

Cromarty DSR and Conon Bridge DSR Response to repeat water quality failures 9th April 2025

Cromarty Distribution Service Reservoir (DSR)

Cromarty DSR is a single cell asset which is supplied from Assynt Water Treatment Works (WTW) via a series of upstream tanks and serves a population of 691. The asset is part buried, with a domed, corrugated metal roof and access through a door at ground height. Power supply and telemetry connection were reported as being good, with alarms on telemetry for high and low tank levels, high inlet flow and high and low outlet flow. The tank has the capability to be bypassed if it is required to be taken out of supply. Sufficient valves and hydrants were present on site to flush and sample the bypass pipework if required.

Following a failed flood test and DWQR enforcement notice to address this type of issue. Remedial work was carried out in February-24. The reservoir was bypassed and work was carried out to the walls, along with the installation of a temporary loose laid membrane over the tank roof, which was then fastened to the concrete structure. Following the completion of this work, an inspection, flood test and clean were carried out with only moderate corrosion of the outlet and scour noted. The temporary membrane was found to be in good condition during the audit. Cromarty DSR has been promoted for rationalisation in the near future, and additional bacteriological sampling is ongoing until this is complete.

4 sample failures were reported at Cromarty DSR between May-24 and April-25, which all related to iron (Fe). Root cause analysis by Scottish Water for the failures in May-24, January-25 and March-25 were attributed to corrosion of fittings inside the reservoir. On reviewing historic water quality data, iron levels were noted to be consistently low prior to the

sample tap replacement, with subsequent iron levels significantly higher and more erratic. This information coupled with the internal condition of the tank being viewed as reasonable, resulted in discussion during the audit that the sample tap should be checked as the potential root cause of the failures. Scottish Water has since completed this and no further failures of standards have been reported.

Other water quality parameters monitored at the DSR appear to be excellent. All samples taken in 2024 and 2025 have complied with bacteriological standards with good chlorine residuals. Iron and manganese sampling was carried out monthly until May-24 (the first iron failure), after which sampling was increased to weekly sampling. Manganese levels are consistent. Nitrite and ammonium levels are also consistent and within regulatory limits.

Conon Bridge Distribution Service Reservoir (DSR)

Conon Bridge DSR consists of 2 cells (old and new) located on the same site, which are supplied by gravity from Assynt WTW and serves a population of 1,777. A wire perimeter fence was found to be intact and is suitable to keep sheep in neighbouring field away from the asset roof. Dual skin hatches are in place and were locked. There is no mains power on site but solar panels are in place. Telemetry connection is reported as being good, with alarms on telemetry for tank levels, inlet flow and outlet flow. It was noted that onsite flow monitors were not working at the time of the visit.

2 samples taken from Conon Bridge DSR in December-24 and February-25 failed for coliform bacteria (2CFU/100ml and 1CFU/100ml respectively). The first failure was from a dip sample taken following refurbishments and a clean had been carried out on cell 1 during late 2024. The repairs were in response to a failed flood test in June-23. Temporary repairs had been carried out immediately following the flood test failure, with all 4 corners of the wall head joint resealed. A resample following this failure passed, with the second cell then isolated from supply for refurbishment. The second failure occurred in February-25, whilst cell 2 was out of supply. Resamples passed and no definitive cause of the failure was identified.



Water quality through the DSR appears to be excellent with all samples meeting the Regulatory Standards.

The externals of the reservoir at the time of the audit were noted as being in good condition, with all cable entry points ducted and sealed, hatches and upstands in good condition, and grounds maintenance was adequate. Inspection and clean reports for each cell from December-24 and March-25 following refurbishment works were reviewed, with the internal conditions excellent overall, other than some corrosion around the outlet of one cell.

DWQR identified ten findings. Proposed interventions to address DWQR's findings, along with completion dates and any interim mitigations that will be put in place have been agreed with Scottish Water.

DWQR will monitor completion of agreed interventions, and may request evidence of completion or re-visit the site.

