

APPENDIX 6 – South32

Activity Report

for

EL 24389, EL4171 and EL4170

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1. EXPLORATION RATIONALE

South32' exploration program is aimed at testing for manganese mineralization based on the geological model developed from exploration on adjacent tenure.

2. EXPLORATION ACTIVITIES

Work completed during the reporting period consisted of:

- Desktop reviews
- Desktop reviews of geophysical survey proposal for cost reductions,
- Minor field reconnaissance as part of adjacent tenure exploration planning.
- Environmental pre-clearance surveys
- Drilling and associated earthworks and rehabilitation

Figure 1 shows the location of work activities for South32 during 2017.



Figure 1: Location of proposed activities in 2017.

2.1. Desktop studies

In April 2017, a peer review technical workshop was held involving internal South32 geoscientists, business planners and management. The preparation for the workshop involve historical data reviews, geological model review (Figure 2) and revision of forward planning.



Figure 2. Mineralised sandstone model

2.2. Site reconnaissance and field preparation

Site reconnaissance was conducted prior to exploration activities and consisted of traditional owner consultations and consultation with both the Dhimurru Rangers and Yirralka Rangers to ensure alignment with the Dhimurru IPA Management Plan. Drillhole sites were ground-truthed refined to minimise disturbance, and optimize the exploration objectives.

Pre-clearance Surveys

Pre-clearance surveys were conducted for all pads, and for the 4km of tracks required to access hole locations along the edges of the plateau. A copy of the report is attached as Appendix X. Clearing activity was classified as low risk as long as riparian rainforests were avoided. Hole locations were adjusted to avoid sensitive flora, and to make use of pre-existing tracks (cleared by RTX).

Clearing

Approximately ~4.2km of tracks were cleared to access six drill sites. Creation of the approximately 3m wide tracks was carried out by carried out by YBE contractors using appropriate earth-moving equipment (dozer, grader etc).

Traditional owner clearance work prior to earthworks and exploration drilling took place in August across all 32 proposed drill sites.

2.3. Drilling

Exploration drilling was completed in August 2017. A total of 28 holes for 1,739.5m were completed using a Wallis Mantis100 Air core drill rig (Figure 3). Drilling was aimed at testing the continuity of manganese mineralisation under thicker cover on the Cato Plateau based on a manganese mineralisation model for the region developed after extensive exploration activities on adjacent leases.

EL24389



Figure 3 Wallis Mantis 100 drill rig working in Cato Plateau

2.3.1.Drill hole sampling

AC drill chip samples are collected at 0.5 metre intervals down hole, however only those mineralised samples are presented to the laboratory for analysis. Samples were submitted to the laboratory as unsplit.

A total of 196 rock chip samples were submitted to Buereau Veritas Minerals laboratory in Adelaide for XRF assaying. Results are expected by the end of 2017 and will be used to assess the current and future potential for manganese in the area. Drillhole collar, geology and sample information are contained in Appendices 1-3.

3. FUTURE WORK PROGRAM

Work planning for the 2017-2018 reporting period consisted of:

- Analysis of assay results
- Geological interpretation and modelling
- Project review and desktop reviews for internal strategic decisions,
- Follow up exploration results discussions with stakeholders.

3.1. Geochemical analysis of samples

A total of 196 rock chip sample assays are expected to be returned. Samples are to be analysed by XRF for Al2O3, BaO, CaO, Fe, K2O, MgO, Mn, P, S, SiO2, SrO, and TiO2.

3.2. Project technical review

Once assay results have been received a thorough review of the project will be completed. This will likely include geological interpretation and modelling, desktop analysis, revision of historical results in the region and consideration for future planning.

3.3. Stakeholder engagement

Upon review of the exploration results, key stakeholder meetings will be planned to ensure results and subsequent future plans are well communicated.

4. CONCLUSIONS AND RECOMMENDATIONS

A total of 28 of a planned 32 exploration drill holes were complete aimed at intersecting a targeted manganese horizon. A final interpretation of the results will be made once the assay results have been received. This will inform future exploration activities on the lease and in the broader region.