

**REPORT
ON THE
GEOPHYSICAL INVESTIGATION
FOR THE
SARUM ACADEMY, SALISBURY,
WILTSHIRE
FOR
STANTEC**



APEX Geophysics Limited
Unit 6, Knockmullen Business Park
Gorey
Co. Wexford

24TH SEPTEMBER 2025

T: 0402 21842
E: info@apexgeophysics.ie
W: www.apexgeophysics.ie

Geophysical Investigation
Sarum Academy, Salisbury
for Stantec



PRIVATE AND CONFIDENTIAL

THE FINDINGS OF THIS REPORT ARE THE RESULT OF A GEOPHYSICAL SURVEY USING NON-INVASIVE SURVEY TECHNIQUES CARRIED OUT AT THE GROUND SURFACE. INTERPRETATIONS CONTAINED IN THIS REPORT ARE DERIVED FROM A KNOWLEDGE OF THE GROUND CONDITIONS, THE GEOPHYSICAL RESPONSES OF GROUND MATERIALS AND THE EXPERIENCE OF THE AUTHOR. APEX GEOPHYSICS LTD. HAS PREPARED THIS REPORT IN LINE WITH BEST CURRENT PRACTICE AND WITH ALL REASONABLE SKILL, CARE AND DILIGENCE IN CONSIDERATION OF THE LIMITS IMPOSED BY THE SURVEY TECHNIQUES USED AND THE RESOURCES DEVOTED TO IT BY AGREEMENT WITH THE CLIENT. THE INTERPRETATIVE BASIS OF THE CONCLUSIONS CONTAINED IN THIS REPORT SHOULD BE TAKEN INTO ACCOUNT IN ANY FUTURE USE OF THIS REPORT.

PROJECT NUMBER	AGP25046		
AUTHOR	CHECKED	REPORT STATUS	DATE
EURGEOL YVONNE O'CONNELL P.GEO, PH.D., M.SC. (GEOPHYSICS)	EURGEOL PETER O'CONNOR M.SC. (GEOPHYSICS), DIP EIA MGT.	v. 01	24 TH SEPTEMBER 2025

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1. EXECUTIVE SUMMARY

APEX Geophysics Limited was requested by Stantec to carry out a geophysical survey for a proposed building extension at the Sarum Academy in Salisbury, Wiltshire. The geophysical investigation was requested as part of the ground investigation to provide information on the sub-soil conditions including the variability of the soils, depth to bedrock and the possible presence of dissolution features. Previous geophysical surveys were carried out in 2011 immediately south of the current site.

Sarum Academy is located in the northeast of Salisbury. The survey area comprises of greenfield, concrete and tarmac areas. Site topography is generally flat and varies from 99.3 m OD to 100.3 m OD.

The British Geological Survey (BGS) Superficial Geology map for the area indicates that the site is in area of clay, silt, sand and gravel underlain by Newhaven Formation soft to medium hard, smooth white chalks with numerous marl seams and flint bands.

A borehole conducted in May 2011 is located within the survey area and recorded 0.25 m fill over 1.25 m medium dense silty sandy subangular to angular, fine to coarse flint gravel over 1.5 m of stiff silty sandy very gravelly clay over CHALK comprising of weak subangular fine to coarse gravel in a sandy silt matrix to 25 m bgl.

The geophysical survey was carried out on the 26th of August 2025 involving the collection of EM readings, 4 ERT profiles and 4 seismic refraction profiles.

The data has been interpreted based on typical values of seismic velocity and electrical resistivity and also using the P-wave seismic velocity correlations established for the Mundford Chalk Classification (Bell, 2000).

The seismic data indicate the following 4 subsurface layers:

1. 0.0 to 2.6 m (average 0.5 m) of Made Ground/ silty clayey flint gravel
2. over 2.3 to 9.4 m (average 6.1 m) of gravelly clay/silty gravel and structureless chalk classified as Grade V in the Mundford scheme. Zones of silty clayey flint gravel within Layer 2 occur in the south of the site.
3. over 11.7 to 19.9 m (average 15.2 m) of very weak to weak friable, rubbly, structured chalk classified as Grade IV in the Mundford scheme,
4. A transition to slightly stronger chalk is indicated by the seismic data from 18.8 to 23.9 m bgl (average depth 21.8 m bgl) i.e. from 76.1 to 81.1 mOD classified as Grade II to III in the Mundford scheme.

The transition from Layer 2 to Layer 3 (from Grade V to IV) coincides somewhat with an increase in electrical resistivity to over 100 Ohm-m. This may reflect a lower clay/silt content associated within the structured chalk in Layer 3.

The transition from Layer 3 to Layer 4 (from Grade IV to III) occurs c. 78 mOD across the survey area. Resistivities < 100 Ohm-m within Layer 3 have been highlighted and may indicate a higher clay/silt content in the chalk as a result of increased weathering. These areas may indicate weaker zones that could be more prone to settlement when loaded. A number of these zones have been targeted for further investigation with boreholes.

Contour plots have been created for the interpreted thickness of Layers 1 and 2 combined (in metres), the interpreted base of Layer 2 (in mOD), the interpreted thickness of Layers 1, 2 and 3 combined (in metres) and the interpreted base of Layer 3 (in mOD).

Three boreholes are proposed to investigate the features and subsurface geology interpreted from the geophysical survey. The geophysical interpretation should be reviewed based on the findings of any direct investigation.

2. INTRODUCTION

APEX Geophysics Limited was requested by Stantec to carry out a geophysical survey for a proposed building extension at the Sarum Academy in Salisbury, Wiltshire. The geophysical investigation was requested as part of the ground investigation to provide information on the sub-soil conditions including the variability of the soils, depth to bedrock and the possible presence of dissolution features.

Previous geophysical surveys were carried out in 2011 and south of the current site (AGLa, 2011 - *Unpubl. Report on the Geophysical Survey at Salisbury High School for White Young Green, Apex Geoservices Ltd, 23rd May 2011*). A second phase of geophysical surveying was carried out in October 2011 (AGLb, 2011 - *Unpubl. Report on the Geophysical Survey at Salisbury High School (Sarum Academy) for Arup and Sir Robert McAlpine, Apex Geoservices Ltd, 8th November 2011*).

2.1 Survey Objectives

The objectives of the investigation were to provide information on:

- Type, thickness and stiffness of the soils,
- Depth to, quality and type of bedrock,
- Presence of dissolution features within the bedrock.

2.2 Site Background

Sarum Academy is located in the northeast of Salisbury (Fig. 2.1). The survey area comprises of greenfield, concrete and tarmac areas. Site topography is generally flat and varies from 99.3 m OD to 100.3 m OD.

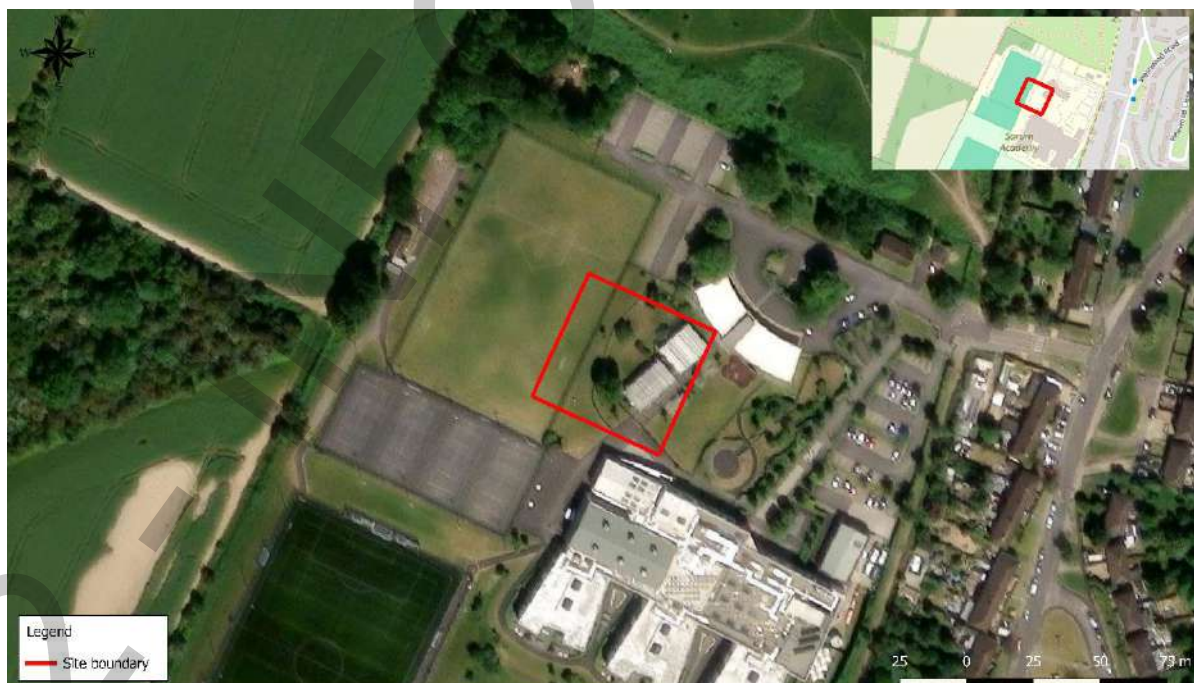


Fig 2.1: Location map (site marked in red).

2.2.1 Soils

The British Geological Survey (BGS) Superficial Geology map for the area indicates that the site is in area of clay, silt, sand and gravel (Fig. 2.2).



Fig 2.2: The BGS Quaternary Sediments map (site marked in red).

2.2.2 Geology

The BGS 1:50k Bedrock Geology map (BGS) indicates that the site is underlain by Newhaven Formation soft to medium hard, smooth white chalks with numerous marl seams and flint bands (Fig. 2.3).



Fig 2.3: The BGS bedrock map (site marked in red).

2.3 Direct Investigation

Borehole BH1 conducted as part of the May 2011 site investigation is located within the survey area and recorded 0.25 m fill over 1.25 m medium dense silty sandy subangular to angular, fine to coarse flint gravel over 1.5 m of stiff silty sandy very gravelly clay over CHALK comprising of weak subangular fine to coarse gravel in a sandy silt matrix (probably Grade Dm) to 25 m bgl.

Historical boreholes include 2 boreholes cored as part of the Salisbury Bypass Investigations (see BGS Geoindex) drilled approx. 400 m WSW of the survey area. Borehole SU13SW43 recorded soft-firm clay with flint gravel from 0.2-2.6 m bgl, followed by completely weathered structureless chalk to 6.7 m bgl. This was followed by moderately weathered chalk. Borehole SU13SW44 recorded moderately weathered chalk from 0.5-10.0m bgl.

Further boreholes conducted to the south/southeast of the site in 2011 encountered very weak to medium strength white chalk (Grade Dm-Dc initially improving to B4-B3 with depth) at depths ranging from 1.95 – 6.2 m bgl.

2.4 Survey Rationale

The investigation consisted of reconnaissance EM ground conductivity mapping with follow-up 2D Electrical Resistivity Tomography (ERT) and Seismic Refraction profiling:

EM ground conductivity mapping operates on the principle of inducing currents in conductive substrata and measuring the resultant secondary electro-magnetic field. The strength of this secondary EM field is calibrated to give apparent ground conductivity in milliSiemens/metre (mS/m). This technique will provide information on the shallow (0-6m below ground level) variation of the superficial deposits and outline the shallow bedrock.

ERT images the resistivity of the materials in the subsurface along a profile to produce a cross-section showing the variation in resistivity with depth, depending on the length of the profile. Each cross-section is interpreted to determine the material type along the profile at increasing depth, based on the typical resistivities returned for Irish ground materials.

Seismic Refraction profiling measures the velocity of refracted seismic waves through the overburden and rock material and allows an assessment of the thickness and quality of the materials present to be made. Stiffer and stronger materials usually have higher seismic velocities while soft, loose or fractured materials have lower velocities.

As with all geophysical methods the results are based on indirect readings of the subsurface properties. The effectiveness of the proposed approach will be affected by variations in the ground properties. By combining a number of techniques it is possible to provide a higher quality interpretation and reduce any ambiguities which may otherwise exist. Further information on the detailed methodology of each geophysical method employed in this investigation is given in **APPENDIX A: DETAILED METHODOLOGY**.

3. RESULTS

The survey was carried out on the 26th of August 2025 involving the collection of EM readings, 4 ERT profiles and 4 seismic refraction profiles. The geophysical survey locations are indicated on Drawing AGP25046_01 (Appendix C).

3.1 EM Ground Conductivity Mapping

The EM conductivity values are indicative of the bulk conductivity of the ground materials from 0-6.0 m bgl. Low conductivities are typically indicative of sands and gravels or shallow bedrock. Higher conductivities indicate an increase in the silt, clay or moisture content in the soils. Very high values are typically indicative of made ground or cultural interference from objects such as pipes and metal fences.

The conductivity data were edited to remove 'noisy' data due to surface metal, fences, etc.. The edited results are plotted on Drawing AGP25046_02, Appendix C and values range from 4 – 27 mS/m. The results in the centre and west of the survey area do not appear to correlate with the ERT data and as such are likely affected by cultural interference. There is some agreement between the conductivity results and R4 in the east of the survey however, due to the overall high degree of interference, the conductivity data have not been used for the purposes of subsurface interpretation.

3.2 ERT

ERT Profiles (R1 - R4) are plotted on Drawings AGP25046_03 to AGP25046_07. The resistivity data were generally interpreted on the following basis:

Apparent Resistivity (Ohm-m)	Interpretation
140 - 500	Silty clayey flint GRAVEL/Made Ground
40 - 140	gravelly CLAY/silty GRAVEL/ structureless CHALK
40 - 245	Very weak – weak friable rubbly CHALK, structured

3.3 Seismic Refraction Profiling

The four seismic refraction spreads (S1-S4) are plotted on Drawings AGP25046_03 to AGP25046_07. The seismic refraction data indicated 4 velocity layers and these have been interpreted based on typical seismic velocities of soils and rocks, as well the seismic velocity characteristics of the Mundford classification. The Mundford classification and its relation to the CIRIA classification are summarized in the table below.

P-wave seismic velocity (m/s)	Chalk type	Mundford Grade	CIRIA Grade	*Bearing pressure causing yield (kPa)
< 650	Structureless fine soil	VI	Dm	
650-750	Structureless coarse soil	V	Dc	<200
1000-1200	Structured with bedding and/or jointing	IV	C5-A1	200 - 400
1600-1800	Structured with bedding and/or jointing	III	C5-A1	400 - 600
2200-2300	Structured with bedding and/or jointing	II	C5-A1	>1000
>2300	Structured with bedding and/or jointing	I	C5-A1	>1000

Table 1. Compiled from tables in *Engineering Properties of Soils and Rocks*, FG Bell, Blackwell Science 2000 and *Engineering Description of Chalk course*, BGS235 Geotechnics, University of Portsmouth. ***The bearing pressures shown are for information only and should be reviewed in conjunction with other geotechnical data by an experienced geotechnical engineer.**

The seismic velocity layers have been summarised as follows:

Layer	Seismic Velocity (m/s)	Average Seismic Velocity (m/s)	Thickness (m)	Interpretation	Estimated Density/Stiffness/Strength Grade (Mundford)
1	396-426	406	0.0 – 2.6 (ave.0.5)	Made Ground / silty clayey flint GRAVEL	Loose, Soft-firm
2	634-703	670	2.3 – 9.4 (ave.6.1)	gravelly CLAY/silty GRAVEL/ structureless CHALK	Loose- Medium Dense (V)
3	1189-1266	1241	11.7 – 19.9 (ave.15.2)	Friable-Rubbly Chalk, Structured	Very weak-weak (IV)
4	1865-2155	1997		Chalk, structured	Weak-medium hard (II-III)

Note: The interpretation of Layer 4 is in consideration of previous geophysical surveying where Layer 4 correlated with the transition from structureless to very weak-weak chalk recorded at 13m bgl on BH04 (AGLb, 2011).

3.4 Discussion

The combined seismic and resistivity data are consistent with the data recorded in 2011 (AGLa, 2011 & AGLb, 2011). The data has been interpreted based on typical values of seismic velocity and electrical resistivity and also using the P-wave seismic velocity correlations established for the Mundford Chalk Classification, Appendix A (Bell, 2000) in conjunction with BH1 (AGLa, 2011)

The seismic data indicate the following 4 subsurface layers:

1. 0.0 to 2.6 m (average 0.5 m) of Made Ground/ silty clayey flint gravel.
2. Over 2.3 to 9.4 m (average 6.1 m) of gravelly clay/silty gravel and structureless chalk classified as Grade V in the Mundford scheme,
3. Over 11.7 to 19.9 m (average 15.2 m) of very weak to weak friable, rubbly, structured chalk classified as Grade IV in the Mundford scheme. BH1 recorded CHALK comprising of weak subangular fine to coarse gravel in a sandy silt matrix ('probably Grade Dm') to 25 m bgl. However, the seismic velocities would suggest a Grade IV rating.
4. A transition to slightly stronger chalk is indicated by the seismic data from 18.8 to 23.9 m bgl (average depth 21.8 m bgl) i.e. from 76.1 to 81.1 mOD classified as Grade II to III in the Mundford scheme.

The transition from Layer 2 to Layer 3 (from Grade V to IV) occurs c. 94 mOD across the survey area, and coincides somewhat with an increase in electrical resistivity to over 100 Ohm-m. This may reflect a lower clay/silt content associated within the structured chalk in Layer 3.

The interpreted thickness of Layers 1 and 2 combined (in metres) has been contoured and plotted on Drawing AGP25046_08. The interpreted base of Layer 2 (in mOD) has been contoured and plotted on Drawing AGP25046_09.

Zones where higher resistivity (>140 Ohm-m) silty clayey flint gravel occurs within Layer 2 occur in the south of the site and have been highlighted on Drawings AGP25046_08 and Drawing AGP25046_09.

The transition from Layer 3 to Layer 4 (from Grade IV to III) occurs c. 78 mOD across the survey area. The limited depth of investigation of the ERT limits the interpretation of variations in rock resistivities within Layer 3. Resistivities < 100 Ohm-m within this layer have been highlighted across Drawings AGP25046_03 to AGP25046_07 and may indicate a higher clay/silt content in the chalk as a result of increased weathering. These areas may indicate weaker zones that could be more prone to settlement when loaded. A number of these zones

coupled that are coupled with overlying high resistivity (>140 Ohm-m) silty clayey flint gravel deposits have been targeted for further investigation with boreholes.

The interpreted thickness of Layers 1, 2 and 3 combined (in metres) has been contoured and plotted on Drawing AGP25046_10. The interpreted base of Layer 3 (in mOD) has been contoured and plotted on Drawing AGP25046_11.

NOTE: The contour maps (on Drawings AGP25046_08 to AGP25046_11) interpolate and extrapolate between measured data points and reference to the type, number and location of these points should be made when assessing the significance of the data. The contours should be used as a guide only away from the data points.

4. RECOMMENDATIONS

Three boreholes are proposed to investigate the features and subsurface geology interpreted from the geophysical survey:

No.	Easting	Northing
PBH1	411542.2	131826.4
PBH2	411557.6	131831.7
PBH2	411581.6	131849.6

The geophysical interpretation should be reviewed based on the findings of any direct investigation.

REFERENCES

AGLa, 2011

Report on the Geophysical Survey at Salisbury High School for White Young Green, Apex Geoservices Ltd, 23rd May 2011.

AGLb, 2011

Report on the Geophysical Survey at Salisbury High School (Sarum Academy) for Arup and Sire Robert McAlpine, Apex Geoservices Ltd, 8th November 2011.

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APPENDIX A: DETAILED METHODOLOGY

A combination of geophysical techniques was used to provide a high quality interpretation and reduce any ambiguities, which may otherwise exist.

EM Ground Conductivity Mapping

Principles

This is an electromagnetic technique used to investigate lateral variations in overburden material and to assist with the indication of the depth to bedrock. This method operates on the principle of inducing currents in conductive substrata and measuring the resultant secondary electro-magnetic field. The strength of this secondary EM field is calibrated to give apparent ground conductivity in milliSiemens/metre (mS/m). Readings over material such as organic waste and peat give high conductivity values while readings over dry materials with low clay mineral content such as gravels, limestone or quartzite give low readings. The EM31 survey technique determines the apparent conductivity of the different overburden layers from 0-6m bgl depending on the dipole mode used.

Data collection

The EM31 equipment used was a GF CMD-4 conductivity meter equipped with data logger. This instrument features a real time graphic display of the previous 20 measurement points to monitor data quality and results. Conductivity and in-phase values were recorded across the site. Local conditions and variations were recorded.

Data processing

The conductivity and in-phase field readings were downloaded, contoured and plotted using the SURFER 12 program (Golden Software, 2015). Data which was affected by metallic objects was removed. Assignment of material types and possible anomaly sources was carried out, with cross-reference to other data.

Electrical Resistivity Tomography (ERT)

Electrical Resistivity Tomography was carried out to provide information on lateral variations in the overburden material as well as on the underlying overburden and bedrock.

Principles

This surveying technique makes use of the Gradient resistivity array. The 2D-resistivity profiling method records a large number of resistivity readings in order to map lateral and vertical changes in material types. This method involves the use of electrodes connected to a resistivity meter, using computer software to control the process of data collection and storage.

Data Collection

Profiles were recorded using an ABEM Terrameter LS2 resistivity meter, four 21 takeout multicore cables and up to 81 stainless steel electrodes. Saline solution was used at the electrode/ground interface in order to gain a good electrical contact required for the technique to work effectively. The recorded data were processed and viewed immediately after surveying.

Data Processing

The field readings were stored in computer files and inverted using the RES2DINV package (Geotomo Software, 2006) with up to 5 iterations of the measured data carried out for each profile to obtain a 2D-depth model of the resistivities.

The inverted 2D resistivity models and corresponding interpreted geology are displayed on the accompanying drawings alongside the processed seismic sections. Profiles have been contoured using the same contour intervals and colour codes. Distance is indicated along the horizontal axis of the profiles.

Seismic refraction profiling

Principles

This method measures the velocity of refracted seismic waves through the overburden and rock material and allows an assessment of the thickness and quality of the materials present to be made. Stiffer and stronger materials usually have higher seismic velocities while soft, loose or fractured materials have lower velocities.

Seismic profiling measures the p-wave velocity (V_p) of refracted seismic waves through the overburden and rock material and allows an assessment of the thickness and quality of the materials present to be made. Stiffer and stronger materials usually have higher V_p velocities while soft, loose or fractured materials have lower V_p velocities. Readings are taken using geophones connected via multi-core cable to a seismograph.

Data Collection

A Geode high resolution 24 channel digital seismograph, 24 x 10 Hz vertical geophones and a 10 kg hammer were used to provide first break information, with a 24 take-out cable (2m spacing). Equipment was carried and operated by a two-person crew.

Readings are taken using geophones connected via multi-core cable to a seismograph. The depth of resolution of soil/bedrock boundaries is determined by the length of the seismic spread, typically the depth of resolution is about one third the length of the profile. (eg. 46m profile ~15m depth). Shots from seven different positions were taken (2 x off-end, 2 x end, 3 x middle) to ensure optimum coverage of all refractors.

Data Processing

First break picking was carried out using the SeisImager PICKWIN software program (Geometrics) to construct V_p traveltime plots for each profile. The recorded data was processed and interpreted using the ray-tracing and tomographic inversion methods, to acquire depths to boundaries and the V_p velocities of these layers, using the SeisImager PLOTREFA program (Geometrics) which interprets seismic refraction data as a laterally varying layered earth structure.

The program includes three methods for data analysis; tomographic inversion, time-term inversion and reciprocal methods. The tomographic inversion method creates an initial velocity model, then traces rays through the model, comparing the calculated and measured traveltimes. The model is then modified, and the process repeated to minimise the difference between the calculated and measured times. The time-term method determines refractor boundaries. The data was processed using both the tomographic and time-term inversion methods. Topographic data were input. Material types were assigned and estimation made of material properties, cross-referenced to ERT data.

Approximate errors for V_p velocities are estimated to be $\pm 10\%$. Errors for the calculated layer thicknesses are of the order of $\pm 20\%$. Possible errors due to the "hidden layer" and "velocity inversion" effects may also occur (Soske, 1959).

Table 14.8 Correlation between grades and the mechanical properties of Middle Chalk at Mundford. (After Ward *et al.*, 1968.)

Grade	Description	Approximate range of E (MPa)	Approx value of E_{dyn} MPa. (After Abbiss, 1979.)	Range of compression wave velocities (km s^{-1}). (After Grainger <i>et al.</i> , 1973.)	Bearing pressure causing yield (kPa)	Creep properties	SPT N value. (After Wakeling, 1970.)**	Rock mass factor. (After Burland and Lord, 1970.)
V	Structureless melange. Unweathered and partly weathered angular chalk blocks and fragments set in a matrix of deeply weathered remoulded chalk. Bedding and jointing are absent.	Below 500	Below 500	0.65-0.75	Below 200	Exhibits significant creep	Below 15	0.1
IV	Friable to rubbly chalk. Unweathered or partially weathered chalk with bedding and jointing present. Joints and small fractures closely spaced, ranging from 10 to 60 mm apart.	500-1000	800	1.0-1.2	200-400	Exhibits significant creep	15-20	0.1-0.2
III	Rubbly to blocky chalk. Unweathered medium to hard chalk with joints 60-200 mm apart. Joints open up to 8 mm sometimes with secondary staining and fragmentary infillings.	1000-2000	4000	1.6-1.8	400-600	For pressures not exceeding 400 kPa creep is small and terminates in a few months	20-25	0.2-0.4
II	Medium hard chalk with widely spaced, closed joints. Joints more than 200 mm apart. Fractures irregularly when excavated, does not break along joints. Unweathered	2000-5000	7000	2.2-2.3	Over 1000	Negligible creep for pressure of at least 400 kPa	23-35	0.6-0.8
I	Hard, brittle chalk with widely spaced, closed joints. Unweathered	Over 5000	Over 10 000	Over 2.3	Over 1000	Negligible creep for pressure of at least 400 kPa	Over 35	Over 0.8

* Ward *et al.* emphasised that their classification was specifically developed for the site at Mundford and hence its application elsewhere should be made with caution.

** The correlation between SPT N value and grade may be different in the Upper Chalk (see Dennehy, 1976).

From *Engineering Properties of Soils and Rocks*, FG Bell, Blackwell Science Ltd, 2000.

Spatial Relocation

All the geophysical investigation locations were acquired using a Trimble TSC5 with a Trimble R580 receiver high-accuracy GNSS handheld system using the settings listed below. This system allows collecting GPS data with c.20mm accuracy.

Projection:	OS National Grid
Datum:	Ordnance
Coordinate units:	Meters
Altitude units:	Meters
Survey altitude reference:	MSL
Geoid model:	OSGM02 (United Kingdom)

APPENDIX B: SEISMIC DATA

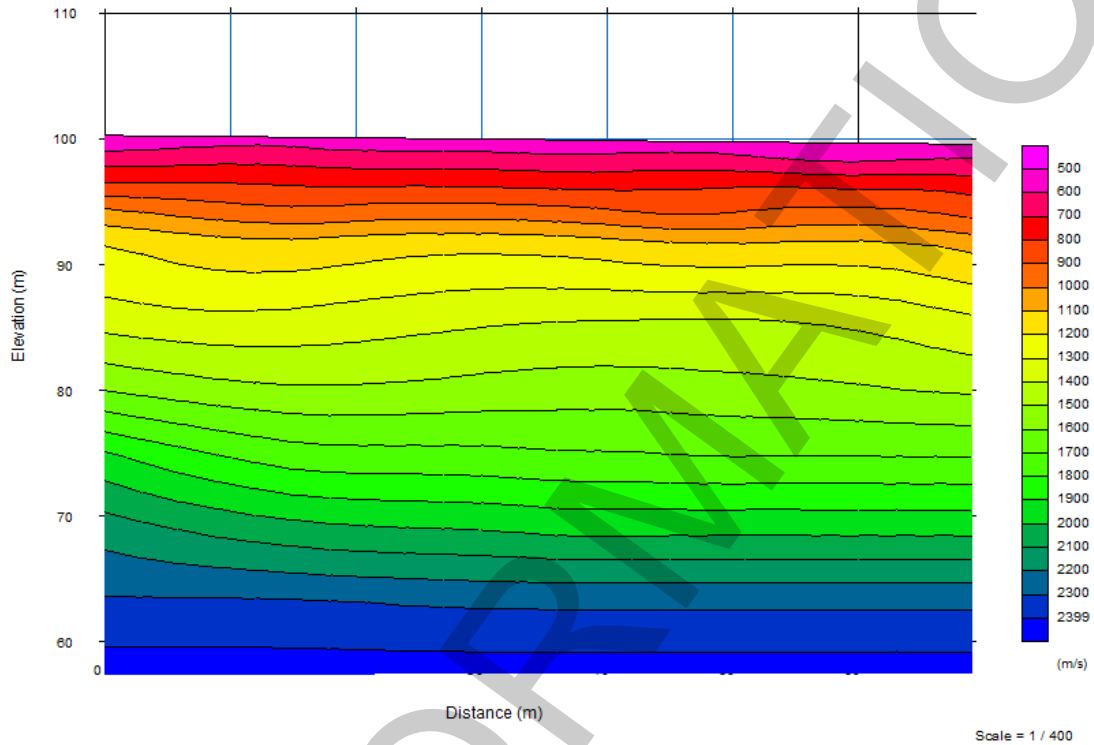


Fig. B.1 Profile S1 Tomography

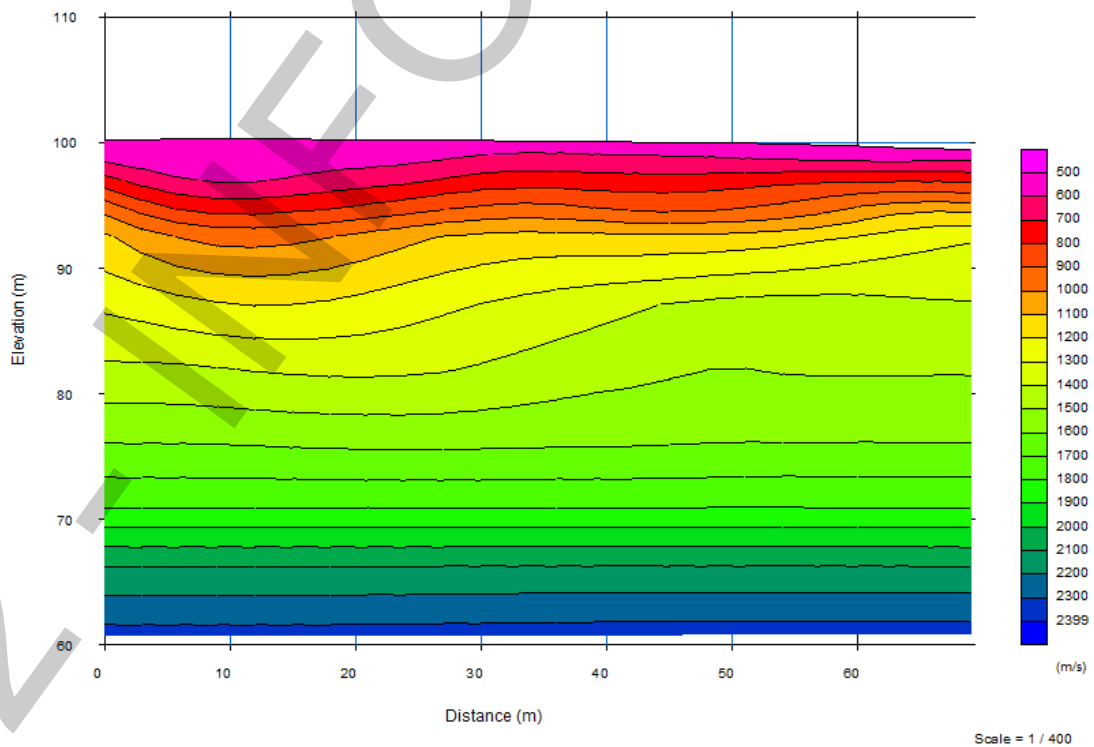


Fig. B.2 Profile S2 Tomography

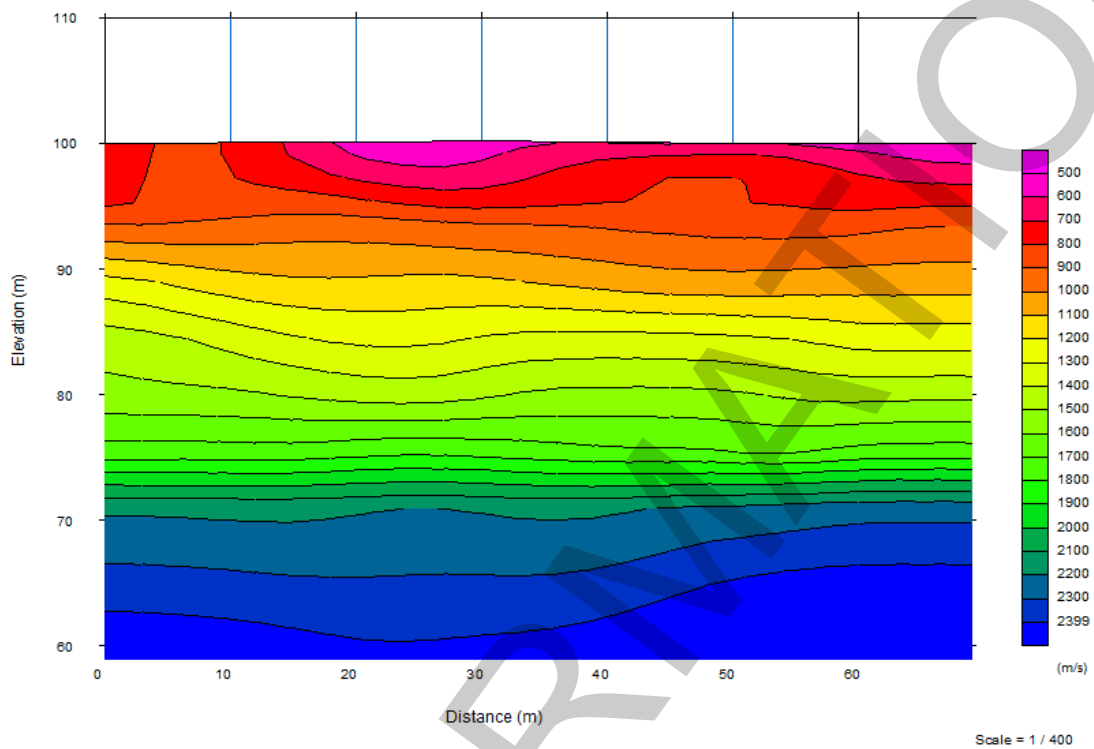


Fig. B.3 Profile S3 Tomography

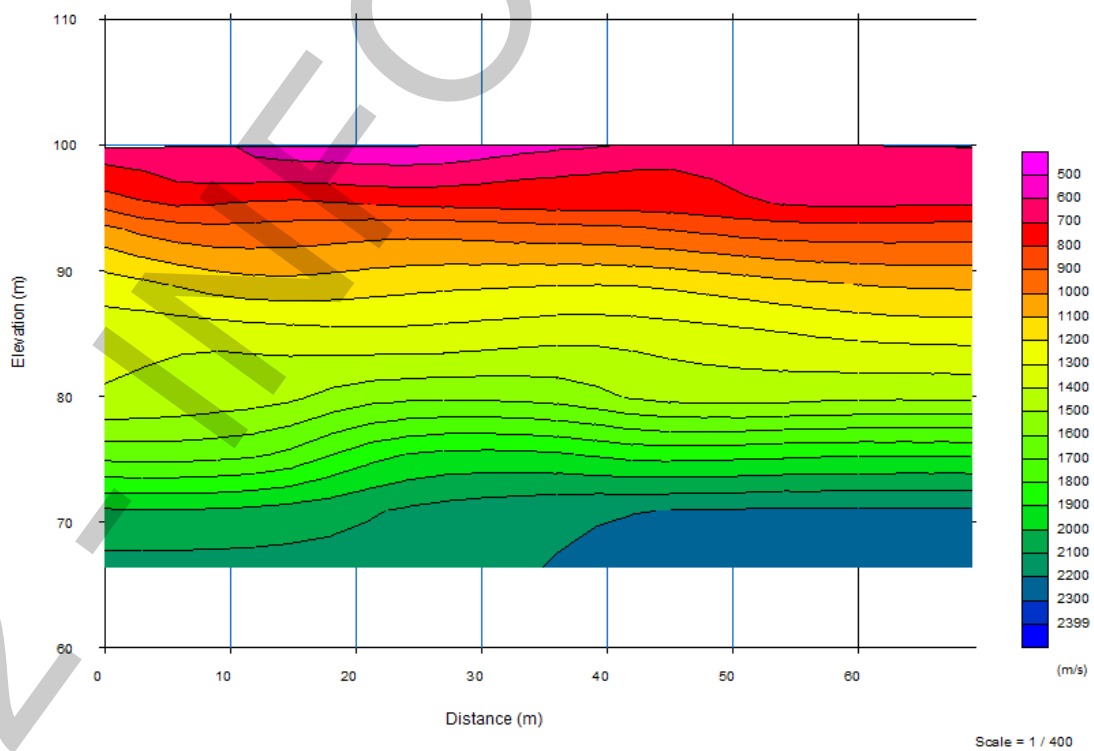


Fig. B.4 Profile S4 Tomography

APPENDIX C: DRAWINGS

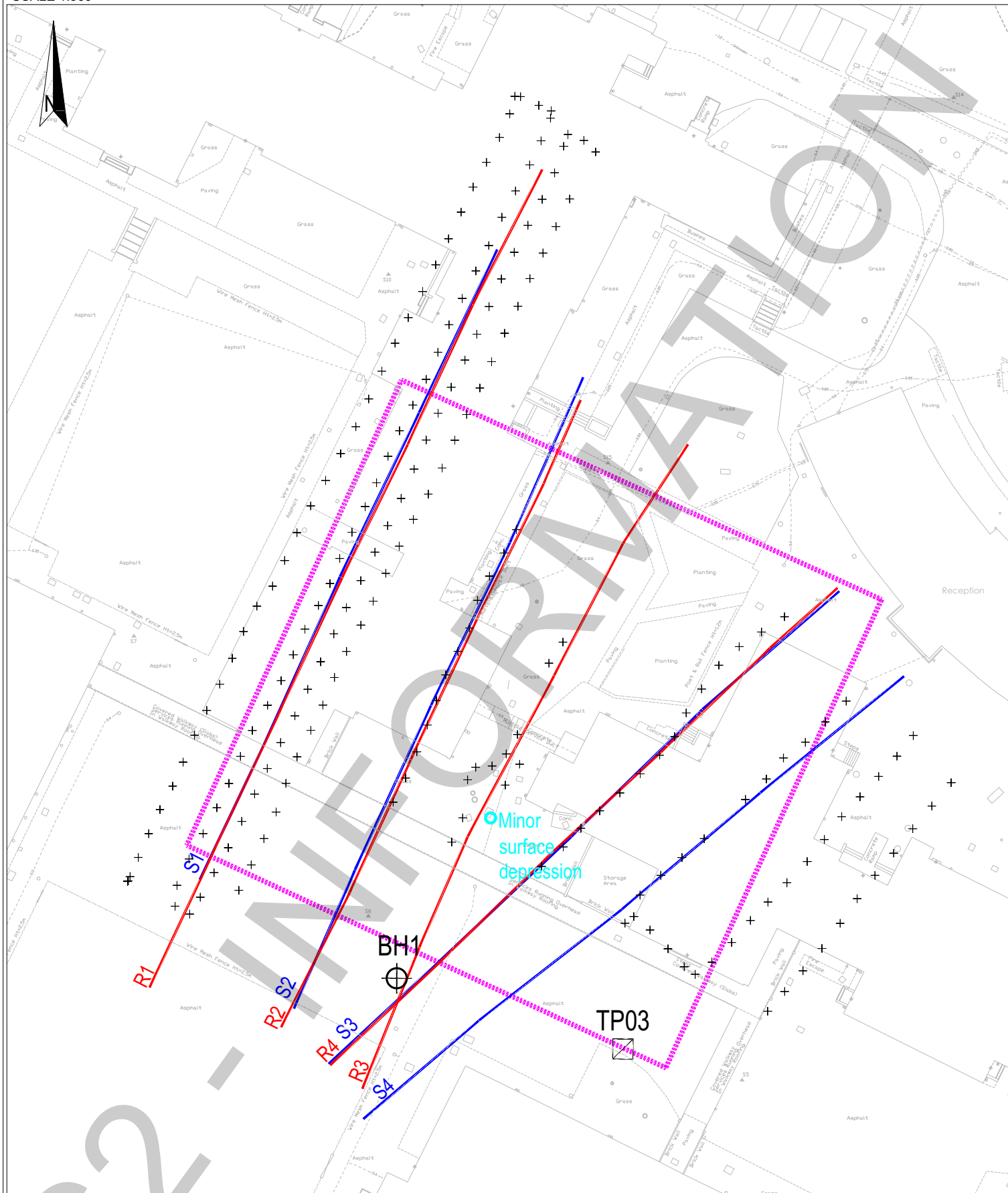
The information derived from the geophysical investigation is presented in the following drawings:

AGP25046_01	Geophysical Locations	1:500	@ A4
AGP25046_02	EM Conductivity Results (mS/m)	1:500	@A4
AGP25046_03	Results and Interpretation - ERT R1 and seismic refraction S1	1:500	@ A4
AGP25046_04	Results and Interpretation - ERT R2 and seismic refraction S2	1:500	@ A4
AGP25046_05	Results and Interpretation - ERT R3	1:500	@ A4
AGP25046_06	Results and Interpretation - ERT R4 and seismic refraction S3	1:500	@ A4
AGP25046_07	Results and Interpretation - Seismic refraction S4	1:500	@ A4
AGP25046_08	Interpreted Thickness Layers 1 & 2 (m)	1:500	@A4
AGP25046_09	Interpreted Base of Layer 2 (mOD)	1:500	@A4
AGP25046_10	Interpreted Thickness Layers 1, 2 & 3 (m)	1:500	@A4
AGP25046_11	Interpreted Base of Layer 3 (mOD)	1:500	@A4

S2 - INFORMATION

GEOPHYSICAL LOCATIONS

SCALE 1:500



6 Knockmullen Business Park
Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
E info@apexgeophysics.ie
www.apexgeophysics.ie

INDEX MAP:



LEGEND:

- Site
- +
 EM conductivity reading
- R1 2D resistivity profile
- S1 Seismic refraction profile
- BH1 2011 Borehole
- TP03 2011 Trial Pit

The information displayed here is to be used in conjunction with AGP25046_01
Report on the Geophysical Investigation at Sarum Academy, Salisbury for Stantec,
APEX Geophysics Ltd. 24th Sept. 2025

PROJECT:

SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT:

STANTEC

DRAWING NO:

AGP25046_01

SCALE:

AS INDICATED @ A4

DATE:

24-09-2025

Version:

Date:

01

24-09-2025

Drawn By:

YOC

Checked:

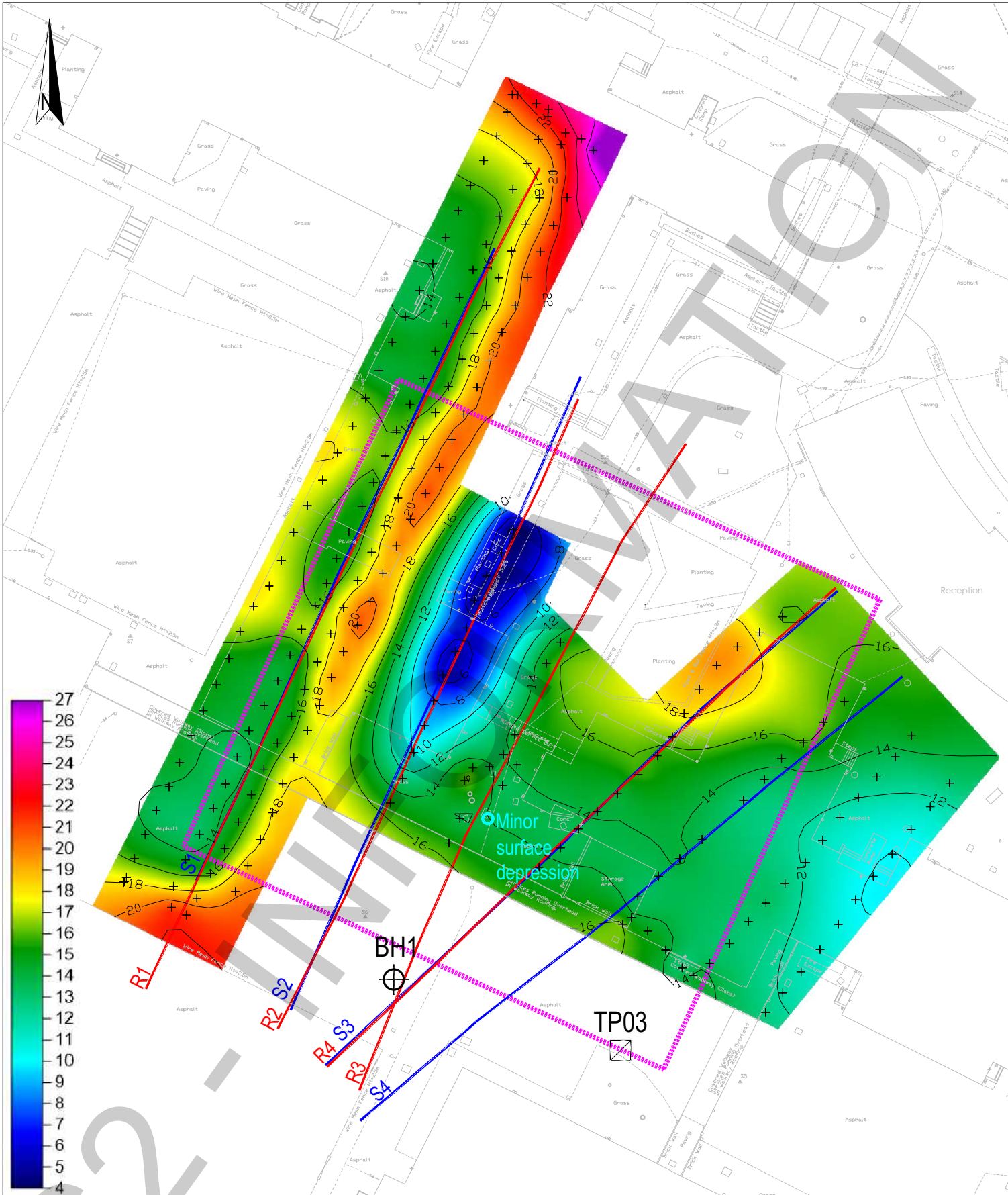
POC

S2 - INFORMATION

S2 - INFORMATION

EM CONDUCTIVITY CONTOURS (mS/m)

SCALE 1:500



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Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
E info@apexgeophysics.ie
www.apexgeophysics.ie

INDEX MAP:



LEGEND:

- Site
- + EM conductivity reading
- R1 2D resistivity profile
- S1 Seismic refraction profile
- BH1 2011 Borehole
- TP03 2011 Trial Pit

The information displayed here is to be used in conjunction with AGP25046_01
Report on the Geophysical Investigation at Sarum Academy, Salisbury for Stantec,
APEX Geophysics Ltd. 24th Sept. 2025

PROJECT:

SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT:

STANTEC

DRAWING NO:

AGP25046_02

SCALE:

AS INDICATED @ A4

DATE:

24-09-2025

Version: Date:

01

24-09-2025

Drawn By:

YOC

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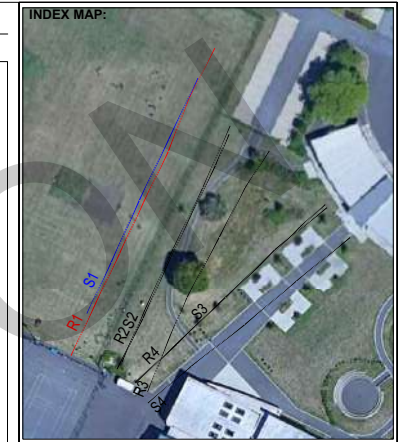
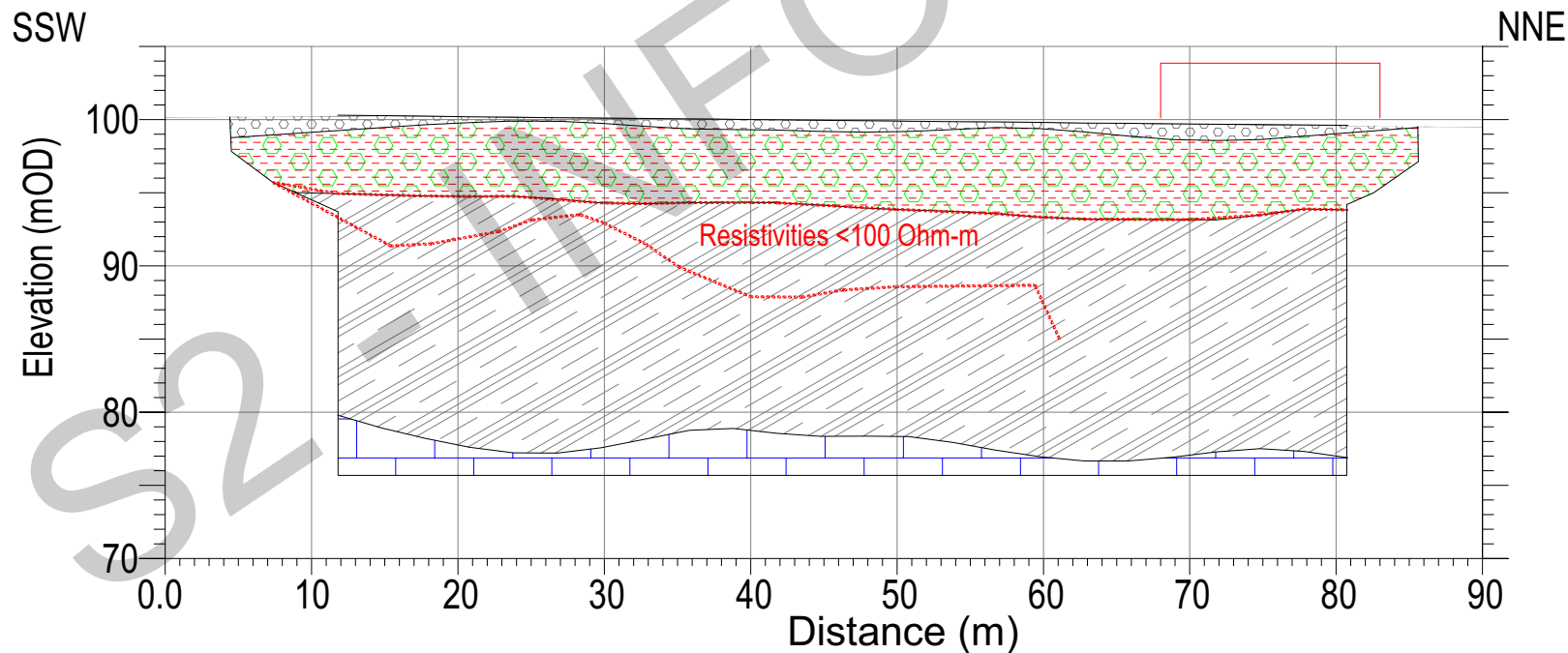
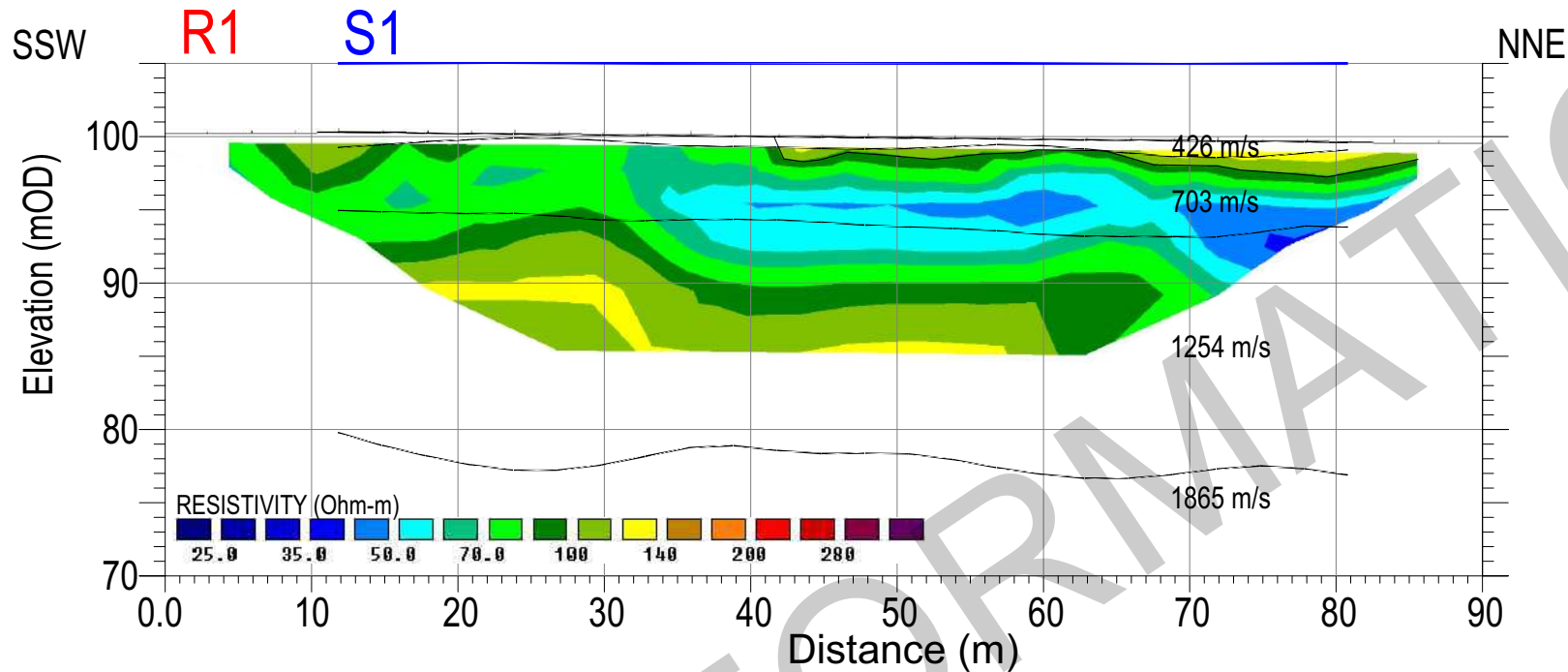
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S2 - INFORMATION

S2 - INFORMATION

RESULTS AND INTERPRETATION - ERT R1 AND SEISMIC REFRACTION S1

SCALE 1: 500



LEGEND:

	Seismic Refraction Layer with interpreted P-wave velocity
	silty clayey flint GRAVEL and/or Made Ground
	silty clayey flint GRAVEL
	gravelly CLAY, silty GRAVEL, structureless CHALK (Mundford Grade V)
	very weak-weak CHALK (Mundford Grade IV)
	weak-med. strong CHALK (Mundford Grade II-III)

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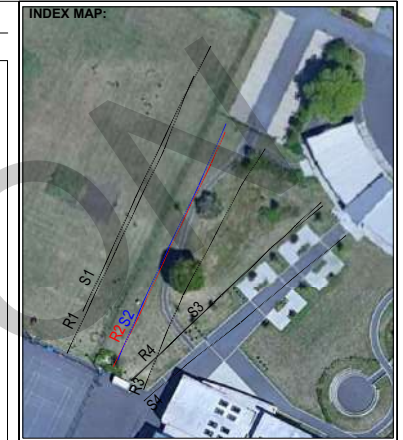
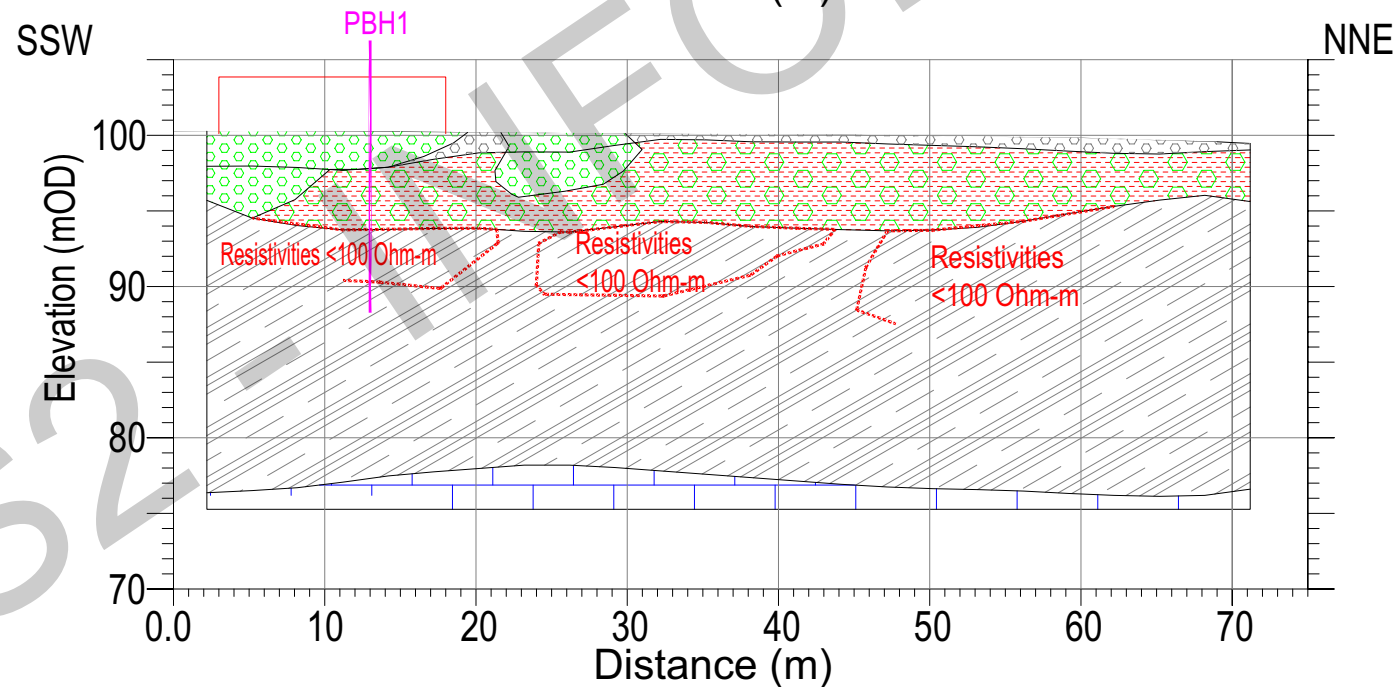
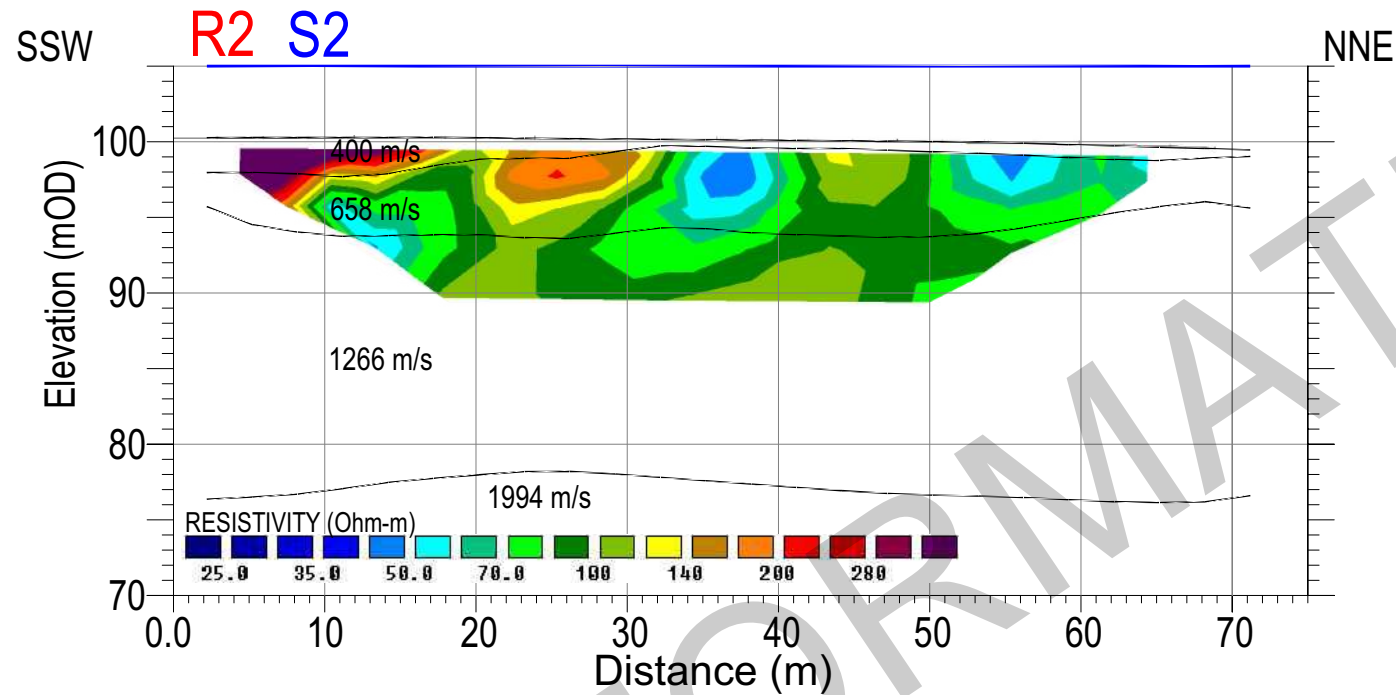
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6 Knockmullen Business Park Gorey Co. Wexford Ireland			
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PROJECT: SARUM ACADEMY GEOPHYSICAL INVESTIGATION			
CLIENT: STANTEC			
DRAWING NO: AGP25046_03			
SCALE: AS INDICATED @ A4			
DATE: 24-09-2025			
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01	24-09-2025	YOC	POC

S2 - INFORMATION

S2 - INFORMATION

RESULTS AND INTERPRETATION - ERT R2AND SEISMIC REFRACTION S2

SCALE 1: 500



- LEGEND:**
- Seismic Refraction Layer with interpreted P-wave velocity
 - 1288 m/s
 - silty clayey flint GRAVEL and/or Made Ground
 - silty clayey flint GRAVEL
 - gravelly CLAY, silty GRAVEL, structureless CHALK (Mundford Grade V)
 - very weak-weak CHALK (Mundford Grade IV)
 - weak-med. strong CHALK (Mundford Grade II-III)

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6 Knockmullen Business Park
Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
E info@apexgeophysics.ie
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PROJECT: SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT: STANTEC

DRAWING NO: AGP25046_04

SCALE: AS INDICATED @ A4

DATE: 24-09-2025

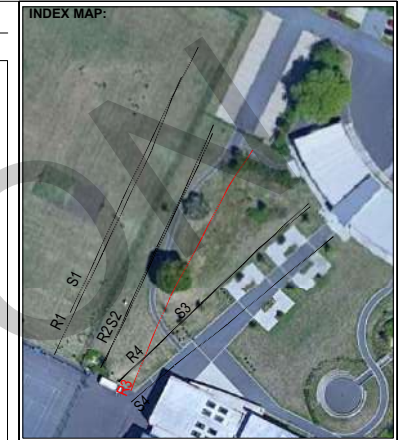
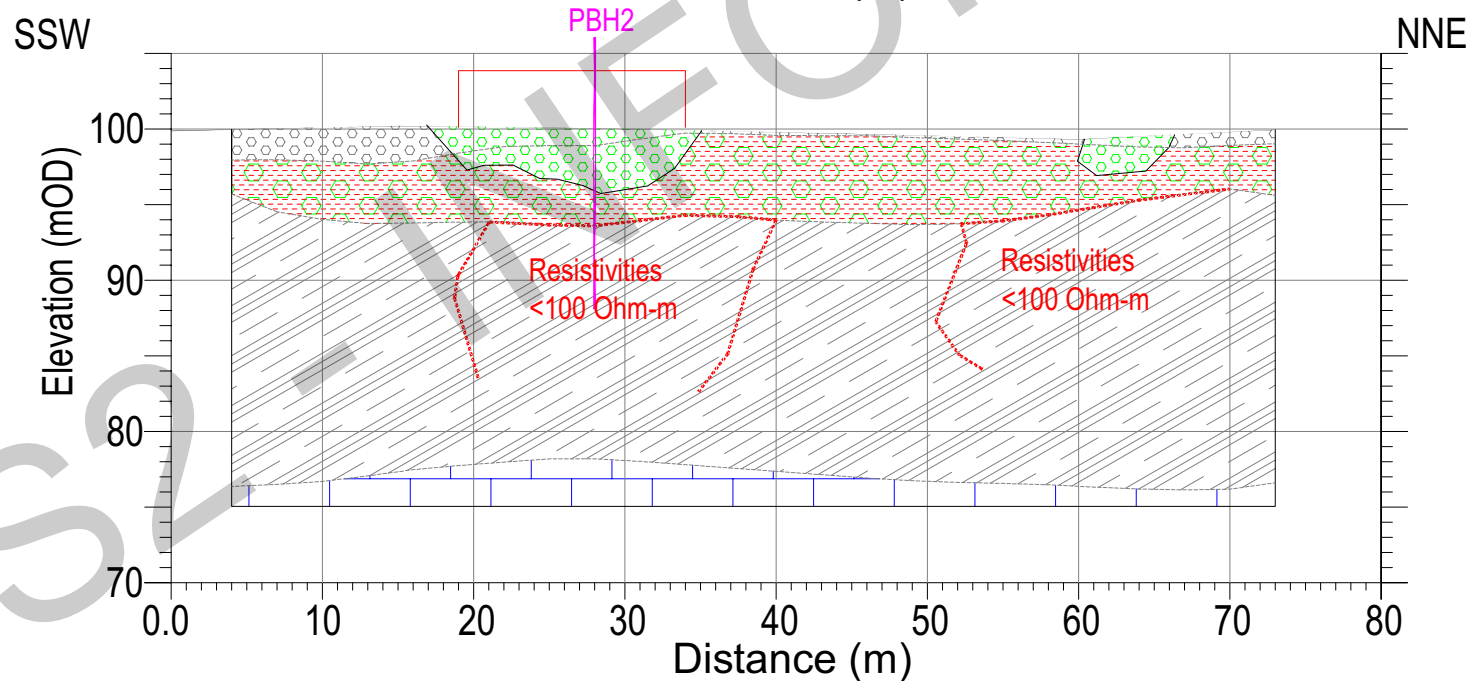
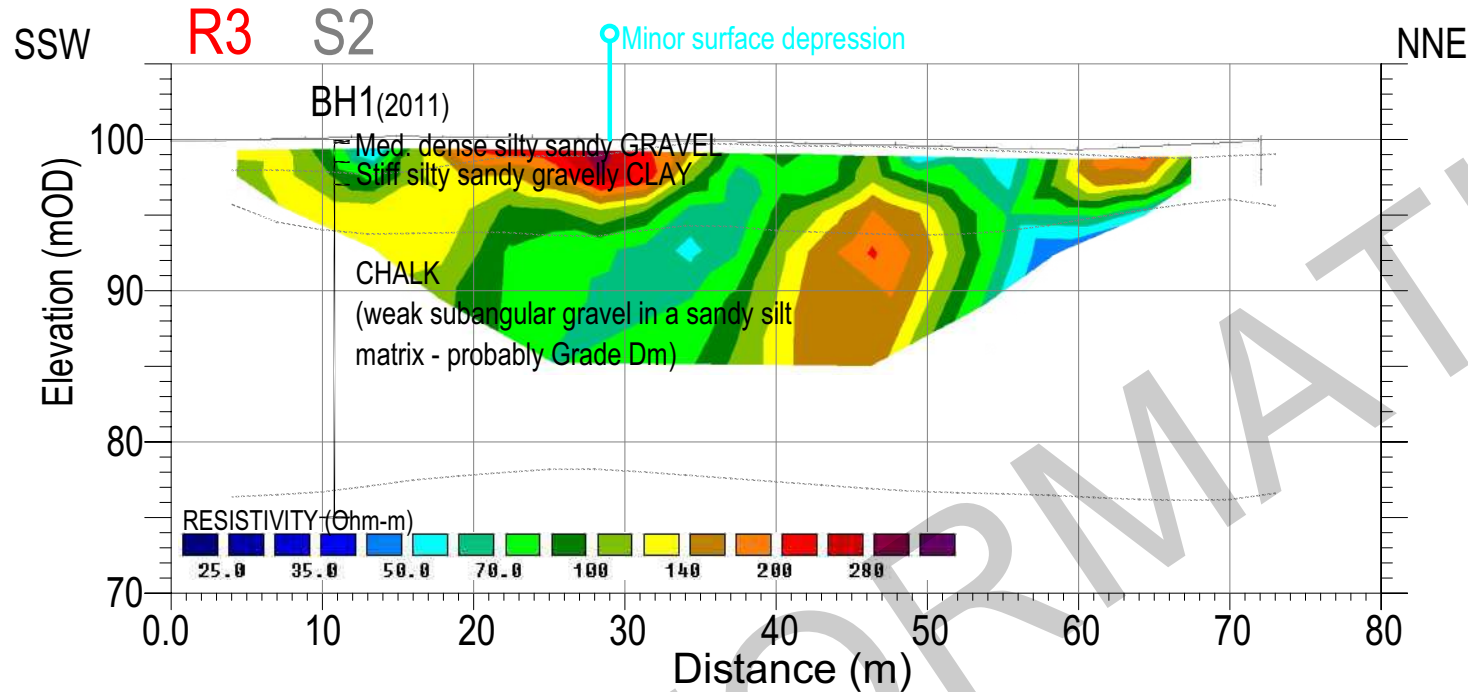
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01	24-09-2025	YOC	POC

S2 - INFORMATION

S2 - INFORMATION

RESULTS AND INTERPRETATION - ERT R3

SCALE 1: 500



- LEGEND:**
- Seismic Refraction Layer with interpreted P-wave velocity (1288 m/s)
 - silty clayey flint GRAVEL and/or Made Ground
 - silty clayey flint GRAVEL
 - gravelly CLAY, silty GRAVEL, structureless CHALK (Mundford Grade V)
 - very weak-weak CHALK (Mundford Grade IV)
 - weak-med. strong CHALK (Mundford Grade II-III)

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Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
E info@apexgeophysics.ie
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PROJECT: SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT: STANTEC

DRAWING NO: AGP25046_05

SCALE: AS INDICATED @ A4

DATE: 24-09-2025

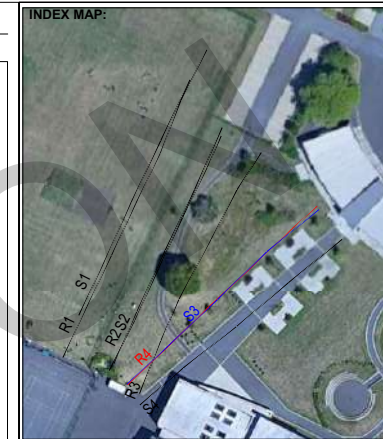
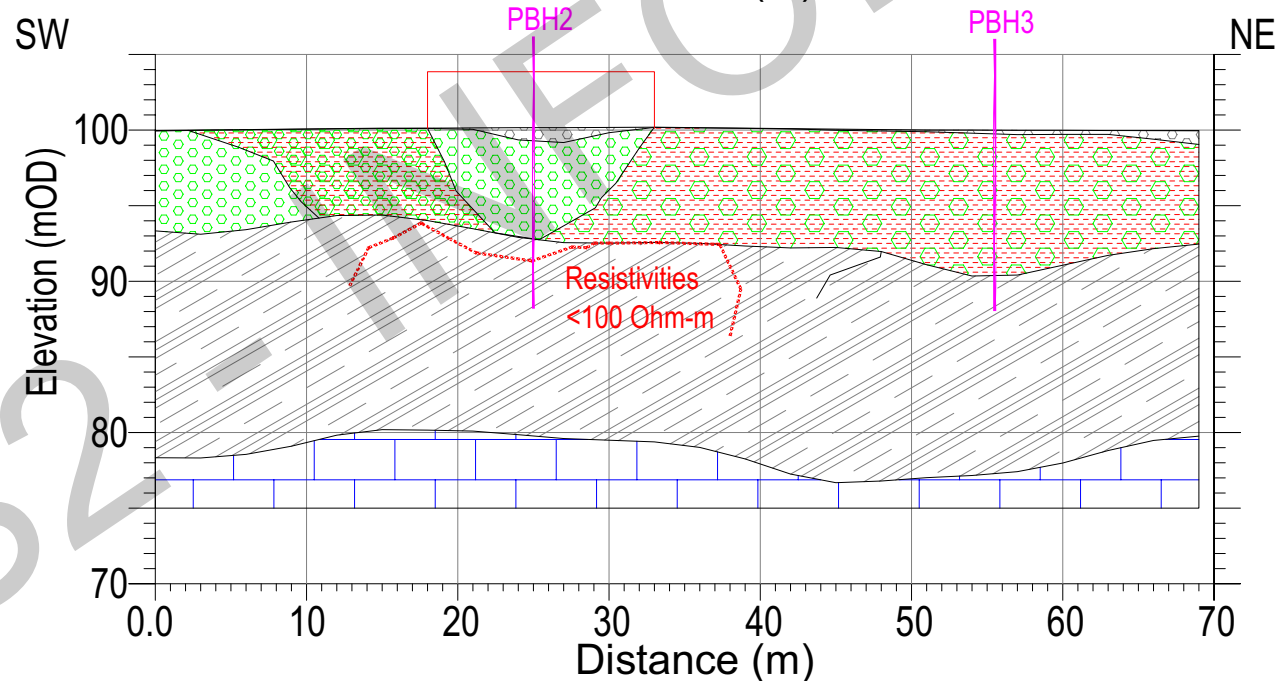
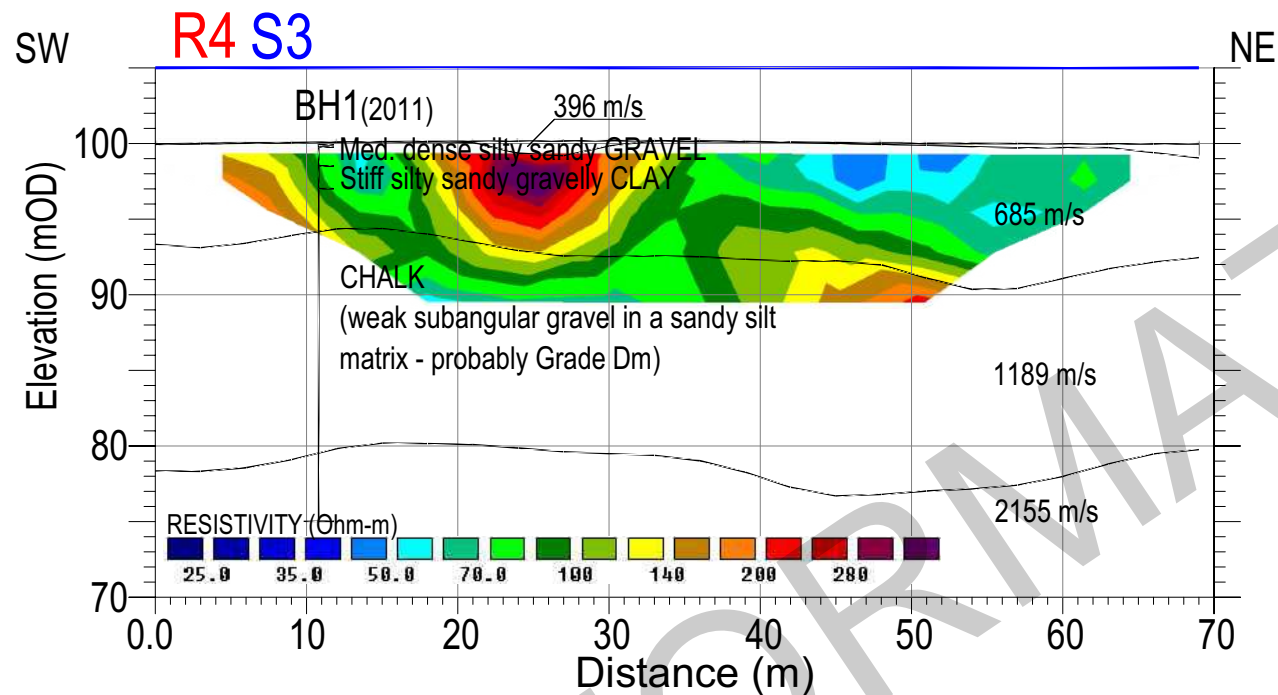
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01	24-09-2025	YOC	POC

S2 - INFORMATION

S2 - INFORMATION

RESULTS AND INTERPRETATION - ERT R4 AND SEISMIC REFRACTION S3

SCALE 1: 500



- LEGEND:**
- Seismic Refraction Layer with interpreted P-wave velocity
 - 1288 m/s
 - silty clayey flint GRAVEL and/or Made Ground
 - silty clayey flint GRAVEL
 - gravelly CLAY, silty GRAVEL, structureless CHALK (Mundford Grade V)
 - very weak-weak CHALK (Mundford Grade IV)
 - weak-med. strong CHALK (Mundford Grade II-III)

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E info@apexgeophysics.ie
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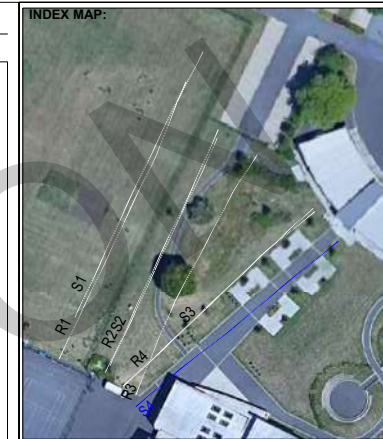
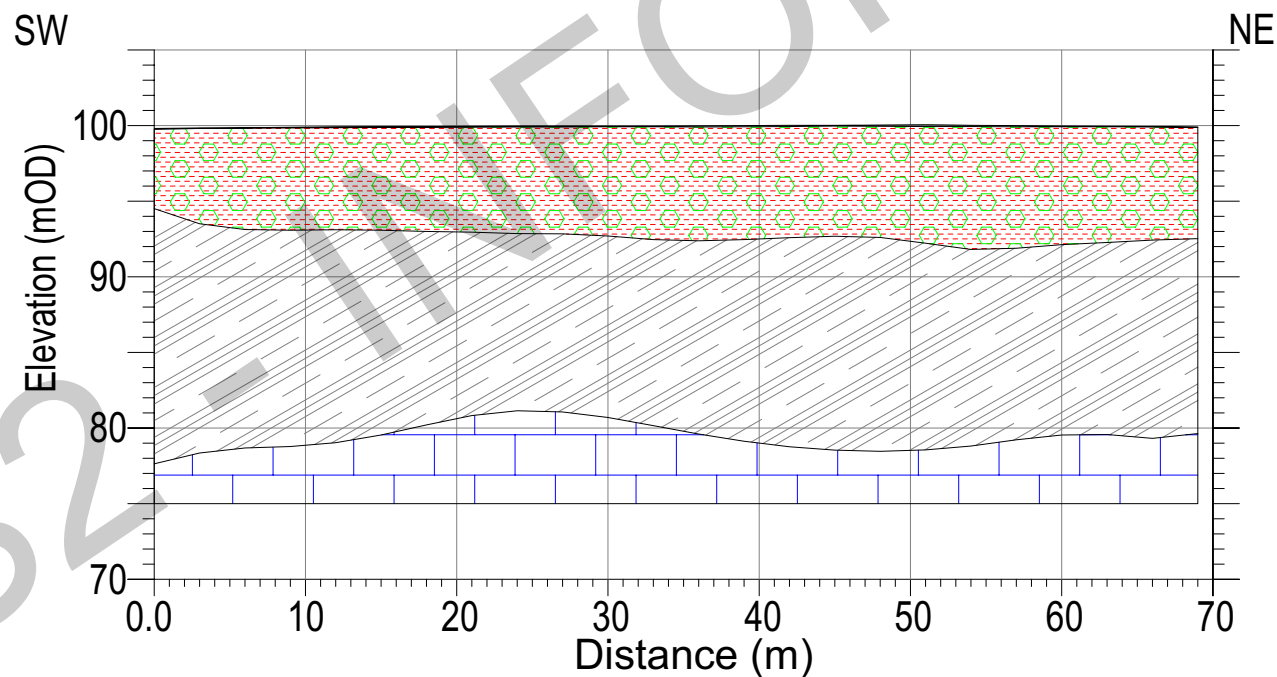
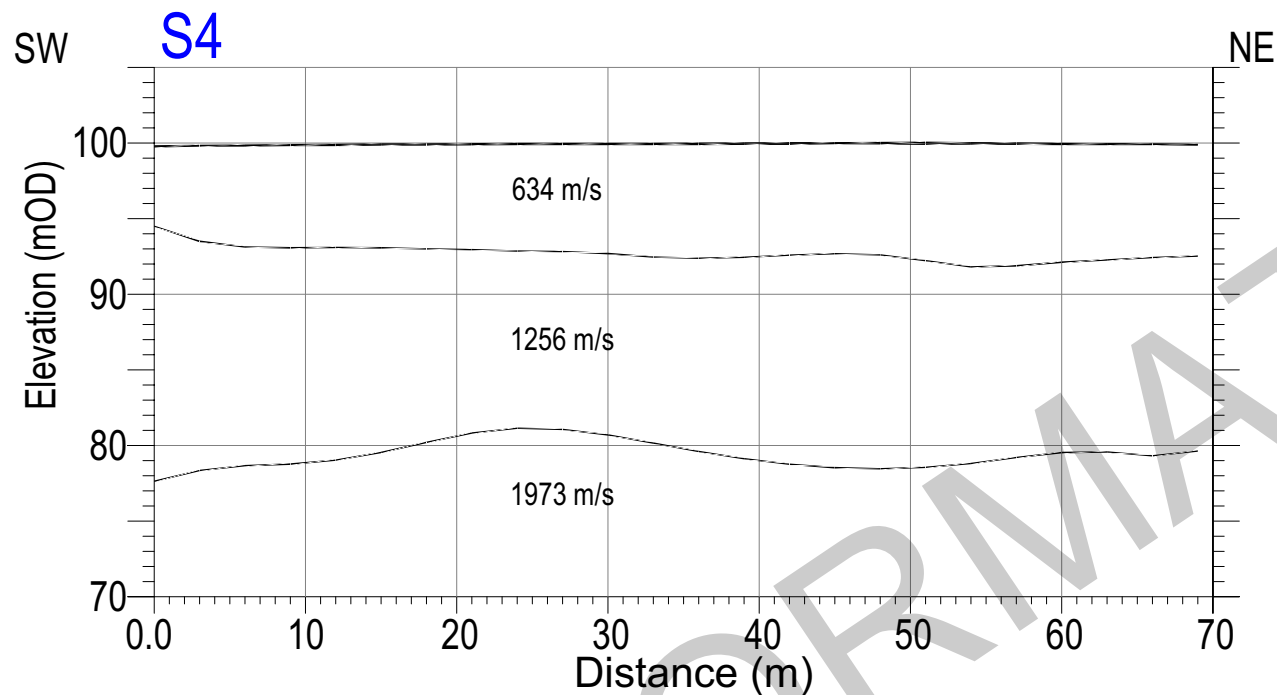
PROJECT:	SARUM ACADEMY GEOPHYSICAL INVESTIGATION		
CLIENT:	STANTEC		
DRAWING NO:	AGP25046_06		
SCALE:	AS INDICATED @ A4		
DATE:	24-09-2025		
Version:	Date:	Drawn By:	Checked:
01	24-09-2025	YOC	POC

S2 - INFORMATION

S2 - INFORMATION

RESULTS AND INTERPRETATION - SEISMIC REFRACTION S4

SCALE 1: 500



- LEGEND:**
- Seismic Refraction Layer with interpreted P-wave velocity
 - 1288 m/s
 - silty clayey flint GRAVEL and/or Made Ground
 - silty clayey flint GRAVEL
 - gravelly CLAY, silty GRAVEL, structureless CHALK (Mundford Grade V)
 - very weak-weak CHALK (Mundford Grade IV)
 - weak-med. strong CHALK (Mundford Grade II-III)

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6 Knockmullen Business Park
Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
E info@apexgeophysics.ie
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PROJECT: SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT: STANTEC

DRAWING NO: AGP25046_07

SCALE: AS INDICATED @ A4

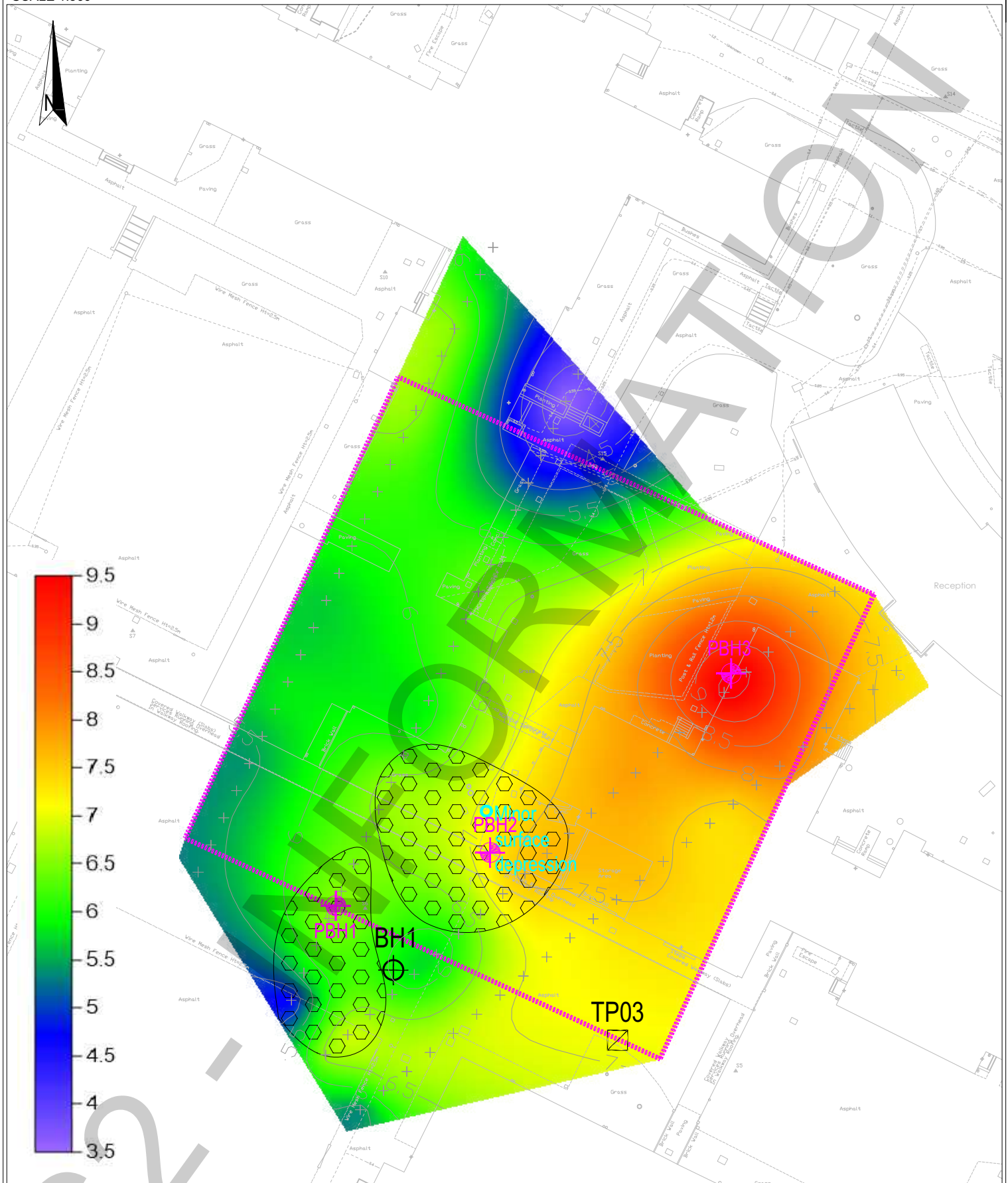
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Version:	Date:	Drawn By:	Checked:
01	24-09-2025	YOC	POC

S2 - INFORMATION

INTERPRETED THICKNESS LAYERS 1 & 2 (m)

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6 Knockmullen Business Park
Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
E info@apexgeophysics.ie
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INDEX MAP:



LEGEND:

- Site
- + Data Point
- BH1 2011 Borehole
- TP03 2011 Trial Pit
- occurrence of silty clayey flint
- GRAVEL in Layer 2
- ★ Proposed Borehole

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Report on the Geophysical Investigation at Sarum Academy, Salisbury for Stantec,
APEX Geophysics Ltd. 24th Sept. 2025

PROJECT:

SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT:.

STANTEC

DRAWING NO:

AGP25046_08

SCALE:

AS INDICATED @ A4

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Date:

Drawn By:

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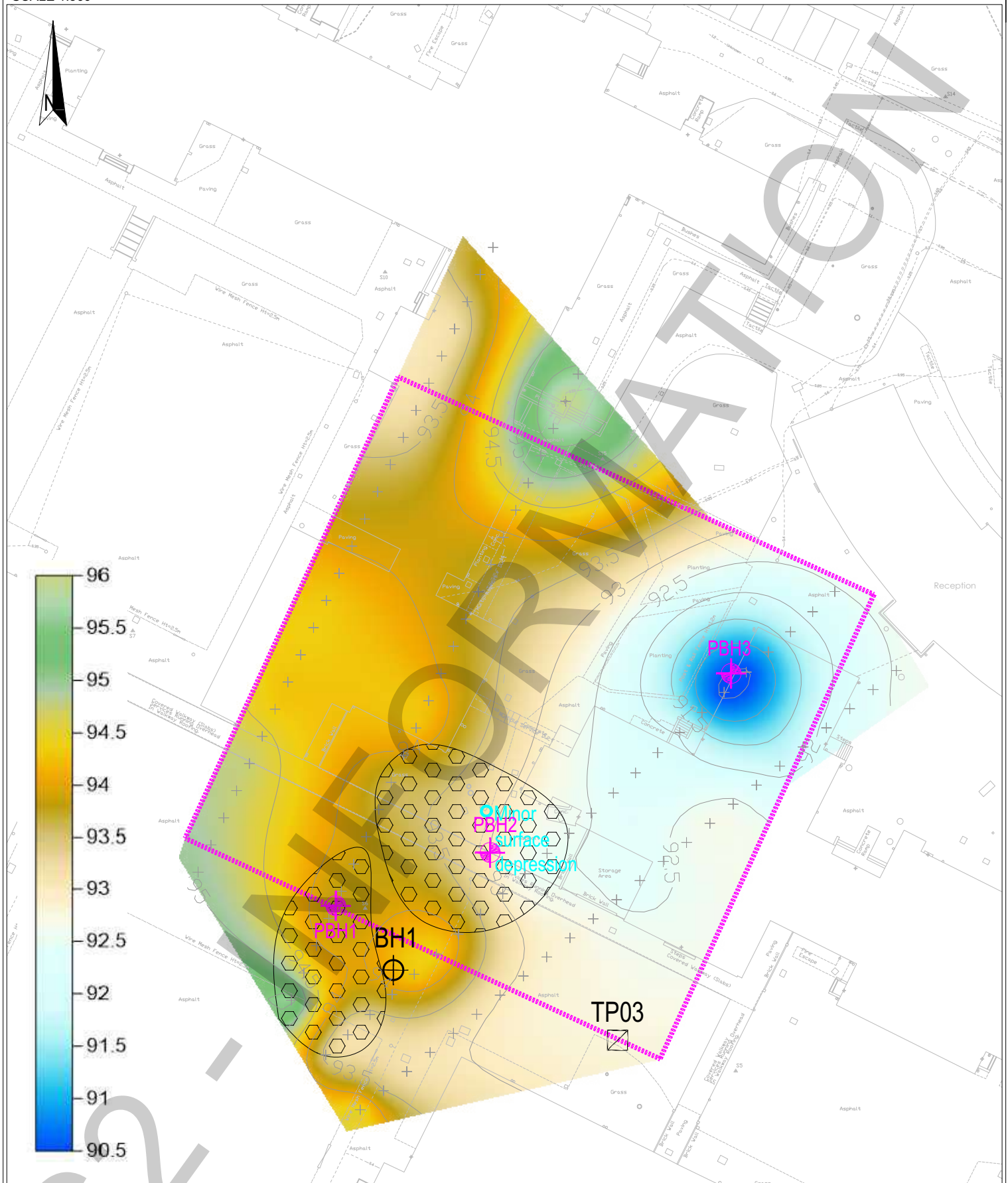
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INTERPRETED BASE OF LAYER 2 (mOD)

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Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
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INDEX MAP:



LEGEND:

- Site
- + Data Point
- BH1 2011 Borehole
- TP03 2011 Trial Pit
- occurrence of silty clayey flint
- GRAVEL in Layer 2
- Proposed Borehole

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Report on the Geophysical Investigation at Sarum Academy, Salisbury for Stantec,
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PROJECT:

SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT:

STANTEC

DRAWING NO:

AGP25046_09

SCALE:

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DATE:

24-09-2025

Version:

Date:

01 24-09-2025

Drawn By:

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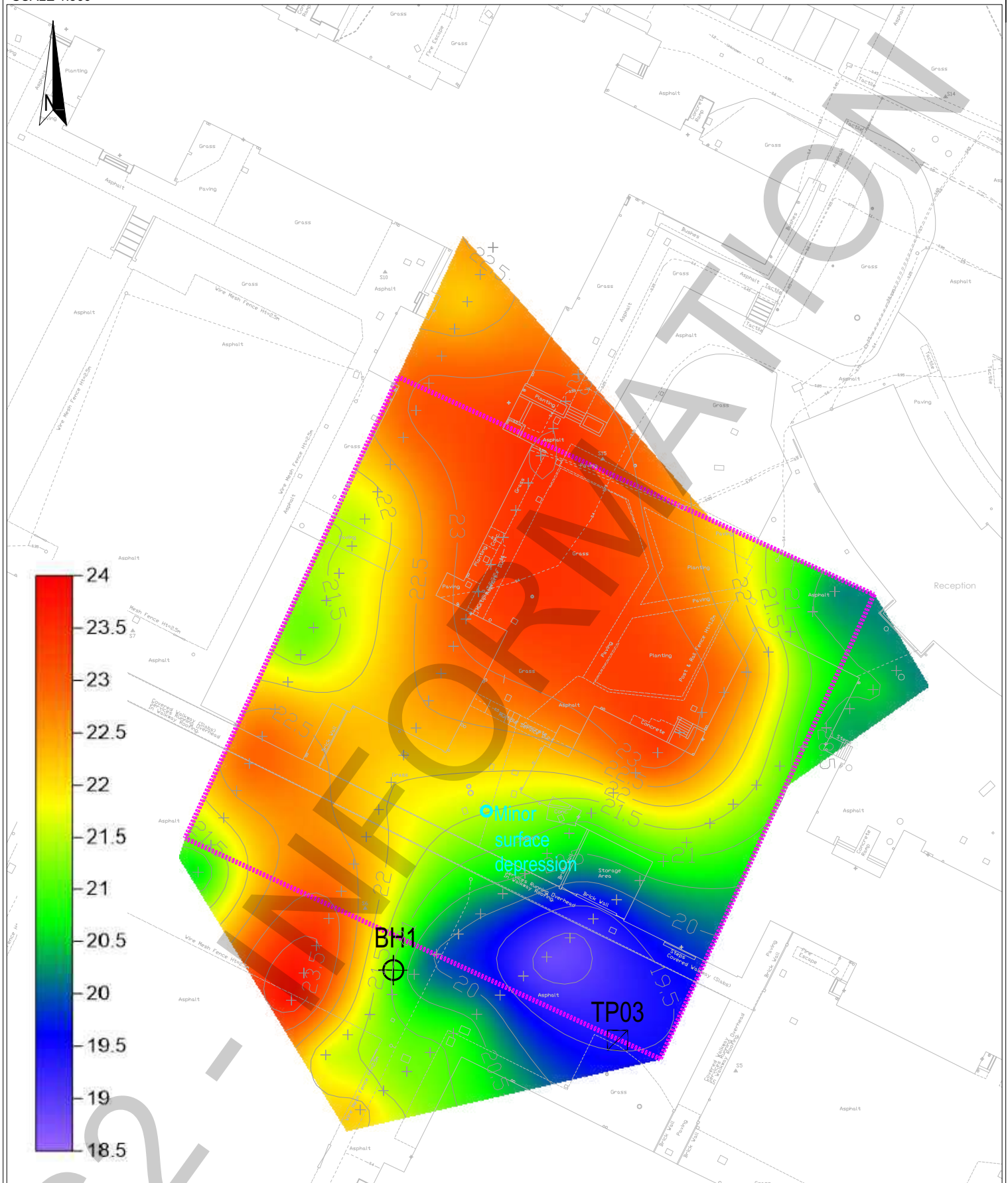
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S2 - INFORMATION

INTERPRETED THICKNESS LAYERS 1, 2 & 3 (m)

SCALE 1:500



6 Knockmullen Business Park
Gorey
Co. Wexford
Ireland

T +353 (0)402-21842
E info@apexgeophysics.ie
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INDEX MAP:



LEGEND:

- Site
- + Data Point
- BH1 2011 Borehole
- TP03 2011 Trial Pit
- PH03 + Proposed Borehole

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PROJECT:

SARUM ACADEMY
GEOPHYSICAL INVESTIGATION

CLIENT:

STANTEC

DRAWING NO:

AGP25046_10

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24-09-2025

Version:

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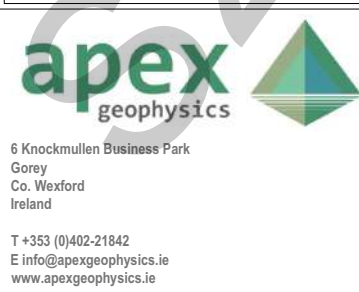
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S2 - INFORMATION



Site
Data Point
2011 Borehole
2011 Trial Pit
Proposed Borehole

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CLIENT.: STANTEC			
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Version:	Date:	Drawn By:	Checked:
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