



Technical Inspection of Carron Valley B

Investment Activity on site

Location: Carron Valley B (Fintry) - Farrans Mains rehab

Quality of Water

Is work being undertaken in a way that avoids a deterioration in water quality?
 Are approved products and processes being used?
 Is this evidenced by clear sample results / chlorine residuals / visual appearance?
Observations: Work is being undertaken in a systematic manner, working downstream although there is some doubt about condition of main from Gartcarron. Work planned and undertaken with due regard for quality. Pipe and fittings used are of standard design and approved for use with drinking water. Samples taken have been clear - sampling is undertaken in accordance with SW procedures. No checks made on chlorine residuals at end of 50ppm mains chlorination period - this should be introduced as it is a useful way of identifying gross contamination (and is part of agreed method statement with SW)

Asset Robustness

Any issues / risks with work site? Have these been mitigated adequately?
 Are staffing levels adequate? (**check training and blue cards**)
 Check specialist questions for individual techniques (relaying / pipebursting / relining) (Tank roof membranes / coatings)
 Are hygiene standards in van acceptable? (tidy / storage of fuel / clothing / handwashing / fittings bagged / pipe off floor)
 Are equipment and fittings being stored correctly on site?
 Is there an off-site storage area? (Is it appropriately located? Any risks? Tidy? Fittings & chemicals stored correctly?)
 Are there welfare facilities?
Observations: Work is a mixture of like for like open cut and flushing. Fintry - Balfron - Killearn. Work sites audited all satisfactory. No significant contamination risks seen. All staff asked had valid blue card (Steven Hay, Allan Lennox, Daniel Gillies, Daniel Williams, Robert Hamilton, Michael Gallacher, Austin Byrne, Alexander Taylor) and valid DOMS training. Vans audited carried minimal fittings (most kept at store) and were hygienic with wipes, if not washing facilities. welfare facilities were adequate. Site depot was spacious with good segregation and limited contamination risk. Security was attempted via aris fencing. Fittings were wrapped or bagged and stored off ground on pallets. Pipes had end caps. Chemicals were securely stored and segregated, although hypochlorite was stored in same shipping container as fuel, everything was well bunded and ventilated.

Operational Practices

Effort being made to keep tools and equipment clean?
 Chlorous spray available, made up correctly (1000mg/l or 250mg/l) and used?
 Is suitable (calibrated) equipment available and used to measure chlorine?
 Is the depth of excavation appropriate?
 Is adequate de-watering equipment available and used?
 Is all equipment appropriate to the task?
 Effort made to keep dirty water out of pipe?
 End caps (or other protection) used on pipe ends
 Has appropriate disinfection taken place? (Check Cl and time being measured and recorded, flushed appropriately)
 Is sampling undertaken appropriately? (correct bottles, locations, training)
Observations: All carried chloros sprays and staff knew hoe to make up to >250mg/l using 2no. instachlor 150 tablets. This was made up daily when in use. No chlorine measurement instrumentation seen but assured it is available. Limited opportunities to see staff working on open main, but excavations looked well sized and dewatering equipment was available. Staff were well aware of requirements for disinfection and were able to describe methodology. Instachlor PR3000 used to achieve 50ppm - checked at legs, but see comments above. Feasible approach to sampling, including additional samples to cover legs of main. All pipes seen at depot and on site were capped or sealed. Sample results seen - aware fof process for checking results with public health team. Bottles stored at depot correct and in date. Electrofusion process witnessed - undertaken competently - computerised box ensures correct records and conditions of use are recorded. All staff spoken to appeared extremely diligent and knowledgeable.

Management of Risk

Has a risk assessment been done and is it available on site?
 Is it clear who may operate valves and which valves are to be operated?
 Who in Scottish Water is supervising the work? Is there adequate supervision on-site?
 Are staff aware of risks to water quality and their role in managing these?
 Is the choice of method appropriate to the risks involved?
 Are suitable checks being made at every stage of the work (eg ingress / vermin etc)?
 Is there appropriate technical advice available? Does someone review sample results?
 Who gives approval for putting into supply?
Observations: Good, comprehensive method statement setting out Chlorination and pressure criteria as well as commissioning (although see comments above about checking residuals). Risk assessment seen on site.

Recording Information	
	Are DOMS procedures available to site staff?
	How are records held securely but accessible to those on site?
	Are there clear records held on site allocating responsibilities for identified risks?
	How is information and responsibilities communicated to staff on site?
	Is there a daily record of activity and key milestones e.g. flushing, sampling, connections, movement of staff etc.?
	What records are maintained in relation to Consumer contact/complaints?
	Are on-site water quality checks (Cl, T&O, pH) being recorded and stored appropriately?
	Are disinfection residuals and times recorded?
	Is sample paperwork in order? (ensure sample locations are clearly documented)
	If Carela used, has it been authorised by Scottish Water and are appropriate measurements being made?
	Are locations of mains and fittings being recorded accurately on as-laid drawings?
	Observations record keeping appeared good and well organised. Viewed folder with sample and commissioning results.