

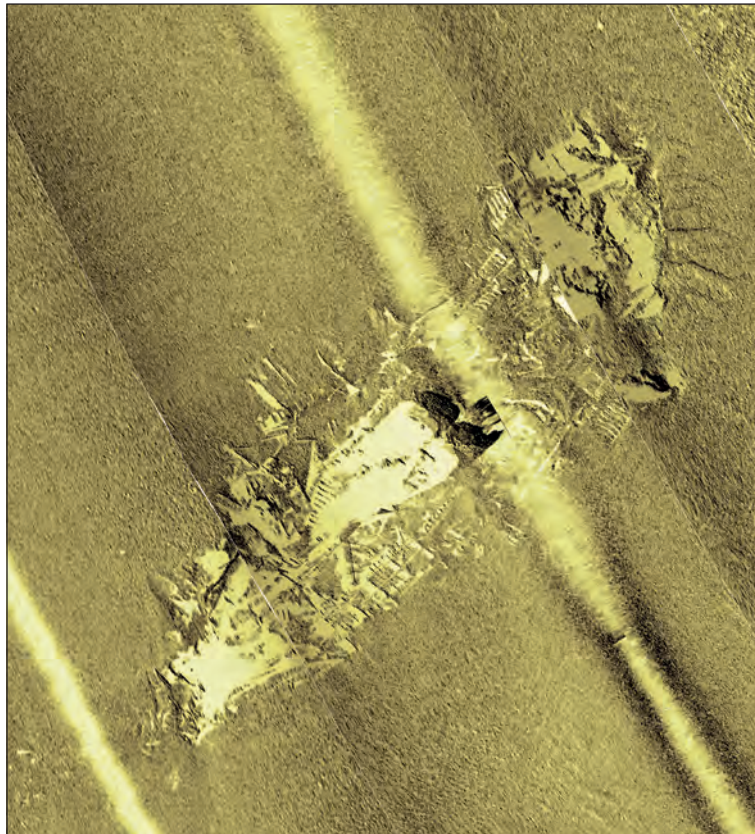


Triton Knoll Offshore Wind Farm Pre-Construction Survey

Archaeological Assessment of 2018 Geophysical Data

SI 2018 – Archaeology Final Summary Report

Volume One: Technical report



November 2019



© Wessex Archaeology Ltd 2019, all rights reserved.

Portway House
Old Sarum Park
Salisbury
Wiltshire
SP4 6EB

www.wessexarch.co.uk

Wessex Archaeology Ltd is a Registered Charity no. 287786 (England & Wales) and SC042630 (Scotland)




Disclaimer

The material contained in this report was designed as an integral part of a report to an individual client and was prepared solely for the benefit of that client. The material contained in this report does not necessarily stand on its own and is not intended to nor should it be relied upon by any third party. To the fullest extent permitted by law Wessex Archaeology will not be liable by reason of breach of contract negligence or otherwise for any loss or damage (whether direct indirect or consequential) occasioned to any person acting or omitting to act or refraining from acting in reliance upon the material contained in this report arising from or connected with any error or omission in the material contained in the report. Loss or damage as referred to above shall be deemed to include, but is not limited to, any loss of profits or anticipated profits damage to reputation or goodwill loss of business or anticipated business damages costs expenses incurred or payable to any third party (in all cases whether direct indirect or consequential) or any other direct indirect or consequential loss or damage.

Report Information

Document title	Triton Knoll Offshore Wind Farm Pre-Construction Survey
Document subtitle	Archaeological Assessment of 2018 Geophysical Data SI 2018 – Archaeology Final Summary Report Volume One: Technical Report
Document reference	70077.209
Triton Knoll reference	2505-ROH-CON-K-RA-2776310
Client name	Royal Haskoning DHV (Peterborough)
Address	Rightwell House Bretton Peterborough Cambridgeshire PE3 8DW
On behalf of	Triton Knoll Offshore Wind Farm Limited (London)
Address	2 Eastbourne Terrace London W2 6LG
Site location	North Sea
County	Offshore to Landfall at Anderby Creek, Yorkshire, UK
WA project codes	70076, 70075, 70074, 70070
Project management by	David Howell
Document compiled by	Laura Andrews
Contributions from	Stephanie Arnott, Sophie Thorogood, Simon Varley, Robyn Pelling, Thomas King, Jenna Jackson, Megan Metcalfe, David Howell and Louise Tizzard
Graphics by	Kitty Foster

Quality Assurance

Version & issue date	Status	Author	Approved by
V1	04/10/2019	Draft	LA
			LT 
			SHLA 
V2	22/11/2019	Final	LA
			DSH 

DATA LICENCES

This product has been derived in part from material obtained from the UK Hydrographic Office with the permission of the UK Hydrographic Office and Her Majesty's Stationery Office.

© Crown Copyright, 2019. Wessex Archaeology ref. HA294/007/316-01.

The following notice applies:

NOT TO BE USED FOR NAVIGATION

WARNING: The UK Hydrographic Office has not verified the information within this product and does not

accept liability for the accuracy of reproduction or any modifications made thereafter.

Contains Ordnance Survey data © Crown copyright and database rights 2019



Contents

Summary	ii
Acknowledgements	iii
1 INTRODUCTION	1
1.1 Project background	1
1.2 Previous work	1
1.3 Aims and objectives	2
1.4 Co-ordinate system	2
2 METHODOLOGY	3
2.1 Data sources	3
2.2 Geophysical data – technical specifications	3
2.3 Geophysical data – processing	4
2.5 Geophysical data – anomaly grouping and discrimination	6
3 SEABED FEATURES ASSESSMENT	8
4 CONCLUSIONS AND RECOMMENDATIONS	9
5 REFERENCES	11
APPENDICES	12
Appendix I Recommended AEZs within the Triton Knoll OWF site	12
Appendix II Seabed features of archaeological potential	22

List of Tables

Table 1	Summary of survey equipment
Table 2	Software used for geophysical assessment
Table 3	Criteria for assigning data quality rating
Table 4	Criteria discriminating relevance of identified features to proposed scheme
Table 5	Anomalies of archaeological potential within the study area
Table 6	Types of anomaly identified

List of Figures

Figure 1	Location map
Figures 2a-2q	Anomalies of archaeological potential and AEZs



Summary

Wessex Archaeology was commissioned by Royal Haskoning DHV, on behalf of Triton Knoll Offshore Wind Farm Limited, to undertake a pre-construction archaeological assessment of geophysical data acquired by Fugro GB Marine Limited in 2018.

The Triton Knoll Offshore Wind Farm is a development consisting of 100 turbines (plus eight spare locations) and their associated inter-array cabling with two export cable burial corridors (West and East). These are laid out in 10 Anchor area blocks, with the Export Cable Routes (ECRs) centred within a separate anchoring corridor.

The data for this assessment comprised sidescan sonar, multibeam echosounder, marine magnetometer and gradiometer datasets and these were used to assess the presence of seabed features of archaeological potential. The results of this assessment were then compared to the results of the previous archaeological assessments undertaken between 2008 and 2016.

The assessment of the geophysical data within the study area resulted in a total of 1978 anomalies identified as being of possible archaeological interest. These are summarised as follows:

- a total of 98 anomalies were assigned an A1 archaeological rating; Anthropogenic origin of archaeological interest;
- a total of 1869 anomalies were assigned an A2 archaeological rating; Uncertain origin of possible archaeological interest;
- a total of seven items; four items classified as a recorded wreck and three items classified as a recorded obstruction, were assigned an A3 archaeological discrimination; Historic record of possible archaeological interest with no corresponding geophysical anomaly.

A further four items have been interpreted as non-archaeological features and were retained in the gazetteer only for positioning purposes:

- two items were assigned U2 non-archaeological discrimination; Known non-archaeological feature / Feature of non-archaeological interest; and
- two items were given an U3 archaeological discrimination; Recorded loss.

A total of 99 anomalies (98 A1 anomalies and one A3 record) have been assigned AEZs. All larger anomalies with seabed surface expression have been assigned a 50 m buffer around the current feature extents except for wreck anomalies **7007** and **7011**, which have been assigned a 100 m buffer due to the degraded and dispersed nature of the wreck debris visible in the data. Smaller features with seabed surface expression and very large magnetic only anomalies, that may represent ferrous debris, have been given a 50 m buffer around their position. Recorded obstruction **7647** has been assigned a 100 m buffer around the recorded position due to its unknown feature extents.

For features assigned A2 archaeological discrimination rating, no AEZs are recommended at this time. However, avoidance of these features by micro-siting is recommended if they are proposed to be directly impacted by future works. If the features can't be avoided, further investigations may be required.

It is recommended that if any objects of possible archaeological interest are recovered during any groundwork operations, that they should be reported using the established *Offshore Renewables Protocol for Archaeological Discoveries* (ORPAD). This will establish whether the recovered objects are of archaeological interest and recommend appropriate mitigation measures.



Acknowledgements

The assessment of geophysical data was commissioned by Royal Haskoning DHV, on behalf of Triton Knoll Offshore Wind Farm Limited, and the assistance of Victoria Cooper of Royal Haskoning, Amelia Chilcott of Innogy Renewables and Leo James and Ben Simpson from Triton Knoll is acknowledged in this regard.

The geophysical data were acquired and provided by Fugro, via Thomas Chamberlain, Chris Wright and colleagues, whose assistance is also acknowledged in this respect.



Triton Knoll Offshore Wind Farm Pre-Construction Survey

Archaeological assessment of 2018 geophysical data SI 2018 – Archaeology Final summary Report Volume One: Technical Report

1 INTRODUCTION

1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by Royal Haskoning DHV, on behalf of Triton Knoll Offshore Wind Farm Limited (Triton Knoll), to undertake a pre-construction archaeological assessment of geophysical data acquired from the Triton Knoll Offshore Wind Farm (Triton Knoll OWF) by Fugro GB Marine Limited (Fugro) in 2018.
- 1.1.2 The Triton Knoll OWF is located offshore between the mouth of the River Humber and The Wash, approximately 42 km north-east of Anderby Creek, Yorkshire (Figure 1). The Triton Knoll OWF comprises 100 turbines and their associated inter-array cabling with two export cable routes (ECRs); East and West. The ECRs are approximately 49 km in length from the respective East and West Offshore Substation Platforms (OSPW and OSPE) to landfall at Anderby Creek, Yorkshire.
- 1.1.3 The geophysical data assessed by Wessex Archaeology were acquired by Fugro in 2018 and comprised sidescan sonar (SSS), multibeam echosounder (MBES), marine magnetometer (Mag) and marine gradiometer (Grad) data sets.
- 1.1.4 In addition to presenting the results of the current archaeological assessment of the 2018 geophysical survey dataset, this document will also present a comparison of this assessment with the results of the previous assessments as outlined in section 1.2.
- 1.1.5 The 'study area' comprises 400 x 400 m boxes centred on each of the 100 turbine locations, connected by 100 m inter-array cable (IAC) corridors centred on the 97 IAC routes (except for between the eight spare locations). These are situated within 1400 m width corridors centred on the turbine alignment, and separated into blocks (A, B, C, D, E, F, G, H, J, K and M). Twenty-nine IAC link corridors connect these separate blocks. In addition, a 200 m ECR burial corridor is centred on each of the ECRs (East and West), aligned approximately north-east to south-west, from their respective OSPs to landfall. An approximate 1 km anchoring corridor is centred on each ECR burial corridor which have been combined and are collectively called the 'ECR Anchor area'.
- 1.1.6 A further 21 200 x 200 m 'Wreck boxes' are located throughout the Study Area, centred on known wreck locations. Where these boxes impact on the Study Area as defined by the Anchoring areas, Turbine locations or IAC corridors, these are included within the results of this assessment.
- #### 1.2 Previous work
- 1.2.1 This geophysical assessment forms part of a series of assessments conducted by Wessex Archaeology for the Triton Knoll OWF development project.



- 1.2.2 A previous archaeological Desk-Based Assessment (DBA), including a marine geophysical assessment, was produced for the Triton Knoll OWF by Wessex Archaeology (2011). A previous archaeological assessment for the cable corridor has been produced by Headland Archaeology (Headland) (Headland 2014).
- 1.2.3 An archaeological Written Scheme of Investigation (WSI) was also produced for the development using the results of all investigations to date (Royal Haskoning DHV 2016a).
- 1.2.4 An assessment of 2012 and 2015 geophysical data was undertaken by Wessex Archaeology in 2017 (Wessex Archaeology 2017) and included an assessment of the Headland data. These reports form the basis of a large part of this archaeological assessment, and as such the results of these previous phases of work are directly related to this report.
- 1.2.5 Twenty-three Archaeological Exclusion Zones (AEZs) were previously recommended by Wessex Archaeology for the Triton Knoll OWF. One (**7519**) is now located outside the study area. Three of these locations (**7078**, **7079** and **7121**) have been investigated by drop-down video and no material of archaeological significance was found (Royal Haskoning DHV 2016b). Therefore, no further mitigation has been recommended over these locations (Triton Knoll 2018). The remaining nineteen AEZs have been reassessed as part of the archaeological assessment of the new development footprint.
- 1.2.6 A further six historical records are present within the site (**7080**, **7082**, **7084**, **7113**, **7170** and **7182**). These records pertain to material or items of lesser archaeological significance. Therefore, no further mitigation is recommended over these locations (Triton Knoll 2018).

1.3 Aims and objectives

- 1.3.1 The aims and objectives of this assessment are:
- assess the provided geophysical data to identify, locate and characterise hitherto unrecorded marine sites of archaeological potential;
 - confirm the presence of known or previously located marine sites of archaeological potential and to comment on their apparent character;
 - compare the results of the geophysical assessment with the results of previous assessments in the area to assess confidence and positional accuracy of these anomalies;
 - compare the results with known records (e.g. from the United Kingdom Hydrographic Office (UKHO)); and
 - provide recommendations for archaeological mitigation (Appendix I).

1.4 Co-ordinate system

- 1.4.1 The survey data were acquired using WGS84 UTM31N projected coordinates and the results are presented using this coordinate system.



2 METHODOLOGY

2.1 Data sources

2.1.1 A number of data sources were consulted during this assessment, including:

- geophysical survey data acquired by Fugro in 2018, comprising SSS, MBES, Mag and Grad datasets;
- known wreck and obstruction locations and information for the study area provided by the UKHO; and
- past reports and assessments undertaken by Wessex Archaeology within the Triton Knoll OWF and ECR.

2.2 Geophysical data – technical specifications

2.2.1 Geophysical data were acquired by Fugro during 2018 on board three different vessels;

- the MV *Fugro Seeker* which acquired data within the A12 HDD Exit and A13 areas between 25 June and 17 August 2018 (Fugro 2018a);
- the MV *Fugro Mercator* which acquired data within the ECR Anchor areas from A13 to OSPW and OSPE, and UXO Grad locations within the array area, between 8 July and 21 October 2018 (Fugro 2018b); and
- the MV *Fugro Frontier* which acquired data within the Array (Blocks A-M, Wreck boxes and IAC links) between 23 July and 22 October 2018 (Fugro 2018c).

2.2.2 The data were acquired at different line spacings depending on the site location. Where data were acquired along the length of the ECR burial corridors, the 400 m corridors of turbine boxes within the main blocks, along the 100 m IAC link corridors and the Wreck boxes over the site, the data were acquired with a line spacing of approximately 20 m. The SSS data within these areas were acquired at a range of 35 m.

2.2.3 The data in the Anchor area corridors for the Array and ECR were acquired with a line spacing ranging from 35 to 50 m. The SSS data acquired within the ECR anchor corridors were assessed within HDD exits A12 and A13 areas, and over the Wreck box locations. Due to the expected lower impact from cable emplacement within the ECR Anchor areas, and the availability and resolution of previous geophysical interpretation, it was agreed in consultation with the client that the 2018 ECR Anchor area data would not be assessed beyond the HDD exits A12 and A13 areas. The exception is where the ECR anchor area overlaps with the array block data, in which case full assessment using the array block data was undertaken. For the ECR anchor areas, the results of the previous assessment in 2016 were reassessed and included within the gazetteer.

2.2.4 MBES data were provided as 1 m and 0.25 m gridded .xyz files. Only the 0.25 m gridded data were used as part of this assessment.

2.2.5 Further details on the equipment used is in Table 1.



Table 1 Summary of survey equipment

Survey Company	Survey Vessel	Data Type	Equipment	Data Format
Fugro	Fugro Seeker	SSS	Edgetech 4125 (400/900 kHz)	.xtf
		MBES	Teledyne single Head RESON SeaBat 7125 400 kHz	.xyz
		Mag.	4 x Geometrics G-882 on a 'miniwing' frame	.csv
		Primary positioning	Fugro StarPack GNSS receiver with Starfix G2+ corrections and backup from Starfix XP2 corrections	N/A
		Secondary Positioning	Fugro StarPack GNSS receiver with Starfix G2+ corrections and backup from Starfix XP2 corrections	N/A
		Tertiary Positioning	Applanix POS MV GNSS receiver with PPK corrections	N/A
		USBL	Kongsberg µPAP 201-H with integrated MRU-H motion sensor and C-Node beacons	N/A
	Fugro Mercator	SSS	Edgetech 4200 (300/900 kHz)	.xtf
		MBES	Hull-mounted Teledyne Dual Head RESON SeaBat 7125 400 kHz	.xyz
		Mag.	4 x Geometrics G-882 on a 'miniwing' frame	.csv
		Grad.	2 x EIVA ScanFish Katria III ROTV with 4 Geometrics G-882 mounted on each	.csv
		Primary positioning	Fugro StarPack GNSS receiver with Starfix G2+ corrections and backup from Starfix XP2 corrections	N/A
		Secondary Positioning	Fugro StarPack GNSS receiver with Starfix G2+ corrections and backup from Starfix XP2 corrections	N/A
		USBL	Kongsberg HiPAP 501 USBL	N/A
	Fugro Frontier	SSS	Edgetech 4125 (400/900 kHz)	.xtf
		MBES	Kongsberg EM2040 dual head	.xyz
		Mag.	Single Geometrics G-882 4 x Geometrics G-882 on a 'miniwing' frame	.csv
		Primary positioning	Fugro Starfix.G2+ positioning solution (backups from Starfix.XP2/Starfix.HP)	N/A
		Secondary Positioning	Fugro Starfix.G2+ positioning solution (backups from Starfix.XP2/Starfix.HP)	N/A
		Tertiary Positioning	Fugro Starfix.G2+ positioning solution (backups from Starfix.XP2/Starfix.HP)	N/A
		USBL	Kongsberg HiPAP 501 USBL	N/A

2.3 Geophysical data – processing

2.3.1 A number of datasets were assessed over the study area, each dataset was processed separately using the following software (Table 2).

Table 2 Software used for geophysical assessment

Dataset	Processing Software	Interpretation and rationalisation
SSS	CodaOctopus Survey Engine v5.5	ArcMap v10.6
MBES	QPS Fledermaus v7.7.5	
Mag /Grad	MagPick v3.25	



- 2.3.2 The high frequency .xtf SSS data files were processed using CodaOctopus Survey Engine Sidescan+ software. This allowed the data to be replayed with various gain settings in order to optimise the quality of the images. The data were interpreted for any objects of possible anthropogenic origin. This involves creating a database of anomalies within Coda by tagging individual features of possible archaeological potential, recording their positions and dimensions, and acquiring an image of each anomaly for future reference.
- 2.3.3 A mosaic of the SSS is produced during this process to assess the quality of the sonar towfish positioning. This process allows the position of anomalies to be checked between different survey lines and for the positioning to be further refined if necessary.
- 2.3.4 The form, size and/or extent of an anomaly is a guide to its potential to be an anthropogenic feature and therefore of archaeological interest. A single small but prominent anomaly may be part of a much more extensive feature that is largely buried. Similarly, a scatter of minor anomalies may define the edges of a buried but intact feature, or it may be all that remains as a result of past impacts from, for example, dredging or fishing.
- 2.3.5 The Mag and Grad datasets were processed using Geometrics MagPick software in order to identify any discrete magnetic contacts which could represent ferrous debris or structures such as wrecks.
- 2.3.6 The software enables both the visualisation of individual lines of data and gridding of data to produce a magnetic anomaly map. The data were first smoothed to try and eliminate any spiking. A trend was then fitted to the resulting data, and the trend values subtracted from the smoothed values. This was carried out in an attempt to remove natural variations in the data (such as diurnal variation in magnetic field strength and changes in geology). The processed data were then gridded to produce a map of magnetic anomalies, and individual anomalies tagged based on the grid and individual profile lines. Images are taken in a similar process to that of the SSS data.
- 2.3.7 Magnetic anomalies have been classified as small magnetic anomalies of 5 nT to 49 nT; medium sized magnetic anomalies of 50 nT to 100 nT, large magnetic anomalies of 101 nT to 500 nT and very large magnetic anomalies of greater than 500 nT.
- 2.3.8 The 0.25 m gridded MBES data were analysed to identify any unusual seabed structures that could be shipwrecks or other anthropogenic debris. The data were gridded at 0.25 m and analysed using QPS Fledermaus software, which enables a 3-D visualisation of the acquired data and geo-picking of seabed anomalies.

2.4 Geophysical data – data quality

- 2.4.1 Once processed, the geophysical data sets were individually assessed for quality and their suitability for archaeological purposes and rated using the following criteria (Table 3).

Table 3 Criteria for assigning data quality rating

Data quality	Description
Good	Data which are clear and unaffected or only slightly affected by weather conditions, sea state, background noise or data artefacts. Seabed datasets are suitable for the interpretation of upstanding and partially buried wrecks, debris fields, and small individual anomalies. The structure of wrecks is clear, allowing assessments on wreck condition to be made. These data provide the highest probability that anomalies of archaeological potential will be identified.



Data quality	Description
Average	Data which are moderately affected by weather conditions, sea state and noise. Seabed datasets are suitable for the identification of upstanding and partially buried wrecks, the larger elements of debris fields and dispersed sites, and larger individual anomalies. Dispersed and/or partially buried wrecks may be difficult to identify. These data are not considered to be detrimentally affected to a significant degree.
Below Average	Data which are affected by weather conditions, sea state and noise to a significant degree. Seabed datasets are suitable for the identification of relatively intact, upstanding wrecks and large individual anomalies. Dispersed and/or partially buried wrecks, or small isolated anomalies may not be clearly resolved.
Variable	This category contains datasets where the individual lines range in quality. Confidence of interpretation is subsequently likely to vary within the study area.

- 2.4.2 The SSS data across the study area have been rated as ‘Average’ using the above criteria table. Some stretching due to weather or tides have affected some of the data, but this has not affected the data to a significant degree.
- 2.4.3 The Mag data across the study area have been rated as ‘Average’ using the above criteria table. Some spiking was present, and the positioning has been affected by weather and tides, causing an increase in line spacing in some areas. Some areas of increased magnetic response were present due to geological features. However, the data have not been detrimentally affected to a significant degree.
- 2.4.4 The Grad data have been rated as ‘Good’ using the above criteria table. Positioning was not affected and the close line spacing meant that detailed magnetometer interpretation over more complex sites was possible.
- 2.4.5 The MBES data across the study area were rated as ‘Good’ using the above criteria. The data quality and resolution of 0.25 m was found to be of a good standard and suitable for archaeological assessment of objects and debris over 0.25 m in size. The MBES data were then used to further assess anomalies from the SSS, Mag and Grad datasets to aid in classification and discrimination of features as outlined in section 2.5.

2.5 Geophysical data – anomaly grouping and discrimination

- 2.5.1 The previous section describes the initial interpretation of all available geophysical datasets which were conducted independently of one another. This inevitably leads to the possibility of any one object being the cause of numerous anomalies in different datasets and apparently overstating the number of archaeological features in the exploration area.
- 2.5.2 To address this fact the anomalies were grouped together; allowing one ID number to be assigned to a single object for which there may be, for example, a UKHO record, a MBES feature, an associated magnetic anomaly and multiple SSS anomalies.
- 2.5.3 At this stage, the gazetteers of anomalies created during previous phases of work over the Triton Knoll OWF site were also grouped with the data interpretation (Wessex Archaeology 2010; Wessex Archaeology 2016).
- 2.5.4 Any sites located outside of the defined study area, either previously recorded in known databases (e.g. UKHO) or identified during this or previous geophysical assessments, are deemed beyond the scope of the current project and are subsequently not included in this report.
- 2.5.5 Although no new 2018 datasets were assessed within the ECR Anchor area, previous anomalies located within this area have been retained within this gazetteer.



- 2.5.6 During grouping of the interpretation results with the results of previous phases of work, any identified anomaly from the current 2018 dataset that matches a previously identified feature retains the original anomaly number assigned for previous Wessex Archaeology reports. However, positions and dimensions are updated to reflect the more recent data where appropriate.
- 2.5.7 Where previously identified anomalies have subsequently been found to be of lesser or non-archaeological importance based on new information, these anomalies have been updated and retained or updated and removed from this report. Where these anomalies pertain to wreck features of known non-archaeological importance, the wreck anomalies been discriminated as U2 but their position and extents have been retained within the gazetteer for positional purposes.
- 2.5.8 Any newly identified anomalies of archaeological potential have been assigned a new ID number beginning with 70000.
- 2.5.9 Once all the geophysical anomalies and desk-based information have been grouped, a discrimination flag is added to the record in order to discriminate against those which are not thought to be of an archaeological concern. For anomalies located on the seabed, these flags are ascribed as follows (Table 4).

Table 4 Criteria discriminating relevance of identified features to proposed scheme

Overview classification	Discrimination	Criteria	Data type
Archaeological	A1	Anthropogenic origin of archaeological interest	MBES, SSS, Mag., Grad.
Archaeological	A2	Uncertain origin of possible archaeological interest	MBES, SSS, Mag., Grad.
Archaeological	A3	Historic record of possible archaeological interest with no corresponding geophysical anomaly	MBES, SSS, Mag., Grad.
Non-archaeological	U2	Known non-archaeological feature / Feature of non-archaeological interest	MBES, SSS, Mag., Grad.
Non-archaeological	U3	Recorded loss	MBES, SSS, Mag., Grad.

- 2.5.10 As required by Triton Knoll OWF, the data covering the ECR and individual turbine and IAC corridors were assessed separately and prior to the data covering the block Anchor areas. Therefore, where datasets overlap, the initial interpretation was supplied as part of the individual section summary reports (Volume 2), but the interpretation was updated after assessment of the subsequent datasets. This resulted in multiple duplicates and additional anomalies in some of these areas. The interpretation provided in the summary reports should therefore be considered as provisional and unconfirmed. After assessment of all of the available data was complete, the most up to date interpretation of these anomalies in the overlapping areas was retained and a combined gazetteer for the entire study area was produced for this final report.
- 2.5.11 The grouping and discrimination of information at this stage is based on all available information and is not definitive. It allows for all features of potential archaeological interest to be highlighted, while retaining all the information produced during the course of the



geophysical interpretation and desk-based assessment for further evaluation should more information become available.

3 SEABED FEATURES ASSESSMENT

3.1.1 After the assessment of each individual dataset a total of 5130 individual geophysical anomalies were identified. A total of 636 previous anomalies from the 2016 assessment of geophysical data were assessed. After the grouping and discrimination phases were carried out as outlined in section 2.5, a total of 1978 anomalies of possible archaeological potential have been identified within the study area.

3.1.2 Where overlap has occurred between the study area sections, anomalies will be included in each overlapping section as part of Volume Two: Compiled summary reports (Wessex Archaeology 2019). After completion of all the sections, any duplicates were removed and the most up to date interpretation has been retained for this final report.

3.1.3 The results of this assessment are collated in gazetteer format detailed in Appendix II and illustrated in Figures 2a – 2q.

3.1.4 These anomalies are discriminated as shown in Table 5.

Table 5 Anomalies of archaeological potential within the study area

Archaeological discrimination	Interpretation	Quantity
A1	Anthropogenic origin of archaeological interest	98
A2	Uncertain origin of possible archaeological interest	1869
A3	Historic record of possible archaeological interest with no corresponding geophysical anomaly	7
U2	Known non-archaeological feature / Feature of non-archaeological interest	2
U3	Recorded loss	2
Total		1978

3.1.5 Furthermore, these anomalies can be classified by probable type, which can further aid in assigning archaeological potential and importance (Table 6).

Table 6 Types of anomaly identified

Anomaly classification	Definition	Number of anomalies
Wreck	Areas of coherent structure including wrecks of ships, submarines and some aircraft (where coherent structure survives)	19
Debris field	A discrete area containing numerous individual debris items that are potentially anthropogenic, and can include dispersed wreck sites for which no coherent structure remains	52
Debris	Distinct objects on the seabed, generally exhibiting height or with evidence of structure, that are potentially anthropogenic in origin	195
Seabed disturbance	An area of disturbance without individual, distinct objects. Potentially indicates wreck debris or other anthropogenic features buried just below the seabed.	47
Rope/chain	Curvilinear dark reflectors, often with a small amount of height, indicating rope or chain (if ferrous)	64



Anomaly classification	Definition	Number of anomalies
Bright reflector	Individual objects or areas of low reflectivity, characteristic of materials that absorb acoustic energy, such as waterlogged wood or synthetic materials. Precise nature is uncertain	17
Dark reflector	Individual objects or areas of high reflectivity, displaying some anthropogenic characteristics. Precise nature is uncertain	224
Mound	A mounded feature with height not considered to be natural. Mounds may form over wreck sites or other debris.	48
Magnetic area	Area of individual magnetic anomalies which appear to be associated, with no associated seabed surface expression, and have the potential to represent possible ferrous debris	2
Magnetic	No associated seabed surface expression, and have the potential to represent possible ferrous debris or wreck sites	1301
Recorded wreck	Position of a recorded wreck at which previous surveys have identified definite seabed anomalies, but for which no associated feature has been identified within the current data set.	4
Recorded obstruction	Position of a recorded obstruction (e.g. foul ground, fisherman's fastener recorded by the UKHO), but for which no associated feature has been identified within the current data set	3
Recorded loss	Position of a recorded loss of vessel for which no associated seabed surface feature has ever been identified.	2
Total		1978

3.1.6 Detailed results for each location within the study area are outlined in the summary reports as supplied in Volume Two (Compiled summary reports) of this report (Wessex Archaeology 2019).

4 CONCLUSIONS AND RECOMMENDATIONS

4.1.1 The assessment of the geophysical data within the study area resulted in a total of 1978 anomalies identified as being of possible archaeological interest. These are summarised as follows:

- a total of 98 were assigned an A1 archaeological rating; Anthropogenic origin of archaeological interest;
- a total of 1869 were assigned an A2 archaeological rating; Uncertain origin of possible archaeological interest; and
- a total of seven items; four classified as a recorded wreck and three items classified as a recorded obstruction, were assigned an A3 archaeological discrimination; Historic record of possible archaeological interest with no corresponding geophysical anomaly.

4.1.2 A further four items have been interpreted as non-archaeological features and were retained in the gazetteer only for positioning purposes:



- two items were assigned U2 non-archaeological discrimination; Known non-archaeological feature / Feature of non-archaeological interest; and
- two items were given a U3 archaeological discrimination; Recorded loss.

- 4.1.3 A total of 99 anomalies (98 A1 anomalies and one A3 record) have been assigned AEZs. All larger anomalies with seabed surface expression have been assigned a 50 m buffer around the current feature extents except for wreck anomalies **7007** and **7011**, which have been assigned a 100 m buffer due to the degraded and dispersed nature of the wreck debris visible in the data. Smaller features with seabed surface expression and very large magnetic only anomalies, that may represent ferrous debris, have been given a 50 m buffer around their position. Recorded obstruction **7647** has been assigned a 100 m buffer around the recorded position due to its unknown feature extents.
- 4.1.4 For features assigned A2 archaeological discrimination rating, no AEZs are recommended at this time. However, avoidance of these features by micro-siting is recommended if they are proposed to be directly impacted by development in the future. If features can't be avoided then further investigation may be necessary.
- 4.1.5 It is recommended that if any objects of possible archaeological interest are recovered during any groundwork operations, that they should be reported using the established *Offshore Renewables Protocol for Archaeological Discoveries* (ORPAD) (The Crown Estate 2014). This will establish whether the recovered objects are of archaeological interest and recommend appropriate mitigation measures.



5 REFERENCES

Fugro 2018a *Triton Knoll Offshore Wind Farm Project: Fugro Seeker Operations Acquisition and Processing Report* Wallingford, unpubl rep 2505-FUG-DAT-V-RA-2733394

Fugro 2018b *Triton Knoll Offshore Wind Farm Project: Operations, Acquisition and Processing Report – Cable Export Route Survey* unpubl rep 2505-FUG-DAT-V-RA-2733395

Fugro 2018c *Triton Knoll Offshore Wind Farm Project: Operations, Acquisition and Processing Report – M.V. Fugro Frontier – Array Area Survey* unpubl rep 2505-FUG-DAT-V-RA-2733396

Headland Archaeology 2014 *Triton Knoll Offshore Wind Farm, Offshore Transmission Works, Export Cable Route, Maritime Cultural Heritage Baseline, Technical Report*. Prepared for RWE Npower Renewables Ltd., unpubl rep

Royal Haskoning DHV 2016a *Triton Knoll Offshore Wind Farm Limited, Archaeological Written Scheme of Investigation (Offshore)*. Ref 2505-TKN-HOS-G-RA-0001

Royal Haskoning DHV 2016b *Triton Knoll Offshore Wind Farm Limited, Revisions to Archaeological Exclusion Zones: Recorded Wrecks 7078, 7079 and 7121*. Ref: 2505-TKNDG2-XXX-XX-XX-0001

The Crown Estate 2014 *Protocol for Archaeological Discoveries: Offshore Renewables Projects*. Prepared by Wessex Archaeology for The Crown Estate. Available at URL: https://www.wessexarch.co.uk/sites/default/files/field_file/2_Protocol%20For%20Archaeological%20Discoveries.pdf.

Triton Knoll 2018 *Triton Knoll Offshore Wind Farm Project: Offshore Archaeological Written Scheme of Investigation* London, unpubl rep 2505-TKN-HOS-G-RA-0001

Wessex Archaeology 2011 *Triton Knoll Offshore Wind Farm, Desk-Based Archaeological Assessment*. Salisbury, unpubl rep 70070.09

Wessex Archaeology 2017 *Triton Knoll Offshore Wind Farm and Export Cable Corridor Archaeological Assessment of Geophysical Data* Salisbury, unpubl rep 70076.03

Wessex Archaeology 2019 *Triton Knoll Offshore Wind Farm Pre-Construction Survey: Archaeological Assessment of 2018 Geophysical Data, SI 2018 – Archaeology Final summary Report, Volume Two: Compiled summary reports* Salisbury unpubl rep 70077.209_Vol2



APPENDICES

Appendix I Recommended AEZs within the Triton Knoll OWF site

ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
7000	Wreck	A1	70070	358673	5929561	Reviewed - updated	50 m buffer around wreck boundary	Turbine TK P14, Wreck box 7000, Block H Anchor area
7001	Wreck	A1	70070	360757	5922922	Reviewed - updated	50 m buffer around wreck boundary	Turbine TK D20, Wreck box 7001, Block G Anchor area
7002	Wreck	A1	70070	356474	5928614	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7002, Block F Anchor area
7003	Wreck	A1	70070	356619	5926633	Reviewed - updated	50 m buffer around wreck boundary	Turbine TK G13, Wreck box 7003, Block F Anchor area
7004	Wreck	A1	70070	358284	5930379	Reviewed - updated	50 m buffer around wreck boundary	IAC TK Q13E to TK P14H, Wreck box 7004, Wreck box 7028, Block H Anchor area
7005	Wreck	A1	70070	356318	5925948	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7005, Block F Anchor area
7006	Wreck	A1	70070	359512	5926616	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7006, Block G Anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
7007	Wreck	A1	70070	359515	5931114	Reviewed - updated	100 m buffer around wreck boundary	Wreck box 7007, Block J Anchor area
7008	Wreck	A1	70070	353624	5930360	Reviewed - updated	50 m buffer around wreck boundary	Block E Anchor area, Wreck box 7008
7010	Wreck	A1	70070	358342	5925841	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7010, Block G Anchor area
7011	Wreck	A1	70070	359237	5930994	Reviewed - updated	100 m buffer around wreck boundary	Wreck box 7011, Block J Anchor area
7012	Wreck	A1	70070	365303	5921773	Reviewed - updated	50 m buffer around wreck boundary	Block J Anchor area, Wreck box 7012
7014	Debris	A1	70070	361067	5928640	Reviewed - updated	50 m buffer around position	Block J Anchor area
7067	Magnetic	A1	70070	361100	5926778	Reviewed - updated	50 m buffer around position	Block H Anchor area
7122_N	Wreck	A1	70070	353925	5933780	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7122, Block K Anchor area
7122_S	Wreck	A1	70070	353913	5933740	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7122, Block K Anchor area
7137	Wreck	A1	70070	356670	5933882	Reviewed - updated	50 m buffer around wreck boundary	IAC TK U10D to TK T09D, Wreck box 7137, Block K Anchor area
7172	Wreck	A1	70070	354121	5919776	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7172, ECR anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
7376	Debris	A1	70076	356717	5933889	Reviewed - updated	50 m buffer around position	Wreck box 7137, Block K Anchor area
7397	Debris	A1	70076	358387	5925828	Reviewed - updated	50 m buffer around position	Wreck box 7010, Block G Anchor area
7402_7403	Debris field	A1	70077	358748	5929533	Reviewed - updated	50 m buffer around feature boundary	Wreck box 7000, Block H Anchor area
7631	Debris	A1	2014 (Headland)	345628	5912416	Reviewed - updated	50 m buffer around position	ECR East, ECR anchor area
7641	Wreck	A1	2014 (Headland)	340714	5913006	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7641, ECR anchor area
7647	Recorded obstruction	A3	2014 (Headland)	338439	5912969	Unchanged	100 m buffer around position	ECR West, ECR anchor area
7671	Magnetic	A1	2014 (Headland)	328638	5910596	Reviewed - updated	50 m buffer around position	ECR West, ECR anchor area
7702	Magnetic	A1	2014 (Headland)	325022	5905458	Reviewed - updated	50 m buffer around position	ECR anchor area
7709	Wreck	A1	70076	322005	5905845	Reviewed - updated	50 m buffer around wreck boundary	Wreck box 7709, ECR Anchor area
7752	Wreck	A1	2014 (Headland)	326154	5905145	Reviewed - updated	50 m buffer around wreck boundary	ECR anchor area
70000	Debris	A1	70077	322013	5905854	New	50 m buffer around position	Wreck box 7709, ECR Anchor area
70001	Debris	A1	70077	322029	5905689	New	50 m buffer around position	ECR anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
70002	Debris	A1	70077	321978	5905841	New	50 m buffer around position	Wreck box 7709, ECR Anchor area
70014	Magnetic	A1	70077	322202	5905637	New	50 m buffer around position	ECR West, ECR anchor area
70019	Magnetic	A1	70077	322023	5905844	New	50 m buffer around position	Wreck box 7709, ECR Anchor area
70025	Magnetic	A1	70077	349079	5930419	New	50 m buffer around position	IAC TK F02B to TK E03B, Block C Anchor area
70133	Debris field	A1	70077	360719	5922880	New	50 m buffer around feature boundary	Turbine TK D20, Wreck box 7001, Block G Anchor area
70173	Magnetic	A1	70077	328615	5910541	New	50 m buffer around position	ECR West, ECR anchor area
70292	Magnetic	A1	70077	359160	5932417	New	50 m buffer around position	IAC TK U13J to TK T14J, Block J Anchor area
70300	Magnetic	A1	70077	360256	5930443	New	50 m buffer around position	IAC TK S15J to TK R16J, Block J Anchor area
70359	Debris field	A1	70077	340741	5913034	New	50 m buffer around feature boundary	Wreck box 7641, ECR anchor area
70360	Debris field	A1	70077	340739	5912988	New	50 m buffer around feature boundary	Wreck box 7641, ECR anchor area
70361	Debris	A1	70077	340731	5913005	New	50 m buffer around position	Wreck box 7641, ECR anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
70373	Magnetic	A1	70077	345642	5912386	New	50 m buffer around position	ECR East, ECR anchor area
70387	Magnetic	A1	70077	349841	5912691	New	50 m buffer around position	ECR East
70393	Debris field	A1	70077	350738	5915933	New	50 m buffer around feature boundary	ECR West, ECR East
70443	Magnetic	A1	70077	351393	5923847	New	50 m buffer around position	ECR West, ECR anchor area
70470	Debris	A1	70077	353283	5919065	New	50 m buffer around position	ECR East
70480	Debris field	A1	70077	354110	5919769	New	50 m buffer around feature boundary	Wreck box 7172, ECR anchor area,
70511	Magnetic	A1	70077	356719	5932453	New	50 m buffer around position	IAC TK S11E to TK Q09E, Block H Anchor area,
70523	Debris	A1	70077	358717	5929643	New	50 m buffer around position	Turbine TK P14, Wreck box 7000, Block H Anchor area
70524	Debris field	A1	70077	358706	5929625	New	50 m buffer around feature boundary	Turbine TK P14, Wreck box 7000, Block H Anchor area
70525	Magnetic	A1	70077	358727	5929624	New	50 m buffer around position	Turbine TK P14, Wreck box 7000, Block H Anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
70526	Debris	A1	70077	358735	5929595	New	50 m buffer around position	Wreck box 7000, Block H Anchor area
70527	Debris	A1	70077	358598	5929501	New	50 m buffer around position	Wreck box 7000, Block H Anchor area
70528	Debris	A1	70077	358661	5929498	New	50 m buffer around position	Wreck box 7000, Block H Anchor area
70529	Debris	A1	70077	358649	5929483	New	50 m buffer around position	Wreck box 7000, Block H Anchor area
70530	Debris	A1	70077	358674	5929484	New	50 m buffer around position	Wreck box 7000, Block H Anchor area
70545	Magnetic	A1	70077	361360	5925265	New	50 m buffer around position	IAC TK J19K to TK H20K, Block H Anchor area
70585	Debris field	A1	70077	353106	5933522	New	50 m buffer around feature boundary	IAC TK P05C to TK Q06D, Block K Anchor area
70593	Debris	A1	70077	356665	5933839	New	50 m buffer around position	IAC TK U10D to TK T09D, Wreck box 7137, Block K Anchor area
70601	Debris	A1	70077	354695	5930459	New	50 m buffer around position	Turbine TK L09, IAC TK N07D to TK L09D, IAC TK L09D to OSPW, Block F Anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
70621	Debris	A1	70077	356614	5926644	New	50 m buffer around position	Turbine TK G13, Wreck box 7003, Block F Anchor area
70622	Debris field	A1	70077	356611	5926632	New	50 m buffer around feature boundary	Turbine TK G13, Wreck box 7003, Block F Anchor area
70681	Magnetic	A1	70077	363548	5919585	New	50 m buffer around position	Block M Anchor area
70918	Debris field	A1	70077	362416	5919482	New	50 m buffer around position	Block A Anchor area
70982	Debris field	A1	70077	351820	5927739	New	50 m buffer around feature boundary	Block D Anchor area
70986	Debris	A1	70077	352014	5927437	New	50 m buffer around position	Block D Anchor area
70989	Magnetic	A1	70077	352752	5927198	New	50 m buffer around position	Block D Anchor area, ECR anchor area
71114	Debris	A1	70077	356484	5928641	New	50 m buffer around position	Wreck box 7002, Block F Anchor area
71127	Debris field	A1	70077	356280	5925960	New	50 m buffer around feature boundary	Wreck box 7005
71154	Magnetic	A1	70077	352848	5933908	New	50 m buffer around position	Block K Anchor area
71221	Debris	A1	70077	353921	5933767	New	50 m buffer around position	Wreck box 7122, Block K Anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
71222	Debris	A1	70077	353905	5933762	New	50 m buffer around position	Wreck box 7122, Block K Anchor area
71279	Debris field	A1	70077	359500	5926680	New	50 m buffer around feature boundary	Wreck box 7006, Block G Anchor area
71282	Debris field	A1	70077	359507	5926566	New	50 m buffer around feature boundary	Wreck box 7006, Block G Anchor area
71290	Debris field	A1	70077	358351	5925836	New	50 m buffer around feature boundary	Wreck box 7010, Block G Anchor area
71291	Debris field	A1	70077	358325	5925818	New	50 m buffer around feature boundary	Wreck box 7010, Block G Anchor area
71292	Debris	A1	70077	358354	5925822	New	50 m buffer around position	Wreck box 7010, Block G Anchor area
71344	Debris	A1	70077	358454	5929393	New	50 m buffer around position	Block H Anchor area
71472	Magnetic	A1	70077	359402	5933202	New	50 m buffer around position	Block J Anchor area
71503	Debris field	A1	70077	359244	5931034	New	50 m buffer around feature boundary	Wreck box 7011, Block J Anchor area
71506	Debris field	A1	70077	359263	5930988	New	50 m buffer around feature boundary	Wreck box 7011, Block J Anchor area
71507	Debris	A1	70077	359237	5930971	New	50 m buffer around position	Wreck box 7011, Block J Anchor area
71510	Debris	A1	70077	359252	5930960	New	50 m buffer around position	Wreck box 7011, Block J Anchor area



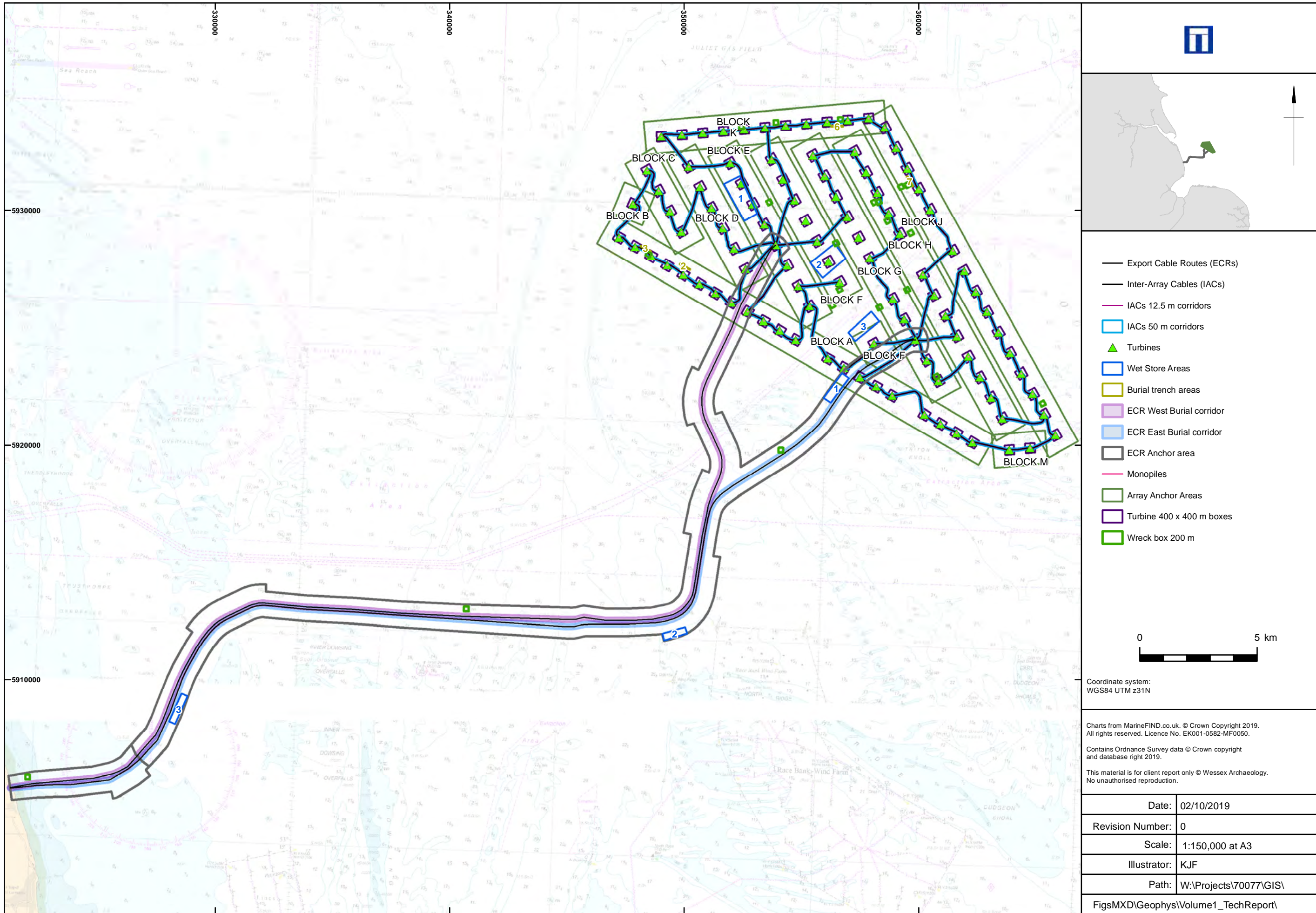
ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
71511	Debris	A1	70077	359247	5930959	New	50 m buffer around position	Wreck box 7011, Block J Anchor area
71513	Debris	A1	70077	359230	5930955	New	50 m buffer around position	Wreck box 7011, Block J Anchor area
71515	Debris field	A1	70077	359266	5930964	New	50 m buffer around position	Wreck box 7011, Block J Anchor area
71517	Debris	A1	70077	359246	5930924	New	50 m buffer around position	Wreck box 7011, Block J Anchor area
71522	Debris field	A1	70077	359516	5931132	New	50 m buffer around feature boundary	Wreck box 7007, Block J Anchor area
71523	Debris field	A1	70077	359547	5931153	New	50 m buffer around feature boundary	Wreck box 7007, Block J Anchor area
71524	Debris	A1	70077	359469	5931110	New	50 m buffer around position	Wreck box 7007, Block J Anchor area
71526	Debris field	A1	70077	359482	5931100	New	50 m buffer around feature boundary	Wreck box 7007, Block J Anchor area
71528	Debris field	A1	70077	359544	5931065	New	50 m buffer around feature boundary	Wreck box 7007, Block J Anchor area
71531	Debris	A1	70077	359541	5931016	New	50 m buffer around position	Wreck box 7007, Block J Anchor area
71533	Debris	A1	70077	359589	5931023	New	50 m buffer around position	Wreck box 7007, Block J Anchor area
71534	Debris	A1	70077	359533	5930990	New	50 m buffer around position	Wreck box 7007, Block J Anchor area



ID Number	Classification	Archaeological discrimination	Original assessment	Easting (central)	Northing (central)	Status	AEZ	Section
71535	Debris	A1	70077	359538	5930979	New	50 m buffer around position	Wreck box 7007, Block J Anchor area
71582	Debris	A1	70077	361073	5928626	New	50 m buffer around feature boundary	Block J Anchor area
71594	Debris field	A1	70077	361412	5927640	New	50 m buffer around position	Block J Anchor area
71677	Debris field	A1	70077	365292	5921786	New	50 m buffer around feature boundary	Wreck box 7012, Block J Anchor area
71678	Debris field	A1	70077	365311	5921772	New	50 m buffer around feature boundary	Wreck box 7012, Block J Anchor area

Notes

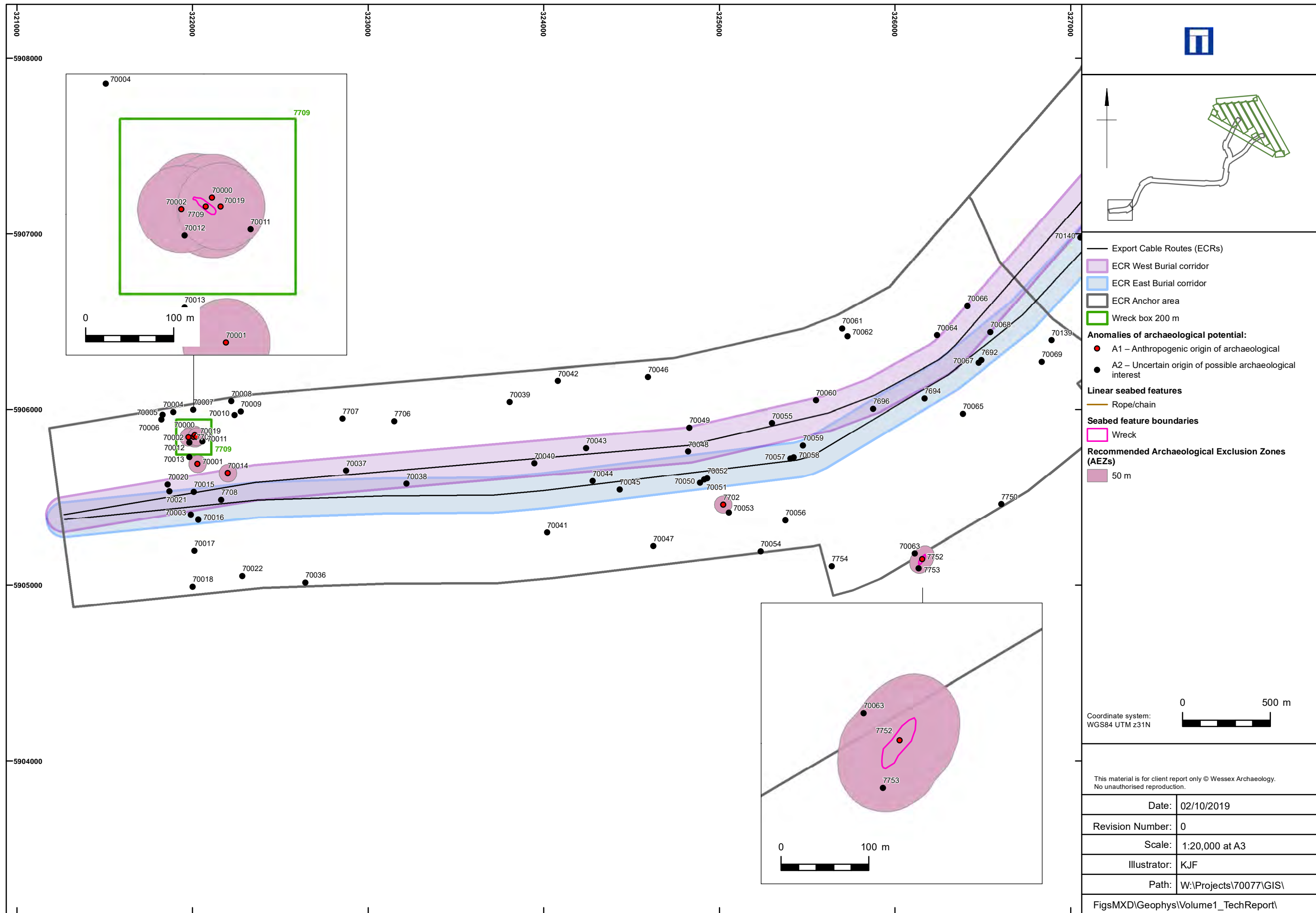
1. Co-ordinates represent the polygon centroid in WGS84 UTM31N



Location map

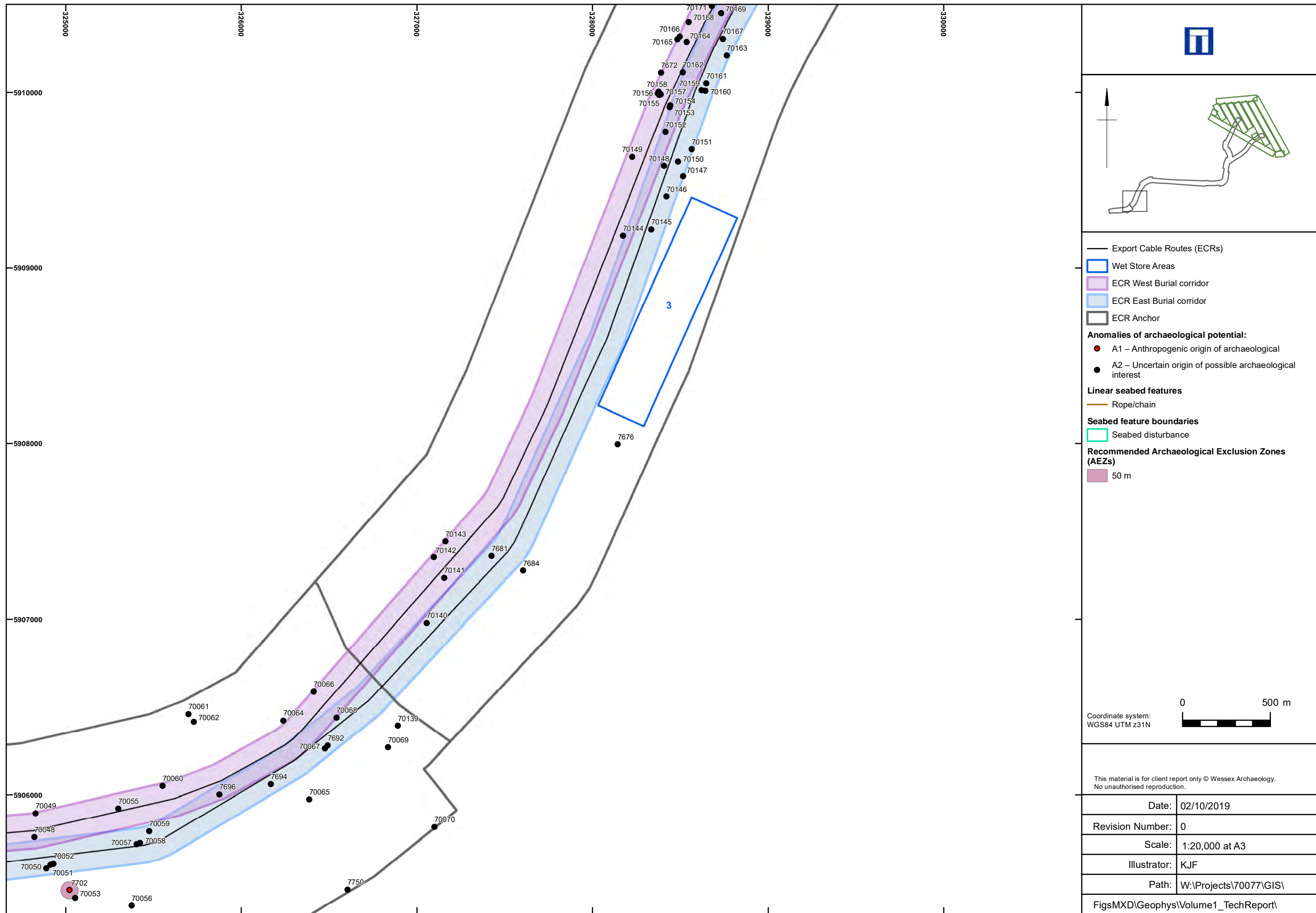
Figure 1

Coordinate system: WGS84 UTM z31N	
Charts from MarineFIND.co.uk. © Crown Copyright 2019. All rights reserved. Licence No. EK001-0582-MF0050.	
Contains Ordnance Survey data © Crown copyright and database right 2019.	
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.	
Date:	02/10/2019
Revision Number:	0
Scale:	1:150,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\ FigsMXD\Geophys\Volume1_TechReport\



Anomalies of archaeological potential and AEZs

Figure 2a

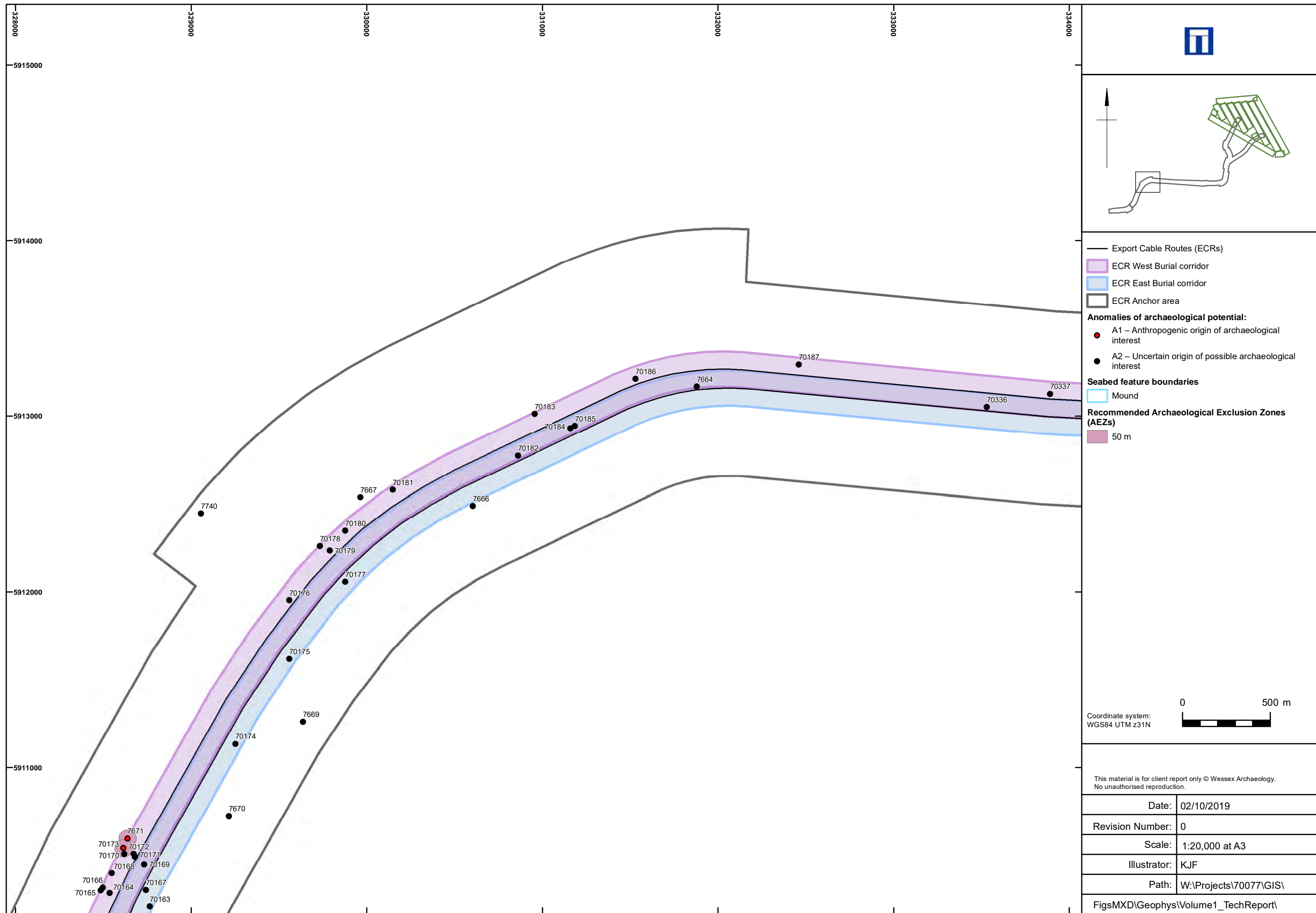


Anomalies of archaeological potential and AEZs

Figure 2b

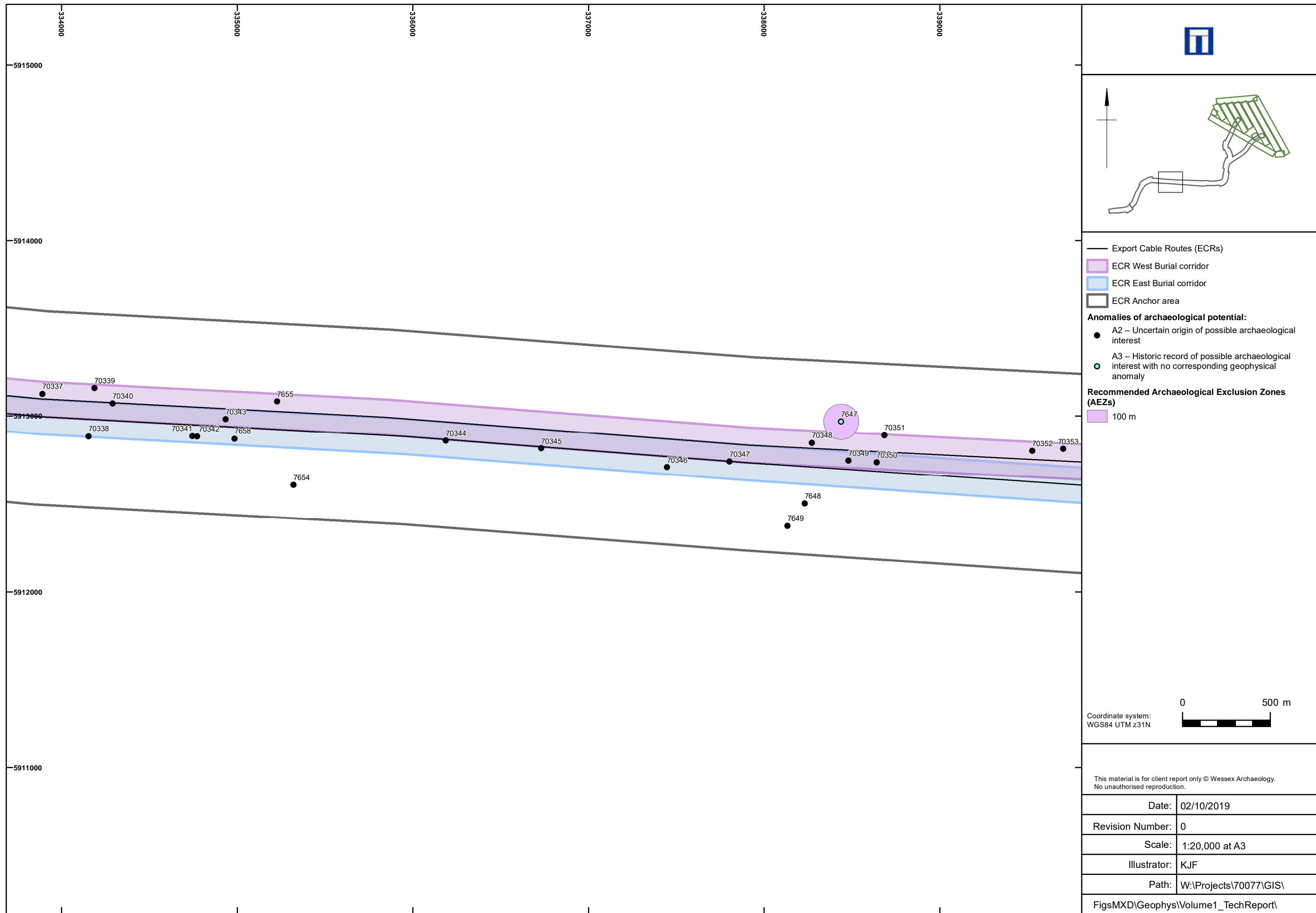
This material is for client report only © Wessex Archaeology.
No unauthorised reproduction.

Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\
FigsMXD\Geophys\Volume1_TechReport\	



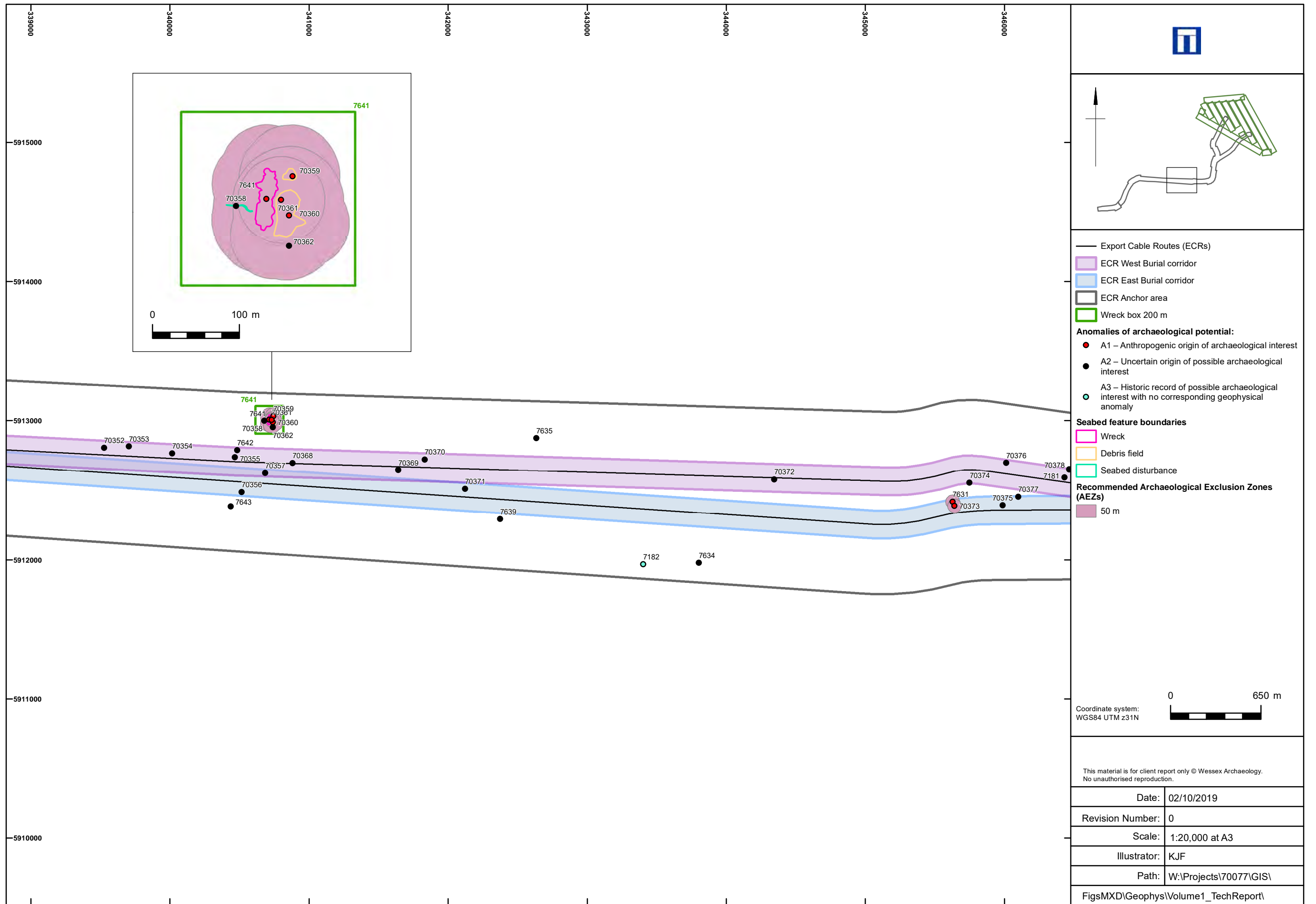
Anomalies of archaeological potential and AEZs

Figure 2c



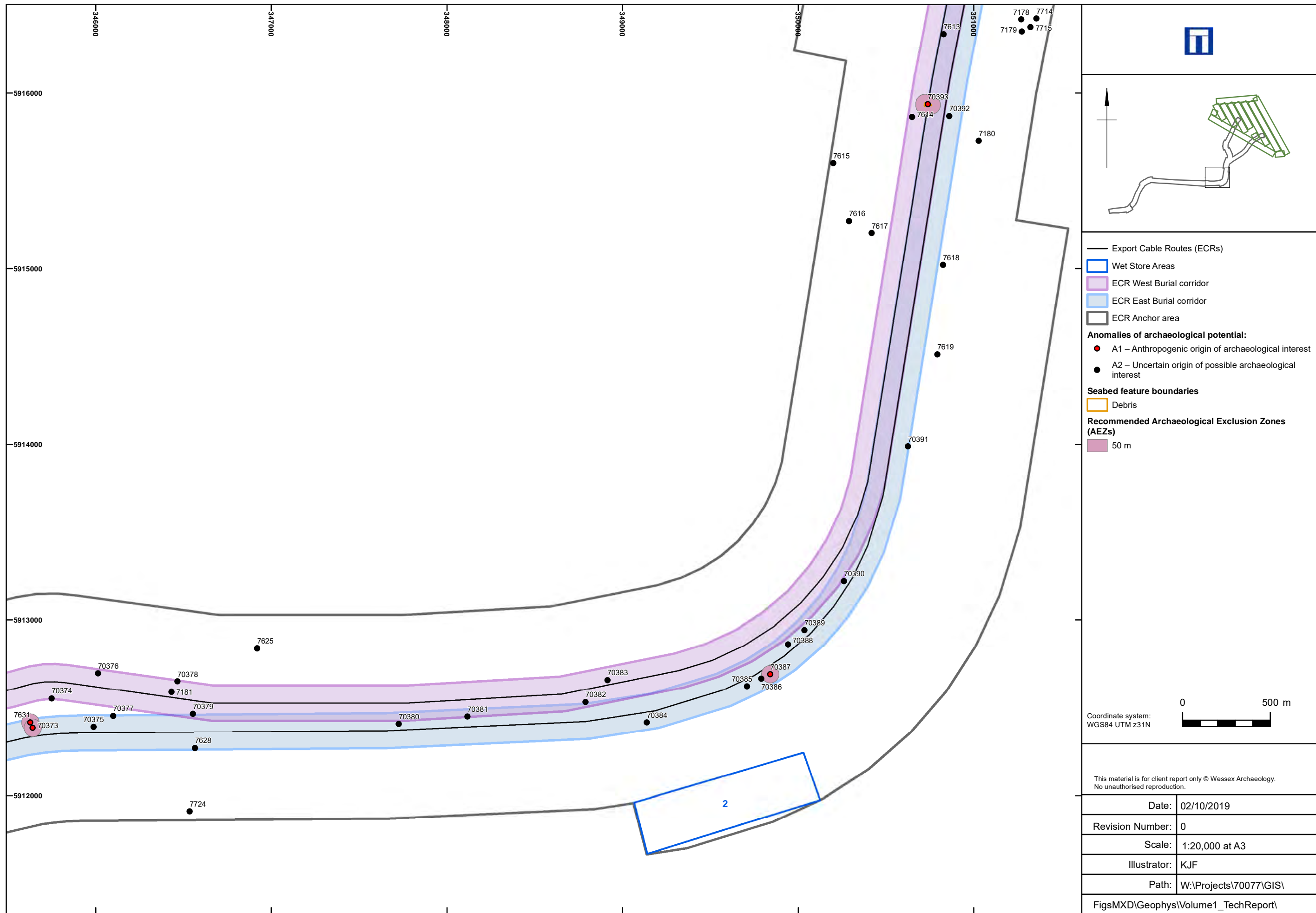
Anomalies of archaeological potential and AEZs

Figure 2d



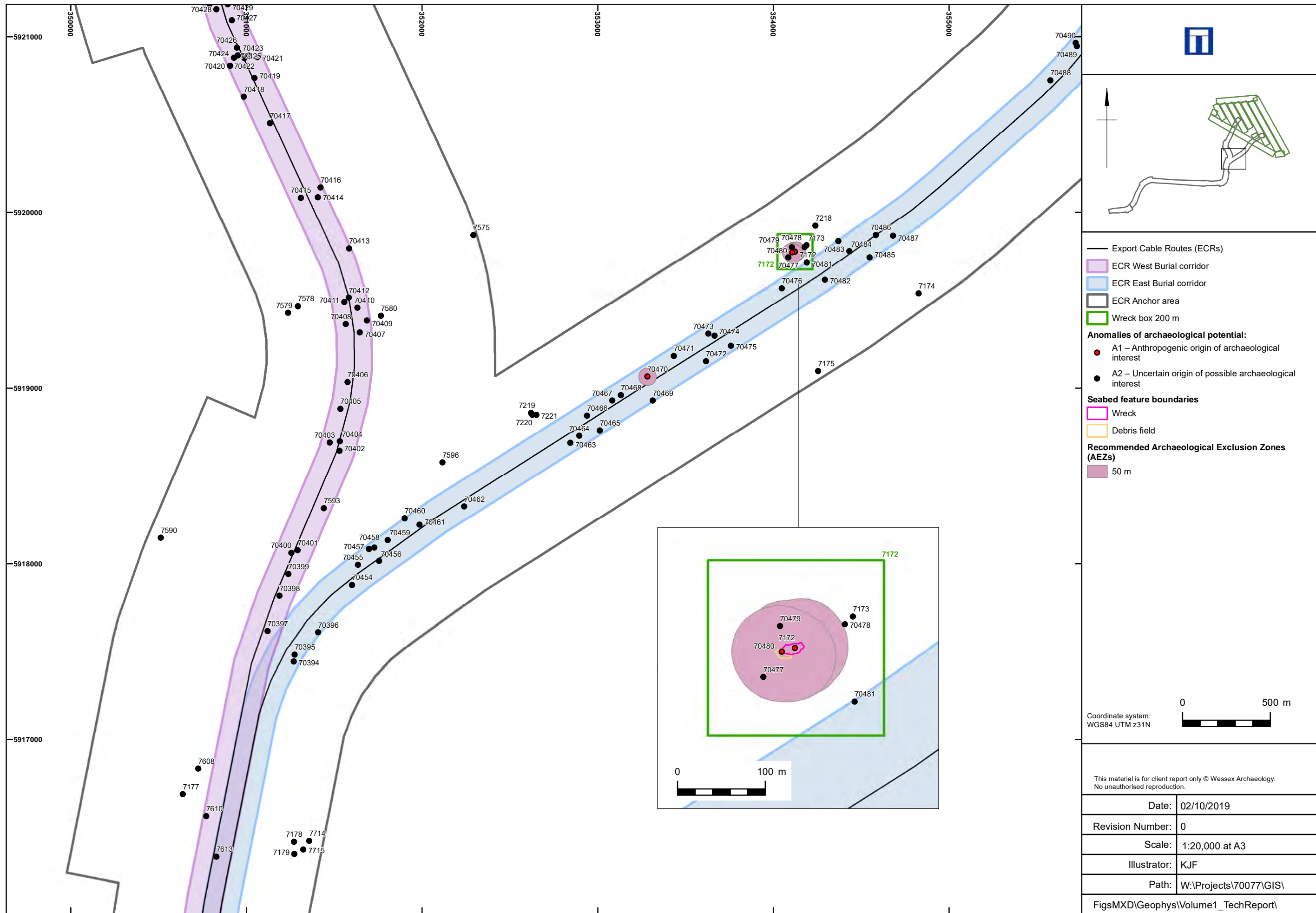
Anomalies of archaeological potential and AEZs

Figure 2e



Anomalies of archaeological potential and AEZs

Figure 2f

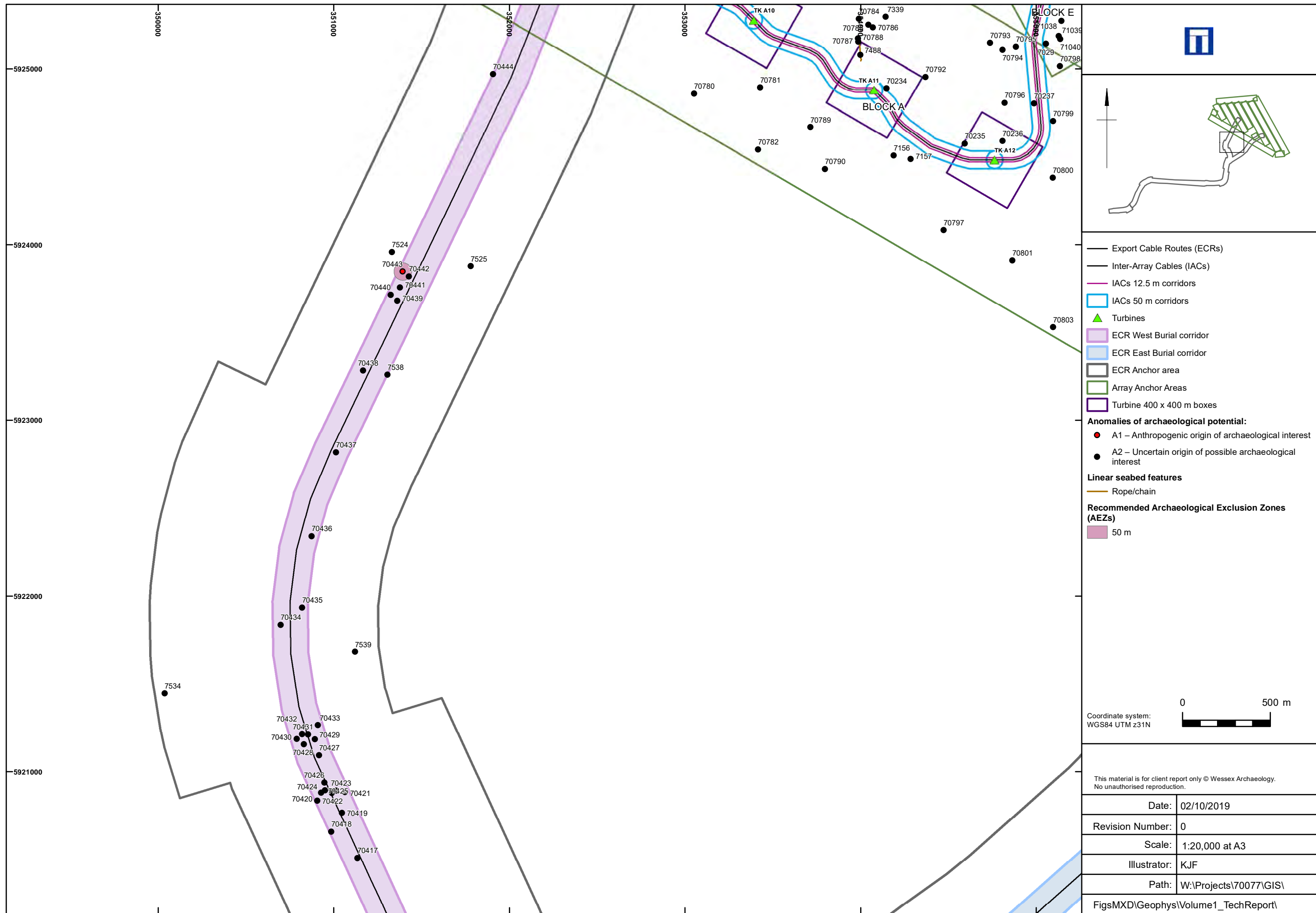


Anomalies of archaeological potential and AEZs

Figure 2g

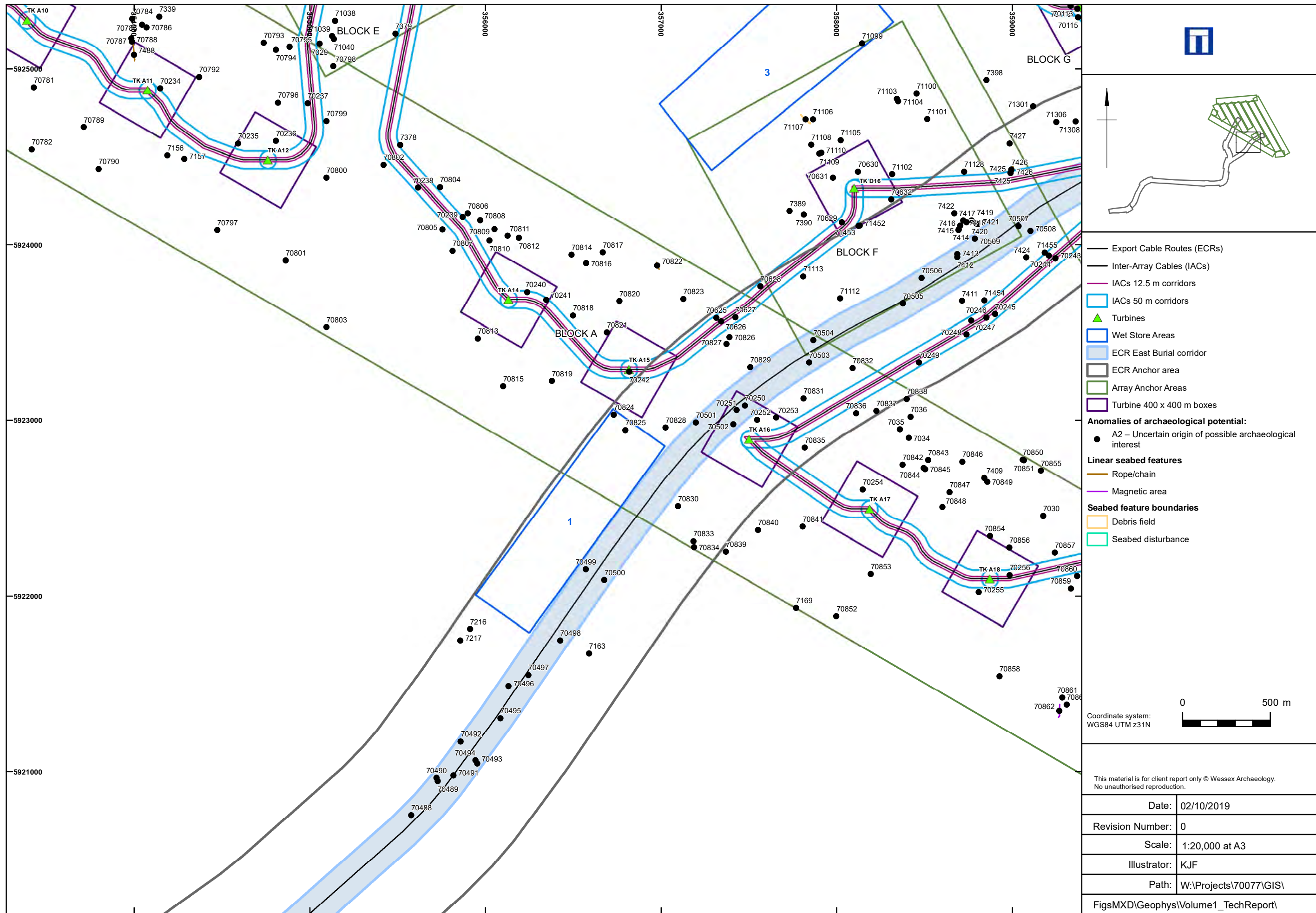
This material is for client report only © Wessex Archaeology.
No unauthorised reproduction.

Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\
FigsMXD\Geophys\Volume1_TechReport\	



Anomalies of archaeological potential and AEZs

Figure 2h

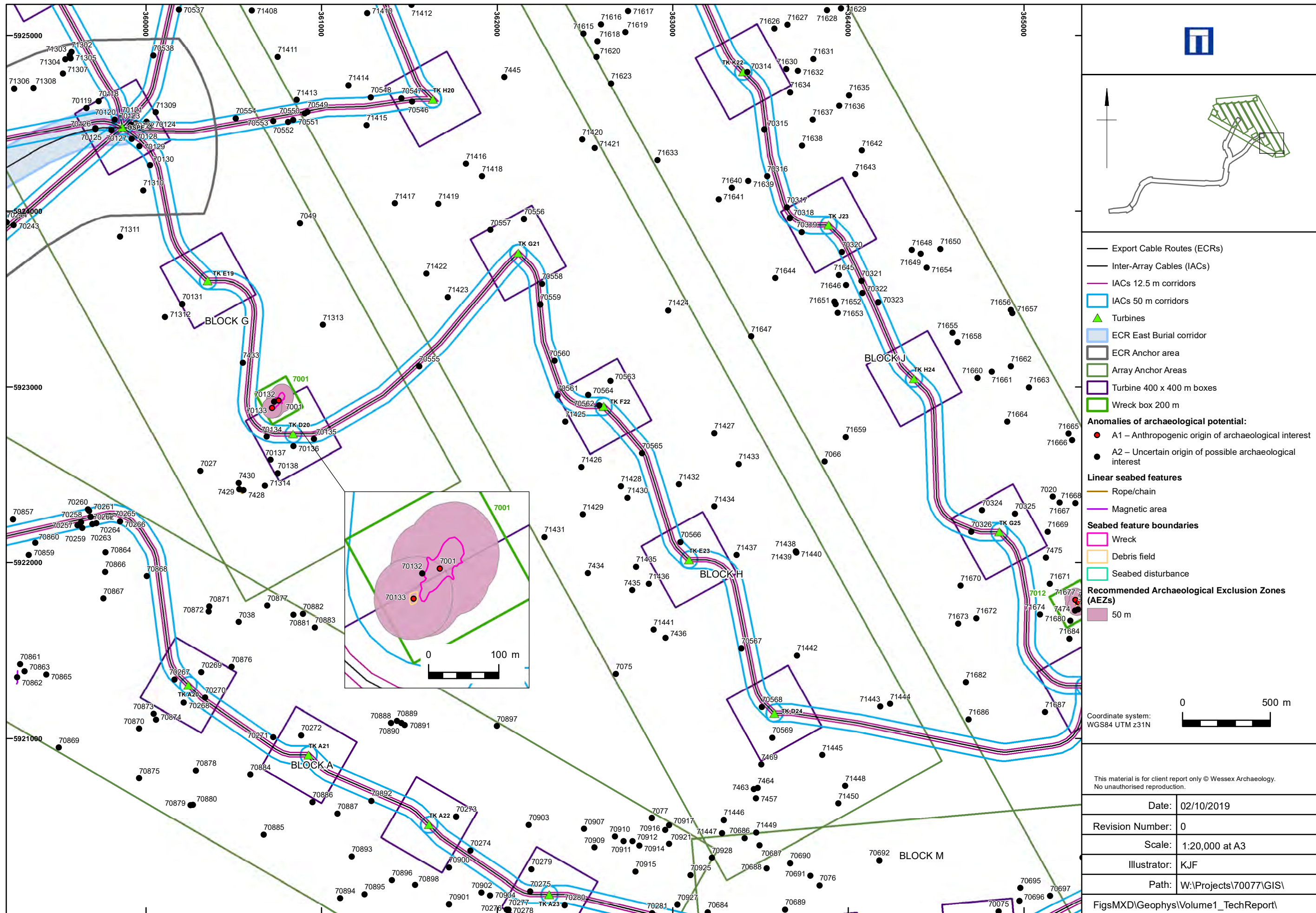


Anomalies of archaeological potential and AEZs

Figure 2i

This material is for client report only © Wessex Archaeology.
No unauthorised reproduction.

Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\ FigsMXD\Geophys\Volume1_TechReport\

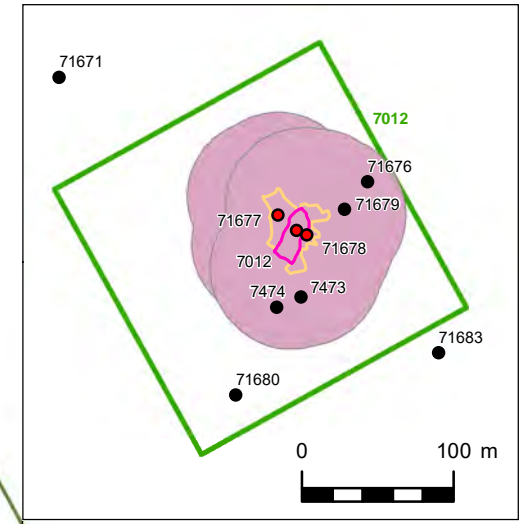
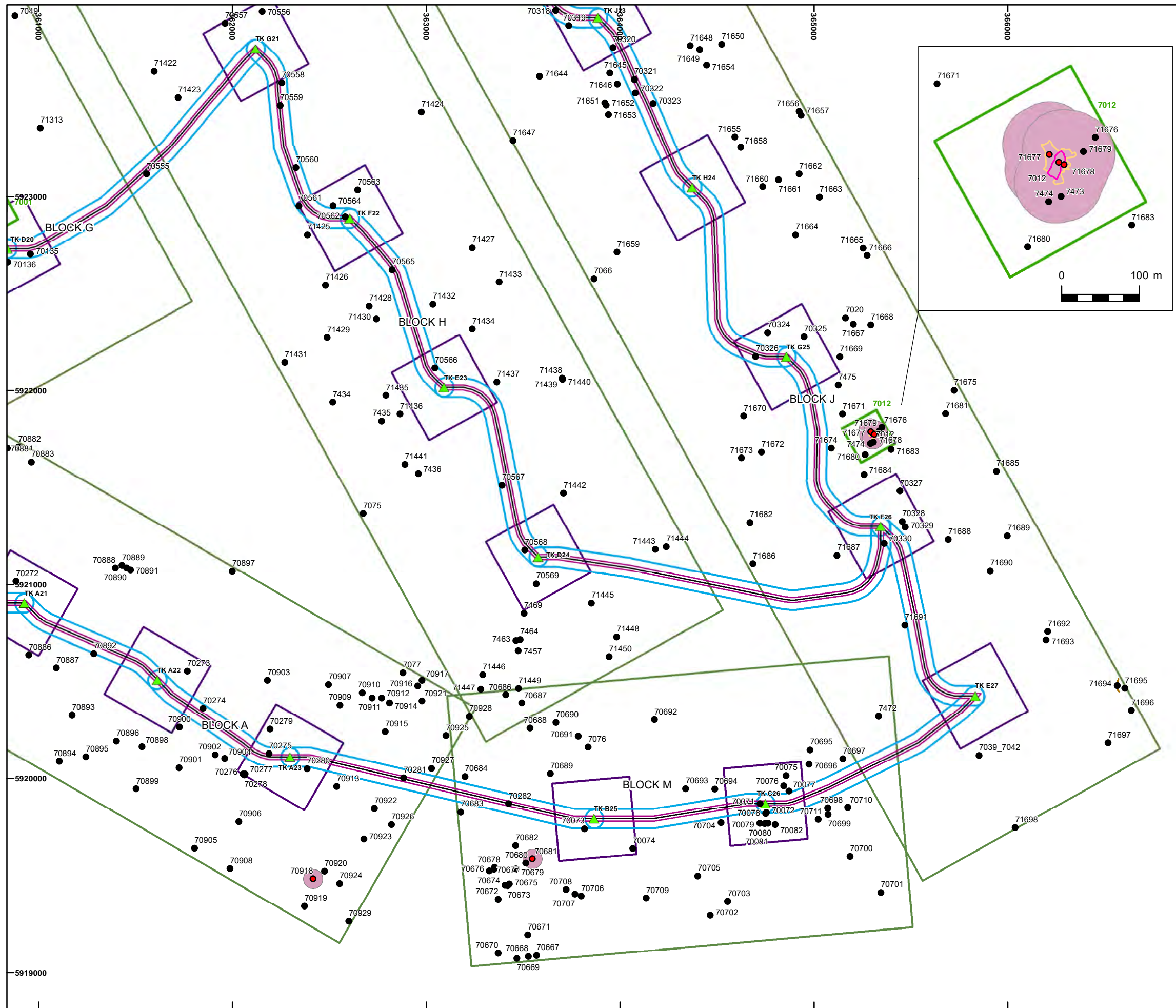



Anomalies of archaeological potential and AEZs


Figure 2j

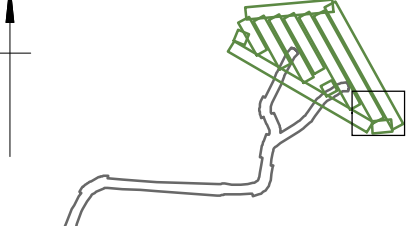
This material is for client report only © Wessex Archaeology.
 No unauthorised reproduction.

Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\ FigsMXD\Geophys\Volume1_TechReport\









- Inter-Array Cables (IACs)
- IACs 12.5 m corridors
- IACs 50 m corridors
- ▲ Turbines
- Array Anchor Areas
- Turbine 400 x 400 m boxes
- Wreck box 200 m

Anomalies of archaeological potential:

- A1 – Anthropogenic origin of archaeological
- A2 – Uncertain origin of possible archaeological interest

Linear seabed features


- Rope/chain

Seabed feature boundaries

- Wreck
- Debris field
- Seabed disturbance

Recommended Archaeological Exclusion Zones (AEZs)

- 50 m



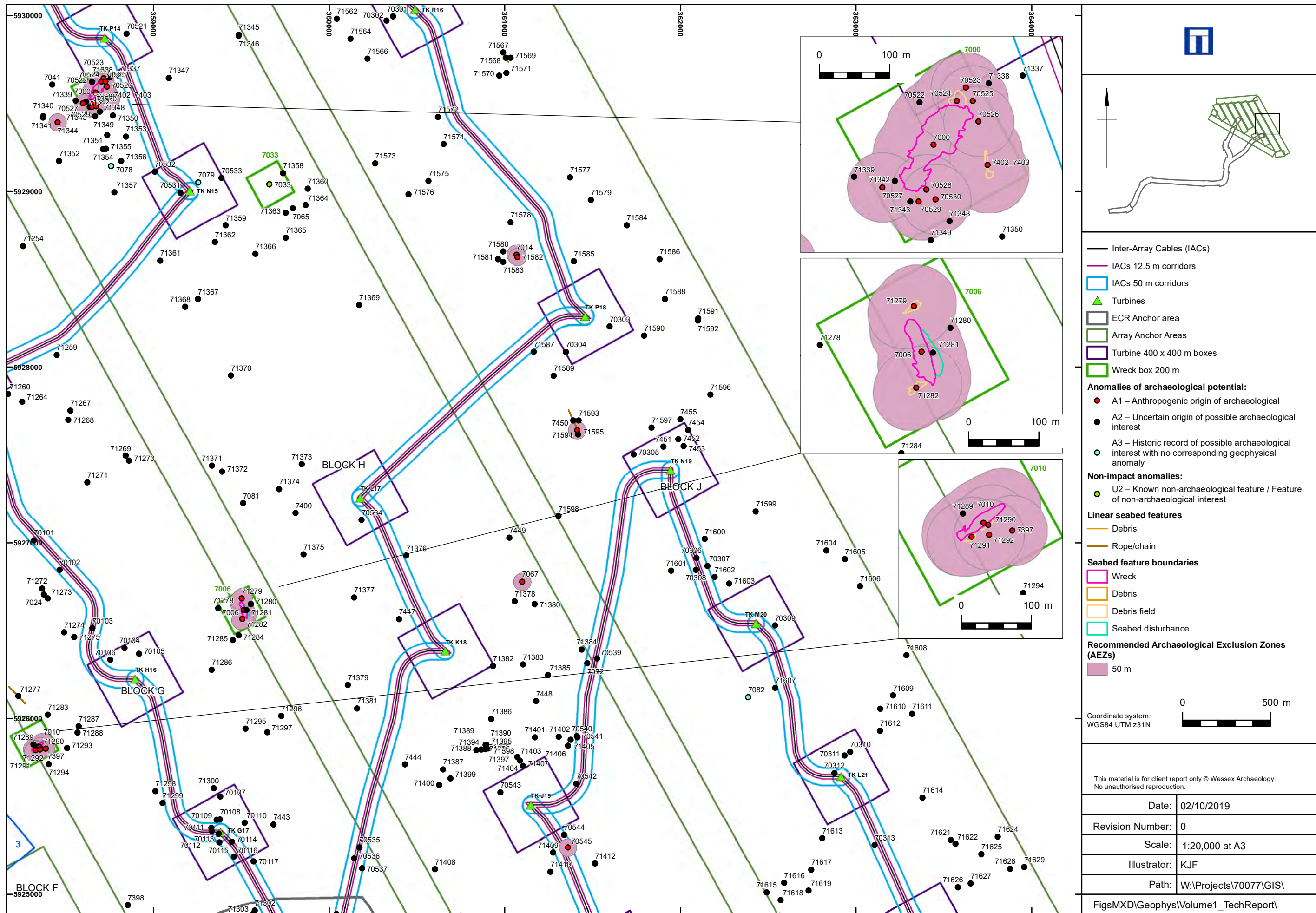
Coordinate system:
WGS84 UTM z31N

This material is for client report only © Wessex Archaeology.
No unauthorised reproduction.

Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\
FigsMXD\Geophys\Volume1_TechReport\	

Anomalies of archaeological potential and AEZs

Figure 2k



— Inter-Array Cables (IACs)
 — IACs 12.5 m corridors
 — IACs 50 m corridors
 ▲ Turbines
 □ ECR Anchor area
 □ Array Anchor Areas
 □ Turbine 400 x 400 m boxes
 □ Wreck box 200 m

Anomalies of archaeological potential:
 ● A1 – Anthropogenic origin of archaeological
 ● A2 – Uncertain origin of possible archaeological interest
 ● A3 – Historic record of possible archaeological interest with no corresponding geophysical anomaly
 ● U2 – Known non-archaeological feature / Feature of non-archaeological interest

Linear seabed features
 — Debris
 — Rope/chain

Seabed feature boundaries
 □ Wreck
 □ Debris
 □ Debris field
 □ Seabed disturbance

Recommended Archaeological Exclusion Zones (AEZs)
 ■ 50 m

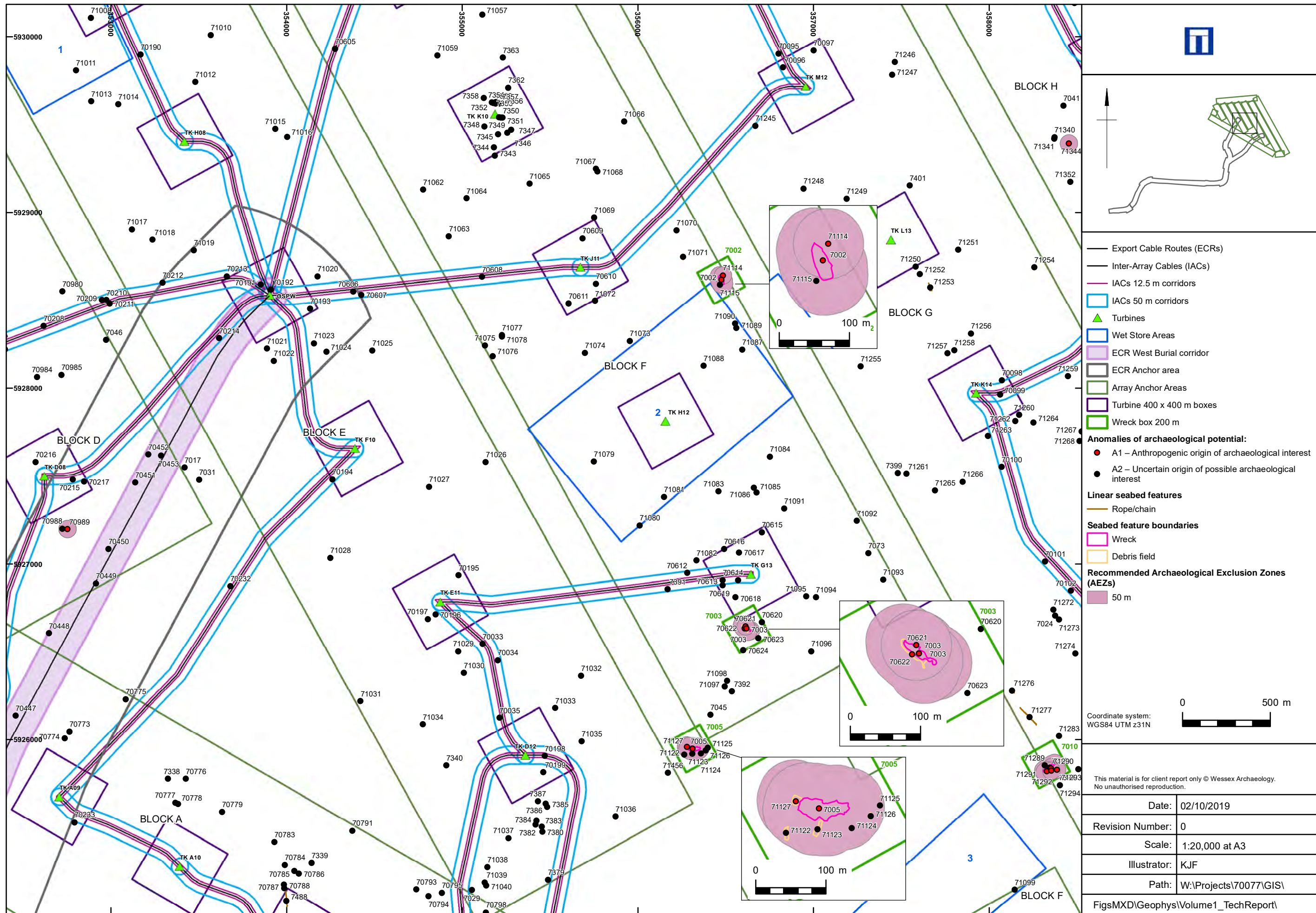
Coordinate system:
 WGS84 UTM z31N

This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\7007\GIS\FigsMXD\Geophys\Volume1_TechReport\

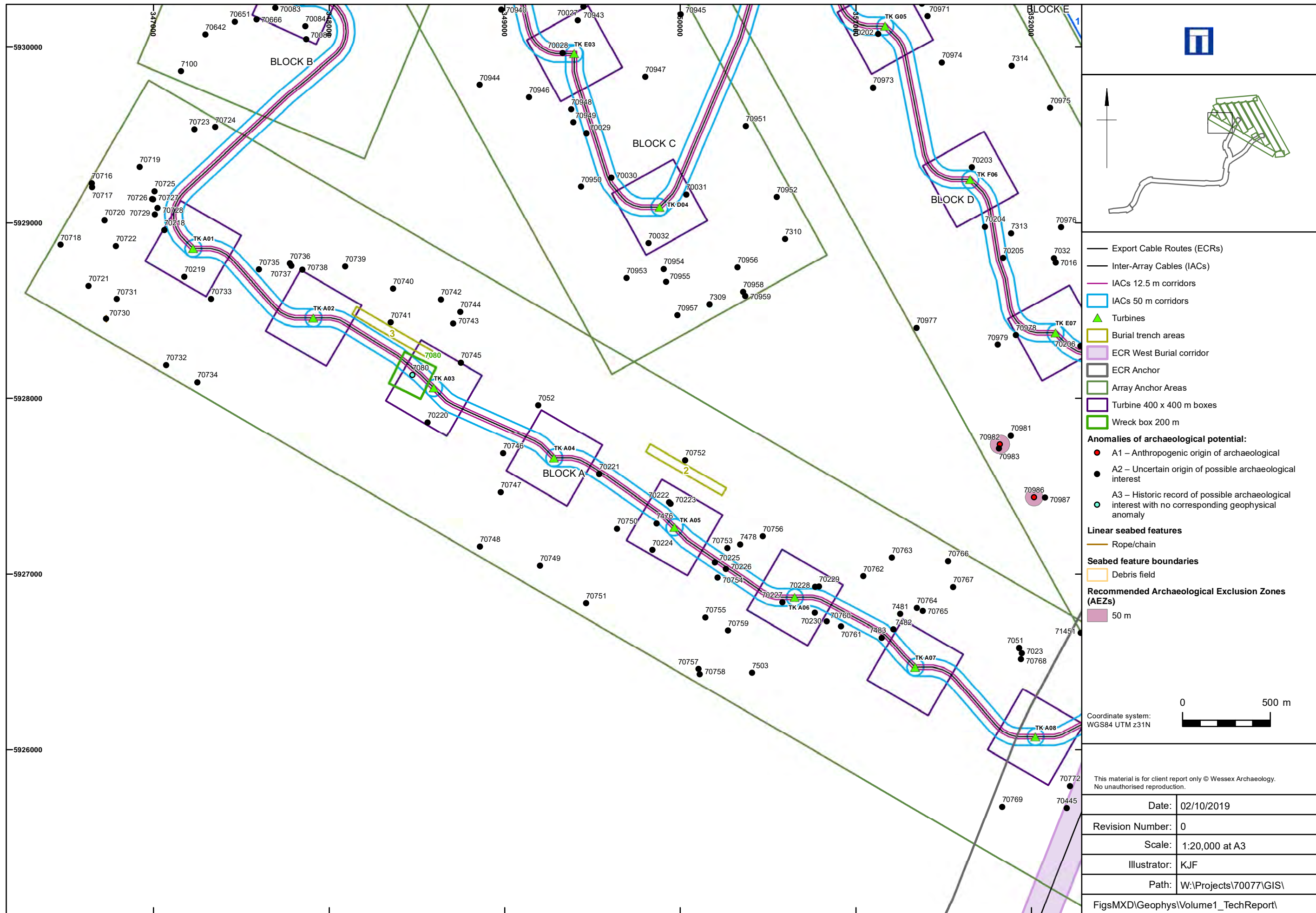
Anomalies of archaeological potential and AEZs

Figure 21



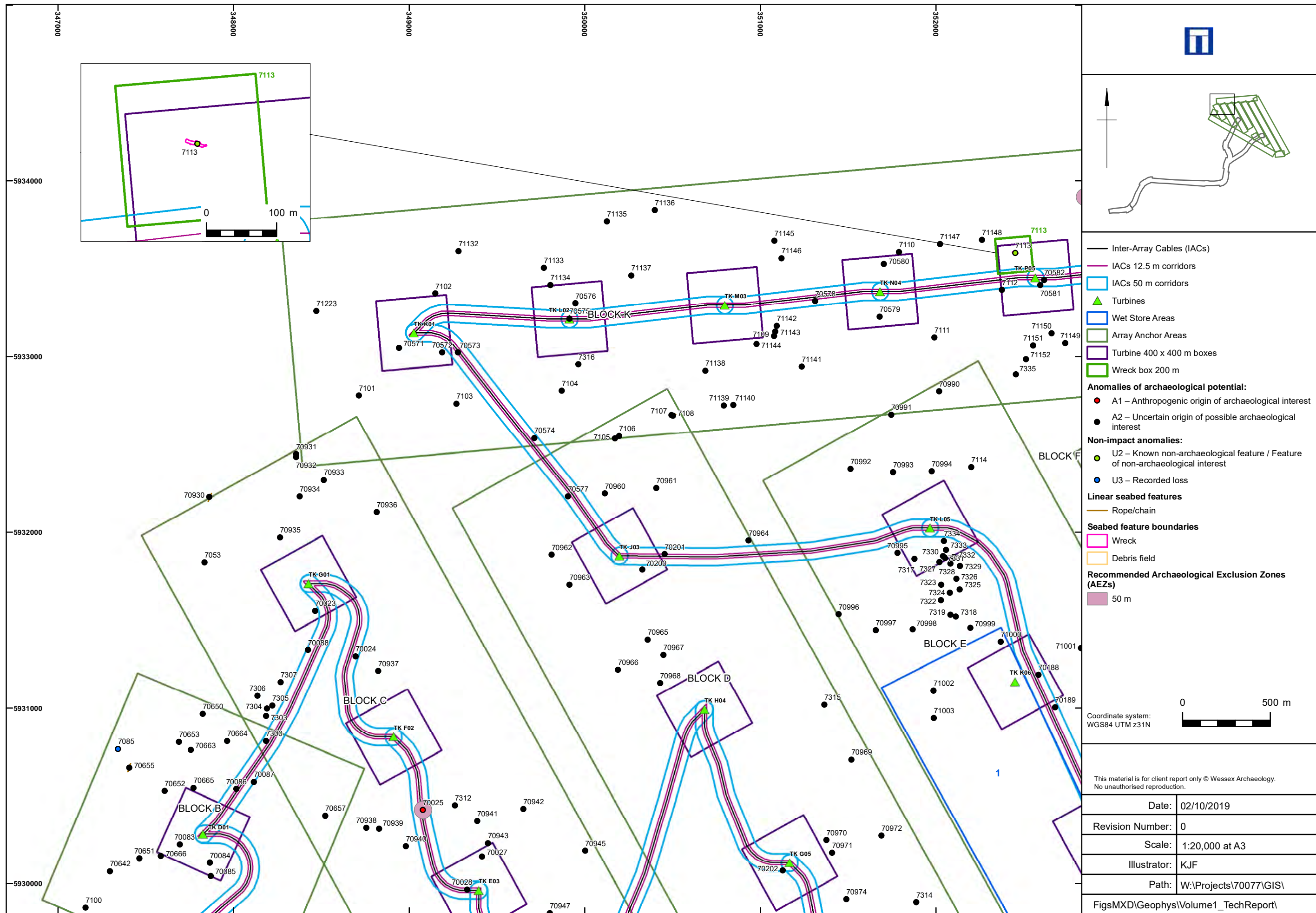
Anomalies of archaeological potential and AEZs

Figure 2m



Anomalies of archaeological potential and AEZs

Figure 2n

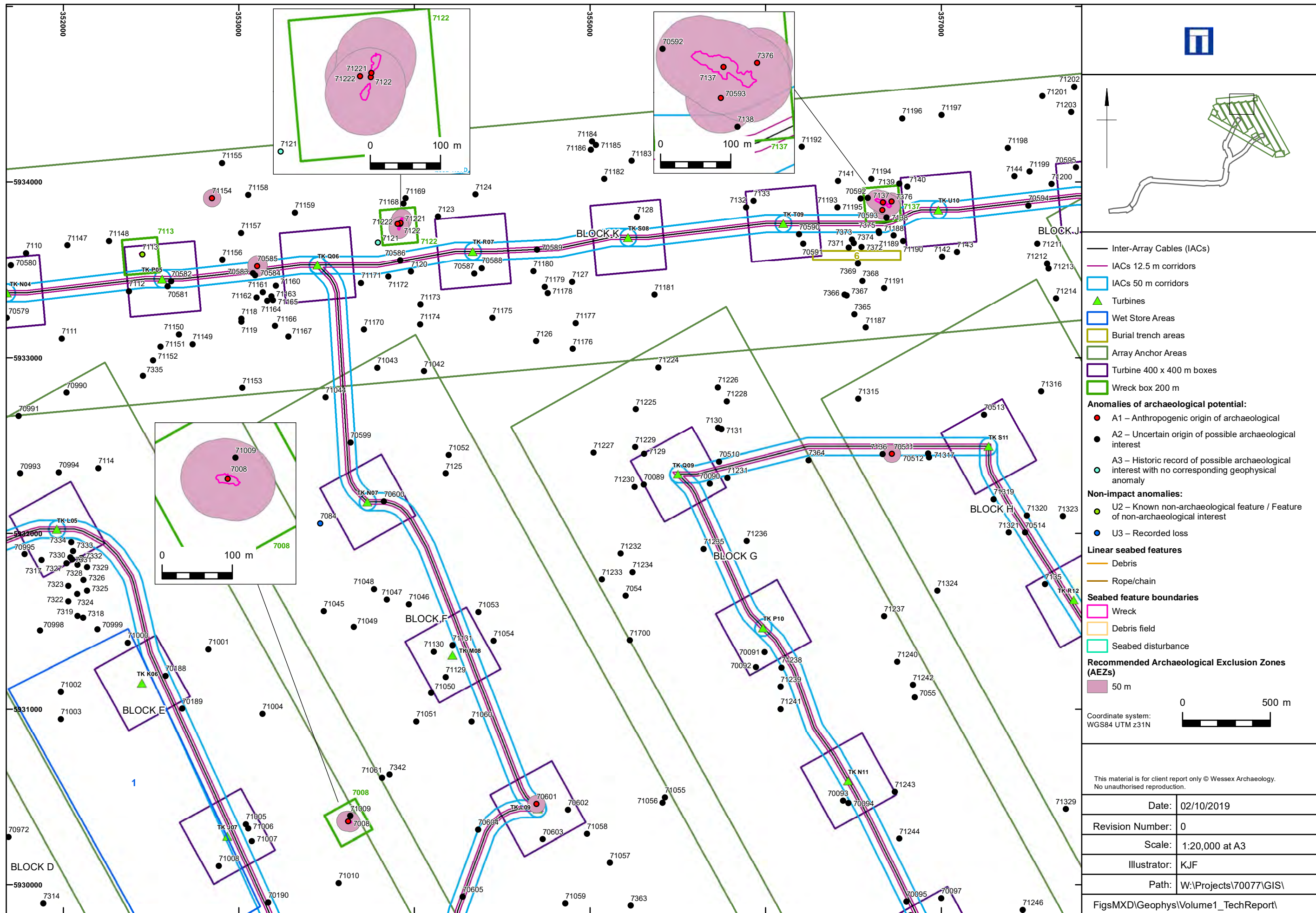


This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\FigsMXD\Geophys\Volume1_TechReport\

Anomalies of archaeological potential and AEZs

Figure 2o

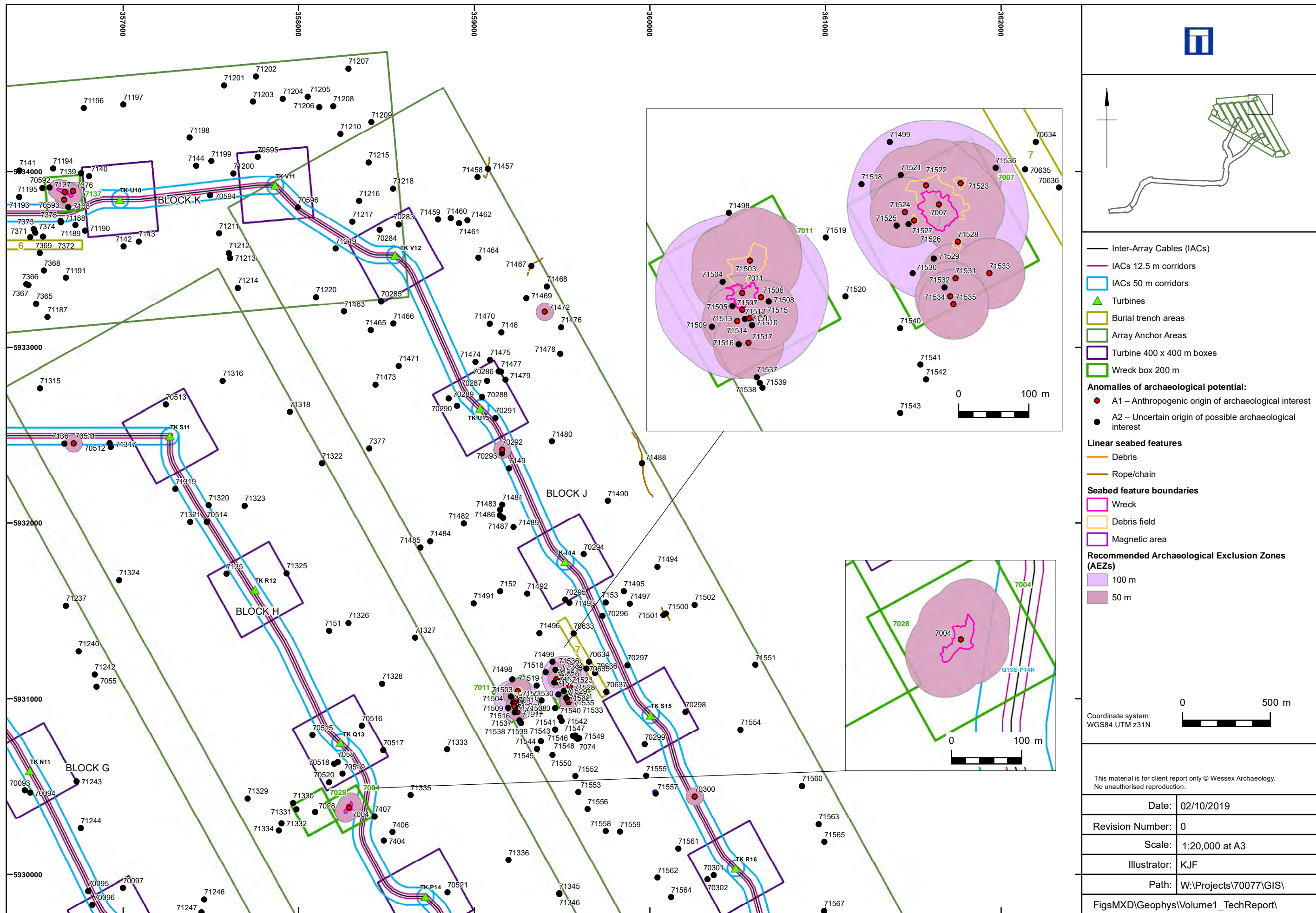


- Inter-Array Cables (IACs)
 - IACs 12.5 m corridors
 - IACs 50 m corridors
 - ▲ Turbines
 - Wet Store Areas
 - Burial trench areas
 - Array Anchor Areas
 - Turbine 400 x 400 m boxes
 - Wreck box 200 m
- Anomalies of archaeological potential:**
- A1 – Anthropogenic origin of archaeological
 - A2 – Uncertain origin of possible archaeological interest
 - A3 – Historic record of possible archaeological interest with no corresponding geophysical anomaly
- Non-impact anomalies:**
- U2 – Known non-archaeological feature / Feature of non-archaeological interest
 - U3 – Recorded loss
- Linear seabed features**
- Debris
 - Rope/chain
- Seabed feature boundaries**
- Wreck
 - Debris field
 - Seabed disturbance
- Recommended Archaeological Exclusion Zones (AEZs)**
- 50 m
- Coordinate system:
WGS84 UTM z31N

This material is for client report only © Wessex Archaeology. No unauthorised reproduction.	
Date:	02/10/2019
Revision Number:	0
Scale:	1:20,000 at A3
Illustrator:	KJF
Path:	W:\Projects\70077\GIS\FigsMXD\Geophys\Volume1_TechReport\

Anomalies of archaeological potential and AEZs

Figure 2p



Anomalies of archaeological potential and AEZs

Figure 2q



Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk

