Appendix C.1 – Cultural Heritage Baseline

Appendix C.1 Cultural Heritage Baseline

Table 1. Scheduled Ancient Monuments

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
CN188	Bryn-Glas Signal Station	Roman	250279	363471	SAM	High	Damaged	A banked ditched rectangular enclosure with rounded corners, about 28m north-east to south-west and at least as long. The site was trenched in 1921 (by Wheeler) and finds of early second-century pottery prompted its interpretation as a signal station. A more recent geophysical survey in 1995 showed indications of circular features within the perimeter, suggesting an alternative interpretation of an enclosed native settlement. Equally, if Wheeler's identification of 'fragments of greatly decomposed brick' are accepted, it is possible that this was the site of a villa – though one far beyond the main zone of such complexes in Roman Britain.
CN229	Hut Circle South of Rhyd y Galen, Pont-Rug	Prehistoric Roman	251434	364370	SAM	High	Damaged	The monument comprises the remains of an isolated hut circle that probably dates to the Iron Age or Romano-British period. It is about 10m in overall diameter and lies at the edge of a field of reseeded, gently sloping pasture, overlooking the Cadnant valley to the NE. It survives as a grassy bank about 0.4m high on the south, downhill side and as a scarped terrace on the uphill side with a possible entrance gap to the east. The floor area appears intact. There are indications of a second hut, recognisable as a low, roughly circular platform, immediately to the NE, and traces of associated field enclosures.
CN400	Caerlan Tibot Defended Enclosure	?Prehistoric ?Medieval	250715	364820	SAM	High	Damaged	A defended enclosure of uncertain period, located on level ground on the N side of a low ridge. The enclosure is sub-circular in shape and measures c. 60m in diameter. It comprises a single encircling bank with external ditch. The bank measures a maximum of c. 1.3m in height and 4m in width. The entrance faces NE and consists of a simple gap. The bank encloses a circular area of c. 45m in diameter. Within, are the foundations of a sub-rectangular hut, which measures 10m in length by 6m in width. The monument is of national importance because it has not been degraded by later agricultural practices and is in a good state of preservation. The monument is an important element of the historic landscape and retains significant archaeological potential. The enclosure interior appears relatively undisturbed suggesting that there is a strong probability of the presence of intact structural evidence such as foundations and floor levels.

Table 2. Listed Buildings

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
3771	Yr-erw	Post medieval	251570	363940	LB II	High	Intact	House, 19th century. Two storey. On narrow lane NW of the Seiont, north of Pont Rug.
3807	Plas-y-bont	Post medieval	248070	359766	LB II	High	Intact	House, probably early 17th century. 1700 south wing. 18th-century north and west wings.
3809	Plas Dinas House	Post medieval	247760	359250	LB II	High	Intact	17th-century house of two storeys with cellars and attics. Alterations and additions make the analysis of its development uncertain; much was added in the 19th century; modern slate roof.
14925	St Gwndaf, Llanwnda Parish Church	Post medieval	247597	358673	LB II	High	Intact	Parish church dedicated to St. Gwyndaf. It is on the site of a medieval church, demolished in 1848 when the present church was built. The cemetery is bounded by a road and houses on the south, south-west and east sides, and open fields on the north. It has been extended to the north-west. The exact location of the medieval church is unknown. It has been described as a small cruciform church, with a tower containing two bells. The present church was built in 1848 in the Norman style.
18336	St. Mary's Church, Llanfair-is-gaer	Medieval, Post medieval	250170	366020	LB II	High	Intact	The parish church of St Mary stands on a small hill above the shore of the Menai Strait. The building has medieval origins but was heavily restored in 1865, when the south porch was added and all ancient architectural features destroyed. The walls, including the west bell-cote, are medieval, repointed throughout. They display no datable features. The outline of a four-centred relieving arch, perhaps for a 15th or 16th-century window, exists above, and is cut by the modern east lancets. Two repaired arch-braced collar-beam trusses in the chancel are probably original, and one in the nave is earlier than the 19th century.
18337	Field Barn at Llanfair Farm	Post medieval	250730	366060	LB II	High	Intact	Barn associated with Plas Llanfair. The building was much altered c. 1800 and later, but one room on the ground floor retains wainscoting of c. 1700.
18338	Milestone on A487	Post medieval	250084	365390	LB II	Medium	Intact	Situated approximately halfway between Caernarfon and Y Felinheli, on the SE side of the A487 and opposite the entrance to Griffiths Cross Industrial Estate.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
18612	Capel Siloam	Post medieval	248310	359950	LB II	High	Intact	Methodist Chapel built in 1840, rebuilt in 1877 and 1896. The present chapel is built in an unusual Baroque/ Classical style, with a gable entry plan, two storeys and a domed frontage with flanking towers. The chapel has leaded round-headed windows and a fine interior with an eighteenth century style plaster ceiling. Grade II Listed for its unusual architecture.
18613	Ty Capel Siloam	Post medieval	248309	359923	LB II	High	Intact	Methodist Chapel built in 1840, rebuilt in 1877 and 1896. The present chapel is built in an unusual Baroque/ Classical style, with a gable entry plan, two storeys and a domed frontage with flanking towers. The chapel has leaded round-headed windows and a fine interior with an eighteenth century style plaster ceiling. Grade II Listed for its unusual architecture.
18614	Newborough Arms	Post medieval	248318	359892	LB II	High	Intact	Situated on the E side of the A487 in Bontnewydd, just N of the bridge over the Afon Gwyrfai.
18618	Former railway bridge at Bontnewydd	Post medieval	247899	360005	LB II	High	Intact	Crossing the Afon Gwyrfai and a minor road to Llanfaglan, some 400m W of the A487 in the centre of Bontnewydd.
18623	Glanrafon Fawr	Post Medieval	247088	359692	LB II	High	Intact	A good late Georgian three-storey country house. Lined unpainted stucco with slate close-eaved roof and rendered end stacks. Left end stuccoed, right end and rear rubble stone. Three-storey, three-window range with 6-pane attic windows, 12-pane elsewhere, horned on first floor. Centre door with overlight. 20th century 15-paned glazed door in simple timber surround. Rear also 3-storey, top 6-pane windows, first floor 20th century casement left, 8-pane and 12-pane horned sashes. Single storey whitewashed extension to centre and left. 20th century window to right. Lean-to on rear end. Said to date from 1774 although present form appears early 19th century. Said to have been built for John Robyns on part of Glan Beuno estate. The Llanfaglan Tithe Map of 1843 shows a holding of approximately 17 acres (6.9ha) owned and occupied by William Humphreys.
21799	Maengwyn	Post Medieval	247449	357903	LB II	High	Intact	Early 19th century house, shown on the 1839 Tithe Map and probably built shortly after the creation of the turnpike. Situated on the south-east side of the A499 approximately 0.5 km south of Llanwnda; set behind a low rubblestone wall with cut slate coping and iron railings with fleur-de-lys finials and urn-capped standards.
21812	Monument to J W Jones and family	Post medieval	247627	358651	LB II	High	Intact	Situated in the south-east corner of the churchyard to the Church of St Gwyndaf.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
21829	Ty-hen	Post Medieval	247040	357604	LB II	High	Intact	Farmhouse. Situated on rising ground in pasture fields on the west side of the A 499 approximately 0.8km south-east of Llanwnda; the farmyard lies immediately to the east. Probably of 18th century or earlier origin, the farm complex shown at Ty-hen on the 1839 Tithe Map is notably smaller than the present one, which is typical of the many model farms established by the Newborough Estate after c. 1850. The farmhouse itself has a mid-C19 front but appears to contain earlier fabric in the ranges to the rear. 2-storey, 2-room and central staircase main range to west, aligned roughly north-south, fronting 2-storey ranges (south longer) projecting at right-angles to east; lower gabled range behind north range.
21830	Stables, Cart Shelter and Cowhouse Range at Ty-hen	Post Medieval	247091	357610	LB II	High	Intact	Stables, cart shelter and cowhouse range. Situated around farmyard immediately to the east of the farmhouse at Ty-hen. Not shown on the 1839 Tithe Map, these are mid 19th century farmbuildings, part of the remodelling of the farmstead at Ty-hen carried out by the Newborough Estate after c. 1850. U-shaped range of farmbuildings grouped around farmyard comprising stables to short east range, cart shelter to east end of long south range with cowhouses to west and also to west range; rubblestone wall running roughly north-south separates cart shelter and stables from remainder.
21831	Bothy and Pigsties at Ty-hen	Post Medieval	247057	357630	LB II	High	Intact	Bothy and pigsties. Situated across track to north-east of farmhouse at Ty-hen. Not shown on the 1839 Tithe Map, these are mid 19th century farmbuildings, part of the remodelling of the farmstead at Ty-hen carried out by the Newborough Estate after c. 1850. Bothy is a rectangular single-storey structure, aligned roughly east-west, with lower lean-to pigsties projecting at right-angles to north at east end.
21832	Hay Barn to east of Ty-hen	Post Medieval	247129	357615	LB II	High	Intact	Hay barn, to the west of the main farmstead group at Ty-hen. Not shown on the 1839 Tithe Map, the hay barn is a mid-19th century structure, part of the remodelling of the farmstead at Ty-hen carried out by the Newborough Estate after c. 1850. 4-bay rectangular structure, aligned roughly east-west, originally open on both long sides but now closed in with timber boarding on south side.
22037	Grand Lodge to Glan Gwna Hall	Post medieval	249806	361887	LB II	High	Intact	Located on the north side of Ffordd Waenfawr (Waenfawr Road) to the west of Caeathro at the former south-western entrance to Glan Gwna Hall.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
22038	Bryn Eglwys	Post Medieval	249596	361331	LB II	High	Intact	An almost completely unaltered mid 19th century house of some distinction, important for the evidence it provides of increasing prosperity in the nearby county town at this time. Originally located on the old road between Caeathro and Bontnewydd, which has now largely been superseded by the by-pass to the south-east. Two-storey, roughly square-plan with set-back service range attached at right-angles to the south-east. Not shown on the 1839 Tithe Map, the house is likely to have been built c. 1850, along with several others of similar (or slightly higher) status, as one of a number of properties built close to Caernarfon to serve the needs and aspirations of its emerging middle class.
22039	Stables/Coach House at Bryn Eglwys	Post Medieval	249591	361311	LB II	High	Intact	Mid 19th century stables/coach house to Bryn Eglwys. Largely unaltered, forming a good group with the house and boundary wall at Bryn Eglwys. Long rectangular plan in two sections, left section higher than right. Situated directly to the south of Bryn Eglwys with cobbled path in front.
22040	Boundary wall at Bryn Eglwys	Post Medieval	249616	361344	LB II	High	Intact	Mid 19th century boundary wall to Bryn Eglwys, which forms a good group with the contemporary house and stables/coach house at Bryn Eglwys. Encloses the south, north and east boundaries of Bryn Eglwys, thus forming a roughly rectangular shape, although unwalled to the west.
22041	Bryn Eden and terrace walls to front	Post Medieval	249648	361782	LB II	High	Intact	A largely unaltered mid-C19 house, employing a mixed Italianate and Gothic architectural vocabulary, important for the evidence it provides of increasing prosperity in the nearby county town at this time. Two storeys and attic. Roughly L-shaped plan with lower service range attached to the short range of the L-shape. Situated on rising ground to the south side of the main road between Caernarfon and Waunfawr; the house has a terraced garden in front with a rubblestone revetment wall and terracotta balustrade, extended to the south-west from its original size. Not shown on the 1839 Tithe Map, the house is likely to have been built c. 1850, along with several others of similar status, as one of a number of properties built close to Caernarfon to serve the needs and aspirations of its emerging middle class.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
22047	Milestone	Post Medieval	249490	361994	LB II	Medium	Intact	Early to mid-19th century milestone relating to the turnpike road first established in the 1820s. Situated on the north side of Ffordd Waenfawr (Waenfawr Road) between Caeathro and Caernarfon. Listed for its special historic interest as a turnpike road milestone, a well-preserved example of a characteristic local type. Set in a low rubblestone field boundary wall. Slate-stone with simple chamfered top edge set in boundary wall. Inscribed "MILES" to top right corner with below "BEDDGELLERT 12/ RHYD-DDU 8/ WAENFAWR 2/ CARNARVON 1".
22054	Gate piers and walls at entrance to Glan Gwna Hall	Post medieval	249910	361833	LB II	High	Intact	Located on the north side of Ffordd Waenfawr at the main entrance to Glan Gwna Hall; the walls run from Grand Lodge to the west, break at the main entrance, turn to the north at the cross-roads in Caeathro and end by Pont Pwll-y-bar.
22055	Glan Gwna Hall	Post Medieval	250172	362052	LB II*	High	Intact	Small country house. Elizabethan vernacular revival style, of rambling plan with entrance front to south-west and service range to north-east. Situated to the north of Ffordd Waenfawr in its own landscaped grounds, most of which are now occupied by the chalets and other structures associated with Glan Gwna Holiday Park. Glan Gwna Hall was built in 1893 by John Douglas (1830-1911) for J E Greaves, the site and land belonging to the old Glan Gwna Hall having been conveyed from J A A Williams to Greaves in 1891. The present house is built on a different site to the original one. Greaves was Alderman of Caernarvonshire County Council, Lord Lieutenant of Caernarvon and President of the Territorial Army. Douglas had built Wern House in Caernarfon in 1892 and Glan Gwna was among his last major domestic commissions.
22056	Stable Block at Glan Gwna Hall	Post Medieval	250339	362072	LB II	High	Intact	Built c. 1893 as the stable block to Glan Gwna Hall. Simple Classical style. Square courtyard plan with single-storey ranges to east, north and west form a visual grouping, it has a clear functional and historic association. One and a half-storey range to south, north and south ranges with very slightly projecting gables rising above ridge, that to south the principal entrance and higher. Located approximately 150m east of Glan Gwna Hall.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
22058	Courtyard outbuildings and retaining walls to adjacent formal garden area at Glan Gwna Hall	Post Medieval	250170	362023	LB II	High	Intact	Courtyard of stone outbuildings on three sides. The courtyard outbuildings are situated on the south-east side of Glan Gwna Hall and the formal garden area lies to their south-west. Built c1893 as outbuildings and retaining walls to small formal garden area at Glan Gwna Hall. A well-preserved set of outbuildings and linked retaining walls defining formal garden area, the whole forming a strong group with the adjacent Glan Gwna Hall.
22059	Terrace and retaining walls at Glan Gwna Hall	Post Medieval	250196	362037	LB II	High	Intact	Stone-paved terrace running the full length of the north-west elevation and turning the corner to the front elevation of Glan Gwna Hall, retained by rubblestone revetment walling, topped by round-arched stone balustrade with globe finials to square piers; the terrace is approached by a flight of steps. Built c. 1893 as part of Glan Gwna Hall. Included for its group value with Glan Gwna Hall, of which it forms an integral part of the original design.
22281	Nantlle Tramway River Bridge	Post medieval	248006	359932	LB II	High	Intact	Single-arched bridge constructed to carry the Nantlle Railway over the Afon Gwyrfai. Span of 15.3 metres; 6.15 metres wide at the base, narrower at the crown; the height of the arch was 4.6 metres from the springing level that was approximately one metre above the water level. The arch was made from large rusticated stone blocks 70cm deep. The Nantlle Railway connected Caernarfon Quay to the Nantlle Slate quarries and the Drws y Coed copper mines.
26630	Milestone on E side of A487	Post medieval	248363	361162	LB II	Medium	Intact	Set back from the road approximately 100m SE of Parc Muriau.

Table 3. Registered Parks and Gardens

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
PGW (Gd) 38 (GWY)	Morfa Common Park	Post medieval	248500	361500	PGW	Medium	Intact	Morfa Common Park, in Caernarfon, is a public park laid out during the 19th century close to the Caernarfon Union Workhouse. It is arranged around an artificial lake, filled by diverting water from the nearby Afon Seiont. Around the edges of this are plantings of groups of trees with evergreen shrubberies, and there are various walks around the lake and the lawned areas to the south-east of it, which once had flower-beds. To the north-east the land slopes steeply upwards, and here there are further plantings of trees and some more open areas, with higher-level walks giving views down towards the lake. The park has been maintained in such a way that the original views and vistas are preserved. There is a drinking fountain of unusual design, and hints of various other features which were once present: the base of a small building, a level area where there may have been a summerhouse or bandstand, enclosures where birds or small animals may have been kept.

Table 4. Non-statutory sites and finds (HER)

NB: Roman roads in the GAT HER database are classified as follows:

- *Known*. A proven road. Extant earthwork or as a well-recorded buried feature.
- *Proposed*. Conjectural sections either linking known segments or as hypothetical road alignments for which there is some physical evidence.
- *Predicted*. Virtually no substantive evidence for a road other than someone's belief and/or conjectural road alignment with no known traces. Where the authenticity of a road is in significant doubt this is the highest level of status that can be achieved.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
36	Urn Burial, Bryn Crug	Bronze Age	250940	365240	None	Medium	Destroyed/ Moved	Probable barrow, based on both linguistic evidence (crug: a mound) and antiquarian finds. Farming operations in 1868 revealed an inverted cinerary urn, within which was a second urn containing burnt bones, a pygmy cup, and a bronze pin, 1¼ inches long. These works would have destroyed the barrow itself. Another interment had been found at Crug about 1855 with urns which were said to have resembled those reported in 1868, accompanied by a small tanged bronze knife blade, a pin with a pierced flat head, and a double-looped palstave. Fragments of the urns found in c. 1868 and the bronze implements found in 1855 are in the National Museum of Wales; the pygmy cup is in Chester Museum. No clear indications of the barrow are now evident on the ground.
584	Hen Gastell	Medieval	247130	357370	None (but to be made a SAM)	High	Damaged	A small embanked enclosure on a river promontory. It has an inner area on a knoll edged by a slight narrow bank. It also has an additional large external bank on the north side – possibly a natural glacial or fluvial feature that has been utilised. Although once suggested to be a promontory fort, and more recently an enclosed Iron Age/Romano-British settlement, excavation now proves this site to be 11th and 12th century.
926	Barn, SW of Plas Llanfair	Post medieval	250730	366060	LB II	High	Intact	See entry for Listed Building 18337.
1830	Plas Dinas House	Post medieval	247760	359250	LB II	High	Intact	See entry for Listed Building 3809.
1832	Ringditch near Caerlan Tibot	Prehistoric	250630	364650	None	Medium	Damaged	Ringditch visible on air photographs. The field has been well-ploughed and improved as pasture but there are a number of slight features – dips which are made more obvious because they have some nettles growing in them. It is not possible to see what pattern they make, if any, from ground level but close to the hedge at the W side is what might be a large sub-circular platform. The various dips may represent the ploughed-down remains of hut circles or a field system, associated with the scheduled settlement enclosure of Caerlan Tibot in the next field to the north.
1929	Fulling Mill, Castellmai (site of)	Medieval	247000	360000	None	Low	Destroyed	Site of a fulling mill based on historic evidence. ‘New rent’ of 3s 4d was received in 1423-4 by the Principality from Dafydd Fychan ap Cynfrig, called ‘Gurvey’ (i.e. Gwyrfai), for his fulling mill in the township of ‘Castell Math’. By 1532 the mill had lain in ruins for ‘many years past’.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
1994	Cefn-tre-seiont House	Post medieval	250600	363100	None	Low	Intact	House, adjacent to the NE end of the modern house. No further information available.
3099	Tumulus and Urn Burial	Prehistoric	248200	361400	None	Medium	Destroyed/ Moved	A pigmy cup, found in a tumulus near Bryn Seiont, Llanbeblig during the 19th century. The cup was contained in a large cinerary urn which was destroyed at the time of discovery. The cup is now in the National Museum of Wales.
3104	Cross-Incised Stone, Glan Beuno	Medieval	248300	360100	None	High	Moved	A cross cut on a smooth boulder of hard stone with a tapering base, overall dimensions 3ft 9ins by 2ft 3ins. This formerly stood beside the Afon Beuno at Glan Beuno in the parish of Waeunfawr. It was taken to Aberglaslyn Hall, Beddgelert in 1919; it now stands in Eglwys y Bedd. This cross may be a relic of St. Beuno's short lived church at Gwaredog which he built before he quarrelled with King Radwallon of Arfon and removed to Clynnog. The date indicated is c. 630.
3468	Ice House, Crug Farm	Post medieval	250910	365180	None	Low	Intact	Possible ice house, close to the house. Rectangular underground chamber with steps leading down. Slate beams support slate slab roof, mortared rough stone walls; no apparent hard bottom. Filled with mud and water to a depth of at least 50cm.
3681	St. Mary's Church, Llanfair-is-gaer	Medieval Post medieval	250170	366020	LB II	High	Intact	See entry for Listed Building 18336.
3689	Roman Signal Station, Bryn Glas	Roman	250240	363440	SAM	High	Damaged	See entry for SAM CN188.
3693	Caerlan Tibot, Enclosure	Unknown	250700	364800	SAM	High	Damaged	See entry for SAM CN400.
3699	Hut Circle, south of Rhyd-y-Galen	Prehistoric	251430	364360	SAM	High	Damaged	See entry for SAM CN229.
3704	Bronze Palstave, Findspot	Bronze Age	250200	362000	None	Medium	Moved	Antiquarian find of a looped palstave, exact findspot unknown, exhibited at a meeting of the Society of Antiquaries held on January 27, 1780.
4436	Crug Farm Garden	Post medieval	250900	365220	None	Low	Intact	A plantsman’s garden, idyllically situated in 2-3 acres of grounds of an old country house. The gardens are filled with a choice and unusual collection of plants.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
5531	Dinas Dinoethwy Earthwork	Prehistoric	247700	359200	None	Medium	?Near Destroyed	A large inland promontory, by tradition since at least the 18th century as an ancient fortified site, but with no obvious defensive features. It is the site of a large country house (Plas Dinas; PRN 1830) and its surrounding landscaped grounds. There was an antiquarian find of Roman coins here c. 1850, but their whereabouts now is not known. Most of the promontory has been landscaped except for an area at the north-west, which is still a field. Here there is a definite wide but very low ridge along the edge of the promontory, which seems artificial and not an agricultural feature. This could be the remains of a defensive bank and the ground dips behind it from where material would have been quarried. The whole promontory top also seems too level to be entirely natural.
6841	Llanfaglan Medieval Township	Medieval	247000	360100	None	N/A	N/A	Historic settlement. No information.
6986	Llanfair Isgaer Parish Church	Medieval, Post medieval	250170	366020	LB II	High	Intact	Duplicate record: see PRN 3681.
7039	Llanwnda Parish Church	Modern	247597	358673	LB II	High	Intact	See entry for Listed Building 14925.
7042	Fibula, Crug Farm Findspot	Roman	250920	364890	None	Low	Moved	Small bronze fibula found by a metal detector at Crug Farm.
7334	Llanwnda Medieval Township	Medieval	247600	358600	None	N/A	N/A	Historic settlement. No information.
11426	Plas-y-bont	Post medieval	248070	359766	LB II	High	Intact	See entry for Listed Building 3807.
12128	Yr-erw	Post medieval	251570	363940	LB II	High	Intact	See entry for Listed Building 3771.
12135	Former Corn Mill, Seiont Nurseries	Post medieval	250560	362810	None	Low	Intact	Corn mill in use as storage for nursery, recorded photographically in advance of conversion.
12583	Llanfair Hall, Barn	Post medieval	250750	366070	LB II	High	Intact	See entry for Listed Building 18337.
13945	Morfa Common Park	Post medieval	248500	361500	PGW	Medium	Intact	See entry for PGW (Gd) 38 (GWY)
15701	Bontnewydd: landscape	Post medieval	248210	359890	None	N/A	N/A	19th-century ribbon development established along the Caernarfon to Porthmadog road on Newborough estate land.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
15727	Caernarfon Industrial Area: landscape	Post medieval	249020	361520	None	N/A	N/A	An area along the banks of the Seiont, where several industrial sites, some still functioning, were built along the river from perhaps the 16th century onwards, and where clay extraction and brick manufacture, established c.1850, still continues.
15728	Glan Gwna Holiday Village: landscape	Post medieval	250060	362080	None	N/A	N/A	One of the smaller local estates, now a holiday village and caravan park. The garden may date from the early 19th century. In 1813 it was stated that the grounds and their 'winding walks' were laid out by Arthur Wyatt, nephew of Benjamin. 'Plantations' and a small house 'handsomely fitted up' were mentioned in 1809-11, when it was owned by Thomas Lloyd of Shrewsbury. It was inhabited at one stage by a Mr Greaves, probably the tenant of various slate quarries who came to develop Llechwedd quarry in Blaenau Ffestiniog, who is believed to have moved to Aberglaslyn Hall. A fulling mill and a paper mill are also attested at the same period.
15729	Hen Felin (Glan Gwna): landscape	Post medieval	250670	362840	None	N/A	N/A	A river valley which has lent itself to the use of water power. The mill at Felin Wen is recorded in 1475, and the area also includes the site of a 19th-century mill (though identified as a bacon factory on the 25inch ordnance survey map of 1914, and now the Seiont nurseries and garden centre) and a woollen factory. The land here was owned by the Vaynol estate by the 18th century.
15854	Llanfair Isgaer: landscape	Post medieval	251000	365900	None	N/A	N/A	A landscape of improved pasture and planted coverts along the Menai Straits and reaching up to the summit of the ridge that runs parallel to it. Much of the area was formerly an ecclesiastical medieval township, based around the church on the side of the Straits, entirely altered by the Vaynol estate.
16072	Cefn-y-Gof	Post medieval	249940	361540	None	Low	Intact	Outbuildings. No further information provided.
17187	Caernarfon Union Workhouse	Post medieval	248660	361490	None	Medium	Intact	The 1834 Poor Law Amendment Act saw the creation of the Poor Law Commission which had the power to unite parishes into Poor Law Unions, each union administered by a local Board of Guardians and responsible for the provision of a workhouse to assist the destitute through supervised institutions. The Conwy workhouse was one of five within Caernarvonshire, the others being at Pwllheli, Caernarfon, Bangor and Llanrwst.
17533	Roman Road	Roman	249507	361984	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
17554	Roman Road, Segontium to Pen Llystyn to Tomen y Mur	Roman	248333	360769	None	Medium (if extant)	Unknown	Proposed route. The present Caernarfon to Porthmadog road runs along the edge of a plateau overlooking the sea to the west and with good visibility to the east. Considered a suitable line for a Roman road. No physical trace known.
17561	Roman Road	Roman	249542	362829	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.
17562	Roman Road, Segontium to Canovium	Roman	249870	362995	None	Medium (if extant)	Unknown	Proposed route. Traces of an old road were said to have been found in the second field to the SE of Caergarw.
17563	Roman Road, Segontium to Canovium	Roman	250831	363636	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.
17590	Roman Road, Segontium to Canovium	Roman	250252	362961	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.
17822	Roman Road	Roman	248342	360805	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.
17823	Roman Road	Roman	248346	360804	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.
17824	Roman Road	Roman	249456	361731	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.
17829	Roman Road	Roman	251025	364055	None	Medium (if extant)	Unknown	Proposed route. No physical trace known.
17831	Roman Road, Segontium to Canovium	Roman	250781	363560	None	Medium	Near Destroyed	Roman road, showing as a cropmark on an air photograph, continuing from a straight alignment of hedgerows. Although difficult to see on the ground, a possible slight bank is visible in low light angles.
17832	Roman Road, Segontium to Canovium	Roman	250259	363280	None	Medium	Near Destroyed	Roman road, showing as a cropmark on AP continuing from straight alignment of hedgerows and PRN 17831.
20738	Seiont Brickworks (site of)	Modern	248870	361300	None	Low	Destroyed	The original Seiont brickworks was built c.1850, alongside the river and below the present Eryri Hospital. It continued producing bricks until the new factory was built and opened in 1966 on the opposite side of the river on the old Caernarfon to Llanberis railway track.
24019	Copper Alloy Flat Axehead, Findspot	Bronze Age	250520	364800	None	Medium	Moved	Copper alloy flat axehead dating to the Early Bronze Age, now in the National Museum of Wales.
24087	Jews Harp, Findspot	Post medieval	251000	365200	None	Low	Moved	Copper alloy Jews (or jaws) harp. An 18th-century object.
24088	Edward III Coin, Findspot	Medieval	251000	365200	None	Low	Moved	Probable Long Cross Penny of Edward III, found by metal detector.
24089	Mary Tudor/Philip of Spain Coin, Findspot	Post medieval	251000	365200	None	Low	Moved	Probable groat of Mary Tudor and Philip of Spain, found by metal detector.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
24093	Roman Brooches and Bronze Age Spearhead Fragments, Findspot	Bronze Age, Roman	250930	364890	None	Medium	Moved	Two Roman brooches and one Bronze Age spearhead were discovered southeast of Caerlan Tibot. Found using a metal detector in slightly different locations around the given NGR.
24108	Spindle Whorl, Findspot	Medieval	251000	365200	None	Low	Moved	Simple lead spindle whorl of probable medieval date.
24109	Metal Artefacts and Coins, Findspot	Post medieval	251000	365200	None	Low	Moved	Collection of artefacts and coins found whilst metal detecting at Crug Farm.
29390	Kiln, Felin Wen	Post medieval	250912	363149	None	Medium	Intact	Corn drying kiln built a short distance from the former 15th-century water mill lying on the banks of the River Seiont. The exact date of its construction cannot be established but it was certainly present by the time of the estate survey of 1777. The kiln building was later extended, and the drying floor rebuilt on several occasions. The present drying floor is thought to date from the late 19th century, though it utilises tiles from an earlier structure. The principal use of the kiln is likely to have been for drying oats prior to shelling, though it could also have been used for drying barley and wheat, and possibly malting barley.
29458	Brunswick Ironworks	Modern	249168	361972	None	Medium	Intact	Established in 1906, the Brunswick Ironworks have produced ironwork for Caernarfon Castle, the Welsh Highland Railway and the Tower of London. Most famously, the company was commissioned in 1920 to create ironwork for the coffin of the Unknown Warrior at Westminster Abbey to commemorate those who had fallen in the First World War.
33348	Huts, Griffith's Crossing	Modern	250030	365545	None	Low	Intact	Collection of curved-roof military structures of varying sizes. Fuel Storage Depot.
33980	Pond or Possible Quarry, Llanwnda	Post medieval	247300	357680	None	Low	Intact	An unusual circular pond, c. 25m diameter, surrounded by trees and a wall. It appears to be in a deep hole cut across on the western side by the road, but the exposed face on this side seems to be solid rock. Possibly a former quarry pit.
33981	Trackway, North of Afon Carogg	Unknown	247380	357290	None	Low	Intact	Track on the east side of the Afon Wen Railway, opposite Hen Gastell, formed from a terrace a few metres above the Afon Carogg, which would have prevented flooding of the track if the river was high.
35166	Clay Pit, Allt Rhyddallt-bach	Post medieval	248908	361207	None	Low	Unknown	A clay pit labelled on the OS 25inch 1st, 2nd and 3rd edition maps (1889, 1900 and 1918). Probably associated with the Seiont Brick Works just to the north (PRN 20738). A further clay pit is labelled approximately 70m to the northeast on the 2nd and 3rd edition maps. Area is now heavily wooded.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
37205	Bridge Abutments, west of Seiont Brick Works	Post medieval	248743	361526	None	Low	Damaged	Located between the Brickworks and Eryri Hospital. The bridge abutments are in good condition, the E bank abutment measures some 3.0m wide and 4.0m high comprising large square foundation blocks with large rounded boulders above. Slots to locate timber beam ends can be seen at the base of the W abutment facing the river. It was possible to identify evidence of what appeared to be different phases of construction in the stonework.
37235	Station, site of, Llanwnda	Post medieval	247280	357720	None	Low	Destroyed	The station was part of the Afon Wen to Caernarfon Railway Line. The line was built in 1867 but is now disused and has been made into a cycle track (Lon Eifion). No station buildings now remain.
37236	Level Crossing, Afon Wen Railway	Post medieval	247240	357310	None	Low	Intact	Level crossing on track running past Hen Gastell to Dolydd SH47245731. Part of the Afon Wen to Caernarfon Railway Line.
37237	Bridge, Afon Wen Railway	Post medieval	247240	357300	None	Low	Intact	Bridge over Afon Carrog. Part of the Afon Wen to Caernarfon Railway Line.
37972	Lynchet, northwest of Hen Gastell	Prehistoric	246960	357450	None	Low	Near destroyed	Indications of past activity in the field just across the A499, consisting of a fairly large ditch (now infilled but visible on old maps and quite recent aerial photographs) and at least one possible lynchet. Has been suggested to be associated with Hen Gastell (PRN 584), but given the recently-proven Medieval date of this site, the lynchet would also have to be much younger than presumed.
37977	Rubbing Stone, Dolydd	Modern	247350	357250	None	None	Intact	The stone is clearly a modern rubbing stone and not a standing stone: it is unweathered and has a borehole for explosives in one recently fractured face.
38121	Ffynnon Fair (remains of)	Medieval	250500	365700	None	Medium	Near Destroyed	Ffynnon fair is located near to the Plas Menai roundabout, south of St. Mary's Church, and close to the parish boundary. It was a free flowing well for at least five hundred years, and was mentioned in a Llanfair estate document from 1458. The well was damaged when the Felinheli bypass was constructed in the 1990s. All that remains is a stone base, but the water still runs and emerges on the Parciau Farm side of the road.
56179	Railway Embankment, east of Plas Menai	Post medieval	250744	365927	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
56182	Tank, southeast of Crug House	Post medieval	250926	365103	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
56183	Sheep Dip, Crug House	Post medieval	250928	365155	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
56184	Building, north of Crug House	Post medieval	250946	365240	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
56978	Building, southeast of Felinwnda	Post medieval	246742	358111	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
56979	Building, south of Parc	Post medieval	247069	358185	None	Low	Destroyed	Site identified from early Ordnance Survey Maps. No further information available.
56980	Footbridge, south of Parc	Post medieval	247073	358197	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
56981	Mill Race, east of Felinwnda	Post medieval	246648	358211	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
56983	Building, south of Plas Dinas	Post medieval	247806	359189	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57048	Weir, west of Rivermead	Post medieval	248547	361384	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57049	Weir, south of Glanrafon	Post medieval	248530	361417	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57051	Mill Race, north of Seiont Brick Works	Post medieval	248963	361711	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57052	Glan Gwna Lodge, southwest of Glan Gwna Hall	Post medieval	249806	361891	LB II	High	Intact	See entry for Listed Building 22037.
57053	Building, southwest of Glan Gwna Hall	Post medieval	249992	361917	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57054	Footbridge 2, southwest of Glan Gwna Hall	Post medieval	249998	361902	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57057	Weir, southwest of Glan Gwna Hall	Post medieval	249942	361938	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57058	Footbridge 1, southwest of Glan Gwna Hall	Post medieval	249939	361944	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57061	Railway Bridge, west of Caer Glyddyn	Post medieval	250470	362821	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57062	Railway Embankment, west of Caer Glyddyn	Post medieval	250500	362838	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57063	Railway Embankment, northeast of Bodrual	Post medieval	250367	362695	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57064	Railway Cutting, east of Bodrual	Post medieval	250338	362575	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.

PRN	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
57065	Weir, east of Bodrual	Post medieval	250275	362582	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57066	Railway Cutting, west of Caer Glyddyn	Post medieval	250400	362732	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57067	Railway Bridge, east of Bodrual	Post medieval	250307	362518	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57068	Footbridge, east of Tan Felin Wen	Post medieval	250907	363138	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.
57069	Tan Felin Wen, southwest of Y Felin Wen	Post medieval	250868	363148	None	Low	Unknown	Site identified from early Ordnance Survey Maps. No further information available.

Table 5. Non-statutory sites and finds (NMR)

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
569	Afon Gwyrfai Bridge	Post medieval	248010	359940	LB II	High	Intact	See entry for Listed Building 22281.
7027	Nazareth Chapel	Post Medieval	251260	363630	None	Medium	Intact	Calvinistic Methodist Chapel built in 1839 and rebuilt in 1881 in the Simple Round-Headed style of the gable entry type. By 1982 it had fallen into disuse.
7047	Glanrhyd Chapel	Post medieval	247550	358340	None	Medium	Intact	Methodist Chapel built in 1899 in the Gothic style of the gable entry type and with an integral tower.
11905	Siloam Chapel	Post medieval	248310	359950	LB II	High	Intact	See entry for Listed Building 18613.
16740	Plas Dinas	Post medieval	247760	359250	LB II	High	Intact	See entry for Listed Building 3809.
16760	Plas-y-Bont	Post medieval	248060	359770	LB II	High	Intact	See entry for Listed Building 3807.
24675	Llanbeblig Corn Mill	Post Medieval	250000	362310	None	Low	Destroyed	Corn mill. No further information given.
24689	Seiont Corn Mill	Post medieval	248725	361383	None	Low	Intact	Corn mill. No further information given.
26169	Cae'r Dolydden	Post Medieval	250600	362860	None	Low	Intact	House. No information given.
26437	Yr-Erw	Post Medieval	251570	363940	LB II	High	Intact	See entry for Listed Building 3771.
26441	Erw Pwll-y-Glo	Post Medieval	251600	363900	None	Low	Intact	Dwelling, date of construction suggested as c. 1825.
26478	Garth	Post medieval	247450	358180	None	Low	Intact	Cottage, 18th-19th century. One and a half storeys, raised to two storey. Contiguous outbuildings – probably of later date.
31394	Llanfair Hall, Barn	Post Medieval	250750	366070	LB II	High	Intact	See entry for Listed Building 18337.
33008	Bontnewydd: Town	Post medieval	247000	358000	None	N/A	N/A	No information given.
41451	Llanwnda Station	Post medieval	247280	357720	None	Low	Destroyed	Station, North Wales Line. No further information given.
43782	St Mary's Church, Llanfaglan	Post medieval	246990	360090	None	Medium	Intact	No information given.
43785	St Marys Church, Llanfair-Is-Gaer	Post Medieval	250170	366020	LB II	High	Intact	See entry for Listed Building 18336.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
58891	Dinas Dinoethwy Earthwork	?Iron Age	247700	359200	None	Medium	Damaged	Earthworks, presumed to be those of a hillfort. No further information given.
86329	Caernarfon Union Workhouse; Hospital, Garden	Post medieval	248601	361475	None	Low	Destroyed	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XV, sheet 8 (1900). The main elements on that map include avenue, pond, lodge, walk and fountain.
86344	Coed Mawr, Garden	Post medieval	249465	363028	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XVI, sheet 1 (1900). The main elements on that map include kitchen garden, lodge, carriage drive, greenhouse and parkland.
86357	Plas Dinas, Garden	Post medieval	247784	359217	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XV, sheet 12 (1900). The main elements on that map include woodland, lodge, orchard, greenhouse, conservatory, flagstaff, carriage drive and kitchen garden.
86370	Glan Beuno, Garden	Post medieval	248166	360151	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XV, sheet 12 (1900). The main elements on that map include woodland, terrace, sundial, kitchen garden, greenhouse, conservatory and formal garden.
86372	Glan Gwna, Garden	Post medieval	250218	362009	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XVI, sheet 1 (1900). The main elements on that map include lodge, formal garden, waterfall, walk, summerhouse, greenhouse, possible second formal garden and kitchen garden.
86388	Gwylfa, Garden	Post medieval	246841	357939	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XV, sheet 16 (1900). The main elements on that map include kitchen garden, conservatory, relict hedgelines, greenhouse and carriage drive.
86393	Hen Gastell, Garden	Post medieval	247151	357332	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XV, sheet 16 (1900). The main element shown on that map is a sundial.
86428	Parc, Garden	Post medieval	247102	358230	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XV, sheet 16 (1900). The main elements on that map include a possible formal garden, greenhouse, kitchen garden, walk and woodland.
86439	Penrhos, Garden	Post medieval	249690	361397	None	Low	Unknown	Garden is depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XVI, sheet 5 (1900). The main elements on that map include fountain, carriage drive, conservatory, kitchen garden, walk, pond and greenhouse.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
86445	Penybryn, Garden	Post medieval	248436	361230	None	Low	Unknown	Garden depicted on the Second Edition Ordnance Survey 25-inch map of Caernarvonshire XV, sheet 8 (1900). The main elements on that map include greenhouse, kitchen garden, lodge, orchard, isolated geometric copses, carriage drive, conservatory and avenue.
86466	Rhyddalt, Garden	Post medieval	249134	361416	None	Low	Unknown	Square enclosure within a property, which has all the indications of a formal garden or kitchen garden
91421	Dinas Junction Railway Station	Post medieval	247680	358690	None	Low	Intact	Dinas Junction was a station on the standard-gauge line between Caernarfon and Afon Wen at the northern terminus of the North Wales Narrow Gauge Railways. Dinas is a sizeable complex for the WHR with workshops, sidings and a locomotive depot. The NWNGR, later Welsh Highland Railway, closed in 1937 and the standard-gauge line in the 1960s. In 1997, work started on the Welsh Highland Railway Project to restore the line. Caernarfon is now linked through Dinas Junction (narrow-gauge track has been laid on the former standard-gauge formation) to Porthmadog, where a link has been made with the Ffestiniog Railway (NPRN 34660).
97159	Graianfryn Chapel	Post medieval	247300	357800	None	Medium	Intact	Chapel, built in the Vernacular style in 1871.
301086	Cross-Incised Stone	Medieval	248300	360100	None	Medium	Moved	Inscribed stone, now removed. No further information given.
301409	Maengwyn	Post medieval	247450	357901	LB II	High	Intact	See entry for Listed Building 21799.
301629	Morfa Common Park	Post medieval	248515	361552	PGW	High	Intact	See Table 3.
302414	Hen Gastell	Medieval	247140	357370	None (but to be made a SAM)	High	Damaged	Small enclosed area, on the north bank of the Afon Carog. Originally thought to be a small promontory fort, but recently proven to be medieval.
302501	Bryn Glas Roman Signal Station	Roman	250262	363457	SAM	High	Damaged	See entry for SAM CN188.
302502	Caerlan Tibot Defended Enclosure	Unknown	250710	364820	SAM	High	Damaged	See entry for SAM CN400.
302513	Bryn Gefeiliau, Bloomery	Medieval	251560	364320	None	Low	Unknown	Iron smelting furnace. No further information given.
302528	Hut Circle	Unknown	251430	364360	None	SAM	Damaged	Hut circle with associated field system. No further information given.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
306631	Penrhos	Post medieval	249670	361420	None	Medium	Intact	Georgian country house.
402206	Cropmark southwest of Caerlan Tibot	Unknown	250540	364530	None	Medium	Damaged	Cropmarks of an apparent curvilinear ditched enclosure, c. 35-40m across.
402963	Farmhouse at Ty Hen	Post Medieval	247090	357620	LB II	High	Intact	See entry for Listed Building 21829.
402979	Ty Hen	Post medieval	247040	357600	LB II	High	Intact	See entry for Listed Building 21829.
404484	Caernarfon Union Workhouse; Bodfan Workhouse; Eryri Hospital	Post medieval	248661	361496	None	Medium	Intact	Caernarfon Union workhouse, constructed 1845, and known as Bodfan. The site includes Eryri Hospital, which was completed in 1913 and was constructed when Bodfan's infirmary became outdated.
405153	St Gwyndaf's Church	Post medieval	247590	358670	LB II	High	Intact	See entry for Listed Building 14925.
405443	Hen-Dy Crossing	Post medieval	247975	361204	None	Low	Intact	The Hen-Dy level crossing is for a farm track on the former standard-gauge railway between Caernarfon and Afon Wen, now the narrow-gauge Welsh Highland Railway.
406163	Rhyddallt Bach	Post medieval	248967	361179	None	Low	Destroyed	Single storey vernacular cottage, no longer shown on modern mapping.
406861	Plas Menai Watersports Centre	Modern	250296	366084	None	Low	Intact	Modern Building under slate roof. Large storage facilities for boats and Kayaks.
416391	Bryn Eglwys	Post medieval	249600	361330	LB II	High	Intact	See entry for Listed Building 22040.
417791	Bryn Eglwys	Post medieval	249600	361330	LB II	High	Intact	See entry for Listed Building 22040.
418847	Peblig Brickworks	Post medieval	249106	362000	None	Low	Intact	Brickworks established in the 19th century, situated on the Afon Seiont, close to clay pits which served two major brickworks (the other being Seiont Works). The Peblig and Seiont works were bought by John Summers & Sons Ltd., Shotton in 1931 and traded as Castle Fire Brick Co. Ltd. and were Nationalised in 1967 under the Labour Government. Within five years they were privatised again and bought by the Butterley Brick Company owned by Hanson. Peblig brickworks had a Hoffman Kiln with central tall stack - both extant in 1947.

ID	Name	Period	NGR X	NGR Y	Status	Value	Condition	Description
418864	Peblig Mill (Factory)	Modern	249118	361881	None	Low	Intact	Factory used during the Second World War, by the aircraft manufacturer, Hunting Aviation Ltd. This company strategically relocated from Croydon, first to Llanberis and then shortly afterwards to Peblig Mill, Caernarfon. Around 1947, Hunting closed the factory there and moved operations back to Croydon. It appears that the Bernard Wardle 'Everflex' company then took over the Peblig factory in 1948. The company produced furnishing fabrics, and for many years was the largest manufacturing concern in the area. At its peak, it employed 800 persons. The factory closed in 1980.
418868	Peblig Mill	Post medieval	249136	361953	None	Low	Intact	Water-powered flour mill, extant from at least the early 19th century. Owned by a succession of different corn merchants including the Huxley family. From the late 19th century, the mill became a woollen factory.
420116	Glanmorfa Slate Works	Post medieval	248438	361445	None	Low	?Intact	Slate processing works. No further information available. Structure present at this location.

Table 6. New sites identified by the present study – cartographic evidence

ID	Name	Period	NGR X	NGR Y	Present on historic maps				Extant in modern day	Notes
					Tithe map	OS 1891	OS 1901	OS 1938-53		
A01	Goat Hotel	Post medieval	247219	357612	N	Y	Y	Y	Y	
A02	Capel --?fryn	Post medieval	247325	357750	N	Y	Y	N	N	
A03	Railway Inn	Post medieval	247252	357750	N	Y	Y	?	N	
A04	Parc	Post medieval	247045	358228	Llanwnda	Y	Y	Y	Y	
A05	Plas	Post medieval	246871	358475	Llanwnda	Y	Y	Y	Y	
A06	Geufron	Post medieval	247416	358771	Llanwnda	Y	Y	Y	Y	
A07	Ty uchaf	Post medieval	246710	359145	?	Y	Y	Y	Y	
A08	Cae Samuel	Post medieval	247635	359920	Llanbeblig	Y	Y	Y	Y	
A09	Maes-neuadd	Post medieval	247175	359920	?	Y	Y	Y	N	
A10	Cae Gwynedd	Post medieval	247540	360020	Llanbeblig	Y	Y	Y	Y	
A11	Pen-bryn-gwyn	Post medieval	247239	360065	?	Y	Y	Y	Y	
A12	Cefn-werthyd	Post medieval	247892	360165	Llanbeblig	Y	Y	Y	Y	
A13	Llywn Beuno	Post medieval	248320	360165	Llanbeblig	Y	Y	Y	Y	
A14	Glan Beuno (house)	Post medieval	248148	360183	Llanbeblig	Y	Y	Y	Y	
A15	Hen-gapel	Post medieval	248046	360212	Llanbeblig	Y	Y	Y	?	
A16	Beuno Terrace	Post medieval	248322	360249	N	Y	Y	Y	Y	
A17	Tyddyn Elen Cottages	Post medieval	248384	360304	Llanbeblig	Y	Y	Y	Y	Group of properties.
A18	Cae-llech Farm	Post medieval	248298	360327	Llanbeblig	Y	Y	N	Y	
A19	Tyddyn Elen	Post medieval	248577	360432	Llanbeblig	Y	Y	Y	Y	
A20	?Tem-dderwyn	Post medieval	247265	360483	?	Y	Y	Y	Y	
A21	Tyddyn-du	Post medieval	248301	360538	Llanbeblig	Y	Y	Y	Y	

ID	Name	Period	NGR X	NGR Y	Present on historic maps				Extant in modern day	Notes
					Tithe map	OS 1891	OS 1901	OS 1938-53		
A22	Cae-goch	Post medieval	247548	360597	Llanbeblig	Y	Y	Y	Y	Variously called Cae-goch or Bronydd
A23	Bragdy-mawr	Post medieval	248322	360637	N	Y	Y	Y	N	
A24	Rhos-bach	Post medieval	249226	360808	N	Y	Y	Y	Y	
A25	Cae-mawr	Post medieval	248762	360814	Llanbeblig	Y	Y	Y	Y	
A26	Fron-goch	Post medieval	247708	360866	Llanbeblig	Y	Y	Y	Y	
A27	Erw	Post medieval	249104	360899	Llanbeblig	Y	Y	Y	Y	
A28	Ty-gwyn-bach	Post medieval	247819	360942	Llanbeblig	Y	Y	Y	Property.	
A29	Ryddallt Lodge	Post medieval	249041	360974	N	Y	Y	Y	?	Various buildings present at this location in the present day
A30	Kennels	Post medieval	248770	360985	?	Y	Y	Y	N	Marked as disused on all the maps.
A31	Rhosdican	Post medieval	248059	361004	Llanbeblig	Y	Y	Y	Y	
A32	Pant Farm	Post medieval	247810	361017	Llanbeblig	Y	Y	Y	Y	
A33	Coxidia	Post medieval	248312	361021	Llanbeblig	Y	Y	Y	?	
A34	Rhyddallt-ganol	Post medieval	249189	361015	Llanbeblig	Y	Y	Y	Y	
A35	Cae Philip	Post medieval	249269	361215	Llanbeblig	Y	Y	Y	Y	
A36	Clay Pit	Post medieval	248973	361348	N	Y	Y	Y	?	Area now wooded.
A37	Rhyddallt-fawr	Post medieval	249163	361486	Llanbeblig	Y	Y	Y	N	
A38	Seiont Tannery	Post medieval	248922	361653	N	Y	Y	Y	N	
A39	Fron-deg	Post medieval	249921	361687		Y	Y	Y	?	
A40	Mur Matthew	Post medieval	249799	361808	Llanbeblig	Y	Y	Y	Y	
A41	Treflan Isaf	Post medieval	249322	361847	Llanbeblig	Y	Y	Y	N	
A42	Plas Treflan	Post medieval	249363	361939	Llanbeblig	Y	Y	Y	Y	
A43	Tyddyn-pandy	Post medieval	249130	362228	Llanbeblig	Y	Y	Y	Y	
A44	Coed-marian	Post medieval	249553	362487	Llanbeblig	Y	Y	Y	N	
A45	Bod Rhual	Post medieval	250130	362562	Llanrug	Y	Y	Y	Y	

ID	Name	Period	NGR X	NGR Y	Present on historic maps				Extant in modern day	Notes
					Tithe map	OS 1891	OS 1901	OS 1938-53		
A46	Cae Darby	Post medieval	249761	362655	Llanbeblig	Y	Y	Y	N	
A47	Ty-newydd	Post medieval	249724	362779	Llanbeblig	Y	Y	Y	N	
A48	Cae-dolydden	Post medieval	250629	362805	?	Y	Y	?	?N	
A49	Rhos-bod-rhual	Post medieval	249589	362884	?	Y	Y	Y	Y	
A50	Tyn-rhos	Post medieval	249553	362938	?	Y	Y	Y	Y	
A51	Cae-garw	Post medieval	249770	363140	?	Y	Y	Y	Y	
A52	Tyddyn-bistle	Post medieval	250485	363379	Llanrug	Y	Y	Y	Y	
A53	Pont Rug Slate Works	Post medieval	251302	363381	?Y	Y	Y	N	N	Unlabelled structure at this location on Llanrug tithe map. Area now wooded.
A54	Bryn Seiont	Post medieval	251201	363399	N	Y	Y	Y	Y	
A55	Byn Glas	Post medieval	250223	363526	?Llanbeblig	Y	Y	Y	Y	Small structure here on tithe map; possibly not the main house.
A56	Tyddyn-slaters	Post medieval	250508	363617	Llanrug	Y	Y	Y	Y	
A57	Lon-glai	Post medieval	251101	363828	Llanrug	Y	Y	Y	Y	
A58	Rhydau	Post medieval	250460	363858	N	Y	Y	Y	N	
A59	Pen-y-gelli	Post medieval	250714	364230	Llanbeblig	Y	Y	Y	Y	
A60	Tyddyn-hen	Post medieval	250744	364448	Llanbeblig	Y	Y	Y	Y	
A61	Rhyd-y-galyn	Post medieval	251359	364608	N	Y	Y	Y	Y	
A62	Erw-fawr	Post medieval	251334	364736	N	Y	Y	Y	Y	
A63	Parciau	Post medieval	250290	365430	Llanfair Isgaer	Y	Y	Y	Y	
A64	Old Quarry	Post medieval	250640	365470	N	Y	Y	Y	Y	Old quarry marked on OS maps; now in wooded area.
A65	Bryn	Post medieval	251015	365570	Llanfair Isgaer	Y	Y	Y	Y	
A66	Groeslon Cottage	Post medieval	250400	365775	Llanfair Isgaer	Y	Y	Y	Y	

Table 7. New sites identified by the present study – geophysical evidence

ID	Description	NGR X	NGR Y
G1	Type 10c feature. No feature found by evaluation (Trench 96)	247213	357834
G2	Type 11 feature	247208	357975
G3	Type 11 feature	247208	358034
G4	Type 13 feature	247138	358049
G5	Type 11 feature	247179	358088
G6	Type 11 feature	247131	358094
G7	Type 11 feature	247199	358132
G8	Type 11 feature	247170	358166
G9	Type 11 feature	247170	358166
G10	Type 11 feature	247144	358203
G11	Type 8 feature. Recent field boundary found by evaluation (Trench 95)	247174	358205
G12	Type 11 feature	247184	358206
G13	Type 11 feature	247180	358212
G14	Type 11 feature	247193	358229
G15	Type 9b feature. No feature found by evaluation (Trench 94)	247143	358240
G16	Type 11 feature	247194	358250
G17	Type 8 features	247152	358362
G18	Type 9 feature	247194	358503
G19	A cluster of Type 9g features, and one Type 11 feature. Proven archaeology (Trenches 92, 93). Both the Type 9g and 11a features identified by the geophysical survey were encountered in the trench. The Type 9g feature, based on the geophysical results and the evaluation data, is strongly suggestive of either a ring ditch or round house, but the lack of dateable artefacts hinders certainty: it can nevertheless be attributed to later prehistory with reasonable confidence. No diagnostic artefacts were recovered from the Type 11a feature, but slag was retrieved from an upper layer, beneath which was a charcoal-rich fill. The	247150	358601

ID	Description	NGR X	NGR Y
	working hypothesis is that this feature denotes an area of prehistoric industrial activity, including metalworking. Analysis of the slag and retrieval of C14 dates from bulk samples will provide more precise information about the processes occurring here and the date for this activity.		
G20	Type 14 feature	247216	358699
G21	Centrepoint for a loose cluster of Type 10c features, aligned NE-SW across c. 250m; one Type 9 feature also present. Evaluation suggests some elements may not be archaeological (Trenches 89, 90).	247177	358791
G22	Type 11 feature	247169	358907
G23	Two Type 13 features, aligned N-S; to the S, one Type 11 feature	247231	358980
G24	Three Type 11 features, in a NE-SW alignment across c. 70m	247232	359079
G25	Type 9b feature, curvilinear	247223	359140
G26	Cluster of three Type 11 features	247195	359213
G27	Type 11 feature	247279	359248
G28	Two Type 11 features	247194	359329
G29	Type 11 feature	247255	359457
G30	Dense cluster of linear features: Types 9f and 12d	247282	359580
G31	Type 13 feature	247281	359720
G32	Semi-circular Type 15 feature	247348	359759
G33	Type 13 feature	247358	359936
G34	Type 8 feature	247463	359993
G35	Type 9b feature	247438	360051
G36	Type 7 feature	247414	360074
G37	Type 11 feature	247813	360281
G38	Type 9b feature	247667	360286
G39	Three Type 11 features	247756	360308
G40	Dense concentration of Type 9e, and Type 11 features, across c. 150m	247840	360364
G41	Type 13 features. Evaluation suggests modern drainage (Trench 52).	247950	360454

ID	Description	NGR X	NGR Y
G42	Type 14 feature	247842	360456
G43	Centrepoint for three short linear Type 9b features	247822	360524
G44	Type 11 feature	248174	360572
G45	Type 8 feature	248379	360602
G46	Type 8 feature	248379	360713
G47	Type 7 feature	248574	360927
G48	Pair of Type 13 features	248972	361093
G49	Four Type 11 features	249095	361208
G50	Type 7 feature	249288	361267
G51	Type 8 feature	249457	361666
G52	Type 11 feature	249453	361684
G53	Type 8 feature	249452	361813
G54	Type 13 feature	249568	361943
G55	Type 13 feature	249503	362042
G56	Cluster of Type 8 and Type 13 features. Modern field drains found by evaluation (Trench 37, 38).	249749	362266
G57	Type 9d feature	249889	362362
G58	Pair of Type 12c features	249897	362411
G59	Type 9d feature	249943	362432
G60	Pair of Type 8 features at right angles	250112	362727
G61	Type 13 feature	250267	362988
G62	Type 11 feature	250387	363032
G63	Curvilinear Type 9c feature	250427	363093
G64	Type 8 feature	250494	363219
G65	Type 7 feature	250528	363246
G66	Type 11 feature	250672	363413

ID	Description	NGR X	NGR Y
G67	Cluster of three Type 11 features	250765	363484
G68	Type 4 feature, in association with two Type 11 features. The Type 4 linear feature is likely to be the Roman road.	250782	363550
G69	Three closely-grouped Type 11 features	251067	363810
G70	Type 9c feature	250932	363833
G71	Type 9b feature	250958	363910
G72	Type 13 feature	250992	364023
G73	Centrepoint for a group of parallel-aligned Type 5 features. Evaluation suggests natural.	250989	364410
G74	Dense cluster of Type 3, 3a, 5 and 11a features. Evaluation suggests natural.	250926	364510
G75	Pair of parallel Type 12b features, and one Type 10b feature. Evaluation suggests natural.	251109	364576
G76	Pair of Type 5 features	251192	364633
G77	Dense cluster of Type 2 and 2b features, with one linear feature extending northwards to link with G79. Modern agricultural features found by evaluation, but others possibly archaeological (Trenches 18-21).	250904	364677
G78	Type 16 feature. Prehistoric burnt mound found by evaluation (Trench 18).	250946	364702
G79	Type 2 feature joining to G77; also possible enclosure at the N end	250908	364780
G80	Curvilinear Type 2 feature	250893	364819
G81	Centrepoint for an extensive area of Type 8 features	250667	365217
G82	Type 13 feature	250627	365279
G83	Centrepoint for a cluster of Type 9a, 12a and 13 features	250544	365492
G84	Centrepoint for a cluster of Type 9a features	250655	365524
G85	Type 9a feature	250661	365573
G86	Type 13 feature	250493	365573
G87	Type 13 feature	250553	365582
G88	Type 13 feature	250510	365642
G89	Type 10a feature	250521	365855

ID	Description	NGR X	NGR Y
G90	Cluster of Type 1 features. Interpreted as part of a larger feature likely to extend to the north east and south west. They may form part of a boundary or larger enclosure. No artefacts were recovered which would aid with the dating of this feature.	250510	365879

Table 8. Historic boundaries
Hedge Reference number corresponds to the reference for the Dormouse Survey. 'Historic' refers to a boundary that appears on the 1st edition Ordnance Survey (1891) and contains historic fabric, rather than being a modern replacement on the same alignment.

Hedge Reference	Historic
S1 H5	Y
S1 H2	Y
S2 H6	N
S1 H4	Y
S2 H7	N
S1 H1	Y
S1 H3	Y
S2 H4	Y
S2 H2	Y
S3 H5	Y
S2 H1	Y
S3 H4	Y
S3 H3	Y
S3 H2	Y
S3 H1	Y
S4 H4	N
S4 H3	Y
S4 H2	Y
S4 H1	Y
S5 H11	Y
S5 H10	Y
S5 H9	Y

Hedge Reference	Historic
S5 H8	Y
S5 H7	Y
S5 H6	Y
S5 H5	N
S5 H4	Y
S5 H3	Y
S5 H2	Y
S5 H1	Y
S6 H5	Y
S6 H4	Y
S6 H3	N
S6 H2	Y
S6 H1	Y
S7 H2	N
S7 H1	Y
S8 H6	Y
S8 H4	Y
S8 H5	Y
S8 H3	Y
S8 H2	Y
S8 H1	N
S9 H3	Y
S9 H1	Y
S9 H2	N
S10 H2	Y

Hedge Reference	Historic
S10 B2	Y
S10 B3	Y
S10 B1	Y
S10 B7	N
S9 B3	N
S9 B2	Y
S9 B6	Y
S8 B1	Y
S8 B2	N
S6 B1	N
S5 B1	Y
S5 B2	Y
S5 B3	N
S2 B1	Y
S2 B2	Y
S1 B1	N
S1 B2	N
S2 H5	Y
S2 H3	N
S3 B1	Y
S4 B3	Y
S4 B2	Y
S4 B1	Y
S9 B5	Y
S10 B4	Y

Hedge Reference	Historic
S10 H1	Y
S9 B1	Y
S10 B5	N
S10 B6	N
S9 B4	N
S6 B2	Y

Appendix C.2 – Geophysics Report

GEOPHYSICAL SURVEY REPORT

STRATASCAN™

SUMO Survey Services
SUMO Group Member

Beatty & Jones Bro

Project name:

A487 Caernarfon to Bontnewydd Road Scheme

Client:

Balfour Beatty & Jones Brothers

June 2015

Job ref:

J8475

Report author:

Rebecca Davies BSc (Hons)

Version 2.0

GEOPHYSICAL SURVEY REPORT

Project name:
A487 Caernarfon to Bontnewydd Road Scheme
Client:
Balfour Beatty & Jones Brothers

Photo showing typical site conditions at Plot 134

Job ref:
J8475

Field team:
Joshua Jones BSc (Hons) ACIfA, **Stephen Weston** BA, **Joe Perry, Claire Stephens, Nathan Thomas, Leanne Swinbank & Kimberley Teale**

Techniques:
Detailed magnetic survey – Gradiometry

Project manager:
Simon Haddrell BEng(Hons) AMBCS PCIfA

Survey date:
26th May - 17th June 2015

Report written By:
Rebecca Davies BSc (Hons)

Start point:
SH 504 659
End point:
SH 472 577

CAD illustrations by:
Rebecca Davies BSc (Hons)

Post code:
LL55 1LN

Checked by:
Peter Barker C.Eng MICE MCIWEM MCIfA FCInistCES

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1 SUMMARY OF RESULTS

A detailed gradiometry survey was conducted over approximately 98 hectares of mixed agricultural and grassland, running from Griffiths Crossing in the north to Llanwnda in the south. The survey has identified a number of features of probable archaeological origin, likely related to former enclosures, along with the likely route of a Roman road. A possible former field system has been identified, along with an area of possible settlement activity. Further linear anomalies may be related to enclosures or be of agricultural or modern origin. Former field boundaries, ridge and furrow cultivation and modern ploughing provide evidence of a more recent agricultural past. The remaining features are natural or modern and include the Aber-Dinlle fault, scattered magnetic debris, former ponds, underground services and disturbance from nearby ferrous objects.

2 INTRODUCTION

2.1 *Background synopsis*

Stratascan were commissioned to undertake a geophysical survey of an area outlined as part of the A487 new road scheme between Caernarfon and Bontnewydd. This survey forms part of an archaeological investigation being undertaken by Balfour Beatty & Jones Brothers.

2.2 *Site location*

The site runs from Griffiths Crossing in the north (at OS Ref. SH 504 659) to LLanwnda in the south, at OS Ref. SH 472 577. The site is centred at OS Ref. SH 493 613.

2.3 *Description of site*

The survey area is approximately 9.8km of mixed agricultural and grassland, covering an area of 112 hectares. A number of obstructions reduced the surveyable area to approximately 98 hectares. Details of the obstructions can be found in Appendix A.

2.4 *Geology and soils*

The underlying geology across the majority of the site comprises undifferentiated mudstone, siltstone and sandstone of LLanvirn Rocks. An Unnamed Igneous Intrusion of Ordovician to Silurian Felsic-rock can be seen in the north of the site, while the southern end of the site comprises sandstone and conglomerate of Lower Cambrian Rocks (British Geological Survey website). The Aber-Dinlle fault is recorded in the south of the site. The drift geology across the survey area is Till - Diamicton (British Geological Survey website).

A table showing the soils on the site can be found in Appendix B.

2.5 *Site history and archaeological potential*

The "Caernarfon –Bontnewydd Bypass Cultural Heritage Baseline – draft" (2015) mentions a number of prehistoric and Roman finds and features within the site and surrounding area. These include the Scheduled Ancient Monuments of Caerlan Tibot (SAM CN400), a Roman signal station (SAM CN 188) and hut circle (SAM CN229). Caerlan Tibot is a sub-circular enclosure of uncertain period, though is likely to be prehistoric in origin. A ring ditch visible on aerial photographs near to Caerlan Tibot has also been identified, with various features likely to represent the ploughed down remains of hut circles and a field system associated with Caerlan Tibot itself.

Further features including an embanked enclosure (PRN 584) to the south of LLanwnda, likely related to Iron Age/Romano-British settlement activity are recorded, along with evidence of Bronze Age occupation in the form of a probable barrow and urn burial (PRN 36).

The probable route of a Roman road from Segontium to Canovium (PRN 17554, 17562, 17563, 17590, 17824, 17831 & 17832) is recorded. Traces of an old road are said to have been found south-east of Caergarw while other areas are visible on aerial photographs.

A small number of medieval features are recorded, including the fulling mill at Castellmai (PRN 1929) and St Mary's Church, Llanfair-is-gaer (PRN 3681).

Given the number of prehistoric and Roman features within the wider landscape of the survey area, it could be assumed that the site has a moderate-high potential for remains of this period, with low potential for remains of any other period.

2.6 *Survey objectives*

The objective of the survey was to locate any features of possible archaeological origin in order that they may be assessed prior to development.

2.7 *Survey methods*

This report and all fieldwork have been conducted in accordance with both the English Heritage guidelines outlined in the document: *Geophysical Survey in Archaeological Field Evaluation, 2008* and with the Chartered Institute for Archaeologists document *Standard and Guidance for Archaeological Geophysical Survey.*

Due to the moderate-high potential for prehistoric and Roman remains, detailed magnetic survey (gradiometry) was used as an efficient and effective method of locating archaeological anomalies. More information regarding this technique is included in Appendix A.

2.8 Processing, presentation and interpretation of results

2.8.1 Processing

Processing is performed using specialist software, called Anomaly. This can emphasise various aspects contained within the data but which are often not easily seen in the raw data. Basic processing of the magnetic data involves 'flattening' the background levels with respect to adjacent traverses and adjacent grids. Once the basic processing has flattened the background it is then possible to carry out further processing which may include low pass filtering to reduce 'noise' in the data and hence emphasise the archaeological or man-made anomalies.

The following schedule shows the basic processing carried out on all minimally processed gradiometer data used in this report:

1. *Destripe* (Removes striping effects caused by zero-point discrepancies between different sensors and walking directions)
2. *Destagger* (Removes zigzag effects caused by inconsistent walking speeds on sloping, uneven or overgrown terrain)

2.8.2 Presentation of results and interpretation

The presentation of the data for each site involves a print-out of the minimally processed data both as a greyscale plot and a colour plot showing extreme magnetic values. Magnetic anomalies have been identified and plotted onto the 'Abstraction and Interpretation of Anomalies' drawing for the site.

3 RESULTS

The detailed magnetic gradiometer survey conducted along the proposed route of the Caernarfon-Bontnewydd bypass has identified a number of anomalies that have been characterised as being either of a *probable* or *possible* archaeological origin.

The difference between *probable* and *possible* archaeological origin is a confidence rating. Features identified within the dataset that form recognisable archaeological patterns or seem to be related to a deliberate historical act have been interpreted as being of a probable archaeological origin.

Features of possible archaeological origin tend to be more amorphous anomalies which may have similar magnetic attributes in terms of strength or polarity but are difficult to classify as being archaeological or natural.

The following list of numbered anomalies refers to numerical labels on the interpretation plots.

3.1 Probable Archaeology

1 Curved, parallel, positive linear anomalies in Plot 63 (Fig. 07). These are likely to be related to former cut features of archaeological origin. They are cut off at the edge of the survey area suggesting that they are part of larger feature likely to extend to the north east and south west. They may form part of a boundary or larger enclosure.

2 A series of positive linear and curvilinear anomalies and in Plot 63 and 61 (Fig. 10). These are indicative of former cut features and may represent an enclosure ditch possibly associated with Caerlan Tibot (SAM CN400), which lies immediately to the west.

2b A negative linear anomaly in Plot 63 (Fig. 10). This is indicative of a former bank or earthwork and is related to Anomaly 2.

3 Positive linear anomalies in Plot 61 (Fig. 10). These are indicative of former cut features, such as ditches. Given their proximity to Caerlan Tibot (SAM CN400) and their similar characteristics to the probable archaeological features identified as Anomaly 2, these are also likely to be archaeological in origin.

3b A small, negative linear anomaly in Plot 63 (Fig. 10) This is indicative of a former bank or earthwork and is related to Anomaly 3.

4 A linear anomaly in Plot 141 (Fig. 16). This closely corresponds in position and orientation with the line of a Roman road, shown as a cropmark on aerial photography to the south-west of the feature (PRN 17831). Roman roads are difficult to locate using geophysics and can produce a variety of anomaly types and so it is difficult to characterise the response further. Based on its location alone it seems likely to be marking part of the roads course. Despite this, an element of caution is advised as the anomaly runs directly through an animal feeding trough and may be a related modern feature.

3.2 Medieval/Post-Medieval Agriculture

5 Widely spaced, slightly curved parallel linear anomalies in Plots 51 and 53 (Fig. 10). These are related to ridge and furrow cultivation.

6 Closely spaced parallel linear anomalies at many locations across the site. These are likely to be related to modern agricultural activity, such as ploughing.

7 A number of linear anomalies in plots 134, 136, 187 & 189 (Figs. 16, 19, 28 & 31). These are related to former field boundaries present on available historic mapping from 1888 to 1991.

8 A number of linear anomalies at many locations across the site. These are likely to be related to former field boundaries that are not visible on available historic mapping. Many of these are similar in character to those identified as known boundaries (Anomaly 7) and form long linear features stretching across the landscape.

*3.3 **Other Anomalies***

9 A number of positive linear anomalies at many locations across the site. These are indicative of former cut features of possible archaeological origin. More detail is provided on each anomaly below:

9a A series of linear features forming crude rectilinear shapes in Plot 63 (Fig. 07). Due to the rectilinear shape of these features they could be related to a former field system.

9b A number of very short, positive linear anomalies in Plots 110, 112 & 141 (Figs. 13, 28, 31 & 34). These are indicative of former cut features and may be of archaeological origin. Due to the size of these features and the limitations of the survey area in places, further interpretation is difficult.

9c Positive linear anomalies forming rectilinear features in Plots 136 & 141 (Figs. 13 & 16). These may be related to former cut features of archaeological origin, however due to their size further detailed interpretation is difficult.

9d A number of linear anomalies indicative of former cut features of possible archaeological origin in Plot 130 (Fig. 19). Due to the alignment of these features with modern agriculture, it is thought that these could also be related to agricultural activity such as ploughing; however given the weakness of the features a more detailed interpretation is difficult.

9e A number of linear anomalies and possible former backfilled pits (Anomaly 11a) in Plot 112 (Fig. 31). The density of the features here, and the combination of linear anomalies and pits could indicate that this is an area of possible former settlement activity.

9f Positive linear anomalies forming a rectilinear shape in Plot 112 (Fig 34) and associated linear anomalies (Anomaly 12d). These may be archaeological in origin and relate to a former enclosure. A number of smaller positive linear anomalies are likely to be associated with the enclosure due to their close proximity.

9g Positive linear anomalies in Plot 107 (Fig 34) form a rectilinear shape and may be related to a former enclosure.

10 A small number of positive area anomalies in Plots 53, 63, 155 and 107 (Figs. 07, 10 & 34). These are indicative of former cut features and may be of archaeological or natural origin. More detail is provided on each anomaly below:

10a A positive area anomaly in Plot 63 (Fig. 07). This is indicative of a former cut feature and may be related to Anomaly 1 given its close proximity to the probable archaeological feature; however due to its location at the edge of the survey area interpretation is limited.

10b A positive area anomaly and associated negative anomalies (Anomaly 12b) in Plot 53 (Fig. 10). Due to the proximity of the feature to the probable archaeology of Anomalies 2 & 3, and its similarity in appearance, these may be archaeological in origin. Despite this, the feature is very straight and runs parallel to the modern road which could mean it is modern in origin.

10c Several large positive anomalies in Plots 107 & 155 (Fig. 34) contain characteristics of both archaeological and natural features. The anomalies run parallel to one another, as well as a possible enclosure to the south (Anomaly 9g), and also cut across modern field boundaries. This could suggest that they are of archaeological origin. On the other hand, the features are only seen in close proximity to the geological faults and may equally be natural in origin.

11 A number of small discrete positive anomalies across the site. These are indicative of former cut features such as backfilled pits, and may be related to archaeological activity or the underlying geology of the site. Anomaly 11a (Plots 107 & 112) are more likely to be related to former pits given their proximity to areas of possible archaeological activity (Figs. 31 & 34).

12 Negative linear anomalies in Plots 53, 63, 107, 112 & 130 (Figs. 07, 10, 19, & 34). These are indicative of former banks or earthwork features and may be of archaeological origin. More detail is provided on each anomaly below:

12a A negative linear anomaly in Plot 63 (Fig. 07). This is likely to be related to the possible field system seen in Anomaly 9a.

12b Negative linear anomalies in Plot 53 (Fig. 10). These are associated with Anomaly 10b and may be related to the probable archaeology of Anomalies 2 & 3 or be modern in origin.

12c Two negative linear anomalies in Plot 130 (Fig. 19). These are possible banks or earthworks of archaeological origin, however may also be related to agricultural origin. These are associated with Anomaly 9d.

12d Negative linear anomalies forming a rectilinear shape in Plot 112 (Fig. 34). These are associated with Anomaly 9f and are possibly archaeological in origin, related to a former enclosure.

13 A number of linear anomalies across the site. These are of unknown origin, but are likely to be related to modern activity.

14 Areas of amorphous magnetic variation in Plots 112 and 108 (Figs. 28 & 34). These are of unknown origin but are likely related to modern agricultural activity.

15 A small, curvilinear positive anomaly in Plot 112 (Fig. 34). The size of this feature makes interpretation difficult and it may be of archaeological, agricultural or modern origin.

16 Two circular areas of strong magnetic debris in Plots 61 & 63 (Fig. 10). These are likely related to former ponds.

17 A number of strong bipolar linear anomalies across the site. These are related to modern underground services such as pipes or cables.

18 A strong bipolar linear anomaly in Plot 131 (Fig 22). This is related to a cable used by borehole engineers at the time of the survey.

19 Areas of amorphous magnetic variation in Plots 106 & 102 (Fig. 34). The anomaly in Plot 106 is related to the Aber-Dinlle geological fault (Geological Survey of Ireland, 1982). The anomaly in Plot 102 is very similar in appearance to the Aber-Dinlle fault and is therefore considered likely to be an additional geological fault.

20 A number of areas of amorphous magnetic variation across the site. These are likely to be natural in origin.

21 A small number of areas of scattered magnetic debris across the site. These are likely to be modern in origin.

22 An area of strong magnetic debris in Plot 102 (Fig. 34). This is likely to be related to an area of modern made ground.

23 Areas of magnetic disturbance are the result of substantial nearby ferrous metal objects such as fences and underground services. These effects can mask weaker archaeological anomalies, but on this site have not affected a significant proportion of the area.

24 A number of magnetic ‘spikes’ (strong focussed values with associated antipolar response) indicate ferrous metal objects. These are likely to be modern rubbish.

4 DATA APPRAISAL & CONFIDENCE ASSESSMENT

Both sandstone and mudstone geologies can give variable results for gradiometer survey. The igneous intrusion in the extreme north of the site gives an enhanced response for gradiometer survey, where a high contrast can be seen between anomalies. Natural variations in this area may be masking weaker anomalies, however probable archaeological features have been identified. Given the number of anomalies of possible archaeological origin that have been identified it can be assumed that the survey has been effective.

5 CONCLUSION

The survey along the proposed route of the bypass between Caernarfon and Bontnewydd has identified a number of features of probable archaeological origin. A series of linear anomalies, indicative of an enclosure ditch, have been identified, as well as further linear anomalies in the north of the site which are likely to be of archaeological origin. These are likely to be related to probable prehistoric site of Caerlan Tibot (SAM CN400). The location of a Roman road has also been discovered. A number of possible archaeological anomalies have also been detected across the site; including a possible field system and former settlement. Post-medieval field boundaries and evidence of ridge and furrow cultivation along the route of the survey suggests that the recent history of the area is predominantly agricultural.

The remaining anomalies are modern or natural in origin, the latter including the Aber-Dinlle geological fault. The modern anomalies relate to underground services, made ground, former ponds, areas of scattered magnetic debris, nearby ferrous metal objects, and fencing.

6 REFERENCES

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APPENDIX A – SITE OBSTRUCTIONS

Plot Number	Obstructions
118	Maize
189	Marshy/Boggy ground
124	Hanson Quarry
128	Woodland
131	Glan Gwna Holiday Park
130	Overgrown vegetation/steep ground
136	Fields with silage/Area of woodland
50	Silage
61	Overgrown/Marshy
63	Woodland/dense vegetation

APPENDIX B – SOILS

Plot Number	Soil	Soil Type	Soil Description
102	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
67	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
104	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
104b	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
106	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
108	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
155	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
110	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
112	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.

169	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
196	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
188	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
118	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
161	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
124	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
125	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
128	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
131	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
130	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
134	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
133	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
200	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
136	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
135	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
141	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
50	Brickfield 2	Cambic stagnogley soils	Slowly permeable, seasonally waterlogged fine loamy soils.
51	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
60	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
53	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
61	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
63	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
156	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
143	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.
66	Wick 1	Typical brown earths	Deep well drained coarse loamy and sandy soils.

APPENDIX C – METHODOLOGY & SURVEY EQUIPMENT

Grid locations

The location of the survey grids has been plotted together with the referencing information. Grids were set out using a Leica 705auto Total Station and referenced to suitable topographic features around the perimeter of the site or a Leica Smart Rover RTK GPS.

An RTK GPS (Real-time Kinematic Global Positioning System) can locate a point on the ground to a far greater accuracy than a standard GPS unit. A standard GPS suffers from errors created by satellite orbit errors, clock errors and atmospheric interference, resulting in an accuracy of 5m-10m. An RTK system uses a single base station receiver and a number of mobile units. The base station re-broadcasts the phase of the carrier it measured, and the mobile units compare their own phase measurements with those they received from the base station. A SmartNet RTK GPS uses Ordnance Survey's network of over 100 fixed base stations to give an accuracy of around 0.01m.

Survey equipment and gradiometer configuration

Although the changes in the magnetic field resulting from differing features in the soil are usually weak, changes as small as 0.2 nanoTeslas (nT) in an overall field strength of 48,000nT, can be accurately detected using an appropriate instrument.

The mapping of the anomaly in a systematic manner will allow an estimate of the type of material present beneath the surface. Strong magnetic anomalies will be generated by buried iron-based objects or by kilns or hearths. More subtle anomalies such as pits and ditches can be seen if they contain more humic material which is normally rich in magnetic iron oxides when compared with the subsoil.

To illustrate this point, the cutting and subsequent silting or backfilling of a ditch may result in a larger volume of weakly magnetic material being accumulated in the trench compared to the undisturbed subsoil. A weak magnetic anomaly should therefore appear in plan along the line of the ditch.

The magnetic survey was carried out using a dual sensor Grad601-2 Magnetic Gradiometer manufactured by Bartington Instruments Ltd. The instrument consists of two fluxgates very accurately aligned to nullify the effects of the Earth's magnetic field. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background. The Grad601-2 consists of two high stability fluxgate gradiometers suspended on a single frame. Each gradiometer has a 1m separation between the sensing elements so enhancing the response to weak anomalies.

Sampling interval

Readings were taken at 0.25m centres along traverses 1m apart. This equates to 3600 sampling points in a full 30m x 30m grid.

Depth of scan and resolution

The Grad 601-2 has a typical depth of penetration of 0.5m to 1.0m, though strongly magnetic objects may be visible at greater depths. The collection of data at 0.25m centres provides an optimum methodology for the task balancing cost and time with resolution.

Data capture

The readings are logged consecutively into the data logger which in turn is daily down- loaded into a portable computer whilst on site. At the end of each site survey, data is transferred to the office for processing and presentation.

APPENDIX D – BASIC PRINCIPLES OF MAGNETIC SURVEY

Detailed magnetic survey can be used to effectively define areas of past human activity by mapping spatial variation and contrast in the magnetic properties of soil, subsoil and bedrock.

Weakly magnetic iron minerals are always present within the soil and areas of enhancement relate to increases in *magnetic susceptibility* and permanently magnetised *thermoremanent* material.

Magnetic susceptibility relates to the induced magnetism of a material when in the presence of a magnetic field. This magnetism can be considered as effectively permanent as it exists within the Earth's magnetic field. Magnetic susceptibility can become enhanced due to burning and complex biological or fermentation processes.

Thermoremanence is a permanent magnetism acquired by iron minerals that, after heating to a specific temperature known as the Curie Point, are effectively demagnetised followed by re-magnetisation by the Earth's magnetic field on cooling. Thermoremanent archaeological features can include hearths and kilns and material such as brick and tile may be magnetised through the same process.

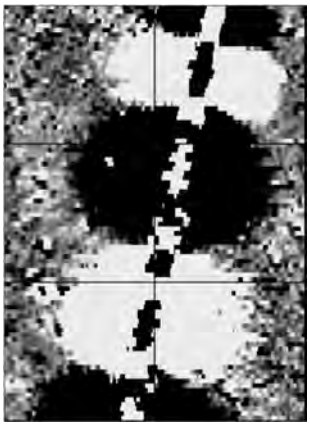
Silting and deliberate infilling of ditches and pits with magnetically enhanced soil creates a relative contrast against the much lower levels of magnetism within the subsoil into which the feature is cut. Systematic mapping of magnetic anomalies will produce linear and discrete areas of enhancement allowing assessment and characterisation of subsurface features. Material such as subsoil and non-magnetic bedrock used to create former earthworks and walls may be mapped as areas of lower enhancement compared to surrounding soils.

Magnetic survey is carried out using a fluxgate gradiometer which is a passive instrument consisting of two sensors mounted vertically 1m apart. The instrument is carried about 30cm above the ground surface and the top sensor measures the Earth's magnetic field whilst the lower sensor measures the same field but is also more affected by any localised buried field. The difference between the two sensors will relate to the strength of a magnetic field created by a buried feature, if no field is present the difference will be close to zero as the magnetic field measured by both sensors will be the same.

Factors affecting the magnetic survey may include soil type, local geology, previous human activity, disturbance from modern services etc.

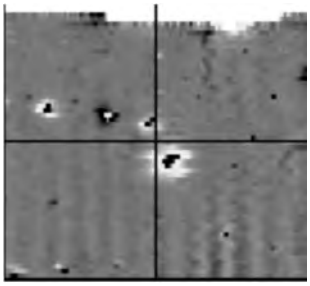
APPENDIX E – GLOSSARY OF MAGNETIC ANOMALIES

Bipolar



A bipolar anomaly is one that is composed of both a positive response and a negative response. It can be made up of any number of positive responses and negative responses. For example a pipeline consisting of alternating positive and negative anomalies is said to be bipolar. See also dipolar which has only one area of each polarity. The interpretation of the anomaly will depend on the magnitude of the magnetic field strength. A weak response may be caused by a clay field drain while a strong response will probably be caused by a metallic service.

Dipolar

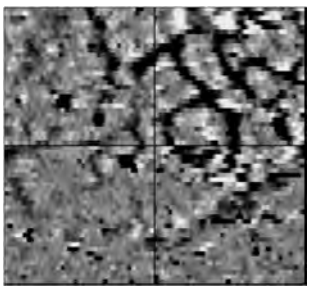


This consists of a single positive anomaly with an associated negative response. There should be no separation between the two polarities of response. These responses will be created by a single feature. The interpretation of the anomaly will depend on the magnitude of the magnetic measurements. A very strong anomaly is likely to be caused by a ferrous object.

Positive anomaly with associated negative response

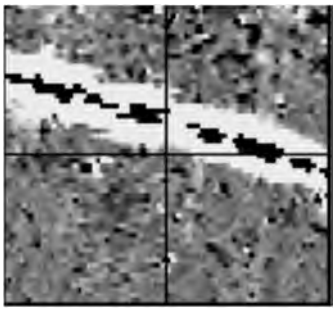
See bipolar and dipolar.

Positive linear



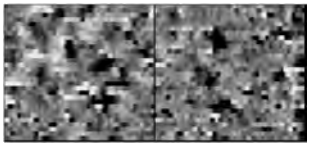
A linear response which is entirely positive in polarity. These are usually related to in-filled cut features where the fill material is magnetically enhanced compared to the surrounding matrix. They can be caused by ditches of an archaeological origin, but also former field boundaries, ploughing activity and some may even have a natural origin.

Positive linear anomaly with associated negative response



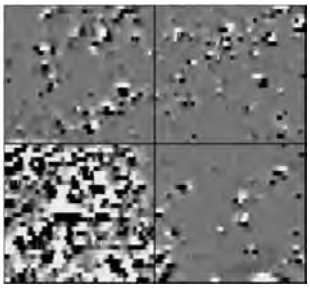
A positive linear anomaly which has a negative anomaly located adjacently. This will be caused by a single feature. In the example shown this is likely to be a single length of wire/cable probably relating to a modern service. Magnetically weaker responses may relate to earthwork style features and field boundaries.

Positive point/area



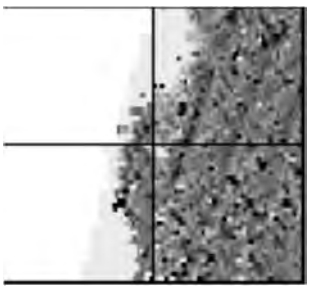
These are generally spatially small responses, perhaps covering just 3 or 4 reading nodes. They are entirely positive in polarity. Similar to positive linear anomalies they are generally caused by in-filled cut features. These include pits of an archaeological origin, possible tree bowls or other naturally occurring depressions in the ground.

Magnetic debris



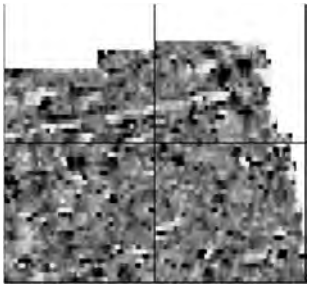
Magnetic debris consists of numerous dipolar responses spread over an area. If the amplitude of response is low (+/-3nT) then the origin is likely to represent general ground disturbance with no clear cause, it may be related to something as simple as an area of dug or mixed earth. A stronger anomaly (+/-250nT) is more indicative of a spread of ferrous debris. Moderately strong anomalies may be the result of a spread of thermoremanent material such as bricks or ash.

Magnetic disturbance



Magnetic disturbance is high amplitude and can be composed of either a bipolar anomaly, or a single polarity response. It is essentially associated with magnetic interference from modern ferrous structures such as fencing, vehicles or buildings, and as a result is commonly found around the perimeter of a site near to boundary fences.

Negative linear

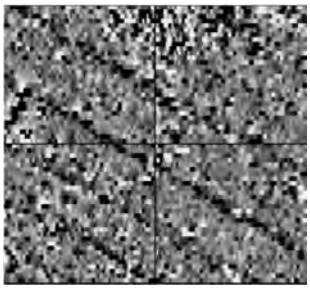


A linear response which is entirely negative in polarity. These are generally caused by earthen banks where material with a lower magnetic magnitude relative to the background top soil is built up. See also ploughing activity.

Negative point/area

Opposite to positive point anomalies these responses may be caused by raised areas or earthen banks. These could be of an archaeological origin or may have a natural origin.

Ploughing activity



Ploughing activity can often be visualised by a series of parallel linear anomalies. These can be of either positive polarity or negative polarity depending on site specifics. It can be difficult to distinguish between ancient ploughing and more modern ploughing. Clues such as the separation of each linear, straightness, strength of response and cross cutting relationships can be used to aid this, although none of these can be guaranteed to differentiate between different phases of activity.

Polarity

Term used to describe the measurement of the magnetic response. An anomaly can have a positive polarity (values above 0nT) and/or a negative polarity (values below 0nT).

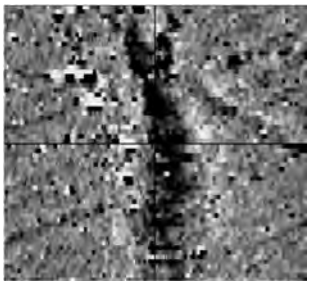
Strength of response

The amplitude of a magnetic response is an important factor in assigning an interpretation to a particular anomaly. For example a positive anomaly covering a 10m^2 area may have values up to around 3000nT, in which case it is likely to be caused by modern magnetic interference. However, the same size and shaped anomaly but with values up to only 4nT may have a natural origin. Colour plots are used to show the amplitude of response.

Thermoremanent response

A feature which has been subject to heat may result in it acquiring a magnetic field. This can be anything up to approximately +/-100 nT in value. These features include clay fired drains, brick, bonfires, kilns, hearths and even pottery. If the heat application has occurred in situ (e.g. a kiln) then the response is likely to be bipolar compared to if the heated objects have been disturbed and moved relative to each other, in which case they are more likely to take an irregular form and may display a debris style response (e.g. ash).

Weak background variations



Weakly magnetic wide scale variations within the data can sometimes be seen within sites. These usually have no specific structure but can often appear curvy and sinuous in form. They are likely to be the result of natural features, such as soil creep, dried up (or seasonal) streams. They can also be caused by changes in the underlying geology or soil type which may contain unpredictable distributions of magnetic minerals, and are usually apparent in several locations across a site.

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VIEWPORT 1

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VIEWPORT 3

VIEWPORT 4

VIEWPORT 5

PLOT 63

PLOT 66

PLOT 143

PLOT 156

PLOT 61

PLOT 53

PLOT 60

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PLOT 50

PLOT 141

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PLOT 136

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OS 100km square = SH

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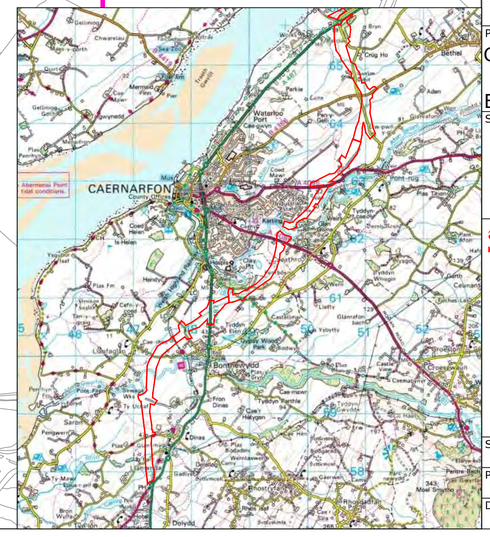

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Job No. 8475

Survey Date MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

SITE LOCATION, SURVEY AREA & REFERENCING - SHEET 1

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Scale 1:3000 (0m 30 60 90 120 150 180m)

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Date	Drawn by	Figure No.
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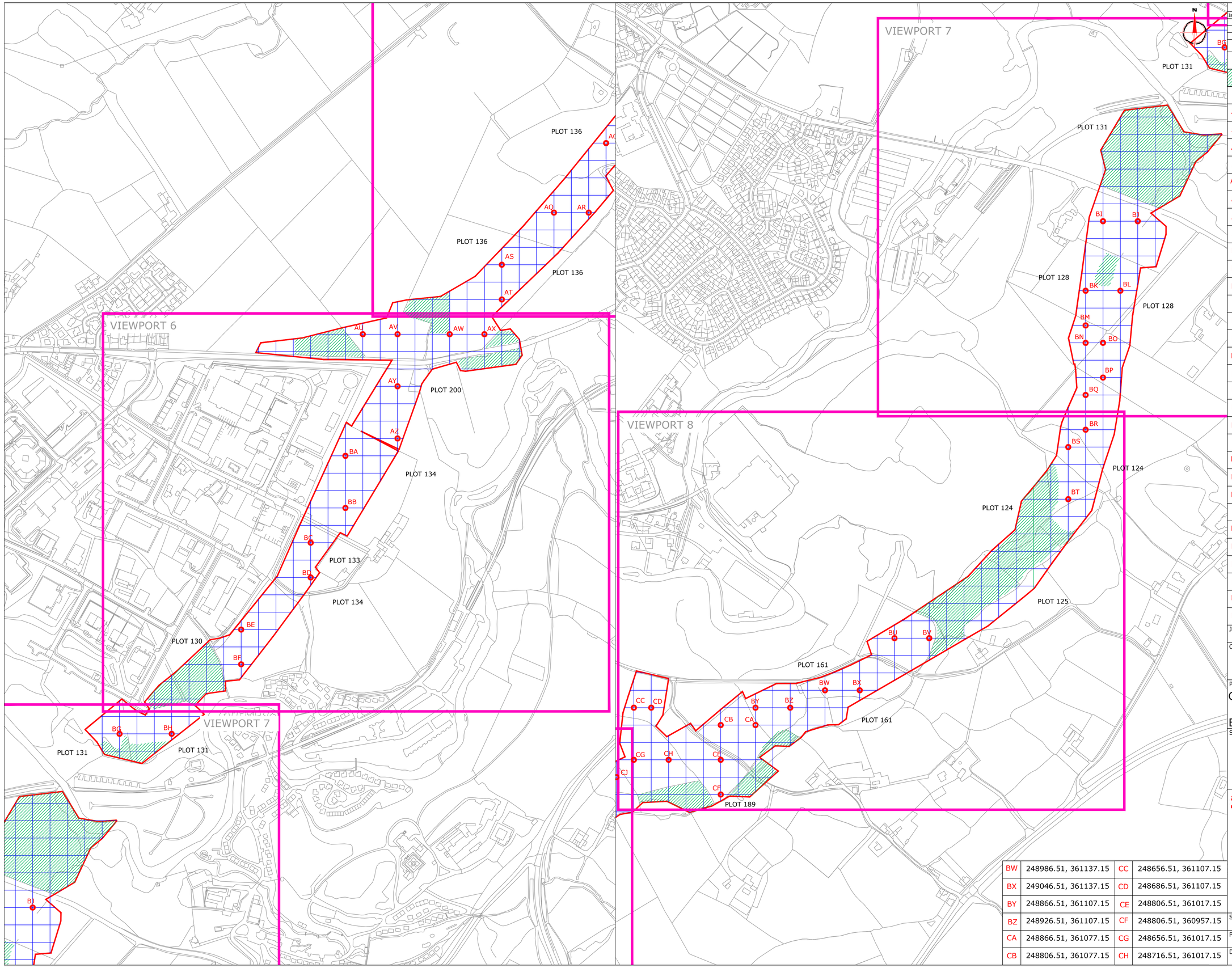

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Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

SITE LOCATION, SURVEY AREA & REFERENCING - SHEET 2

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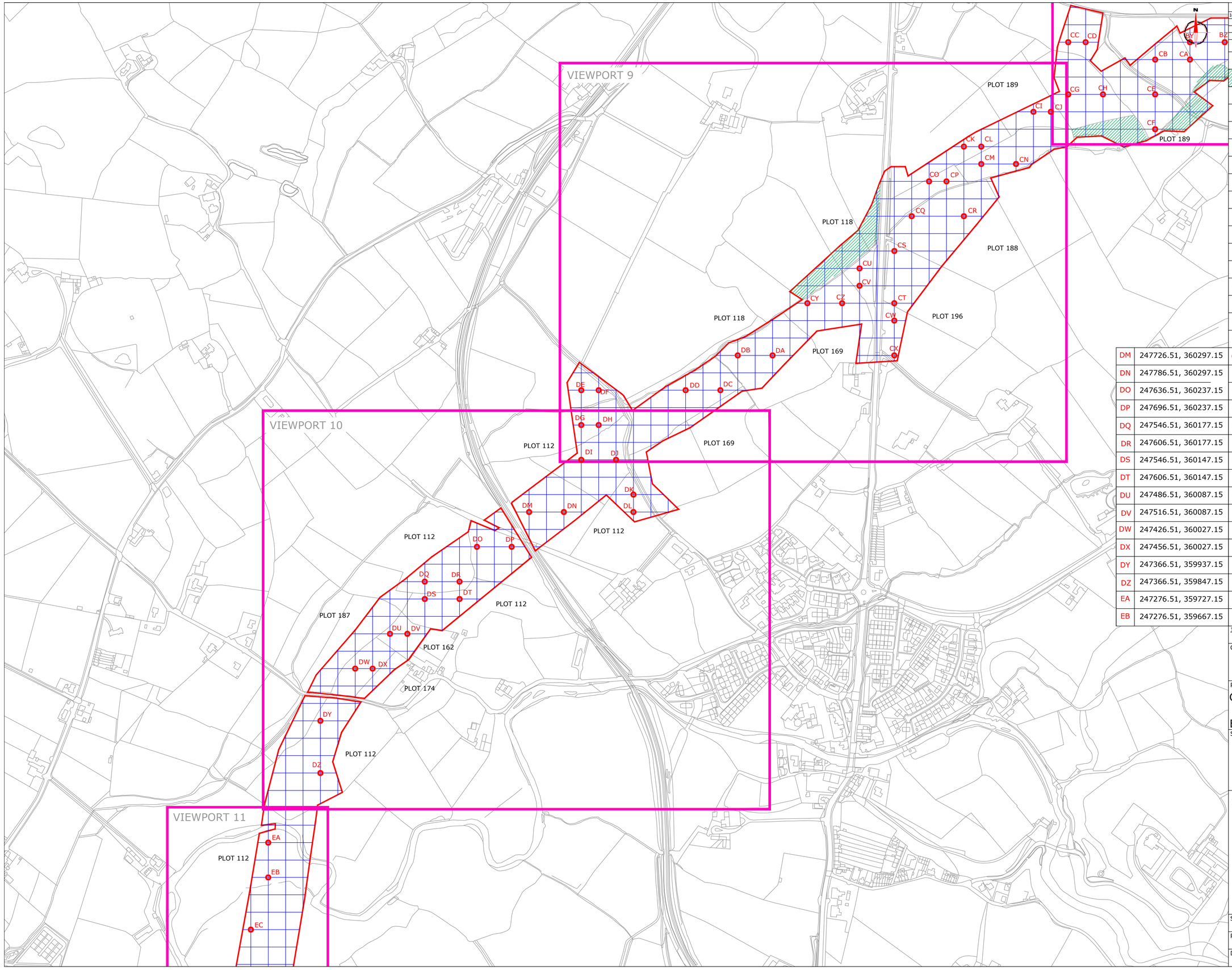
Date JUNE 15	Drawn by RD	Figure No. 02	



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DE	247816.51, 360507.15
DF	247846.51, 360507.15
DG	247816.51, 360447.15
DH	247846.51, 360447.15
DI	247816.51, 360387.15
DJ	247876.51, 360387.15
DK	247906.51, 360327.15
DL	247906.51, 360297.15
DM	247726.51, 360297.15
DN	247786.51, 360297.15
DO	247636.51, 360237.15
DP	247696.51, 360237.15
DQ	247546.51, 360177.15
DR	247606.51, 360177.15
DS	247546.51, 360147.15
DT	247606.51, 360147.15
DU	247486.51, 360087.15
DV	247516.51, 360087.15
DW	247426.51, 360027.15
DX	247456.51, 360027.15
DY	247366.51, 359937.15
DZ	247366.51, 359847.15
EA	247276.51, 359727.15
EB	247276.51, 359667.15

Job No.	8475
Survey Date	MAY/JUN 15
Client	BALFOUR BEATTY
Project Title	GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME
Subject	SITE LOCATION, SURVEY AREA & REFERENCING - SHEET 3

STRATASCAN™
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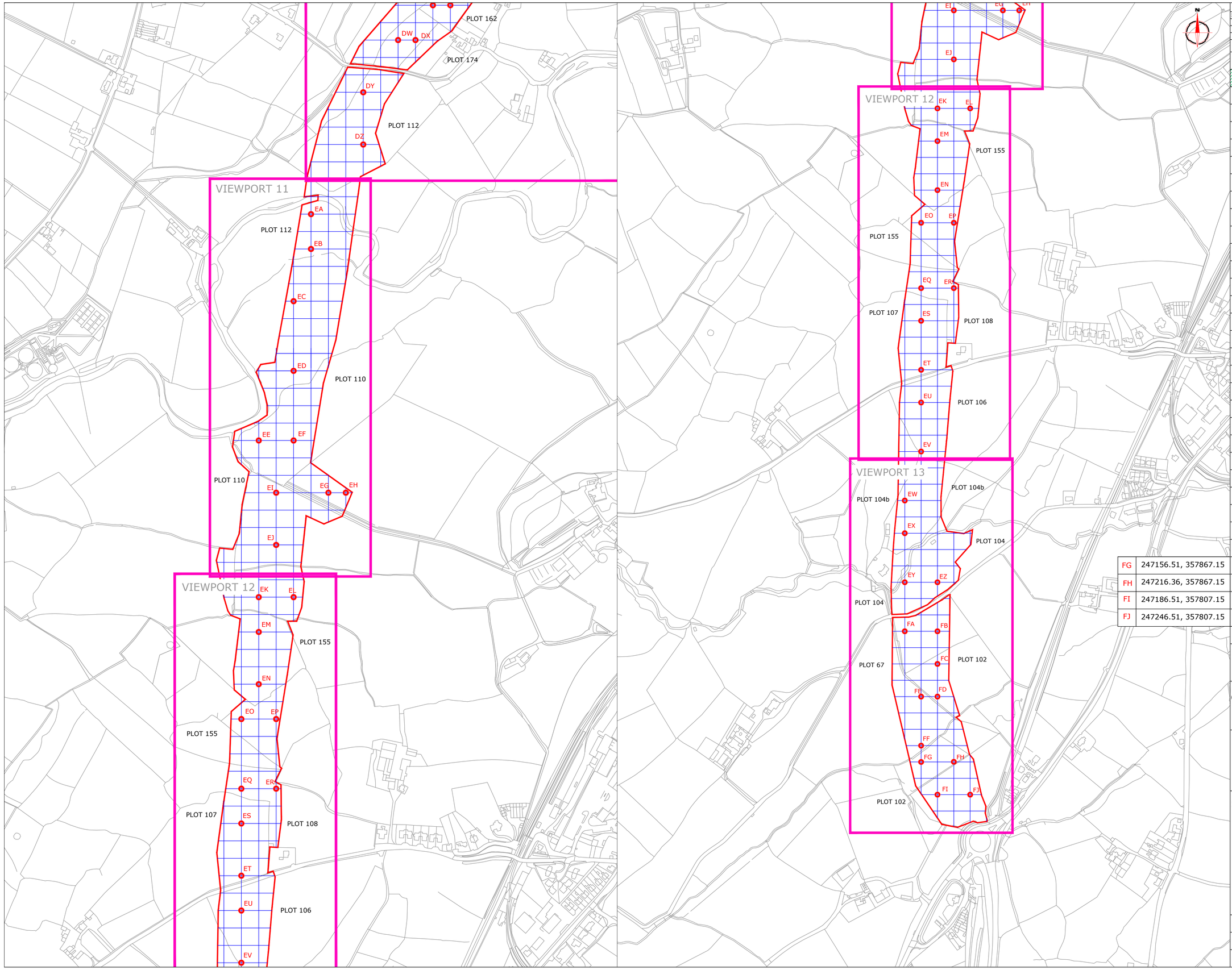
SUMO GROUP MEMBER

Scale 1:3000 (0m 30 60 90 120 150 180m)

Plot: A1	Checked by: PPB/DGE	Issue No.: 01
Date: JUNE 15	Drawn by: RD	Figure No.: 03



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

KEY

Area unsurveyable

OS REFERENCING INFORMATION

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EE	247186.51, 359337.15
EF	247246.51, 359337.15
EG	247306.51, 359247.15
EH	247336.51, 359247.15
EI	247216.51, 359247.15
EJ	247216.51, 359157.15
EK	247186.51, 359067.15
EL	247246.51, 359067.15
EM	247186.51, 359007.15
EN	247186.51, 358917.15
EO	247156.51, 358857.15
EP	247216.51, 358857.15
EQ	247156.51, 358737.15
ER	247216.51, 358737.15
ES	247156.51, 358677.15
ET	247156.51, 358587.15
EU	247156.51, 358527.15
EV	247156.51, 358437.15
EW	247126.51, 358347.15
EX	247126.51, 358287.15
EY	247126.51, 358197.15
EZ	247186.51, 358197.15
FA	247126.51, 358107.15
FB	247186.51, 358107.15
FC	247186.51, 358047.15
FD	247186.51, 357987.15
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FF	247156.51, 357897.15
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FH	247216.36, 357867.15
FI	247186.51, 357807.15
FJ	247246.51, 357807.15

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

SITE LOCATION, SURVEY AREA & REFERENCING - SHEET 4

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SUMO GROUP MEMBER

Scale		
1:3000	0m 30 60 90 120 150 180m	
Plot: A1	Checked by: PPB/DGE	Issue No.: 01
Date: JUNE 15	Drawn by: RD	Figure No.: 04

VIEWPORT 1

PLOT 63

PLOT 66

PLOT 63

VIEWPORT 2

PLOT 63

PLOT 63

PLOT 143

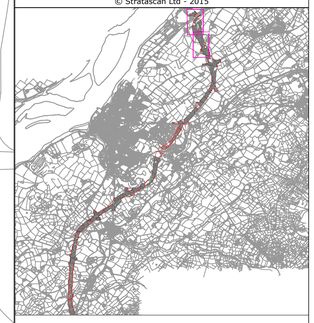
PLOT 156

PLOT 61

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORTS 1-2

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SUMO GROUP MEMBER

Scale 1:1250 0m 10 20 30 40 50 60 70 80m

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	05

VIEWPORT 1

PLOT 63

PLOT 66

PLOT 63

VIEWPORT 2

PLOT 63

PLOT 63

PLOT 143

PLOT 156

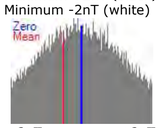
PLOT 61

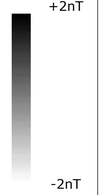
Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)





Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORTS 1-2

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	06

VIEWPORT 1

VIEWPORT 2

PLOT 63

PLOT 66

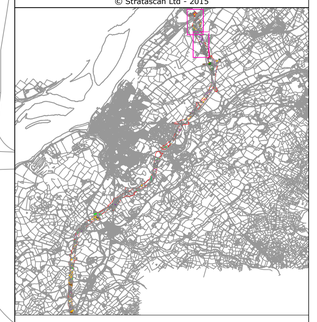
PLOT 143

PLOT 156

PLOT 61

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
- Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
- Linear anomaly - probably related to a former field boundary not present on available mapping
- Linear anomaly - related to a former field boundary present on available mapping

OTHER ANOMALIES

- Positive anomaly / weak positive anomaly - unknown origin, possible archaeological origin
- Negative anomaly / weak negative anomaly - unknown origin, possible archaeological origin
- Linear anomaly - probably related to pipe, cable or other modern service
- Bipolar linear anomaly - related to cable used by borehole engineers
- Linear anomaly - unknown origin, likely to be modern
- Area of amorphous magnetic variation - unknown origin, likely related to modern agricultural activity
- Area of strong magnetic debris - possibly related to former pond
- Area of amorphous magnetic variation - related to Aber Dinlle and other likely geological faults
- Magnetic disturbance associated with nearby metal object such as service or field boundary
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 1-2

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	07

VIEWPORT 3

PLOT 156

PLOT 63

PLOT 61

PLOT 53

PLOT 60

PLOT 51

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 3

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 0m 10 20 30 40 50 60 70 80m

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	08

VIEWPORT 3

PLOT 156

PLOT 63

PLOT 61

PLOT 53

PLOT 60

PLOT 51

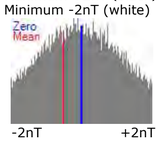
N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)



Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 3

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	09

VIEWPORT 3

PLOT 156

PLOT 63

PLOT 61

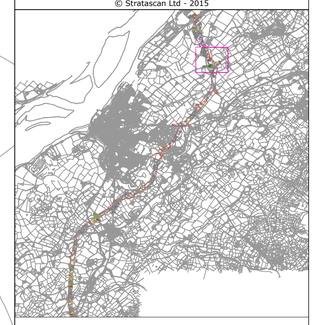
PLOT 53

PLOT 60

PLOT 51

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
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- Area of amorphous magnetic variation - related to Aber Dinlle and other likely geological faults
- Magnetic disturbance associated with nearby metal object such as service or field boundary
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 3

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	10

VIEWPORT 4

PLOT 50

PLOT 141

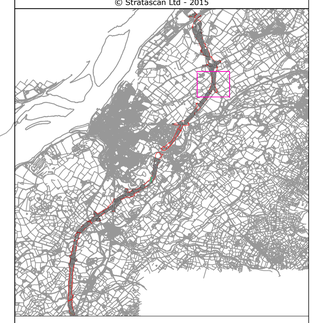
PLOT 141

PLOT 141

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 4

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	11

VIEWPORT 4

PLOT 50

PLOT 141

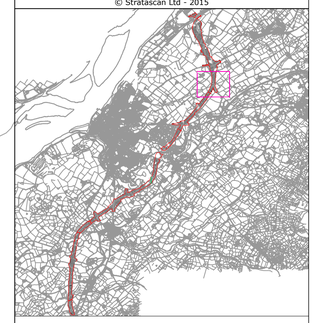
PLOT 141

PLOT 141

N

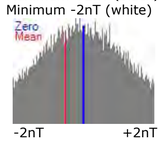
Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)



Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 4

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	12

VIEWPORT 4

PLOT 50

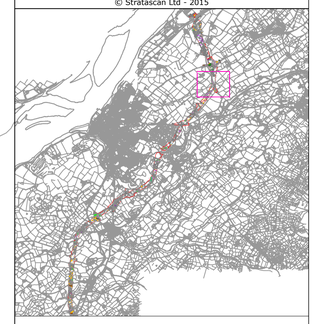
PLOT 141

PLOT 141

PLOT 141

Amendments

Issue No.	Date	Description
-	-	-



PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
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- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 4

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	13

VIEWPORT 5

PLOT 141

PLOT 135

PLOT 136

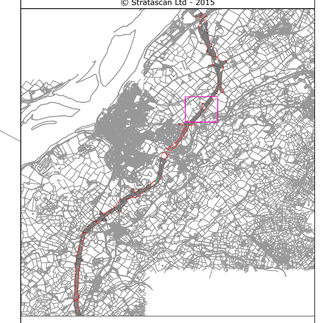
PLOT 136

PLOT 136

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 5

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SUMO GROUP MEMBER

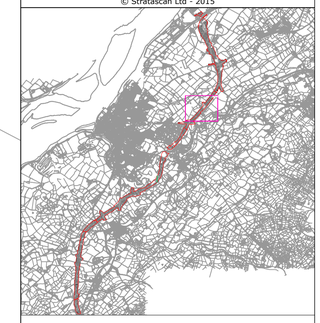
Scale 1:1250 0m 10 20 30 40 50 60 70 80m

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	14

VIEWPORT 5

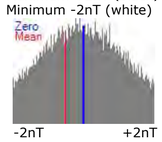
Amendments

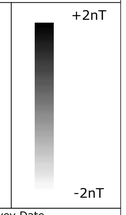
Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)





Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 5

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	15

VIEWPORT 5

PLOT 141

PLOT 135

PLOT 136

PLOT 136

PLOT 136

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
- Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
- Linear anomaly - probably related to a former field boundary not present on available mapping
- Linear anomaly - related to a former field boundary present on available mapping

OTHER ANOMALIES

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- Negative anomaly / weak negative anomaly - unknown origin, possible archaeological origin
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- Bipolar linear anomaly - related to cable used by borehole engineers
- Linear anomaly - unknown origin, likely to be modern
- Area of amorphous magnetic variation - unknown origin, likely related to modern agricultural activity
- Area of strong magnetic debris - possibly related to former pond
- Area of amorphous magnetic variation - related to Aber Dinlle and other likely geological faults
- Magnetic disturbance associated with nearby metal object such as service or field boundary
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 5

STRATASCAN™
GEOPHYSICS FOR ARCHAEOLOGY AND ENGINEERING
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	16

VIEWPORT 6

PLOT 200

PLOT 134

PLOT 133

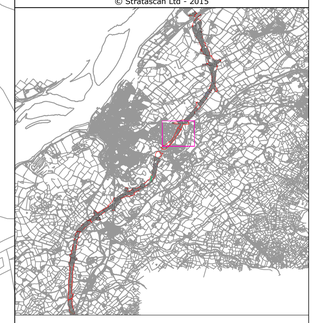
PLOT 134

PLOT 130

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 6

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	17

VIEWPORT 6

PLOT 200

PLOT 134

PLOT 133

PLOT 134

PLOT 130

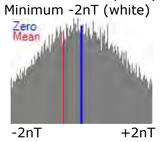
N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)



Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 6

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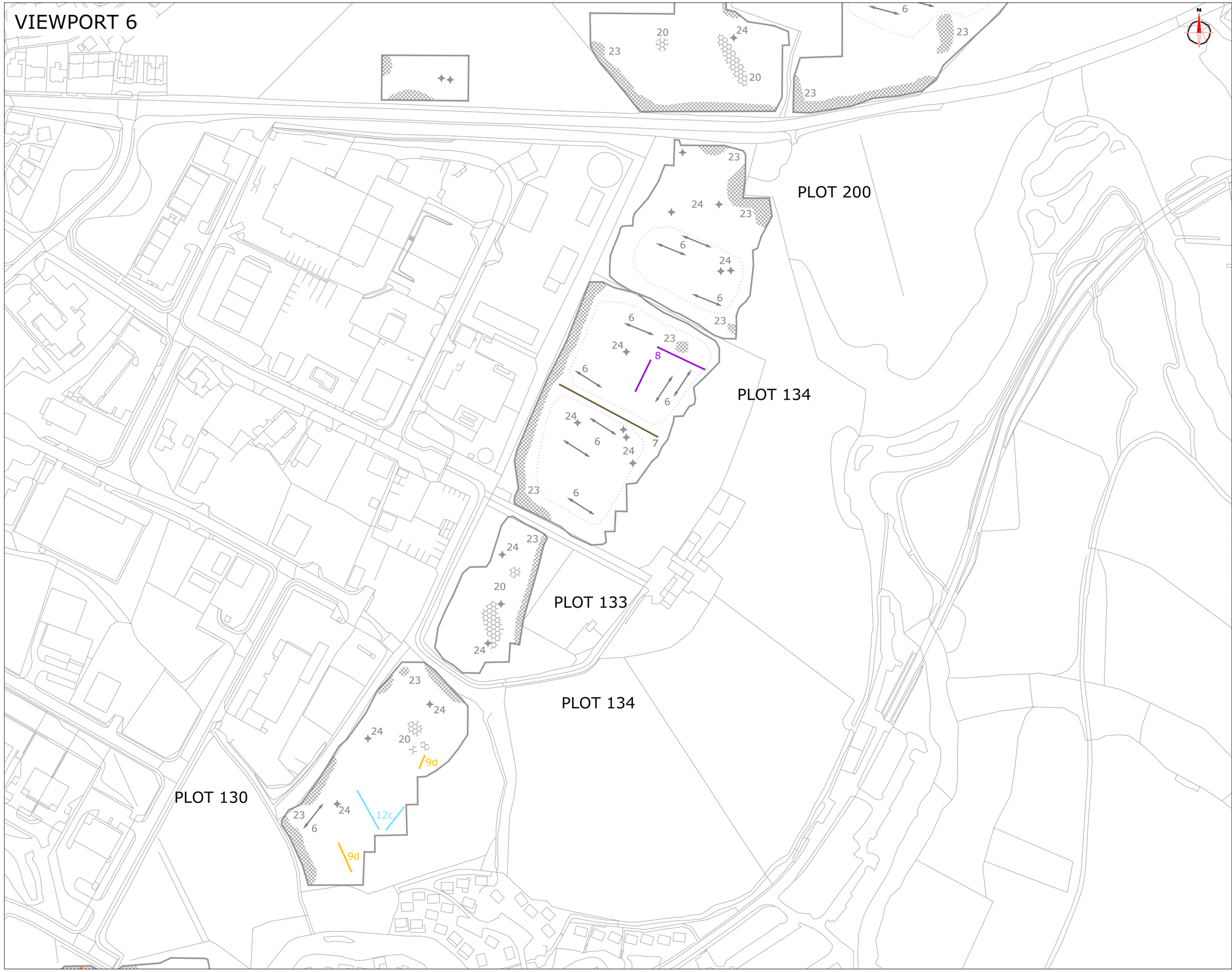
SUMO GROUP MEMBER

Scale 1:1250 0m 10 20 30 40 50 60 70 80m

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	18

VIEWPORT 6



Amendments

Issue No.	Date	Description
-	-	-

PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
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- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 6

STRATASCAN™
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Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	**Drawn by**	**Figure No.**
JUNE 15	RD	19

VIEWPORT 7

PLOT 131

PLOT 131

PLOT 131

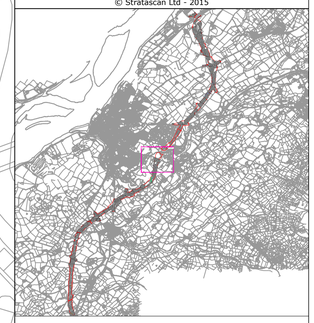
PLOT 128

PLOT 128

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 7

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	20

VIEWPORT 7

PLOT 131

PLOT 131

PLOT 131

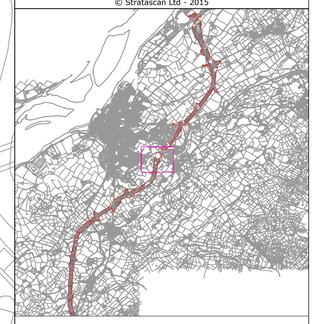
PLOT 128

PLOT 128

N

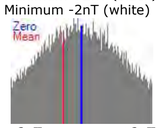
Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)



Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 7

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SUMO GROUP MEMBER

Scale 1:1250 0m 10 20 30 40 50 60 70 80m

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	21

VIEWPORT 7

PLOT 131

PLOT 131

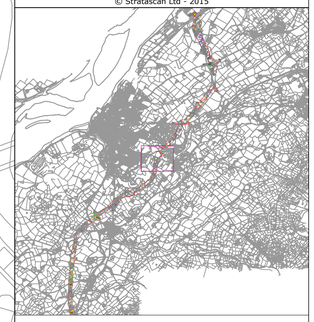
PLOT 131

PLOT 128

PLOT 128

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

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Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 7

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	22

VIEWPORT 8

PLOT 124

PLOT 125

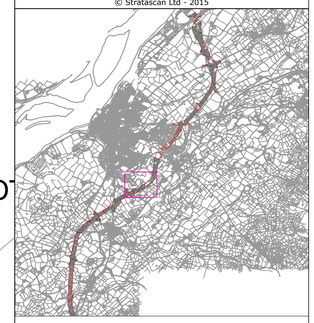
PLOT 161

PLOT 161

PLOT 189

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 8

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	23

VIEWPORT 8

PLOT 124

PLOT 125

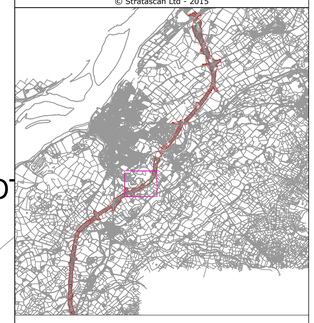
PLOT 161

PLOT 161

PLOT 189

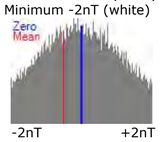
Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)



Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 8

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	24

VIEWPORT 8

PLOT 124

PLOT 125

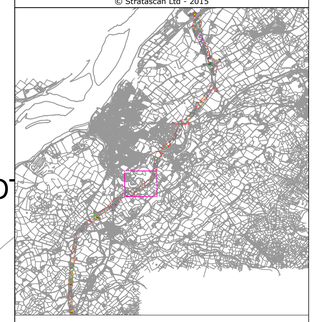
PLOT 161

PLOT 161

PLOT 189

Amendments

Issue No.	Date	Description
-	-	-



PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
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MEDIEVAL/POST-MEDIEVAL AGRICULTURE

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- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 8

STRATASCAN™
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www.stratascan.co.uk

SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	25

VIEWPORT 9

PLOT 189

PLOT 188

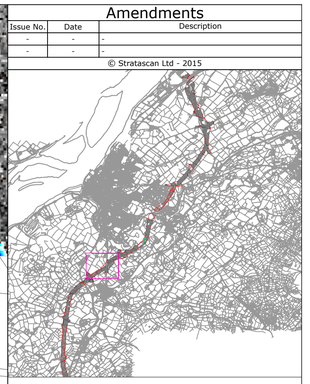
PLOT 118

PLOT 118

PLOT 169

PLOT 196

PLOT 169



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 9

STRATASCAN™
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	26

VIEWPORT 9

PLOT 189

PLOT 118

PLOT 188

PLOT 118

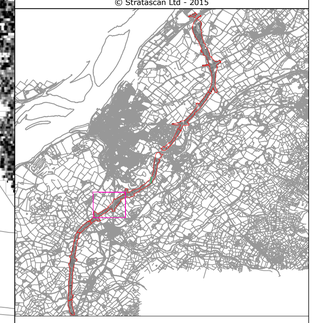
PLOT 169

PLOT 196

PLOT 169

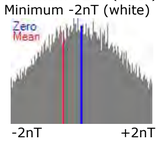
Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +2nT (black)
Minimum -2nT (white)



Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 9

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	27

VIEWPORT 9

PLOT 189

PLOT 188

PLOT 118

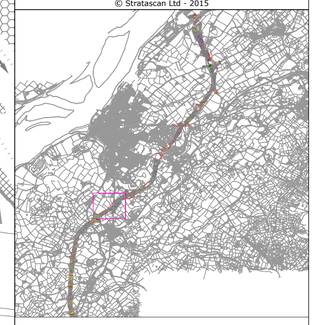
PLOT 169

PLOT 196

PLOT 169

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

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- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 9

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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	28

VIEWPORT 10

PLOT 112

PLOT 169

PLOT 112

PLOT 112

PLOT 112

PLOT 187

PLOT 162

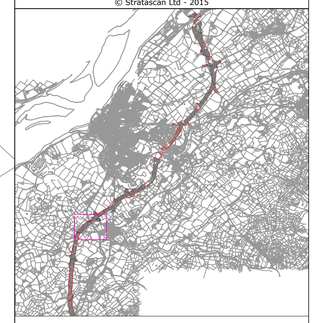
PLOT 174

PLOT 112

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

Maximum +100nT (red)
Minimum -100nT (blue)

+100nT
+25nT
+3nT
-3nT
-25nT
-100nT

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTREME VALUES - VIEWPORT 10

STRATASCAN™
GEOPHYSICS FOR ARCHAEOLOGY AND ENGINEERING
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SUMO GROUP MEMBER

Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	29

VIEWPORT 10

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

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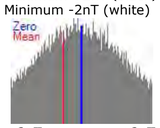
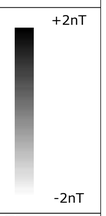
Minimum -2nT (white)





Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORT 10

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Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

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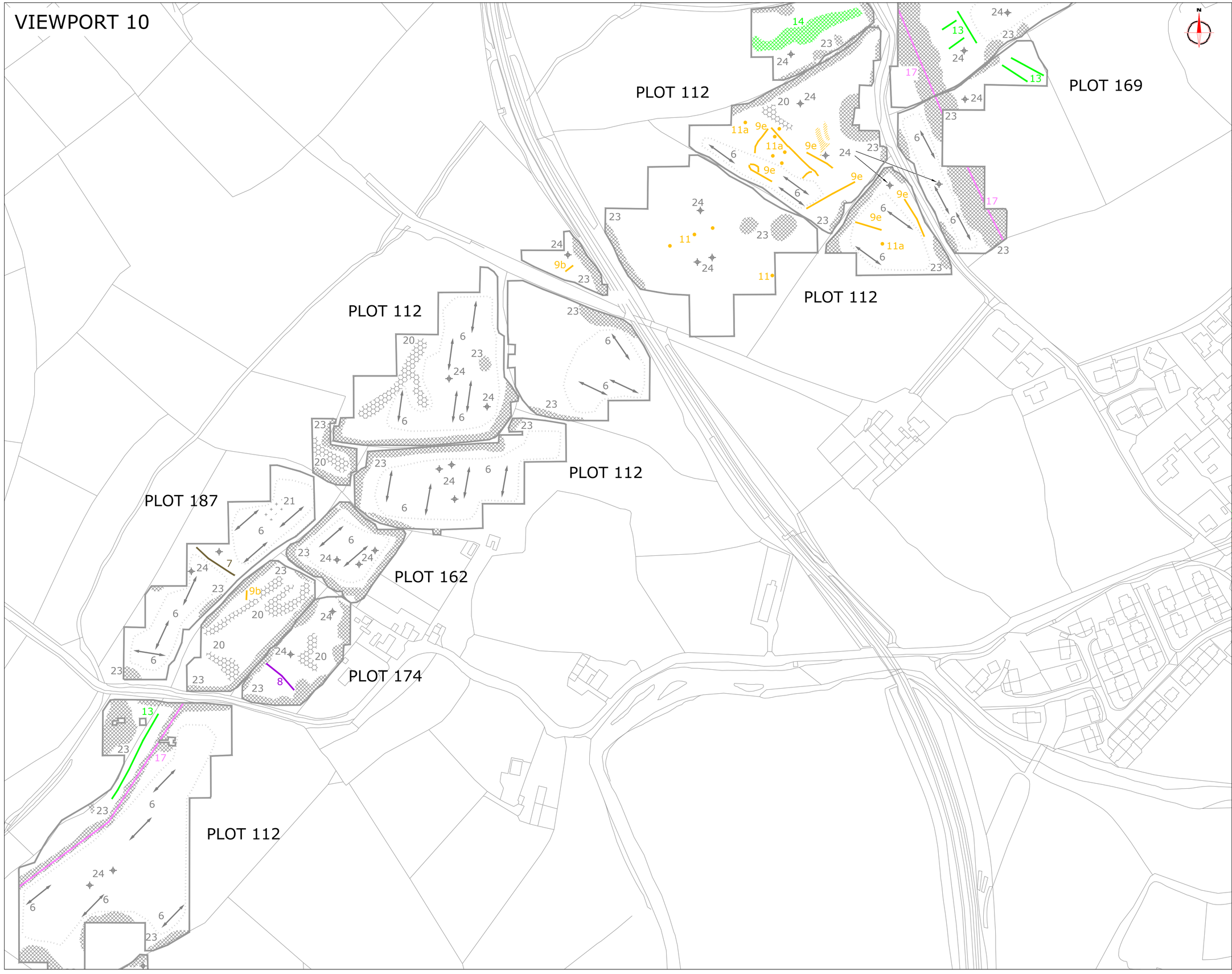
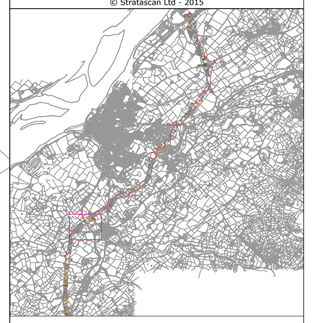
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	30

VIEWPORT 10





Amendments

Issue No.	Date	Description
-	-	-
-	-	-

PROBABLE ARCHAEOLOGY

- Positive anomaly / weak positive anomaly - probable cut feature of archaeological origin
- Negative anomaly / weak negative anomaly - probable bank or earthwork of archaeological origin

MEDIEVAL/POST-MEDIEVAL AGRICULTURE

- Widely spaced curving parallel linear anomalies - probably related to ridge-and-furrow
- Closely spaced parallel linear anomalies - probably related to agricultural activity such as ploughing
- Linear anomaly - probably related to a former field boundary not present on available mapping
- Linear anomaly - related to a former field boundary present on available mapping

OTHER ANOMALIES

- Positive anomaly / weak positive anomaly - unknown origin, possible archaeological origin
- Negative anomaly / weak negative anomaly - unknown origin, possible archaeological origin
- Linear anomaly - probably related to pipe, cable or other modern service
- Bipolar linear anomaly - related to cable used by borehole engineers
- Linear anomaly - unknown origin, likely to be modern
- Area of amorphous magnetic variation - unknown origin, likely related to modern agricultural activity
- Area of strong magnetic debris - possibly related to former pond
- Area of amorphous magnetic variation - related to Aber Dinlle and other likely geological faults
- Magnetic disturbance associated with nearby metal object such as service or field boundary
- Strong magnetic debris - possible disturbed or made ground
- Scattered magnetic debris
- Area of amorphous magnetic variation - probable natural (e.g. geological or pedological) origin
- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORT 10

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Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	31

VIEWPORT 11

PLOT 112

PLOT 110

PLOT 110

VIEWPORT 12

PLOT 155

PLOT 155

PLOT 107

PLOT 108

PLOT 106

VIEWPORT 13

PLOT 104b

PLOT 104b

PLOT 104

PLOT 104

PLOT 67

PLOT 102

PLOT 102

N

Amendments

Issue No.	Date	Description
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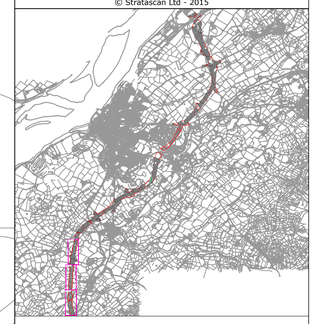
-	-	-



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+3nT
-3nT
-25nT
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Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

COLOUR PLOT OF GRADIOMETER DATA SHOWING EXTRSEME VALUES - VIEWPORTS 11-13

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SUMO GROUP MEMBER

Scale 1:1250 0m 10 20 30 40 50 60 70 80m

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	32

VIEWPORT 11

VIEWPORT 12

VIEWPORT 13

PLOT 112

PLOT 110

PLOT 155

PLOT 107

PLOT 108

PLOT 106

PLOT 104b

PLOT 104

PLOT 67

PLOT 102

N

Amendments

Issue No.	Date	Description
-	-	-

Plotting parameters

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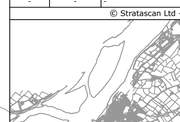
Minimum -2nT (white)



Job No.	Survey Date
8475	MAY/JUN 15

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BALFOUR BEATTY

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GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA - VIEWPORTS 11-13

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Scale 1:1250 (0m 10 20 30 40 50 60 70 80m)

Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	33

VIEWPORT 11

VIEWPORT 12

VIEWPORT 13

PLOT 112

PLOT 110

PLOT 155

PLOT 107

PLOT 108

PLOT 106

PLOT 104b

PLOT 104

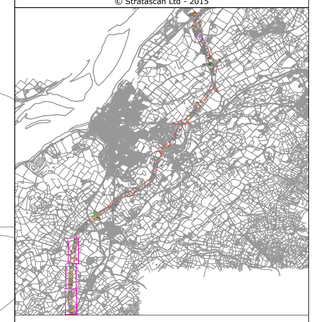
PLOT 67

PLOT 102

N

Amendments

Issue No.	Date	Description
-	-	-



PROBABLE ARCHAEOLOGY

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- Magnetic spike - probable ferrous object

Job No.	Survey Date
8475	MAY/JUN 15

Client

BALFOUR BEATTY

Project Title

GEOPHYSICAL SURVEY - A487 CAERNARFON TO BONTNEWYDD ROAD SCHEME

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES - VIEWPORTS 11-13

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Plot	Checked by	Issue No.
A1	PPB/DGE	01
Date	Drawn by	Figure No.
JUNE 15	RD	34

Appendix C.3 – Archaeological Field Evaluation Report

1313

A487 Caernarfon to Bontnewydd Bypass

Archaeological Evaluation - Interim Report

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

A487 Caernarfon to Bontnewydd Bypass

Archaeological Evaluation - Interim Report

Prosiect Rhif / Project No. G2454

Adroddiad Rhif / Report No.1313

Prepared for: Balfour Beatty/Jones Brothers Joint Venture (JV Team)

April 2016

Written by: Stuart Reilly, Jessica Davidson & Neil McGuinness

Illustrations by: Jessica Davidson, Bethan Jones, Carol Ryan-Young & Ewan Kennaway

***front cover image: G2420_107**

Cyhoeddwyd gan Ymddiriedolaeth Achaeolegol Gwynedd
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Approvals Table				
	Role	**Printed Name**	**Signature**	**Date**
Originated by	Document Author	Stuart Reilly	Stuart Reilly	12/05/16
Reviewed by	Document Reviewer	John Roberts		12/05/16
Approved by	Principal Archaeologist	John Roberts		12/05/16

Revision History			
Rev No.	**Summary of Changes**	**Ref Section**	**Purpose of Issue**
1	Edit based on feedback from Scheme Archaeologist received 12/05/16	1 Introduction explanation of term 'interim report'; Revision to Figure 01 to highlight trench positions; Remove Stratascan report and references to it in text; Refer to WSI as 'WSI for Archaeological Field Evaluation (Jan 2016); Inclusion of specialist reports from T. Young & AOC as appendices and referenced in text	Adjust for inclusion within ES

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Plate 02: Pre-excavation shot of [0104] and [0106]. View from south east. 2x1m scale (archive image G2454_104)

Plate 03: North east facing section through [0104]. 1x1m scale (archive image G2454_111)

Plate 04: North east facing section through linear. [0106] 1x1m scale (archive image G2454_113)

Plate 05: South west facing section linear [0108]. 1x1m scale (archive image G2454_129)

Plate 06: Pre-excavation shot of [0203] and [0205] - oblique. View from west. 1x1m scale (archive image G2454_108)

Plate 07: Post-excavation shot of [0203] - oblique. View from west. 1x1m scale (archive image G2454_133)

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Plate 09: Location shot for trenches in Plot 51 View from north west. 2x1m scale (archive image G2454_006)

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View from north west (archive image G2454_011)

Plate 11: South east facing section through [1804]. View from southeast. 2x1m scale (archive image G2454_069)

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Non-Technical Summary

Gwynedd Archaeological Trust (GAT) was commissioned by the Balfour Beatty/Jones Brothers Joint Venture (hereinafter referred to as the JV Team) on the behalf of the Welsh Government to undertake evaluation trenches along the proposed route of the A487 Caernarfon to Bontnewydd Bypass as part of Key Stage 3 of the scheme.

In total 30 evaluation trenches were excavated. They predominantly revealed evidence for archaeology associated with late 19th and early 20th century agricultural activities, but probable prehistoric archaeology was also encountered. The latter was concentrated at the northern and southern limits of the proposed route of the bypass and comprised ditches in Trenches 01 and 02 (Plot 143) associated with a probable larger enclosure, a substantial, largely intact burnt mound in Trench 18 (Plot 61) and a curvilinear feature along with a limited area of early industrial activity/metal working activity in Trench 92 (Plot 107).

Several soil samples and a quantity of slag recovered from the evaluation trenches were submitted for specialist analysis. The slag recovered from (9208) and (9210) in Trench 92 was indicative of ironworking, probably the end use of iron (blacksmithing) and is of Iron Age date. The environmental assessment of the soil samples has produced material suitable for radiocarbon dating and identified a variety of plant species. In order to assist in determining the dating of key areas such as the burnt mound and likely area of early industrial activity along the route of the scheme the soils samples will be radiocarbon dated.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by the *Balfour Beatty/Jones Brothers Joint Venture* (hereinafter referred to as the JV Team) on the behalf of the Welsh Government to undertake evaluation trenches along the proposed route of the A487 Caernarfon to Bontnewydd Bypass (Figure 01) as part of Key Stage 3 of the scheme.

The proposed route of the bypass will comprise a 9.8km long Trunk Road to the west of Bontnewydd and to the east of Caernarfon in Gwynedd, north Wales. It will be located between the Plas Menai Roundabout north of Caernarfon and the Goat Roundabout south of Llanwnda along the A487 Trunk Road (Figure 01).

Gwynedd Archaeological Planning Service (GAPS) and the Scheme Archaeologist outlined that a total of 96 evaluation trenches would be excavated along the length of the proposed route of the bypass as part of Key Stage 3. The Scheme Archaeologist prepared a Written Scheme of Investigation (WSI for archaeological field evaluation (Jan. 2016)) detailing the scope of the works (Appendix I).

The objective of the evaluation trenches was to assess archaeological potential within the footprint of the proposed route of the bypass and to inform future decision making. The evaluation trenches were positioned to:

- investigate known or suspected archaeological sites based on the results of the geophysical survey conducted by Stratascan; and
- selectively investigate areas along the proposed route of the bypass that have higher archaeological potential.

The Highways Act does not give an automatic right of access to third party land for intrusive archaeological works. Evaluation may, therefore, only be undertaken with the voluntary consent of the landowner. As such, during the mobilisation stage of the evaluation trenches, the public liaison officer of the JV Team contacted the relevant landowners to gain permission for land access. Several of the affected landowners declined access and as such the number of evaluation trenches dropped from 96 to 30.

GAPS required that on completion of the works, an interim report should be submitted, along with a post-excavation project design that assessed the potential of the site archive for further analysis. The current document has been prepared as the interim report and the post-excavation project design will be issued as a separate document. Please note that this report is referred as ‘interim’ primarily as it includes relevant information that was available within the timescale of the ES publication. The final version, which will incorporate all of the

data obtained from the fieldwork and post-excavation work will be submitted to the Gwynedd Archaeological Trust HER in Bangor and will be available for public consultation. Prior to submission to the HER the final report will need to be approved by GAPS.

The archaeological works conformed to the guidelines specified in the Chartered Institute for Archaeologists *Standard and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists, 2014), section 2.3 of MoRPHE (Historic England, 2015) and to MAP2 (English Heritage, 1991). Gwynedd Archaeological Trust is a Chartered Institute for Archaeologists *Registered Archaeological Organisation*.

The content of this report, along with the separate post-excavation project design must be approved by GAPS and the Scheme Archaeologist prior to final submission.

2 METHODOLOGY

The evaluation trenches were completed by three GAT archaeologists (one Project Officer and two Project Archaeologists) and the works were monitored by the GAT project manager.

The 30 evaluation trenches were primarily focused at the northern and southern points of the proposed route of the bypass, with a scattering of trenches along the centre of the scheme (Figure 01).

As outlined in the WSI for archaeological field evaluation (Jan. 2016) (Appendix I) the primary aims of the evaluation trenches were to:

- investigate known or suspected archaeological sites based on the results of the geophysical survey conducted by Stratascan; and
- selectively investigate areas along the proposed route of the bypass that have higher archaeological potential (based on desk based assessment and input from GAPS).

The following methodology, as informed by the WSI for archaeological field evaluation (Jan. 2016) and the Joint Venture method statement for the evaluation trenches was used by GAT:

- Permission for land access was obtained by the Joint Venture public liaison officer;
- Access to each area of excavation was agreed with the relevant landowner, through existing enclosure gates;
- A condition survey of the field was conducted by a GAT archaeologist;
- The evaluation trenches were located using a Trimble R8 GNSS/R6/5800 GPS receiver (<10cm accuracy) with pre-programmed trench coordinates (obtained from the WSI for archaeological field evaluation (Jan. 2016)) and operated by a GAT archaeologist;
- A permit to dig was issued in advance of the evaluation trench being opened. Underground services were identified using Stats drawing and located using a cable avoidance tool (CAT4) and marked on the ground accordingly. Underground services and overhead cables were highlighted with appropriate signage and bunting;
- The evaluation trenches were opened by 5 and 8 tonne 360° excavators fitted with a toothless bucket with the topsoil and subsoil excavated in 100mm layers. The excavators were supervised by a GAT archaeologist and a Joint Venture banksman;
- All archaeological levels and features were cleaned by hand by the GAT site team;
- A photographic record was maintained using a Nikon D3100 digital SLR camera set to maximum resolution in RAW format (4608 x 3072 pixels), converted to TIFF and

JPEG formats for subsequent archiving. A complete table of metadata with details of each image, including descriptions and directions of shot was produced using Microsoft Access; a total of 244 images were taken (archive ref. G2454_001 to G2454_244; cf. Appendix II);

- The 30 evaluation trenches were recorded on trench sheets (Appendix III);
- All archaeological features and deposits were recorded on context sheets and a stratigraphic site matrix compiled; a total of 141 contexts were recorded (cf. Appendix IV);
- All sections were drawn to a scale of 1:10 and plans were drawn to a scale of 1:20.

3 RESULTS

3.1 Introduction

For the purposes of this section, context numbers within square brackets (e.g. [005]) represent cut features, such as pits, ditches etc., and context numbers within round brackets (e.g. (001)) represent deposits and fills. For a complete list of contexts and brief descriptions, cf. Appendix V.

The 30 evaluation trenches were predominantly excavated in fields of pasture and were primarily concentrated at the northern and southern limits of the scheme. Of the 30 trenches excavated:

- 16 contained no archaeological features or deposits;
- 10 contained only 19th/20th century agricultural features such as shallow field boundaries or stone field drains; and
- 4 contained evidence of probable prehistoric archaeology.

The latter four trenches (Trenches 01, 02, 18 and 92) will be examined in detail below.

3.2 Trenches 01 and 02, Plot 143, Plas Menai

Trenches 01 and 02 were part of a group of four evaluation trenches located in Plot 143, in a field of pasture (Plate 01) to the immediate north of the Plas Menai Roundabout off the A487 (Figure 02). Trenches 01 and 02 were positioned to investigate two Type 1 features identified in the geophysical survey. These features were successfully located in the trenches, and are interpreted to be part of a larger feature likely to extend to the north east and south west. They may form part of a boundary or larger enclosure.

The topsoil in the trenches consisted of a cohesive, coarse mid brown gravelly loamy clay mixed with frequent small sub-angular stones with a maximum depth of 0.50m. This covered a layer of subsoil identified in Trench 02, which comprised of a fine, coarse light brown silty gravelly clay with an average depth of 0.35m. The topsoil and subsoil overlaid a coarse, loose light brown gravelly silty clay natural mixed with frequent small angular and sub-angular stones, as well as natural deposits of shale bedrock, as encountered at the south east terminal of Trench 01. There was little to distinguish the topsoil from the subsoil or the natural.

In Trench 01 three linear features were identified, [0104], [0106] and [0108] (Figure 03 and Plate 02). The linear feature [0104] was located within 4.0m of the south east terminal of Trench 01. It had an exposed length of 1.50m, breadth of 0.95m and maximum depth of 0.24m. The cut was linear in plan with a sharp break of slope at the top, straight moderately sloped sides and a sharp break of slope to a flat base (Figure 04 and Plate 03). It was filled by (0105) a friable, dark brown sandy silt mixed with moderate sub-rounded small stones. No artefacts were retrieved from (0105).

To the north west of [0104] was the linear feature [0106] which had an exposed length of 1.50m, breadth of 0.70m and maximum depth of 0.09m. The cut was linear in plan with an abrupt break of slope at the top and gradually sloping sides that merged with a flat base (Plate 04). It was filled by (0107) a friable, dark brown silty sand mixed with the occasional small sub-rounded stone. No artefacts were retrieved from (0107).

To the north west of [0106], within 2.50m of the north west terminal of Trench 01, was the linear feature [0108] which had an exposed length of 1.60m, breadth of 1.50m and maximum depth of 0.32m. The cut was linear in plan with quite a sharp break of slope at the top with quite steep sides and a more rounded break of slope at the base which was flat (Figure 05 and Plate 05). It was filled by (0109) a wet, cohesive mid brown silty gravelly clay mixed with moderate small rounded cobbles. No artefacts were retrieved from (0109).

In Trench 02 two linear features were uncovered [0203] and [0205] (Figure 03 and Plate 06). The linear feature [0203] within 3.80m of the south east terminal of Trench 02, with an exposed length of 1.60m, breadth of 1.88m and maximum depth of 0.25m. The cut was linear in plan with an abrupt break of slope at the top with steep sides, a sharp break of slope at the base, which was flat (Figure 06 and Plate 07). It was filled by (0204) a soft, cohesive, mid brown clayey sandy silt that was mixed with moderate small angular stones. No artefacts were retrieved from (0204).

To the north west of [0203] was the linear feature [0205] which was within 2.40m of the north west terminal of Trench 02. It had an exposed length of 1.60m, breadth of 1.50m and a maximum depth of 0.24m. The cut was linear in plan, with a sharp break of slope at the top, steep sides and more gradual, gentle break of slope at the base, which was uneven (Figure 07 and Plate 08). It was filled by (0206) a loose, dark greyish brown sandy silty clay mixed with frequent small rounded and sub-angular stones. No artefacts were retrieved from (0206).

The linear features uncovered in Trench 01 and 02, with the exception of the linear feature [0106], broadly correlate with the Type 1 features identified in the geophysical survey. As such, based on the results of the geophysical survey and the evaluation trenches, [0108] and [0205], along with [0109] and [0203], are parts of the same two linear features picked up in different trenches. Features [0108]/ [0205] and [0109]/ [0203] are broadly similar shallow ditches that may well represent a boundary or larger enclosure.

3.3 Trench 18, Plot 61, Isgaer

Trench 18 was one of seven evaluation trenches located in Plot 61 in a field of pasture on a gentle east facing slope on the edge of wet ground with a narrow stream extending through it (Figure 08 and Plate 09). Trench 18 was positioned over and successfully located Type 2 and 16 features identified in the geophysical survey. These features were interpreted to be a possible enclosure ditch associated with Caerlan Tibot (SAM CN400) which lies immediately to the west and as an area with strong magnetic debris, most likely a former pond.

The topsoil consisted of a soft, cohesive predominantly mid brown clayey silt mixed with moderate small rounded stones which overlaid a soft cohesive natural boulder clay which included frequent medium to large rounded stones. The colour of the natural varied from being light greyish yellow in the waterlogged south eastern portion of the trench and orange in colour on the drier north western half of the trench (Plate 10).

The Type 2 feature would correlate with [1804] the linear feature located within 3.50m of the north western terminal of Trench 18 (Figure 09). It was exposed for a length of 1.60m, with a breadth of 2.10m and maximum depth of 0.50m. The cut was linear in plan, orientated on a north west – south east axis, with an abrupt break of slope at the top, steep sides and a more gradual break of slope at the base which was quite even. The feature contained five fills: (1805), (1806), (1807), (1808) and (1809) (Figure 10 and Plate 11). The primary fill (1809) had a breadth of 1.10m and depth of 0.22m. It consisted of a wet, coarse and fine mid grey silty gravelly clay mixed with the occasional small stone. It was overlaid by (1808), a thin layer (0.08m) with a maximum width of 1.20m which consisted of a cohesive, coarse rusty brown gravelly clay free of inclusions. This was sealed beneath (1807), an equally thin layer (0.10m) with a width of 1.40m and which comprised of a soft, cohesive light greyish brown silty clay mixed with the occasional small stone. This in turn was covered by (1805) which had a breadth of 1.18m and maximum depth of 0.16m. The layer consisted of a soft, cohesive mid greyish brown silty clay mixed with the occasional small stone. This was partially covered by (1806) which had a width of 1.08m and depth of 0.16m and was comprised of a soft, cohesive mid-dark grey silty clay mixed with the occasional moderate sized stone. No artefacts were retrieved from [1804].

According to the geophysical data, [1804], the Type 2 geophysical feature should also have been picked up in Trenches 19, 20 and 21 (Figure 08). It was not present in Trench 20 but probably was uncovered in Trench 19 as [1903] with a breadth of 1.90m and maximum depth of 0.22m and Trench 21 as [2105], with a width of 1.70m and maximum depth of 0.35m. If this is the same feature then the width is broadly the same but the depth varies

greatly and no artefacts were retrieved from the fills. In addition, the features [1903] and [2105], given their width and in particular depth, would be more consistent with a field boundary. It is therefore conceivable that different ditches were identified in Trench 18 compared with those in Trenches 19 and 21. In addition, the geophysical survey would appear to infer that [1804] continues north into the adjacent field in Plot 63. Unfortunately access was not granted into this field so it was not possible to determine through an evaluation trench if the ditch did extend further north.

The south eastern edge of Trench 18 also clipped the geophysical Type 16 feature and contrary to the interpretation offered in the geophysical survey report, it is an upstanding, largely intact burnt mound, not a former pond. The burnt mound was designated (1803) within Trench 18. Its upper levels lay 0.20m below the pre-excavation ground surface, and it was exposed for a distance of 4.70m from the south east terminal of the trench. It consisted of a deposit of fine, soft dark brownish black clayey silt mixed with very frequent flecks of charcoal and small rounded and sub-angular stones, the majority of which had been heat fractured and were reddish orange in colour. The stones within the fill were very compact. It was a low, yet distinct roughly circular in plan mound with a maximum diameter of 17.9m (Plate 12) and with apparent kerb stones along the eastern edge (Plate 13). A bulk sample was taken of (1803) for palaeoenvironmental and dating purposes. The bulk sample was processed to allow for further analysis. This revealed five particles of irregular slag and 23 sub-spherical droplets of 3mm diameter or less of apparent hammerscale. Although residues such as these may be produced during metalworking, it is also possible that they may be produced solely by interaction of fuel and hearth substrate in non-metallurgical contexts (T. Young 2016; Appendix VI). In addition, fragments of alder (*Alnus glutinosa* L) and hazel (Corylus avellana L) were identified in the ecofact sample, of which the former has been recommended for radiocarbon dating (J. Robertson 2016: Appendix VII).

The burnt mound (1803) is a substantial, largely intact prehistoric monument that lies directly within the footprint of the proposed route of the bypass.

3.4 Trench 92, Plot 107, Henblas

Trench 92 was one of five evaluation trenches located in Plot 107 in a largely even field of pasture with commanding views to the west and north, overlooking the Menai Strait and Dinas Dinlle (Figure 11 and Plate 14). Trench 92 was positioned over a Type 9g feature that was interpreted as a rectilinear shaped positive linear anomaly, possibly related to a former enclosure and Type 11a anomalies that are likely to be related to former pits given their proximity to areas of possible archaeological activity.

The topsoil consisted of a cohesive mid greyish brown clayey silt mixed with moderately frequent small stones, with a maximum depth of 0.40m and overlaid a compact light orange yellow clay natural mixed with frequent small to medium sized sub-rounded cobbles.

The Type 9a feature related to feature [9203] which was adjacent to the south east terminal of Trench 92 (Figure 12 and Plate 15). The cut had an exposed length of 1.48m with a maximum breadth of 0.95m and maximum depth of 0.25m. It was slightly curvilinear in plan with a sharp break of slope at the top, gradually sloping sides and a gentle break of slope at the base which was flat (Figure 13 and Plate 16). It was filled by (9204) that comprised of a loose, dark greyish brown silty loam mixed with moderate rounded small stones and very infrequent flecks of charcoal. A small piece of burnt flint was retrieved from (9204) but otherwise no datable artefacts were uncovered during the excavation of the feature. A bulk sample was taken from (9204) for palaeoenvironmental and dating purposes. Processing of this sample, resulted in the discovery of 26 pieces of flint, that were either struck flint or chips from flint knapping (G. Smith 2016; Appendix VIII) but which were undateable. The processing also resulted in the identification of alder (*Alnus glutinosa* L)*,* hazel (Corylus avellana L) and apple/pear/hawthorn/quince (*Maloideae* sp.) of which the hazel roundwood, hulled barley and hazelnut shell are suitable for radiocarbon dating (J. Robertson 2016: Appendix VII).

To the north west of [9203] at a distance of 3.5m the Type 11a feature was uncovered and correlated with the discovery of four pits ([9205], [9209], [9215] and [9217]), two post holes ([9211] and [9213]) and a gully [9219] (Figure 14 and Plate 17).

The earliest and largest feature within this concentration of archaeology was the irregular in plan [9205], which had a maximum exposed length of 2.60m, breadth of 0.80m and depth of 0.40m. The cut had an abrupt break of slope at the top, in particular along the western and southern edge, with gently stepped sides and a gentle break of slope at the base, which was uneven (Plate 18). There was evidence of in situ burning along the south eastern base of the cut, as indicated by the reddish discolouration of the underlying natural. The sole fill of [9205]

was (9208) a fine, cohesive dark brownish black silty clay mixed with frequent flecks of charcoal (Figure 15 and Plate 19) and moderate small to medium sized sub-angular stones. No artefacts were retrieved from (9208) but the deposit was sampled. A bulk sample was taken from (9208) for palaeoenvironmental and dating purposes. The processing of this sample resulted in the identification of alder (*Alnus glutinosa* L), birch (*Betula* sp), hazel (*Corylus avellana* L.), ash (*Fraxinus* sp.) and apple/pear/hawthorn/quince (*Maloideae* sp.) as well as a substantial quantity of charred cereal grains which will require further analysis. A fragment of hazel charcoal as well as barley and oat seeds have been identified as being suitable for radiocarbon dating (J. Robertson 2016: Appendix VII).

The western edge of [9205] was cut by the gully [9219]. The gully extended on a north west – south east axis, had a length of 1.40m, a maximum width of 0.50m and depth of 0.10m (Plate 20). The cut had an irregularly tapering linear shape in plan, with a moderate break of slope at the top and gently sloping sides that merged with a relatively flat base. The gully was filled by (9220) a friable mid greyish brown sandy silt with no inclusions. No artefacts were retrieved from (9220).

Both [9205] and [9219] were cut by [9215], an irregular in plan pit that had a maximum breadth of 1.0m, length of 0.60m and depth of 0.20m. The cut had a sharp break of slope at the top with moderately sloping sides and a gentle break of slope at the base, which was concave (Figure 16 and Plate 21). It was filled by (9216), a friable dark brown silty sand that contained an occasional fleck of charcoal and a lens of re-deposited natural. No artefacts were retrieved from (9216) but the deposit was sampled. Processing of this sample resulted in alder (*Alnus glutinosa* L), hazel (*Corylus avellana* L.) and cherry (*Prunus* sp.) being identified along with a macroplant assemblage that included, for example, fragments of hazelnut shell, oat and barley seeds. It was recommended that a fragment of alder and oat would be suitable for radiocarbon dating (J. Robertson 2016: Appendix VII).

The pits [9209] and [9217], located to the immediate south west of [9205], did not interact with any of the adjacent features (Plate 22). Pit [9217] was the earlier of the two features having been truncated by [9209] along its north western edge (Figure 17). It was sub-circular in plan with a diameter of 0.30m and depth of 0.20m. The cut had an abrupt break of slope at the top with steep sides and moderate break of slope at the base which was flat. There was a sole fill (9218) which consisted of a soft dark greyish brown sandy silt mixed with infrequent small stones and a large sub-angular stone. No artefacts were retrieved from (9218).

Pit [2009] was an oval shaped pit with a length of 0.50m, breadth of 0.35m and depth of 0.17m. The cut had a sharp break of slope at the top with steep sides with a moderate break

of slope at the base which was concave. It was filled by (9210), a loose dark greyish brown black sandy silt mixed with moderate small sub-angular stones and infrequent flecks of charcoal. A bulk sample was taken of (9209) for palaeoenvironmental and dating purposes. The processing of this sample resulted in alder (*Alnus glutinosa* L), hazel (*Corylus avellana* L.) and ash (*Fraxinus* sp.) being retrieved. The assessment report recommended that a fragment of alder, hazel nut shell, barley and oat are suitable for radiocarbon dating (J. Robertson 2016: Appendix VII). In addition, the bulk sample contained a small number (thirteen) of sub-spherical slag droplets of less than 2mm in diameter. These appeared solid droplets and were thus probably not spheroidal hammerscale, but within hearth slag droplets. There were also eight particles of flake hammerscale, a small fragment of prilly iron slag and two fragments of thicker flake hammerscale (or slag flats) (T. Young 2016: Appendix VI).

Along the western edge of [9205] there were two small post holes [9211] and [9213]. The former was sub-circular in plan with a maximum diameter of 0.20m and depth of 0.17m. The cut had an abrupt break of slope at the top with steep sides, although the south western edge was slightly stepped, and a sharp break of slope at the base which was rounded (Figure 18). It was filled by (9212) a cohesive, fine dark greyish brown sandy silt mixed with infrequent small stones. No artefacts were retrieved from (9212).

The second post hole, [9213], was sub-circular in plan with a maximum diameter of 0.10m and depth of 0.17m. The cut had a sharp break of slope at the top, vertical sides and an abrupt break of slope at the base which was rounded (Figure 18). It was filled by (9214) a cohesive, fine dark greyish brown sandy silt mixed with infrequent small stones. No artefacts were retrieved from (9214).

All of the features in this portion of Trench 92, i.e. [9205], [9209], [9211], [9213], [9215], [9217] and [9219] were covered by the deposit (9206) (Plate 24). The deposit had an approximate length of 3.60m, breadth of 1.50m and maximum depth of 0.25m. It was comprised of a loose, fine dark greyish brown sandy silt and was mixed with (2007), a dense deposit of large sub-rounded cobbles, most heavily concentrated within the confines of [9205] (Figure 14). During the excavation of [9206] 15 fragments of slag were retrieved from the base of the deposit in the vicinity of [9205].

Trench 92 successfully uncovered the Type 9g and 11a features identified during the geophysical survey. The Type 9g feature, [9203], based on the geophysical results and the excavation of the trench, is strongly suggestive of either a ring ditch or round house. Due to the lack of datable artefacts though, [9203] is best interpreted as a likely prehistoric feature, of probable Bronze or Iron Age date.

The geophysical Type 11a feature correlated with the features [9205], [9209], [9211], [9213], [9215], [9217] and [9219]. No diagnostic artefacts were recovered from the excavation of these features but slag was retrieved from the deposit [9206] which sealed the archaeological features below. The presence of the slag, along with the charcoal rich fill (9208) and in-situ burning along the base of [9205], would suggest that this was a limited area of early industrial activity/metal working. Examination of the slag revealed that it consisted of 15 pieces of macroscopic residue comprising dense iron slag with secondary accretion. The accretion contained particles of charcoal with a few tiny fragments of flake hammerscale and showed external moulds of a straw-like material. The larger slag fragments showed morphological evidence for being fragments of smithing hearth cakes (SHCs) and all appeared to be from small cakes with a maximum thickness of approximately 35mm (T. Young 2016; Appendix VI).

The assemblages from Trench 92 are indicative of ironworking, probably the end use of iron (blacksmithing). The limited archaeometallurgical residues from the site imply the existence of a smithy nearby, and the in-situ burning in [9205] may indicate it took place there – although there is no direct evidence to make that link. The size of the assemblage means little can be interpreted about the details of the smithing undertaken. The presence of the slag suggests that this complex of features is no earlier than Iron Age in date (T. Young 2016; Appendix VI).

The probable Iron Age date of the ironworking activity present within Trench 92 can be more precisely dated with radiocarbon dates obtained from the charcoal and macroplant assemblages retrieved from (9208), (9210) and (9216).

4 CONCLUSION

The evaluation trenches revealed that the geophysical survey results were broadly accurate for the areas investigated and relevant features were uncovered during this process although they also revealed that the geophysical survey had identified geological rather than archaeological features and mistakenly interpreted the burnt mound as a former pond. This underlines the need and value of evaluation trenches to evaluate the interpretative results of a geophysical survey.

The archaeological features uncovered in the 30 evaluation trenches can be broadly divided between modern and prehistoric activity. The majority of the archaeological features identified were agriculture related, consisting of stone field drains, drainage ditches and field boundary ditches. There was also one example of the remnants of an earth and stone bank or field wall [5005], identified in Trench 50 (cf. Appendix V). This agricultural activity would be mainly associated with land improvement undertaken in the late 19th and early 20th century as sherds of glazed earthenware were noted but not retained for these features. The field boundary ditches and the bank/stone wall represent earlier field systems that are no longer extant.

The distribution of prehistoric archaeology was more limited, being concentrated at the northern and southern limits of the proposed route of the bypass. It comprised:

- The ditches identified in Trench 01 and 02 at Plas Menai (Plot 143). Despite the dearth of artefacts or charcoal rich deposits with which to date them, may be tentatively viewed as evidence of pre-modern or earlier activity. The ditches do not correlate with known field boundaries and given how they arc and are equidistant, the geophysical interpretation of them as part of a large enclosure is likely to be correct.
- The burnt mound located in Trench 18 (Plot 61) is a substantial, largely intact prehistoric monument.
- The curvilinear feature [9203] is of probable late prehistoric date, i.e. Bronze (2500 – 800 BC) or Iron Age (800 BC – 43 AD) and the area of limited early industrial activity/metal working in Trench 92 (Plot 107) most likely dates from the Iron Age (800 BC – 43 AD).

The results of the excavation of the 30 evaluation trenches, along with the geophysical survey results, underline the potential for archaeology across the length of the proposed route of the bypass. The inability to open the remaining 66 evaluation trenches (predominantly located along the centre of the scheme) due to landowners denying access

at this stage is a cause for serious concern. Some of the areas of highest archaeological potential identified during the geophysical survey, notably Plot 141 with the Roman road and Plot 112 with the concentration of potential archaeological features, have not been investigated and evaluated at this stage. It cannot be assumed that the limited number of evaluation trenches that have been currently investigated provide an accurate reflection of the archaeology that may be present within the footprint of the proposed road bypass. If these areas are not evaluated in advance of the commencement of the primary construction phase then there is a high probability that the construction programme will be interrupted or delayed as archaeological remains are uncovered during the watching brief phase of archaeological works.

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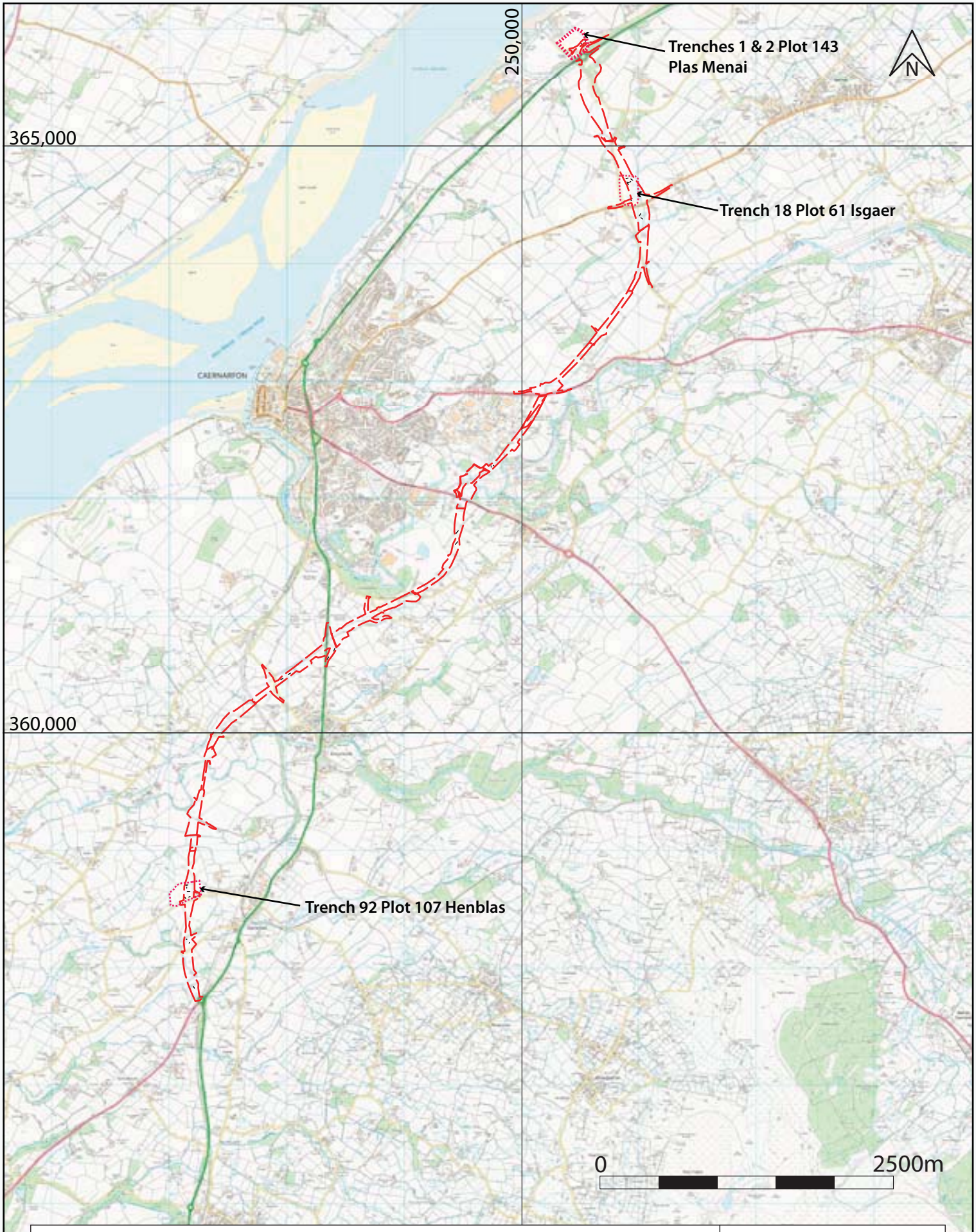

Figure 01: Plan showing the scheme footprint.

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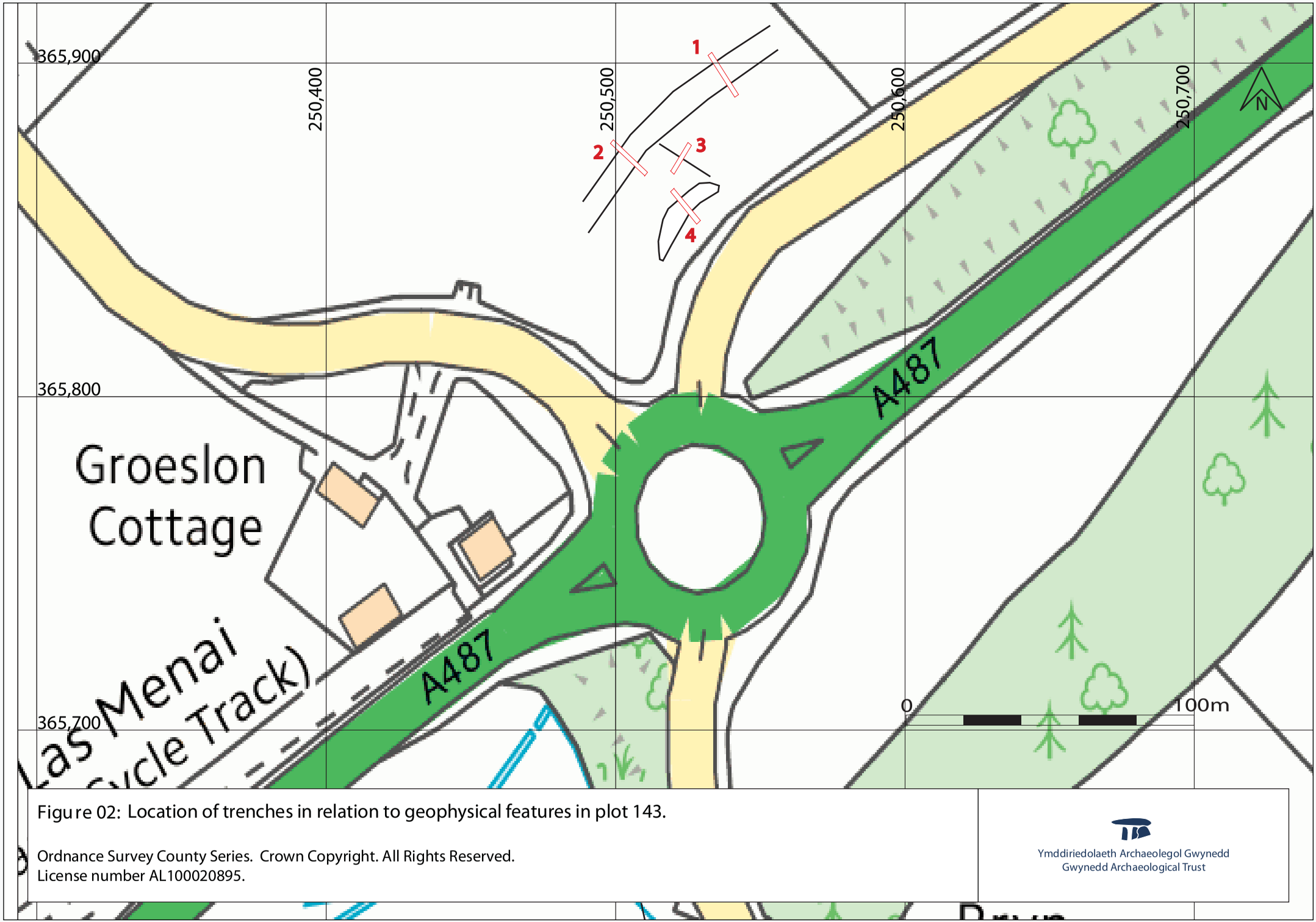

Figure 02: Location of trenches in relation to geophysical features in plot 143.

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Gwynedd Archaeological Trust

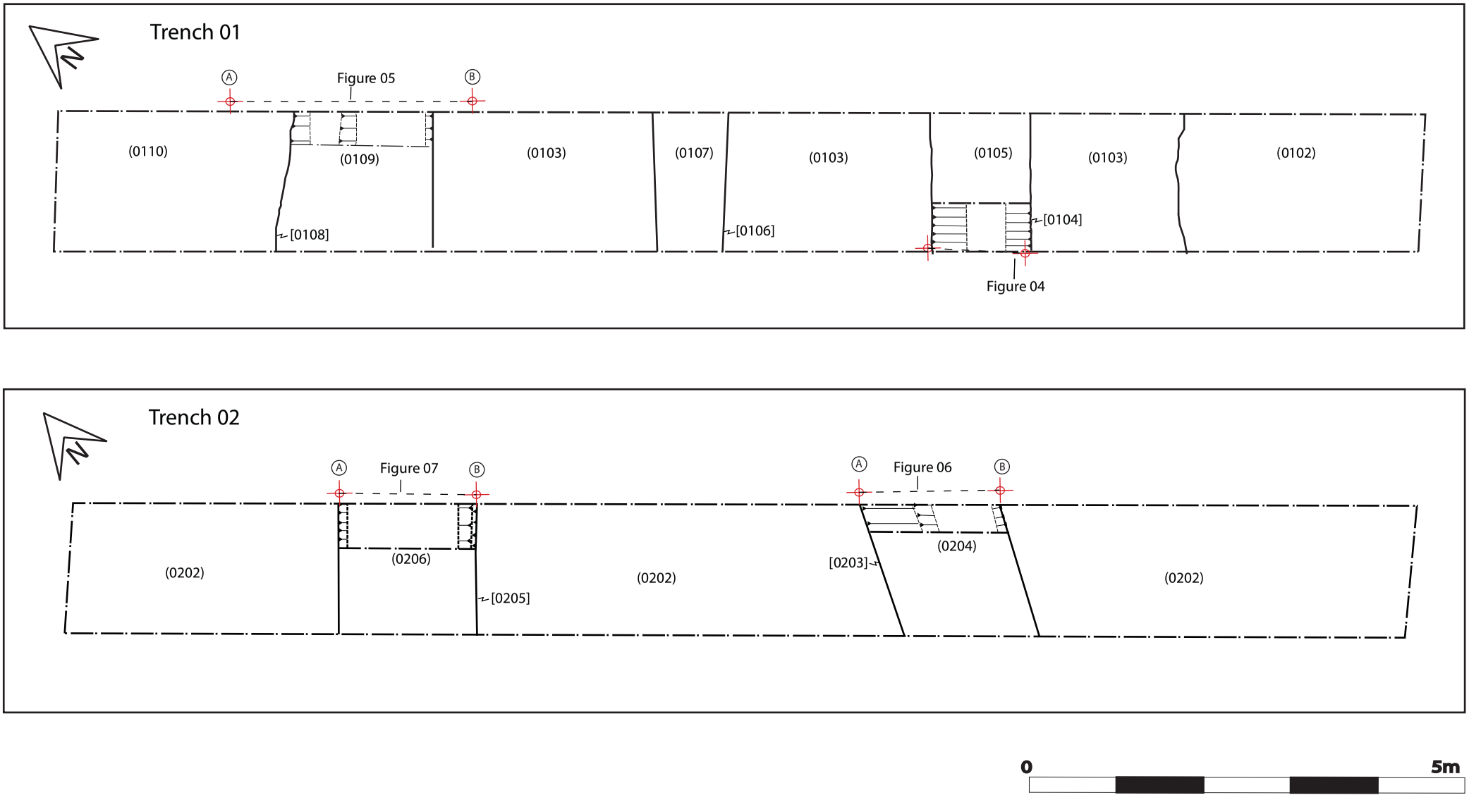

Figure 03: Plans of features within Trenches 01 and 02.

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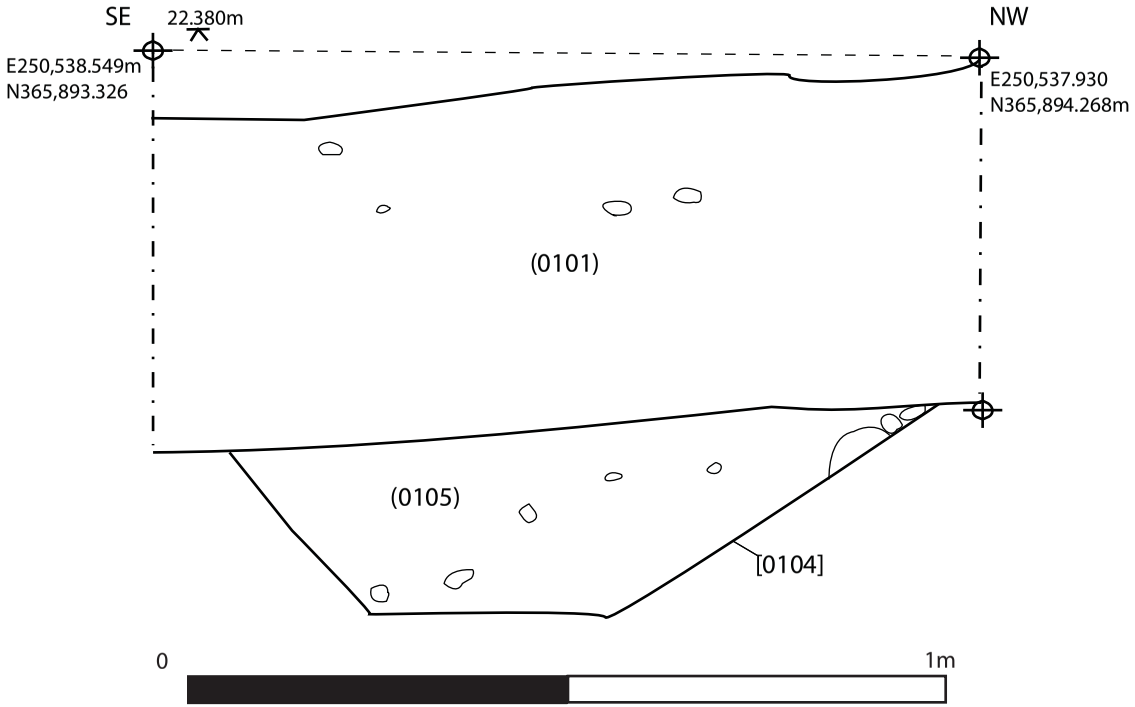
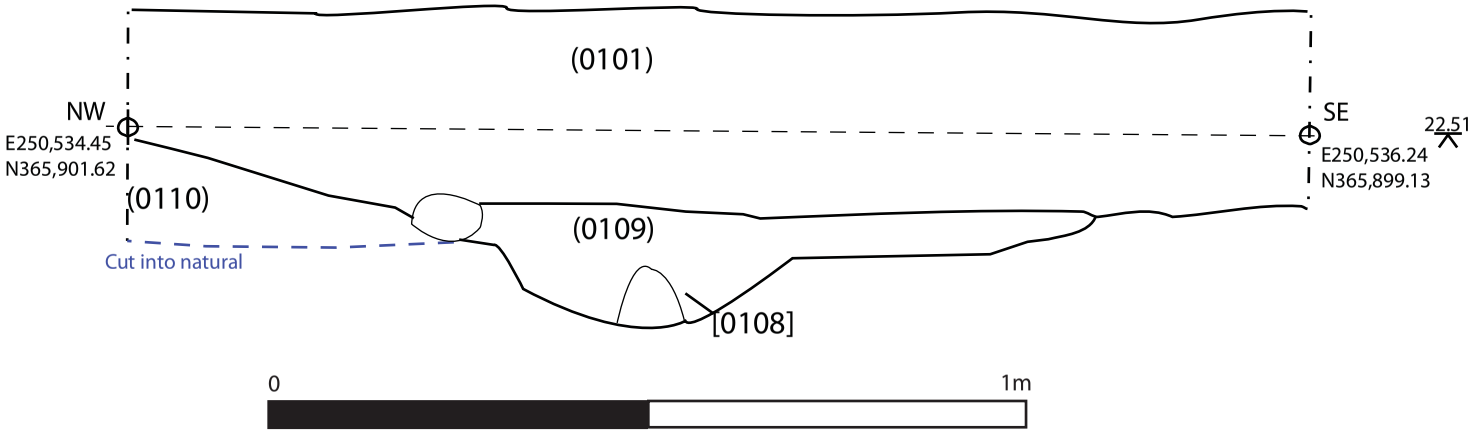


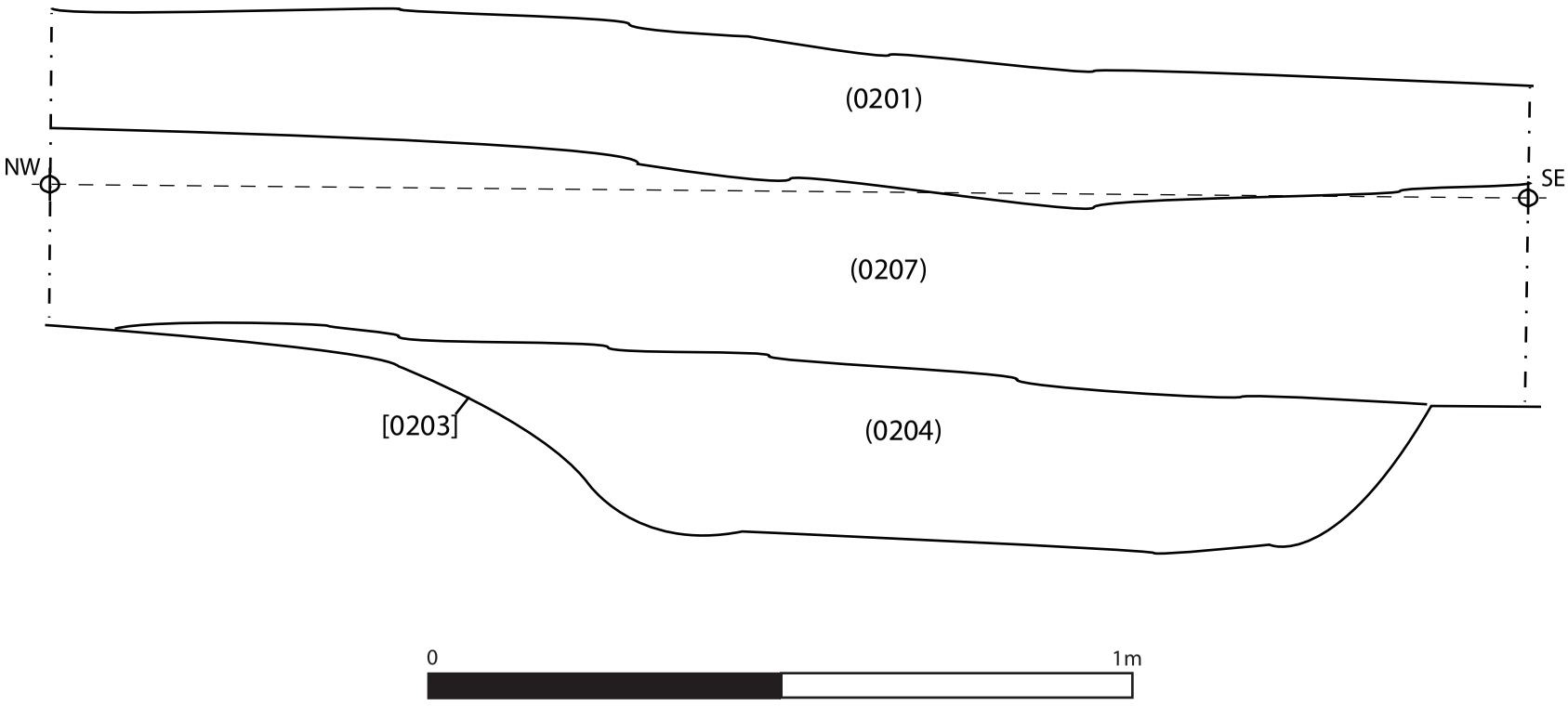
Context (0101) - Topsoil
Context [0104] - Linear feature
Context (0105) - Fill of linear feature
Stone

Figure 04: North east facing section through linear [0104], within Trench 01, Plot 143.



Context (0101) - Topsoil
Context [0108] - Linear feature
Context (0109) - Fill of linear feature
Context (0110) - Deposit with black rotten stones
- Stones

Figure 05: South west facing section through linear [0108], within Trench 01, plot 143.



Context (0201) - Topsoil
Context (0207) - Subsoil
Context [0203] - Linear feature
Context (0204) - Fill of linear feature

Figure 06: South west facing section through linear [0203], within Trench 02, plot 143.

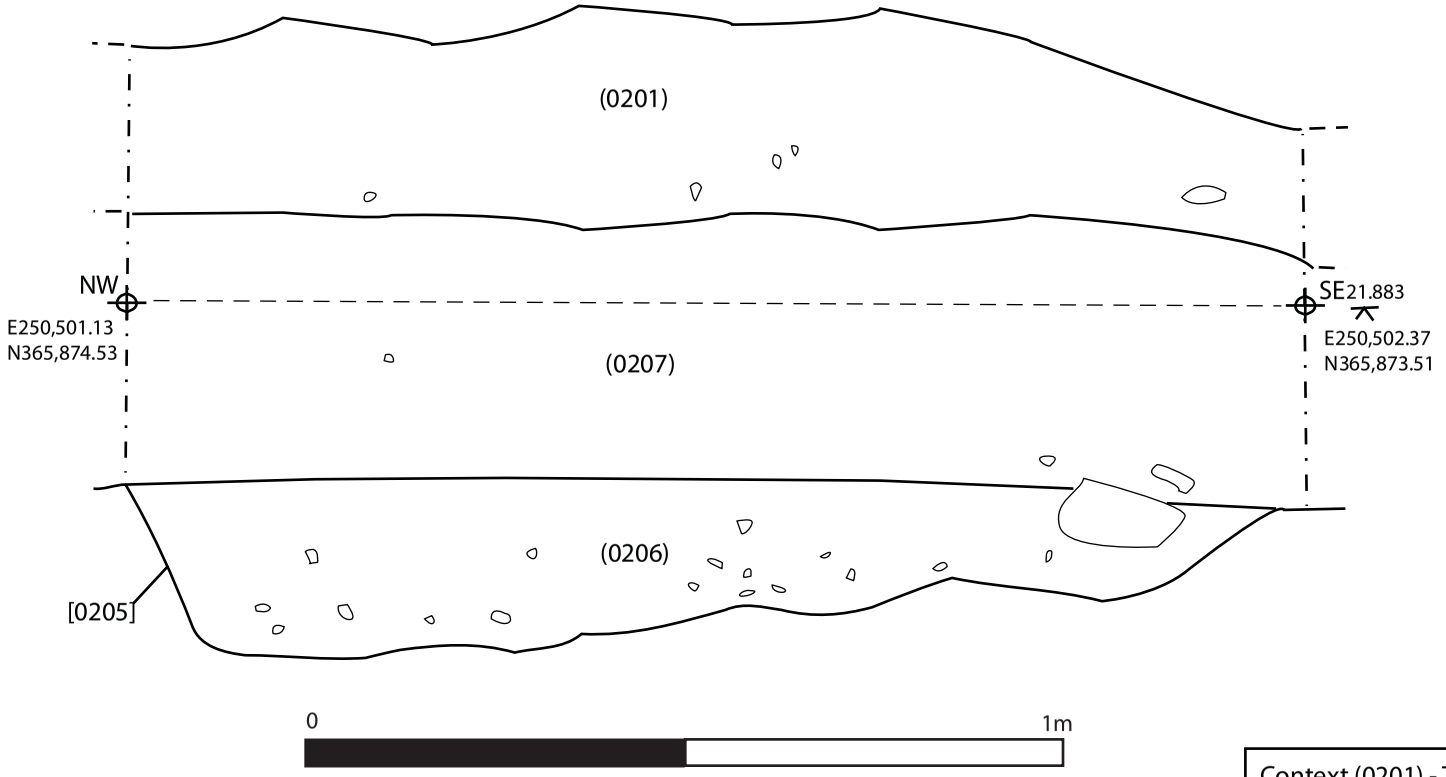


Figure 07: South west facing section through linear [0205], within Trench 2, plot 143.

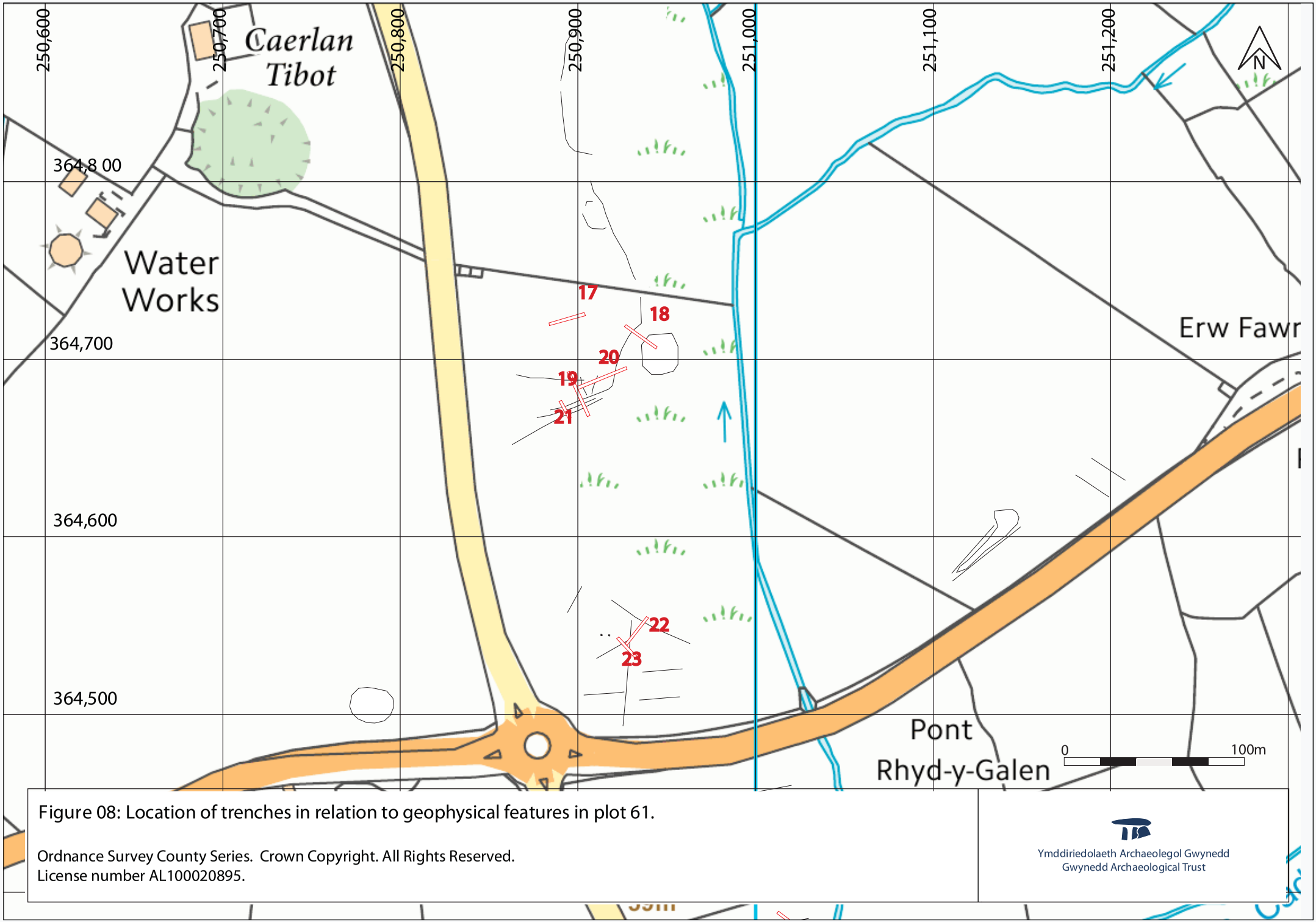


Figure 08: Location of trenches in relation to geophysical features in plot 61.

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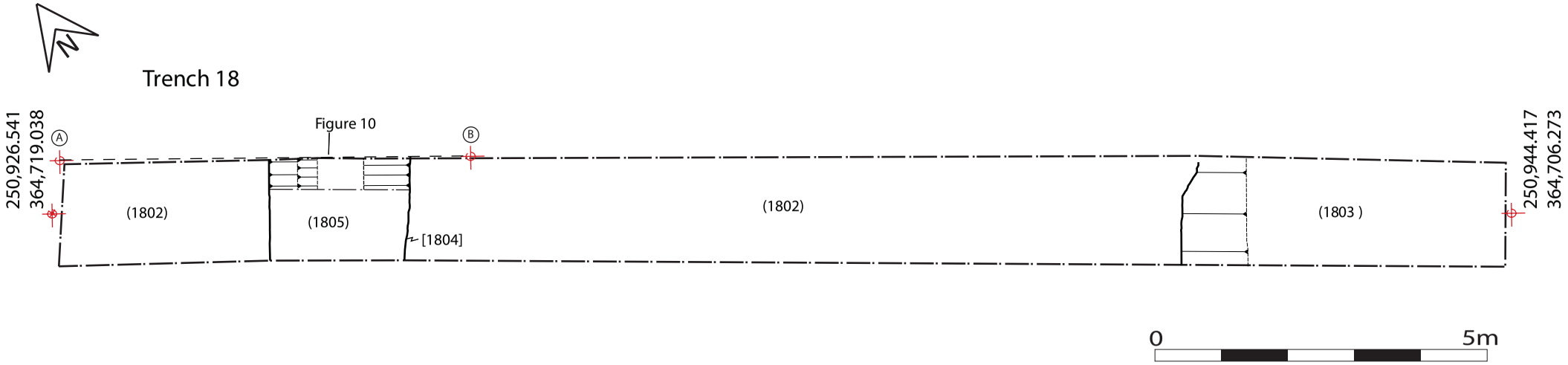

Figure 09: Plan of features within Trench 18, plot 61.

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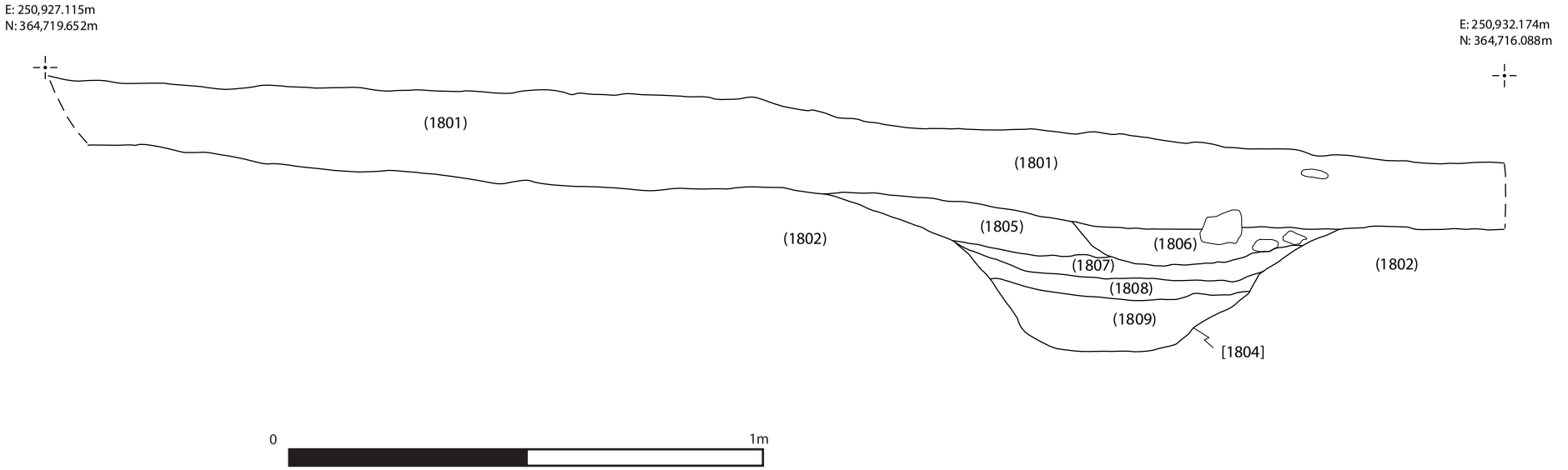

Figure 10: South east facing section of feature [1804] within Trench 18, Plot 61. Scale 1:10@A3

Context (1801) - Topsoil
Context (1802) - Natural
Context [1804] - Linear feature
Context (1805) - Fill of linear feature
Context (1806) - Fill of linear feature
Context (1807) - Fill of linear feature
Context (1808) - Fill of linear feature
Context (1809) - Fill of linear feature
- Stone

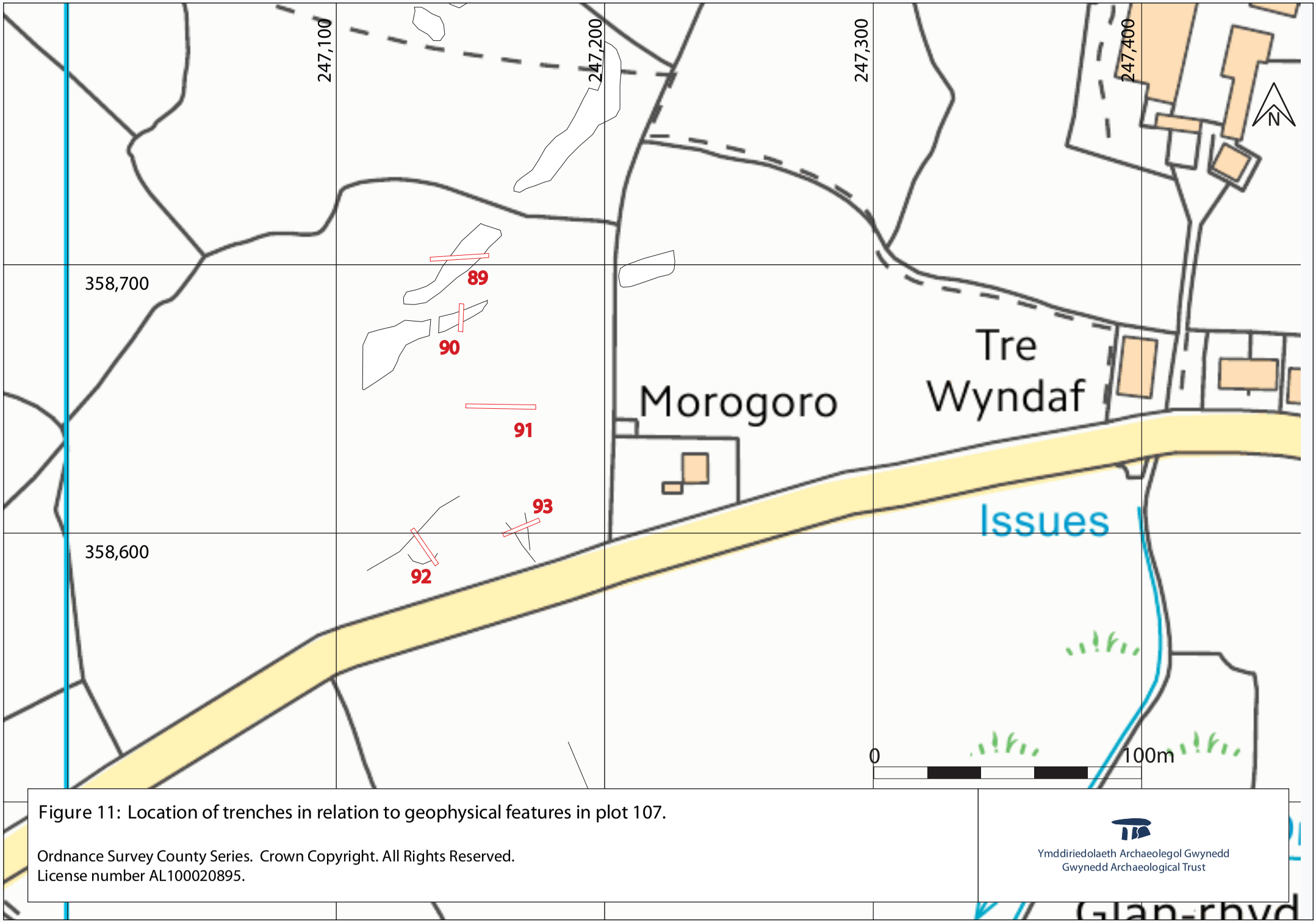

Figure 11: Location of trenches in relation to geophysical features in plot 107.

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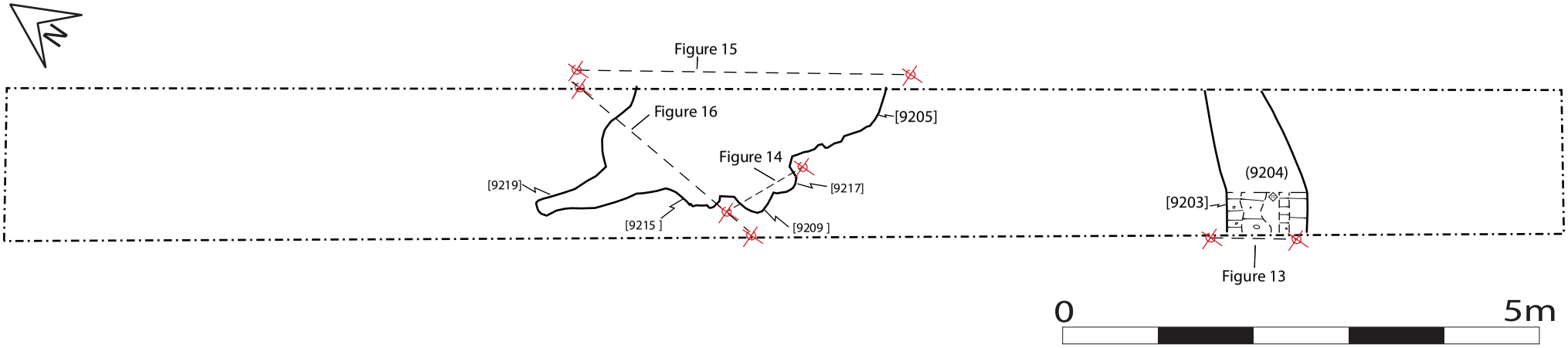

Figure 12: Post-excavation plan of Trench 92

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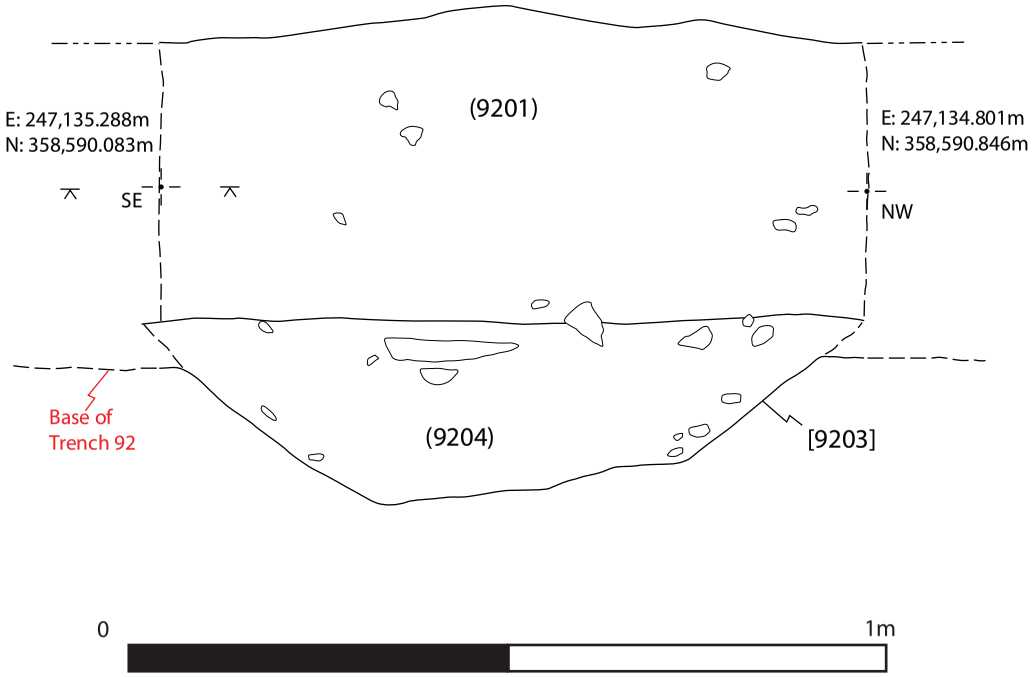

Context (9201) - Topsoil
Context [9203] - Linear Feature
Context (9204) - Fill of linear feature
- Stone

Figure 13: North east facing section through linear [9203] within Trench 92, Plot 107.

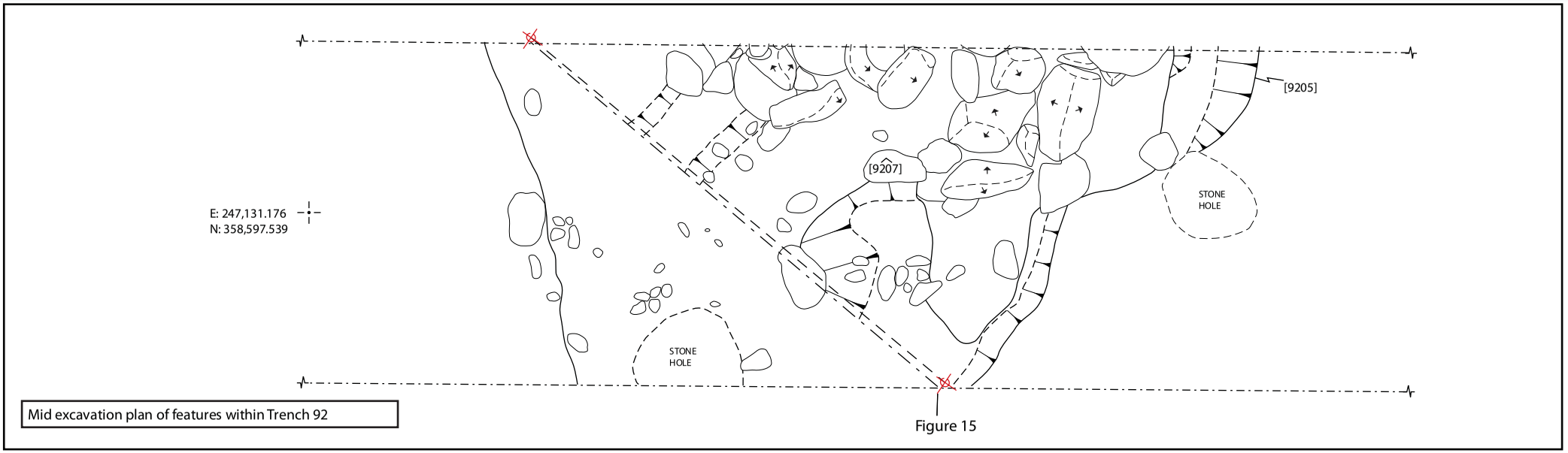

Figure 15

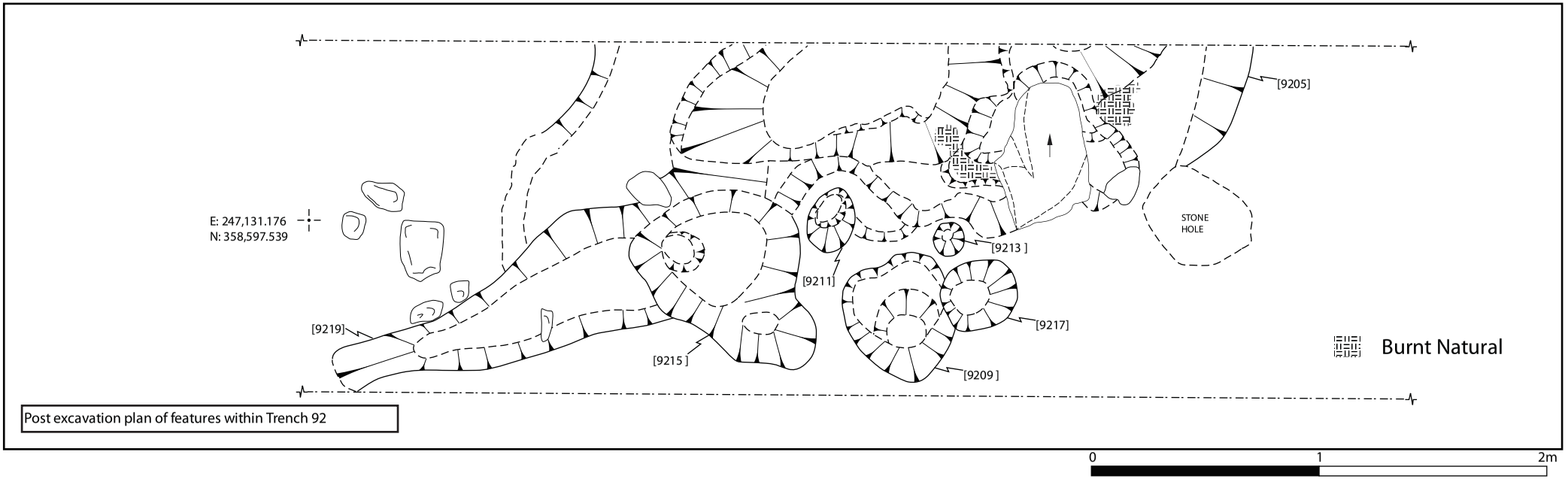

Figure 14: Mid and post excavation plans of features within Trench 92

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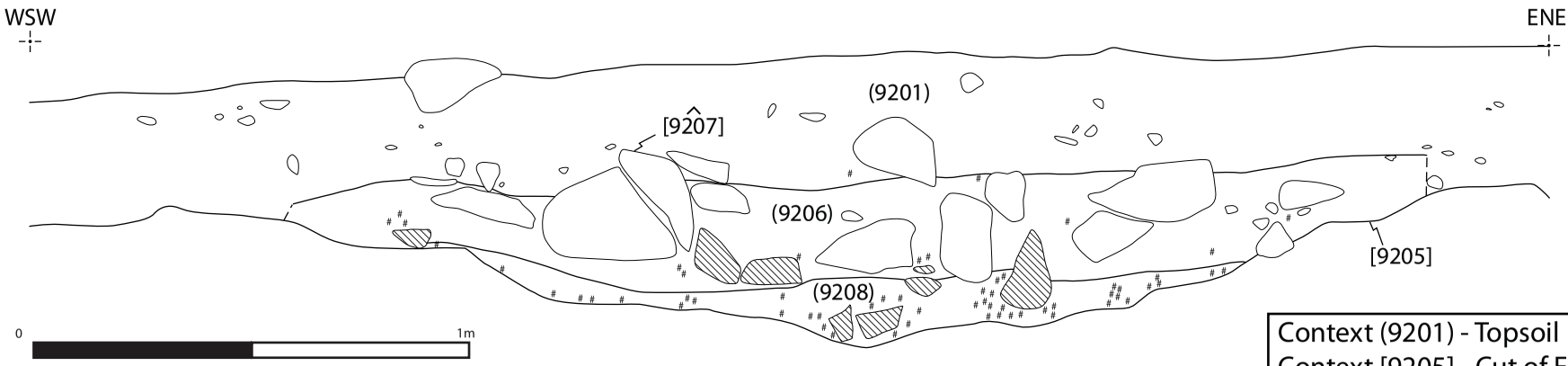


Context (9201) - Topsoil
Context [9205] - Cut of Feature
Context (9206) - Upper Fill of Feature
Context (9208) - Lower Fill of Feature
- Charcoal
- Stone

Figure 15: South south east facing section through feature [9205] within Trench 92, Plot 107. Scale 1:10@A3

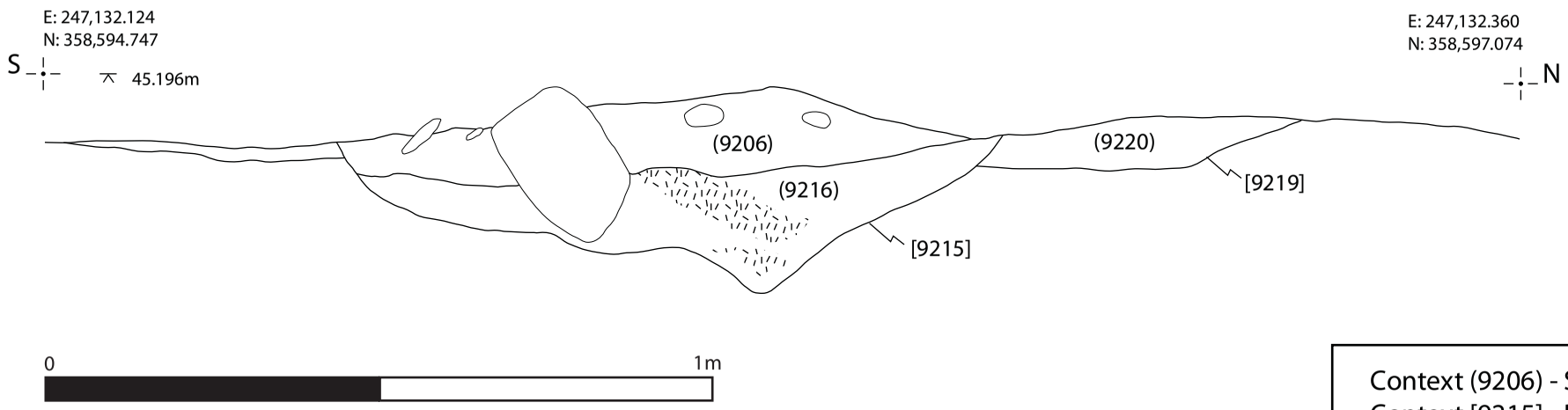
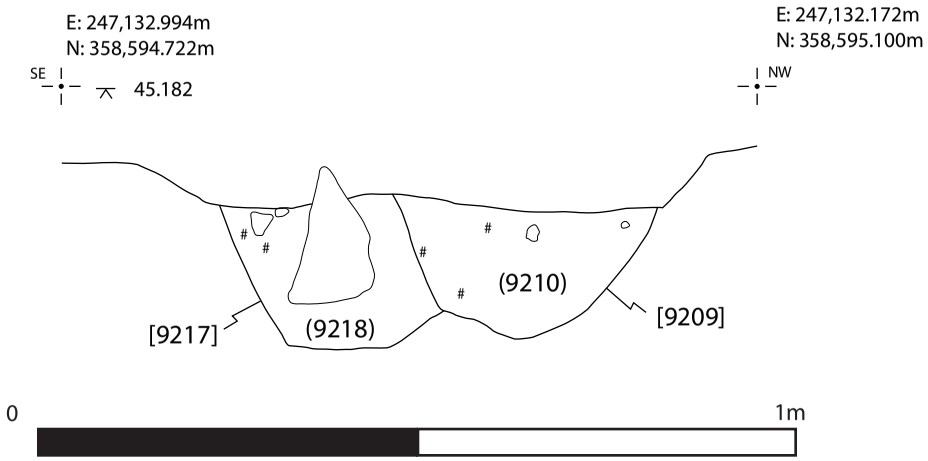


Figure 16: East facing section through pit [9215] and gully [9219] in Trench 92, Plot 107.



Context [9209] - Cut of Pit
Context (9210) - Fill of Pit
Context [9217] - Cut of Pit
Context (9218) - Fill of Pit
- Charcoal
- Stone

Figure 17: North east facing section through pits [9209] & [9217] within Trench 92, Plot 107.

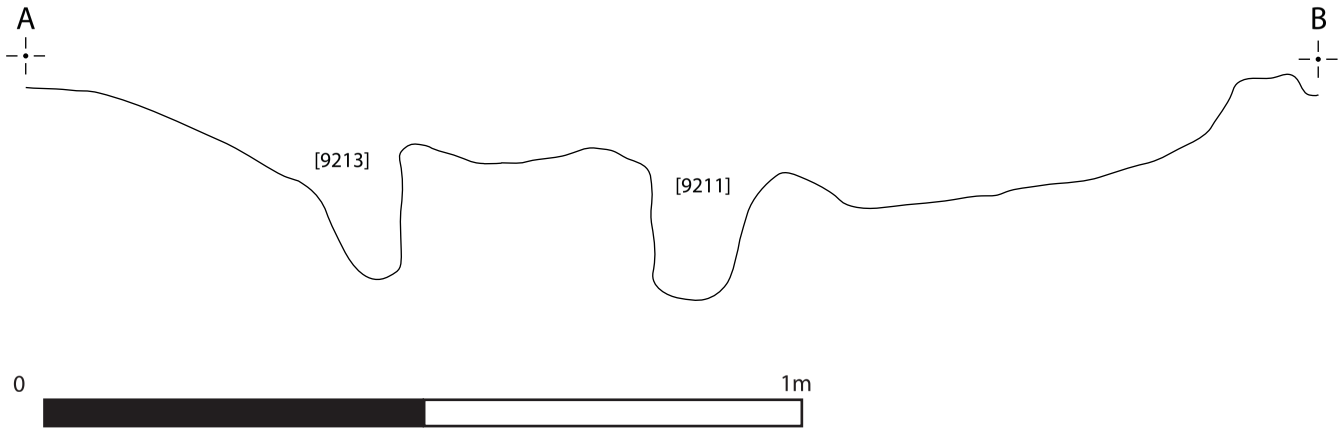


Figure 18: North to South profile through postholes [9211] and [9213] in Trench 92, plot 107.

Context [9211] - Posthole
Context [9213] - Posthole

Plate 01: Location shot of plot 143, Plas Menai. View from west (archive image G2454_100)

Plate 02: Pre-excavation shot of [0104] and [0106]. View from south east. 2x1m scale (archive image G2454_104)

Plate 03: North east facing section through [0104]. 1x1m scale (archive image G2454_111)

Plate 04: North east facing section through linear [0106]. 1x1m scale (archive image G2454_113)

Plate 05: South west facing section linear [0108]. 1x1m scale (archive image G2454_129)

Plate 06: Pre-excavation shot of [0203] and [0205]. View from west. 1x1m scale (archive image G2454_108)

Plate 07: Post-excavation shot of [0203] - oblique. View from west. 1x1m scale (archive image G2454_133)

Plate 08: Post-excavation shot of [0205] - oblique. View from west.1x1m scale (archive image G2454_130)

Plate 09: Location shot for trenches in Plot 61. View from north west. 1x1m scale (archive image G2454_006)

Plate 10: Post-excavation shot of Trench 18 with [1804] and burnt mound visible. 2x1m scale. View from north west (archive image G2454_011)

Plate 11: South east facing section through [1804]. View from south east. 2x1m scale (archive image G2454_069)

Plate 12: View of burnt mound in Plot 61. View from east. 1x1m scale (archive image G2454_073)

Plate 13: View of kerb stones along eastern edge of burnt mound. View from west. 1x1m scale (archive image G2454_074)

Plate 14: Location shot for trenches in plot 107. View from east. (archive image G2454_146)

Plate 15: Pre-excavation shot of linear [9203]. View from north west. 1x1m scale (archive image G2454_148)

Plate 16: North east facing section through linear [9203]. 1x1m scale (archive image G2454_161)

Plate 17: Post-ex shot of [9205] [9209] [9217] [9211] [9213] [9215]. View from south west. 2x1m scale (archive image G2454_200)

Plate 18: Post-ex shot of [9205]. View from north east. 2x1m scale (archive image G2454_190)

Plate 19: Mid-excavation photo of [9205] and (9207). View from north east. 1x1m scale (archive image G2454_178)

Plate 20: Post-excavation photo of [9219] and [9215]. View from south east.1x1m scale (archive image G2454_204)

Plate 21: East facing section through [9215]. 1x1m scale (archive image G2454_184)

Plate 22: Post-excavation photo of pits [9209] and [9217], and postholes [9211] and [9213]. View from south south west. 1x1m scale (archive image G2454_205)

Plate 23: North east facing section through [9209] and [9217]. 1x0.25m scale (archive image G2454_185)

Plate 24: Pre-excavation shot of [9205] with (9206) and (9207) in-situ. View from west north west. 2x1m scale (archive image G2454_156)

7 APPENDIX II

7.1 Photographic Metadata

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_001	Caernarfon and Bontnewydd Bypass	Plot 63B, Tr.7 + 8	Entrance into field with Tr. 7 + 8, Plot 63B	E	1x1m	Photograph	07/03/2016	SR	Gwynedd Archaeological Trust	
G2454_002	Caernarfon and Bontnewydd Bypass	Plot 63B, Tr.7 + 8	General shots of condition of field with Tr. 7 + 8, Plot 63B	SE	1x1m	Photograph	07/03/2016	SR	Gwynedd Archaeological Trust	
G2454_003	Caernarfon and Bontnewydd Bypass	Plot 63B, Tr.7 + 8	General shots of condition of field with Tr. 7 + 8, Plot 63B	NNE	1x1m	Photograph	07/03/2016	SR	Gwynedd Archaeological Trust	
G2454_004	Caernarfon and Bontnewydd Bypass	Plot 61A	Gated entrance into field 61A	W	1x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_005	Caernarfon and Bontnewydd Bypass	Plot 61A	Slate surface of gated entrance into field 61A	E	1x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_006	Caernarfon and Bontnewydd Bypass	Plot 61A	Field 61A, past site entrance, looking toward Tr.18 +19 locations	NW	1x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	09
G2454_007	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.18	Pre-ex shot of location of Tr.18 and probable burnt mound	W		Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_008	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.17	Post-ex shot	W	2x1m	Photograph	08/03/2016	JD	Gwynedd Archaeological Trust	
G2454_009	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.17	Post-ex shot	E	2 x1m	Photograph	08/03/2016	JD	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_010	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.17	Rep. Sec.	S	1x1m	Photograph	08/03/2016	JD	Gwynedd Archaeological Trust	
G2454_011	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.18	Post-ex shot of Tr.18	NW	2x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	10
G2454_012	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.18	Post-ex shot of Tr.18	SE	2x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_013	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.18	Long section face of Tr.18	NE	1x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_014	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Post-ex shot of Tr.21	S	2x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_015	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Post-ex shot of Tr.21	N	2x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_016	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Long section face of Tr.21	W	1x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_017	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	E terminal pf Tr.20 with possible linear feature	W	2 x1m	Photograph	08/03/2016	SR	Gwynedd Archaeological Trust	
G2454_018	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Pre-ex shot of Tr.21 features 04 + 07	N	2 x1m	Photograph	09/03/2016	SR	Gwynedd Archaeological Trust	
G2454_019	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Pre-ex shot of 04 in Tr.21	N	1x1m	Photograph	09/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_020	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Pre-ex shot of 07 + 03 in Tr. 21	N	1x1m	Photograph	09/03/2016	SR	Gwynedd Archaeological Trust	
G2454_021	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Mid-ex shot of 04	S	1x1m	Photograph	09/03/2016	JD	Gwynedd Archaeological Trust	
G2454_022	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	E facing section of 04	E	1x1m	Photograph	09/03/2016	JD	Gwynedd Archaeological Trust	
G2454_023	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	W facing section of 04	W	1x1m	Photograph	09/03/2016	JD	Gwynedd Archaeological Trust	
G2454_024	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	W facing section of 07 + 03	W	1x1m	Photograph	09/03/2016	SR	Gwynedd Archaeological Trust	
G2454_025	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Close up of W facing section of 07	W	1x1m	Photograph	09/03/2016	SR	Gwynedd Archaeological Trust	
G2454_026	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21	Mid-ex shot of 07 in Tr.21	W	1x1m	Photograph	09/03/2016	SR	Gwynedd Archaeological Trust	
G2454_027	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.23	Topsoil strip of Tr.23	SE	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	
G2454_028	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.23	Topsoil strip of Tr.23 with linear geological feature running across foreground	SE	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_029	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.23	Topsoil strip of Tr.23 with linear geological feature in foreground and sub-circular geological feature mid-shot	SE	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	
G2454_030	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.22	Topsoil strip of Tr.22 with sub-circular geological feature mid-shot	NE	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	
G2454_031	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.22	Topsoil strip of Tr.22 with linear geological feature mid shot	SE	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	
G2454_032	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.22 + 23	Topsoil strip of Tr.22 + Tr.23 with sub0circular geological feature mid shot	NW	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	
G2454_033	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.22	Topsoil strip of Tr.22 with linear geological feature mid shot	SE	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	
G2454_034	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.23	Soil profile of Tr.23	SE	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	
G2454_035	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.22	Soil profile of Tr.22	NW	1x1m	Photograph	09/03/2016	SGS	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_036	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Pre-ex shot of linear [2005]	SW	1x1m	Photograph	09/03/2016	JD	Gwynedd Archaeological Trust	
G2454_037	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Pre-ex shor of linear [2003]	SW	1x1m	Photograph	09/03/2016	JD	Gwynedd Archaeological Trust	
G2454_038	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Pre-ex shot of linears [2003] + [2005]	WSW	2x1m	Photograph	09/03/2016	JD	Gwynedd Archaeological Trust	
G2454_039	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Pre-ex shot of linears [2003] + [2005]	SSE	2x1m	Photograph	09/03/2016	SR	Gwynedd Archaeological Trust	
G2454_040	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Pre-ex shot of 1905, 1906 + 1903	SSE	2x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_041	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Pre-ex shot of features 1903,1905 + 1906	NNW	2x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_042	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Pre-ex shot of 1903 +1905	SSE	2x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_043	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	SW facing section through linear [2003]	SW	1x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	
G2454_044	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	NNW facing section through inter-cutting linear features [2003] + [2005]	NNW	1x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_045	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	SE facing section through linear feature [2005]	SE	1x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	
G2454_046	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Post-ex shot of intercutting linear features [2003] + [2005]	WSW	2x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	
G2454_047	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Post-ex shot of intercutting linear features [2003] + [2005]	ENE	2x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	
G2454_048	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Post-ex shot of intercutting linear features [2003] + [2005]	SSE	2x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	
G2454_049	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Post-ex shot of linear [2005]	SN	1x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	
G2454_050	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Post-ex shot of linear [2003]	SE	1x1m	Photograph	10/03/2016	JD	Gwynedd Archaeological Trust	
G2454_051	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr. 19	Post-ex shot of 1903, 1905 + 1906 (portrait shot)	SSE	2x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_052	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Post-ex shot of section of 1902 after removal of 1903	SE	1x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_053	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Post-ex shot of 1906	SE	1x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_054	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	SE facing shot of 1906	SE	2x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_055	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Close-up of above	SE	2x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_056	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Post-ex shot of 1903, 1905 + 1906 (portrait shot)	NNW	2x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_057	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.19	Close-up post-ex shot of 1906	SSE	1x1m	Photograph	10/03/2016	SR	Gwynedd Archaeological Trust	
G2454_058	Caernarfon and Bontnewydd Bypass	Plot 53A	Condition survey- shot of gate into plot 53A	SE	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_059	Caernarfon and Bontnewydd Bypass	Plot 53A	Condition survey - shot of field A plot 53 beside gate	SE	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_060	Caernarfon and Bontnewydd Bypass	Plot 53A, Tr.24	Post-ex shot of Tr.24	SSE	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_061	Caernarfon and Bontnewydd Bypass	Plot 53A, Tr.24	Post-ex view of Tr.24 (with digger)	NNW	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_062	Caernarfon and Bontnewydd Bypass	Plot 53A, Tr.24	E facing section shot of Tr.24	E	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_063	Caernarfon and Bontnewydd Bypass	Plot 53A, Tr.24	Post-ex view of 03 in Tr.24	E	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_064	Caernarfon and Bontnewydd Bypass	Plot 53A, Tr.24	Post-ex shot of 04 in Tr.24	E	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_065	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Pre-ex shot of 2009	S	2x1m	Photograph	11/03/2016	JD	Gwynedd Archaeological Trust	
G2454_066	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Pre-ex shot of2009	W	2x1m	Photograph	11/03/2016	JD	Gwynedd Archaeological Trust	
G2454_067	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Pre-ex shot of 2009	E	2x1m	Photograph	11/03/2016	JD	Gwynedd Archaeological Trust	
G2454_068	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr. 18	SE facing section [1804]	SE	2x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_069	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr. 18	Close-up of SE facing section of [1894]	SE	2x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	11
G2454_070	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.18	Post-ex shot of [1804]	SE	2x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_071	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Post-ex shot of [2007] + [2009]	W	1x1m	Photograph	11/03/2016	JD	Gwynedd Archaeological Trust	
G2454_072	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr. 20	South facing section through [2007] + [2009]	S	1x1m	Photograph	11/03/2016	JD	Gwynedd Archaeological Trust	
G2454_073	Caernarfon and Bontnewydd Bypass	Plot 61A	View of Burnt Mound in Field A, plot 61	E	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	12

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_074	Caernarfon and Bontnewydd Bypass	Plot 61A	Kerb stones among E edge of Burnt mound	W	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	13
G2454_075	Caernarfon and Bontnewydd Bypass	Plot 61A	Close-up of kerb stones along edge of burnt mound	E	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_076	Caernarfon and Bontnewydd Bypass	Plot 61A	Burnt Mound [1803] in field plot 61	N	1x1m	Photograph	11/03/2016	SR	Gwynedd Archaeological Trust	
G2454_077	Caernarfon and Bontnewydd Bypass	Plot 51B	Gate into plot 51, field B - condition survey	SSE	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_078	Caernarfon and Bontnewydd Bypass	Plot 51B	Condition survey of plot 51, field B - adjacent to road	S		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_079	Caernarfon and Bontnewydd Bypass	Plot 51B	Condition survey of routse between gate and Tr.26	SE	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_080	Caernarfon and Bontnewydd Bypass	Plot 51B, Tr. 26	Post-ex view of Tr.26	NE	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_081	Caernarfon and Bontnewydd Bypass	Plot 51B, Tr.26	Post-ex view of Tr.26	SW	2x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_082	Caernarfon and Bontnewydd Bypass	Plot 51B, Tr.26	Concentration of boulders at NE terminal of Tr.26	SW	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_083	Caernarfon and Bontnewydd Bypass	Plot 51B, Tr.26	Oblique view of SE section of Tr.26	SE	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_084	Caernarfon and Bontnewydd Bypass	Plot 54	Condition survey - gate into plot 54 field A	SE		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_085	Caernarfon and Bontnewydd Bypass	Plot 54, Tr.24	Trench 24, plot 54 backfilled	SE		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_086	Caernarfon and Bontnewydd Bypass	Plot 54	Access from gate to Tr.24	SW		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_087	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.22 + 23	Trenches 22 + 23 in plot 61 backfilled	SW		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_088	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.22 + 23	Trenches 22 + 23 with access tracks	SE		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_089	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.21 + 20	Trenches 21 and 20 backfilled in plot 61	SE		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_090	Caernarfon and Bontnewydd Bypass	Plot 61A,Tr.18	Trench 18 backfilled, plot 61	SE		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_091	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.20	Trench 21, plot 61 backfilled	NW		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_092	Caernarfon and Bontnewydd Bypass	Plot 61A, Tr.17	Trench 17, plot 61 backfilled	NW		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_093	Caernarfon and Bontnewydd Bypass	Plot 61A	Access into plot 61, after elevation trenches backfilled	NW		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_094	Caernarfon and Bontnewydd Bypass	Plot 51A, Tr.25	Post-ex shot of Tr.25, plot 51	SW	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_095	Caernarfon and Bontnewydd Bypass	Plot 51A, Tr.25	Post-ex shot of Tr.25, plot51	NE	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_096	Caernarfon and Bontnewydd Bypass	Plot 51A, Tr.25	Section of Tr.25	NW	1x1m	Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_097	Caernarfon and Bontnewydd Bypass	Plot 143A	Condition survey-access into plot 143	S		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_098	Caernarfon and Bontnewydd Bypass	Plot 143A	Tracks and large puddke adjacent to entry into plot 143	SW		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_099	Caernarfon and Bontnewydd Bypass	Plot 143A	Tracks across the field (freshly manured)	N		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	
G2454_100	Caernarfon and Bontnewydd Bypass	Plot 143A	General shot of plot 143 and location of evaluation trenches	W		Photograph	14/03/2016	SR	Gwynedd Archaeological Trust	01
G2454_101	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.01	Trench 01 excavated	SE	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_102	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.01	Trench 01 excavated	NW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_103	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.01	Section of Trench 01	SW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_104	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.01	Pre-ex shot of linear [0104] + [0106]	SE	1x1m	Photograph	15/03/2016	JD	Gwynedd Archaeological Trust	02
G2454_105	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.01	Pre-ex shot of linear [0104]	SW	1x1m	Photograph	15/03/2016	JD	Gwynedd Archaeological Trust	
G2454_106	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.01	Pre-ex shot of linear [0106]	SW	1x1m	Photograph	15/03/2016	JD	Gwynedd Archaeological Trust	
G2454_107	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.02	Trench 02 excavated	SE	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_108	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.02	Trench 02 excavated	NW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	06
G2454_109	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.02	Section of Tr.02	SW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_110	Caernarfon and Bontnewydd Bypass	Plot 143A, Tr.01	Post-ex shot of linear [0104]	SW	1x1m	Photograph	15/03/2016	JD	Gwynedd Archaeological Trust	
G2454_111	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.01	NE facing section through linear [0104]	NE	1x1m	Photograph	15/03/2016	JD	Gwynedd Archaeological Trust	03
G2454_112	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.01	Post-ex shot of linear [0106]	NW	1x1m	Photograph	15/03/2016	JD	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_113	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.01	NE facing section through linear [0106]	NE	1x1m	Photograph	15/03/2016	JD	Gwynedd Archaeological Trust	04
G2454_114	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.03	Trench 03 excavated	NW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_115	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.03	Trench 03 excavated	SSW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_116	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.03	Section of Trench 03	NW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_117	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	Trench 04 excavated	NW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_118	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	Trench 04 excavated	NW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_119	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	Section of trench 04	SW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_120	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	Pre-ex shot of [0403]	NE	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_121	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	SE facing section through 0402 +0404	SE	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_122	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	Photo of 0404 with bedrock	NW	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_123	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	Photo of actual natural 0406 + 0408	SE	1x1m	Photograph	15/03/2016	SR	Gwynedd Archaeological Trust	
G2454_124	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.02	Pre-ex shot of [0205]	SW	1x1m	Photograph	16/03/2016	BMJ	Gwynedd Archaeological Trust	
G2454_125	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.02	Pre-ex shot of [0203]	SE	1x1m	Photograph	16/03/2016	EK	Gwynedd Archaeological Trust	
G2454_126	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.02	Pre-ex shot of [0203]	NW	1x1m	Photograph	16/03/2016	EK	Gwynedd Archaeological Trust	
G2454_127	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.01	Pre-ex shot of [0108]	NW	1x1m	Photograph	16/03/2016	SR	Gwynedd Archaeological Trust	
G2454_128	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.01	Post-ex shot of [0108]	SW	1x1m	Photograph	16/03/2016	SR	Gwynedd Archaeological Trust	
G2454_129	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr. 01	Post-ex shot of [0108], close-up	SW	1x1m	Photograph	16/03/2016	SR	Gwynedd Archaeological Trust	05
G2454_130	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.02	Post-ex shot of [0205] - oblique	W	1x1m	Photograph	16/03/2016	BMJ	Gwynedd Archaeological Trust	08
G2454_131	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	SW facing section through Tr.04 (oblique)	SW	1x1m	Photograph	16/03/2016	SR	Gwynedd Archaeological Trust	
G2454_132	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.04	SW facing section through Tr.04 (oblique)	S	1x1m	Photograph	16/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_133	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.02	SW facing section through Tr.02 feature 03 (oblique)	W	1x1m	Photograph	16/03/2016	EK	Gwynedd Archaeological Trust	07
G2454_134	Caernarfon and Bontnewydd Bypass	Plot 148A, Tr.01	Post-ex of [0104] showing bedrock	NW	1x1m	Photograph	16/03/2016	SR	Gwynedd Archaeological Trust	
G2454_135	Caernarfon and Bontnewydd Bypass	Plot 130	Condition survey of plot 130	NW		Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_136	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.38	Trench 38 excavated	N	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_137	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.38	Trench 38 excavated	S	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_138	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.38	Oblique shot of E facing section of Trench 38	E	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_139	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.37	Trench 37 excavated	NW	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_140	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.37	Trench 37 excavated	SE	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_141	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.37	W facing section of Tr. 37	W	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_142	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.37	Feature 3704 - field drain	W	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_143	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.37	Feature 3703 - field drain	W	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_144	Caernarfon and Bontnewydd Bypass	Plot 130, Tr.38	Field drains 3803 + 3804	W	2x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_145	Caernarfon and Bontnewydd Bypass	Plot 107	Condition survey - entrance gate into plot 107	SE		Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_146	Caernarfon and Bontnewydd Bypass	Plot 107	Condition survey - plot 107	E		Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	14
G2454_147	Caernarfon and Bontnewydd Bypass	Plot 107	Condition survey - plot 107	S		Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_148	Caernarfon and Bontnewydd Bypass	Plot 107 , Tr.92	Pre-ex shot of linear [9203]	NW	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	15
G2454_149	Caernarfon and Bontnewydd Bypass	Plot 107, Tr. 92	Pre-ex shot of linear [9203]	SW	1x1m	Photograph	17/03/2016	SR	Gwynedd Archaeological Trust	
G2454_150	Caernarfon and Bontnewydd Bypass	Plot 107, Tr. 93	Trench 93 excavated	W	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_151	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.93	Trench 93 excavated	E	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_152	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.93	Section of Trench 93	S	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_153	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.92	Pre-ex photo of [9205]	SW	2x1m	Photograph	18/03/2016	JD	Gwynedd Archaeological Trust	
G2454_154	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.92	Pre-ex photo of [9205]	NNE	2x1m	Photograph	18/03/2016	JD	Gwynedd Archaeological Trust	
G2454_155	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.92	Pre-ex photo of [9205]	SSW	2x1m	Photograph	18/03/2016	JD	Gwynedd Archaeological Trust	
G2454_156	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.92	Pre-ex photo of [9205]	WNW	2x1m	Photograph	18/03/2016	JD	Gwynedd Archaeological Trust	24
G2454_157	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.91	Trench 91 excavated	W	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_158	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.91	Trench 91 excavated	E	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_159	Caernarfon and Bontnewydd Bypass	Plot 107, Tr.91	Section of trench 91	S	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_160	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	General view of section through linear [9203]	NE	1x1m	Photograph	18/03/2016	BMJ	Gwynedd Archaeological Trust	
G2454_161	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	SE facing section through linear [9203]	NE	1x1m	Photograph	18/03/2016	BMJ	Gwynedd Archaeological Trust	16
G2454_162	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.89	Overall trench shot of Tr.89	W	2x1m	Photograph	18/03/2016	BMJ	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_163	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.89	Overall trencg shot of Tr.89	E	2x1m	Photograph	18/03/2016	BMJ	Gwynedd Archaeological Trust	
G2454_164	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.89	Photo of Rep.Sec in Tr.89	S	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_165	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.90	Overall trench shot of Tr.90	N	2x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_166	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.90	Overall trencg shot of Tr. 90	S	2x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_167	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.90	Photo of Rep.Sec in Tr.90	E	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_168	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.94	Trench 94 excavated	E	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_169	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.94	Trench 94 excavated	W	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_170	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.94	Section of trench 94	S	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_171	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.95	Trench 95 excavated	SW	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_172	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.95	Trench 95 excavated	NE	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_173	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.95	Section of trench 95	SE	1x1m	Photograph	18/03/2016	SR	Gwynedd Archaeological Trust	
G2454_174	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.95	Pre-ex shot of [9503]	NE	1x1m	Photograph	21/03/2016	SR	Gwynedd Archaeological Trust	
G2454_175	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.95	Pre-ex shot of [9503]	SW	1x1m	Photograph	21/03/2016	SR	Gwynedd Archaeological Trust	
G2454_176	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Mid-ex photo of [9205] (stones still in place)	SW	1x1m	Photograph	21/03/2016	JD	Gwynedd Archaeological Trust	
G2454_177	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Mid-ex photo of [9205] (stones still in place)	E	1x1m	Photograph	21/03/2016	JD	Gwynedd Archaeological Trust	
G2454_178	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Mid-ex photo of [9205] (stones still in place)	NE	1x1m	Photograph	21/03/2016	JD	Gwynedd Archaeological Trust	19
G2454_179	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Mid-ex photo of [9205] (stones still in place)	SE	1x1m	Photograph	21/03/2016	JD	Gwynedd Archaeological Trust	
G2454_180	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.95	SE facing section of [9503]	SE	1x1m	Photograph	21/03/2016	SR	Gwynedd Archaeological Trust	
G2454_181	Caernarfon and Bontnewydd Bypass	Plot 104, Tr.95	Post-ex shot of [9503]	SW	1x1m	Photograph	21/03/2016	SR	Gwynedd Archaeological Trust	
G2454_182	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	SW facing section through [9205]	SW	1x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_183	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9205] [9209] [9211] [9213]	SW	1x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	
G2454_184	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	E facing section through [9209]	E	1x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	21
G2454_185	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	NE facing section through [9209]	NE	Ruler	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	23
G2454_186	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Mid-ex shot of [9209]	NE	Ruler	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	
G2454_187	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9205] [9209] [9211] [9213]	NE	2x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	
G2454_188	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9205] [9209] [9211] [9213]	SE	2x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	
G2454_189	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9211]	NW	Ruler	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	
G2454_190	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9205] [9209] [9211] [9213]	NE	2x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	18
G2454_191	Caernarfon and Bontnewydd Bypass	Plot 102, Tr.96	Post-ex shot of Trench 96	SE	2x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	
G2454_192	Caernarfon and Bontnewydd Bypass	Plot 102, Tr.96	Post-ex shot of Trench 96	NW	2x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_193	Caernarfon and Bontnewydd Bypass	Plot 102, Tr.96	SW facing section of trench 96	SW	2x1m	Photograph	22/03/2016	JD	Gwynedd Archaeological Trust	
G2454_194	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.51	Trench 51 excavated	SW	2x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_195	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.51	Trench 51 excavated	NE	2x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_196	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.51	SE facing section face of trench 51	SE	1x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_197	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Trench 52 excavated	NE	2x1	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_198	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Trench 52 excavated	SW	2x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_199	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	SE facing section face of Tr.52	SE	1x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_200	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot [9209] [9217] [9211] [9213] [9215]	SW	2x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	17
G2454_201	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9209] [9217] [9211] [9213] [9215]	E	2x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_202	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9209] [9217] [9211] [9213] [9215]	SE	1x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_203	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of 9219 (gully)	NW	1x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_204	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of 9219 (gully)	SE	1x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	20
G2454_205	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9209] [9217] [9211] [9213]	SSW	1x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	22
G2454_206	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of Tr.92 (portrait)	SE	2x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_207	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of [9203]	NW	1x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_208	Caernarfon and Bontnewydd Bypass	Plot 160, Tr.92	Post-ex shot of Tr.92	NW	2x1m	Photograph	23/03/2016	SR	Gwynedd Archaeological Trust	
G2454_209	Caernarfon and Bontnewydd Bypass	Plot 187. Tr.52	Pre-ex shot of [5203]	NW	1x1m	Photograph	23/03/2016	BMJ	Gwynedd Archaeological Trust	
G2454_210	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Pre-ex shot of [5205]	WSW	1x1m	Photograph	23/03/2016	EK	Gwynedd Archaeological Trust	
G2454_211	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Pre-ex shot of [5205]	WSW	1x1m	Photograph	23/03/2016	EK	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_212	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Shot of E facing section [5203]	E	1x1m	Photograph	23/03/2016	BMJ	Gwynedd Archaeological Trust	
G2454_213	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Shot of NW facing section [5203]	NW	1x1m	Photograph	23/03/2016	BMJ	Gwynedd Archaeological Trust	
G2454_214	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.59	General trench shot	SSW	2x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_215	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	Greneral trench shot	NNW	2 x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_216	Caernarfon and Bontnewydd Bypass	Plot 188	Fallen tree in plot 188 - tree bowl in action	NW		Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_217	Caernarfon and Bontnewydd Bypass	Plot 188	Fallen tree in plot 188 - tree bowl in action	N		Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_218	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	Pre-ex shot of linear [4905]	WNW	1x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_219	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	Pre-ex shot of linear [4903]	WNW	1x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_220	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	Pre-ex shot of linears [4905] + [4903]	NNW	2x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_221	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	General shot of trench 50	NE	2x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_222	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	General shot of trench 50	SW	2x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_223	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	N facing section of [5205]	N	2x1m	Photograph	24/03/2016	SR	Gwynedd Archaeological Trust	
G2454_224	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Close-up N facing section of [5205]	N	2x1m	Photograph	24/03/2016	SR	Gwynedd Archaeological Trust	
G2454_225	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Post-ex shot of [5205]	NE	2x1m	Photograph	24/03/2016	SR	Gwynedd Archaeological Trust	
G2454_226	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Post-ex shot of [5205]	SW	2x1m	Photograph	24/03/2016	SR	Gwynedd Archaeological Trust	
G2454_227	Caernarfon and Bontnewydd Bypass	Plot 187, Tr.52	Oblique shot pf section through [5205]	SW	2x1m	Photograph	24/03/2016	SR	Gwynedd Archaeological Trust	
G2454_228	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	E facing section through [4905]	E	1x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_229	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	Post-ex shot of [4905]	SW	1x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_230	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	E facing section through [4903]	E	1x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	
G2454_231	Caernarfon and Bontnewydd Bypass	Plot 188, Tr.49	Post-ex shot of [4903]	NW	1x1m	Photograph	24/03/2016	JD	Gwynedd Archaeological Trust	

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_232	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	Post-ex shot of Tr.50	SW	2x1m	Photograph	29/03/2016	KO	Gwynedd Archaeological Trust	
G2454_233	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	Post-ex shot of Tr.50	NE	2x1m	Photograph	29/03/2016	KO	Gwynedd Archaeological Trust	
G2454_234	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	NW facing section through (5005)	NW	2x1m	Photograph	29/03/2016	SR	Gwynedd Archaeological Trust	
G2454_235	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	Post-ex shot of 5005	SE	2x1m	Photograph	29/03/2016	SR	Gwynedd Archaeological Trust	
G2454_236	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	Post-ex shot of 5005	NW	2x1m	Photograph	29/03/2016	SR	Gwynedd Archaeological Trust	
G2454_237	Caernarfon and Bontnewydd Bypass	Plot 196, Tr.50	Post-ex shot of 5005	NW	2x1m		29/03/2016	SR		
G2454_238	Caernarfon and Bontnewydd Bypass	Plot 128, Tr. 43	Post-ex shot of trench 43	NE	2x1m		30/03/2016	SR		
G2454_239	Caernarfon and Bontnewydd Bypass	Plot 128, Tr.43	Post-ex shot of trench 43	SW	2x1m		30/03/2016	SR		
G2454_240	Caernarfon and Bontnewydd Bypass	Plot 128, Tr.43	Section of Tr.43	NW	1x1m		30/03/2016	SR		
G2454_241	Caernarfon and Bontnewydd Bypass	Plot 124, Tr.44	Post-ex shot of trench 44	NE	2x1m		30/03/2016	SR		

File reference	Project name	Area	Description	View from	Scale (s)	Type	Date	Originating person	Originating organisation	Plates
G2454_242	Caernarfon and Bontnewydd Bypass	Plot 124, Tr.44	Post-ex shot of trench 44	SW	2x1m		30/03/2016	SR		
G2454_243	Caernarfon and Bontnewydd Bypass	Plot 124, Tr.44	Section of trench 44	NW	2x1m		30/03/2016	SR		
G2454_244	Caernarfon and Bontnewydd Bypass	Plot 124, Tr.44	Shot of [4403]	W	1x1m	Photograph	30/03/2016	SR	Gwynedd Archaeological Trust	

8 APPENDIX III

8.1 Trench Sheets

Trench no.	Area	Size(m)	Depth(m)	Orientation	Plans	Sections	Photos	General summary
01	Plot 143	15x1.6	0.45	NW-SE	Dwg 13, sht 04; dwg 18, sht 06	dwg 12, sht 04; dwg 17, sht 06	G2454_101-6; G2454_110 - 113	This trench targeted two NE/SW orientated linear (type 1) anomalies. Three fairly shallow cut features were identified and investigated, all orientated NE/SW.
02	Plot 143	15x1.6	0.5	NW-SE	Dwg 14, sht 05	Dwg16, sht 05; dwg15, sht 03	G2454_107-9	This trench targeted two NE/SW orientated linear (type 1) anomalies. Two fairly shallow cut features were identified and investigated, both orientated NE/SW.
03	Plot 143	10x1.6	0.45	NNE-SSW	-	-	G2454_114-6	This trench targeted a NW/SE orientated linear (type 1) anomaly. No archaeology was identified; the cause of the anomaly was not established.
04	Plot 143	14x1.6	0.5	NW/SE	-	-	G2454_117-9	This trench targeted a wide curvilinear (type 11) anomaly. No archaeology was identified, the anomaly was attributed to soil improvement works undertaken for agricultural purposes resulting in mixed lenses of topsoil and redeposited natural extending to a maximum depth of 0.9m in places.
17	Plot 61A	20x2.4	0.4	E-W	-	-	G2454_07-9	This was a blind trench located in pasture on a gentle east facing slope above a wetland area further east. No archaeological features were identified.
18	Plot 61A	20x1.6	0.5	NW-SE	dwg 10, sht 04	dwg 09, sht 02	G2454_11-3; 68-70; 73-6	This trench targeted a large sub circular (type 16) feature and a NE/SW running linear (type 2). The sub-circular feature was revealed to be composed of burnt material (1803) consistent with that of a burnt mound. A bulk sample was taken, but following consultation with J. Emmet of GAPS this feature was not further investigated at this stage. The linear feature proved to be a substantial ditch [1804] filled by 5 separate deposits.

Trench no.	Area	Size(m)	Depth(m)	Orientation	Plans	Sections	Photos	General summary
19	Plot 61A	25x1.6	0.5	NNW-SSE	dwg 07, sht 02	dwg 06, sht 02	G2454_40-2; 50-7	This trench targeted 4 E/W running linear (type 2 and 2a) features. The northernmost linear was not identified, however a modern field drain[1906] (not fully excavated due to significant quantity of water running through it) was identified, this is likely the same as [2107] recorded to the west. To the south of this remnants of a probable early field boundary [1903] were identified, likely the same as [2104] again recorded to the west. The southern most geophysical feature may be attributed to the variations in the natural noted in this end of the trench.
20	Plot 61A	30x1.6	0.6	ENE-WSW	dwg11, sht03	dwg05, sht01; dwg04, sht01; dwg08, sht03	G2454_37-9; 43-50; 65-7; 71-2	This trench targeted 3 linear (type 2) features. In the approx. centre of the trench two fairly shallow intercutting ditches were identified [2003] and [2005] (it did not prove possible to establish a stratigraphic relationship between these to features due to the similar nature of the fills). To the west a modern field drain [2007] was identified, sealed by a stony deposit (2009), this is likely remnants of a bank or the result of field clearance, it boarders the edge of the marshy ground.
21	Plot 61A	10x0.6	0.4	N/A	dwg03, sht01	dwg01, sht01; dwg02, sht01	G2454_14-6; 21-26	This trench targeted 3 linear (type 2 and 2a) features. The northern most feature was a fairly substantial ditch [04] filled by two deposits and interpreted as a probable field boundary. To the south of this a modern field drain [2107] cut through a stony deposit (2103) which borders the slight scarp which separates the pasture from the wet ground at the southern edge of this field.

Trench no.	Area	Size(m)	Depth(m)	Orientation	Plans	Sections	Photos	General summary
22	Plot 61A	20x1.6	0.4	NE-SW	-	-	G2454_30-33	This trench targeted 2 linear (type 3) features. No archaeology was identified the anomalies may be attributed to variations within the natural.
23	Plot 61A	15x1.6	0.4	NW-SE	-	-	G2454_27-35	This trench targeted 2 linear (type 3) features. No archaeology was identified the anomalies may be attributed to variations within the natural.
24	Plot 53A	12x1.6	0.4	NNW-SSE	-	-	G2454_60-4	This trench targeted two linear (type 10b and 12b) features. No archaeology was identified; the anomalies may be attributed to variations within the natural.
25	Plot 51A	20x1.6	0.4	NE/SW	-	-	-	This trench targeted a single linear (type 5) feature. No archaeology was identified the anomaly may be attributed to variations within the natural. This trench was relocated 4m to the SW of its originally proposed location in response to a possible reading identified during the CAT scan.
26	Plot 51B	20x1.6	0.6	NW/SE	-	-	G2354_80-3	This trench targeted a single linear (type 5) feature. No archaeology was identified the geophysical anomaly may be attributed to variations within the natural.
37	Plot 130	10 x 1.6m	0.3	NW/SE	-	-	G2454_139-143	This trench targeted a single linear (type 37) feature. Two modern field drains were identified but not excavated.
38	Plot 130	15x1.6	0.5	N-S	-	-	G2454_136-8, 144	This trench targeted two linear (type 13) features. Two modern field drains were identified but not excavated.
43	Plot 128	30x1.6	0.35	NE-SW	-	-	G2454_238-40	This was a blind trench located in pasture on a SW facing slope. No archaeological features were identified.

Trench no.	Area	Size(m)	Depth(m)	Orientation	Plans	Sections	Photos	General summary
44	Plot 124	30 x 1.6m	0.4	NE-SW	-	-	G2354_241-3	This was a blind trench. A stone field drain (4403) was identified approximately 10m from the SW end of the trench but not excavated. No other archaeological finds or features identified.
49	Plot 188	25 x 1.6m	0.3	NNE-SSW	dwg 36, sht 11	dwg 34, sht 11; dwg 35, sht 11	G2454_214-20	This was a blind trench; it was relocated to the NE as a mature beech tree had fallen across the originally proposed position. Two fairly shallow linear features were identified; the southern most of these [4905] had modern pottery within its fill.
50	Plot 169	25 x 1.6m	0.5	NE-SW	-	dwg 33, sht 10	G2454_221-2	This was a blind trench located in enclosed pasture near the base of a gentle NW facing slope, the area was somewhat waterlogged. Five stone filled field drains were identified within this trench (these were not fully investigated) and a former field boundary comprising remnants of a bank/wall (5005) with an associated ditch [5010. Late 19th century and early-mid 20th century pottery were found during the excavation of this trench but were not retained.
51	Plot 187	27 x 1.6m	0.35	NE-SW	-	-	G2454_195-6	This was a blind trench located on NW facing marginal ground used for grazing adjacent to an area of wet ground. No evidence of ploughing or other land improvement was observed.

Trench no.	Area	Size(m)	Depth(m)	Orientation	Plans	Sections	Photos	General summary
52	Plot 187	30 x 1.6m	0.35	NE-SW	dwg 31, sht 09	dwg32, sht08; dwg29, sht08; dwg30, sht08	G2454_197-9	This trench targeted a single linear (type 13) feature. A substantial drainage ditch [5205] of a probable late 19th/early 20th century was identified along with a small irregular pit of unknown date/function [5203].
89	Plot 107	20 x 1.6m	0.65	E-W	-	-	G2454_162-4	This trench targeted a single wide linear (type 10c) feature. A concentration of stones (8904) was noted but is not thought to be archaeological.
90	Plot107	9.5 x 1.6m	0.38	N-S	-	-	G2454_165-7	This trench targeted a single wide linear (type 10c) feature. No archaeology was identified.
91	Plot 107	20 x 1.6m	0.4	E-W	-	-	G3454_157-9	This was a blind trench. No archaeology was identified.

Trench no.	Area	Size(m)	Depth(m)	Orientation	Plans	Sections	Photos	General summary
92	Plot 107	15 x 1.6m	0.5	NNW-SSE	dwg20, sht 07; dwg27, sht07;	dwg24 & 25 sht05; dwg 19 sht 05 dwg26&28	G2454_159-61; 176-179; 182-90; 200-8	This trench targeted a curvilinear, a small sub-circular feature and linear (type 9g). A shallow curvilinear [9203] containing fragments of burnt flint within its fill (9204) is likely to be the southernmost feature targeted by this trench. A cluster of 7 intercutting features was identified in the approx. middle of the trench. Evidence of in situ burning was noted at the base of the largest pit [9205]; this also contained a primary charcoal rich fill (9208) and an upper deposit (9206) containing frequent large rounded cobbles (9207) and fragments of slag. Associated features included two post holes, a shallow gully and several sub rounded pits. The function of this cluster of features is unclear, however some sort of early industrial activity is likely. The northernmost geophysical anomoly is likely to be geolological in nature.
93	Plot 107	15 x 1.6m	0.5	E-W	-	-	G2454_150-3	This trench targeted two linear features (type 9g). No archaeology was identified.
94	Plot 104	9 x 1.6m	0.4	E-W	-	-	G2454_168-70	This trench targeted a single linear (type 9b) feature. It was located on the bank of a small stream. No archaeology was identified.
95	Plot 104	10 x 1.6m	0.5	NE-SW	-	-	G2454_171-3	This trench targeted a single linear (type 8) feature. This was demonstratated to be a shallow field boundary of a late 19th/early 20th century date.
96	Plot 102	23 x 1.6m	0.6	NNW-SSE	-	-	G2454_191-3	This trench targeted a single wide linear (type 10c) feature. No archaeology identified

9 APPENDIX IV

9.1 Context Register

Context No	Trench	Plot	Description
0104	1	143A	Cut of linear feature
0105	1	143A	Fill of linear [0104]
0106	1	143A	Cut of very shallow linear, running parallel to [0104]
0107	1	143A	Fill of linear [0106]
0108	1	143A	Field boundary same as [0205]
0109	1	143A	Fill of [0108]
0110	1	143A	Natural deposit concentrated at NW edge of Tr.01, overlaid by topsoil [0101] and partially cut by [0108]
0203	2	143A	Cut of ditch
0204	2	143A	Fill of [0203]
0205	2	143A	Cut of linear feature NE end of Tr.02
0206	2	143A	Fill of [0205]
1804	18	61A	Cut of substantial ditch - more than a field boundary given steep sides and depth
1805	18	61A	Fill of [1804] - soft mid greyish brown, occ. small stones
1806	18	61A	Fill of [1804] - soft mid-dark grey silty clay, moderate stone
1807	18	61A	Fill of [1804] - soft cohesive light greyish brown with occ. small stone
1808	18	61A	Fill of [1804] - orange/brown in colour as water-logged and possible iron content
1809	18	61A	Fill of [1804] - Wet, coarse, fine mid grey silty gravely clay
1901	19	61A	Topsoil in Tr.19
1902	19	61A	Natural in Tr.19
1903	19	61A	Linear cut of field boundary, same as identified in Tr.21
1904	19	61A	Fill of [1904]
1905	19	61A	Natural deposit - subsoil or discolouration of basal topsoil
1906	19	61A	Linear cut of field drain, same as [2107]
1907	19	61A	Fill of [1906]
2003	20	61A	Cut of NW/SW running linear - intercutting linear [2005]
2004	20	61A	Sole fill of linear feature [2003]
2005	20	61A	Cut if NW/SE running linear feature filled by single deposit

2006	20	61A	Fill of linear [2005]
Context No	**Trench**	**Plot**	**Description**
2007	20	61A	Cut for field drain - cuts through natural + covered by 2009
2008	20	61A	Fill of [2007]
2009	20	61A	Deposit of sub-rounded/angular stones. May represent remnants of revetment/landscaping.
2104	21	61A	Cut if linear feature - possible drainage ditch
2105	21	61A	Secondary fill of linear feature [2104]
2106	21	61A	Primary fill of [2104]
2107	21	61A	Cut of field drain which cuts glacial fill (02) and layer (03), beneath topsoil (01).
2108	21	61A	Fill of field drain [2107]
4403	44	128	Slightly curved field drain located 10m from SW terminal of Tr.44
4903	49	188	Cut of N. Linear within this trench
4904	49	188	Fill of [4903]
4905	49	188	Cut of S Linear, likely to be a ditch.
4906	49	188	Fill of [4905]
5004	50	196	Land drain running along N - S at SW end of Tr50
5005	50	196	Cut of likely base of a post-med. Earth and stone bank wall running along NW-SE across, poss. Dismantled
5006	50	196	Land drain running along NW-SE across Tr50, not excavated
5007	50	196	Land drain running E -W across Tr50, not excavated
5008	50	196	Land drain running NW-SE across Tr50, not excavated
5010	50	196	Eroded channel on SW side of field bank/wall (5005). Runs NW-SE parallel with wall
5011	50	196	Naturally silted fill of erosion channel [5010]
5203	52	187	Cut within a possible modern pit
5203	52	187	Fill of [5203]
5205	52	187	Large drainage ditch orientated E - W along slope of hill.
5206	52	187	Fill of [5205]
5207	52	187	Upper fill of [5205], with appearance of leached natural redeposit
5208	52	187	Fill at base of cut [5205]

Context No	Trench	Plot	Description
9203	92	107	Cut of linear feature at SE end of Tr.92, likely to be an enclosure ditch
9204	92	107	Fill of [9203]
9205	92	107	Cut of wide irregular feature forming a cluster of at least 6 other features incl. 7 post holes [9213] + [9211]
9206	92	107	Upper fill of [9205] with appearance of charcoal likely coming from deposit (9208)
9207	92	107	Deposit of large sub-rounded cobbles within (9206) - surrounding matrix removed demolition material?
9208	92	107	Charcoal rich deposit lying below stones (9207) - various slag fragments in SW end in-between (9206)+(9208)
9209	92	107	Cut of small pit on NW edge. Similar to pit [9217]
9210	92	107	Fill of [9209]
9211	92	107	Post hole located to NE of [9209] - most noticeable along SW edge - part of cluster of at least 6 other cut features
9212	92	107	Fill of [9211]
9213	92	107	Small post hole/stone hole, located at NE edge of [9217]
9214	92	107	Fill of [9213]
9215	92	107	Cut of irregular pit, partially covered by (9206) - part of cluster of at least 6 other features
9216	92	107	Basal fill of irregular [9215]
9217	92	107	Cut of small circular pit truncated by similar feature [9209]
9218	92	107	Sole fill of pit [9217]
9219	92	107	Cut of shallow irregular gully, truncated by pit [9215]
9220	92	107	Sole fill of shallow gully [9219]
9503	95	104	Cut of boundary ditch
9504	95	104	Fill of boundary ditch [9503]

10 APPENDIX V

10.1 Context Table Gazetteer

Trench No.	Context Number	Depth Below Surface (m)	Description
01	0101	0	Topsoil: Mid brown, cohesive gravel-loam-clay mixed with frequent small sub-angular stones
01	0102	0.45	Bedrock: Earthfast boulders and shale concentrated at the SE terminal
01	0103	0.45	Natural: Light brown-orange gravel-silt-clay with frequent small stones
01	0104	0.4	Cut of NE/SW orientated linear located at the SE end of the trench
01	0105	0.4	Sole fill of linear [0104]
01	0106	0.3	Cut of NE/SW orientated shallow linear located at the approx. centre of the trench
01	0107	0.3	Sole fill of linear [0106]
01	0108	0.25	Cut of NE/SW orientated field boundary
01	0109	0.25	Sole fill of linear [0108]
01	0110	0.25	Natural gravel deposit at the NW end of the trench
02	0201	0	Topsoil: Mid brown, cohesive gravel-loam mixed with frequent small sub-angular stones
02	0202	0.5	Natural: Loose light brown-orange coarse gravel-silt-clay with frequent angular & sub-angular small stones
02	0203	0.5	Cut of linear (likely the same as [0104])
02	0204	0.5	Sole fill of linear [0203]
02	0205	0.5	Cut of linear
02	0206	0.5	Sole fill of linear [0205]
02	0207	0.18	Subsoil: firm, light brown coarse silt-gravel-clay
03	0301	0	Topsoil: loose, fine mid brown gravel-loam-clay, with frequent small-medium sub-rounded stones

Trench No.	Context Number	Depth Below Surface (m)	Description
03	0302	0.45	Natural: loose, coarse light brown gravel-clay with frequents mall-medium sub-rounded stones
04	0401	0	Topsoil: loose, fine mid brown gravel-loam-clay, with frequent small sub-rounded stones
04	0402	0.35	Re-deposited natural: loose, coarse light brown gravel-clay with frequent small-medium sub-rounded & angular stones
04	0403		Void
04	0404	0.3	Re-deposited topsoil: soft, cohesive dark brown silt-clay
04	0405	0.65	Same as (0405)
04	0406	0.5	Natural: coarse, loose light grey-brown clay gravel with frequent stone inclusions and bedrock visible in places
17	1701	0	Topsoil: Friable dark brown clayey sand with moderately frequent poorly sorted, sub-rounded gravel inclusions. Occasional concentrations of Post-medieval pottery and glass close to surface.
17	1702	0.4	Natural: Friable mid orange brown (becoming paler to the west) silty sand with frequent rounded gravels and moderately frequent sub-rounded cobbles.
18	1801	0	Natural: Soft, cohesive mid brown clay-silt mixed with moderate small rounded stones
18	1802	0.5	Natural: Soft, cohesive, light grey-yellow/orange boulder clay, frequent medium-large rounded stones. At the centre of the trench (9m from the NW end) a c. 8m wide band of grey-yellow wet/waterlogged natural was noted.
18	1803	0.15	Burnt mound material
18	1804	0.2	Cut of substantial NE/SW linear
18	1805	0.16	Quaternary fill of linear [1804] located on the NW side of the cut
18	1806	0.16	Uppermost fill of [1804] located on the SE side of the cut

Trench No.	Context Number	Depth Below Surface (m)	Description
18	1807	0.27	Tertiary fill of linear [1804]
18	1808	0.32	Secondary fill of linear [1804]
18	1809	0.36	Primary fill of linear [1804]
19	1901	0	Topsoil: soft, mid brown, cohesive, clay-silt with moderately frequent small stones
19	1902	0.5	Natural: Compact orange boulder clay, changing at the S end to bands of fine, cohesive light grey clay with frequent sub rounded stones and yellow gravel-clay.
19	1903	0.22	Cut of E/W orientated shallow ditch, probable field boundary
19	1904	0.22	Sole fill of linear [1903]
19	1905	0.15	Natural alluvial deposit
19	1906	0.15	Cut of field drain (modern)
19	1907	0.15	Sole fill of field drain [1906]
20	2001	0	Topsoil: Friable, dark grey-brown sand-clay-silt, with moderately frequent sub-rounded gravel
20	2002	0.4	Natural: soft, mid grey-orange, clay-silt, with frequent sub-rounded gravel and moderately frequent cobbles
20	2003	0.4	Cut of NE/SW running linear
20	2004	0.4	Sole fill of linear [2003]
20	2005	0.4	Cut of NW/SE running linear
20	2006	0.4	Sole fill of linear [2005]
20	2007	0.5	Cut of N/S running field drain

Trench No.	Context Number	Depth Below Surface (m)	Description
20	2008	0.5	Sole fill of linear [2007]
20	2009	0.2	Deposit of rounded cobbles
21	2101	0	Topsoil: soft, cohesive mid brown clay-silt with moderately frequent small rounded stones
21	2102	0.4	Natural: soft, yellow-orange fine boulder clay with frequent poorly sorted sub rounded stones
21	2103	0.3	Natural alluvial deposit located at the southern edge of the trench: soft, wet, mid grey-brown silt-clay with frequent stones
21	2104	0.4	Cut of E/W orientated linear, probable field boundary
21	2105	0.4	Secondary fill of linear [2104]
21	2106	0.7	Primary fill of linear [2104]
21	2107	0.4	Cut of field drain
21	2108	0.4	Sole fill of field drain
22	2201	0	Topsoil: Friable mid brown clay-sand
22	2202	0.4	Natural: Predominantly an orange-brown till with rounded glacial pebbles and stones, a compact band of yellow brown clay with angular stones was observed at the SW end
23	2301	0	Topsoil: Friable mid brown clay-sand with occasional fragments of post-medieval glass and ceramic
23	2302	0.4	Natural: Predominantly an orange-brown till with rounded glacial pebbles and stones, a compact band of yellow brown clay with angular stones was observed at the SE end

Trench No.	Context Number	Depth Below Surface (m)	Description
24	2401	0	Topsoil: friable, loose mid-brown silt-gravel-loam with moderately small-medium sub-rounded stones. Occasional sherds of glazed earthenware observed
24	2402	0.3	Natural: loose, soft light orange-brown boulder clay
24	2403	0.3	Natural: A concentration of small(0.1cm) sub-rounded and sub-circular stones embedded within (2402); 0.1m thick, >0.6 long, 0.8m wide located at the NNW end of the trench
24	2404	0.3	Natural: A concentration of small(0.1cm) sub-rounded and sub-circular stones embedded within (2402); 0.1m thick, >1.6 long, 1.3m wide located 3.8m from the NNW end of the trench
25	2501	0	Topsoil: dark brown, sand-silt with moderately frequent sub-rounded gravel and occasional
25	2502	0.4	Natural: loose, bid brown-orange silt-clay with moderately frequent sub rounded cobbles
26	2601	0	Topsoil: friable, dark grey-brown sand-silt with occasional sub-rounded cobbles
26	2602	0.3	Subsoil: Firm, dark orange-brown sand-clay with moderately frequent sub-rounded coarse gravel
26	2603	0.6	Natural (SE half of trench): loose, pale brown-grey, sand-clay with frequent poorly sorted sub-rounded cobbles and occasional boulders
26	2604	0.6	Natural (NW half of trench): loose, mid brown-orange silt-clay with moderately frequent sub-rounded cobbles
37	3701	0	Topsoil: soft, cohesive mid grey-brown silt clay with roots and frequent small stones
37	3702	0.3	Natural: Compact, cohesive, plasticity yellow light orange clay mixed with moderate stone.
37	3703	0.3	Field drain: E/W orientated linear, 0.6m wide filled by a deposit of rounded cobbles below a layer of redeposited natural.
37	3704	0.4	Field drain: /W orientated linear, 0.7m wide filled by a deposit of rounded cobbles below a layer of redeposited natural.

Trench No.	Context Number	Depth Below Surface (m)	Description
38	3801	0	Topsoil: soft, cohesive, mid grey-brown silt clay with frequent roots and small stones
38	3802	0.45	Natural: compact, light yellow-orange, cohesive, plastic clay with moderately frequent poorly sorted sub-rounded stones
38	3803	0.45	Field drain: NW/SE orientated narrow linear (0.2m wide) filled with small rounded cobbles
38	3804	0.45	Field drain: E/W orientated narrow linear (0.18m wide) filled with small rounded cobbles
43	4301	0	Topsoil: fine, cohesive mid brown silty clayey loam mixed with infrequent stones
43	4302	0.35	Natural: fine, cohesive light grey and range silty clay at the lower SW half of the trench. Coarse light grey clayey gravel with frequent small to medium, sub-rounded stones upslope to the NE.
44	4401	0	Topsoil: fine, cohesive, mid brown clayey silty loam with moderate small sub-rounded stones.
44	4402	0.4	Natural: fine, cohesive, mid orange silty, clay with coarse gravel and frequent small to medium sized sub-rounded stones.
44	4403	0.4	Slightly curving, predominately E-W orientated stone field drain. Cut into underlying natural (4402). Composed of small to large sub rounded and sub angular stones. Exposed length 3.2m, 0.4m wide.
49	4901	0	Topsoil: Friable, mid grey-brown sand-silt with occasional poorly sorted sub-rounded gravel
49	4902	0.3	Natural: fairly soft, mid grey-orange clay-silt-sand with frequent poorly sorted gravel
49	4903	0.3	Cut of N. linear
49	4904	0.3	Sole fill of linear [4903]
49	4905	0.3	Cut of S. linear
49	4906	0.3	Sole fill of linear [4905]

Trench No.	Context Number	Depth Below Surface (m)	Description
50	5001	0	Topsoil: friable, mid grey-brown sand-silt with occasional fine sub rounded gravel
50	5002	0.15	Subsoil: soft, mid brown-grey, clay-silt-sand with frequent sub angular and rounded poorly sorted gravel
50	5003	0.45	Natural: fairly soft, mid grey-orange clay-silt-sand with frequent poorly sorted stone
50	5005	0.38	Remnant of hedge bank/wall base, orientated NW/SE
50	5006	0.4	Field drain, orientated NW/SE
50	5007	0.4	Field drain, orientated E/W
50	5008	0.42	Field drain, orientated NW/SE
50	5009	0.38	Field drain, orientated NE/SW
50	5010	0.38	Eroded channel, orientated NW/SE, located to the immediate SE of bank (5005)
50	5011	0.38	Sole fill of channel [5010]
51	5101	0	Topsoil: loose, mid grey-brown, fine clay-silt-loam with occasional small sub-rounded stone
51	5102	0.35	Natural: fine, cohesive yellow and orange boulder clay with frequent small and medium sub-rounded stones and occasional large sub-rounded stones
52	5201	0	Topsoil: Loose, mid brown, fine silt-clay-loam with moderately frequent small stones
52	5202	0.35	Natural: cohesive orange fine silt-clay with occasional small-medium sub-rounded stone
52	5203	0.35	Cut of irregular pit
52	5204	0.35	Sole fill of irregular pit [5203]
52	5205	0.35	Cut of large E/W orientated drainage ditch

Trench No.	Context Number	Depth Below Surface (m)	Description
52	5206	0.35	Secondary fill of linear [5205]
52	5207	0.35	Uppermost fill of linear [5205]
52	5208	0.35	Primary fill of linear [5205]
89	8901	0	Topsoil: Dark grey-brown silt-clay-loam
89	8902	0.3	Subsoil: Mid-dark brown sand-silt with frequent sub-angular and rounded gravel inclusions
89	8903	0.6	Natural: light brown sand-clay with moderately well sorted sub-angular gravel and rounded cobbles
89	8904	0.37	Stone deposit: a concentration of sub-rounded cobbles some 0.36m wide located at the base of a natural slope in the natural were observed in section.
90	9001	0	Topsoil: Dark grey-brown silt-clay-loam
90	9002	0.35	Natural: light brown sand-clay with moderately frequent angular and sub-rounded gravel and cobbles
91	9101	0	Topsoil: cohesive, fine mid brown gravel-clay-loam with small-medium sub-rounded stones
91	9102	0.4	Natural: cohesive, compact, light orange-yellow, silt-clay with frequent small-medium sub rounded and sub-angular stones
92	9201	0	Topsoil: cohesive, fine mid brown gravel-clay-loam with small-medium sub-rounded stones
92	9202	0.4	Natural: cohesive, compact, light orange-yellow, silt-clay with frequent small-medium sub rounded and sub-angular stones
92	9203	0.4	Cut of curvilinear

Trench No.	Context Number	Depth Below Surface (m)	Description
92	9204	0.4	Sole fill of curvilinear [9203]
92	9205	0.3	Cut of large irregular pit
92	9206	0.25	Upper fill of pit [9205]
92	9207	0.25	Rounded cobbles within (9206)
92	9208	0.5	Primary charcoal rich fill within pit [9205]
92	9209	0.35	Cut of small sub circular pit
92	9210	0.35	Sole fill of pit [9209]
92	9211	0.35	Cut of small post hole
92	9212	0.35	Sole fill of post hole [9211]
92	9213	0.35	Cut of small post hole
92	9214	0.35	Sole fill of post hole [9213]
92	9215	0.35	Cut of pit
92	9216	0.4	Sole fill of pit [9215]
92	9217	0.35	Cut of sub-circular pit
92	9218	0.35	Sole fill of pit [9217]
92	9219	0.35	Cut of shallow gully
92	9220	0.35	Sole fill of gully [9219]
93	9301	0	Topsoil: loose, fine, mid brown clay-loam with occasional small sub rounded stones
93	9302	0.45	Natural: cohesive, fine light orange-yellow silt-clay with frequent small-medium sub-angular and sub-rounded stones

Trench No.	Context Number	Depth Below Surface (m)	Description
94	9401	0	Topsoil: soft, cohesive, mid grey, silt-clay with moderate tree roots and small rounded stones
94	9402	0.4	Natural (N half of trench): cohesive coarse clay-alluvial gravel
94	9403	0.4	Natural (S half of trench): cohesive, wet, light grey-brown silt clay with frequent small-medium sub-rounded and sub-angular stones
95	9501	0	Topsoil: loose, fine, mid brown clay-loam mixed with moderately frequent small-medium sub-rounded stones
95	9502	0.5	Natural: fine, cohesive orange silt-clay with frequent small-medium stones
95	9503	0.5	Cut of shallow field boundary
95	9504	0.5	Sole fill of shallow field boundary
96	9601	0	Topsoil: fine, cohesive mid grey-brown gravel-clay-loam with moderately small stones
96	9602	0.25	Subsoil: soft, cohesive mid orange-brown silt clay with frequent small-medium sized sub-rounded and sub-angular stones
96	9603	0.6	Natural: compact, fine, cohesive, light grey and bright orange silt-clay with frequent medium-large sub rounded and sub-angular stones

11 APPENDIX VI

11.1 Reproduction of Young, T. 2016, GeoArch Report 2016/11 Assessment of archaeometallurgical residues from Caernarvon, G2454.

GeoArch

Report 2016/11

Assessment of archaeometallurgical residues from Caernarfon, G2454

Dr Tim Young
6th May 2016

Assessment of archaeometallurgical residues from Caernarfon, G2454

Dr T.P. Young

Abstract

This assemblage comprised approximately 430g of archaeometallurgical residues, together with three small samples of microresidues.

The residues from contexts (9206), (9208) and (9210) were almost entirely indicative of ironworking (blacksmithing) employing charcoal as fuel. The macroscopic residues (from (9206)) comprised fragments of smithing hearth cakes (SHCs) and smaller fragments of similar slag (probably, but not certainly, also from SHCs). The larger fragments provided some suggestion that the SHCs had originally been small (probably originally less that 150g in weight), and as such an origin in secondary smithing (blacksmithing; associated with the end use of iron), rather than in primary smithing (part of the process of iron-production) seems likely. Washing of the macro-residue pieces generated a small quantity of fine-grained flake hammerscale. The microresidue samples were mainly of within-hearth particles, although a very small amount of hammerscale was noted.

The microresidues from context (1803) are mainly small spheroidal droplets of fuel ash slag/clinker composition. There was no certain hammerscale. Such an assemblage is not necessarily indicative of metalworking, but can be generated in other high-temperature fires where reaction occurs between the fuel ash and the hearth substrate.

Contents

Methods

The material described here derives from an evaluation in Caernarfon, G2454, conducted by Gwynedd Archaeology. This project was commissioned by Stuart Reilly and Bethan Jones.

All materials were examined visually with a low-powered binocular microscope where required. As an evaluation, the materials were not subjected to any high-magnification optical inspection, not to any form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

The macroscopic residue specimens were supplied with some matrix still adhering. These were further washed and the matrix sieved at 90μm to permit checking for microresidues.

Results

Description of residues

The submitted materials amounted to approximately 430g (15 pieces; context 9206, sample 02) of macro-residues and three small samples of micro-residues (c1803 sample 01; c9208 sample 17; c9210 sample 18).

Where identifiable the materials were either certainly or probably from ironworking (smithing).

Macroscopic smithing residues

There were 15 pieces of macroscopic residue comprising dense iron slag with secondary accretion. The accretion contained particles of charcoal with a few tiny fragments of flake hammerscale and showed external moulds of a straw-like material.

The larger slag fragments showed morphological evidence for being fragments of smithing hearth cakes (SHCs): they showed convex, fuel-dimpled bases, a lower layer of dense iron slag and an upper layer of siliceous partially melted gravelly debris, with, locally, a concave partially glassy upper surface. The largest fragments were only 60mm in maximum dimension, so reconstruction of the size of the original SHCs was not possible, but the fragments all appeared to be from

small cakes with a maximum thickness of approximately 35mm.

The upper layers of the larger fragments contained partially melted gravel with a grain size of up to approximately 5mm. This is rather coarse for a smithing flux, and derivation from partial melting of the hearth wall (or tuyère) would appear a more likely origin.

The base of the SHC fragments is formed of a dense iron slag, with well-formed lobes and prills and a very shiny, non-wetted, surface. These features would indicate that the slag was well-fluxed by the hearth lining to produce a very fluid melt.

Four of the pieces showed an intense red-brown colouration to the accretion suggesting corrosion of metallic iron and one fragment appear to be the mineralised crust from an iron fragment solely preserved as a mould.

Microscopic smithing residues

The washings from the macroscopic slags of context (9206) produced very small quantities of fine flake hammerscale. Similar material was rare in the processed samples, perhaps because of the use of coarser mesh in sieving.

Sample <3> from (9208) contained seven fragments, apparently of comminuted slag debris. There was one rounded particle of possible natural origin and one spherical particle with a metallic lustre and a diameter of approximately 1.5mm. This was probably a slag droplet, but surface inspection did not exclude the possibility it was spheroidal hammerscale.

Sample <4> from (9210) contained a small number (thirteen) of sub-spherical slag droplets of diameter less than 2mm. These appeared solid droplets and were thus probably not spheroidal hammerscale, but within hearth slag droplets. There were also eight particles of flake hammerscale, a small fragment of prilly iron slag and two fragments of thicker flake hammerscale (or slag flats).

Other microresidues

Sample <1> from (1803) contained 23 sub-spherical droplets of 3mm diameter or less. These showed a variety of surface colours and lustres, with most being suggestive of a low density fuel-ash composition, a few were denser and maroon (i.e. of clinker appearance) and with only three with a crystalline grey surface.

Several of the particles showed coalesced multiple droplets.

There were also five particles of irregular slag, three of pale fuel ash slag and two of a slightly darker grey colour.

Although residues such as these may be produced during metalworking, it is also possible that they may be produced solely by interaction of fuel and hearth substrate in non-metallurgical contexts.

Distribution of residues

The residues derived from two separate areas of the project:

Trench 18 – context (1803) represents the burnt mound. The residues were not necessarily indicative of metalworking and, given the context, are likely not to be. They probably represent interaction of ash and substrate in a non-metallurgical hearth or fire.

Trench 92 – this trench contained a cluster of cut features (including [9205], with in-situ burning and fill (9208) and [2009] will fill (9210)), overlain by deposit (9206) which contained the macro-residue assemblage near its base where it overlay [9205].

Interpretation

The small amount of micro-residue from (1803) may well relate to the burning associated with burnt mound. The assemblage is not indicative of process and is not necessarily indicative of a metallurgical process. A non-metallurgical origin appears most likely. Spheroidal particles have been documented, for instance, within ash from cereal-drying kilns at medieval site of Bornais, S. Uist (Young 2005); similar material has also been observed within ashy residues of uncertain origin from the Bishops' Palace Bangor (Young 2016). The possible significance of spheroidal droplets in feeding the fuel ash slag in an early medieval cereal-drying kiln near Llandeilo has also been noted (Young 2015).

The assemblages from Trench 92 are indicative of ironworking, probably the end use of iron (blacksmithing). The limited archaeometallurgical residues from the site imply the existence of a smithy nearby, and the in-situ burning in [9205] may indicate it took place there – although there is no direct evidence to make that link. The size of the assemblage means little can be interpreted about the details of the smithing undertaken. The presence of the slag suggests that this complex of features is no earlier than Iron Age in date.

Further work

The potentially prehistoric of the material gives the assemblage of ironworking residues some added significance, but the small size of the assemblage and the fragmentary nature of the SHCs means that further investigation would be unlikely to generate additional useful information.

References

YOUNG, T. 2005. Site Activities: slag and related materials. pp. 174-176. *In:* Niall Sharples (ed.), *A Norse Farmstead in the Outer Hebrides. Excavations at Mound 3, Bornais, South Uist*. Oxbow Books, Oxford.

YOUNG, T.P. 2015. Fuel ash slags from Ysgol Bro Dinefwr, Llandeilo, Carmarthenshire. *GeoArch Report 2014-32.* 20pp.

YOUNG, T.P. 2016. Assessment of possible archaeometallurgical residues from the Bishops' Palace, Bangor, G2358. *GeoArch Report 2016/12*. 2pp.

GeoArch

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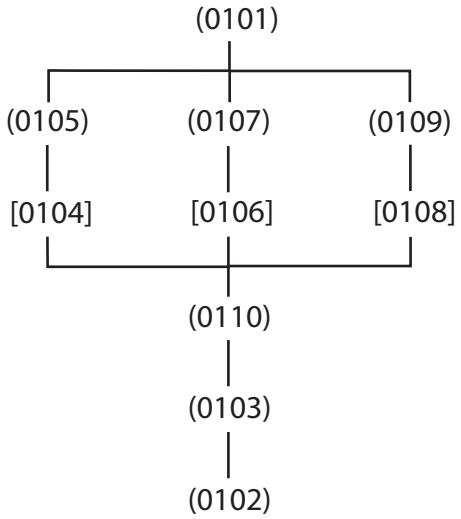
12 APPENDIX VII

12.1 Site Matrix

G2454 Matrices for Deposits within Trenches

Matrix for the features within TR01:



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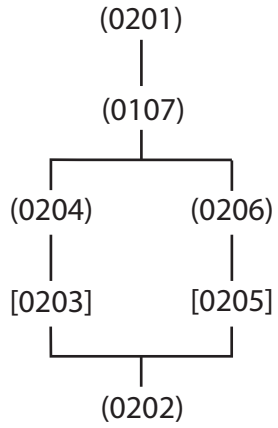

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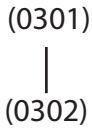

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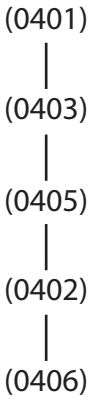
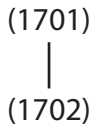
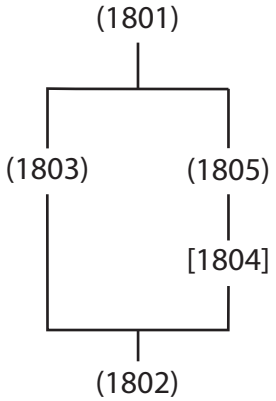


Matrix for the features within TR17:



Matrix for the features within TR18:



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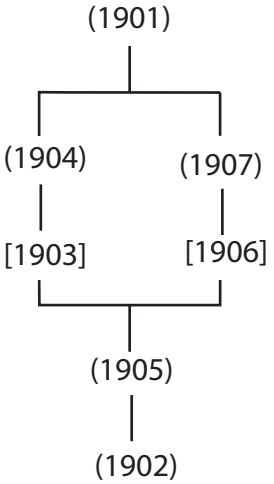

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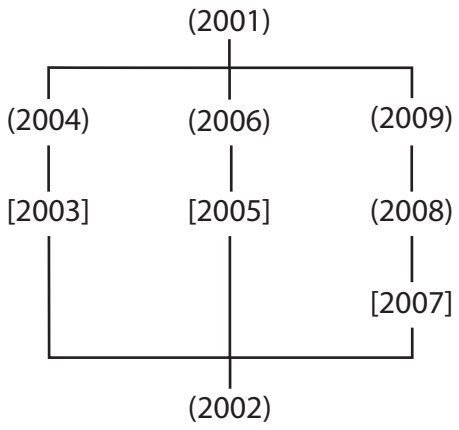

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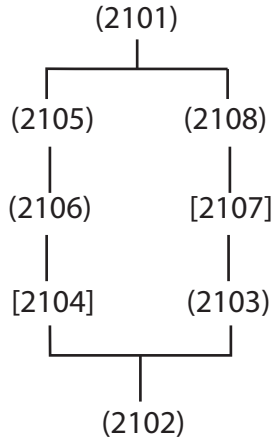
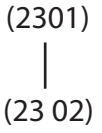


Matrix for the features within TR22:

Matrix for the features within TR23:



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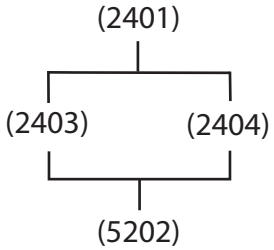

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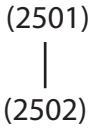

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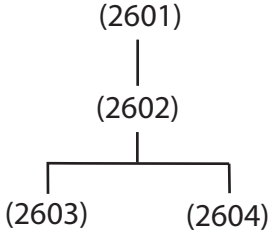

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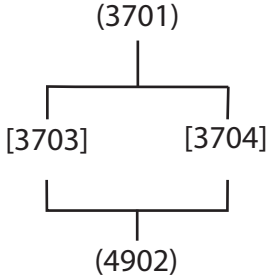

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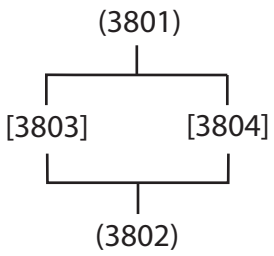

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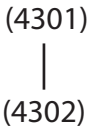

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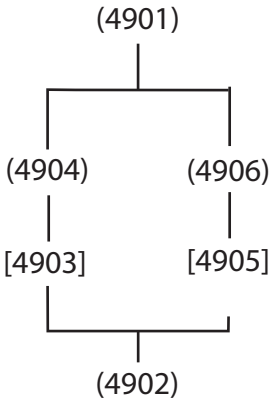

Matrix for the features within TR44:

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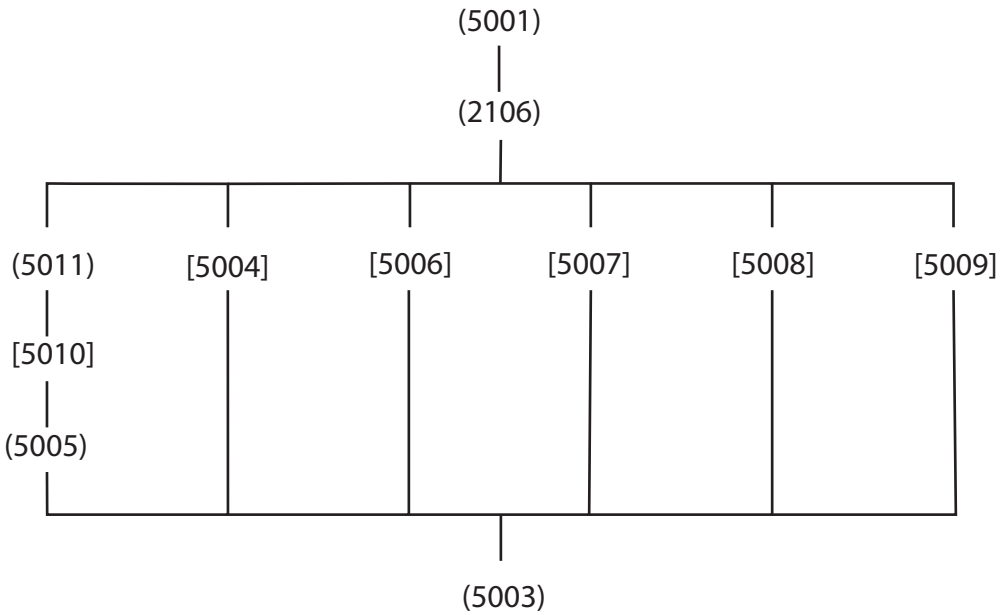

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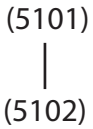

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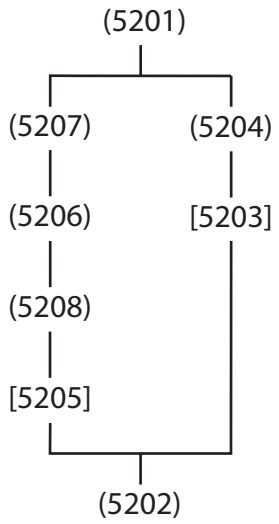


Matrix for the features within TR89:

(8901)
(8902)
(8904)
(8903)

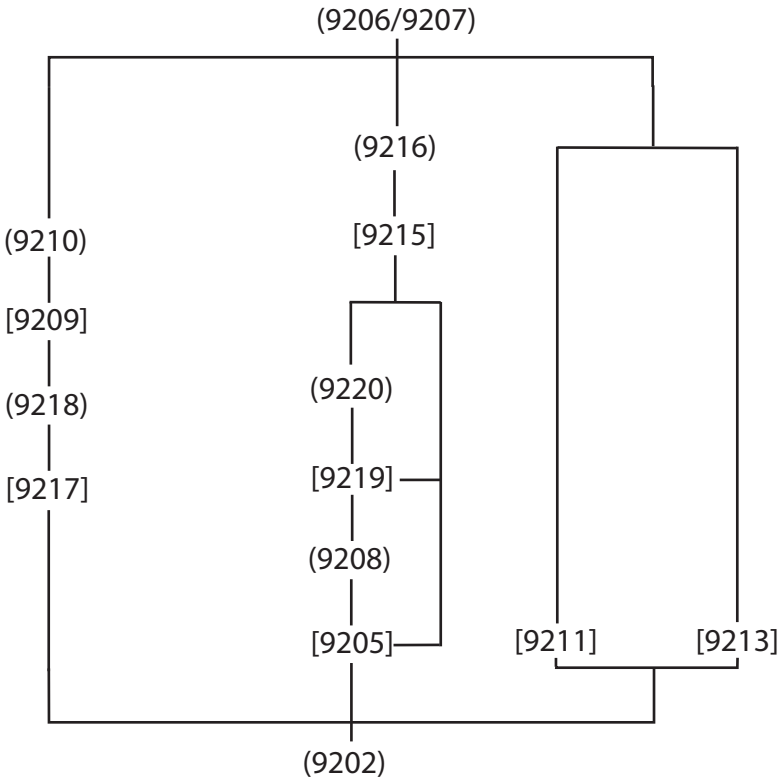
Matrix for the features within TR90:

(9001)
(9002)

Matrix for the features within TR91:

(9101)
(9102)

Matrix for the features within TR92:



Matrix for the features within TR93:

(9301)
(9302)

Matrix for the features within TR94:

(9401)
(9402)

Matrix for the features within TR95:

(9501)
(9504)
(9503)
(9502)

Matrix for the features within TR96:

(9601)
(9602)
(9603)

13 Appendix VIII

13.1 Reproduction of Robertson, J. 2016, Environmental Assessment Report for the A487 Caernarfon to Bontnewydd Archaeological Evaluation

A487 Caernarfon to Bontnewydd Bypass

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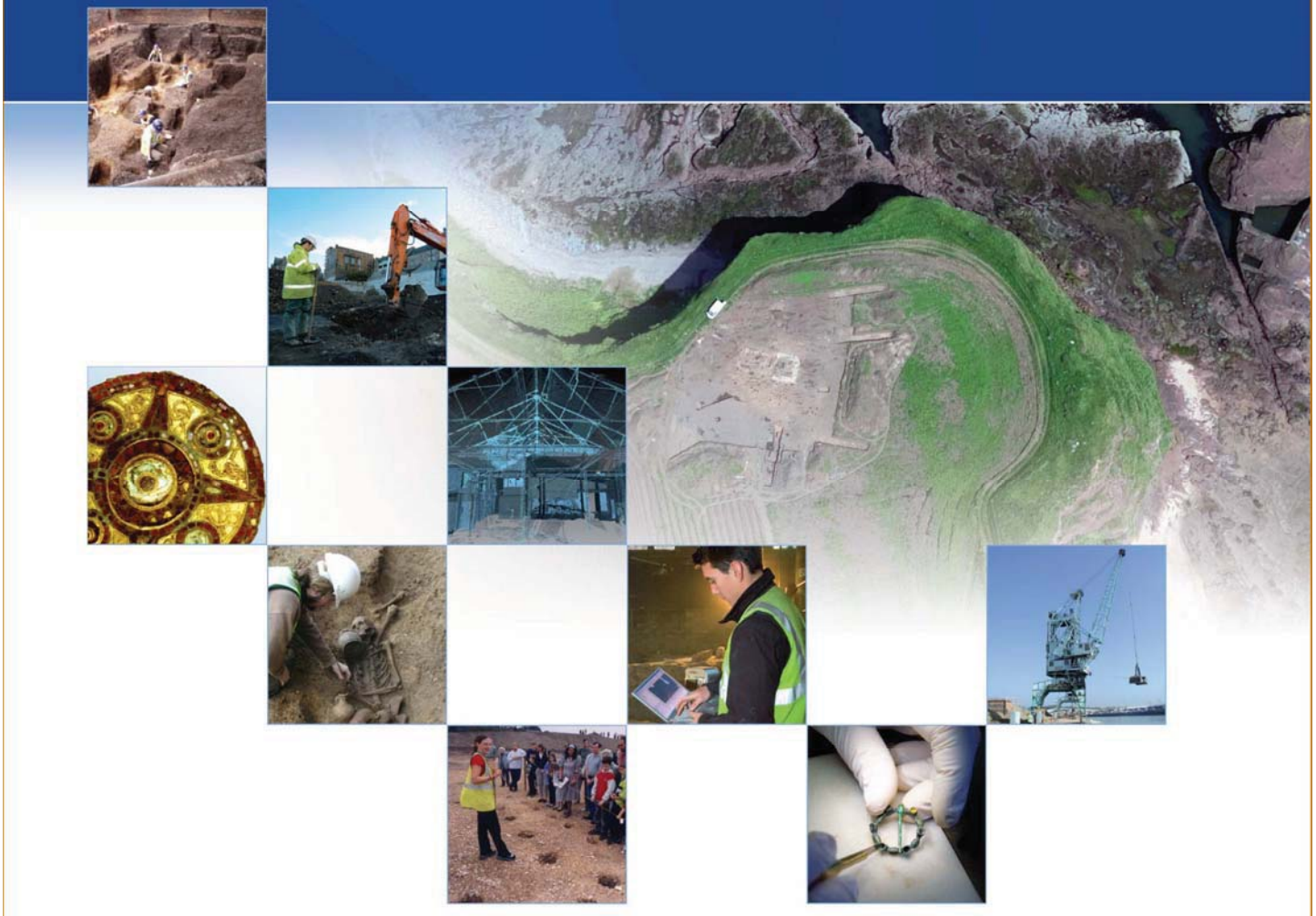
National Grid Reference Number:
AOC Project no: 23430
Site Code: G2454
Date: May 2016



AOC Archaeology Group

ARCHAEOLOGY | HERITAGE | CONSERVATION

A487 Caernarfon to Bontnewydd Bypass

On Behalf of: Gwynedd Archaeological Trust (GAT)

National Grid Reference (NGR):

AOC Project No: 23430

Prepared by: Jackaline Robertson

Illustration by: N/A

Date of Fieldwork:

Date of Report: May 2016

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Factual data

Five samples were submitted for environmental assessment by Gwynedd Archaeological Trust (GAT) from the evaluation along the proposed route of the A487 Caernarfon to Bontnewydd bypass. Thirty evaluation trenches were excavated, most of which were closely associated with late 19th and early 20th century agriculture although there was also evidence of prehistoric activity. The five samples were collected from the earlier features and were from a burnt mound (Sample 1) and a curvilinear feature associated with early industrial activity with possible metal working (Samples 2-5). The main aim of this assessment was to recover and identify ecofacts for radiocarbon dating.

Methodology

The samples were comprised of five small flots ranging from 25 ml to 400ml in size. These were sieved using a 4mm, 2mm and 1mm system of stack sieves. Samples 1, 2, 4 and 5 were sorted in their entirety. Sample 3 was particularly rich in charred macroplant remains and a 50% subsample was collected for analysis. The sieved flots were analysed under magnification (x10 and up to x100). Macroplant identifications were confirmed using modern reference material and seed atlases stored at AOC Edinburgh (Cappers *et al* 2006; Jacomet 2006). Taxonomic and nomenclature for plants follows Stace (2010). Charcoal fragments 4mm and larger were collected for species identification.

Results

Sample 1 – Possible Burnt mound

Charcoal fragments of alder (Alnus glutinosa L) and hazel (Corylus avellana L) were present in Sample 1 and the assemblage totalled 3.4g (Table 1). Five fragments were identified to species. No other ecofacts were recovered.

Samples 2, 3, 4, 5 – Curvilinear feature with early industrial/metal working activity

The charcoal assemblage

Charcoal fragments were present in all four samples and the assemblage totalled 40g (Table 1). The charcoal assemblage was concentrated in sample 3 which yielded 28.9g. The remaining samples yielded smaller quantities. Forty fragments were identified to species and preservation was generally good. The species recovered include alder (*Alnus glutinosa* L), birch (*Betula* sp), hazel (*Corylus avellana* L), ash (*Fraxinus* sp), apple/pear/hawthorn/quince (*Maloideae* sp) and cherry (*Prunus* sp). Two hazel roundwood fragments were noted in sample 2. There was no evidence of *in situ* burning of artefacts or discrete structures and the presence of mixed species within single contexts is considered to represent fuel debris. The most suitable candidates for radiocarbon dating are the alder, birch and hazel fragments, particularly the roundwood pieces.

The macroplant assemblage

A large charred macroplant assemblage totalling 1650 remains was recovered from samples 2,3,4 and 5. Preservation of these remains ranged from poor to excellent with most described as adequate to good. The macroplant assemblage was dominated by cereal caryopses and the species identified were oat (*Avena* sp), hulled barley (*Hordeum vulgare* L), naked barley (*Hordeum var nudum* L), bread club wheat (*Triticum*

aestivum-type) and emmer/spelt (*T dicoccum/spelta* sp). Oat was the dominant cereal species at this site followed by barley and much smaller numbers of wheat. Other finds included 17 hazelnut shell fragments which were recovered from samples 2 and 4. A total of 19 weed seeds were scattered in small numbers throughout samples 2,3,4, and 5. The macroplant remains were concentrated in samples 3 and 4 with smaller quantities in the remaining two contexts. The oat, barley and hazelnut shell are suitable for dating but the weed seeds should be avoided.

Other finds

A small quantity of industrial waste was recovered from sample 1 and a tiny fragment of glass from sample 2.

Modern Contamination

Modern contamination in the form of plant remains, snail shells, earth worm capsules and insect remains was present in all five samples in very small quantities. There is no evidence to suggest that the charred macroplant remains and charcoal have been adversely affected by either bioturbation or re-deposition from the 19th and 20th century agricultural activity. The archaeological security of these contexts appears safe and the charcoal, charred cereal or hazelnut shell should provide reliable dating information.

Recommendations

The main objective of this environmental assessment was to isolate material for radiocarbon dating. Our recommendations are laid out below and suitable material has been isolated from each sample. In sample 1 only charcoal is available; in all of the other samples charcoal is an option and barley, oat and hazel nut shell are also suitable from various samples. Where roundwood has been isolated ring counts have been made on the selected fragments and this information is recorded on the sample bags:

Sample 1 : a large fragment of alder has been selected for dating.
Sample 2 : a fragment of hazel roundwood, hulled barley and hazelnut shell are suitable
Sample 3 : a fragment of hazel charcoal has been isolated and barley and oat are also suitable
Sample 4 : a fragment of alder, hazel nut shell, barley and oat are suitable
Sample 5: a fragment of alder has been selected and oat is also suitable

Further recommendations:

The large macroplant assemblage recovered merits further study to place these results within their archaeological context. Further analysis will allow a greater understanding of the diet and agricultural practices employed at this site and will contribute to exisiting knowledge of archaeological activity in Wales. It is recommended that the remainder of sample 3 is processed and a full archaeobotanical report is completed. It would be useful if the radiocarbon date was available prior to report completion.

References

Cappers R.T.J., Bekker R.M. and Jans J.E.A. (2006) *Digital seed atlas of the Netherlands* (Barkhuis Publishing and Groningen University Library, Groningen).

Jacomet. S. 2006. *Identification of cereal remains from archaeological sites*. (2nd ed) Archaeobotany Lab

IPAS, Basel University.

Stace,C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press

Table 1 Charcoal species

Sample	*Context*	*Species*	*Name*	*Frags*	*RW*	*Weight (g)*
1	1803	*Alnus glutinosa* L.	Alder	4		
1	1803	*Betula* sp.	Birch	1		3.4
2	9204	*Alnus glutinosa* L.	Alder	1		
2	9204	*Corylus avellana* L.	Hazel	3	2	
2	9204	*Maloideae* sp.	Apple/pear/hawthorn/quince	4		1.9
3	9208	*Alnus glutinosa* L.	Alder	2		
3	9208	*Betula* sp.	Birch	1		
3	9208	*Corylus avellana* L.	Hazel	1		
3	9208	*Fraxinus* sp.	Ash	3		
3	9208	*Maloideae* sp.	Apple/pear/hawthorn/quince	3		28.9
4	9210	*Alnus glutinosa* L.	Alder	5		
4	9210	*Corylus avellana* L.	Hazel	4		
4	9210	*Fraxinus* sp.	Ash	1		6.8
5	9216	*Alnus glutinosa* L.	Alder	8		
5	9216	*Corylus avellana* L.	Hazel	1		2.4
5	9216	*Prunus* sp.	Cherry	1		
			Total	43	2	43.4

Table 2. The carbonised macroplant assemblage

Sample			**2**	**3**	**4**	**5**
Context			***9204***	***9208***	***9210***	***9216***
Feature			***Enclose Ditch***	***Deposit***	***Pit***	***Pit/gulley***
Flot vol (ml)			30	400	300	90
% Sorted			100	100	100	100
Species	Name	Part				
Hordeum vulgare L.	Hulled barley	Caryopsis/es	9	19	15	4
Hordeum var nudum L.	Naked barley	Caryopsis/es		3		
Hordeum sp.	Barley	Caryopsis/es	19	224	109	13
Triticum aestivum-type	Bread/club wheat	Caryopsis/es		58		
T dicoccum/spelta sp.	Emmer/spelt	Caryopsis/es		10	1	
Triticum sp.	Wheat	Caryopsis/es			8	2
Avena sp.	Oat	Caryopsis/es	9	516	278	56
Cerealia sp.	Cereal	Caryopsis/es	8	118	112	20
Cerealia sp.	Chaff	Culm node(s)			3	
Corylus avellana L.	Hazel	Nutshell (frags)	2		15	
Atriplex sp.	Orache	Fruit(s)	1			
Fallopia convolvulus L.	Black bindweed	Fruit(s)		3	4	1
Persicaria sp.	Knotweeds	Fruit(s)		1	2	
Raphanus raphanistrum L.	Wild radish	Fruit(s)		2	2	
Indet	Unknown	Seed/fruit/nutlet		1	2	









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14 Appendix IX

14.1 Reproduction of Smith, G. 2016, G2454 Coarse Residue Lithics Report

G2454 COARSE RESIDUE LITHICS

Context 9208

SF03: Flint, translucent red-brown. Tertiary microflake (under 10mm long). Short and relatively thick. Complete, 4mm long with strong impact bulb. Probable retouching waste. Unpatinated suggesting it is from a well-buried deposit. Undateable.

Context 9204

26 pieces.

Over 10mm long.

1. Flint, opaque red-brown. Thick tertiary struck flake fragment, 27mm x 16 x 5. The bulb broke off during the initial heavy impact. A small area of fine secondary flaking on one sharp edge has a fresher surface suggesting it is more recent damage. Undateable.

Under 10mm long

2. Flint, mid-grey-brown. Struck flake fragment slightly discoloured by burning.
3. Flint, discoloured to a matt pink-mid-grey by burning. Possible struck flake tip fragment. Undateable.
4. Flint, translucent mid-grey. Thin tertiary struck flake fragment. Fresh, unpatinated. Undateable.
5. Flint, translucent mid-grey. Thick, irregular chip, probably from knapping. Undateable.
6. Flint, opaque light grey, probably altered by slight burning. Possible knapping or retouching residue. Undateable.

Natural glacial gravel fragments

20 pieces, of flint, quartz and other rock types. All with evidence of natural wear or polish.