



AUSTRALASIAN MINING HISTORY ASSOCIATION

From the President

December 2023

Wishing you all a happy and relaxed Festive Season and the best for 2024. This has been a challenging lead up to Christmas with high temperatures and bushfires in some parts of Australia and extremes of rain and storms in others, sadly leading to loss of life, property and income. In New Zealand the damaging weather came earlier in the year with Cyclone Gabrielle and heavy rainfall, strong winds and rough seas. The suggested hot and dry weather no-where to be seen with wet and humid weather persisting.

The AMHA Membership year is from January to December and we are moving from the old renewal system to one called TidyHQ and those whose memberships are due will receive an email in the next few days advising the renewal procedure. Hopefully it will all go smoothly but if you encounter problems, please email treasurer.amha@mail.tidyhq.com

I mentioned the Reefton Conference in my first email in late October and I have since then put together a brief report on two field visits that I mentioned, one on the Echo Coal Mine and the other on the Globe Gold Mine rehabilitation.

Echo Coal Mine

Highlights of the Reefton Conference included site visits during the conference and the post-conference field trips. The tectonically active West Coast of New Zealand is home to quartz vein and alluvial gold, coal measures and heavy mineral sand deposits both historic and currently operational.

As a geologist, I was particularly taken by our visit to the Echo Coal Mine, privately owned by New Zealand Coal and Carbon Ltd (<https://nzcoal.com/operations/echo/>) that selectively mines low ash, semi-soft coking coal that is sought after by specialist metallurgical operations around the world. Eamon Moynihan, Mine manager, gave a presentation in his office and then led us on a Unimog tour of the site.

The value of this high-quality coal is such that it can be selectively mined from highly folded rocks that owe their origin to deformation caused by the Alpine Fault system. In less deformed areas Tertiary coal is poor quality brown coal but here, as a result of deep burial and heating and uplift, this Tertiary coal has been upgraded to some of the best coal in the world.

The deformation of the rocks is beautifully laid out with the contrasting black coal and white sediments, and in places the coal seams have been structurally thickened to form rich pockets.



Folded Coal Measures



Structurally Thickened coal

The Globe-Progress Mine, Reefton

As part of the Reefton Conference in October some 20 Members of the AMHA and others went on a site visit to the Globe-Progress Rehabilitation project.

Located some 7 km southeast of Reefton in the West Coast region of the South Island of New Zealand, the Globe-Progress Mine was an open pit operation developed on a major shear structure containing refractory gold ore associated with fine-grained pyrite, arsenopyrite and stibnite that had historic underground workings of quartz-vein gold.

Mining in the area commenced in 1876 on the quartz-vein associated gold that was mined underground and to 1926 the area had produced some 418,343 oz Au from 1,045,888 tonnes of quartz.



The tour group at a vantage point overlooking the Globe-Progress open pit

The surface mine was commissioned in 2007 and comprises open pits developed along a major regional shear structure and its offshoots and produced 610,000 oz before it transitioned to closure and rehabilitation in 2016.

The processing plant had a design capacity of one million tonnes per annum produced a gold-bearing concentrate on site which was then railed over 600 kilometres south to Palmerston, from where it was trucked to the Macraes operation for final processing through the pressure oxidation and carbon in leach circuits.

The Reefton Restoration Project, as it is now called is known for its comprehensive closure and rehabilitation program, with works including:

- Removal of process plant and infrastructure
- Water treatment
- Waste rock reshaping and landscaping
- Spreading topsoil and planting trees
- Pest and weed control.

For further information see: <https://oceanagold.com/operation/closure/reefton-restoration-project/>

We travelled by our private coach to the mine site and after a briefing by Megan Williams, Advisor Environmental, we boarded two Unimog all-terrain vehicles to tour the site. The work so far is listed:

- Approximately 150 ha of the roughly 260 ha disturbance has been rehabbed.
- Over 950,000 beech and manuka seedlings planted to date.
- 64,000 wetland type species planted at Fossickers Lake edge (former Tailings Storage Facility).
- 25,000 wetland species planted at the Fossickers wetland.
- Oceana Gold, the NZ Department of Conservation and iwi are collaboratively developing a “Visitor Experience” in the area that the Processing Plant was located. This will have picnic areas, lookout point with interpretation boards around modern and historic mining as well as a cultural narrative weaved into the design.
- They are also developing a 12km multipurpose track that links Reefton township to site.
- Devils Passive Water Treatment is the world’s first full scale system of its kind.

For an informative video of the old days in Reefton, the Globe Progress open pit mine and the restoration project click here: <https://www.youtube.com/watch?v=7kIZY3CpxEs>

Our thanks to Megan for a most professional and informative tour and to Oceana Gold for allowing access and providing additional information.

John Taylor, the Reefton Conference convener arranged the visit and the Unimogs that were provided free of charge.

Best wishes for 2024.

Geoff Hudson
President AMHA