

Mining Activity Search

6 October 1997

Re: Zimapan House, Tregulow, Redruth, Cornwall
NG Ref: SW 7305 4358

1. Headings and margin notes not in original report.
2. Order of report modified.

Report commissioned by:
Blatch & Co
Solicitors,
3 Carlton Crescent
Southampton
on behalf of
Brain See

lodes traverse area in E-NE
to W-SW direction

no accurate plans of
workings
kept before 1872

Trenane's Shaft
in SW corner of property

tunnel from *Trenane's Shaft*
runs under W side of
Zimapan

probably extension of
Deep Adit Level

Historical background

The property, which is shown edged green on the attached plan, is situated in an area which has witnessed considerable historic activity for the mining of tin, copper and other metalliferous ores. It lies on the western boundary of the former lease area, or Sett, of an old mine known as *Unity Wood Mine* or *Tregulow United Mine*, which was principally active during the nineteenth century until about 1878.

Records

This mine exploited a number of steeply-dipping planar mineralised structures, or lodes, which traverse the district in a general east-northeast to west-southwest direction. Unfortunately, the available abandonment plans of *Unity Wood Mine* do not show the full extent of the underground workings, especially at shallow depth. Not until 1872 did it become mandatory for metalliferous mines to keep accurate and up-to-date plans of the workings, and to deposit them with the Mining Records Office upon abandonment. As much of the activity at this mine predates 1872, it has never been fully recorded.

Shafts and workings near property

Most of the activity was concentrated well to the east of the property and on a lode which lies in the West Poldice Section of the mine, over 300 metres to the southeast. However, there are a number of shafts and workings in the vicinity of the property, including a shaft called **Trenane's Shaft**, which lies within the southwest corner of the property. The recorded workings are shown on the attached plan with shafts coloured red and underground workings coloured yellow.

Tunnel

The plans of this part of the mine are particularly sketchy, and therefore it is difficult to interpret the information shown. It appears that several lodes have been exploited and *Trenane's Shaft* may be sunk on one of these. The plans show a tunnel has been driven north-north-westwards from this shaft, beneath the western side of the property. We believe this tunnel may be an extension of the Deep Adit Level.

Deep Adit Level 50 metres,
so risk of subsidence
unlikely

one lode intersects SE corner
of property

two unnamed shafts lie
E-NE of property

old prospected workings
may extend under southern
pt of property

three main causes of
mine-related subsidence

'costen' pits can cause
instability

risk of subsidence is 'low'

presence of a shaft, lode or
unrecorded mine workings
problematic

rotten timber-capped shafts
may be catastrophic if cap
collapses

Hereabouts, Deep Adit Level lies in hard rock at an approximate depth of 50 metres and therefore, in itself, it would not be likely to present a risk of subsidence at surface.

Old mining maps show lode intersecting property

Due to the lack of information shown on the plans, it is difficult to infer the course of the lodes and whether they outcrop at surface. However, old mining maps of the district, dated circa 1850, show the positions of several lodes which we presume are represented at surface. These are shown on the attached plan by the broken orange lines. One of these lodes intersects the southeast corner of the property. Although there are no recorded workings along the alignment of this lode, two unnamed shafts lie close to it over 120 metres to the east-northeast of the property, as shown coloured purple. This indicates that the lode has been either prospected or exploited to some extent; therefore it is possible that unrecorded workings may extend beneath the southern part of the property

Mining-related subsidence

Mining-related subsidence in Cornwall is usually caused by (i) the collapse of the collars of old shafts, or (ii) the collapse of old, shallow workings brought close to the surface along the course of lode outcrops, or (iii) by the slumping of backfilled material into either of the aforementioned features. Sometimes ancient prospecting, or 'costen' pits, which have been backfilled and long forgotten, can cause stability problems.

Risk assessment

From the information available, we believe that the risk of mining-related subsidence affecting the dwelling itself is probably slight. However, the presence of a shaft and an indicated lode outcrop with possible associated, unrecorded shallow mine workings have to be considered to be potentially untoward features. Upon abandonment of a mine, it was common practice to either place a capping of timber over the shaft mouth or to backfill the shaft with mine waste. With the passing of time, the site of the shaft may become obliterated and forgotten. However, timber will decay and may lead to catastrophic subsidence if the cap collapses, or backfill may slump, leading to a more gradual subsidence. The size of the depression caused by a subsidence of this type depends upon the condition of the shaft collar and the nature and depth of the overburden surrounding it.

shaft only secure if plugged
with mass or reinforced
concrete

heavy rainfall can cause
localised flooding [see: 'Life
at Zimapan', 1987-89]

several major collapses of
Deep Drainage Adit

no plans to resume mining
activity

inspect dwelling for
structural defects due to
subsidence

inspect land for surface
subsidence

check location & condition
of *Trenane's Shaft*

site inspection may provide
clues to risk of subsidence

Disclaimer is abridged & adapted

report only applies to
Zimapan

no liability accepted for any
inaccuracies in mining
records/plans

no site visit made

A shaft can only be considered secure if it has been properly plugged at bedrock level with mass or reinforced concrete.

Major collapses caused by localised flooding

It is worth noting that we are aware of localised flooding problems associated with some of the shafts in this locality, especially after periods of prolonged or heavy rain. It appears that there have been several major collapses in the Deep Drainage Adit and, at times, this results in water decanting from some of the shafts nearby.

We are not aware of any plans to resume mining activity in the locality, and do not consider this is a likely event in the foreseeable future.

Recommendations

In view of these findings, it is recommended that the property should be inspected by a mining consultant. The purpose of this would be to assess the structural condition of the dwelling for any evidence of damage which may be indicative of mining-related subsidence at surface, to inspect the attached land for any signs of mining features or subsidence at surface, and to observe whether there is any indication of the exact location and condition of *Trenane's Shaft*. This inspection may enable us to write a subsequent report stating that, in our opinion, the dwelling itself is acceptably clear of risk from mining-related subsidences. However, we could not provide any absolute assurance in this respect, and could not provide any degree of assurance without carrying out a site investigation, by means of either trenching or drilling.

Disclaimer

This report applies to the named property only. It must not be used for neighbouring properties, as any mining features described are only relevant to the specific property, and some adjacent mining features may have been omitted for clarity. This search was carried out with the help of extensive reference material, including a large collection of plans, records and archives in our possession, and copies of all the Abandonment Plans of Cornish Mines from 1872. We have therefore endeavoured to give as accurate a report as possible, but as such records may not be wholly complete or accurate, we cannot accept liability for any inaccuracies or omissions they may contain, nor shall we be liable whatsoever to any person who has not been party to the commissioning of/paying for this report. No site visit has been made.

Mining search authored by:

TS Bennett
Mining Engineer CEng
Cornwall Consultants
New Portreath Road
Redruth
Cornwall

mining activity plan

Enc.