

4. Outline Borehole Design

A borehole at this location should target groundwater in either the basal gravel of the Tidal Flat Deposits or the weathered fractured sandstones of the St Maughans Formation.

For a superficial target a borehole should be drilled between 15-20mbgl.

For a St Maughans Formation target a borehole should be drilled between 130-150mbgl.

Final slotted and blank screen lengths will need to be decided based on the drilling results.

All boreholes should be constructed to achieve a permanent sanitary seal and support of formations between the surface and the possible productive zones within the borehole. Temporary casing will likely be required to support any weathered strata whilst drilling the upper section of the borehole.

For a Superficial target permanent casing should be installed and grouted at least 5-10m below surface to provide a sanitary seal. The target sandstones are unconsolidated and therefore the sandstones will need to be screened with a suitably sized gravel pack to prevent the ingress of sand and other fines during pumping. The height of the gravel pack is to be determined based on the results of the drilling

For a St Maughans Formation target permanent casing should be installed and grouted to the base of the Mercia Mudstone Formation to isolate any evaporites within the Mercia Mudstone Group and prevent cross contamination of aquifer waters. A screen is advisable and will likely require a gravel pack to provide a base for grouting the casing into place above. It will be important to not block joints and fractures with the gravel.

An outline borehole design for a Superficial target is provided in Figure 8 and for a St Maughans Formation target in Figure 8.



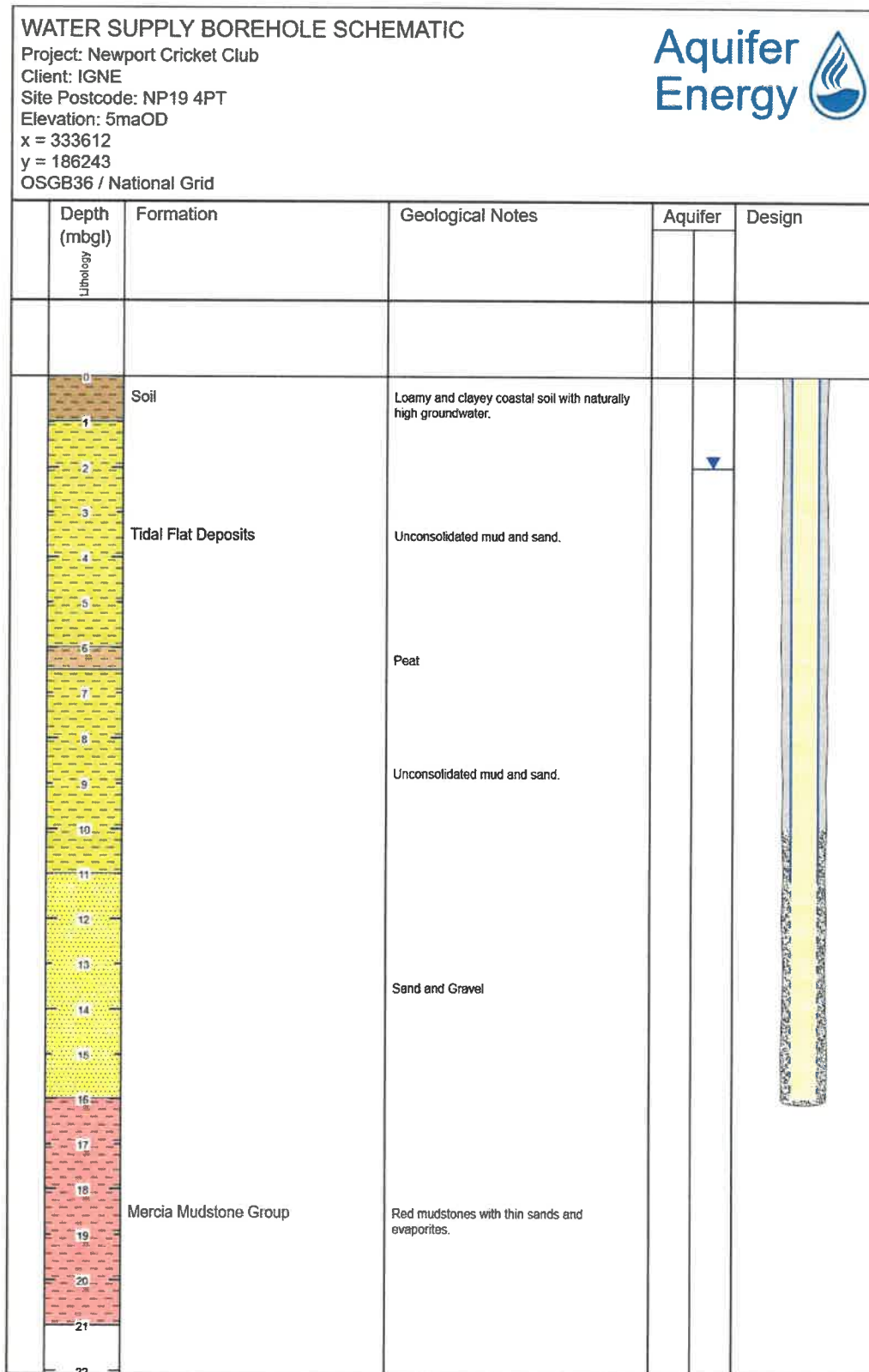


Figure 7: Outline Borehole Design



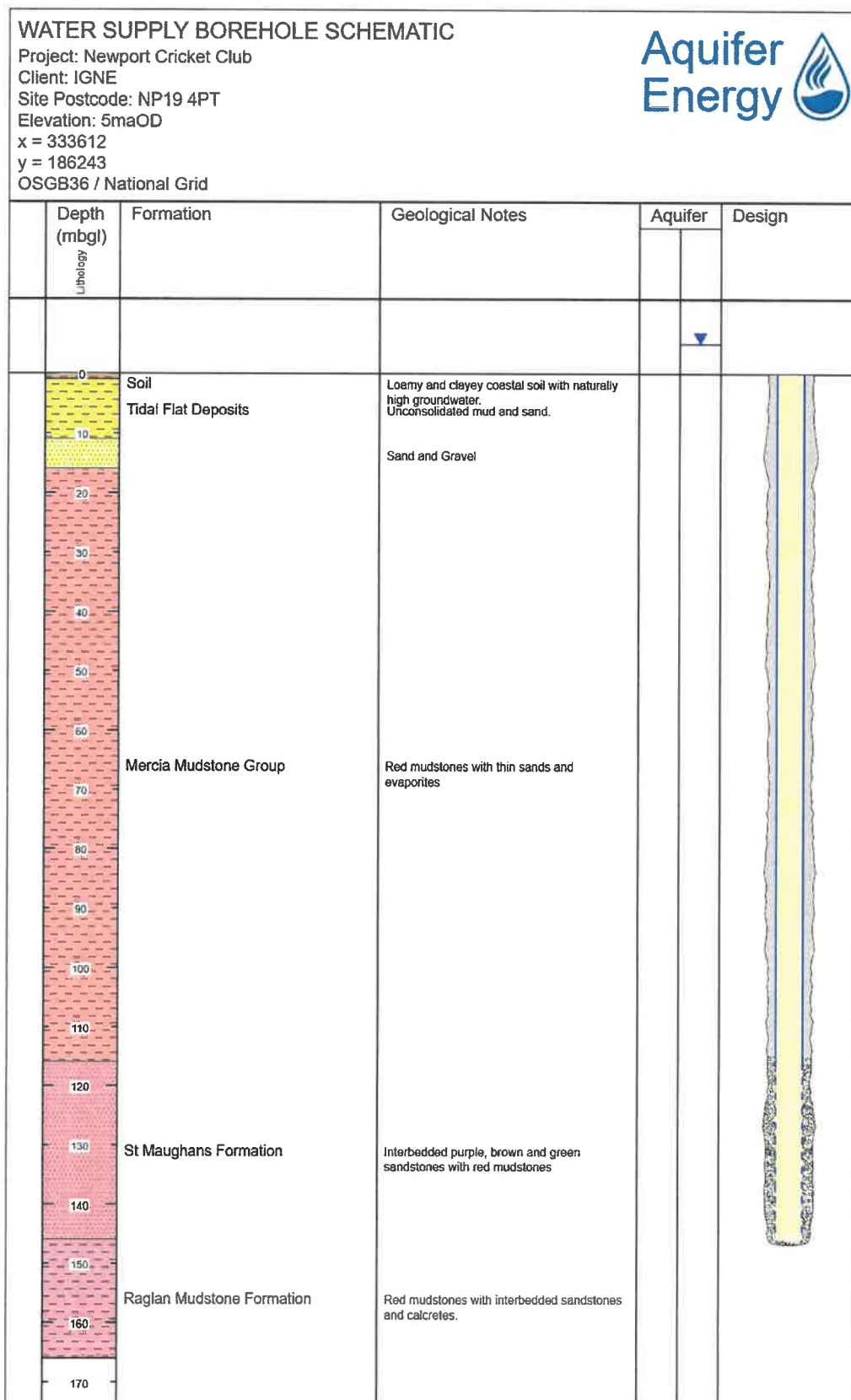


Figure 8: Outline Borehole Design

