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Sent: Tuesday, 6 October 2020 3:04 PM
To: secretariat.PESRAC
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Subject: Proposal to PESRAC

Below is a proposal to the PESRAC council for their consideration. Please advise receipt by return mail.

October 6, 2020

Don Challen

Chair

Pesrac Council,

Proposal to Stimulate Western Tasmania Industry and Employment

We would like to propose a plan to increase the employment of Western Tasmanians post COVID and improve the long term future of the Tasmanian minerals industry.

For over a century the minerals industry in western Tasmania has been a wealth creator, important employer and maintained export incomes of around 45 to 50% of total Tasmanian exports. It has been the backbone of the west coast and continues to work hand in hand with the west coast communities and the tourism industry.

You will hear from some that mining is on the way out and no longer necessary. This is only wishful thinking by those against the mining industry. The world will always need copper, gold, silver, zinc and tin - metals that are abundant in the rocks of the west coast. The future of green energy and most technological developments are dependent on these metals. Batteries, mobile phones, wind turbines and solar cells are just a few that depend on a constant supply of these critical metals.

For the west coast mining industry to grow, continue to employ Tasmanians and support west coast communities and industries we need to discover new mineral deposits. Because new deposits will be deep in the crust, then the best new technologies and the sharpest minds are required to locate them.

We are fortunate that most of the valuable metals in Tasmania occur in the one rock formation; the world famous Mt Read Volcanics, which extend from Elliot Bay in the South West, through Queenstown, Rosebery, Tullah and Hellyer to Cethana in the north, forming an ancient volcanic arc about 300 km long and 5 to 15 km wide. Previous governments have ensured that this valuable volcanic belt lies outside of the national parks and remains available for mineral exploration.

Detailed geological mapping and aerial geophysical surveys by Mineral Resources Tasmania have provided a valuable geoscience database that this project will build upon.

The most important part of this proposed plan, is that over the last ten years there has been a revolution in the application of advanced technology in the field of **exploration geochemistry**. We propose to apply this advanced technology in a major geochemical survey covering the whole Mt Read Volcanics in order to discover new mineral deposits. Nothing of this scale has been attempted before, and because of the advanced technology, and application of the best scientific minds, the chances of success and discovery are considered to be excellent.

We will summarise the basis of our plan and provide a number of reasons why it is likely to succeed and be of benefit to Tasmanians.

1. The Mount Read Volcanics has a proven reputation as a world class source of minerals - this is undisputed.
2. Technological developments mean we can analyse the critical elements in rocks and soils to much lower levels of sensitivity - this means that surface soil samples used today in exploration geochemistry can detect deeper deposits than ever before. This technology breakthrough means that detection has been improved over 100 times compared to ten years ago.
3. Remarkably little systematic soil geochemistry of the Mount Read Volcanics has taken place in the last 30 years.
4. Research developments by the CSIRO have shown that ultra-fine soil analysis has improved buried gold detection in covered areas so that gold deposits are becoming easier to locate. This technique has never been tried in Tasmania, and should be investigated at an early stage of the project.
5. Multi-element soil sampling geochemistry, is only recently being applied with much improved results, and has been pioneered world-wide by a Tasmanian consulting geochemist, Dr Scott Halley. The method enables the determination of volcanic stratigraphy, alteration zones and anomalous mineralisation.
6. Pb isotope geochemistry, being developed and applied at the CODES UTAS laboratories is being demonstrated as a major low cost addition to multi-event geochemistry. This method enables priority to be placed on geochemical targets defined by the multi-element data.
7. Recent research, in a collaboration between MRT, CODES and Scott Halley in the Pieman Lake area on the west coast has developed the proof of concept for this much more ambitious plan.
8. Minerals companies that hold exploration licences over the Mt Read Volcanics would be encouraged to support the project both by cash support and in-kind support.
9. Initial estimates indicate that about 20,000 to 30,000 soil samples would need to be initially collected and analysed for 30 elements plus Pb isotopes. This would allow coverage on a grid of 2000m by 50m over the complete Mt Read Volcanics.
10. The project will require training for the soil sample crews at the West Coast Education Hub based in Zeehan. Say 10 crews of 4 persons each, plus logistics support, amounting to initial employment of 50 persons for at least 12 months. Follow-up employment of the geochemical crews will likely take place by exploration companies investigating the targets discovered by the initial survey.
11. Helicopter support will be required for about 50% of the area sampled, giving increased employment to a local helicopter company.
12. Preparation of samples can be undertaken at a laboratory in Burnie and analysis of samples most probably in Perth WA, where established infrastructure and technical expertise is available. No suitable commercial laboratory is available in Tasmania with the required ICP-MS analytical equipment for high quality rapid multi-element analysis.
13. Interpretation of the data would be led by two world recognised geoscientists Dr Scott Halley and Professor Ross Large. Their services would be offered free to the project.
14. Artificial intelligence techniques developed at the University of Tasmania would be applied in the interpretation of the data.
15. We envisage this project will require a joint effort involving Mineral Resources Tasmania, CODES University of Tasmania, CSIRO Exploration and Mining, West Coast Education Hub, Dr Scott Halley, Professor Ross Large plus several Tasmanian west coast minerals companies.

We are happy to provide further details, including an indicative budget, as required,

Yours Sincerely

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Burnie