

Proposed Nuclear Power Station Wylfa, Ynys Môn

Preliminary outline interpretation of potential
archaeological magnetic gradient anomalies



Ymddiriedolaeth Archaeolegol Gwynedd
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Preliminary outline interpretation of potential archaeological magnetic gradient anomalies in Phase 1 area, Wylfa

This document lists and interprets non-ferrous and non-geological magnetic gradient anomalies from Wylfa Phase 1 area. The individual anomalies are presented on a drawing overlaid on magnetic gradient data and a background map provided by Fugro. Each anomaly is interpreted and the level of confidence of the interpretation and the potential importance of the archaeological resource are recorded. The interpretation of archaeological anomalies depends on recognising the morphology of a feature in plan and there are often several possible interpretations. Alternative interpretations are therefore noted in the table along with level of confidence and potential importance of the resource.

Gradiometer surveys can detect a wide range of buried archaeological features such as linear ditches, thermoremnant anomalies such as kilns and hearths, buildings, walls and pits. It should, however, be stressed that it can not be assumed that geophysical survey will detect all archaeological features. Some features such as Neolithic settlement may only survive as small discrete postholes that are too small to be detected by most surveys, graves may be filled with the same soil as the surroundings and thus be undetectable and sometimes there is no magnetic difference between the archaeology and natural subsoil. A good example of the latter is a recent gradiometer survey at Abergwyngregyn for the Snowdonia National Park Authority which produced few recognisable anomalies. Full excavation revealed complex archaeology of national importance across the whole of the survey area including substantial stone buildings, pits and industrial remains.

Key

Anomaly Number – Recorded on associated interpretation plan

Interpretation – Interpretation of the anomaly based on its shape in plan and the strength of the magnetic gradient when compared to known archaeological site types

Confidence- The level of confidence of the interpretation. Some archaeological anomalies can be identified with a high degree of confidence, e.g. the distinctive outline of a Roman fort. Most anomalies cannot however be interpreted with a high level of certainty. Linear ditches could be assigned to many periods and functions and very weak anomalies, for example those produced by prehistoric settlement and cemeteries can be difficult to distinguish from natural subsoil variations and periglacial features.

Confidence is scored as:

H – High, the anomaly can be recognized from its shape or form as a recognizable site type.

M- Medium, the anomaly can be provisionally allocated to a site type or more general category.

L- Low- Amorphous and weak anomalies that can be provisionally allocated to a site type.

Categories of Importance- The following categories are used to define the importance of the archaeological resource. The criteria used for assessing the value of features was based upon those used by the Welsh Assembly Government when considering sites for protection as scheduled ancient monuments, as set out in the Welsh Assembly circular 60/96.

Category A - Sites of National Importance.

This category includes Scheduled Ancient Monuments and Listed Buildings of grade II* and above, as well as those sites that would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both.

Sites that are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

Category B - Sites of Regional Importance

This category includes grade II Listed Buildings and sites which would not fulfill the criteria for scheduling, but which are nevertheless of particular importance within the region. Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative.

Category C - Sites of District or Local Importance

These sites are not of sufficient importance to justify a recommendation for preservation if threatened, but nevertheless merit adequate recording in advance of damage or destruction.

Category D - Minor and Damaged Sites

These are sites, which are of minor importance, or are so badly damaged that too little remains to justify their inclusion in a higher category. For these sites rapid recording either in advance or during destruction, should be sufficient.

Category E - Sites needing further investigation

Sites, the importance of which is as yet undetermined and which will require further work before they can be allocated to categories A-D, are temporarily placed in this category, with specific recommendations for further evaluation. By the end of the assessment there should be no sites remaining in this category, unless they will not be affected by the proposed works. Sometimes shown with potential range of importance e.g. A-C (E)

Category F – Non archaeological site

Not a WAG recognized category but used here for modern features such as pipe trenches and buried cables etc.

Table 1 – Interpretation of magnetic gradient anomalies

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-01	Former field boundary, unclear as aligned with traverse direction	M	D	Modern disturbance, possibly a track or even a data gathering artefact	M	D
A-02	Modern disturbance associated with pipeline	M	F	Former field boundary or enclosure bank.	L	B-C
A-03	Minor feature, probably agriculture or fragments of former field boundaries shown on 1889/1924 OS County Series maps	M	C-D			
A-04	Minor features, probably agriculture or fragments of former field boundaries shown on 1889/1924 OS County Series maps	M	C-D			
A-05	Roughly concentric circular anomalies. Modern disturbance associated with Wylfa A construction	H	F	Multivallate prehistoric enclosure or settlement	L	A-B
A-06	Modern surface track/footpath	H	F			
A-07	Minor feature, probably agricultural	M	F			
A-08	Narrow trench, probably modern carrying a pipe or cable	H	F			
A-09	Narrow trench, probably modern carrying a pipe or cable	H	F	Possibly a narrow ditch forming an enclosure with A-13	L	B-D
A10	Double parallel anomaly, probably former field boundary shown on 1889/1924 OS County Series maps	H	C-D	Narrow double feature, probably modern trench carrying a pipe or cable.	L	F

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-11	Meandering feature, probably agricultural or pipe trench	M	F	Possibly a narrow ditch, former boundary or enclosure	L	C-D
A-12	Meandering feature, probably agricultural or pipe trench, continuation of A-11	M	F	Possibly a narrow ditch, former boundary or enclosure	L	C-D
A-13	Narrow curvilinear trench, possibly modern carrying a pipe or cable	M	F	Possibly a narrow ditch forming an enclosure with A-09	L	B-D
A-14	Faint curvilinear features with some additional associated noise. Either natural subsoil variation or agricultural / modern disturbance	H	F	Possibly slight remains of prehistoric settlement, pits and enclosures. Fairly unlikely however	L	A-B
A-15	Small discrete circular anomaly, either natural or a processing artefact	M	F	Small round barrow, prehistoric or Roman. Possible but unlikely	L	A-B
A-16	Parallel anomalies, modern ploughing as opposed to medieval ridge and furrow	H	D	The central (NW – SE) wider anomaly could be a former field boundary shown on 1889/1924 OS County Series maps	M	C-D
A-17	?Modern surface track/footpath, continuation of A-06	H	F			
A-18	Former field boundary shown on 1889 OS map	H	C-D			
A-19	Long curvilinear feature, possibly a former trackway	M	B-C	Modern disturbance	M	F
A-20	Mound visible on 1948 aerial photograph, natural feature	M	F	Prehistoric barrow	L	A-B
A-21	Mound visible on 1948 aerial photograph, natural feature	M	F	Prehistoric barrow	L	A-B
A-22	Widely spaced parallel linear anomalies, poss. former field boundary	M	C-D	Agriculture or modern disturbance	M	F

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-23	Parallel linear anomalies, former field boundary	M	C-D	Agriculture or modern disturbance	M	F
A-24	Faint linear anomaly, drainage or former boundary	M	C-D			
A-25	Strong roughly circular anomaly 20m diam, central feature. Possibly prehistoric settlement or funerary monument. Requires further evaluation	M	A-B (E)	Modern disturbance	L	F
A-26	Faint linear anomaly, drainage or former boundary	M	C-D			
A-27	Two linear anomalies with right angle turn. Agriculture or modern disturbance	M	D	Enclosure or boundary ditches	L	B-D
A-28	Linear anomaly. Agriculture or modern disturbance	M	D			
A-29	Linear anomaly. Agriculture or modern disturbance	M	D			
A-30	Former boundary and footpath shown on 1889 OS map	H	C-D			
A-31	Former track from Tyddyn Du	H	C			
A-32	Former boundary and drain shown on 1889 OS map	H	C-D	Modern disturbance	M	F
A-33	Linear anomaly possibly former boundary or drainage	M	C-D			
A-34	Narrow linear anomaly, possibly a drain	L	D	Agriculture or modern disturbance	M	F
A-35	Narrow linear anomaly, possibly a drain	L	D	Agriculture or modern disturbance	M	F
A-36	Oval anomaly, recent disturbance	M	F	Unknown archaeological feature	L	E

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-37	Linear anomaly possibly former boundary	M	C-D	Modern disturbance	M	F
A-38	Modern disturbance	M	F	Ditched enclosure poss. prehistoric	L	A-C
A-39	Linear anomaly, possibly former boundary or drainage	M	C-D	Modern feature	L	F
A-40	Large oval anomaly, quarry pit	M	C-D	Modern disturbance	M	F
A-41	Modern disturbance poss. former access track	M	F	Curvilinear anomaly possibly part of former boundary or enclosure	M	B-D
A-42	Modern disturbance	M	F	Curvilinear anomaly possibly part of former boundary or enclosure	M	B-D
A-43	Modern disturbance poss. former access track	M	F			
A-44	Linear anomaly, possibly former boundary or drainage	M	C-D			
A-45	Former boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-46	Two linear anomalies, probably modern drainage or agriculture	H	F			
A-47	Linear anomaly, crosses modern boundaries, post-medieval field boundary	M	C-D			
A-48	Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-49	Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-50	Former field boundary possible continuation of A-49	H	C-D			

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-51	Weak linear anomaly, possible former field boundary	M	C-D			
A-52	Double parallel linear anomaly, former trackway	M	C-D	Linear anomaly, possibly former double ditched boundary	M	C-D
A-53	Linear anomaly crosses current field system possibly former early boundary	M	C-D			
A-54	Ferrous and linear anomaly modern services	H	F			
A-55	Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-56	Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-57	Linear anomaly possibly former boundary or drain	M	C-D			
A-58	Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-59	Curvilinear anomaly, drainage channel	M	D			
A-60	Curvilinear anomaly, drainage channel, continuation of A-59	M	D			
A-61	Linear anomaly, former boundary or drain	M	C-D			
A-62	Plough scarring, prob. modern	H	F			
A-63	Field drains	H	F			
A-64	Field drains	H	F			

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-65	Linear anomaly, former boundary or drain	M	C-D			
A-66	Linear anomaly, former boundary	M	C-D			
A-67	Circular anomaly, 40m diameter. Elevated position with good views in most directions. Prehistoric enclosure or settlement	H	A-B			
A-68	Area of noise, possible activity associated with A-67	M	E	Modern disturbance or landscaping	L	F
A-69	Linear anomaly, former boundary or enclosure	M	C-D			
A-70	Modern dumping	H	F			
A-71	Weak circular anomaly, 40m diameter. On lower slopes close to shore. Prehistoric enclosure or settlement	M	A-B	Modern disturbance, not a typical position for a prehistoric enclosure.	M	F
A-72	Linear anomaly, former boundary	M	C-D			
A-73	Parallel anomalies, modern drainage or ploughing	H	F			
A-74	Parallel anomalies, modern drainage or ploughing	H	F			
A-75	Linear anomaly, former boundary, part of current field system	M	C-D			
A-76	Group of linear anomalies and increased noise. Early boundaries and settlement (medieval or post-medieval)	M	B-C (E)	Modern disturbance	L	F
A-77	Linear anomaly, former boundary	M	C-D			

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-78	Circular anomaly, modern disturbance	M	F	Circular anomaly, 40m diameter. Prehistoric enclosure or settlement	L	A-B
A-79	Broken and forking linear, prob boundaries on edge of marsh	M	C-D	Modern disturbance	L	F
A-80	A series of linear anomalies at approx right-angles. Medieval or post-medieval field system	M	B-D	Modern drainage	L	F
A-81	Faint linear anomalies, probably ploughing or drainage	L	D			
A-82	Data artefact?	M	F	Modern services / drain	L	F
A-83	Fragmentary double linear anomaly, former trackway	M	D	Modern erosion	L	F
A-84	Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-85	Two curvilinear anomalies, former boundaries, poss. prehistoric or medieval	M	B-C	Modern disturbance	L	F
A-86	Linear and rectangular anomalies. Medieval or post-medieval settlement/buildings	M	A-C (E)	Geology or modern disturbance	L	F
A-87	Curvilinear anomaly, modern disturbance	M	F	Circular anomaly, prehistoric enclosure or settlement	L	A-B
A-88	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D			
A-89	Footpath shown on 1889 and 1924 Ordnance Survey County Series maps					
A-90	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-91	Semi-circular anomaly on top of a rounded natural hill. Probably part of a circular prehistoric enclosure or settlement	M-H	A-B			
A-92	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-93	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-94	Possible terracing, medieval or prehistoric field system	M	B-C	Modern drainage or agricultural features	M	F
A-95	Former field boundaries shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-96	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-97	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-98	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-99	Rectangular and ferrous or thermo-remnant anomaly, Enclosure and building unknown date	M	A-D (E)	Modern disturbance	L	F
A-100	Area of increased noise, post medieval or modern landscaping	M	D	Geology	L	F
A-101	Area of increased noise, post medieval or modern landscaping	M	D	Geology	L	F

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-102	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-103	Area of increased noise, post medieval or modern landscaping	M	D	Geology	L	F
A-104	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-105	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-106	Weak linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-107	Linear anomaly, part of a field system predating current 18th/19 th century system	L-M	C-D	Geology	L	F
A-108	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-109	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-110	Curvilinear anomaly, coincides with shelf in field. Possible medieval or prehistoric settlement enclosure.	M	A-B	Modern agricultural features or disturbance	L	F
A-111	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-112	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-113	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-114	Modern drainage	M	F			
A-115	Two linear anomalies, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-116	Modern disturbance or land drains down W side of fields	M	F			
A-117	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-118	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-119	Palaeochannel or other natural sub-soil feature	M	F	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D
A-120	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-121	Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-122	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-123	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-124	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F

Anomaly Number	Interpretation	Confidence	Importance	Alternative Interpretation	Confidence	Importance
A-125	Area of increased noise, post medieval or modern landscaping	M	D	Geology	L	F
A-126	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-127	Linear anomaly, part of a field system predating current 18th/19 th century system	M	C-D	Modern agricultural features or disturbance	L	F
A-128	Linear anomaly, former field boundary	M	C-D			
A-129	Parallel anomalies, modern drainage or ploughing	H	F			
A-130	Linear anomaly, probably geological	H	F			
A-131	Linear anomaly, probably geological	H	F			
A-132	Irregular anomaly, probably geological	M	F	Possibly thermoremnant, burnt mound	L	B-C
A-133	Double linear anomaly, former field boundary predating late 19 th century OS map evidence	M	C-D	Double linear anomaly, former road with side ditches predating late 19 th century OS map evidence	M	B-C
A-134	Linear anomaly and parallel anomalies, probably a field boundary and ploughing. Possibly medieval ridge and furrow	M	B-D			
A-135	Small linear anomaly, perhaps a drain	M	C-D			
A-136	A series of linear anomalies, probably field drains post-dating removal of boundary A-95	H	F			
A-137	Curvilinear anomaly, perhaps part of a ditched enclosure, date unknown	M	E (B-D)			

A-138	A Former field boundary shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-139	Former field /rectangular enclosure shown on 1889 and 1924 Ordnance Survey County Series maps	H	C-D			
A-140	Narrow linear anomalies, probably drainage	M	C-F			
A-141	Linear anomaly, former ditch or trench for services	M	C-F			
A-142	Narrow linear anomalies, probably drains	M	C-F			
A-143	Former field boundary	M	C-D			
A-144	Parallel anomalies, modern drainage or ploughing	H	F			
A-145	Parallel anomalies, modern drainage or ploughing	H	F			
A-146	Parallel anomalies, modern drainage or ploughing	H	F			

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