Notes of Pernod Ricard well P28w/1323 9 December 2024 site visit to evaluate suitability as replacement groundwater quality for well P28w/3217 in groundwater quality SoE programme

Marlborough District Council - 9 December 2024

- John Sutherland and Peter Davidson (MDC) inspected monitoring well 1323 at the Pernod Ricard Brancott estate on the 9 December 2024 to see if it was suitable as a replacement sampling well for well 3217 as part of the MDC groundwater SoE programme.

- The key limitation would be if the size of the casing was too small to accommodate the MDC Geosub submersible pump used for sampling. The well casing is located about 1 m. south of the level instrument cabinet and covered with a loose steel plate. A steel flange plate with inspection socket is bolted to the top of the casing. The attached photos taken on the day show different views of the well.

- The well is lined with 80 mm internal diameter PVC pipe which reduces to 70 mm ID near the top of the well. Hopefully any joins between lengths of PVC pipe don't reduce the diameter further. The GeoSub pump outside diameter is 45 mm giving a clearance of 70 – 45 / 2 = 12.5 mm either side of pump.

- Based on a previous dip of the well its overall depth is 54 m. Assuming an internal diameter of 70 mm and allowing a minimum depth to static level of 5 m. below surface the standing volume of water in the casing is 189 litres which will take 32 minutes to evacuate:

  Volume = (54 m. – 5 m.) x (3.142 x 0.035 x 0.035) = 189 litres
  189 litres / 0.1 l/s pump capacity = 1890 s. or 32 minutes pumping for 1 standing volume (1/2 time if pumping rate 0.2 l/s)

- When sampling the complete water level sensor and cable would need to be removed temporarily to provide room for the pump to enter the well.

- Historically the groundwater level at this well has varied seasonally by up to 10 metres due to abstraction, but following introduction of SVIS use is small. As the HILLTOP graph shows the seasonal variation is now of the order of several metres in a normal season and about 10-13 m. below the surface assuming a ground elevation of 54 msl.

- The well/aquifer is very low yielding hence why it was abandoned and drawdown while sampling must be allowed for. For the low sampling purge rate however the pump will probably only need to be lowered 10-15 m. down well depending on seasonal conditions (lower in summer).