JUNE 2014

Hillgrove Mine Visit, June 6, 2014

Today Five members of the SOMR committee took the opportunity to have a guided tour of Hillgrove mine. They were welcomed and given a safety briefing by Peter Hosking, Operations Manager, and Daniel Calderwood, Environmental and Safety Manager.

Prior to going underground Chris Hiller, Mining Manager gave a briefing on current operations; this involved viewing a 3 dimensional graphic of operations at the Metz mine.

The methodology in this mine is stoping, underground tunnels, or drives, are cut at different levels, running parallel to the narrow veins of ore.

Mining begins from the bottom; production holes are drilled between tunnels in the ore vein, the vein can range from up to 4 metres across to less than 1 m. Ore veins of less than a metre are currently considered not viable for mining, but this largely depends on the grade or contained metal in the vein.

Production holes are then charged and fired, ore is removed by loaders and then the tunnel is back filled with waste rock.

When full production is reached, using the current fleet, they will be processing around 250 000 tonnes per year of ore, and employing 100 staff.

On the way to the underground mining operations Eleanora and Lower Cooney, historic mining sites were visited. Hillgrove Mines is responsible for monitoring some of the old mines on their site, they are obliged to analyse and report on the quantity and contamination level of the flows from these adits.

Chris and Daniel outlined plans for pumping water from Lower Cooney, reducing contamination flowing into Bakers Creek and providing water for mining and processing operations. The first stage of this is expected to be fully operational in 3-4 months. A win for the company and the environment.

At the base of Bakers Creek is a significant dump of contaminated waste rock from historic mining practices, Hillgrove Mines have explored the possibility of reprocessing this dump, however it has not been found to be economically viable. Previously Straits explored the possibility of working with government agencies to rehabilitate the area.

They are paying approximately $70,000 per year in the State Administrative Levy and Annual Rental, being paid by all mining operations in NSW. It would be interesting to explore if some of this could be used in a partnership rehabilitation program.

Underground, there is about $200 000 worth of new infrastructure used to recycle water - water is used to suppress dust and cool drilling machinery. A number of underground water storage areas have been constructed. Currently, the Metz operation is using water from the Hillgrove Village water supply but it is expected that in the next 4 weeks their primary source will be their own supply with the occasional top up from the village reservoir.

The visitors were given a rock face view of the Long Hole stoping method, and were impressed by the underground infrastructure for the safety of workers.

Back to the surface for lunch, then on to explore the surface operations - processing and water management.

The ore is processed by being crushed and pounded, then put through flotation cells, with a cleaner to remove the antimony. It then goes through a similar process to remove the gold. The resulting concentrate is a damp, silty substance that is bagged in 1 tonne bags similar to fertiliser bags. The antimony is about 60% pure - high grade and the gold has about 60 grams to the tonne. Income from the currently processed concentrate is about 80% from the antimony and 20% from the gold.

A tour of the storm water and tailings dams followed.

Tailings Storage Facility (TSF) 2 is currently being used. It is quite close to the escarpment and was constructed with significant environmental conditions, this facility was built by the previous owners Straits Pty Ltd; it is built on bedrock, lined with High Density Poly Ethylene (HDPE) and closely monitored. Seepage from the facility collects in 3 pits; these have automatic pumping systems which are electronically monitored. Any anomalies in pump activity alert staff to do a physical inspection, in addition to inspections carried out on a regular basis.

Strategies for closing down the tailings dam (TSF 2) at the end of mining activity were outlined and include rehabilitation over a number of years to meet legislative "relinquishment criteria".

TSF 2 has 3-4 years of life left, in that time the facility walls will be raised another 6 metres to increase its capacity. There is a Trigger Action Response Plan (TARP) and Dam Safety Emergency Plan in place to manage operations, accidents and incidents.

TSF 1 is no longer used, the tailings are consolidating, compressing over time. There is some growth of scrubby tussock on the surface. This facility is also monitored on a weekly basis and containment strategies are working effectively.

Next was a visit to the upgraded water treatment plant. A Microfiltration System removes particles greater than 0.1 microns, water then feeds in to a Reverse Osmosis Plant, water can be cleaned at a rate of about 3 mega litres a week. In the event of the necessity of discharging water into Bakers Creek, the discharged water is automatically monitored. The automated system shuts off and diverts water back into storage tanks if there is a problem with contamination.

The visit concluded with a view of future projects: a proposed re opening of a pit at Clarkes Gully, and the construction of TSF 3 about 4 kms away from the escarpment. Possibilities of creating a new road access are being explored in order to have a transportation route that means trucks will not need to go through Hillgrove Village. These projects are in the early planning phases.

The SOMR committee would like to thank the staff of Hillgrove Mine, particularly Daniel, Peter and Chris for the time and commitment in giving a thorough overview of the exploration, mining, processing, water management and safety features of current operations at Hillgrove Mine.