

# GEEVOR MINE OUTFALL REPLACEMENT, ST JUST, CORNWALL

Geevor Mine: Scheduled Monument No. 32999;  
English Heritage Reference S60015

Centred on NGR SW 37269 34748

Results of an archaeological watching brief

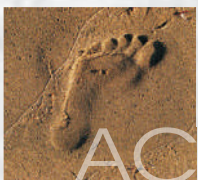
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Prepared by:  
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On behalf of:  
South West Water Ltd

Document No: ACD593/2/1

Date: January 2014



archaeology

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## Summary

*An archaeological watching brief was carried out at Geevor Mine, St Just, Cornwall (centred on SW 37269 34748) by AC archaeology between August and October 2013. The works took place in an area to the northwest of the main mine buildings and tourist attraction and comprised the replacement of a 160m long underground outfall pipe. The new pipe followed the line of the existing pipe. The southern stretch of the pipe was under a spoil heap which was partially removed to allow safe working and was reinstated on completion of the repairs. These groundworks took place within the mine area designated as a Scheduled Monument.*

*The original pipe trench was found to have been cut in to modern made up ground through the entirety of its length within the Scheduled Monument. Where surface features relating to the mine workings were encountered, it was possible to tunnel beneath these without disturbing them. A few buried or upstanding archaeological remains were identified with the majority related to modern mining activities, the exception being a stretch of former field boundary of probable post-medieval date. On completion of the repairs the pipe trench was made good and the spoil heap reconstituted.*

### 1. INTRODUCTION (Fig. 1)

- 1.1 This document sets out the results of an archaeological watching brief undertaken during replacement of the outfall pipe at Geevor Mine, St Just, Cornwall (SW 37269 34748). Geevor mine is a Scheduled Monument (no. 32999) and the watching brief fulfilled a requirement of Scheduled Monument Consent for the works.
- 1.2 The watching brief was commissioned by Hyder Consulting on behalf of South West Water Ltd and carried out by AC archaeology between 28 August to 17 October 2013.
- 1.3 Geevor Mine is located within the parish of Pendeen, created from St Just in Penwith parish in 1849, to the northwest of Penzance, close to the north Cornwall coast. The works took place in an area to the northwest of the main mine buildings and tourist attraction. The area lies on land sloping down to sea cliffs at a height of approximately 55m aOD, with the underlying geology comprising Devonian Hornfelsed Slate and Hornfelsed Siltstone of the Mylor Formation.
- 1.4 The works comprised the replacement of a 160m long underground outfall pipe, and the construction of three manholes along its route. The new pipe followed the line of the existing pipe. The southern stretch of the pipe was under a spoil heap which was partially removed to allow safe working and was reinstated on completion of the repairs.

### 2. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 2.1 In the valley to the north of the Geevor Mine buildings Mesolithic flints and a contemporary cobbled flint working surface have been discovered.
- 2.2 It is probable that during the medieval period the valley was streamed for tin, and that tunnels were dug into the lode exposures in the cliffs. There is also the potential for earlier underground workings than those recorded historically.
- 2.3 Underground mines are recorded during the 18th century (e.g. *Wheal an Giver* in 1716) and by 1815 steam power was being used. During the second half of the 19th century ventures were operating under the consolidated North Levant Group. The mines were located to the north and west of Geevor, with dressing floors spread over the valley bottom.

- 2.4** The present mine site developed in the early 20th century under the name North Levant and Geevor, when mining operations developed under the sea. Levant Mine itself was acquired in 1934. The processing mill and dressing floors were extended several times. Following the world tin price crash in 1985, Geevor Mine ceased to operate in 1991. It was subsequently purchased in 1992 by Cornwall Council and re-opened as a heritage attraction.

### **3. STATUTORY DESIGNATIONS**

- 3.1** Geevor Mine is included within the St Just district of the Cornwall and West Devon Mining Landscape World Heritage Site.
- 3.2** It is also designated as a Scheduled Monument (no. 32999; National Heritage list no. 1021361), on the basis that it forms one of the better preserved tin-mining sites, illustrating the technological and chronological range, as well as regional variations of non-ferrous metal mining and processing sites. The designated area covers the majority of the mine site, although does not include some of the processing areas associated with the Levant Mines. The Scheduling description divides the site into three areas, of which the third zone is the valley bottom where tin was recovered from tailings or waste slimes. The industrial archaeology of this area includes the 20th century Rescorla family tailings works that comprise concrete settling tanks in use until the 1960s. The outfall pipe runs to the immediate east of these tanks. To the south of these tanks is a large spoil heap which dates to the late 20th century. This is partially situated within the Scheduled Monument; its western side lies outside the designated area.

### **4. AIM OF THE WORK**

- 4.1** The aim of the work was to monitor the groundworks for the pipe trench and associated manholes, and to record any archaeological deposits exposed.

### **5. METHODOLOGY**

- 5.1** All works were undertaken in accordance with an approved Written Scheme of Investigation (Passmore 2013), the conditions of the Scheduled Monument Consent, and discussions held at a pre-start meeting on 28 August 2013 where English Heritage were represented by the Cornwall Council Historic Environment Service (HES). At that meeting the following changes to the approved methodology were agreed:

- The mine track from the bend south of the Heritage Underground Mine to the compound will be graded and floodwater channels infilled. The former will be to a maximum depth of 100mm, leaving the ancient land surface potentially containing Mesolithic material (at c.200mm below the surface) intact. Gravel will be won from the route of the spoil heap over the sewer to fill in any additional channels. This work will be monitored by the site archaeologist.
- The temporary spoil heap will be located on top of the existing gravel spoil heap west of the sewer – this will be outside the Scheduled Monument. To avoid introduction of new material into the backfilled sewer trench a geotextile membrane will not be used. Instead the heap will be reinstated using profile boards, and (as currently agreed) under the control of the archaeologist.
- Between the spoil heap and the processing tanks spoil will be stored beside the trench, with the upper material separated to preserve the seed bank. Excess material will be incorporated into the gravel spoil heap and its location recorded by the archaeologist.



- A section through the concrete south wall of the processing tanks will be removed and replaced with concrete to the same dimensions, underpinned where necessary with stone as per the section to the east.
- Test pits will be dug either side of the brick structure within the processing tanks to identify the position of the pipe and to determine whether the trench can be 'bored/excavated' under the structure.
- The debris within the concrete outflow of Middle Adit adjacent to and through the SWCP will be cleared, as will displaced gravel within the entrance to the adit itself. Since the adit has been recorded by the HES and subsequently reconstructed no archaeological monitoring was required.

**5.2** All groundworks were monitored by the attending site archaeologist. Records were kept using the standard AC archaeology pro-forma recording system, comprising written, graphic and photographic records, and in accordance with AC archaeology's *General Site Recording Manual, Version 2* (revised August 2012).

## **6. RESULTS** (Figs 2-3; Plates 1-10)

### **6.1 Introduction**

The groundworks required the temporary removal of a large area of a spoil heap in order to reveal the line of much of the outfall pipe within the area of the Scheduled Monument (Plate 2). The spoil removed was placed on the spoil heap to the west, outside of the scheduled area, before being returned to infill the void above the line of the outfall pipe. The original pipe was removed and replaced in the same trench. Excess material excavated from the pipe trench was incorporated into the gravel spoil heap and its location recorded.

The mine access road from the bend south of the Heritage Centre was graded. The track led to the works compound which was located on flat gravel to the west of the mine track with no impact on buried or upstanding archaeological remains.

A former agricultural boundary wall which had been buried under the spoil heap was exposed during the groundworks but was left undamaged (Plate 1); this wall is marked on the 1st edition OS map (1886) and was part of a piecemeal field system defined by Cornish hedges of probable post-medieval date.

In line with a condition of the Scheduled Monument Consent, a pre-works photographic record of the pipe route was prepared, as was a post-repair photographic record showing reprofiling of the ground.

**6.2** The removal of the south side of the spoil heap revealed an area of hard standing which is probably the former location of a mine out-building of similar proportions to one still standing directly to the south (Plate 3). The hard standing was rather amorphous and was expected to be further revealed when the old pipe trench was cleared, but no further exposures were made. The original pipe was found to be present between 0.50m and 0.90m below an uneven surface of made-up ground (004) exposed beneath the spoil heap (Plate 4). The original pipe trench was cut into the made-up ground which contained much modern material including concrete and brick. The made-up ground and the back-fill of the pipe trench had been further disturbed by cuts (e.g. F006 and F010 in Fig. 3b), some of which may have been associated with previous repairs to the pipe.

**6.3** A brick structure of unknown purpose was located to the east of and adjoining the former settling tanks and was found to have the original pipe running beneath it (Fig. 3a). Either side of the structure a test pit was dug to locate the original pipe trench and once located this was

cleared so the new pipe could be pushed beneath the structure (Plate 5). There was no impact on the structure.

- 6.4 A concrete wall, which appeared to have some association with the settling tanks, also had the original pipe running beneath it. The pipe trench was excavated by machine on either side of the wall and the original pipe trench revealed by tunnelling allowing the new pipe to be pushed through without damaging the wall. The pipe trench beneath the wall was 2.80m deep and was backfilled with stone to underpin it (Plate 6). Only at this location, due to the depth of the trench, was the probable natural subsoil exposed consisting of dark red compact silty clay.
- 6.5 The base of the new pipe trench was backfilled with imported granular material creating excess spoil which, with large stones removed, was dumped at the base of the north side of the reinstated spoil heap taking in an area of approximately 20m by 7.50m (Plate 7).
- 6.6 The old pipe was broken at several places in the section beneath the spoil heap, and at one point, approximately 60m south of manhole (MH2804), had been repaired with wooden planks and metal sheeting buried in a clean sand.
- 6.7 The pipe trench was backfilled and made good and the spoil heap was reinstated (Plates 8-10).
- 6.8 No finds were recovered during the watching brief.

## 7. CONCLUSION

- 7.1 The monitoring of the repairs to the outfall pipe revealed that much of this area of the Scheduled Monument consists of modern made up ground relating to the most recent mining and associated activities, in particular drainage, on the site. No significance mining features were exposed, and where structural were, or had been, identified, these were retained *in situ*, without being disturbed.

## 7. ARCHIVE AND OASIS

- 7.1 The paper and digital archive is currently held at the offices of AC archaeology Ltd, at 4 Halthaies Workshops, near Exeter, Devon, EX5 4LQ. The paper archive will be deposited with the Cornwall Record Office.
- 7.2 An online OASIS entry has been completed, using the unique identifier 164517, which includes a digital copy of this report.

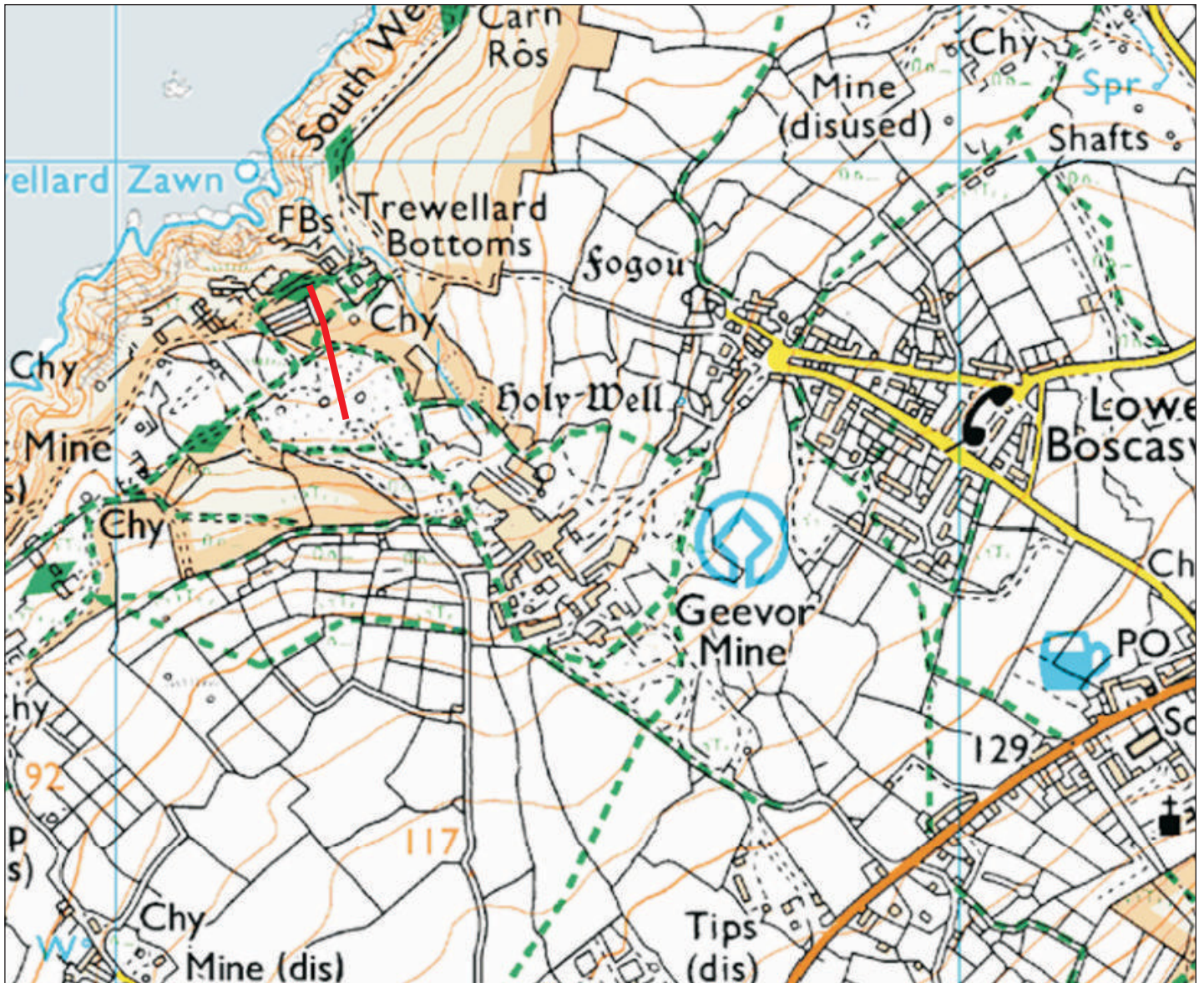
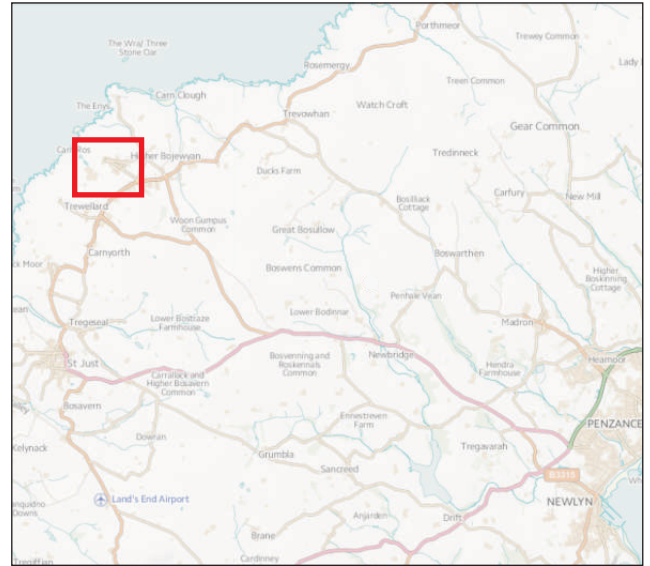
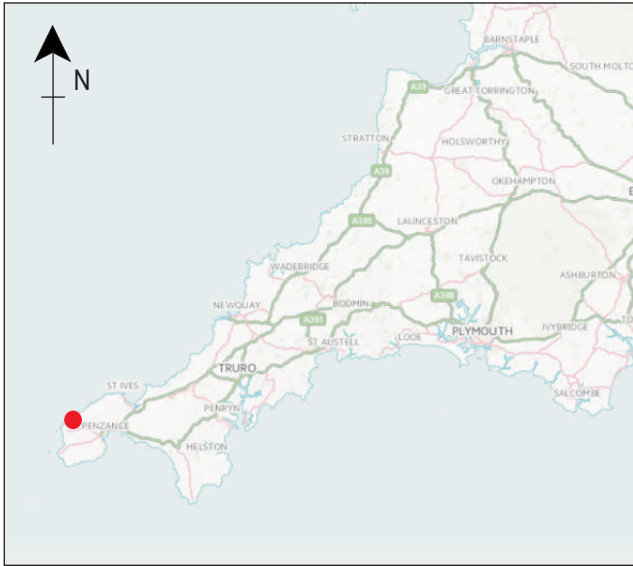
## 8. ACKNOWLEDGEMENTS

- 8.1 The evaluation was commissioned by Hyder Consulting on behalf of South West Water Ltd. The project was managed by Andrew Passmore and the watching brief undertaken by Abigail Brown. The illustrations were prepared by Elisabeth Patkai.

## 9. REFERENCE

Passmore, A. 2013 *Geevor Mine Outfall Replacement, St Just, Cornwall: Written Scheme of Investigation for an Archaeological Watching Brief*. Unpublished AC archaeology document, ref. ACD593/1/3.





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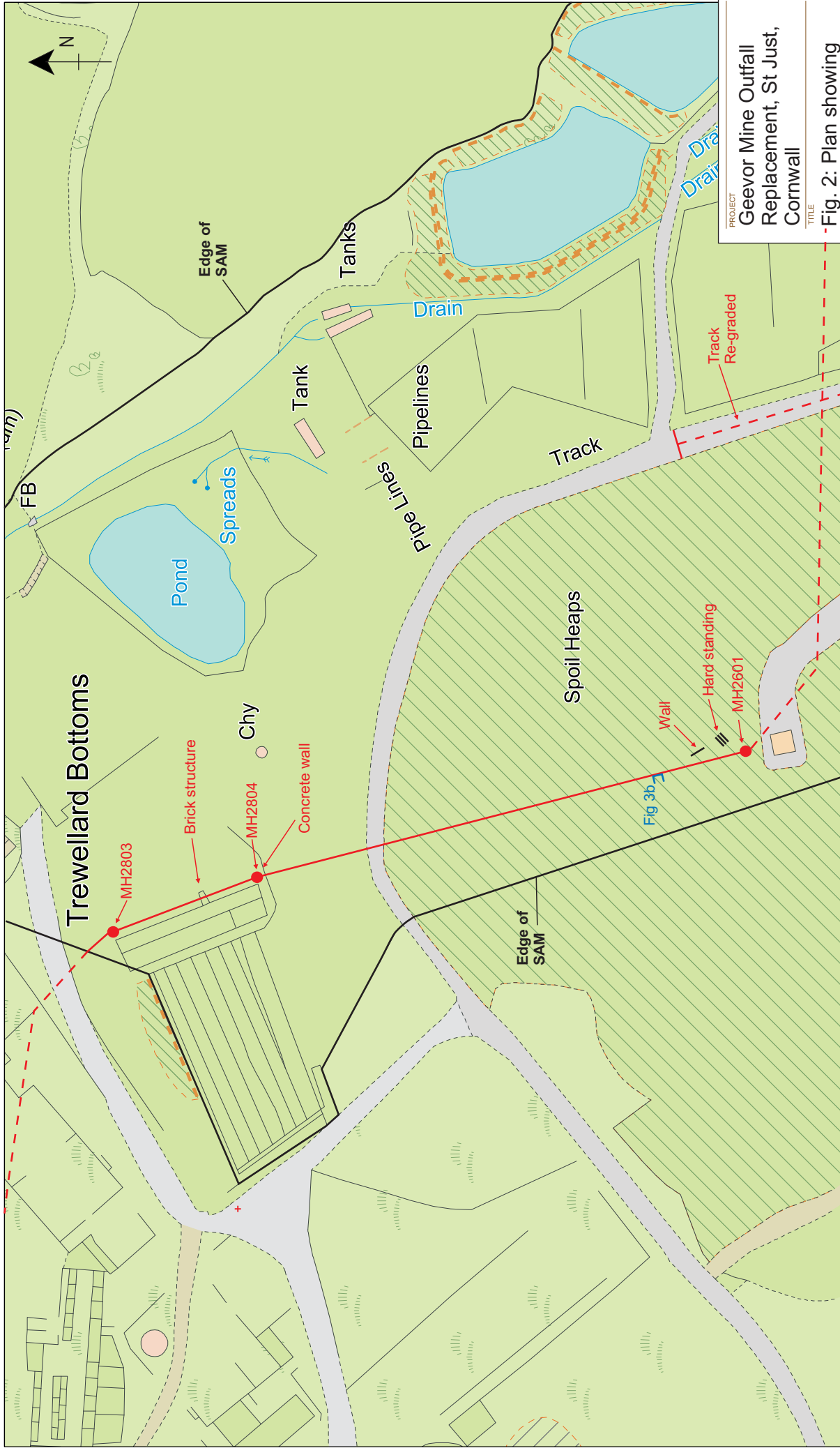
Pipeline route

PROJECT

Geevor Mine Outfall Replacement, St Just, Cornwall

TITLE

Fig. 1: Site location



PROJECT  
**Gevor Mine Outfall Replacement, St Just, Cornwall**

TITLE  
**Fig. 2: Plan showing pipeline route with manholes and exposed archaeological features**



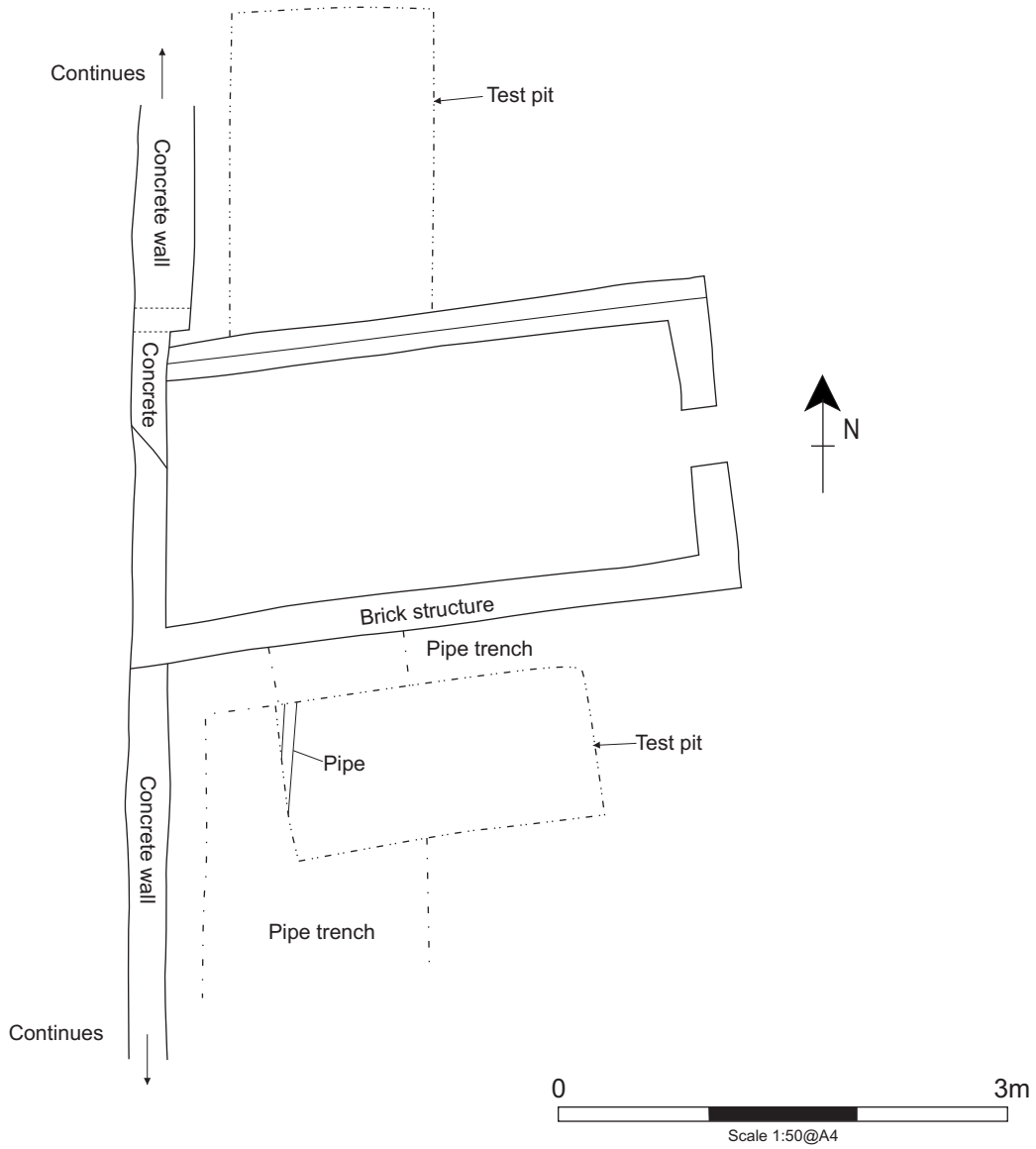
Pipe outfall replacement within SAM (Scheduled Monument)



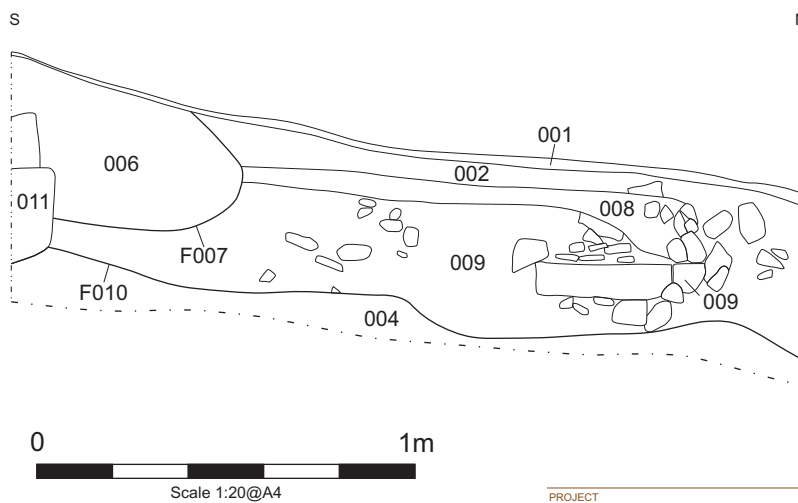
AC archaeology



a) Plan of brick structure



b) Section of F007 and F010



PROJECT

Geevor Mine Outfall Replacement, St Just, Cornwall

TITLE

Fig. 3: Plan and section



Plate 1: Field boundary wall exposed under the spoil heap, view from the northwest



Plate 2: Spoil heap temporarily removed, view from the north (scale 1m)



Plate 3: Area of hard standing beneath the spoil heap, view from the northeast (scale 1m)





Plate 4: West-facing section of old pipe trench beneath the spoil heap (scale 1m)



Plate 5: Brick structure and pipe trench below, view from the north (scale 1m)



Plate 6: Concrete wall and pipe trench below, view from the north





Plate 7: Location of excess spoil, view from the east



Plate 8: Backfilled and re-turfed pipe trench north of the brick structure



Plate 9: Reinstatement of the spoil heap, view from the north

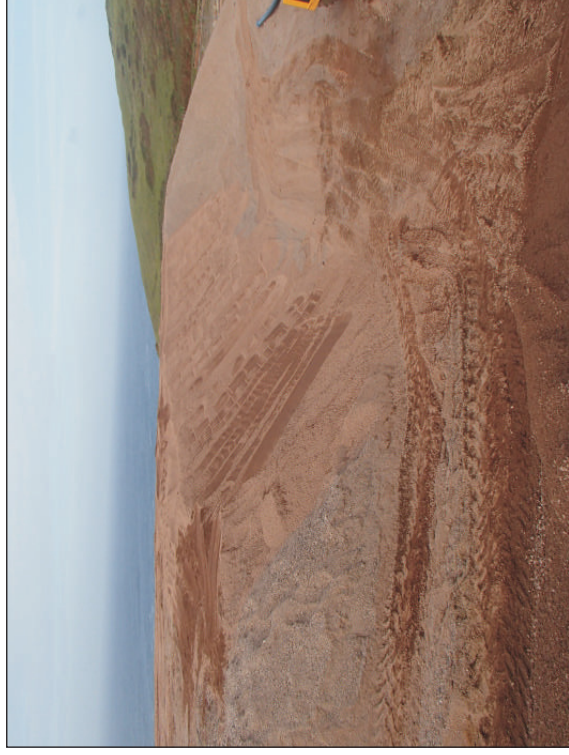


Plate 10: Reinstated spoil heap, view from the south

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