Santonian Resources

Santonian Resources Ltd

GR543

The Aladdin Project

Group Annual Report for the period

11/04/2021 to 10/04/2022

V – Fe – Ti – Al

Prepared by Holdfast Exploration Pty Ltd

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1 Abstract

EL 31971 and EL 31967 were granted to Santonian Resources Ltd, a 100% wholly owned subsidiary of Holdfast, on 11th April 2019 by the Department of Primary Industries and Resources now known as the Department of Industry, Tourism and Trade, and now form part of Combined Reporting GR543. A continuation reconnaissance RAB drilling program resulted in a lower-than-expected Vanadium and Titanium grade in comparison to the initial rock chip sampling. However, an anomalous grade of Yttrium was intercepted at VA-23 resulting in a REO + Y_2O_3 at 0.14% at the 19m interval. Further exploration work is required to determine where an economic grade of Vanadium and Titanium is concentrated within the tenure. In addition, follow up diamond drilling is required to determine what mineral is hosting the REE anomaly.

2 Copyright

3 Location

The Aladdin Project is located 40 km south east of the settlement of Top Springs and 240km South from Katherine as shown in Figure 1. Tenement EL 31971 comprises of 220 blocks covering an area of 723.7 square kilometres where EL 31967 comprises of 250 blocks covering 882.5 square kilometres within the Killarney, Montejinni East, Birrimba and Dungowan Pastoral Leases. Both Tenements are shown below on Figure 2

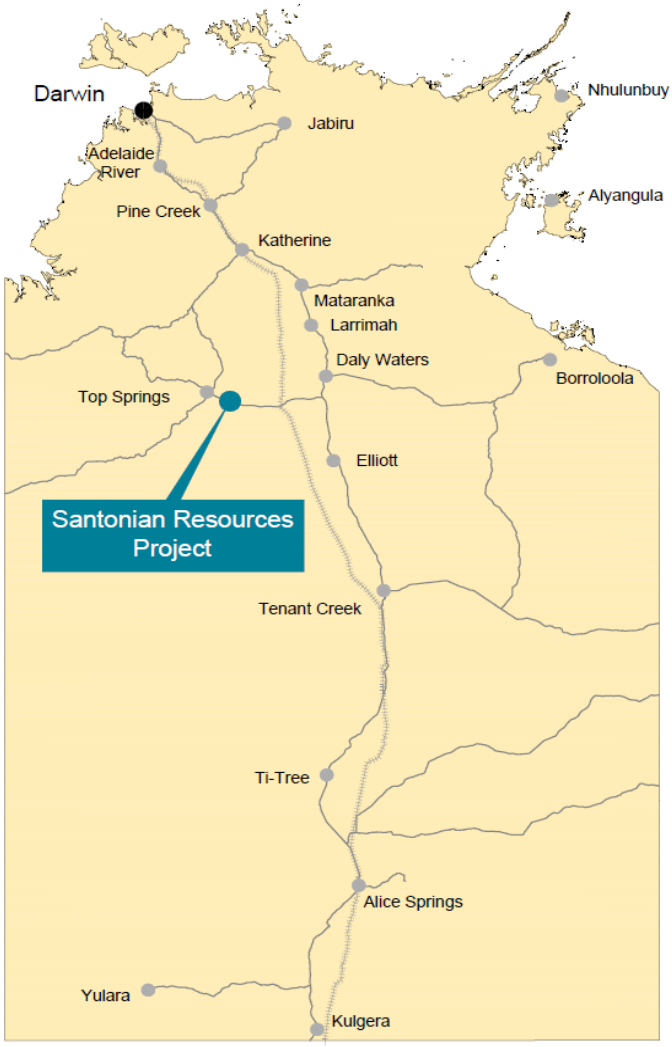

Figure 1: Locality Plan

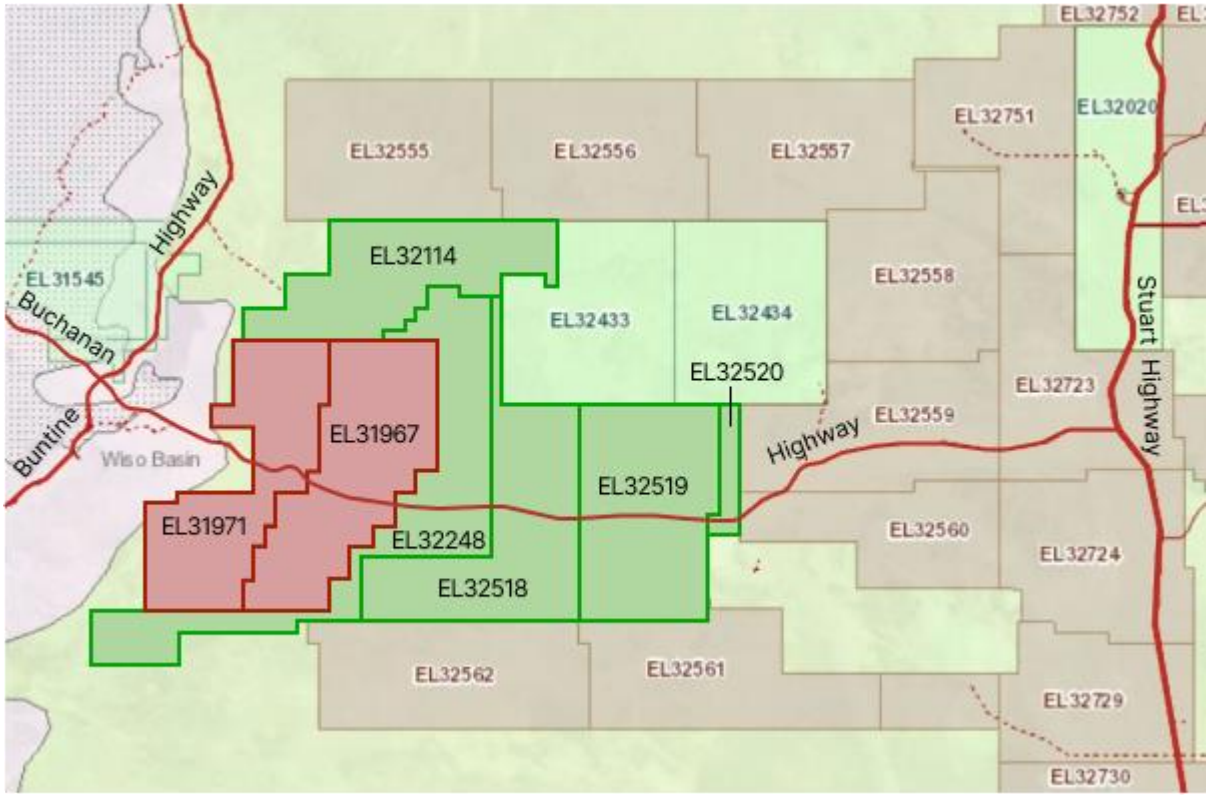

Figure 2 Tenement Location

4 Title History

Both EL 31971 and EL 31967 were granted to Santonian Resources Ltd, a 100% wholly owned subsidiary of Holdfast Exploration, on 11 April 2019 by the Department of Primary Industries and Resources (DPIR) now known as the Department of Industry, Tourism and Trade (DITT). Both tenements were applied for Amalgamated Reporting and were approved by DITT on the 19th May 2021.

The tenure was applied to cover the extremities of the interpreted mineralised laterite containing anomalous Vanadium, Iron, Titanium and Aluminium content.

5 Access

The Aladdin Project is primarily accessed by graded stations tracks via the Buchanan Highway using 4x4 vehicles. Access to the project can become limited during seasonal monsoons and heavy rains between the months of November to April.

6 Geological Setting

The Aladdin Project is situated in the Carpentaria Basin as shown below in Figure 3. The Daly Waters geological sheet (SE 53-1) shows an area that is geomorphically and tectostratigraphically dominated by several distinct and denuded Cretaceous-age lateritic-bauxite palae-land surfaces. Regionally, the topography comprises of isolated (dissected) low-amplitude mesas separated by Tertiary drainages. The mesa tables appear to be capped by a laterally contiguous ferrigunous horizon that may be a potential host to base minerals. Multi-element anomalies comprising chemically inert and immobile elements (e.g. Ni, Al, V, Ti, REE), typically concentrate in laterally extensive ferruginous duricrust horizons lying atop bauxitic plateaux.

The stylised cross section shown in Figure 4 is an interpreted understanding of the stratifications that underly the lateritic occurrences. Isolated mesas form the remnant Cretaceous surface topography where Cambrian-aged Limestones and tholeiitic volcanics underlie the Cretaceous Sediments. The area is technically stable which is an important factor in the development of lateritic regoliths.

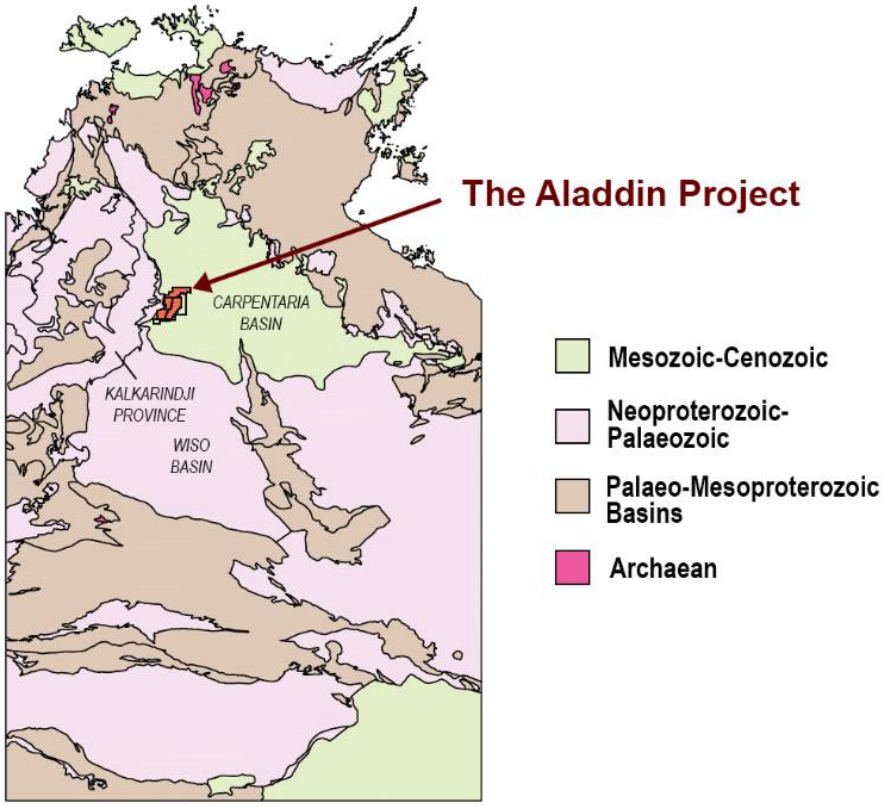

Figure 3: Regional Geology

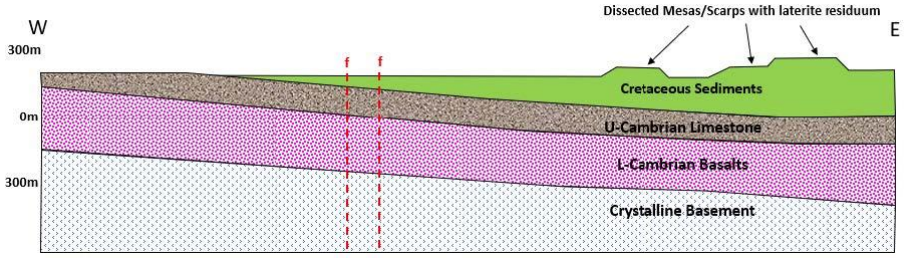

Figure 4: Stylised cross-section

An interpretd regional geological model for such enriched lateritic residua on relict regolith landforms is shown in Figure 5.

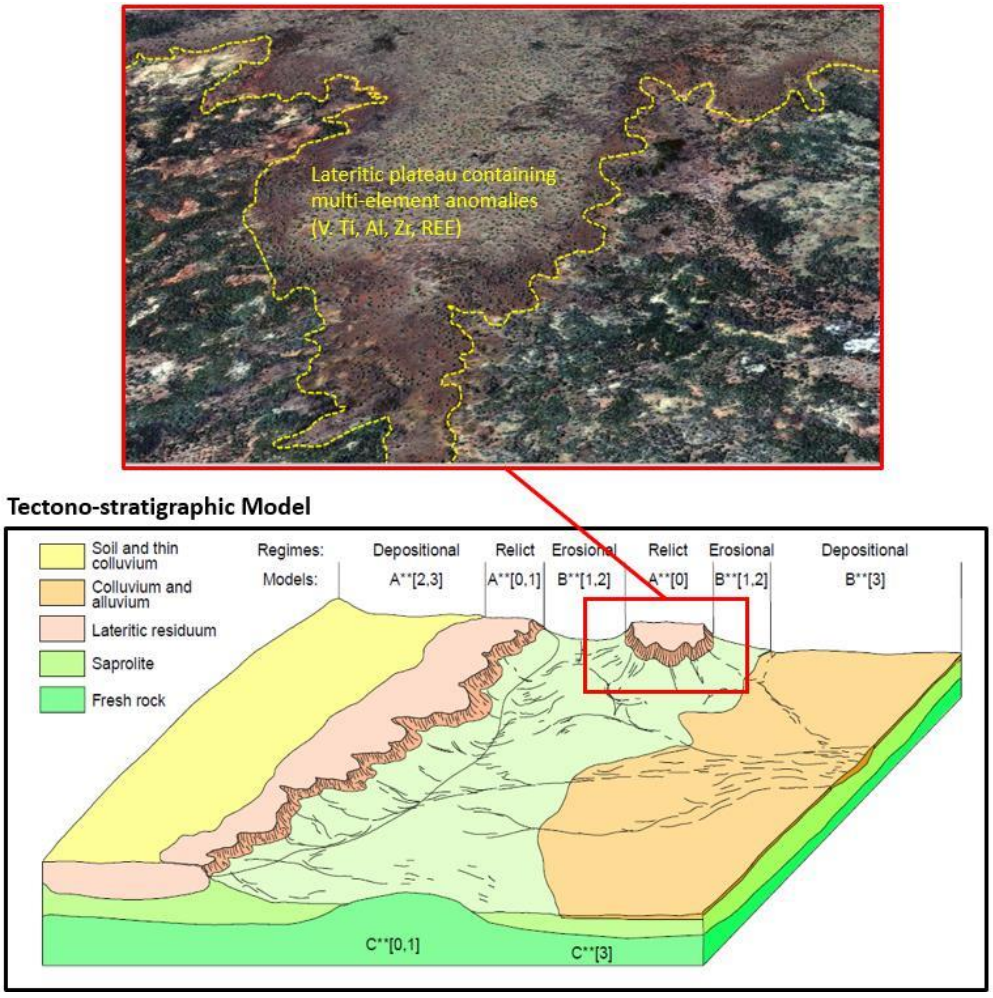

Figure 5 - Interpreted Regolith-landform Model of the Project Area

7 Exploration History

Historically, the Daly Waters geological map, published in 1969, noted iridescent stains in laterite leading to erroneous reports of copper mineralization in the area (Brown, 1969). It was believed that the iridescent stains resembled bornite mineralisation, however, geochemical analysis had shown low copper content throughout the laterite. The laterite has since been used for road construction material where numerous roadside quarries are present.

Other commodities of interest within the vicinity was explore by R W A Crowe in search for Coober Pedy style opals, Stockdale Prospecting Ltd and Aberfoyle Exploration Pty Ltd in search for diamonds and C.R.A. Pty Ltd in search for gold mineralisation.

8 Geological Activities and Office Studies

This year's geological activities included a continuation to the previous year's reconnaissance drilling program, a consulting geologist field trip and bulk sampling of the kaolinite clay.

8.1 RAB Reconnaissance Drilling

The reconnaissance drilling program was set out as an initial sweep to assess the thickness and grade of the mineralised duricrust with both Vanadium and Titanium as the commodity of interest. A total of 9 Rotary Air Blast (RAB) holes (240m) were drilled within EL 31971 and EL 31967 authorised under MMP 1049-01. GPS marked drilling locations is shown in Figure 6 as well as coordinates and depths shown in Table 1 below. Drill cuttings were sampled every metre totalling to 240 samples that were then transferred to Perth for geochemical analysis. The geochemical analysis used the same method as the previous years (48 element four acid ICP-MS) and is attached in Appendix 1.

The drilling program used a trailer mounted RAB drilling rig attached to a custom sample extractor that was piped into a cyclone to maximise sample recovery. The recovered sample was then split using a sample splitter to reduce the sample down to 1-2kg representative samples for each metre collected. A duplicate sample was also collected and archived. A typical setup used throughout the program is shown below in Figure 7.

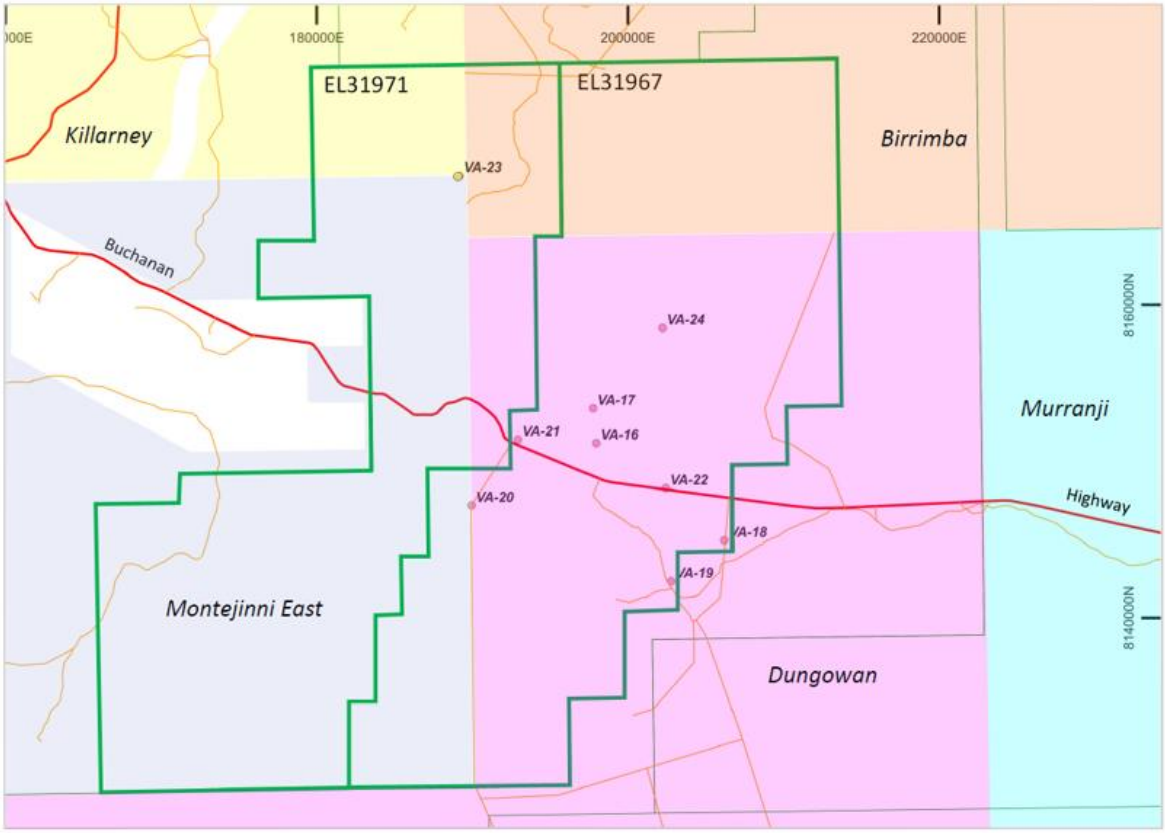

Figure 6 Drilling Program 2021

Table 1 Drill Program Coordinates

Hole Number	Elevation (m)	Depth (m)	Coordinates (GDA94/MGA Zone 53)	
			Easting (m)	Northing (m)
VA-16	226	39	197960.1	8151178
VA-17	238	37	197751.5	8153387
VA-18	274	27	206214.6	8144904
VA-19	265	28	202876.6	8142265
VA-20	280	21	189922.2	8147164
VA-21	285	35	192922	8151317
VA-22	298	22	202429.9	8148394
VA-23	255	20	189194.8	8168229
VA-24	300	11	202234.5	8158461

Figure 7 RAB Drilling Set up at VA-18 (drilling location utilised existing clearing)

8.2 Data Interpretation

Similar to the previous year, the results showed an expected deeply weathered profile similar to a generalised laterite profile shown by Nahon 2018 (Nahon, 1986). Depending on the location the duricrust ranged from 1 to 5m in thickness rich in both Fe and Al hydroxides. Drill depths did not observe saprolite or any signs of parent rock indicating that the lateritic weathered profile exceeds depths much greater than 50m.

Similar to the previous year, Vanadium grades were reported low which did not reflect the high anomalous grades of Vanadium that were reported in the initial rock chip sampling. This could be an indication that the duricrust material that are rich in Iron oxides, Vanadium and Titanium are disseminated throughout the laterite profile and not concentrated at the surface. For example, VA-20 reported over 0.13% Vanadium Pentoxide (V_2O_5) at 11m depth and again at 20m depth. VA-18 was the only location that reported a high grade at the surface resulting in 0.17% V_2O_5. Future exploration activities should focus on searching for the duricrust host to improve the in situ V_2O_5 grade.

Titanium is consistent throughout the samples averaging between 0.6 to 1.0% with the highest reaching 1.3% in TiO_2 in VA-17 at 11m depth. Similar to the previous year, the higher reported Titanium grades occur atop the pallid zone. Based on the previous thin section analyses, the higher titanium grades are most likely from the disseminated Rutile and/or ilmenite.

An anomalous grade of Yttrium was intersected at VA-23 at a depth of 19m reporting at almost 800ppm Yttrium Oxide (Y_2O_3). Hole VA-23 was then submitted for re-analysis to confirm the anomaly and cover the full suite of Rare Earth Elements (REE) where the geochemical analysis is attached in Appendix 2. The re-analysis confirmed the anomaly resulting in a slightly higher reading as shown below in Table 2. Based on the REE results, VA-23-19 resulted in 0.14% Rare Earth Oxides (REO) and Y_2O_3. A summary of the REOs and Y_2O_3 have been tabulated below in Table 3. Further exploration work needs to follow up diamond drilling to determine what mineral is hosting the REOs.

Table 2 REE Anomaly at VA-23-19

Hole No.	Y_2O_3 (ppm)
VA-23-19	797
VA-23-19 (Re-Test)	851

Table 3 REO + Y_2O_3 at VA-23-19

Rare Earth Oxides (ppm)			
Ce_2O_3	82	Lu_2O_3	9
Dy_2O_3	137	Nd_2O_3	68
Er_2O_3	75	Pr_2O_3	11
Eu_2O_3	14	Sm_2O_3	28
Gd_2O_3	105	Tb_2O_3	22
Ho_2O_3	26	Tm_2O_3	10
La_2O_3	39	Yb_2O_3	61
Sc_2O_3	28	Y_2O_3	851
		REO + Y_2O_3 (%)	**0.14%**

8.3 Consulting Geologist and Bulk Sampling

Consulting Geologist, Geffery Eupene from Eupene Exploration Enterprises Pty Ltd visited the tenure, primarily in EL 31971, in September 2021 to visually inspect the Aladdin Project. Geoff's observations and data review is still being compiled and has been carried forward to operation year 4. A 1 tonne bulk sampling of Kaolin had also been recovered from EL31971 to investigate the viability to separating disseminated Rutile from the clay material. Photos of the surficial sample and location is shown below in Figure 8 and Figure 9, respectively.

Figure 8 Kaolin Bulk Sample

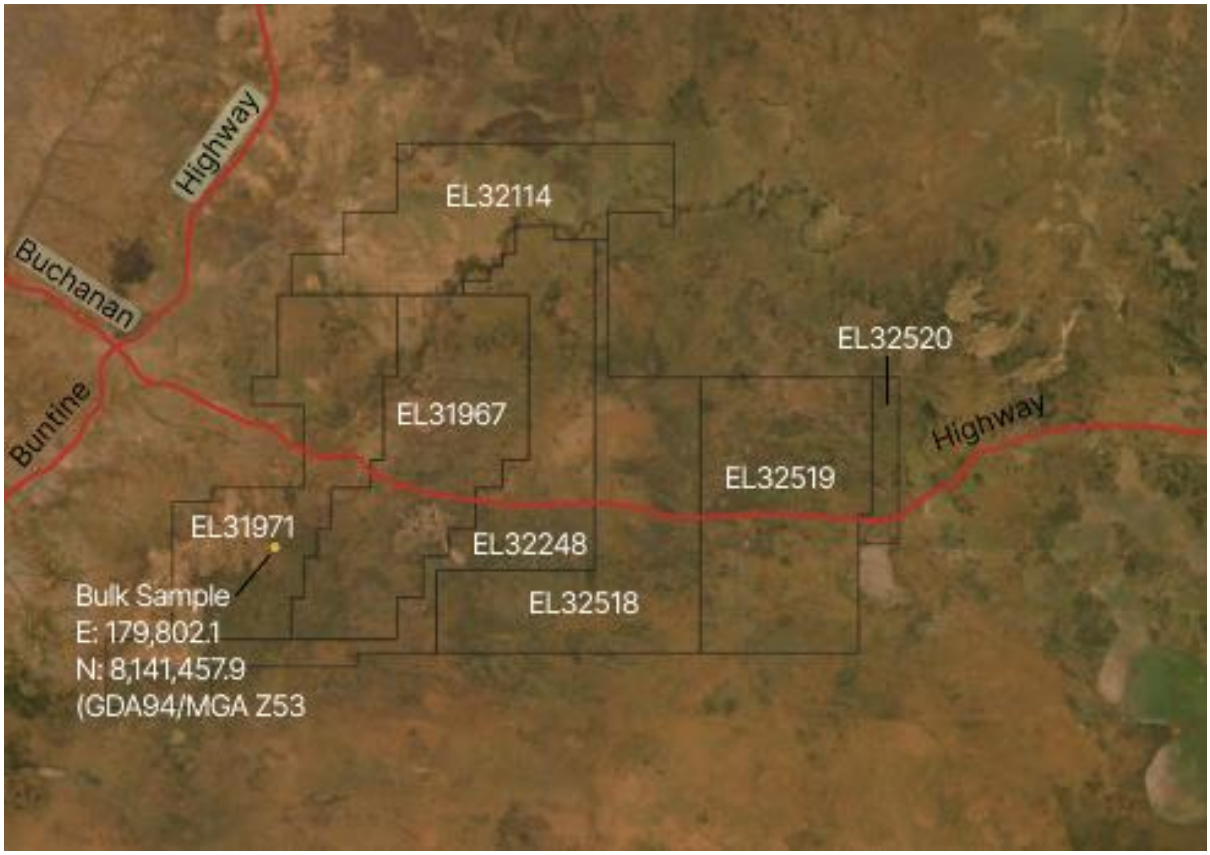

Figure 9 Kaolin Bulk Sample Location

9 Summary

The reconnaissance RAB drilling program resulted in a lower-than-expected Vanadium and Titanium grade in comparison to the initial rock chip sampling. The mineralised duricrust was observed to be disseminated throughout the deeply weathered profile rather than concentrated at the surface. Further exploration work is required to determine where the duricrust came from to define an economic grade of Vanadium and Titanium. An anomalous grade of Yttrium was reported at VA-23-19 resulting in 797 Y_2O_3 where reanalysis confirmed the anomaly at 797 Y_2O_3 with a REO + Y_2O_3 reported at 0.14%. The Total REOs is relatively low, however, the anomaly is high enough to justify follow up diamond drilling to determine what is hosting the anomaly.

10 References

Brown, M. (1969). *Daly Waters, Northern Territory: explanatory notes*.

Nahon, D. (1986). Evolution of iron crusts in tropical landscapes. *Rates of Chemical Weathering of Rocks and Minerals*.

11 Appendix 1 – RAB Drilling 2021 Geochemical Assays

12 Appendix 2 – VA-23 Reanalysis