

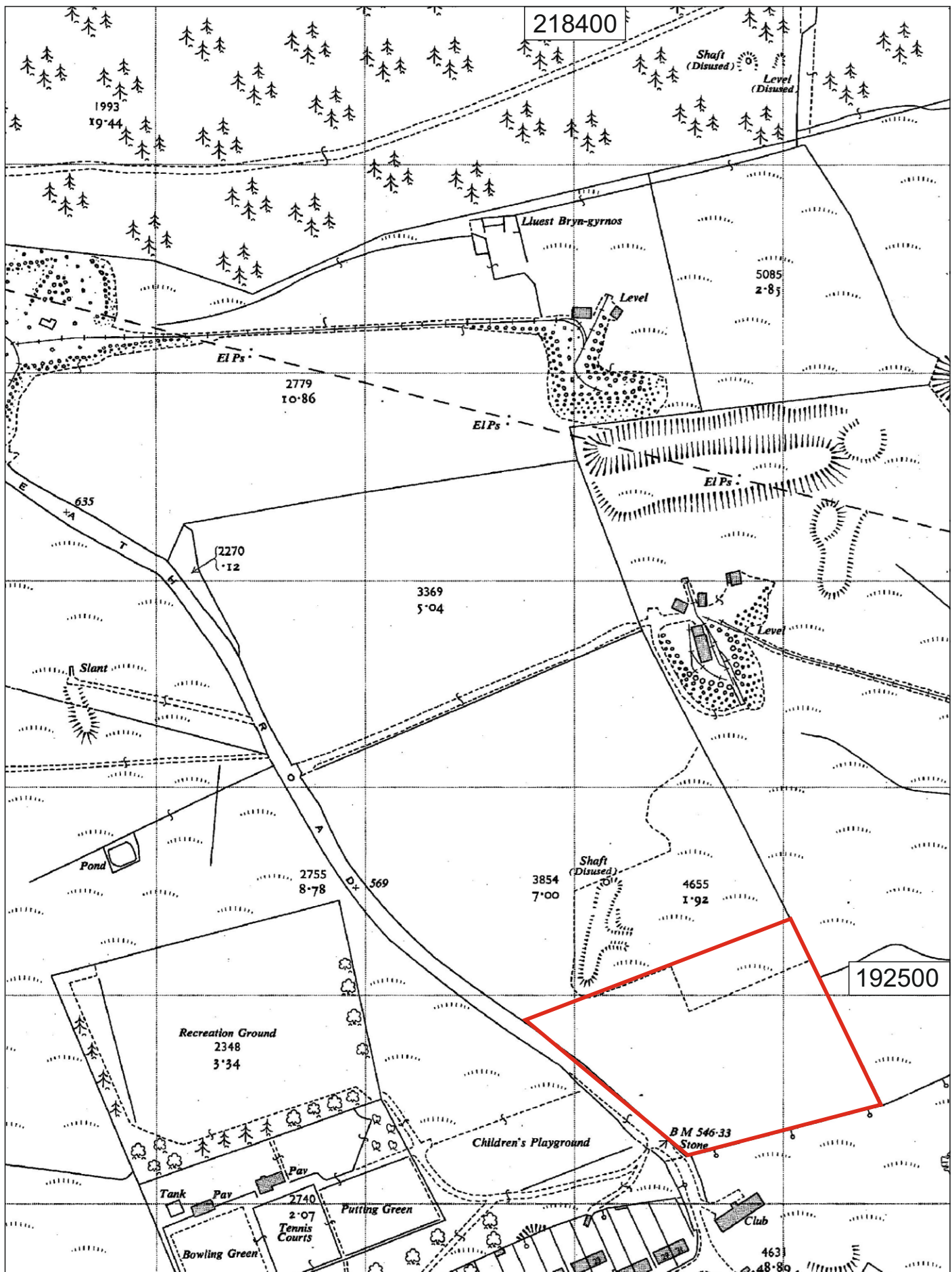


FIGURE 8
THE SITE IN 1962

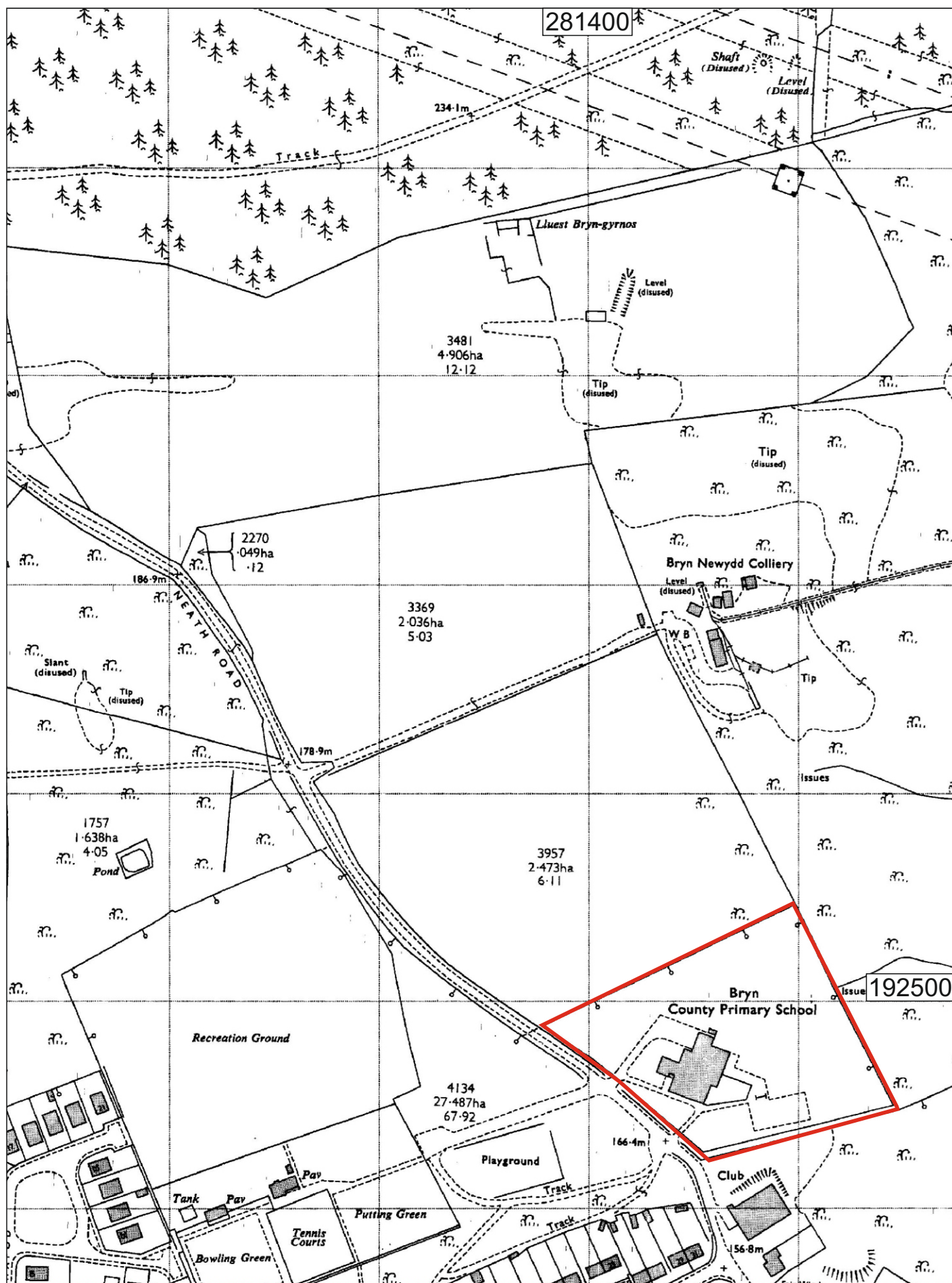


FIGURE 9
THE SITE IN 1977

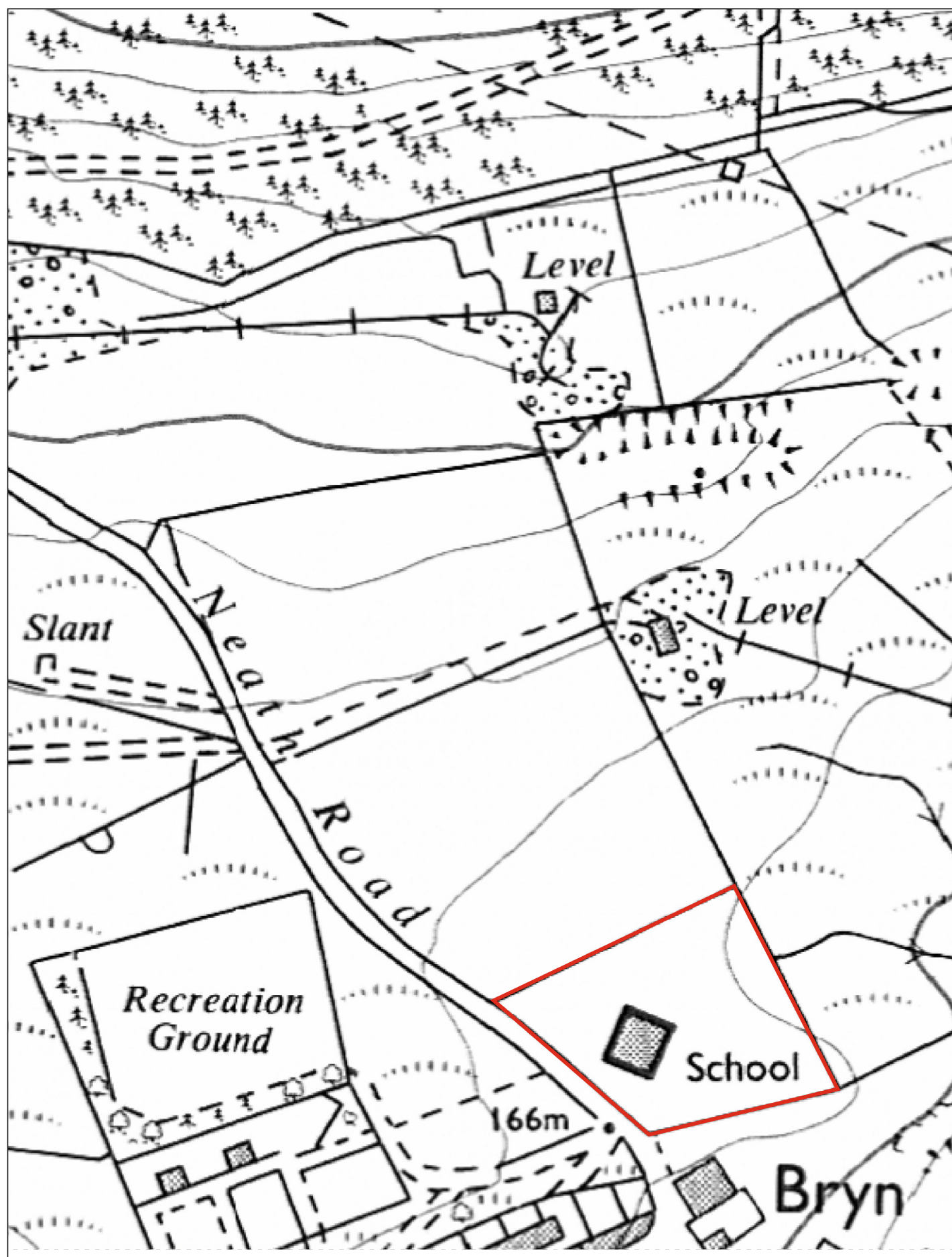


FIGURE 10
THE SITE IN 1990 (1:10,000)

5. GEOLOGY

The geology of any site consist of the underlying bedrock, together with any superficial deposits. Both are of relevance to this desk study. The superficial deposits in the area are Glacial Tills of Devensian age. Formerly known as boulder clay the material is characteristically a poorly sorted mixture of gravel, cobbles and boulders with a sandy silty clay matrix. It is usually fairly impermeable although this may vary along fissures and coarser lenses. There is no B.G.S. data available in the immediate area so the thickness is unknown. It is likely to be in the range of 2m-5m.

The six inch to the mile Geological Survey sheets GLAM25NE covers the area around the site. This is overlaid on the old County Series O.S. map from 1948. An extract of the map has been reproduced as Figure 11 overleaf. A section of the stratigraphic column from the map is shown in Figure 12 with the level of the site marked. Detailed description of the geology of the Bryn area can be found in The Memoirs of the Geological Survey of The South Wales Coalfield, part IV, Pontypridd and Maesteg (first edition 1903 and third edition, 1963) and other mining archive sources. It is always very useful to study the survey sheets in conjunction with the Memoirs. Used together, the six inch survey sheets and the Memoirs are an invaluable source of much detailed geological information on the area. Much of this has been obtained from mining records. Due to the very high economic importance of the area extensive government funded geological surveys have been carried out in the past. These were completed in 1845, 1899 and 1954 respectively. Very little information on historical coal mining in the area is missing. The memoirs state that the bedrock beneath the site is of Upper Carboniferous (Coal Measure) age. More specifically it is underlain by the Middle Coal Measures, which are undifferentiated in this part of the world. Although it is not clear on the section of the map reproduced in Figure 5, the strata is all dipping northward at between 14° and 23°. The survey map shows no seam outcropping on the site. In fact the shallowest significant seam under the site would be the Two Foot Nine. A brief check on the seam geometry indicates this seam would be at a minimum depth of 100m beneath the site. Another very vital point is that the “shaft” shown on Coal Authority records just east of the site, is not a shaft at all, it is in fact a staple pit. This is a shaft sunk from an underground starting position. The survey map clearly indicates this with the diagonal cross symbol. Also there are additional annotations alongside the symbol. These notes make it quite clear that the staple pit was sunk 96’ (29.1m.) in a vertical section of the Five Foot Seam from

a starting depth of 1246' (377.5m.). The Coal Authority have accepted this after a Coal Mining Risk Assessment for the site was presented by the author of this report. The C.A. are currently in the process of correcting their records.

North of the site several coal seams can be seen outcropping. These have been exploited for a long time. The earliest records date from 1250 when the area was under the jurisdiction of Margam Abbey. This of course would have been of a very limited extent, but in 1841 larger scale exploitation started to supply the Copperworks in Cwmavan further down the valley.

The trial level and shaft seen on the northern site boundary on the historical O.S. maps is also marked on the survey sheet. The arrow symbol represents a level (the South Wales term for an adit). This means a coal working driven on the seam outcrop from ground level. It can be seen on the map it is on the Two and a Half seam (known locally as the Golden Seam). The absence of significant spoil or any connecting infrastructure strongly suggests it was never brought into full production. This can be contrasted with levels west of the site on the same seam, and other levels on seams north of the site. These have tramways connecting them to colliery screens and the main mineral line. The fact that it is only a trial level will have a bearing on the risk assessment for mine gas later in the report.