

Rebuttal of the Evidence by Donna Field

The matter raised in Donna Field's evidence pertaining to the effects of the Stockton Plateau hydro project on the Mine Creek swimming pools is discussed in this rebuttal. The Mine Creek swimming pools are two basins, as described by Donna Field, which are a natural formation in Mine Creek downstream of the access road to No 4 station. The pools contain highly acidic water, but water which is of slightly elevated temperature due to the passage of the water through the fires within the Millerton Block, before it reaches this point. The waters are very clear due to their acidity.

The health effects of swimming within water which has a pH of 2.8 to 3.2 may be questioned, but nonetheless the pools are enjoyed by the community. The pools are marked with an AA sign and anyone who wishes to go swimming can find the pools without problem. There are other hot pools in the area which require local knowledge to locate, but these are smaller extent and are used as saunas, not as swimming pools.

Donna Field is comparing the state of the swimming pools, as they are now, with the state of the swimming pools as she believes they will be after the Stockton Plateau hydro project is commissioned. This is not an appropriate comparison. By the time the Stockton Plateau hydro project is commissioned the swimming pools will be the receivers of water from the Millerton water treatment plant which is to be built in the location of the old public swimming pools on SENZ land near the mine gates. The water treatment plant will take leachate from the Millerton mine by a diversion pipeline and will discharge the leachate, after it has been treated, back into Mine Creek. The point of discharge is upstream of the swimming pools.

The water quality in the swimming pools will be a mixture of highly acidic water from Mine Creek catchment (the current surface of the Millerton Block) and relatively benign discharge from the water treatment plant. The swimming pools may, or may not, be discoloured by metal precipitation caused by the flashing of precipitates as the low acidity "pure" water from the treatment plant mixes with the high acidity water from the mine runoff.

Economics will dictate that the Mine Creek diversion component of the SPHP will only be built if it replace expenditure that will otherwise be spent on the construction or operation of the water treatment plant.

The effect of construction of the Mine Creek diversion will be to divert all of the water reporting to the treatment plant and all of the water in Mine creek at the point of the weir through to Weka reservoir.

As a result, the water that is in the swimming pools post-commissioning of the Mine Creek diversion weir will be clear water that rises from the truncated catchment below the weir. Water volumes flowing into the pool will be significantly reduced in volume though improved in quality. The water that is within the swimming pools will still be there; there will be the same depth of water, but that water will start to take on a natural quality as it will no longer contain the acidity that it currently contains. The swimming pool will transition from a hard rock, totally sterile base as it is at the moment through to a pool that is more in keeping with a natural mountain pool. There will be sufficient water remaining within Mine Creek to provide a flow through the pool so the water will remain fresh. But there will not be a cascading flow going into the upper end of the swimming pools as at present.

If the Mine Creek diversion is not built, water quality will remain dominated by the highly acidic mine flows until around 2027, after mining of Millerton Block is completed and the

block is completely rehabilitated. Water quality in Mine Creek will be exposed to similar risks of mining effects as in Mangatini Stream. Acidity in Mine Creek where it discharges into the Ngakawau river will remain the first major obstacle to fish migration within the Ngakawau River, as at present.

Note that there is no mining in the catchments of Mine Creek at present. The SPHP is currently the only option currently available to fully manage the effects of mining and AMD in Mine Creek.