# Water Mains Renewal Scheme, Talwrn to Pentraeth, Isle of Anglesey

## Archaeological Watching Brief

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

# Water Mains Renewal Scheme, Talwrn to Pentraeth, Isle of Anglesey

## Archaeological Watching Brief

Project No. G2271

Report No. 1095

Prepared for: Dwr Cymru

November 2012

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# WATER MAIN RENEWAL, TALWRN TO PENTRAETH, ISLE OF ANGLESEY

## ARCHAEOLOGICAL WATCHING BRIEF (G2271)

**Prepared for**

Dŵr Cymru

**November 2012**

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**Summary**

*An archaeological watching brief was conducted during groundworks for a water mains renewal scheme at Talwrn to Pentraeth, Isle of Anglesey. The scheme was located within an area identified as having a high potential for archaeological activity, with close proximity to sites including Prehistoric flint scatters and Barrows, a Roman trackway, early Christian Burial site and the possible location of the Post medieval 'old village of Talwrn'. However despite the archaeologically rich area location no unknown archaeological remains were found.*

## 1.0 INTRODUCTION

## WATER MAINS RENEWAL, TALWRN TO PENTRAETH, ISLE OF ANGLESEY

## ARCHAEOLOGICAL WATCHING BRIEF (G2271)

Prepared for *Dŵr Cymru*, November 2012

Gwynedd Archaeological Trust (GAT) was asked by *Dŵr Cymru* to carry out an archaeological watching brief during the groundworks for a water mains renewal programme from Talwrn to Pentraeth (from NGR **SH 4880077477 to SH 5102178478**; as located on *Dŵr Cymru* Drawing No's. **NP2910104-101 to NP2910104-104**). The groundworks are to by O'Connor Utilities Ltd.

The scheme consisted of the replacement of approximately 2715.0m of existing water main. The scheme started approximately 200m east of Bryn Farm at the junction of the road west of Maes y Coed and then followed the course of the B5109 south west towards the village of Talwrn. The final part of the scheme travelled east along the B5109 and ended at Bryn Farm at the junction of the road west of Maes y Coed, approximately 1120.0m west of the town of Pentraeth. The scheme replaced the existing 10" uPVC pipe with a new 250mm HPPE pipe via a combination of open-cut trench and using a trencher machine. The open trench was roughly 550mm wide and approximately 1.4m deep.

A mitigation brief was prepared for this work by **The Gwynedd Archaeological Planning Services** (GAPS), but GAPS recommended a programme of archaeological monitoring (watching brief) of the route during groundworks, in particular around the location of an identified tumulus (PRN 4356) towards the northeast of the scheme; and the middle part of the route (south of Bryn Eglwys), where fieldwalking survey has produced a lot of flint artefacts and a section of historic trackway (possibly Roman) may continue across the route from the northwest.

The watching brief was undertaken on an **intensive** basis (pers.com Emmett.J. GAPS) in the vicinity of the tumulus (PRN 4356) targeting all intrusive groundworks.

Along the rest of the scheme the watching brief was undertaken on a **partial** basis (pers.com Emmett.J. GAPS). There was the potential for archaeological deposits to be found in proximity to three recorded, but unverified, barrows (PRNs 2073, 4354, and 4353) towards the middle of the route and in the vicinity of a possible Roman trackway (PRN 17839) and Neolithic flint scatter. If archaeological deposits were identified an **intensive** watching brief would have been required within this area.

Reference will also be made to the guidelines specified in Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001 and 2008).

## 2.0 BACKGROUND

The scheme was located between the small village of Talwrn and the town of Pentraeth, towards the east of the Isle of Anglesey, within the parish of Llanddyfnan. The southwest part of the scheme is located adjacent to the *Corsydd Mon / Anglesey Fens Special Area of Conservation* (UK0012884), the *Cors y Farl Site of Special Scientific Interest* (31WYS), and the *Corsydd Môn a Llyn / Anglesey and Llyn Fens RAMSAR site* (UK14005). The northwest part of the scheme is located approximately 42.0m southeast of the Corsydd Mon / Anglesey Fens *Special Area of Conservation* (UK0012884), and the *Gwenfro and Rhos y Gad Site of Special Scientific Interest* (31WYZ).

- The prehistoric Scheduled Ancient Monument of Llanddyfnan Standing Stone (AN071) is located approximately 15.0m to the north of the scheme, towards the centre of the route (SH 5014678589).
- There are further prehistoric ritual monuments located in close proximity to the scheme, with an identified tumulus (PRN 4356) located approximately 5.0m south towards the northeast of the scheme (SH 5089078460)
- Three possible prehistoric barrows PRNs 2073 (SH 5026078540), 4354 (SH 5047078510), and 4353 (SH 5061078520) along the line of the B5109.
- Towards the centre of the route a possible Roman site has been identified at Llanddyfnan PRN 11020 (SH 5007078740) and part of a possible Roman trackway PRN 17839 (SH 4955078560) has been identified in fields to the north.
- Further towards the northeast part of the scheme in fields, early Christian burial cists PRN 7313 (SH 5090078400) have been recorded.
- Documentary sources records the medieval ‘Old Village of Talwrn’ PRN 1732 (SH4990078400) towards the centre of the route.

Prehistoric flint scatters and two further possible barrows are also located within 90.0m of the scheme. No previous archaeological work has been carried out in this location either by GAT or by any other archaeological contractor.

## 3.0 METHODOLOGY

The watching brief was completed between the 30th of July and the 5th of October 2012. The watching brief monitored excavation by a tracked mechanical excavator (plate 01) using a narrow toothless bucket (0.60m wide) for the intensive watching brief at CH 200-300. Spoil was removed from the road using a small dumper truck. A tracked automatic trenching machine (plate 02) was used for the majority of the rest of the works which unloaded the spoil into a large stationary truck behind it, however the tracked excavator was sometimes utilised when the trencher broke down (this became a common occurrence).

The trench on average was 0.60m wide and 1.30m deep. Sometimes the trench edge was unstable, especially when the trench was dug by the tracked excavator, where the road surface was undermined and large areas of overhanging Tarmacadam road would collapse into the trench.

Sections of the trench were recorded that was left open or excavated whist on site as apart from the areas of intensive watching brief most of the scheme was undertaken on a partial watching brief basis. The areas recorded were located using Chainages, with CH 000 at the east end of the scheme by the electricity sub station and the end of the scheme at roughly CH 2700 (See figure 01 for chainage location). The length of trench opened depended on whether the trencher was operational, how stable the trench edge was, if unstable short sections were excavated, a short stick of pipe placed within it and the trench then partially backfilled to make it safe.

Most if not all of the open cut trenching observed by an archaeologist was excavated in the road from Pentraeth to Talwrn.

The watching brief monitored the open cut trench portion of the route and any intrusive groundwork associated with the scheme.

A photographic record was maintained using a digital SLR camera set to maximum resolution.

Any subsurface remains were recorded photographically, with detailed notations and a measured survey.

The photographic and written archive is held by GAT under project number (**G2271**).

## 4.0 TOPOGRAPHY

The pipe route was located along the B5109 on the road linking Pentraeth and Talwrn on the Isle of Anglesey. The route was surrounded by grazing fields as well as agricultural fields. The area was flat in places but had rolling hills and undulations. The local environment would have been dominated by ice age conditions of glaciofluvial deposits to the east of the scheme and Till, Devensian – Diamicon to the west formed up to 2 million years ago. The deposits were formed in cold periods with Ice Age glaciers scouring the landscape and depositing moraines of till with outwash sand and gravel deposits from seasonal and post glacial meltwaters. To the west of the scheme the bedrock geology is of the Clwyd Limestone group – limestone of sedimentary bedrock formed approximately 344 million years ago when the local environment was dominated by warm shallow carbonate seas (www.bgs.ac.uk)

## 5.0 RESULTS

It was initially thought that the pipe route was in the road verge of the B5109 from Pentraeth to Talwrn, however this had changed when groundwork started. The whole of the pipe route was in the road and not in the verge, the majority being in the north side of the road, see (figure 01 for pipe route location and chainage markers).

Location of recorded areas of trench and descriptions.

| **Open Cut Trench Location (Chainage)** | **Dimensions** | | | **Description** |
|---|---|---|---|---|
| | *Length* | *Width* | *Depth* | |
| CH 000-075m | 075m | 0.60m | 1.30m | Upper, existing Tarmacadam road surface layer, then a possible old Tarmacadam road surface.<br>Below this was a thick layer of angular small cobble stones with some boulders, likely 'made up' ground material for the road, this layer was above a natural of orange brown clay silt. |
| CH 075-115m | 40.0m | 0.60m | 1.40m | 0-0.10m Existing Tarmacadam road surface layer.<br>0.10-0.30m Possible old Tarmacadam road surface.<br>Below this was a thick layer of angular small cobble stones, likely 'made up' ground material for the road, this layer was above a natural of orange brown clay silt. |
| CH 115-140 | 25.0m | 0.60m | 1.40m | Upper deposit of Tarmacadam road surface. Below this was 0.50m of old Tarmacadam with small to medium sub angular stones, probable 'made up ground'. Followed by a narrow red brown layer, then a natural deposit of pale gravel sand which deepened towards east. |
| CH 140-180 | 40.0m | 0.70m | 1.50m | Upper deposit of Tarmacadam road surface. Below this was 0.50m of old Tarmacadam with small to medium sub angular stones, probable 'made up ground'. A natural deposit of mid orange brown sand silt with gravel, small to medium sub angular stones. At the base of the trench a light grey brown sand clay deposits was just noticeable. |
| CH 180-200 (plate 03) | 14.0m | 0.60m | 1.30m | Upper surface of Tarmacadam.<br>Below this a deposit of small sub-angular stones within a dark brown grey clay matrix, then below this a deposit of large sub angular stones within a dark brown clay matrix. The two dark clay deposits seemed to cut a deposit |

| | | | | |
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| | | | | of colluvium or build up ground to the upper level of the colluvium deposit. |
| CH 200-300 (plate 04) | 100m | 0.60m | 1.30m | Intensive watching brief near Ty'n-y-pwll Barrow (PRN 4356).<br>0-0.08m was a Tarmacadam road surface.<br>0.08m-0.78m was a deposit of built up material or mostly hardcore, angular small and medium stones.<br>0.78m-1.30m was a deposit of yellow orange silt sand colluvium. |
| CH 300-400 | 100m | 0.65m | 1.30m | 0-0.08m was Tarmacdam road surface.<br>0.08m-0.28m was a deposit of angular and sub angular pebbles in a light grey silt clay.<br>0.28m-0.98m angular and sub angular cobbles in a yellow orange sand silt.<br>0.98m-1.30m yellow orange silt sand and very few stone. |
| CH 400-500 | 100m | 0.65m | 1.30m | 0-0.08m was Tarmacdam road surface.<br>0.08m-0.28m was a deposit of angular and sub angular pebbles in a light grey silt clay.<br>0.28m-0.98m angular and sub angular cobbles in a yellow orange sand silt.<br>0.98m-1.30m yellow orange silt sand and very few stone. |
| CH 500-650 | 150m | 0.60m | 1.30m | 0-0.08m Tarmacdam road surface.<br>0.08m-0.38m Solid hard sub angular and sub round pebbles within a possible tar matrix.<br>0.38m-0.63m sub angular cobbles within a sand silt matrix.<br>0.63m-0.75m Tarmacadam layer<br>0.75m-1.30m Mix of loose angular and sub angular cobbles, medium small, within a sand silt matrix. |
| CH 600-700 | 100m | 0.60m | 1.30m | 0-0.08m Tarmacadam road surface.<br>0.08m-0.18m Very hard light grey yellow blue silt clay with sub angular pebbles.<br>0.18m-0.52m firm to loose sub angular and angular large pebbles and cobbles in a dark brown grey sand silt matrix.<br>0.52m-0.60m Very hard compact layer of Tarmacadam.<br>0.60-1.30m Firm to loose boulders and cobbles, angular and sub angular, within mid brown grey sand silt. |
| CH 700-808 (plate 05) | 100m | 0.60 | 1.30m | 0-0.08m Tarmacadam road surface.<br>0.08m-0.23m Very hard and firm compaction of sub angular and sub rounded pebbles within a hard dark blue grey clay silt matrix.<br>0.23m-0.45m Angular and sub angular cobbles and pebbles in a loose to firm dark |

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| | | | | brown grey clay silt.<br>0.45m-0.60m Very hard firm dark sand silt with angular and sub angular pebbles.<br>0.60m-1.10m Very loose to firm large sub angular and angular cobbles within a dark grey brown sand silt matrix.<br>1.10m-1.30m Natural, mottled dark grey orange clay sand silt. |
| CH 808-915 | 107m | 0.80m | 1.40m | 0-0.15m Tarmacadam road surface.<br>0.15m-0.45m Made up road base layer of sub angular pebbles and cobbles within a mid brown grey matrix.<br>0.45m-0.80m Large deposit of sub angular cobbles and boulders within mid brown grey sand silt.<br>0.80m-1.40m Natural, firm mid orange grey clay silt sand. |
| CH 965-1050 | 85.0m | 0.60m | 1.20m | Upper Tarmacadam road surface. Then a dark brown deposit with small sub angular stones. Below this was a deeper deposit of stones of various sizes. The lower most deposit of clay. |
| CH 1100-1200 | 100m | 0.50m | 1.20m | Upper Tarmacadam road surface.<br>Large to small sub angular stones in orange brown sand silt matrix.<br>The lower most deposit was orange brown sand silt clay with gravel and small stone inclusions. |
| CH 1306-1400 | 94.0m | 0.60m | 1.30m | 0-0.10m Tarmacadam and very hard compact road surface.<br>0.10m-0.50m Medium angular and sub angular cobbles within a grey brown sand silt matrix.<br>0.50m-0.70m Larger cobbles than the deposits above. Sub angular and angular stones and some boulders within a grey brown sand silt matrix.<br>0.70m-1.30m Firm mid brown orange clay silt natural with occasional small sub angular stones. |
| CH 1428.2-1500 | 70.8m | 0.60m | 1.30m | 0-0.10m Tarmacadam and very hard compact road surface.<br>0.10m-0.50m Medium angular and sub angular cobbles within a grey brown sand silt matrix.<br>0.50m-0.70m Larger cobbles than the deposits above. Sub angular and angular stones and some boulders within a grey brown sand silt matrix.<br>0.70m-1.30m Firm mid brown orange clay silt natural with occasional small sub angular |

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| | | | | stones. |
| CH 1600-1650 | 50.0m | 0.60m | 1.30m | 0-0.20m Concrete upper layer.<br>0.20m-0.30m Tarmacadam and hardcore, possible previous road surface to the concrete.<br>0.30m-0.50m Road build up rubble.<br>0.50m-0.60m Hardcore.<br>0.60m-1.30m Natural sands and silts. |
| CH 1775-1850 (plate 06) | 75.0m | 0.60m | 1.30m | 0-0.20m Concrete upper layer<br>0.20m-0.40m Tarmacadam, possible previous road surface to the concrete.<br>0.40m-0.80m Mixed road rubble of angular and sub angular stones, small to medium, in a grey yellow silt clay.<br>0.80m-1.00m Mixed redeposited natural containing an old, dead, concrete pipe.<br>1.00m-1.30m Natural, orange yellow clay sand silt with occasional sub sounded small to medium stones. |
| CH 2000-2100 | 100m | 0.60m | 1.30m | 0-0.30m Tarmacadam road surface.<br>0.30m-0.80m Hard deposit of medium to large angular and sub angular stones in mid yellow brown sand silt.<br>0.80m-1.30m Friable and loose sand silt mixed deposit of mid yellow brown with very few stone inclusions.<br>0.90-1.30m Mixed deposit of angular small stones in a hard yellow clay (fill of field drain cut). Within this deposit was broken pieces of dead field drain pipe. |
| CH 2234-2325 | 91.0m | 0.60m | 1.30m | Tarmacadam road with a general rubble deposits to build up the ground surface to support the existing road. Clusters of large sub rounded were observed at CH 2245 and 2300 which were likely to be part of the ‘make up’ of the road to build up the ground surface. |
| CH 2600-2700 | 100m | 0.60m | 1.30m | 0-0.20m Thick layer of hard compressed Tarmacadam road surface looked also to have concrete within it.<br>0.20m-0.35m Hard black layer of Tarmacadam only.<br>0.35m-0.75m Undulating deposit of sub angular and angular large and small cobbles within mid yellow brown sand silt.<br>0.75m-1.30m Yellow orange fine sand silt natural with very few small stones. |

## 6.0 INTERPRETATION AND CONCLUSION

The archaeological watching brief carried out during groundworks associated with the construction of a water main renewal scheme, Talwrn to Pentraeth, Isle of Anglesey did not disturb any archaeological deposits.

The southwest part of the scheme was located adjacent to the *Corsydd Mon / Anglesey Fens Special Area of Conservation* (UK0012884), the *Cors y Farl Site of Special Scientific Interest* (31WYS), and the *Corsydd Môn a Llyn / Anglesey and Llyn Fens RAMSAR site* (UK14005). The northwest part of the scheme was located approximately 42.0m southeast of the Corsydd Mon / Anglesey Fens *Special Area of Conservation* (UK0012884), and the *Gwenfro and Rhos y Gad Site of Special Scientific Interest* (31WYZ).

The groundworks were located in close proximity to a number of areas of known archaeology, a prehistoric standing stone, (AN071), several prehistoric ritual monuments (PRNs 4356,2073,4354 and 4353. There was the possible Roman site (PRN 11020) and Roman trackway (PRN 17839) towards the north of the centre of the pipe route. At the east end of the scheme was an early Christian burial site (PRN 7313) and Documentary sources records the medieval 'Old Village of Talwrn' PRN (1732) towards the centre of the route. However no positive evidence that these sites extended into this area.

There were no new features encountered and all of the sections recorded within the trench showed, to various degrees, disturbed deposits below the Tarmacadam road surface layer which was the made up ground to build the existing B5109 road. Below this built up material was the natural geology. There were 2 sections that had modern disused water pipe disturbance, between CH 1775-1850 and CH 2000-2100.

The lack of archaeological evidence within an archaeological rich area may be attributed to several factors. Although the overall scheme was reasonably long, the trench width and instability of the trench edge limited the view of the archaeologist into the trench and therefore any ephemeral features may have gone unnoticed. The trench which was initially planned to be excavated in the verge was in fact dug in the road, the seriously reduced the likelihood of any archaeological remains being found as the ground had already be very heavily disturbed.

Based on the results of this watching brief we may conclude that due to the narrow trench width, instability of the trench edge, and the trench being excavated in the road and therefore in already disturbed ground, the potential for identifying surface features in the wider area was limited. We may infer that there is still considerable potential for the survival of archaeology within the wider study area, however none was identified within the confines of these works.

## 7.0 SOURCES CONSULTED

Historic Environment Record, Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor LL57 2RT

Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001 & 2008)

Client drawings; Talwrn-Pentraeth Water Mains Renewal DCWW.A983.W.103.014 (NP 2910104 - 101, 102, 103 and 104

Ordnance Survey 10k Map of 1977, SH47NE and SH57NW

www.bgs.ac.uk

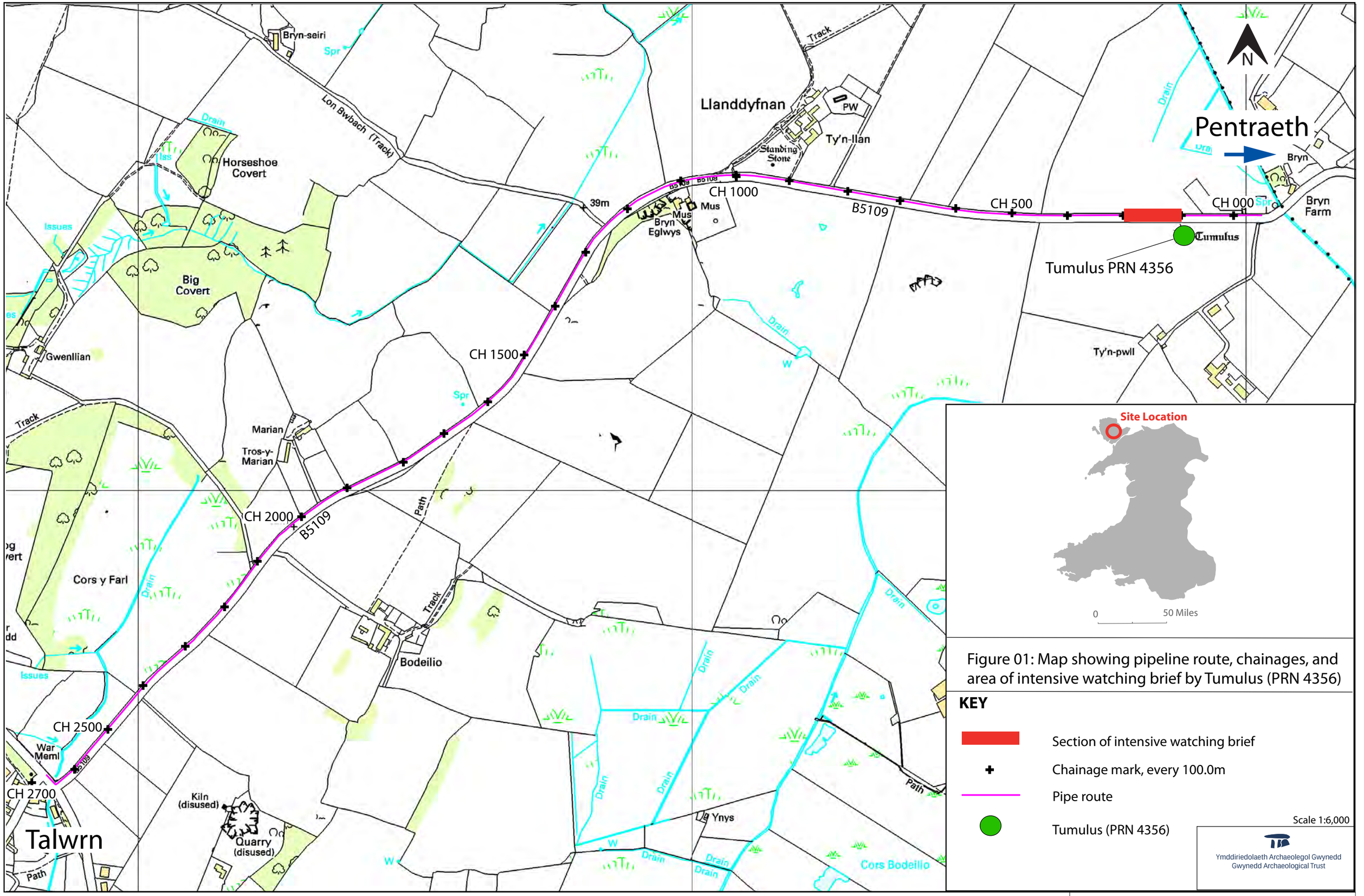


Figure 01: Map showing pipeline route, chainages, and area of intensive watching brief by Tumulus (PRN 4356)

**KEY**

- Section of intensive watching brief
- Chainage mark, every 100.0m
- Pipe route
- Tumulus (PRN 4356)

Scale 1:6,000

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**Plate 01: Chainage (CH) 200-300, intensive watching brief using a machanical excavator. View from the east.**

**Plate 02: CH 400-500, partial watching brief. Trenching machine in use. View from the east.**

**Plate 03: CH 180-200 showing rise in the silt sand natural. View from the north east.**

**Plate 04: CH 200-300. Section close to Tumulus (PRN 4356) showing material to 'make up' ground for the existing road. View from the north.**

**Plate 05: CH 800-700. Section showing built up layers of rubble and road material, 'made up' ground for the existing road. View from the north.**

**Plate 06: CH 1775-1850 showing disused pipe and disturbed ground underneath the exisiting road. View from the northwest.**

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