (samples dried at <30^{o}C) except where stated.

The laboratory removes any material > 2mm prior to analysis. The quantity and nature of the material is shown as the secondary and additional matrix types in the above table.

Where a parameter cannot be determined in house it is our policy to use a UKAS/MCERTS accredited laboratory wherever possible. Terra Tek will assume responsibility for the quality of subcontracted tests and the performance of the subcontractor chosen. Where there is no known UKAS/MCERTS laboratory for a particular parameter, a laboratory listed within the Terra Tek Approved Subcontractors List, which is subject to performance assessment, will be selected.

Originator	Checked & Approved	SAMPLE DESCRIPTIONS	Appendix S1
DAB	S. Langman 19/10/2020		Sheet 1 of 2

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Sample Identification				Lab Sample ID	Date Sampled	Temperature on receipt °C	PRIMARY MATRIX	Secondary Matrix	Additional matrix	% Loss at 30C	% Retained 2mm
Exploratory Hole	Depth m	Sample Ref	Sample Type								
TP25	0.80-1.00		B	747377	18/09/20	14.0	Clayey SAND	Fine to medium gravel		9.3	32
TP27	1.00		B	747378	21/09/20	14.0	Sandy CLAY	Fine to medium gravel		10	24.8
TP29	0.60		B	747379	21/09/20	14.0	Clayey SAND	Fine to medium gravel		8	16.7
TP31	1.80		B	747380	21/09/20	14.0	Clayey SAND	Fine to medium gravel		8.9	19.2
TP18	0.70-1.00		B	747381	17/09/20	14.0	Clayey SAND	Fine to medium gravel		8.5	18.9
TP24	2.00-2.30		B	747382	18/09/20	14.0	Sandy CLAY	Fine to medium gravel		10.6	18.9
TP11	1.80		B	747383	17/09/20	14.0	CLAY	Fine to medium gravel		13.7	14.8
TP4	0.80-1.30		B	747384	16/09/20	14.0	Sandy CLAY	Fine to medium gravel		13.3	20.5
TP20	1.20		B	747385	18/09/20	14.0	Clayey SAND	Fine to medium gravel		11.8	16.9
TP2	1.80		B	747386	16/09/20	14.0	Clayey SAND	Fine to medium gravel		9.2	27.4
TP28			B	747387	21/09/20	14.0	Clayey SAND	Fine to medium gravel		8.3	7.8
TP1	0.80		T	747358	16/09/20	14.0	SANDSTONE			8.1	~
TP4	2.30		T	747359	16/09/20	14.0	CLAY	Fine gravel		12.8	29.2
TP9	1.50		T	747360	16/09/20	14.0	Sandy CLAY	Fine to medium gravel		9.4	5.7

Notes

Terra Tek are accredited for clay, sand and loam matrix types only, where they constitute the major component of the sample. Other coarse granular materials such as gravel, are not accredited where they comprise the major component of the sample.

Results are expressed on a dry-weight basis (samples dried at <30^{o}C) except where stated.

The laboratory removes any material > 2mm prior to analysis. The quantity and nature of the material is shown as the secondary and additional matrix types in the above table.

Where a parameter cannot be determined in house it is our policy to use a UKAS/MCERTS accredited laboratory wherever possible. Terra Tek will assume responsibility for the quality of subcontracted tests and the performance of the subcontractor chosen. Where there is no known UKAS/MCERTS laboratory for a particular parameter, a laboratory listed within the Terra Tek Approved Subcontractors List, which is subject to performance assessment, will be selected.

Originator	Checked & Approved	SAMPLE DESCRIPTIONS	Appendix S1
DAB	S. Langman 19/10/2020		Sheet 2 of 2

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Sample Identification				Lab Sample ID	Date Sampled	Deviating conditions						Preservatives used
Exploratory Hole	Depth m	Sample Ref	Sample Type			Sampling date has not been provided	Exceeded maximium holding time for selected test(s)	Presence of headspace in sample vial	Poorly fitting cap or lid	Damaged container		
TP1	0.80		T	747358	16/09/20							
TP4	2.30		T	747359	16/09/20							
TP9	1.50		T	747360	16/09/20							
TP12	0.60		T	747361	17/09/20							
TP25	1.50		T	747362	18/09/20							
TP26	0.70		T	747363	18/09/20							
TP1	1.80		B	747364	16/09/20							
TP3	0.80		B	747365	16/09/20							
TP5	0.70-1.00		B	747367	16/09/20							
TP7	0.70-1.20		B	747368	16/09/20							
TP9	0.70-1.00		B	747369	16/09/20							
TP11	0.70-1.00		B	747370	17/09/20							
TP13	1.50-2.00		B	747371	17/09/20							
TP15	0.60-0.80		B	747372	17/09/20							
TP17	0.80-1.20		B	747373	17/09/20							

NOTES
1 Results reported for samples classified as deviating may be compromised. Deviation types are shown as "X" or "Yes" in the table above.
2 The absence of "X" or "Yes" in the table above indicates no reported deviations.
3 Deviations due to use of incorrect sample container are shown on result tables.
4 Deviating results are indicated within result tables.

Originator	Checked & Approved
DAB	S. Longman 19/10/2020

DEVIATING SAMPLES - SOIL

Appendix S2

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Sample Identification				Lab Sample ID	Date Sampled	Deviating conditions						Preservatives used
Exploratory Hole	Depth m	Sample Ref	Sample Type			Sampling date has not been provided	Exceeded maximium holding time for selected test(s)	Presence of headspace in sample vial	Poorly fitting cap or lid	Damaged container		
TP19	1.80-2.20		B	747374	18/09/20							
TP21	0.80-1.20		B	747375	18/09/20							
TP23	0.70-1.10		B	747376	18/09/20							
TP25	0.80-1.00		B	747377	18/09/20							
TP27	1.00		B	747378	21/09/20							
TP29	0.60		B	747379	21/09/20							
TP31	1.80		B	747380	21/09/20							
TP18	0.70-1.00		B	747381	17/09/20							
TP24	2.00-2.30		B	747382	18/09/20							
TP11	1.80		B	747383	17/09/20							
TP4	0.80-1.30		B	747384	16/09/20							
TP20	1.20		B	747385	18/09/20							
TP2	1.80		B	747386	16/09/20							
TP28			B	747387	21/09/20							

NOTES
1 Results reported for samples classified as deviating may be compromised. Deviation types are shown as "X" or "Yes" in the table above.
2 The absence of "X" or "Yes" in the table above indicates no reported deviations.
3 Deviations due to use of incorrect sample container are shown on result tables.
4 Deviating results are indicated within result tables.

Originator	Checked & Approved
DAB	S. Longman 19/10/2020

DEVIATING SAMPLES - SOIL

Appendix S2

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Method Code	Reference	Description of Method	ISO17025 Accredited	MCERTS Accredited	Wet/Dry Sample Tested
GP001	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Preparation of soil samples for chemical analysis	Yes	Yes	N/A
GP012	BS EN 12457-3: Characterisation of Waste - Compliance test for leaching of granular waste materials and sludges (two-stage batch test)	Preparation of soil samples for two-stage leachate test			Dry
TP019	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Determination of pH in 2.5:1 water/soil extract using pH meter.	Yes	Yes	Dry
TP032	MAFF Book 427: The Analysis of Agricultural Materials: Method 8	Determination of water soluble boron by ICP-OES	Yes		Dry
TP040	APHA/AWWA, 19th edition: Method 3500Cr-D	Determination of hexavalent chromium by colorimetry.	Yes		Dry
TP041	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Determination of organic matter by titrimetry.	Yes		Dry
TP042	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Determination of loss on ignition at 50-440°C by gravimetry	Yes	Yes	Dry
TP045	GACHAMJA A.M. Chromatography and Analysis: 1992 9-11 (modified)	Determination of polyaromatic hydrocarbons extractable in dichloromethane, by GC/MS	Yes	Yes	Dry
TP046	MEWAM method: Phenols in water and Effluents: 4-aminoantipyrine method	Determination of monohydric phenols by steam distillation/colorimetry	Yes	Yes	Dry
TP047	MEWAM method: Cyanide in Waters etc	Determination of free cyanide by steam distillation/colorimetry	Yes		Dry
TP048	MEWAM method: Cyanide in Waters etc	Determination of total cyanide by steam distillation/colorimetry.	Yes	Yes	Dry
TP049	MEWAM method: Cyanide in Waters etc	Determination of complex cyanide by calculation	Yes		Dry
TP050	MEWAM method: Determination of Thiocyanate ,1985	Determination of thiocyanate by colorimetry	Yes	Yes	Dry
TP051	USEPA Method 9030B	Determination of acid soluble sulphides by steam distillation/colorimetry.	Yes	Yes	Wet
TP067	TNRCC Method 1005: 2001 (modified)	Determination of pentane/acetone extractable petroleum hydrocarbons (C8 - C40) by GC/FID	Yes	Yes	Wet
TP072	In-house documented method	Determination of ammoniacal nitrogen by colorimetry			Dry
TP074	In-house documented method	Determination of water soluble fluoride by ion selective electrode			Dry
TP098	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Determination of acid soluble chloride by titrimetry			Dry
TP099	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Determination of water soluble chloride by titrimetry	Yes	Yes	Dry
TP100	Wisconsin DNR Modified GRO method, Method for Determining Gasoline Range Organics	Determination of Volatile Petroleum Hydrocarbons/GRO.	Yes	Yes	Wet

Notes

1. Terra Tek (Birmingham) are MCERTS accredited for clay, sand & loam matrix types only, where they constitute the major component of the sample. Other coarse granular materials, ie gravel, are not accredited where they comprise the major component of the sample.
2. Results are expressed on a dry-weight basis (samples dried at <30°C) except where stated.
3. The laboratory removes any material >2mm prior to analysis. The quantity and nature of any material removed from samples is recorded and the information is available on request.
4. The laboratory records the date of analysis of each parameter. This information is available on request.
5. Where a parameter cannot be determined in house it is our policy to use a UKAS/MCERTS accredited laboratory wherever possible. Terra Tek will assume responsibility for the quality of subcontracted tests and the performance of the subcontractor chosen. Where there is no known UKAS/MCERTS laboratory for a particular parameter, a laboratory listed within the Terra Tek Approved Subcontractors list, which is subject to performance assessment, will be selected.

Originator	Checked & Approved	SUMMARY OF IN-HOUSE ANALYTICAL TEST METHODS (SOIL)	Appendix S3
N/A	N/A		Sheet 1 of 2

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client

Engineer

Contract No B24927

Method Code	Reference	Description of Method	ISO17025 Accredited	MCERTS Accredited	Wet/Dry Sample Tested
TP110	USEPA Methods 8082A & 3665A	Determination of Total & Speciated 7 PCB Congeners by GC/MS SIM	Yes	Yes	Wet
TP114	BS1377, Part 3, 1990: Soils for Civil Engineering Purposes.	Determination of carbonate in soil (rapid titration method)			Dry
TP126	TNRCC Method 1006 (modified)	Extracted petroleum hydrocarbons from TP067 split into aromatic and aliphatic fractions. Analysed by GC/FID.	Yes		Wet
TP129	In-house documented method	Determination of total sulphur by ICP-OES spectroscopy	Yes	Yes	Dry
TP134	In-house documented method	Determination of water soluble chloride by titrimetry	Yes	Yes	Dry
TP135	USEPA Methods 8100 & 8270D. In-house method TP045	Determination of polyaromatic hydrocarbons extractable in dichloromethane, by GC/MS (with concentration stage)			Dry
TP136	In-house documented method	Determination of water soluble magnesium in soil			Dry
TP137	BS7755: Section 3.9: 1995/ISO 11466:1995	Determination of acid extractable metals in soil by ICP-OES	Selected	Selected	Dry
TP145	USEPA Methods 3550C & 8270D	Determination of Semi-Volatile Organic Compounds by GC/MS	Yes	Selected	Wet
TP147	USEPA Methods 8082A & 3665A	Determination of total & speciated WHO 12 PCB Congeners by GC/MS SIM.			Wet
TP150	USEPA Methods 8081B & 8141B	Determination of pesticides and herbicides in soil by GC/MS SIM			Dry
TP152	USEPA Method 556	Determination of carbonyls by GC/MS.			Wet
TP154	USEPA Method 5021. Wisconsin DNR modified GRO method	Determination of volatiles in by GC/MS headspace	Yes	Selected	Wet
TP158	USEPA Method 1671	Determination of glycols by GC/FID DI			Wet
TP169	In-house documented method	Determination of water soluble sulphate in 2:1 water/soil extract by ICP-OES spectroscopy	Yes	Yes	Dry
TP171	In-house documented method	Determination of acid soluble sulphate by ICP-OES spectroscopy	Yes	Yes	Dry
TP174	In-house documented method	Determination of Total Organic Carbon in soils by high temperature combustion & NDIR detection			Dry
TP178	In-house documented method	Determination of water soluble nitrate by ion selective electrode			Dry
TP185	In-house documented method	Determination of loss on ignition at 150-440°C by gravimetry			Dry

Notes

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Originator	Checked & Approved	SUMMARY OF IN-HOUSE ANALYTICAL TEST METHODS (SOIL)	Appendix S3
N/A	N/A		Sheet 2 of 2

TERRA TEK
SITE INVESTIGATION & LABORATORY SERVICES

Applied Geology Ltd
Unit 23 Abbey Park
Stareton
Kenilworth
Warwickshire
CV8 2LY
For the attention of Carl Sellers

Report No: B24927
Issue No 02

LABORATORY TEST REPORT

Project Name	**TAMWORTH**		
Project Number	**B24927**	Date samples received	05/10/2020
Your Ref		Date written instructions received	05/10/2020
Purchase Order	16041	Date testing commenced	05/10/2020

Please find enclosed the results as summarised below

Figure / Table	Test Quantity	Description	ISO 17025 Accredited
	6	Moisture Content	Yes
	5	Atterberg Limit	Yes
	23	Particle Size Distribution	Yes

Remarks :

Issued by : Stephen Langman Date of Issue : 27/10/2020

Approved Signatories : S. Langman 27/10/2020
S Langman (Laboratory Coordinator), D Bowen (Production Manager)

Key to symbols used in this report
S/C : Testing was sub-contracted

Unless we are notified to the contrary, samples will be disposed after a period of one month from this date.
The results reported relate to samples received in the laboratory only.
All results contained in this report are provisional unless signed by an approved signatory
This report should not be reproduced except in full without the written approval of the laboratory.
Under multisite accreditation the testing contained in this report may have been performed at another Terra Tek laboratory.
The enclosed results remain the property of Terra Tek Limited and we reserve the right to withdraw
our report if we have not received cleared funds in accordance with our standard terms and conditions
Only those results indicated in this report are UKAS accredited and any opinions or interpretations expressed are outside the scope of UKAS accreditation.
Feedback on the this report may be left via our website www.terratek.co.uk/contact-us

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME
UKAS TESTING 0126
30 YEARS 1990-2020

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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site TAMWORTH

Client Applied Geology Limited

Engineer

Contract No 16041

Sample Identification				Lab Sample ID	Non Enginering Description	Moisture Content %
Exploratory Hole	Depth m	Sample Ref	Sample Type			
TP1	0.80		T	747358	Orangey brwown mottled grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse.	8.6
TP12	0.60		T	747361	Orangey brown slightly silty slightly gravelly sandy CLAY. Gravel is fine.	12
TP25	1.50		T	747362	Orangey brown grey slightly sandy CLAY.	9.6
TP26	0.70		T	747363	Orangey grey slightly sandy CLAY with timber fragments.	15
TP4	2.30		T	747359	Grey slightly sandy slightly gravelly CLAY. Gravel is fine.	18
TP9	1.50		T	747360	Orangey brown grey slightly silty slightly gravelly clayey SAND. Gravel is fine.	10

Notes

Originator	Checked & Approved
JAH	20/10/2020

MOISTURE CONTENT

BS1377:Part 2:1990 Clause 3.2

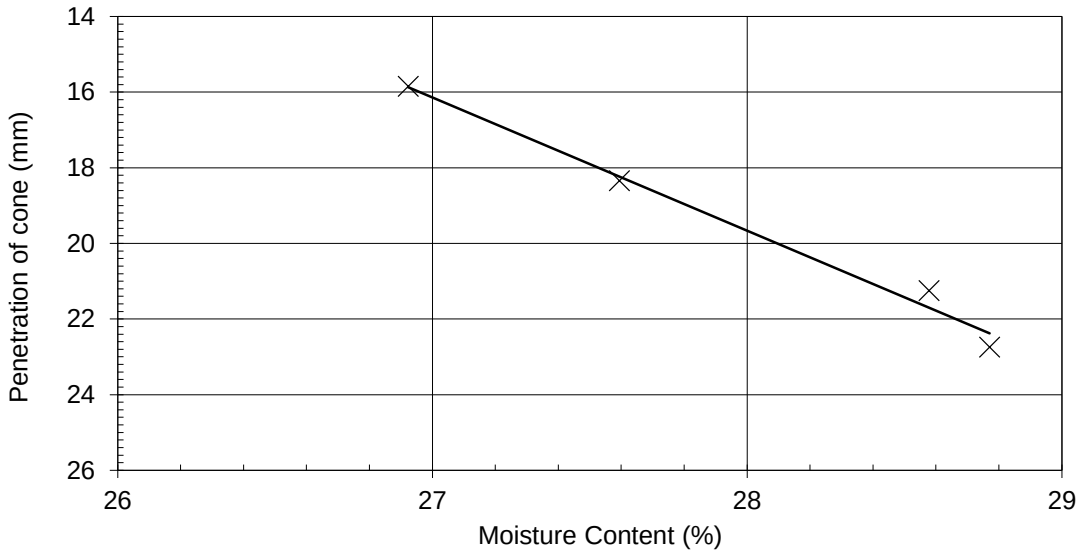
Unit 2 Springfield Road, Chesham, Bucks, HP51PW
Lab Project No B24927 : 20/10/2020 15:57:09

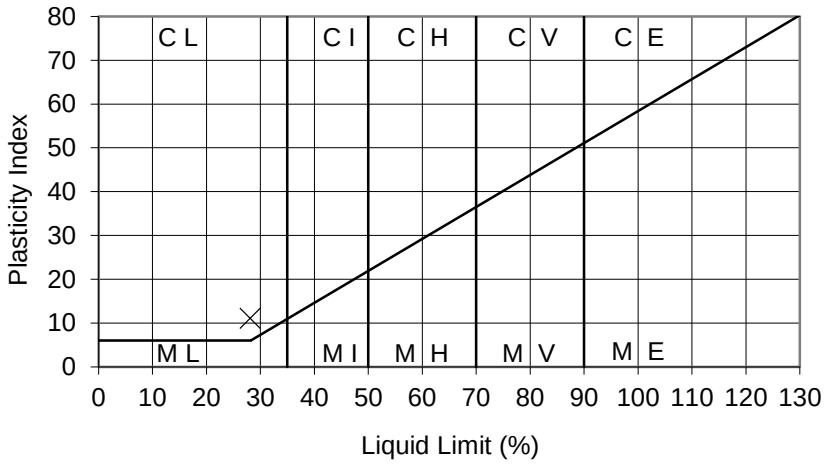
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No.**	**16041**
Client	Applied Geology Limited	Hole ID	TP12
Engineer		Depth (m)	0.60
		Sample Type	T

Non Engineering Description : Orange brown slightly silty slightly gravelly sandy CLAY. Gravel is fine.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	12	%
Percentage retained on 425µm sieve :	1	%
Liquid Limit :	28	%
Plastic Limit :	17	%
Plasticity Index :	11	
Equivalent moisture content of material passing 425µm sieve :	12	%
Liquidity Index :	-0.45	

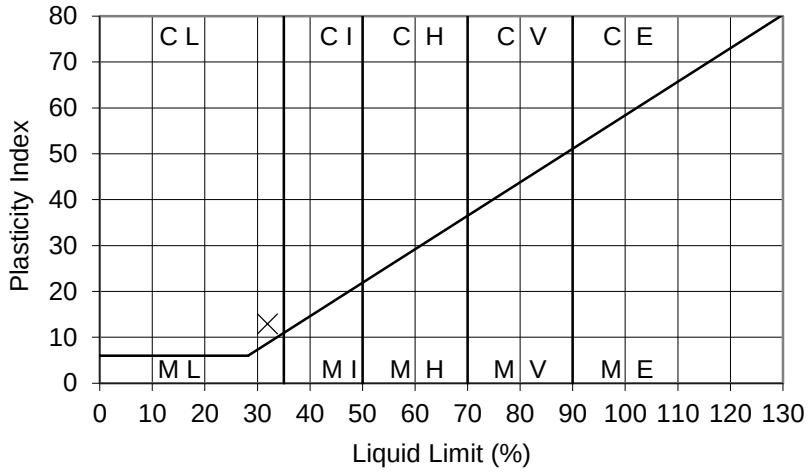
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index**	
HL	20/10/2020	BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Sheet 1 of 1

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No.**	**16041**
		Hole ID	TP25
Client	Applied Geology Limited	Depth (m)	1.50
Engineer		Sample Type	T

Non Engineering Description : Orangey brown grey slightly sandy CLAY.

Preparation : Sample washed and air dried



Note: Insufficient material for a four point liquid limit test.

Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	9.6	%
Percentage retained on 425µm sieve :	34	%
Liquid Limit :	32	%
Plastic Limit :	19	%
Plasticity Index :	13	
Equivalent moisture content of material passing 425µm sieve :	15	%
Liquidity Index :	-0.31	

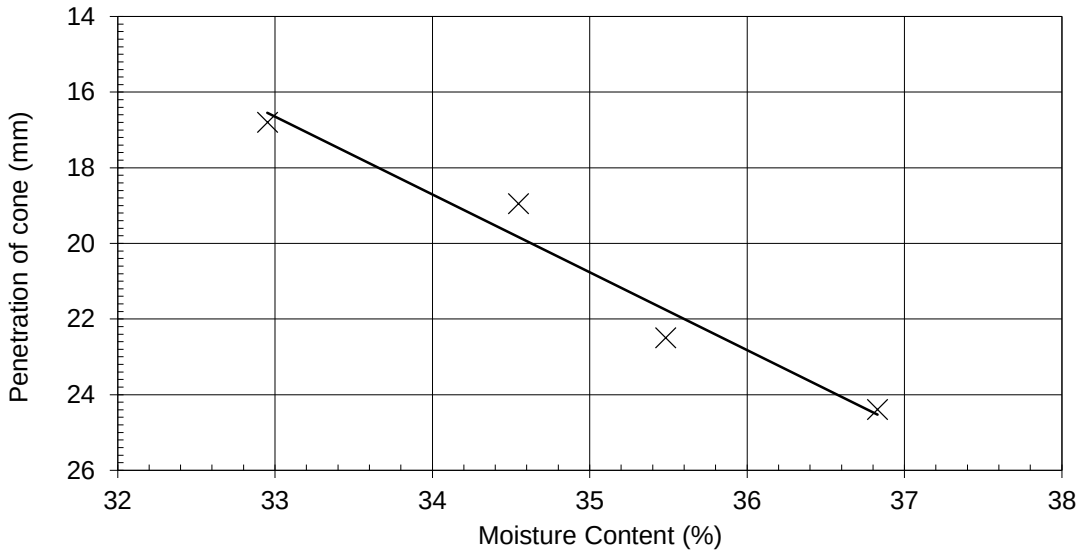
Originator	Checked & Approved	**Liquid Limit (One Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index**	
HL	20/10/2020	BS 1377:Part 2:Clause 4.4:1990 BS 1377:Part 2:Clause 5:1990	Sheet 1 of 1

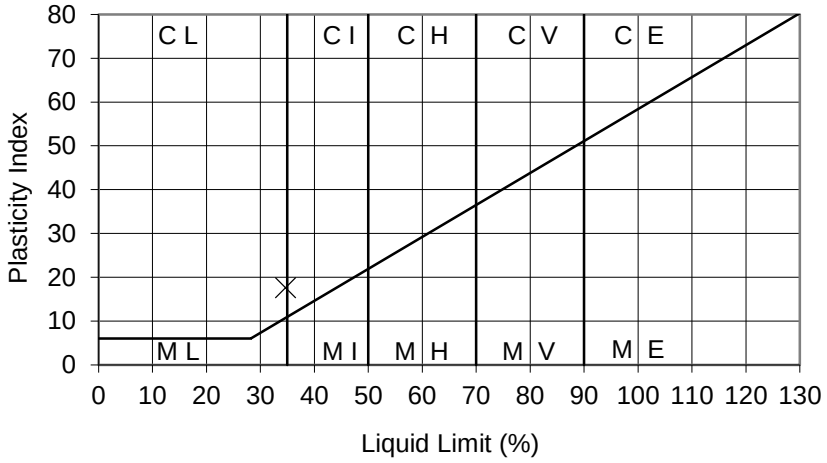
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No.**	**16041**
Client	Applied Geology Limited	Hole ID	TP26
Engineer		Depth (m)	0.70
		Sample Type	T

Non Engineering Description : Orangey grey slightly sandy CLAY.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	15	%
Percentage retained on 425µm sieve :	1	%
Liquid Limit :	35	%
Plastic Limit :	17	%
Plasticity Index :	18	
Equivalent moisture content of material passing 425µm sieve :	15	%
Liquidity Index :	-0.11	

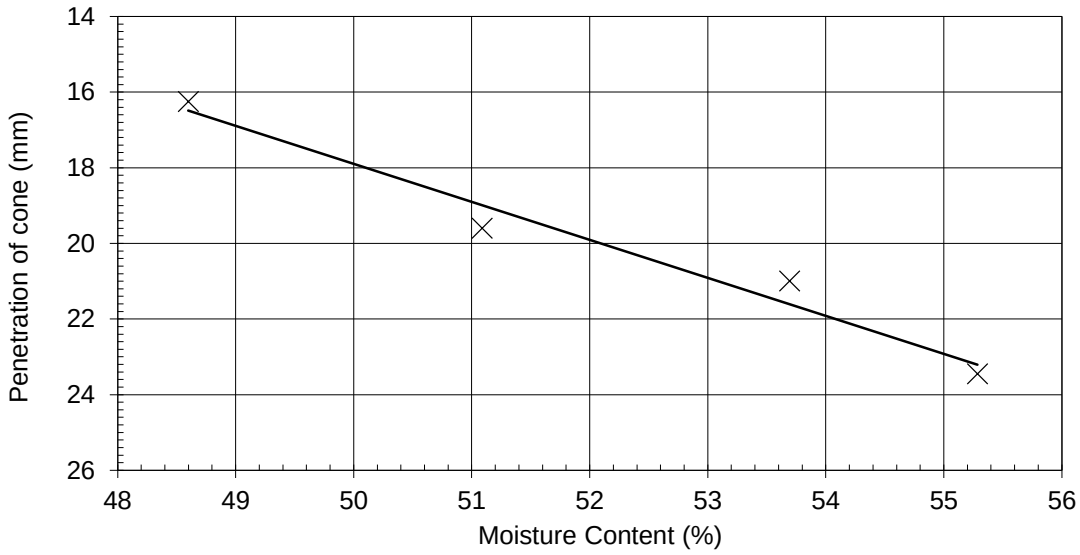
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index**	
HL	20/10/2020	BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Sheet 1 of 1

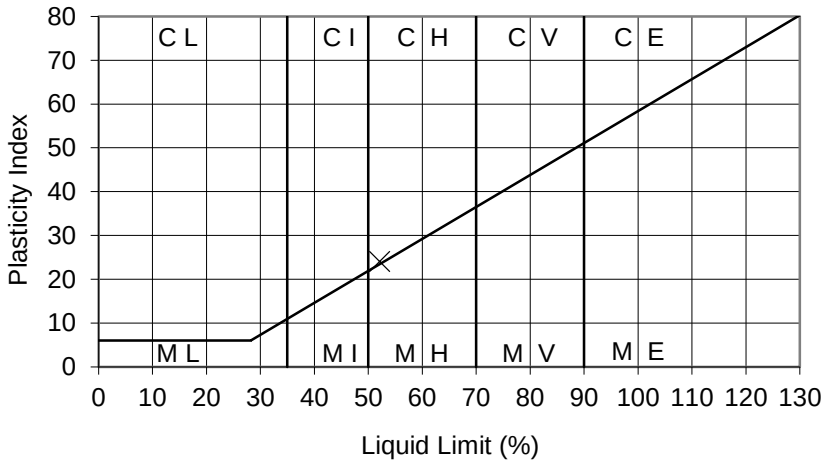
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No.**	**16041**
Client	Applied Geology Limited	Hole ID	TP4
Engineer		Depth (m)	2.30
		Sample Type	T

Non Engineering Description : Grey slightly sandy slightly gravelly CLAY. Gravel is fine.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	18	%
Percentage retained on 425µm sieve :	2	%
Liquid Limit :	52	%
Plastic Limit :	28	%
Plasticity Index :	24	
Equivalent moisture content of material passing 425µm sieve :	18	%
Liquidity Index :	-0.42	

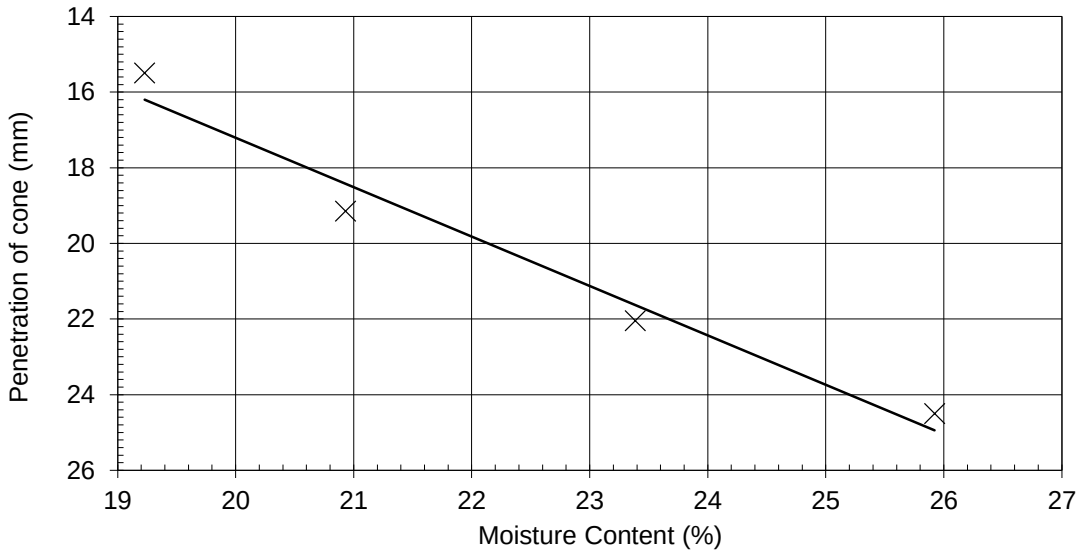
Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index**	
HL	20/10/2020	BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Sheet 1 of 1

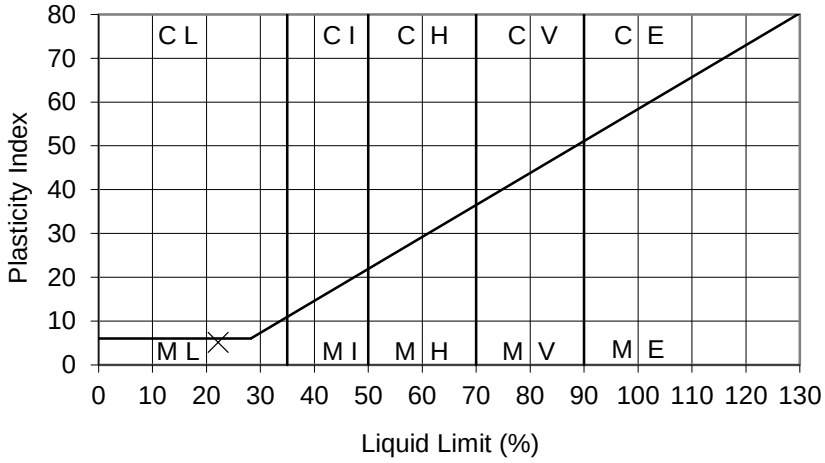
TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No.**	**16041**
Client	Applied Geology Limited	Hole ID	TP9
Engineer		Depth (m)	1.50
		Sample Type	T

Non Engineering Description : Orange brown slightly silty slightly gravelly clayey SAND. Gravel is fine.

Preparation : Sample washed and air dried





Results :

As Received Moisture Content : (BS1377:Part 2:Clause 3:1990)	10	%
Percentage retained on 425µm sieve :	19	%
Liquid Limit :	22	%
Plastic Limit :	17	%
Plasticity Index :	5.0	
Equivalent moisture content of material passing 425µm sieve :	12	%
Liquidity Index :	-1.00	

Originator	Checked & Approved	**Liquid Limit (Four Point Cone Penetrometer Method) Plastic Limit, Plasticity Index & Liquidity Index**	
HL	20/10/2020	BS 1377:Part 2:Clause 4.3:1990 BS 1377:Part 2:Clause 5:1990	Sheet 1 of 1

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP1
Engineer		Depth (m)	1.80
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	93
50.0 mm	89
37.5 mm	74
28.0 mm	62
20.0 mm	56
14.0 mm	52
10.0 mm	49
6.30 mm	47
5.00 mm	46
3.35 mm	44
2.00 mm	43
1.18 mm	41
630 µm	39
425 µm	35
300 µm	26
200 µm	18
150 µm	15
63 µm	11

Non Engineering Description

Light brown slightly clayey silty very sandy fine to coarse GRAVEL with some cobbles.

Sample Proportions - %

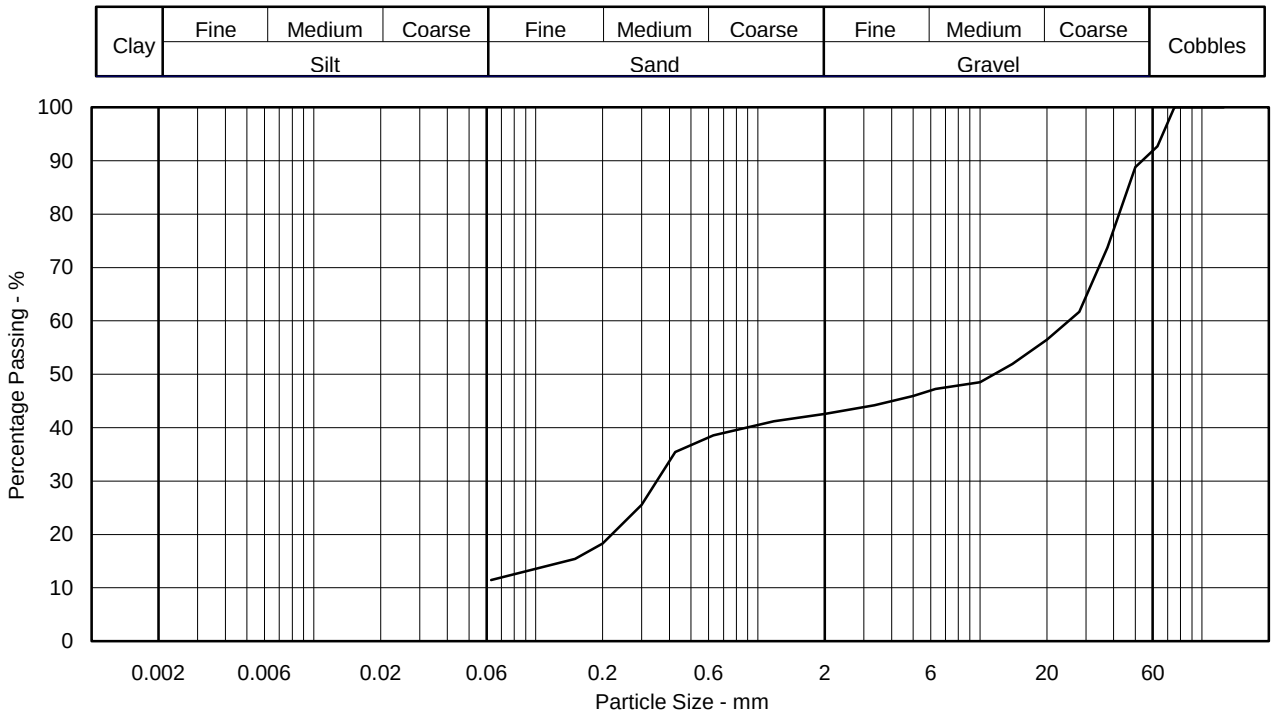
Cobbles	8.2
Gravel	49.2
Sand	31.1
Silt & Clay	11.5

Particle Diameter - mm

D100	75
D60	25
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Unit 2 Springfield Road, Chesham, Bucks, HP51PW

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP11
Engineer		Depth (m)	0.70-1.00
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	87
37.5 mm	70
28.0 mm	47
20.0 mm	21
14.0 mm	21
10.0 mm	21
6.30 mm	21
5.00 mm	21
3.35 mm	21
2.00 mm	21
1.18 mm	20
630 µm	20
425 µm	20
300 µm	19
200 µm	18
150 µm	18
63 µm	18

Non Engineering Description

Light brown slightly sandy clayey silty fine to coarse GRAVEL.

Sample Proportions - %

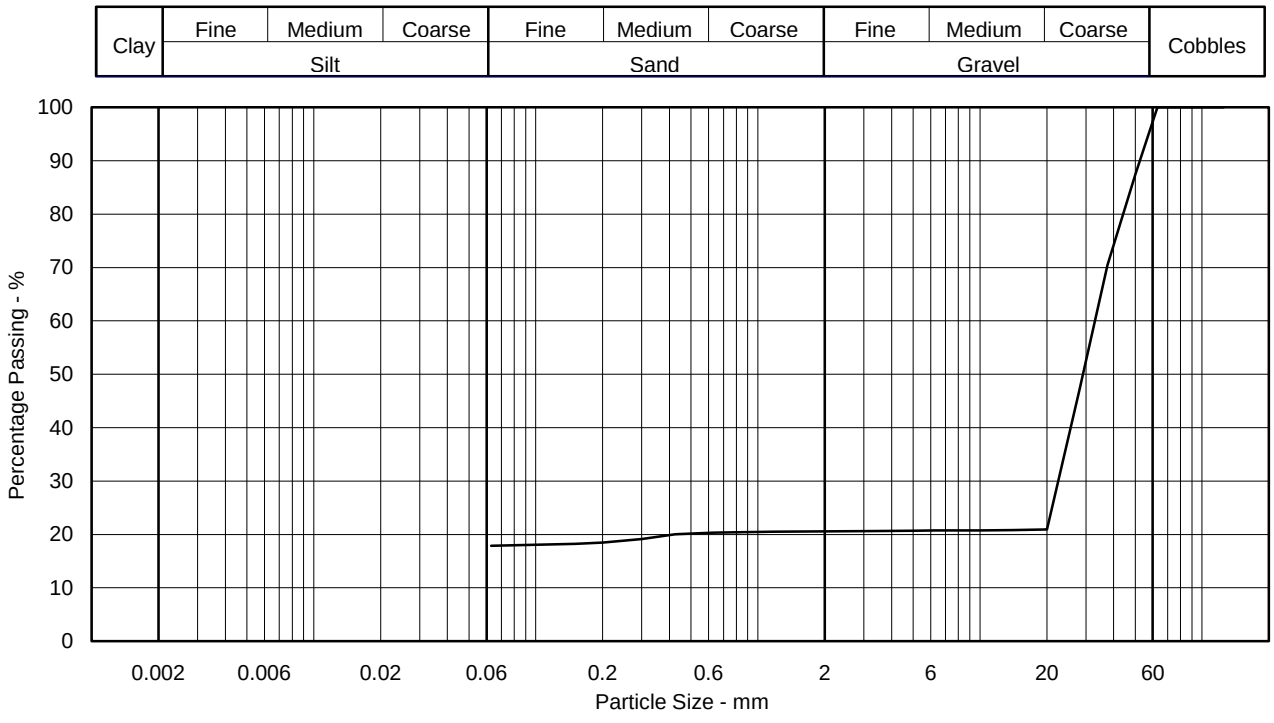
Cobbles	2.9
Gravel	76.5
Sand	2.7
Silt & Clay	17.9

Particle Diameter - mm

D100	63
D60	33
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Unit 2 Springfield Road, Chesham, Bucks, HP51PW

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP11
Engineer		Depth (m)	1.80-2.20
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	83
14.0 mm	74
10.0 mm	73
6.30 mm	72
5.00 mm	71
3.35 mm	70
2.00 mm	69
1.18 mm	68
630 µm	66
425 µm	57
300 µm	41
200 µm	28
150 µm	22
63 µm	15

Non Engineering Description

Light brown clayey silty gravelly SAND. Gravel is fine to coarse.

Sample Proportions - %

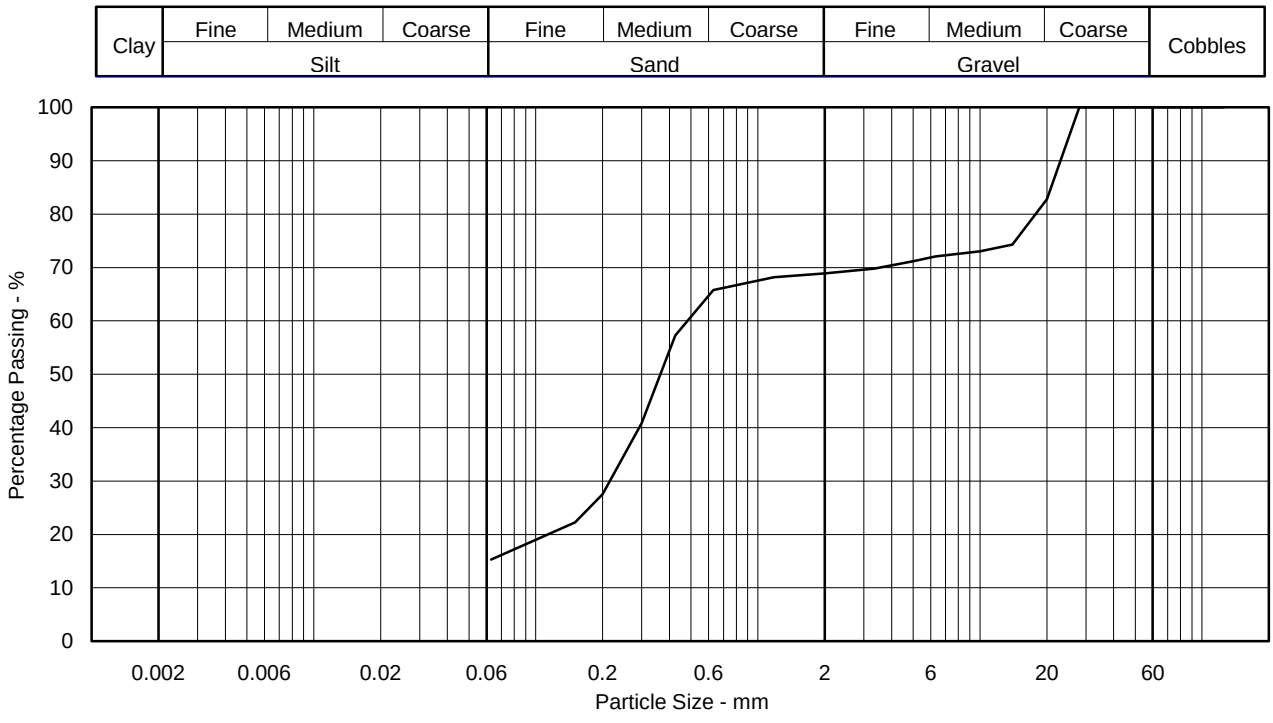
Cobbles	0.0
Gravel	31.1
Sand	53.6
Silt & Clay	15.3

Particle Diameter - mm

D100	28
D60	0.48
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP13
Engineer		Depth (m)	1.50-2.00
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	81
50.0 mm	74
37.5 mm	43
28.0 mm	33
20.0 mm	26
14.0 mm	23
10.0 mm	22
6.30 mm	21
5.00 mm	20
3.35 mm	20
2.00 mm	20
1.18 mm	19
630 µm	19
425 µm	18
300 µm	17
200 µm	13
150 µm	9
63 µm	6

Non Engineering Description

Light brown slightly clayey slightly silty sandy fine to coarse GRAVEL with some cobbles.

Sample Proportions - %

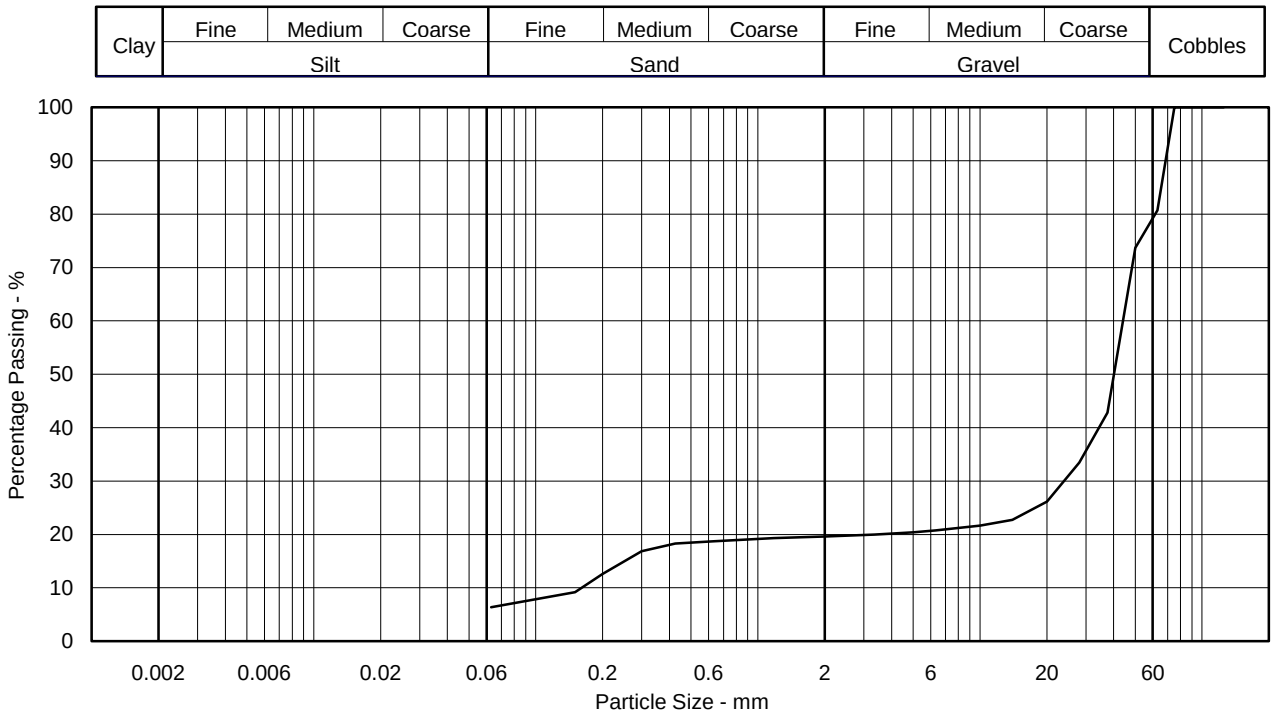
Cobbles	20.9
Gravel	59.5
Sand	13.3
Silt & Clay	6.4

Particle Diameter - mm

D100	75
D60	44
D10	0.16
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	275.0

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Unit 2 Springfield Road, Chesham, Bucks, HP51PW

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP15
Engineer		Depth (m)	0.60-0.80
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	98
28.0 mm	95
20.0 mm	95
14.0 mm	95
10.0 mm	94
6.30 mm	94
5.00 mm	93
3.35 mm	91
2.00 mm	90
1.18 mm	89
630 µm	85
425 µm	83
300 µm	78
200 µm	61
150 µm	42
63 µm	28

Non Engineering Description

Light brown gravelly clayey silty SAND. Gravel is fine to coarse.

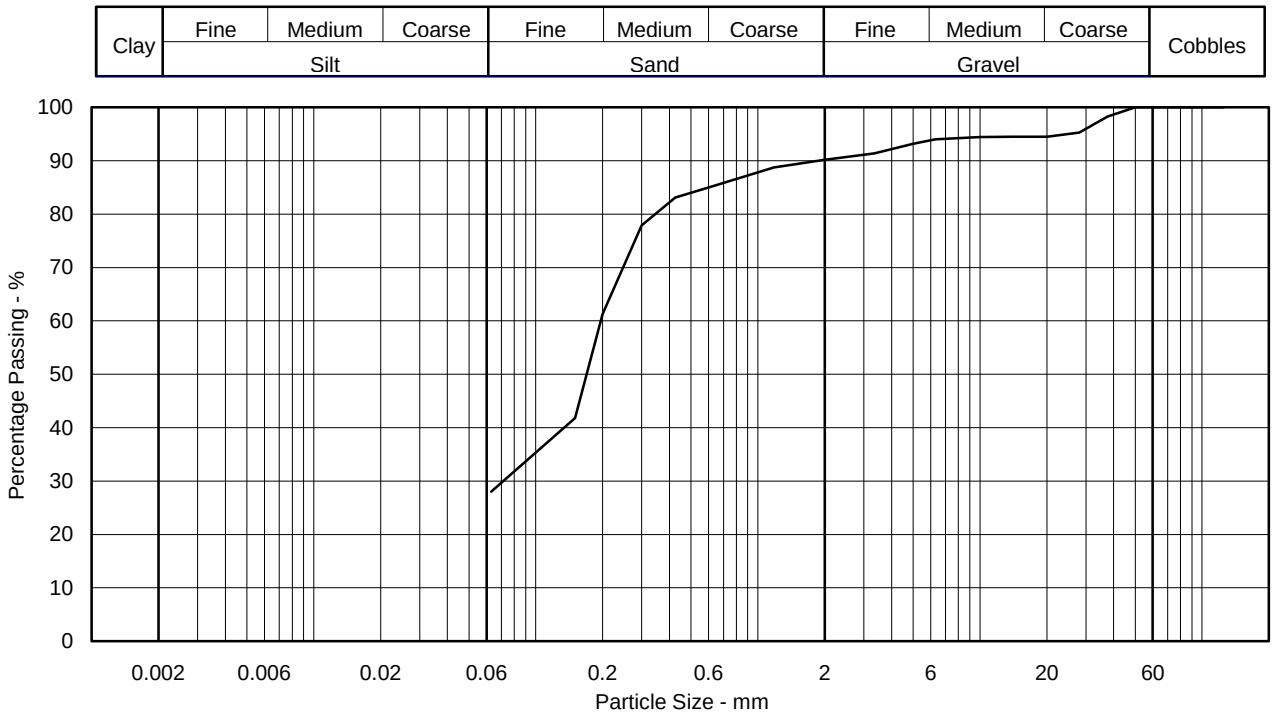
Sample Proportions - %

Cobbles	0.0
Gravel	9.8
Sand	62.2
Silt & Clay	28.0

Particle Diameter - mm

D100	50
D60	0.20
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP17
Engineer		Depth (m)	0.80-1.20
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	99
10.0 mm	97
6.30 mm	96
5.00 mm	95
3.35 mm	94
2.00 mm	92
1.18 mm	91
630 µm	88
425 µm	86
300 µm	74
200 µm	49
150 µm	37
63 µm	27

Non Engineering Description

Light brown gravelly clayey silty SAND. Gravel is fine to medium.

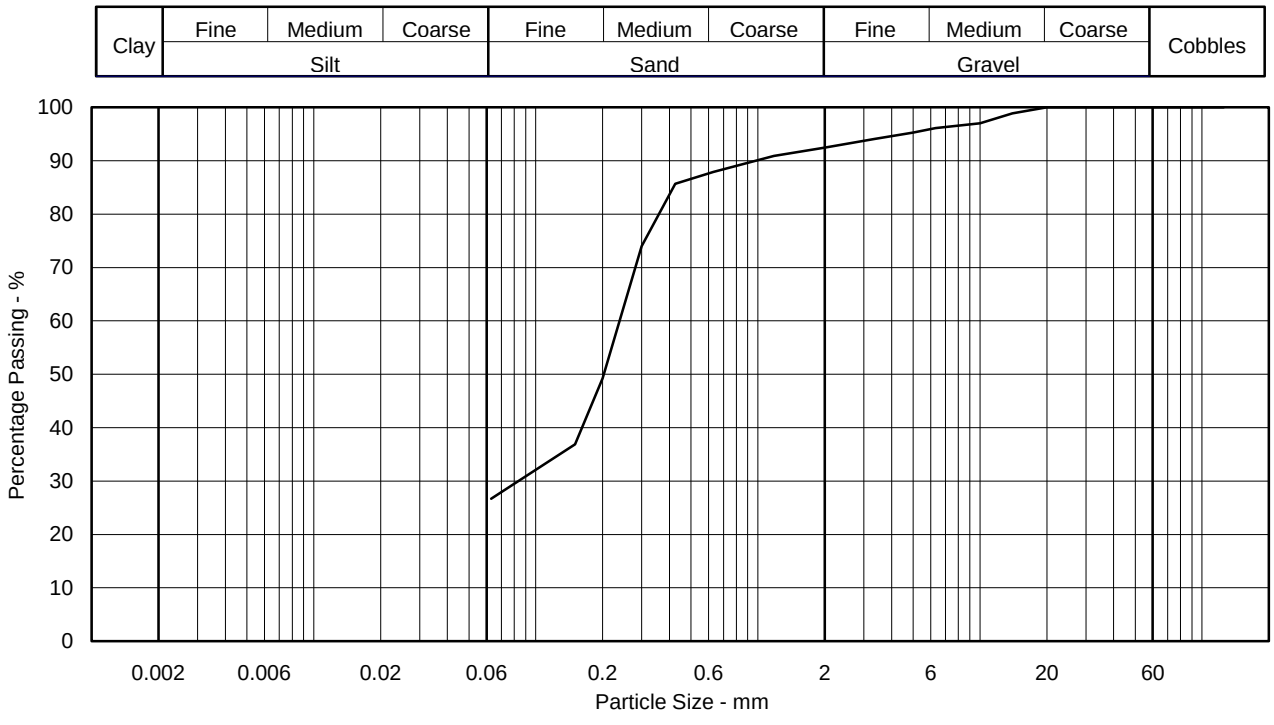
Sample Proportions - %

Cobbles	0.0
Gravel	7.5
Sand	65.8
Silt & Clay	26.7

Particle Diameter - mm

D100	20
D60	0.24
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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PARTICLE SIZE DISTRIBUTION

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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP18
Engineer		Depth (m)	0.70-1.00
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	100
6.30 mm	99
5.00 mm	98
3.35 mm	97
2.00 mm	95
1.18 mm	93
630 µm	87
425 µm	84
300 µm	71
200 µm	57
150 µm	40
63 µm	27

Non Engineering Description

Light brown gravelly clayey silty SAND. Gravel is fine to medium.

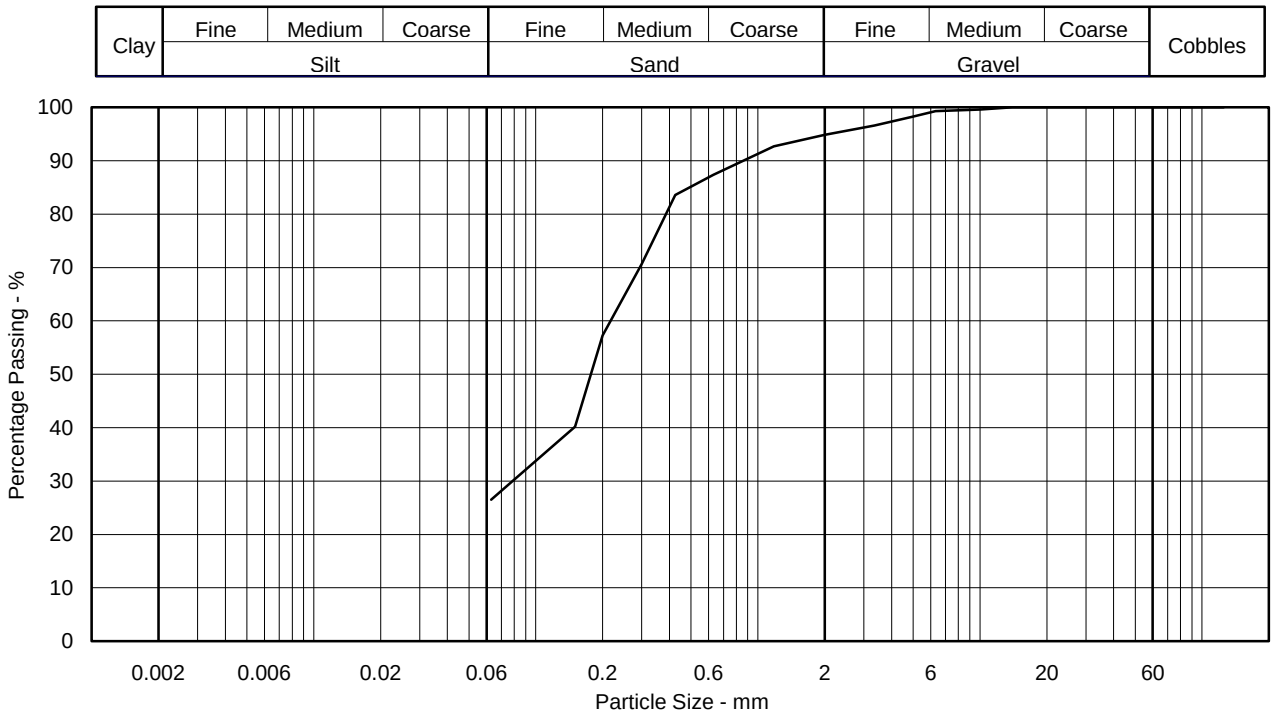
Sample Proportions - %

Cobbles	0.0
Gravel	5.2
Sand	68.3
Silt & Clay	26.5

Particle Diameter - mm

D100	14
D60	0.22
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP19
Engineer		Depth (m)	1.80-2.20
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	90
75.0 mm	90
63.0 mm	77
50.0 mm	60
37.5 mm	52
28.0 mm	45
20.0 mm	38
14.0 mm	34
10.0 mm	32
6.30 mm	31
5.00 mm	30
3.35 mm	30
2.00 mm	29
1.18 mm	29
630 µm	28
425 µm	27
300 µm	26
200 µm	22
150 µm	15
63 µm	10

Non Engineering Description

Light brown slighlty clayey silty sandy fine to coarse GRAVEL with much cobbles.

Sample Proportions - %

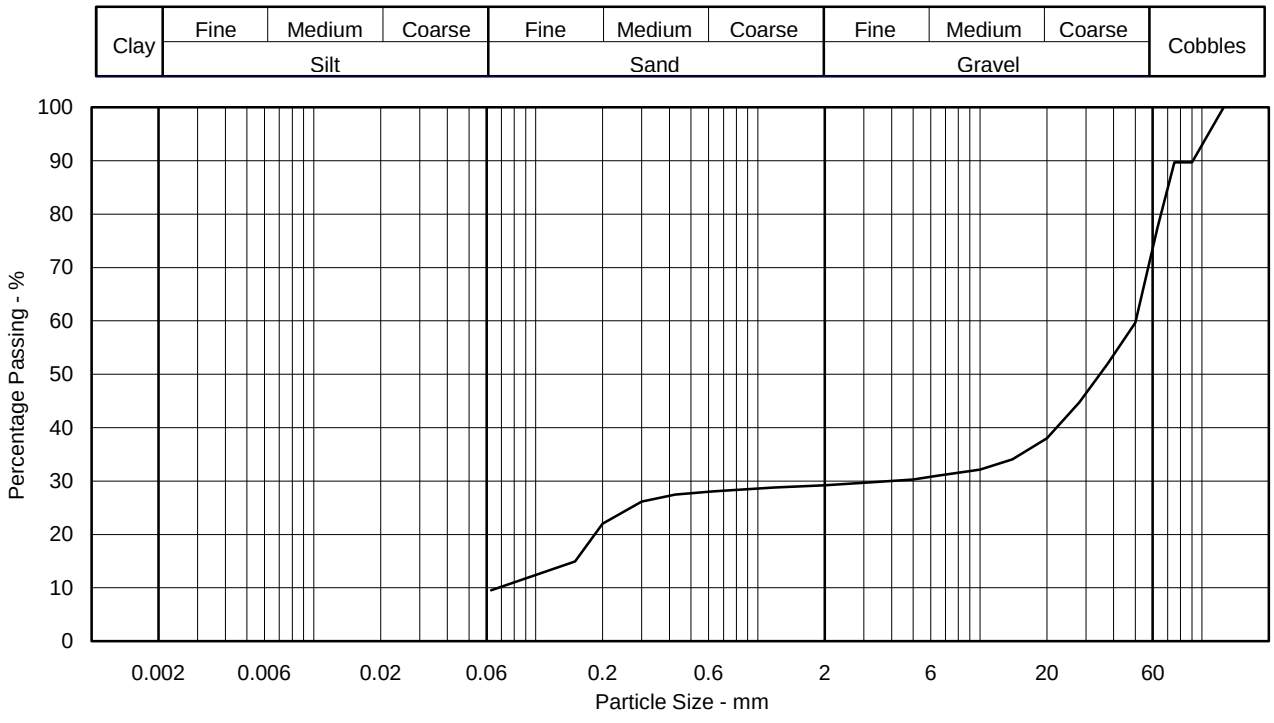
Cobbles	26.7
Gravel	44.1
Sand	19.7
Silt & Clay	9.6

Particle Diameter - mm

D100	125
D60	50
D10	0.068
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	735.3

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP2
Engineer		Depth (m)	1.80
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	96
63.0 mm	86
50.0 mm	76
37.5 mm	64
28.0 mm	54
20.0 mm	39
14.0 mm	37
10.0 mm	35
6.30 mm	33
5.00 mm	31
3.35 mm	30
2.00 mm	29
1.18 mm	29
630 µm	27
425 µm	25
300 µm	19
200 µm	13
150 µm	10
63 µm	7

Non Engineering Description

Brown slightly clayey slightly silty very sandy fine to coarse GRAVEL with some cobbles.

Sample Proportions - %

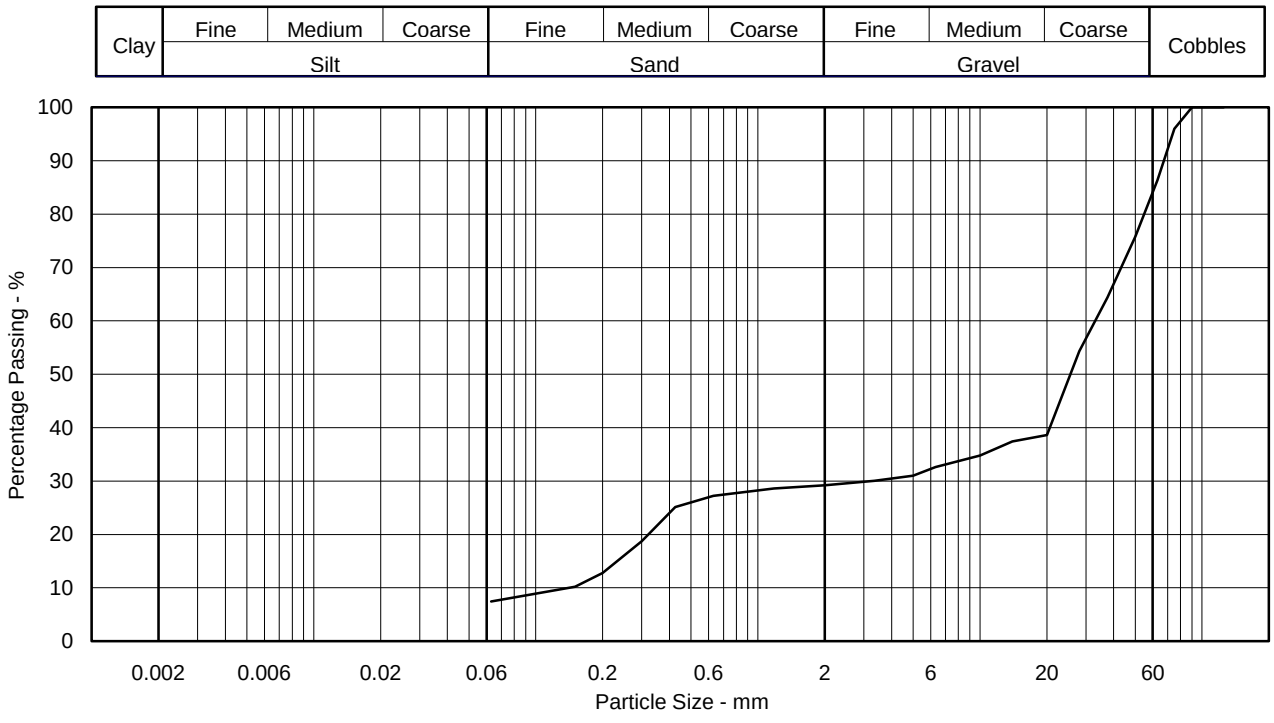
Cobbles	16.1
Gravel	54.7
Sand	21.8
Silt & Clay	7.4

Particle Diameter - mm

D100	90
D60	33
D10	0.14
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	235.7

Notes

Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP20
Engineer		Depth (m)	0.80-1.20
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	97
28.0 mm	95
20.0 mm	92
14.0 mm	91
10.0 mm	90
6.30 mm	89
5.00 mm	89
3.35 mm	88
2.00 mm	87
1.18 mm	87
630 µm	84
425 µm	83
300 µm	77
200 µm	61
150 µm	44
63 µm	29

Non Engineering Description

Light brown gravelly clayey silty SAND. Gravel is fine to coarse.

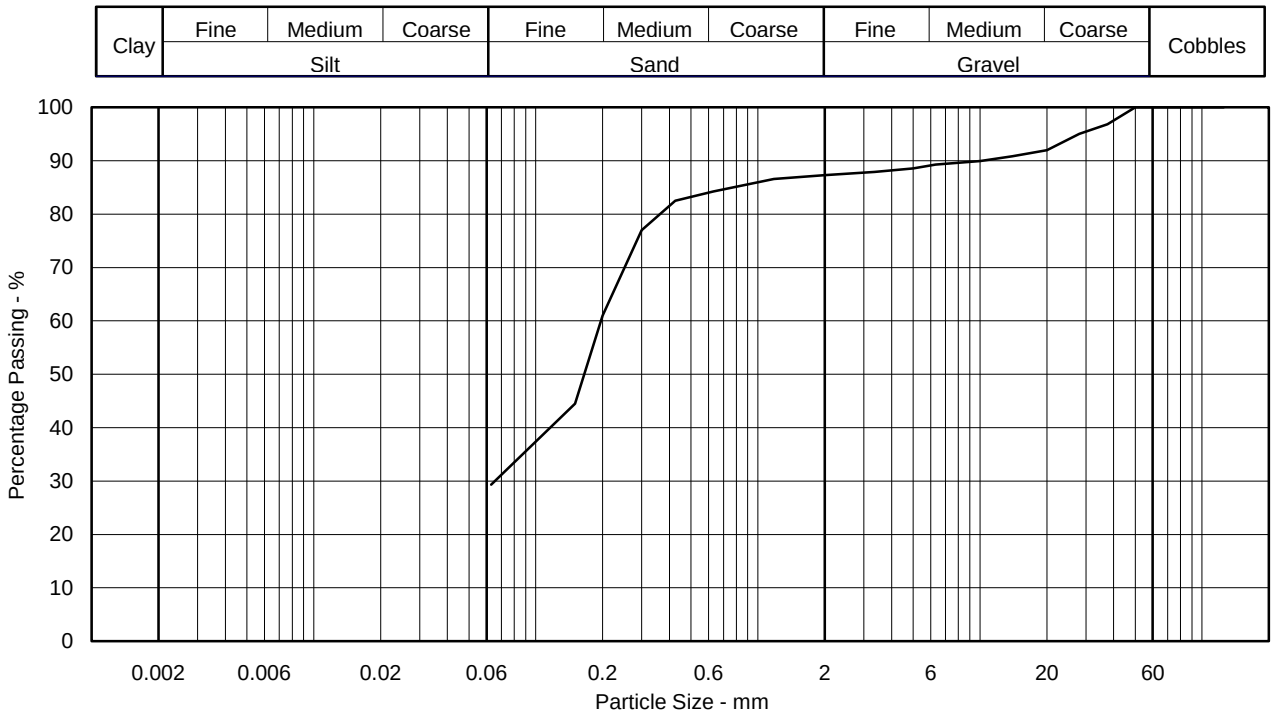
Sample Proportions - %

Cobbles	0.0
Gravel	12.7
Sand	58.0
Silt & Clay	29.3

Particle Diameter - mm

D100	50
D60	0.20
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP21
Engineer		Depth (m)	0.80-1.20
		Sample Type	B

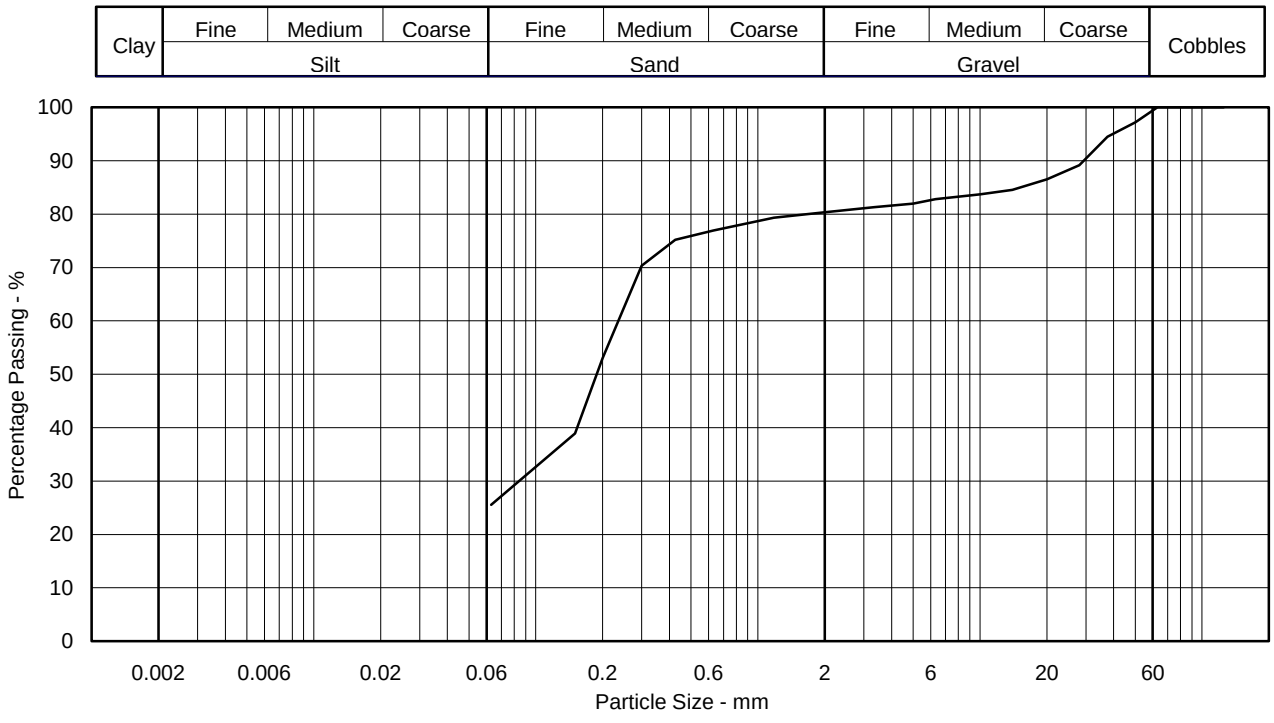
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	97
37.5 mm	95
28.0 mm	89
20.0 mm	87
14.0 mm	85
10.0 mm	84
6.30 mm	83
5.00 mm	82
3.35 mm	81
2.00 mm	80
1.18 mm	79
630 µm	77
425 µm	75
300 µm	70
200 µm	53
150 µm	39
63 µm	26

Non Engineering Description
Brown clayey silty gravelly SAND. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.6
Gravel	19.0
Sand	54.8
Silt & Clay	25.6

Particle Diameter - mm	
D100	63
D60	0.24
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP23
Engineer		Depth (m)	0.70-1.10
		Sample Type	B

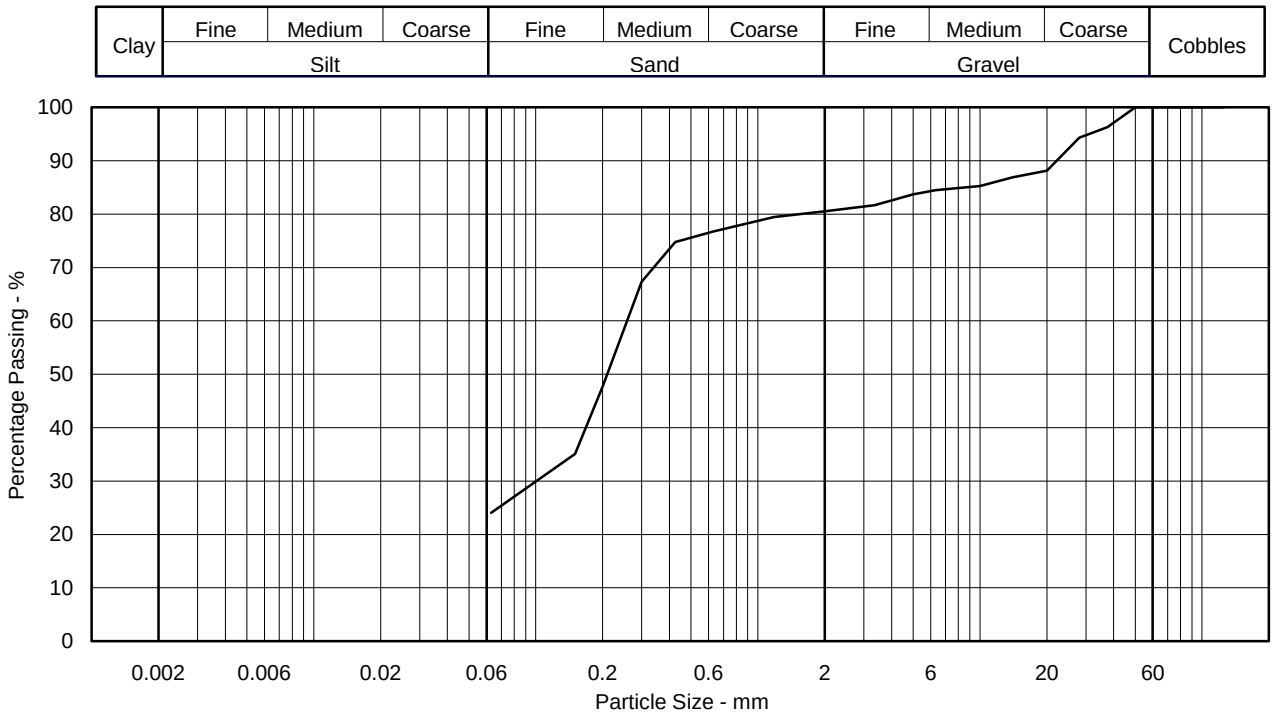
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	96
28.0 mm	94
20.0 mm	88
14.0 mm	87
10.0 mm	85
6.30 mm	84
5.00 mm	84
3.35 mm	82
2.00 mm	81
1.18 mm	79
630 µm	77
425 µm	75
300 µm	67
200 µm	48
150 µm	35
63 µm	24

Non Engineering Description
Brown clayey silty gravelly SAND. Gravel is fine to coarse.

Sample Proportions - %	
Cobbles	0.0
Gravel	19.5
Sand	56.5
Silt & Clay	24.1

Particle Diameter - mm	
D100	50
D60	0.26
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP24
Engineer		Depth (m)	2.00-2.30
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	93
14.0 mm	89
10.0 mm	86
6.30 mm	85
5.00 mm	82
3.35 mm	78
2.00 mm	75
1.18 mm	72
630 µm	69
425 µm	66
300 µm	60
200 µm	45
150 µm	35
63 µm	21

Non Engineering Description

Brown clayey silty very gravelly SAND. Gravel is fine to coarse.

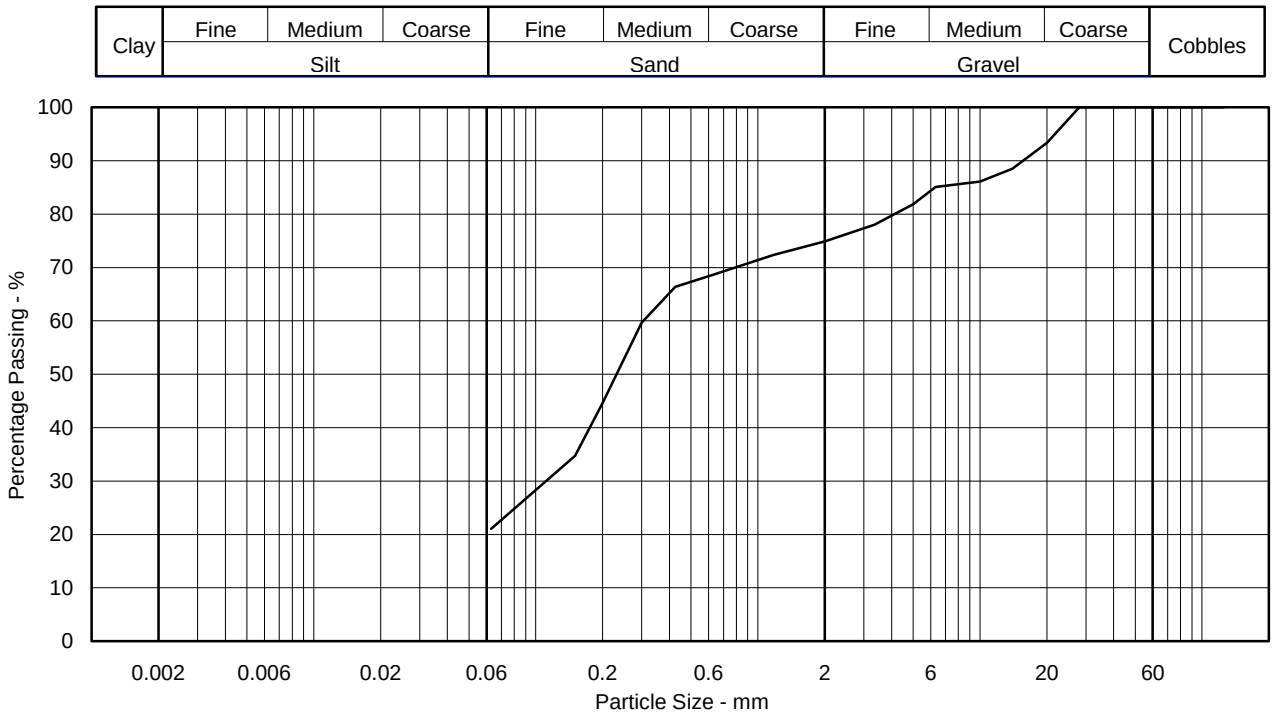
Sample Proportions - %

Cobbles	0.0
Gravel	25.1
Sand	53.8
Silt & Clay	21.1

Particle Diameter - mm

D100	28
D60	0.31
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP25
Engineer		Depth (m)	0.80-1.00
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	100
10.0 mm	96
6.30 mm	96
5.00 mm	94
3.35 mm	91
2.00 mm	88
1.18 mm	85
630 µm	82
425 µm	80
300 µm	77
200 µm	73
150 µm	68
63 µm	50

Non Engineering Description

Light brown slightly gravelly sandy CLAY. Gravel is fine to medium.

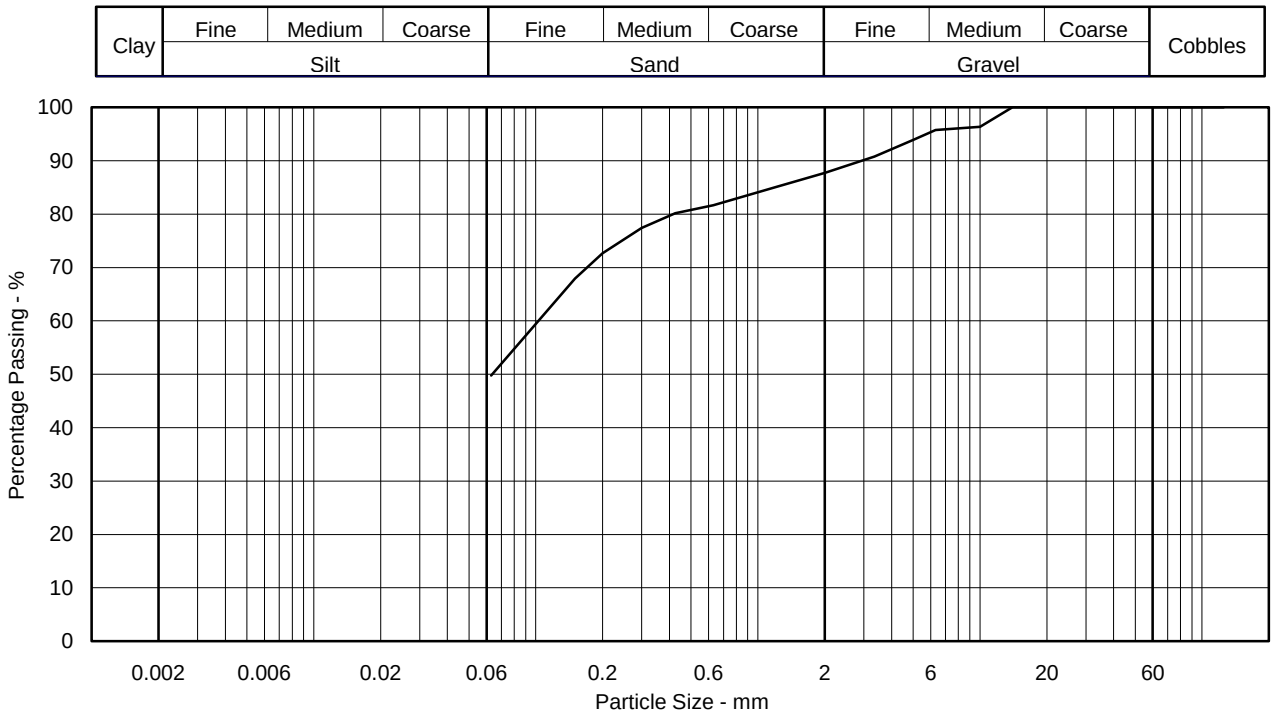
Sample Proportions - %

Cobbles	0.0
Gravel	12.2
Sand	38.0
Silt & Clay	49.8

Particle Diameter - mm

D100	14
D60	0.10
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP27
Engineer		Depth (m)	1.00
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	96
28.0 mm	94
20.0 mm	92
14.0 mm	90
10.0 mm	88
6.30 mm	87
5.00 mm	85
3.35 mm	84
2.00 mm	82
1.18 mm	79
630 µm	77
425 µm	75
300 µm	67
200 µm	56
150 µm	47
63 µm	31

Non Engineering Description

Brown slightly gravelly sandy CLAY. Gravel is fine to coarse.

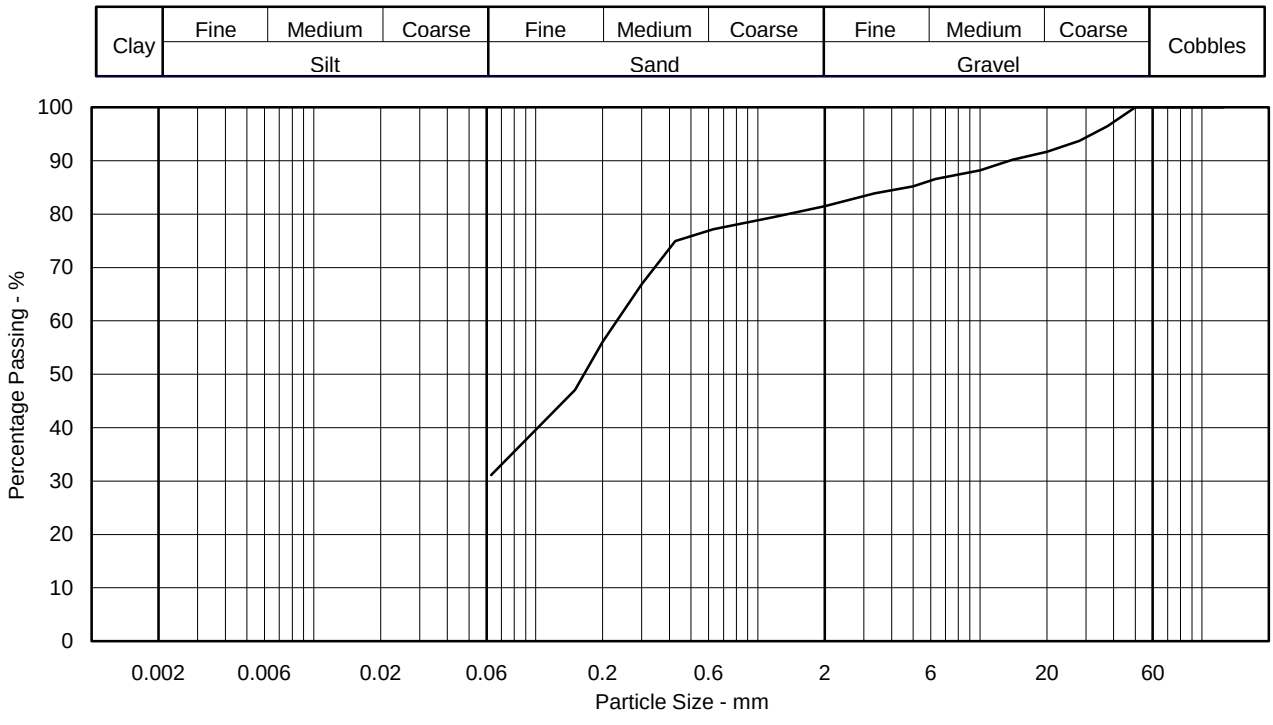
Sample Proportions - %

Cobbles	0.0
Gravel	18.5
Sand	50.4
Silt & Clay	31.2

Particle Diameter - mm

D100	50
D60	0.23
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP28
Engineer		Depth (m)	1.60
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	98
50.0 mm	93
37.5 mm	89
28.0 mm	86
20.0 mm	85
14.0 mm	82
10.0 mm	80
6.30 mm	79
5.00 mm	78
3.35 mm	77
2.00 mm	76
1.18 mm	75
630 µm	72
425 µm	70
300 µm	62
200 µm	44
150 µm	34
63 µm	23

Non Engineering Description

Light brown clayey silty very gravelly SAND. Gravel is fine to coarse with occasional cobbles.

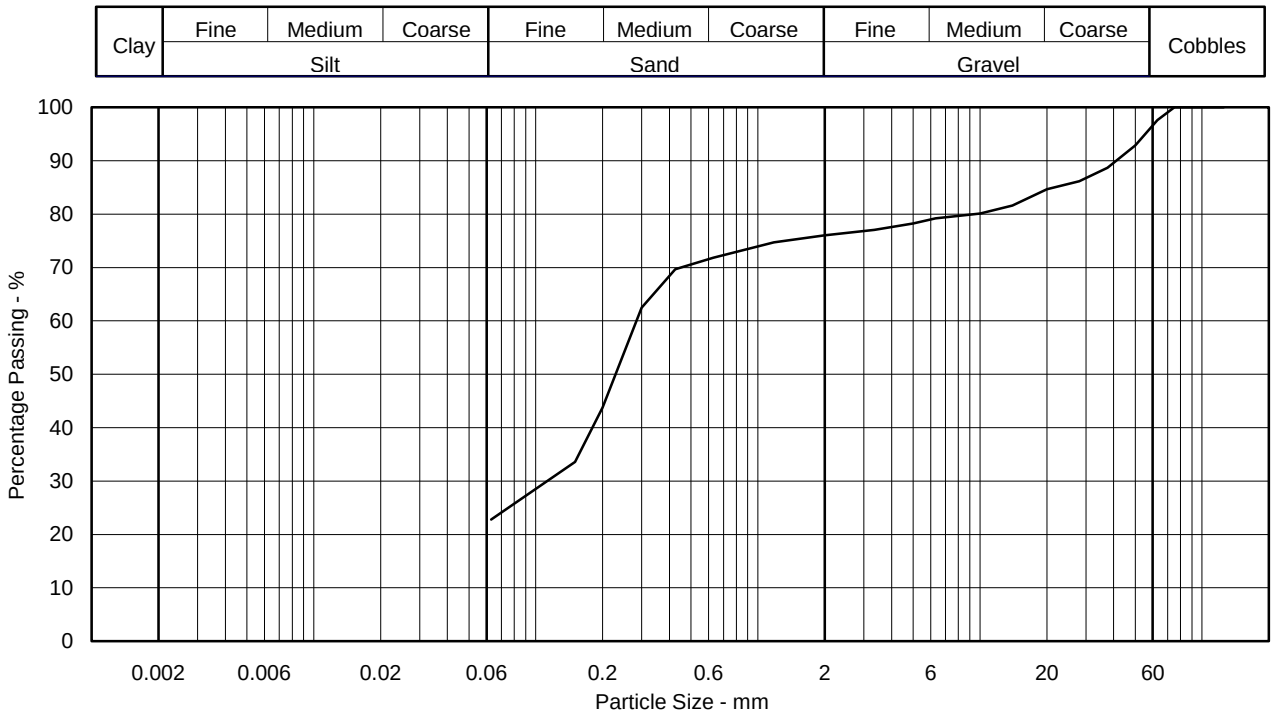
Sample Proportions - %

Cobbles	3.5
Gravel	20.4
Sand	53.3
Silt & Clay	22.8

Particle Diameter - mm

D100	75
D60	0.28
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK
SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP29
Engineer		Depth (m)	0.60
		Sample Type	B

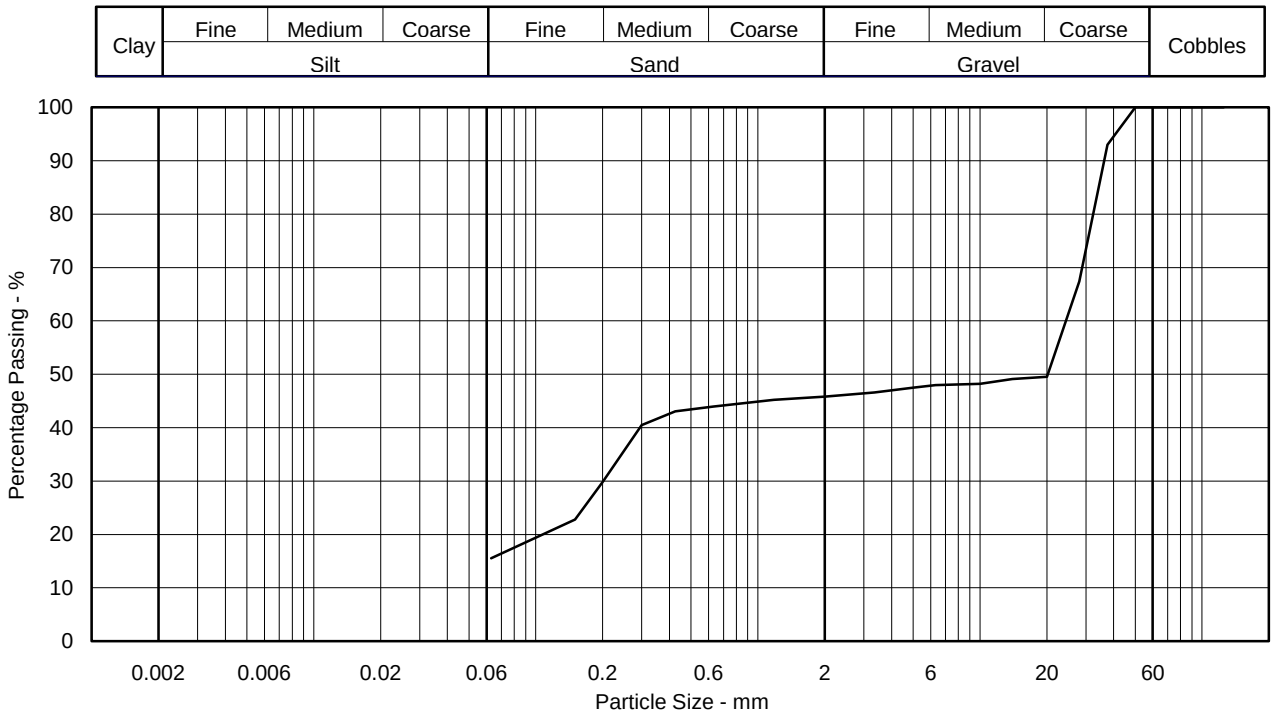
Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	93
28.0 mm	67
20.0 mm	50
14.0 mm	49
10.0 mm	48
6.30 mm	48
5.00 mm	48
3.35 mm	47
2.00 mm	46
1.18 mm	45
630 µm	44
425 µm	43
300 µm	40
200 µm	30
150 µm	23
63 µm	16

Non Engineering Description
Light brown clayey silty very sandy fine to coarse GRAVEL.

Sample Proportions - %	
Cobbles	0.0
Gravel	54.2
Sand	30.3
Silt & Clay	15.6

Particle Diameter - mm	
D100	50
D60	24
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes
Sample does not comply with BS EN ISO 17892-4 minimum mass requirements



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP3
Engineer		Depth (m)	0.80
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	96
50.0 mm	96
37.5 mm	88
28.0 mm	79
20.0 mm	74
14.0 mm	69
10.0 mm	66
6.30 mm	66
5.00 mm	65
3.35 mm	63
2.00 mm	62
1.18 mm	61
630 µm	58
425 µm	56
300 µm	49
200 µm	31
150 µm	24
63 µm	17

Non Engineering Description

Light brown slightly clayey silty very gravelly SAND. Gravel is fine to coarse with occasional cobbles.

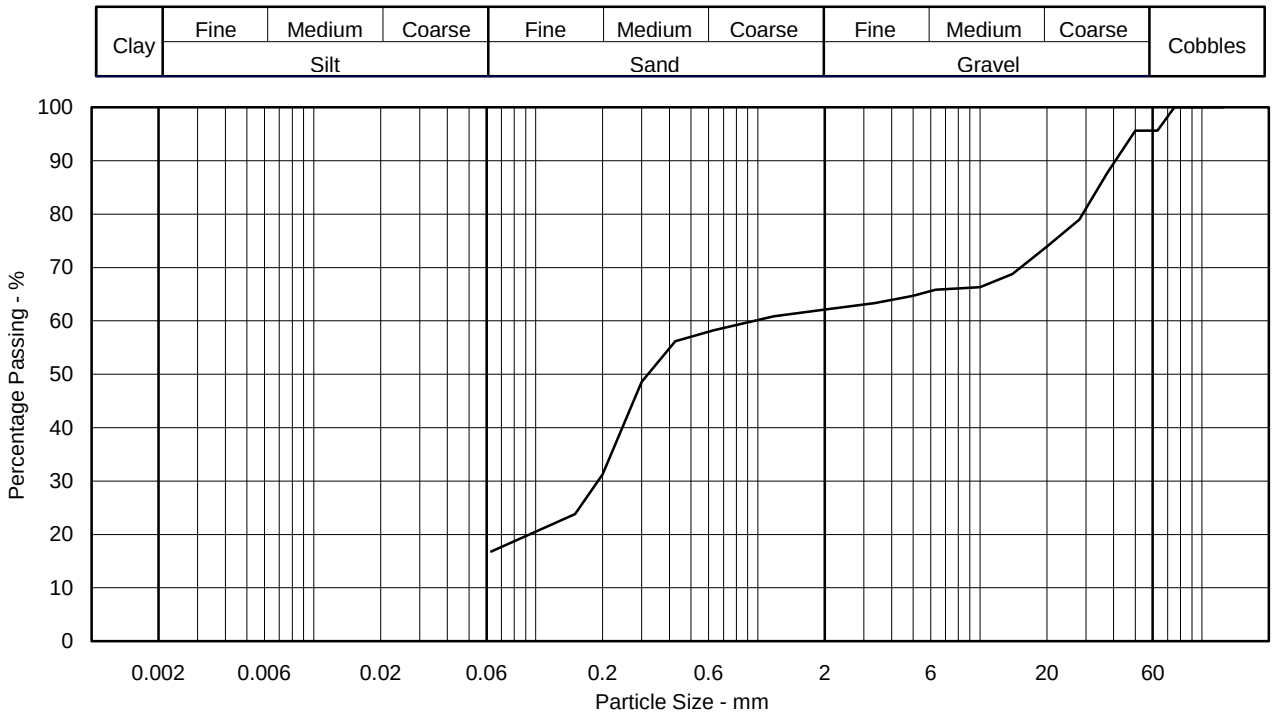
Sample Proportions - %

Cobbles	4.4
Gravel	33.5
Sand	45.3
Silt & Clay	16.8

Particle Diameter - mm

D100	75
D60	0.96
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP31
Engineer		Depth (m)	1.80
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	99
10.0 mm	99
6.30 mm	98
5.00 mm	96
3.35 mm	95
2.00 mm	94
1.18 mm	89
630 µm	85
425 µm	77
300 µm	58
200 µm	45
150 µm	32
63 µm	22

Non Engineering Description

Light brown gravelly clayey silty SAND. Gravel is fine to medium.

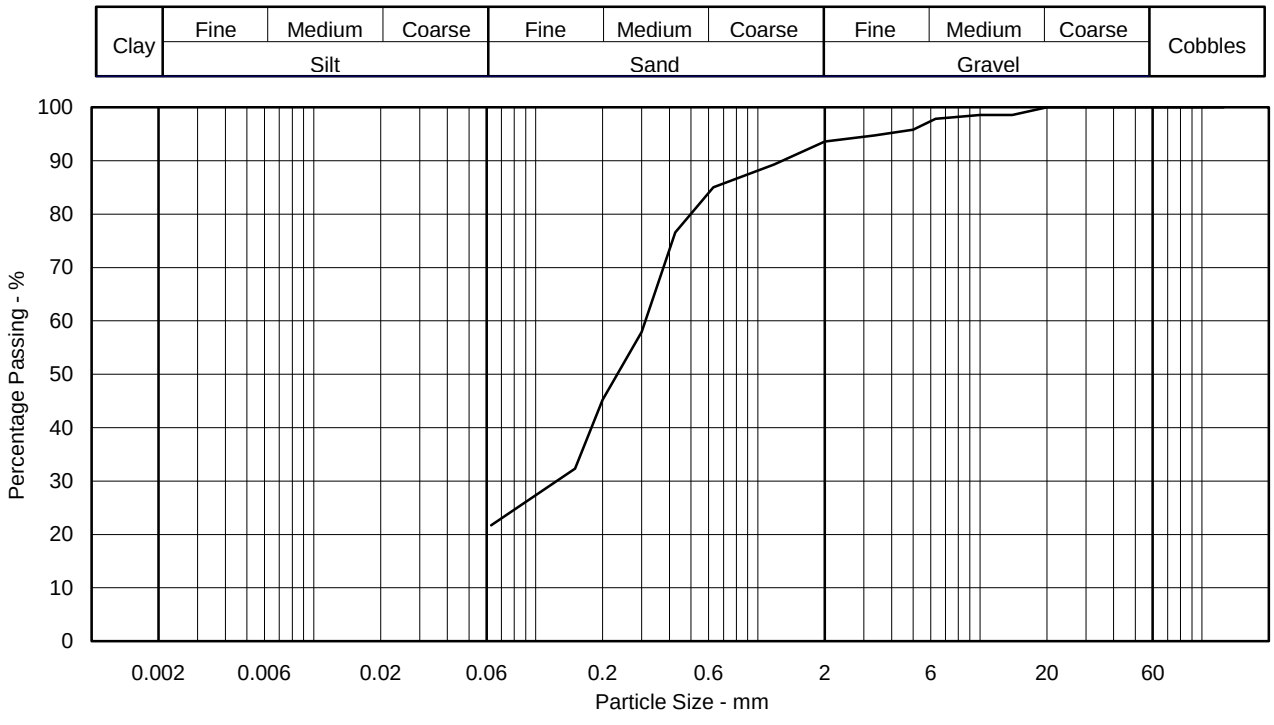
Sample Proportions - %

Cobbles	0.0
Gravel	6.4
Sand	71.9
Silt & Clay	21.7

Particle Diameter - mm

D100	20
D60	0.31
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



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TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP4
Engineer		Depth (m)	0.80-1.30
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	98
37.5 mm	88
28.0 mm	80
20.0 mm	71
14.0 mm	69
10.0 mm	67
6.30 mm	65
5.00 mm	64
3.35 mm	63
2.00 mm	62
1.18 mm	61
630 µm	60
425 µm	58
300 µm	49
200 µm	33
150 µm	25
63 µm	19

Non Engineering Description

Brown clayey silty very gravelly SAND. Gravel is fine to coarse.

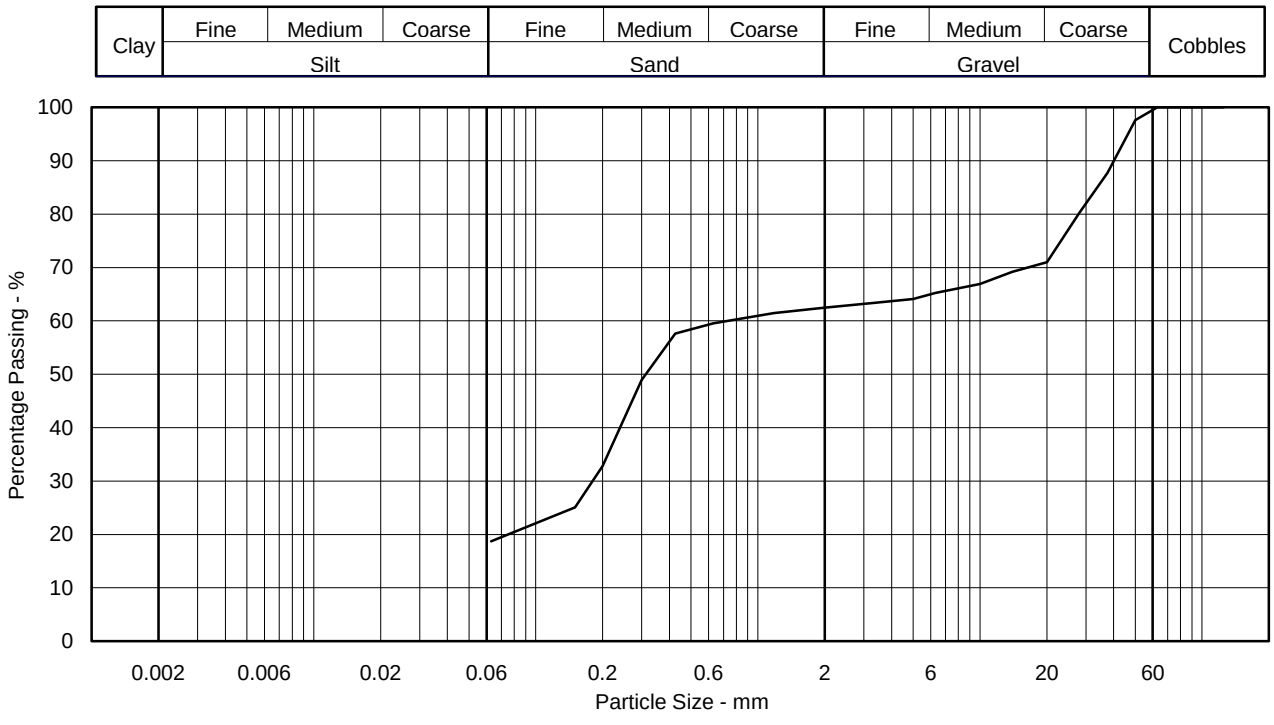
Sample Proportions - %

Cobbles	0.6
Gravel	37.0
Sand	43.8
Silt & Clay	18.7

Particle Diameter - mm

D100	63
D60	0.73
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP5
Engineer		Depth (m)	0.70-1.00
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	97
37.5 mm	95
28.0 mm	92
20.0 mm	88
14.0 mm	85
10.0 mm	82
6.30 mm	81
5.00 mm	80
3.35 mm	79
2.00 mm	78
1.18 mm	76
630 µm	74
425 µm	71
300 µm	64
200 µm	43
150 µm	34
63 µm	25

Non Engineering Description

Light brown clayey silty very gravelly SAND. Gravel is fine to coarse.

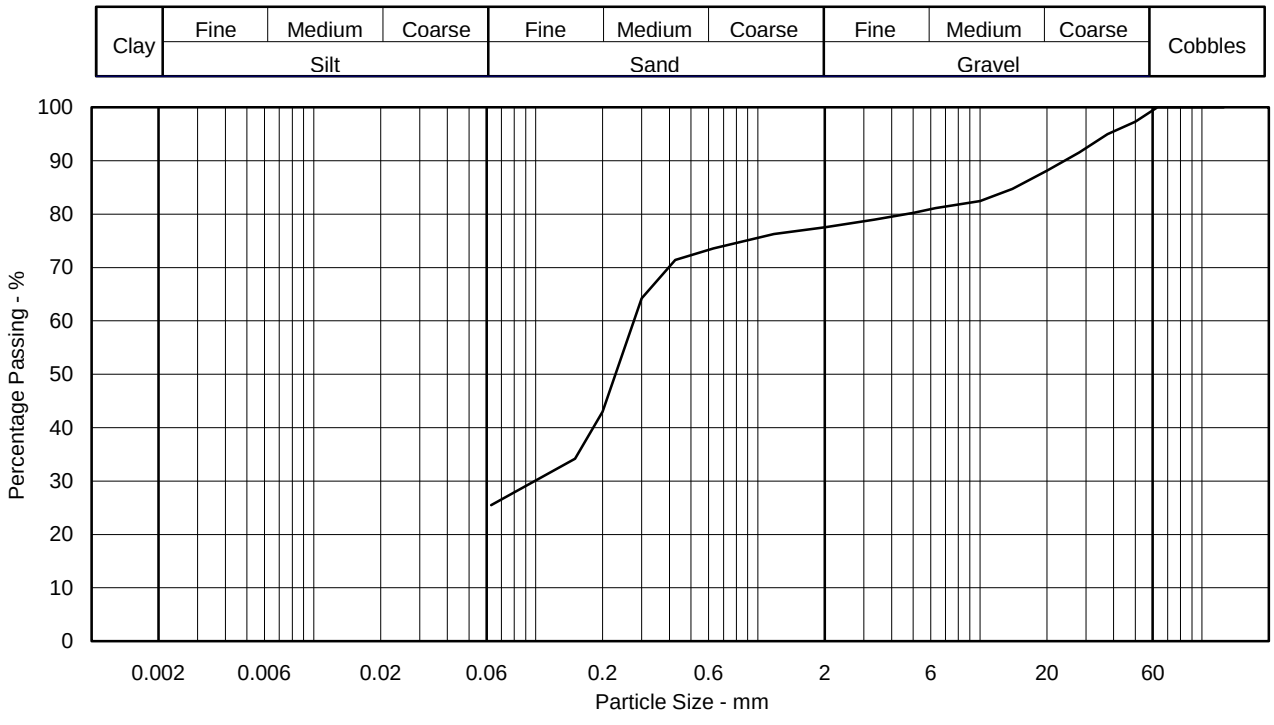
Sample Proportions - %

Cobbles	0.6
Gravel	21.8
Sand	52.1
Silt & Clay	25.5

Particle Diameter - mm

D100	63
D60	0.28
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

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Sheet 1 of 1

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP7
Engineer		Depth (m)	0.70-1.20
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	99
10.0 mm	98
6.30 mm	98
5.00 mm	97
3.35 mm	96
2.00 mm	94
1.18 mm	90
630 µm	81
425 µm	76
300 µm	59
200 µm	37
150 µm	30
63 µm	24

Non Engineering Description

Light brown gravelly clayey silty SAND. Gravel is fine to medium.

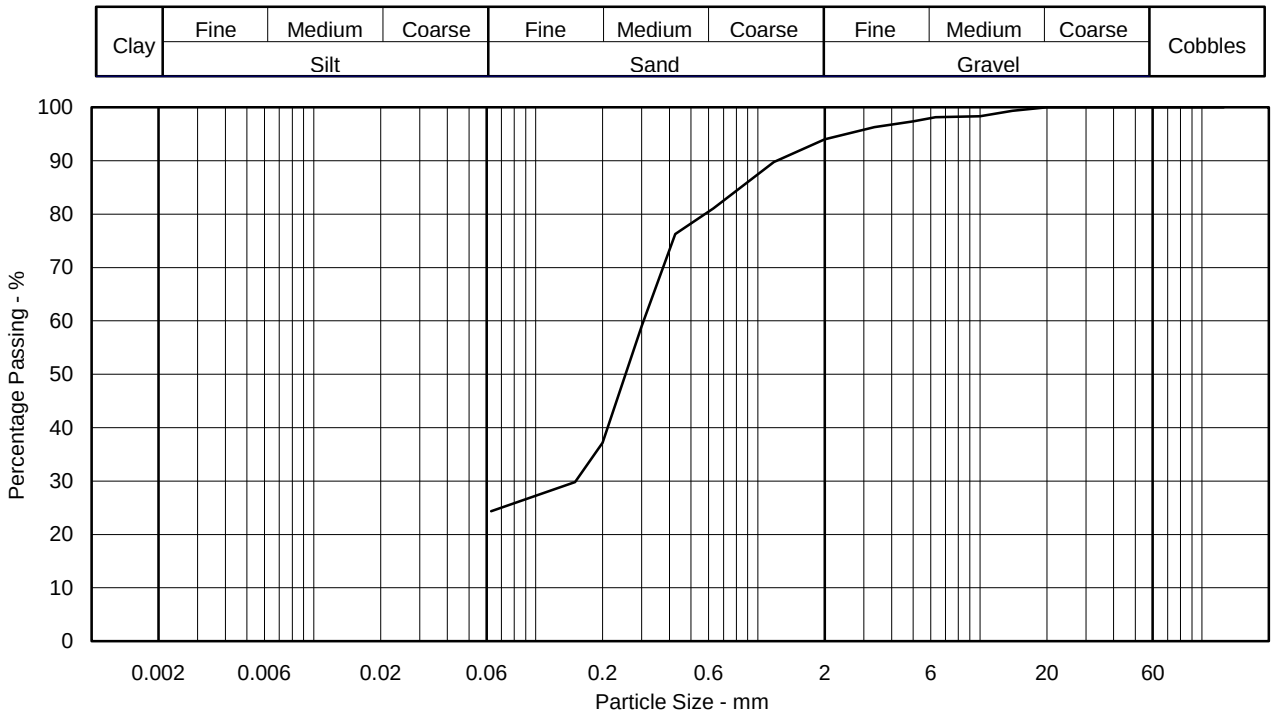
Sample Proportions - %

Cobbles	0.0
Gravel	6.0
Sand	69.7
Silt & Clay	24.3

Particle Diameter - mm

D100	20
D60	0.31
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

Unit 2 Springfield Road, Chesham, Bucks, HP51PW

TERRA TEK SITE INVESTIGATION AND LABORATORY SERVICES

Site	TAMWORTH	**Contract No**	**16041**
Client	Applied Geology Limited	Hole	TP9
Engineer		Depth (m)	0.70-1.00
		Sample Type	B

Particle Size	% Passing
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	96
28.0 mm	90
20.0 mm	84
14.0 mm	80
10.0 mm	79
6.30 mm	78
5.00 mm	77
3.35 mm	76
2.00 mm	75
1.18 mm	73
630 µm	70
425 µm	64
300 µm	49
200 µm	36
150 µm	31
63 µm	22

Non Engineering Description

Light brown clayey silty very gravelly SAND. Gravel is fine to coarse.

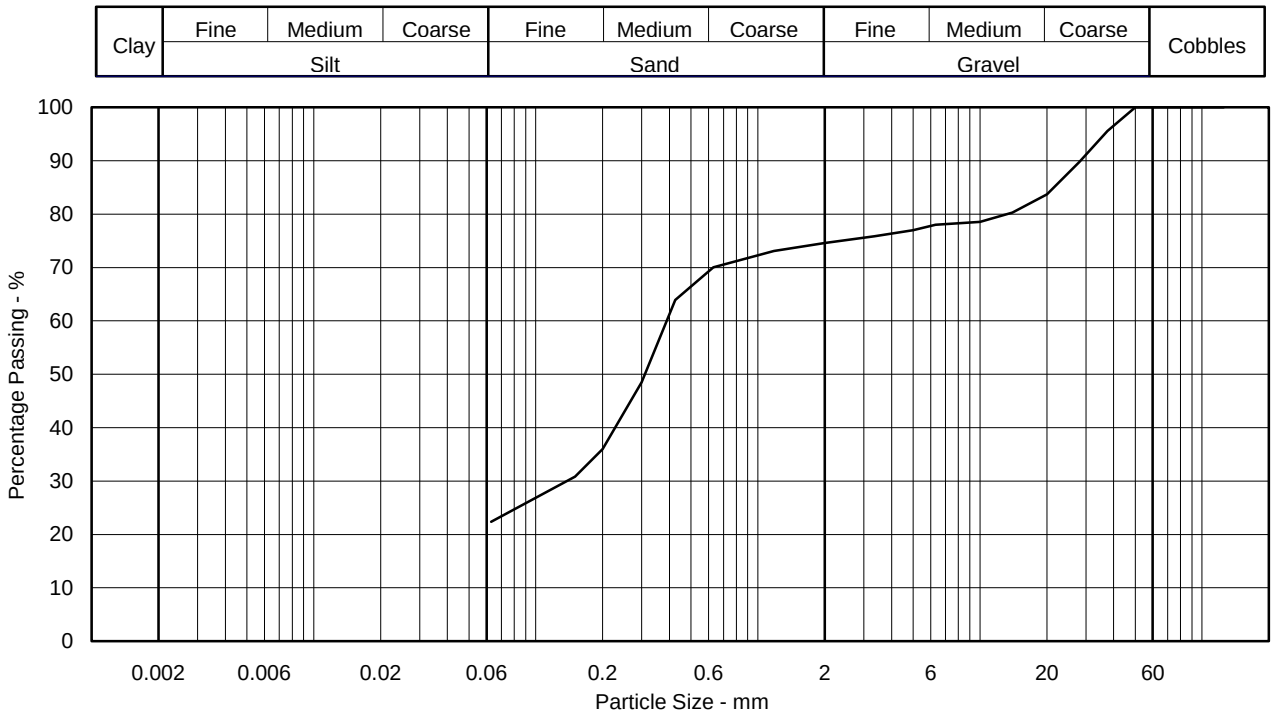
Sample Proportions - %

Cobbles	0.0
Gravel	25.4
Sand	52.2
Silt & Clay	22.4

Particle Diameter - mm

D100	50
D60	0.39
D10	
Uniformity Coefficient (SHW series 600, Table 6/1, footnote 5)	N/A

Notes



Originator	Checked & Approved
HL	20/10/2020

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4 2016 Clause 5.2 - Sieving Method

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e: reception@i2analytical.com

Analytical Report Number : 20-33390

Project / Site name:	Tamworth	**Samples received on:**	01/10/2020
Your job number:	AG3185-20	**Samples instructed on/ Analysis started on:**	01/10/2020
Your order number:	16042	**Analysis completed by:**	14/10/2020
Report Issue Number:	1	**Report issued on:**	15/10/2020
Samples Analysed:	29 soil samples		

Signed: A. Czerwińska

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638071	1638072	1638073	1638074
Sample Reference				TP14	TP15	TP16	TP17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.20	0.20
Date Sampled				17/09/2020	17/09/2020	17/09/2020	17/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	11	10	10	9.4
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2	0.8
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	6.6	6.6	6.5	6.3
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	46	58	33	37
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.023	0.029	0.016	0.019
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	23.1	29.1	16.4	18.5
Total Chloride	mg/kg	5	NONE	-	-	-	-
Organic Matter	%	0.1	MCERTS	2.3	4.1	1.8	1.9
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.1	7.8	6.9	7.4
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.78	0.86	0.8	0.86
Boron (total)	mg/kg	1	MCERTS	5.9	4.9	4.3	4.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.3	0.2	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	21	34	56	23
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	36	57	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	16	11	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	38	40	32	27
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	21	21	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	30	29	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	89	81	71	72

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638071	1638072	1638073	1638074
Sample Reference				TP14	TP15	TP16	TP17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.20	0.20
Date Sampled				17/09/2020	17/09/2020	17/09/2020	17/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Magnesium (water soluble)	mg/kg	5	NONE	19	19	17	13
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638075	1638076	1638077	1638078
Sample Reference				TP27	TP27	TP1	TP4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.00	0.20	0.80
Date Sampled				21/09/2020	21/09/2020	16/09/2020	16/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	11	10	12	14
Total mass of sample received	kg	0.001	NONE	1	1	1.2	0.5
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	6.6	6.6	6	6.7
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	35	57	19	15
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.017	0.029	0.0094	0.0074
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	17.3	28.7	9.4	7.4
Total Chloride	mg/kg	5	NONE	-	-	-	-
Organic Matter	%	0.1	MCERTS	2.4	< 0.1	2.3	0.3
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.5	4.3	6.7	6.1
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.93	0.71	0.91	0.68
Boron (total)	mg/kg	1	MCERTS	5.1	4.6	4.8	2.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	< 0.2	0.3	0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	27	16	25	20
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	16	28	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	9.6	11	4.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	24	8.6	34	40
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	17	20	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	22	38	21
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	71	30	71	68

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638075	1638076	1638077	1638078
Sample Reference				TP27	TP27	TP1	TP4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	1.00	0.20	0.80
Date Sampled				21/09/2020	21/09/2020	16/09/2020	16/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Magnesium (water soluble)	mg/kg	5	NONE	16	9	16	5.4
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638079	1638080	1638081	1638082
Sample Reference				TP3	TP4	TP5	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.20	0.20
Date Sampled				16/09/2020	16/09/2020	16/09/2020	16/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	9.5	9.9	10	11
Total mass of sample received	kg	0.001	NONE	1	1	0.8	0.9
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	6.4	6.4	6.5	6.9
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	9.9	16	28	19
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.005	0.008	0.014	0.0096
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	5	8	14.1	9.6
Total Chloride	mg/kg	5	NONE	-	-	-	-
Organic Matter	%	0.1	MCERTS	1.8	1.5	1.7	1.7
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.3	5.9	6.6	7.3
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.8	0.67	0.78	0.84
Boron (total)	mg/kg	1	MCERTS	4.9	3.4	4.3	4.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.2	0.3	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	25	21	22	23
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	22	23	24
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.8	9.1	12	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	38	31	29	32
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	20	22	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	28	31	32
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	91	72	69	73

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638079	1638080	1638081	1638082
Sample Reference				TP3	TP4	TP5	TP7
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.20	0.20
Date Sampled				16/09/2020	16/09/2020	16/09/2020	16/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Magnesium (water soluble)	mg/kg	5	NONE	11	14	12	15
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638083	1638084	1638085	1638086
Sample Reference				TP2	TP10	TP11	TP12
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.20	0.20	0.20
Date Sampled				16/09/2020	17/09/2020	17/09/2020	17/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	11	11	12	13
Total mass of sample received	kg	0.001	NONE	0.5	1.2	1.2	1.2
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	7.4	6.9	6.5	6.7
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	30	66	60	60
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.015	0.033	0.03	0.03
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	14.9	32.9	30.1	29.9
Total Chloride	mg/kg	5	NONE	-	-	-	-
Organic Matter	%	0.1	MCERTS	< 0.1	1.8	2.3	2
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.44	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.46	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.26	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.29	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	1.45	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	3.1	8.5	8.7	7.1
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.86	0.78	1.1	0.97
Boron (total)	mg/kg	1	MCERTS	1.8	3.3	3.8	3.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.3	0.4	0.4
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	21	25	29	27
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	27	30	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	6.7	7.8	13	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	84	37	51	54
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27	21	22	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	34	43	38
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	67	83	81

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638083	1638084	1638085	1638086
Sample Reference				TP2	TP10	TP11	TP12
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.20	0.20	0.20
Date Sampled				16/09/2020	17/09/2020	17/09/2020	17/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Magnesium (water soluble)	mg/kg	5	NONE	5.2	17	19	19
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638087	1638088	1638089	1638090
Sample Reference				TP13	TP18	TP16	TP20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.60	0.20
Date Sampled				17/09/2020	17/09/2020	18/09/2020	18/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	10	9.9	8.2	8.8
Total mass of sample received	kg	0.001	NONE	1.2	0.9	0.5	0.9
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	6.6	6.6	6.7	6.5
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	63	26	24	37
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.032	0.013	0.012	0.019
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	31.6	13	12.1	18.6
Total Chloride	mg/kg	5	NONE	-	-	-	-
Organic Matter	%	0.1	MCERTS	1.7	1.7	0.2	1.9
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.5	6.8	3	6.4
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.8	0.77	0.83	0.82
Boron (total)	mg/kg	1	MCERTS	3.2	2.2	2	3.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.3	< 0.2	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	24	24	22	24
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	24	22	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	10	13	6	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	31	26	12	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	20	26	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	34	20	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	71	66	47	69

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638087	1638088	1638089	1638090
Sample Reference				TP13	TP18	TP16	TP20
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.60	0.20
Date Sampled				17/09/2020	17/09/2020	18/09/2020	18/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Magnesium (water soluble)	mg/kg	5	NONE	14	7.8	5.1	15
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638091	1638092	1638093	1638094
Sample Reference				TP21	TP21	TP23	TP24
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.80	0.20	0.20
Date Sampled				18/09/2020	18/09/2020	18/09/2020	18/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	10	7.8	9.4	9.3
Total mass of sample received	kg	0.001	NONE	0.9	0.5	1	1
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	6.5	7.8	6.5	6.5
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	31	27	45	40
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.016	0.014	0.022	0.02
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	15.7	13.6	22.4	19.9
Total Chloride	mg/kg	5	NONE	-	-	-	-
Organic Matter	%	0.1	MCERTS	2	0.2	1.9	1.9
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.9	3.6	6.2	5.8
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.86	0.87	0.82	0.82
Boron (total)	mg/kg	1	MCERTS	3.6	2	3.3	3.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	0.3	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	23	22	23	25
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	22	25	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	7.2	12	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	26	5.1	21	21
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	27	20	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	33	22	32	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	72	46	66	70

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638091	1638092	1638093	1638094
Sample Reference				TP21	TP21	TP23	TP24
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.80	0.20	0.20
Date Sampled				18/09/2020	18/09/2020	18/09/2020	18/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Magnesium (water soluble)	mg/kg	5	NONE	14	5.4	9.9	11
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638095	1638096	1638097	1638098
Sample Reference				TP14	TP26	TP28	TP30
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	0.20	0.20
Date Sampled				18/09/2020	18/09/2020	21/09/2020	21/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	9.7	12	11	9.4
Total mass of sample received	kg	0.001	NONE	0.5	1	1	1
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	5.4	6.8	6.9	7.2
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	55	43	23	31
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.028	0.021	0.011	0.016
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	27.6	21.4	11.4	15.5
Total Chloride	mg/kg	5	NONE	210	-	-	-
Organic Matter	%	0.1	MCERTS	1.1	2.6	1.9	1.6
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	7.1	-	-	-
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.3	8	5.8	6.8
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.72	1.2	0.85	0.93
Boron (total)	mg/kg	1	MCERTS	3.6	5.5	4.3	4.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	0.3	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (III)	mg/kg	1	NONE	21	35	26	27
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	37	27	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7.3	13	12	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	48	20	19
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	26	20	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.2
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	24	49	35	35
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	59	100	68	68

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638095	1638096	1638097	1638098
Sample Reference				TP14	TP26	TP28	TP30
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	0.20	0.20
Date Sampled				18/09/2020	18/09/2020	21/09/2020	21/09/2020
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Magnesium (water soluble)	mg/kg	5	NONE	8.5	16	8.8	10
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638099
Sample Reference				TP31
Sample Number				None Supplied
Depth (m)				0.20
Date Sampled				21/09/2020
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	N/A	NONE	8.8
Total mass of sample received	kg	0.001	NONE	1
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.1
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	49
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.024
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	24.4
Total Chloride	mg/kg	5	NONE	-
Organic Matter	%	0.1	MCERTS	1.7
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.2
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.99
Boron (total)	mg/kg	1	MCERTS	4.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0
Chromium (III)	mg/kg	1	NONE	27
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.1
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	74

Analytical Report Number: 20-33390
Project / Site name: Tamworth
Your Order No: 16042

Lab Sample Number				1638099
Sample Reference				TP31
Sample Number				None Supplied
Depth (m)				0.20
Date Sampled				21/09/2020
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Magnesium (water soluble)	mg/kg	5	NONE	11

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10

TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 20-33390
Project / Site name: Tamworth

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1638071	TP14	None Supplied	0.2	Brown sandy loam with gravel.
1638072	TP15	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638073	TP16	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638074	TP17	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638075	TP27	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638076	TP27	None Supplied	1	Light brown clay and sand with gravel.
1638077	TP1	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638078	TP4	None Supplied	0.8	Light brown clay and sand with gravel.
1638079	TP3	None Supplied	0.2	Brown sandy loam with vegetation.
1638080	TP4	None Supplied	0.2	Brown sandy loam with gravel and vegetation.
1638081	TP5	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638082	TP7	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638083	TP2	None Supplied	0.8	Light brown clay and sand with gravel.
1638084	TP10	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638085	TP11	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638086	TP12	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638087	TP13	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638088	TP18	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638089	TP16	None Supplied	0.6	Light brown sand with vegetation.
1638090	TP20	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638091	TP21	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638092	TP21	None Supplied	0.8	Light brown sand with gravel.
1638093	TP23	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638094	TP24	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638095	TP14	None Supplied	0.5	Brown sandy loam with gravel and vegetation.
1638096	TP26	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638097	TP28	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638098	TP30	None Supplied	0.2	Brown sandy loam with vegetation and gravel
1638099	TP31	None Supplied	0.2	Brown sandy loam with vegetation and gravel

Analytical Report Number : 20-33390
Project / Site name: Tamworth

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Chloride in soil	Determination of acid soluble chloride in soil by extraction with nitric acid, addition of silver nitrate followed by titration against thiocyanate.	In-house method	L075-PL	D	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE

Analytical Report Number : 20-33390
Project / Site name: Tamworth

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPHCWG Ali Aro Sum	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Analytical Report Number : 20-33390
Project / Site name: Tamworth

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP1	None Supplied	S	1638077	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP1	None Supplied	S	1638077	c	TPH in (Soil)	L076-PL	c
TP10	None Supplied	S	1638084	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP10	None Supplied	S	1638084	c	TPH in (Soil)	L076-PL	c
TP11	None Supplied	S	1638085	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP11	None Supplied	S	1638085	c	TPH in (Soil)	L076-PL	c
TP12	None Supplied	S	1638086	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP12	None Supplied	S	1638086	c	TPH in (Soil)	L076-PL	c
TP13	None Supplied	S	1638087	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP13	None Supplied	S	1638087	**c**	**TPH in (Soil)**	L076-PL	c
TP14	None Supplied	S	1638071	**c**	**BTEX and MTBE in soil (Monoaromatics)**	L073B-PL	c
TP14	None Supplied	S	1638071	c	TPH in (Soil)	L076-PL	c
TP14	None Supplied	S	1638095	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP14	None Supplied	S	1638095	c	TPH in (Soil)	L076-PL	c
TP15	None Supplied	S	1638072	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP15	None Supplied	S	1638072	c	TPH in (Soil)	L076-PL	c
TP16	None Supplied	S	1638073	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP16	None Supplied	S	1638073	**c**	**TPH in (Soil)**	L076-PL	c
TP16	None Supplied	S	1638089	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP16	None Supplied	S	1638089	c	TPH in (Soil)	L076-PL	c
TP17	None Supplied	S	1638074	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP17	None Supplied	S	1638074	c	TPH in (Soil)	L076-PL	c
TP18	None Supplied	S	1638088	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP18	None Supplied	S	1638088	**c**	**TPH in (Soil)**	L076-PL	c
TP2	None Supplied	S	1638083	**c**	**BTEX and MTBE in soil (Monoaromatics)**	L073B-PL	c
TP2	None Supplied	S	1638083	c	TPH in (Soil)	L076-PL	c
TP20	None Supplied	S	1638090	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP20	None Supplied	S	1638090	c	TPH in (Soil)	L076-PL	c
TP21	None Supplied	S	1638091	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP21	None Supplied	S	1638091	c	TPH in (Soil)	L076-PL	c
TP21	None Supplied	S	1638092	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP21	None Supplied	S	1638092	c	TPH in (Soil)	L076-PL	c
TP23	None Supplied	S	1638093	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP23	None Supplied	S	1638093	c	TPH in (Soil)	L076-PL	c
TP24	None Supplied	S	1638094	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP24	None Supplied	S	1638094	c	TPH in (Soil)	L076-PL	c
TP26	None Supplied	S	1638096	**c**	**BTEX and MTBE in soil (Monoaromatics)**	L073B-PL	c
TP26	None Supplied	S	1638096	**c**	**TPH in (Soil)**	L076-PL	c
TP3	None Supplied	S	1638079	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP3	None Supplied	S	1638079	c	TPH in (Soil)	L076-PL	c
TP4	None Supplied	S	1638078	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP4	None Supplied	S	1638078	c	TPH in (Soil)	L076-PL	c
TP4	None Supplied	S	1638080	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP4	None Supplied	S	1638080	c	TPH in (Soil)	L076-PL	c
TP5	None Supplied	S	1638081	**c**	**BTEX and MTBE in soil (Monoaromatics)**	L073B-PL	c
TP5	None Supplied	S	1638081	c	TPH in (Soil)	L076-PL	c
TP7	None Supplied	S	1638082	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	c
TP7	None Supplied	S	1638082	c	TPH in (Soil)	L076-PL	c

Key: **a** - No sampling date **b** - Incorrect container
c - Holding time **d** - Headspace **e** - Temperature

Ground Gas Monitoring and Flow Results

Project Number: AG3185-20

Project Name: Tamworth

Date and Time of Monitoring: Tuesday 29th September - 12:00

Phase of Monitoring: 1 of 4

BH No.	Flow Range (litres/hr over 3 mins)			Differential Pressure (mb)	Methane % v/v		Carbon dioxide % v/v		Oxygen % v/v		Diameter of installation (mm)	Water level (m bgl)
	Max	Min	Avg		Peak	Steady	Peak	Steady	Min	Steady		
CP1	0.1	<0.1	0.1	<1	<0.1	<0.1	1.7	1.7	20.2	20.2	50	DRY
CP4	<0.1	<0.1	<0.1	<1	<0.1	<0.1	1.2	1.2	20.2	20.2	50	DRY
CP6	<0.1	<0.1	<0.1	<1	<0.1	<0.1	0.2	0.2	20.7	20.7	50	DRY
CP7	<0.1	<0.1	<0.1	<1	<0.1	<0.1	0.2	0.2	20.5	20.5	50	1.00

Additional gases (if required)

BH No.	VOCs (ppm)			
CP1	0.2			
CP4	0.2			
CP6	<0.1			
CP7	0.1			

Borehole specific comments/observations

Meterological Data

Atmospheric Pressure (mb)	Start:	1005
Atmospheric Pressure (mb)	Finish:	1005
Pressure Rising or Falling		Falling
Weather Conditions		1/8 clouds
Atmospheric Oxygen (% vol)		20.9
Wind Speed & Direction		3mph N
Ambient Air Temperature (°C)		17.0

Site Data

Monitoring Personnel	Carl Sellers
GPS Instrument	
Gasmeter Serial Number	G503948
PID Serial Number	110423
Ground Conditions (vegetation stress, visual contamination):	

General Notes:

1. Instrument specification data and calibration information provided on a separate sheet

APPLiED GEOLOGY

Ground Gas Monitoring and Flow Results

Project Number: AG3185-20

Project Name: Tamworth

Date and Time of Monitoring: Wednesday 7th October 2020 - 09:15

Phase of Monitoring: 2 of 4

BH No.	Flow Range (litres/hr over 3 mins)			Differential Pressure (mb)	Methane % v/v		Carbon dioxide % v/v		Oxygen % v/v		Diameter of installation (mm)	Water level (m bgl)
	Max	Min	Avg		Peak	Steady	Peak	Steady	Min	Steady		
CP1	0.1	<0.1	0.1	-0.19	<0.1	<0.1	1.9	1.9	19.3	19.3	50	Dry
CP4	<0.1	<0.1	<0.1	0.07	<0.1	<0.1	1.3	1.3	19.6	19.6	50	Dry
CP6	<0.1	<0.1	<0.1	0.09	<0.1	<0.1	1.5	1.5	19.4	19.4	50	Dry
CP7	<0.1	<0.1	<0.1	-0.12	<0.1	<0.1	0.6	0.6	20.3	20.3	50	0.88

Additional gases (if required)

BH No.	VOCs (ppm)			
CP1	<0.1			
CP4	<0.1			
CP6	<0.1			
CP7	<0.1			

Borehole specific comments/observations

Meterological Data

Atmospheric Pressure (mb)	Start: 999
Atmospheric Pressure (mb)	Finish: 1002
Pressure Rising or Falling	Rising
Weather Conditions	Hazy cloud
Atmospheric Oxygen (% vol)	20.7
Wind Speed & Direction	10mph W
Ambient Air Temperature (°C)	11.0

Site Data

Monitoring Personnel	Malcolm McGlone
GPS Instrument	
Gasmeter Serial Number	G506760
PID Serial Number	109598
Ground Conditions (vegetation stress, visual contamination):	

General Notes:

1. Instrument specification data and calibration information provided on a separate sheet

APPLiED GEOLOGY

Ground Gas Monitoring and Flow Results

Project Number: AG3185-20

Project Name: Tamworth

Date and Time of Monitoring: Wednesday 14th October 2020 - 13:15

Phase of Monitoring: 3 of 4

BH No.	Flow Range (litres/hr over 3 mins)			Differential Pressure (mb)	Methane % v/v		Carbon dioxide % v/v		Oxygen % v/v		Diameter of installation (mm)	Water level (m bgl)
	Max	Min	Avg		Peak	Steady	Peak	Steady	Min	Steady		
CP1	<0.1	<0.1	<0.1	-0.09	<0.1	<0.1	1.4	1.4	19.5	19.5	50	Dry
CP4	<0.1	<0.1	<0.1	0.03	<0.1	<0.1	1.0	1.0	20.2	20.2	50	Dry
CP6	<0.1	<0.1	<0.1	0.05	<0.1	<0.1	1.1	1.1	19.9	19.9	50	Dry
CP7	<0.1	<0.1	<0.1	-0.05	<0.1	<0.1	0.7	0.7	20.3	20.3	50	0.98

Additional gases (if required)

BH No.	VOCs (ppm)			
CP1	<0.1			
CP4	<0.1			
CP6	<0.1			
CP7	<0.1			

Borehole specific comments/observations

Meterological Data

Atmospheric Pressure (mb)	Start: 1015
Atmospheric Pressure (mb)	Finish: 1015
Pressure Rising or Falling	Rising
Weather Conditions	Sunny, cloud building.
Atmospheric Oxygen (% vol)	21.9
Wind Speed & Direction	11mph NNE
Ambient Air Temperature (°C)	12.0

Site Data

Monitoring Personnel	Malcolm McGlone
GPS Instrument	
Gasmeter Serial Number	G505737
PID Serial Number	109598
Ground Conditions (vegetation stress, visual contamination):	

General Notes:

1. Instrument specification data and calibration information provided on a separate sheet

APPLiED GEOLOGY

Ground Gas Monitoring and Flow Results

Project Number: AG3185-20

Project Name: Tamworth

Date and Time of Monitoring: Wednesday 21st October 2020 - 14:15

Phase of Monitoring: 4 of 4

BH No.	Flow Range (litres/hr over 3 mins)			Differential Pressure (mb)	Methane % v/v		Carbon dioxide % v/v		Oxygen % v/v		Diameter of installation (mm)	Water level (m bgl)
	Max	Min	Avg		Peak	Steady	Peak	Steady	Min	Steady		
CP1	<0.1	<0.1	<0.1	-0.09	<0.1	<0.1	0.8	0.8	20.3	20.3	50	2.61
CP4	<0.1	<0.1	<0.1	0.03	<0.1	<0.1	1.2	1.2	20.0	20.0	50	Dry
CP6	<0.1	<0.1	<0.1	-0.02	<0.1	<0.1	0.4	0.4	19.8	19.8	50	Dry
CP7	<0.1	<0.1	<0.1	-0.02	<0.1	<0.1	1.5	1.5	19.4	19.4	50	0.99

Additional gases (if required)

BH No.	VOCs (ppm)			
CP1	<0.1			
CP4	<0.1			
CP6	<0.1			
CP7	<0.1			

Borehole specific comments/observations

Meterological Data

Atmospheric Pressure (mb)	Start: 984
Atmospheric Pressure (mb)	Finish: 984
Pressure Rising or Falling	Rising
Weather Conditions	Overcast / rain
Atmospheric Oxygen (% vol)	21.5
Wind Speed & Direction	7mph SSW
Ambient Air Temperature (°C)	15.0

Site Data

Monitoring Personnel	Malcolm McGlone
GPS Instrument	
Gasmeter Serial Number	G505737
PID Serial Number	109598
Ground Conditions (vegetation stress, visual contamination):	

General Notes:

1. Instrument specification data and calibration information provided on a separate sheet

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Gas Monitoring Equipment Specification and Accuracy Details

Instrument Specifications

Instrument	Atmospheric Pressure Range	Temperature Range	Flow Range	Flow Resolution	Borehole Pressure Range
GA5000	500-1500 mb +/- 5 mb	-10°C to + 50°C	0-20 lt/hr +/- 0.3 l/hr	0.1l/hr	.+500/-500 mbar +/- 4 mbar
Phocheck Tiger	-	-20 to + 60°C (Certified to -15 to + 45°C)	-	-	-

Instrument Accuracy

Instrument		Methane	Lower Explosive Limit	Carbon Dioxide	Oxygen	Volatile Organic Compounds	Hydrogen Sulphide	Carbon Monoxide
GA5000	Detection Range	0-100%	-	0 -100%	0-25%	NA	0 -50ppm response <30 secs	0 - 1000ppm response <30 Secs
	Detection Accuracy	.+/- 0.5% @ 0 to 70%, +/-1.5% @ 70 to 100% Response < 10 secs	N/A	.+/- 0.5% @ 0 to 60%, +/-1.5% @ 60 to 100% Response < 10 secs	.+/- 1.0% @ 0 to 25%, Response < 20 secs	NA	.+/- 1.5% FS	.+/- 2% of FS
Phocheck Tiger	Detection Range	N/A	N/A	N/A	N/A	1 ppb - 10,000 ppm	N/A	N/A
	Detection Accuracy	N/A	N/A	N/A	N/A	+/- 1ppb +- 5% of actual displayed accuracy +/- One digit Response < 2sec	N/A	N/A

Calibration Frequency

Instruments are calibrated annually.

Details of the instrument calibration certificates and service records are available if required.

Equipment Serial Numbers

GA5000 (G503948, G505383, G505737)

Phocheck Tiger - (T-108308, T-109597, T-109598, T-110423)

APPLiED GEOLOGY

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Warrington
WA3 2AN

18 December 2020
Report No : GEO/32315/01

For the attention of Mr C Sellers / Mr P Gabrielle

Dear Sirs

Date samples received	04/12/2020
Date written instructions received	04/12/2020
Date testing commenced	05/12/2020
Date of sample disposal	**15/01/2021**

Our ref **GEO / 32315**
Your Ref **AG3185-20**

Project **TAMWORTH**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Geochemical Test Summary
~	5	BRE SD1 Suite B - Natural ground + pyrite
2	5	Particle Size Distribution
3	3	Moisture Content / Dry Density Relationship

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

[redacted]

Laboratory Manager

1131 - Chemical Test Summary - 32315.XLSM

SUMMARY OF CHEMICAL TESTS ON SOIL

Location	Depth m	Sample Ref	Sample Type	pH Value	Total Acid Soluble Sulphate as SO4 %	Water Soluble Sulphate as SO4 2:1 Water:Soil Extract g/l	Total Sulphur %	Water Soluble Chloride g/l	Water Soluble Nitrate g/l	Magnesium g/l	Organic Content %	Mass Loss on Ignition %	Carbonate Content %
TP15	1.30-1.50		B	5.3	0.021	< 0.010	0.020	-	-	-	-	-	-
TP21	1.90-2.20		B	8.3	0.020	< 0.010	< 0.010	-	-	-	-	-	-
TP28	0.70		B	8.4	0.010	< 0.010	< 0.010	-	-	-	-	-	-
TP5	0.70-1.20		B	7.5	< 0.010	< 0.010	0.013	-	-	-	-	-	-
TP7	1.80-2.20		B	8.3	< 0.010	< 0.010	< 0.010	-	-	-	-	-	-

Tested by Chemtest Ltd : MCERTS / UKAS No 2183

Checked and Approved by:

[redacted]

J A Reynolds - Laboratory Manager
18/12/2020

Project Number:

GEO / 32315

Project Name:

TAMWORTH
AG3185-20

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

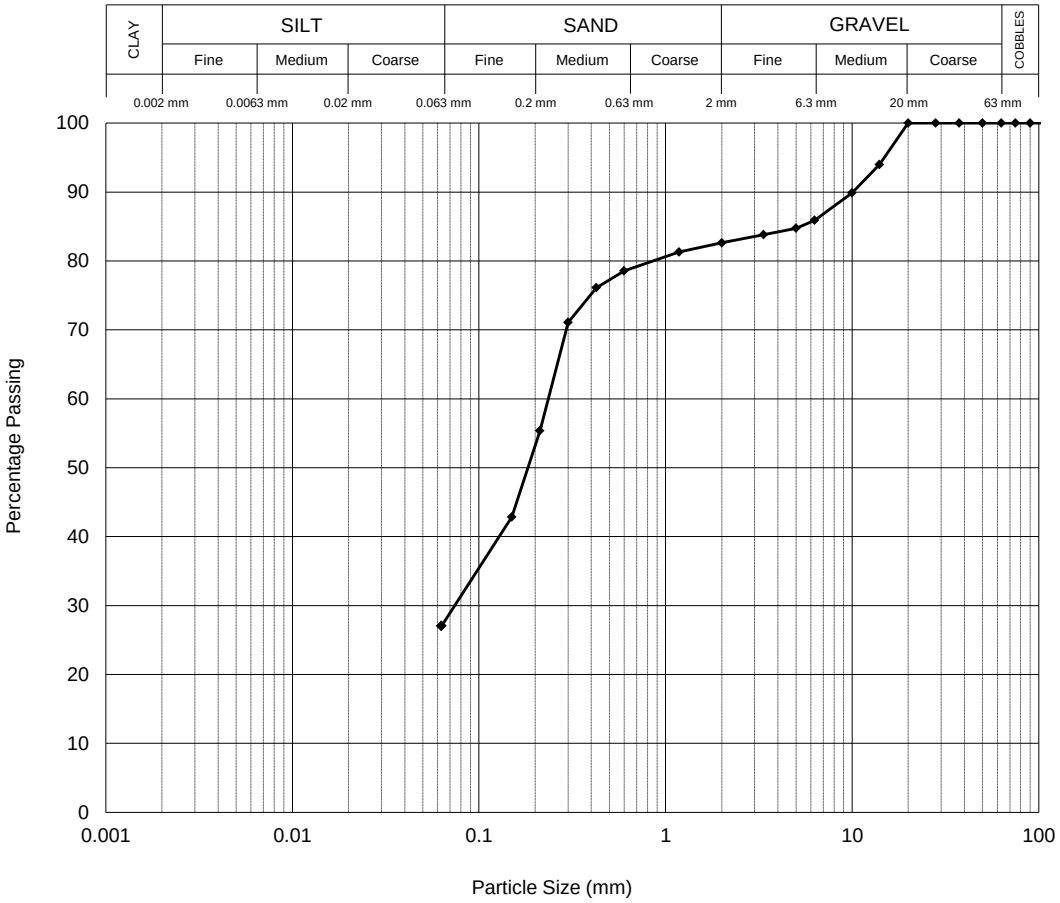
Location	TP5
Depth (m)	0.70-1.20
Sample Type	B

Description

Yellowish brown clayey SAND with much fine to medium sandstone gravel.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	94
10.0 mm	90
6.30 mm	86
5.00 mm	85
3.35 mm	84
2.00 mm	83
1.18 mm	81
600 µm	79
425 µm	76
300 µm	71
212 µm	55
150 µm	43
63 µm	27



Particle Proportions	
Cobbles	0.0
Gravel	17.4
Sand	55.6
Silt & Clay	27.0

Processed by AD
Checked and Approved by

[redacted]

Project Number:

GEO / 32315

Project Name:

TAMWORTH
AG3185-20

GEOLABS

UKAS TESTING 1982

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

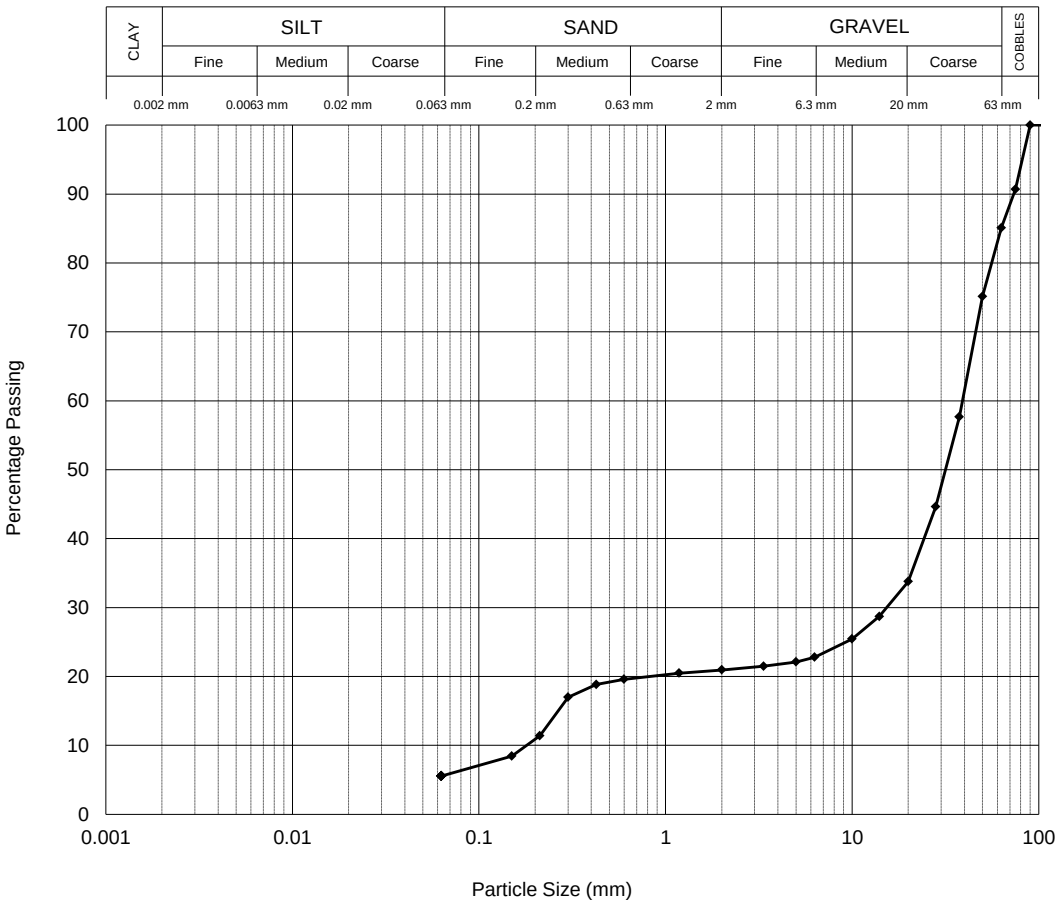
Location	TP7
Depth (m)	1.80-2.20
Sample Type	B

Description

Yellowish brown slightly clayey sandy fine to coarse sandstone GRAVEL.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	91
63.0 mm	85
50.0 mm	75
37.5 mm	58
28.0 mm	45
20.0 mm	34
14.0 mm	29
10.0 mm	25
6.30 mm	23
5.00 mm	22
3.35 mm	21
2.00 mm	21
1.18 mm	20
600 µm	20
425 µm	19
300 µm	17
212 µm	11
150 µm	8
63 µm	6



Particle Proportions	
Cobbles	14.9
Gravel	64.2
Sand	15.4
Silt & Clay	5.5

Processed by AD
Checked and Approved by

J A Reynolds - Laboratory Manager
18/12/2020

Project Number:

GEO / 32315

Project Name:

TAMWORTH
AG3185-20

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

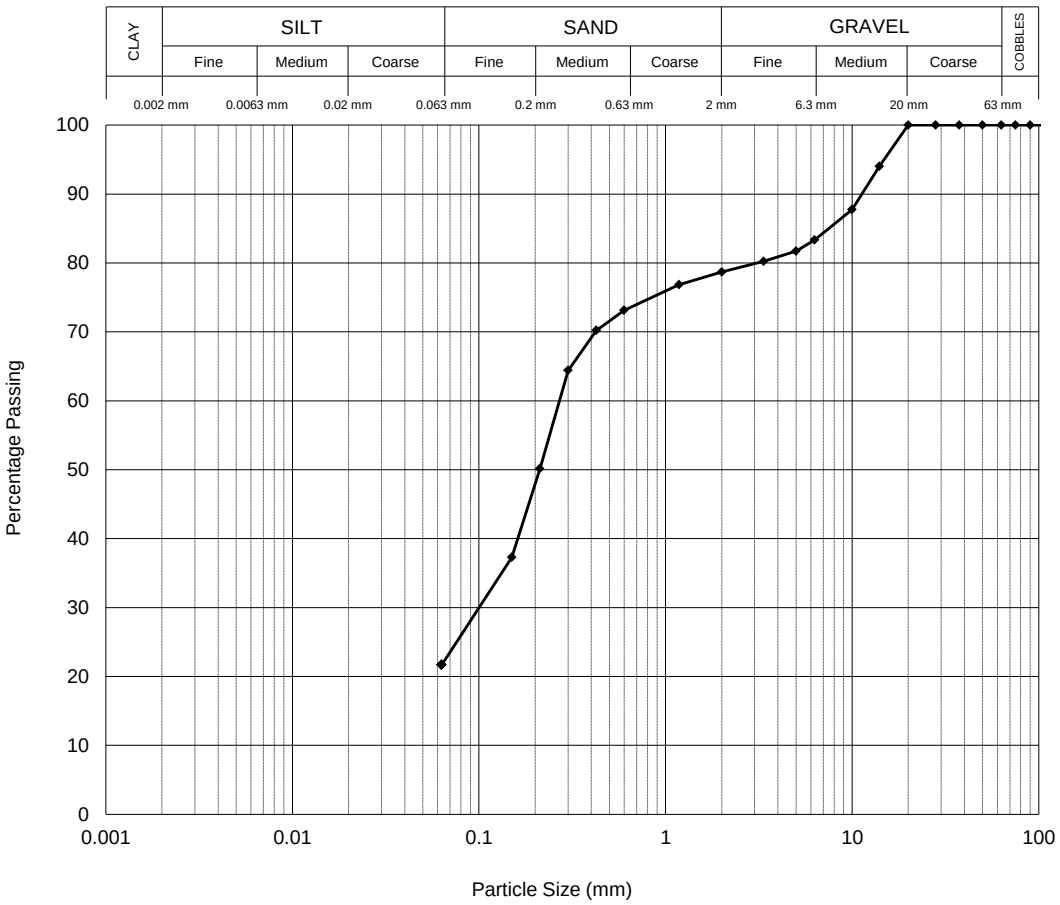
Location	TP15
Depth (m)	1.30-1.50
Sample Type	B

Description

Yellowish brown very clayey SAND with much fine to coarse gravel.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	100
14.0 mm	94
10.0 mm	88
6.30 mm	83
5.00 mm	82
3.35 mm	80
2.00 mm	79
1.18 mm	77
600 µm	73
425 µm	70
300 µm	64
212 µm	50
150 µm	37
63 µm	22



Particle Proportions	
Cobbles	0.0
Gravel	21.3
Sand	57.0
Silt & Clay	21.7

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18/12/2020

Project Number:

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Project Name:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

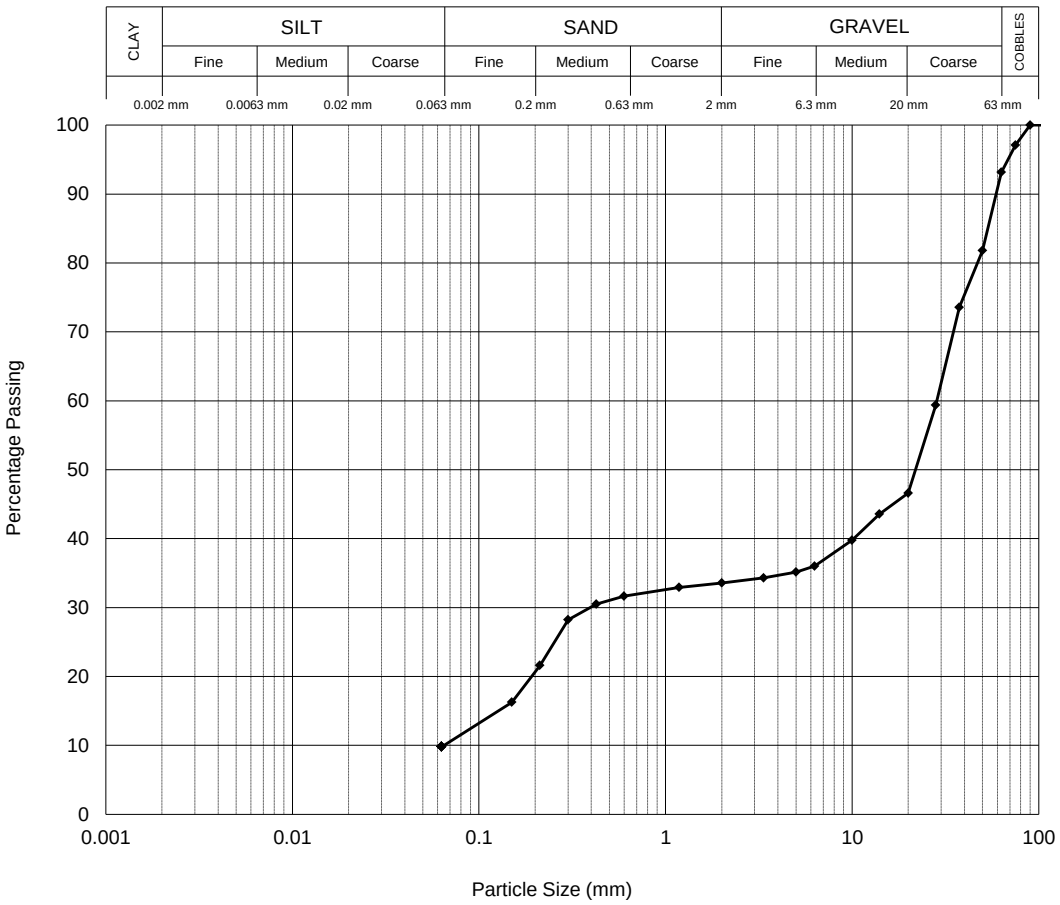
Location	TP21
Depth (m)	1.90-2.20
Sample Type	B

Description

Yellowish brown clayey sandy fine to coarse sandstone GRAVEL with rare cobbles.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	97
63.0 mm	93
50.0 mm	82
37.5 mm	74
28.0 mm	59
20.0 mm	47
14.0 mm	44
10.0 mm	40
6.30 mm	36
5.00 mm	35
3.35 mm	34
2.00 mm	34
1.18 mm	33
600 µm	32
425 µm	31
300 µm	28
212 µm	22
150 µm	16
63 µm	10



Particle Proportions	
Cobbles	6.8
Gravel	59.6
Sand	23.8
Silt & Clay	9.8

Processed by AD
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J A Reynolds - Laboratory Manager
18/12/2020

Project Number:

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Project Name:

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BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

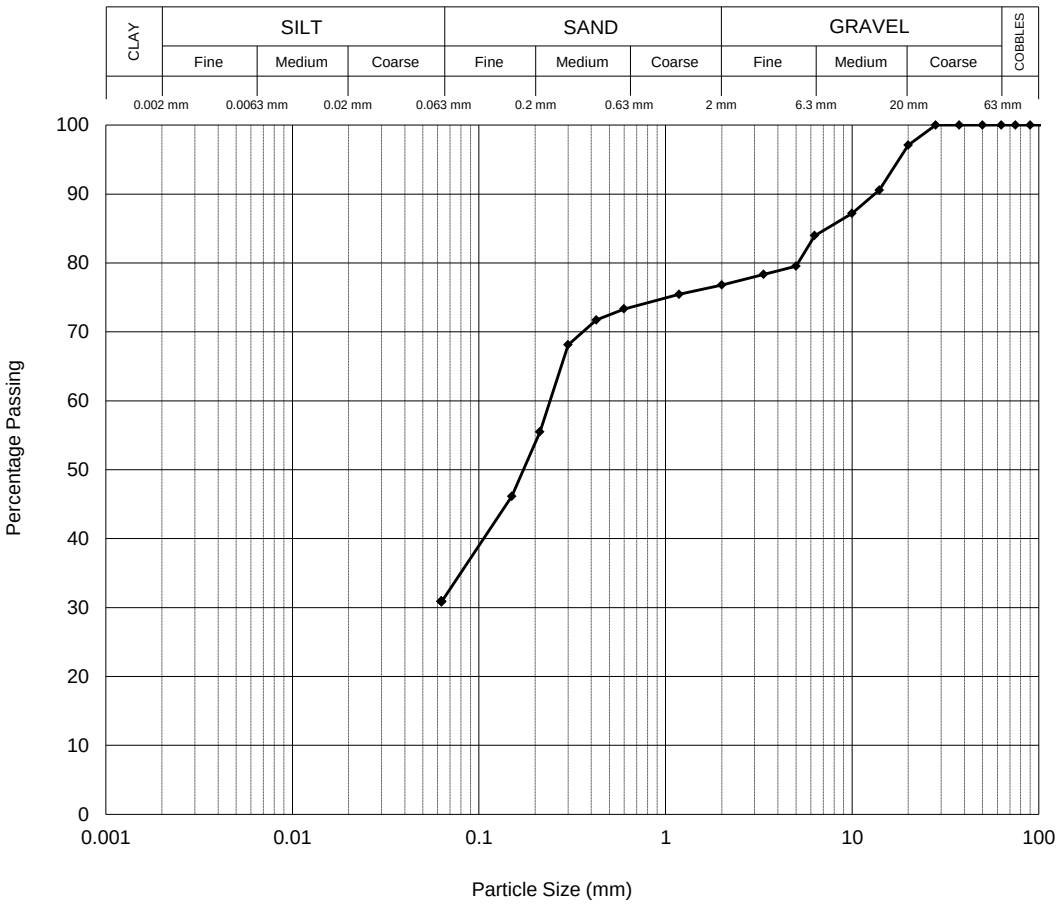
Location	TP28
Depth (m)	0.70
Sample Type	B

Description

Yellowish brown clayey SAND with much fine to medium sandstone gravel.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	97
14.0 mm	91
10.0 mm	87
6.30 mm	84
5.00 mm	80
3.35 mm	78
2.00 mm	77
1.18 mm	75
600 µm	73
425 µm	72
300 µm	68
212 µm	56
150 µm	46
63 µm	31



Particle Proportions	
Cobbles	0.0
Gravel	23.2
Sand	45.9
Silt & Clay	30.9

Processed by AD
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J A Reynolds - Laboratory Manager
18/12/2020

Project Number:

GEO / 32315

Project Name:

TAMWORTH
AG3185-20

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BS1377:Part 4:1990 Clause 3.3

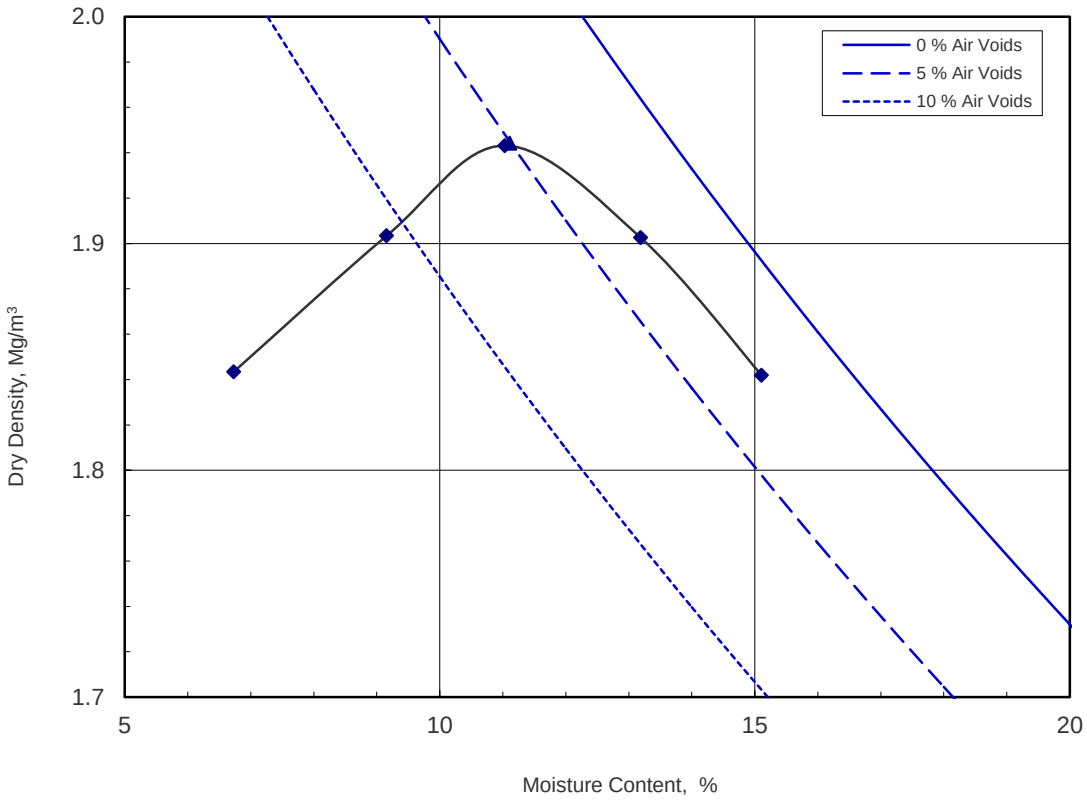
MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

Location	TP5
Depth (m)	0.70-1.20
Sample Type	B

Description:

Yellowish brown clayey SAND with much fine to medium sandstone gravel.

Preparation		Air dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Multiple
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.94
Optimum Moisture Content	%	11.1



Determination		1	2	3	4	5
Moisture Content	%	6.7	9.2	11.0	13.2	15.1
Dry Density	Mg/m³	1.84	1.90	1.94	1.90	1.84

Processed by AC

[redacted]

Project Number:

GEO / 32315

Project Name:

TAMWORTH
AG3185-20

GEOLABS

UKAS TESTING 1982

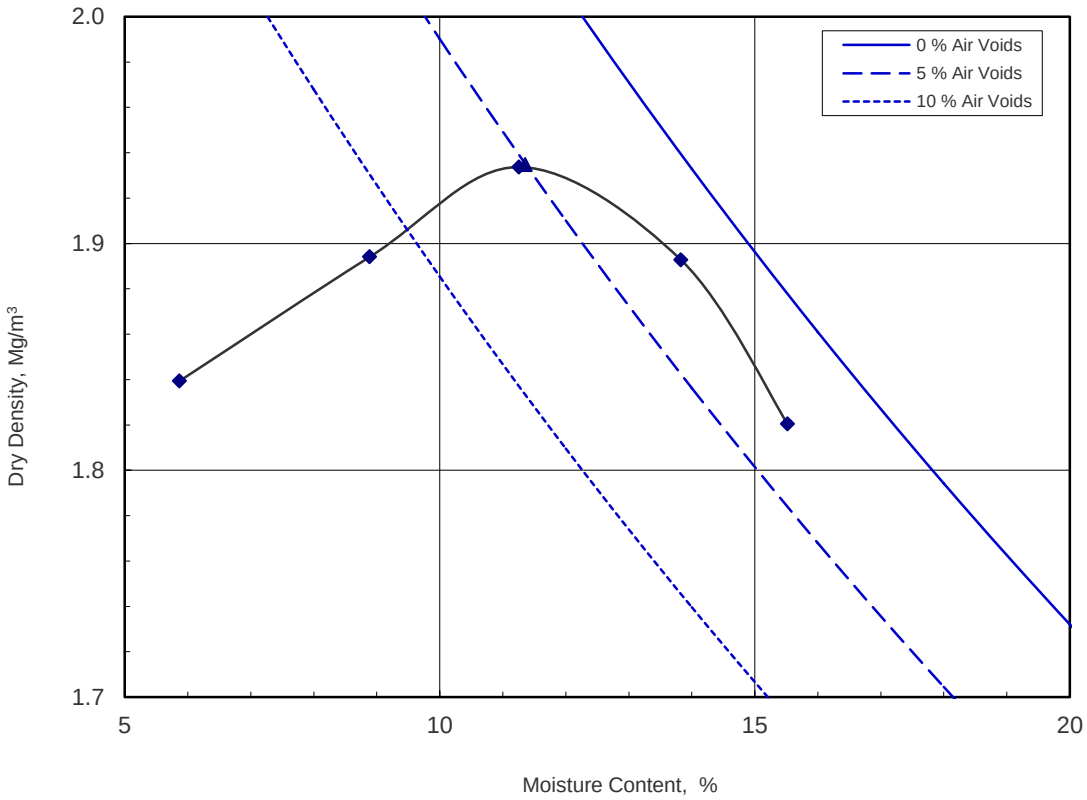
BS1377:Part 4:1990 Clause 3.3

MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

[redacted]

[redacted]

Preparation		Air dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Multiple
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.93
Optimum Moisture Content	%	11.4



Determination		1	2	3	4	5
Moisture Content	%	5.9	8.9	11.3	13.8	15.5
Dry Density	Mg/m³	1.84	1.89	1.93	1.89	1.82

[redacted]ecked and Approved by

[redacted]

Project Number: [redacted]

Project Name: TAMWORT[redacted]

BS1377:Part 4:1990 Clause 3.3

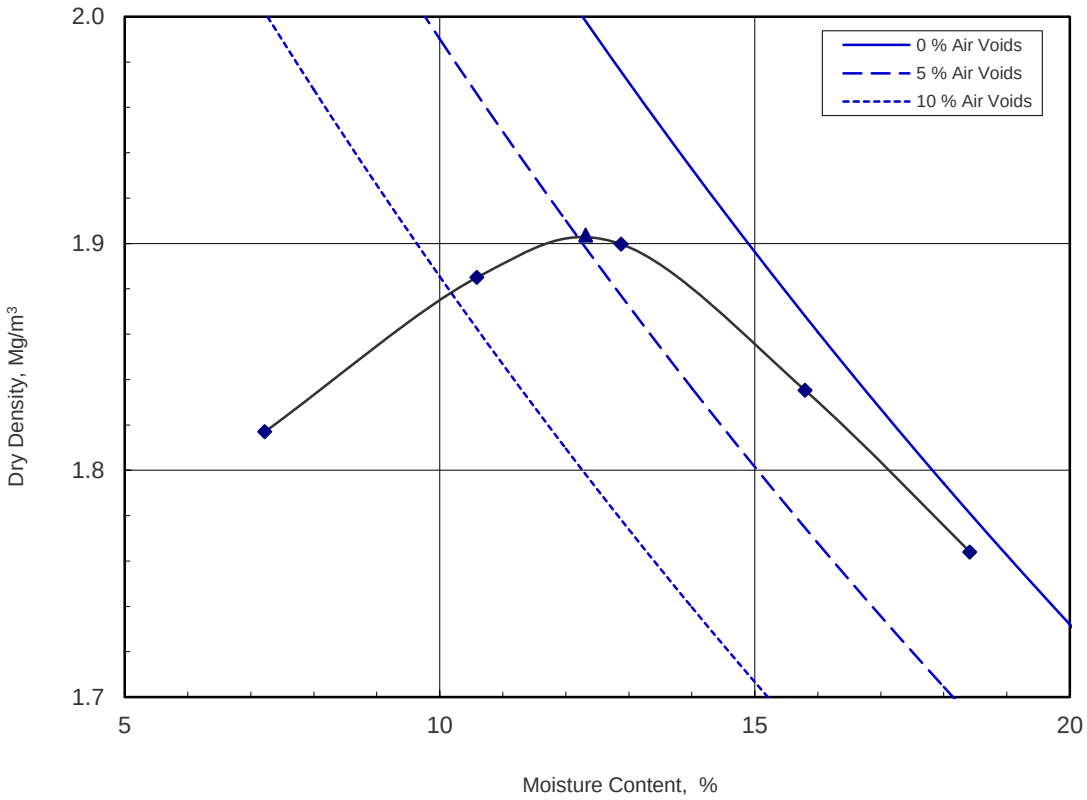
MOISTURE CONTENT / DRY DENSITY RELATIONSHIP

Location	TP28
Depth (m)	0.70
Sample Type	B

Description:

Yellowish brown clayey SAND with much fine to medium sandstone gravel.

Preparation		Air dried
Test Method		2.5kg Rammer for soils with particles up to medium-gravel size
Samples Used		Multiple
Mass Retained on 37.5 mm Sieve	%	0
Mass Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65
Maximum Dry Density	Mg/m³	1.90
Optimum Moisture Content	%	12.3



Determination		1	2	3	4	5
Moisture Content	%	7.2	10.6	12.9	15.8	18.4
Dry Density	Mg/m³	1.82	1.89	1.90	1.84	1.76

Processed by AC
Checked and Approved by

[redacted]

Project Number:
GEO / 32315

Project Name:
TAMWORTH
AG3185-20

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