

TECHNICAL REPORT AND MAIDEN MINERAL RESOURCE ESTIMATE, NORTH QUEENSLAND VANADIUM PROJECT, QUEENSLAND, AUSTRALIA



Prepared For: Currie Rose Resources Inc.
2704-401 Bay Street
Toronto, Ontario, Canada
M5H 2Y4



Prepared by: APEX Geoscience Ltd.
100-11450 - 160 ST NW
Edmonton AB T5M 3Y7
Canada



Michael Dufresne, M.Sc., P.Geol., P.Geo.
Steven Nicholls, BA.Sc., M. AIG.
D. Roy Eccles, M.Sc., P.Geol.

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1 Summary

1.1 Issuer and Purpose

This Technical Report (the “Technical Report”) has been prepared for the Issuer, Currie Rose Resources Inc. (“Currie Rose” or the “Company”). Currie Rose is a publicly listed Toronto-based mineral exploration company exploring for precious metals and battery metals in Canada (British Columbia and Ontario) and Queensland, Australia.

The focus of this Technical Report is on the North Queensland Vanadium Property (“NQVP” or the “Property”) situated in northwest Queensland, Australia. In October 2021, Currie Rose entered into a purchase agreement with Liontown Resources Ltd. (“Liontown”) and CGM Vanadium Pty Ltd. to acquire a 100% ownership of the seven exploration permits that comprise the NQVP. The acquisition agreement is subject to a 2% Net Gross Revenue Royalty, 50% of the Royalty can be purchased by Currie Rose by making a payment of AUD \$1,000,000, in cash. Currie Rose announced the completion of the acquisition in August, 2022.

This Technical Report summarizes a National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) maiden mineral resource estimation (MRE) for the Property and provides a technical summary of the relevant location, tenure, historical and geological information, a summary of recent metallurgical work completed on behalf the Issuer and recommendations for future exploration programs. This Technical Report summarizes the technical information available up to the effective date of November 1, 2022.

This Technical Report has been prepared in accordance with the Canadian Securities Administration’s (CSA’s) NI 43-101 and guidelines for technical reporting Canadian Institute of Mining, Metallurgy and Petroleum (CIM) “Best Practices and Reporting Guidelines” for disclosing mineral exploration. The mineral resource has been estimated using the CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines”, dated November 29, 2019, and the CIM “Definition Standards for Mineral Resources and Mineral Reserves”, amended and adopted May 10, 2014.

1.2 Authors and Site Inspection

This Technical Report was prepared by Mr. Michael Dufresne M.Sc., P.Geol., P.Geo., Mr. Steven Nicholls, BA Sc, M.AIG and Mr. Roy Eccles, M.Sc., P.Geol. of APEX Geoscience Ltd (“APEX”). The authors are all independent geological consultants and Qualified Persons (“QPs”), with extensive experience exploring for precious and base metals deposits and industrial minerals in Canada, Australia and internationally. The QP’s have extensive experience with Cretaceous shale hosted metal deposits (including Vanadium) in the Western Canadian Sedimentary Basin as well as other sedimentary hosted mineral deposits in Australia and around the world.

Mr. Tyler Acorn, M.Sc. of APEX is a contributor to this Technical Report. Under the direct supervision of Mr. Dufresne and Mr. Nicholls, Mr. Acorn prepared the resource estimation statistical analysis, three-dimensional modelling, block modelling and resource estimations presented in Section 14. Mr. Nicholls compiled the mineralized domains for the MRE. Mr. Dufresne and Mr. Nicholls performed an internal audit of the MRE and are responsible for the completion of the MRE presented in Section 14 of this Technical Report.

A site visit was conducted by Mr. Nicholls on November 2nd and 3rd, 2021. During the 2021 visit, Mr. Nicholls collected 6 samples on the Property and verified the reported exploration activities where possible. The geochemical results confirmed the presence of anomalous vanadium and molybdenum in Cretaceous shale-siltstone on the Cambridge and Silver Hill Exploration Licences 26494 and 26492.

1.3 Property Location, Description and Access

The Property is located in northwest Queensland, Australia, along the Flinders Highway between Julia Creek and Richmond. The Property is situated approximately 500 kilometres (km) southwest of the port city of Townsville.

The Property comprises seven partially contiguous to non-contiguous Exploration Permits for Minerals (EPM) which are composed of 389 subblocks covering approximately 1,250 km². The Exploration Permits lie along a northwest-southeast trend of outcropping to subcropping Toolebuc Formation. EPM 26866 is contiguous with EPM 26495. EPM26491 is contiguous with EPM 26490, and EPM 26494 is contiguous with EPM 26492. EPM 26861 does not border any of the other permits in the Property.

The NQVP can be accessed via the Richmond-Woolgar sealed road through tenements EPM 26492 and EPM 26494 and then via unsealed roads and station tracks to the remainder of the tenement holding. Cyclonic rain events and/or extreme heat may temporarily limit access with respect to geological fieldwork activities between November and March each year but are not considered to be significant issues. Exploration and mining activities are expected to run year-round.

1.4 Geology and Mineralization

The Property lies within the Mesozoic Eromanga Basin. The Property area is largely underlain by sediments of the Lower Cretaceous Rolling Downs Group which includes the Toolebuc Formation. The Toolebuc Formation is the main host of the vanadium mineralization in the area. The Toolebuc Formation is a flat-lying, laterally extensive sedimentary unit that consists of black carbonaceous and bituminous shale, minor siltstone with limestone lenses and coquinites.

In the Property area, the Toolebuc Formation is draped over an interpreted basement high and has been structurally uplifted bringing it closer to the surface. Weathering of the Toolebuc Formation removed organic components resulting in residual enrichment of

trace metals including vanadium in the weathered portions of the formation. Through the weathering processes the vanadium became predominantly associated with iron oxide/hydroxide phases (Lewis et al., 2010). The mineralized portions of the Toolebuc Formation range from 1 to 17 metres (m) in thickness, with an average thickness of 9 m, and are found at surface or at shallow depths (1 to 22 m below surface) underlying the Allaru Mudstone or recent overburden. Vanadium mineralization in the area has been documented to extend for several kilometers along strike, as observed at the Lilyvale Deposit adjacent to the NQVP and the Cambridge Deposit on the NQVP.

1.5 Exploration History

Extensive mineral exploration has been completed in the Richmond-Julia Creek area from around 1967 to the present day. Exploration was focused largely on oil within the unoxidized kerogen rich oil shale and limestone layers of the Toolebuc Formation. However, exploration for vanadium within the oil shale has been sporadically ongoing since the late 1960's.

Significant historical drill programs that overlapped the NQVP Property and targeted the vanadium mineralization were completed by Pacminex Pty Ltd ("Pacminex") in 1973, Jacaranda Minerals in 2007, Intermin Resources/Horizon Minerals ("Intermin/Horizon") between 2006 and 2013, and Liontown and Chalice Gold Mines ("CGM Lithium") in 2019-2020. In total, 270 historical drillholes are located on the Property. The historical drilling largely targeted the oil shale and vanadium mineralization hosted in the Toolebuc Formation.

Historical drilling from the 1970's and early 2000's completed by Pacminex and Jacaranda Minerals, respectively, intersected shallow (<5 m deep), widespread vanadium mineralization (>0.25% vanadium pentoxide (V_2O_5)) in the Silver Hills area on EPM 26492. The Silver Hills area includes the outcropping Toolebuc Formation and is located 10-30 km east – southeast of the Cambridge prospect.

Intermin/Horizon completed extensive drilling and exploration across a large land package partially overlapping the NQVP from 2006 up to present day. Intermin completed over 11,000 m of drilling across their land package to delineate the vanadium mineralization in the area. A total of 63 holes, totaling 1,442 m, from the Intermin drill programs are located within the NQVP. Intermin delineated the Lilyvale Deposit adjacent to the west of NQVP tenement EPM 26494 and identified the Cambridge Deposit adjacent to the Lilyvale Deposit. The Cambridge Deposit lies within the current NQVP Property. Drilling at the Runnymede area, currently on NQVP EPM 26490 defined the presence of shallow, vanadium mineralization over a 3.5 by 3.5 km area. The Runnymede prospect is located 25-30 km northwest of the Cambridge Deposit. Significant intersections from drilling in this area include 9 m with an average grade of 0.37% V_2O_5 in hole JRC07282, 8 m grading at 0.41% V_2O_5 in hole JRC07292 and 9 m grading 0.36% V_2O_5 in hole JRC07293.

In 2018, Liantown commissioned Optiro Pty Ltd. (“Optiro”) to calculate a MRE for the Cambridge Deposit (the “Optiro MRE”) which is located on EPM 26494. The Optiro MRE was calculated and reported in accordance with the Joint Ore Reserves Committee (JORC) 2012 guidelines. The Cambridge Deposit is located adjacent to and immediately east of the Lilyvale Deposit owned by Horizon Minerals. The Cambridge Deposit has been delineated over an area of 5 by 3 km. The mineralization is hosted in the Toolebuc Formation which extends from 1 to 22 m below surface (average 10 m) and ranges in thickness from 1 m to 17 m, with an average thickness of 9 m. The Optiro MRE for the Cambridge Deposit was calculated based on 35 vertical aircore holes totaling 832 m that were drilled by Intermin/Horizon in 2008. The Optiro Cambridge inferred MRE contains 83.7 million tonnes with a V_2O_5 average grade of 0.30% and a molybdenum trioxide (MoO_3) average grade of 188 parts per million (ppm). The resource was calculated in accordance with the JORC Code 2012 and was reported above a cut-off grade of 0.25% V_2O_5 . There are no material differences between the definitions of Mineral Resources under the applicable definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (the “CIM Definition Standards”) and the corresponding equivalent definitions in the JORC Code 2012 for Mineral Resources. Mr. Dufresne and Mr. Nicholls have reviewed the resource and the underlying data and conclude the Optiro MRE was completed to current CIM standards. However, the Optiro MRE is now considered historical in nature as the additional drilling completed by Liantown in 2019 was not included in the 2018 Optiro MRE and the MRE was not constructed on behalf of Currie Rose. A current MRE for the Cambridge Deposit is detailed in Section 14 of this Technical Report.

In 2019, Liantown completed a confirmation drill program over the Cambridge Deposit including 30 holes totaling 745 m. A total of seven holes twinned historical Intermin drillholes, assay results showed a good correlation with similar widths and grades of mineralization intersected. Drilling to the north of the Optiro MRE intersected additional mineralization averaging ~7 m in thickness and 0.38% V_2O_5 over a 3.7 km² area. Mr. Dufresne and Mr. Nicholls confirm that the quality of the 2019 drill program was sufficient to prepare a maiden MRE for the Cambridge Deposit.

In 2020, CGM Lithium completed a 13-hole aircore (AC) drill program totaling 378 m on EPM 26866 (Flinders River). Drilling outlined the coquina horizon within the Toolebuc Formation that contains anomalous vanadium mineralization. Hole DEAC002 returned the highest assay at 0.42% V_2O_5 over 5 m from within the Toolebuc coquina unit. Mineralization remains open to the east and west of the drilling grid. The highest prospectivity is interpreted to be east of the completed drilling along strike of the uranium radiometric anomaly. Radiometric data, historical mapping and darker soils identified from aerial photo imagery indicate that the area southeast of the completed drilling has strong potential to host similarly mineralized zones within the Toolebuc Formation.

1.6 Current Mineral Resource

This Technical Report details a current maiden MRE for the Cambridge Deposit of the NQVP. The 2022 MRE for the Cambridge Deposit was completed by Mr. Tyler Acorn,

M.Sc. of APEX under the direct supervision of Mr. Dufresne, M.Sc., P.Geol., P.Geo., QP, and Mr. Steven Nicholls, BA.Sc., MAIG, QP, who take responsibility for the MRE contained herein. The Cambridge Deposit MRE is an update to Liontown's historical 2018 MRE, incorporating data from Liontown's 2019 RC drill program.

Modelling was conducted in the Map Grid of Australia (MGA) coordinate space relative to the Geocentric Datum of Australia (GDA) 2020, and MGA zone 54 (EPSG:7854). The mineral resource block model utilized a block size of 100 m (X) x 50 m (Y) x 2 m (Z) to honour the mineralization wireframes. The percentage of the volume of each block below the bare earth surface and within the mineralization domain was calculated using the three dimensional (3D) geological models and a 3D surface model.

The Cambridge Deposit drillhole database consists of 58 drillholes that intersect the interpreted mineralization wireframe. The V_2O_5 and MoO_3 assays were composited to 1 m composite lengths, and the estimation utilized 575 composited samples. All intervals within the interpreted wireframe were visually checked to ensure the flagging process was completed correctly.

The MRE is based on the combination of geological modelling, geostatistics and conventional block modelling using the Ordinary Kriging (OK) method of grade interpolation with locally varying anisotropy variogram models.

For grade estimation, 1 m composites were used to create the interpreted mineralization boundaries. A lower cut-off grade of 0.12% V_2O_5 was used to define the domain outline. This lower cut-off was chosen as a natural inflection in the V_2O_5 assay population. A single mineralized domain was defined. Block tonnes were estimated using a density of 1.8 g/cm³ for mineralized material.

The V_2O_5 and MoO_3 grade estimations were completed independently of each other and were completed using OK. The search ellipsoid size used to estimate the V_2O_5 and MoO_3 grades was informed by the modelled variograms for each variable. Block grade estimation employed locally varying anisotropy, which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis.

Blocks within estimation domains are assigned rotation angles using a modelled 3D mineralization trend surface wireframe. The estimation was performed using three estimation passes whereby each successive pass utilized a less restrictive sample search strategy for block estimation.

The search radii for the first estimation pass equals half of the variogram ranges. The second pass increases the search distance to the variogram range. The third pass further expanded the search distances up to twice the variogram range. Over 95% of the blocks were estimated within the first two estimation passes.

The maiden MRE is classified according to the CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” dated November 29, 2019, and CIM “Definition Standards for Mineral Resources and Mineral Reserves” dated May 10, 2014.

The maiden MRE for the NQVP is presented in Table 1.1 below.

Table 1.1. Mineral Resource Estimate for the Cambridge Deposit at 0.25% Vanadium cut-off grade.

Cut-Off V ₂ O ₅ (%)	Classification	Tonnes (Mt)	V ₂ O ₅ (t)	V ₂ O ₅ (%)	MoO ₃ (t)	MoO ₃ (ppm)
0.25	Indicated	61.33	210,300	0.34	14,600	234.6
	Inferred	144.87	483,400	0.33	35,500	241.9

*Notes:

1. Mineral resource estimates are reported at a cut-off grade of 0.25% V₂O₅
2. The unconstrained resource block model was estimated using ordinary kriging utilizing blocks at 100m(X) x 50m(Y) x 2m(Z) and was subject to several open pit optimization scenarios utilizing several V₂O₅ prices, mining cost scenarios and recovery factors typical of Vanadium mining operations and advanced projects in Australia. The Cambridge Deposit final MRE conceptual pit shell utilized a V₂O₅ price of US\$ 7.5/lb, Mining cost of AU\$2.86/tonne, Processing and G&A cost of AU\$7.86/tonne, V₂O₅ total recovery of 85%, pit slopes of 35° and an AU\$ to US\$ exchange rate of 0.70. Mr. Dufresne considers the pit parameters to be appropriate to evaluate the reasonable prospect for potential future economic extraction at the NQVP for the purpose of providing a MRE.
3. Indicated and Inferred Mineral Resources are not Mineral Reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. There has been insufficient exploration to define the inferred resources tabulated above as an indicated or measured mineral resource, however, it is reasonably expected that the majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. There is no guarantee that any part of the mineral resources discussed herein will be converted into a mineral reserve in the future.
4. The mineral resources have been classified according to the Canadian Institute of Mining (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May, 2014).and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (2019).
5. Differences may occur in totals due to rounding
6. Mr. Mike Dufresne, P.Geol., P.Geo. and Mr. Steven Nicholls, M.AIG of APEX Geoscience Ltd., who are deemed as qualified persons as defined by NI 43-101 are responsible for the completion of the updated mineral resource estimation.
7. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
8. This mineral resource estimate is dated November 1, 2022.

1.7 Conclusions and Recommendations

Based upon a review of available information, historical exploration data, Mr. Nicholls’ site visit and the maiden MRE for the Cambridge Deposit of the NQVP, the authors view the Property as a property of merit prospective for the discovery of additional vanadium mineralization.

The Property lies within the Mt Isa to Townsville Economic Development Zone (MITEZ) corridor. The MITEZ corridor has been identified as an area of economic interest and has received significant infrastructure funding from the Queensland and Australian government to encourage the development of critical minerals including vanadium, other commodities and industry in the region. In 2021, the Queensland Government announced

an initial AUD \$10 million investment to support development of a common user facility to process vanadium domestically at Townsville.

The Property is hosted in a favourable geological setting. Historical exploration has identified wide-spread vanadium mineralization hosted in the Toolebuc Formation across the NQVP. The Toolebuc Formation either outcrops or is found at shallow depths based upon historical drilling between 1 to 22 m below surface over large areas of the Property.

Recent drilling by Liontown in 2019 validated historical drill data and confirmed the presence of significant vanadium mineralization within the Property. The results of the drill program were used to calculate a maiden MRE for the Cambridge Deposit of the NQVP.

Additional areas with historical drilling that require follow up work include the Flinders River area on EPM 26866 where recent drilling has identified an area of extensive vanadium mineralization that is open in the east-west direction. Follow-up exploratory and confirmation drilling should be completed leading to an initial MRE if warranted. Historical drilling in the Runnymede area (EPM 26490) defined the presence of shallow, vanadium mineralization over a 3.5 by 3.5 km area that warrants follow up drilling. High priority drill targets have been identified in the Silver Hills area (EPM 26492) that are based on the results of the reviewed historical drilling and recent rock chip sampling. Additionally, large areas of the Property remain unexplored where the outcropping Toolebuc Formation has not yet been assessed for vanadium mineralization. Reconnaissance exploration to assess these areas is recommended.

The authors recommend a comprehensive exploration program for NQVP involving surface exploration, exploration drilling, resource expansion and infill drilling, advanced metallurgical testwork and processing studies. A staged follow-up exploration program is recommended for the NQVP.

Phase 1 should include detailed metallurgical testwork on the remaining Cambridge Deposit samples from the Liontown drilling. The samples have been stored in a secure location since they were acquired. Testwork should include re-assaying of individual samples, assaying for a wide range of untested elements, followed by sizing characterization. Additionally, sample composites from the historical drilling should be compiled for concentration tests, floatation tests and metallurgical balance determination along with preliminary recoveries (yield).

With respect to surface exploration, Phase 1 should include an infill diamond drill program of six NQ-sized holes, totalling 250 m, at the Cambridge Deposit with downhole gamma geophysics to verify the historical drill results, deposit mineralization and potentially expand the deposit model and associated mineral resource estimation. Infill, validation and exploration aircore drilling should be completed at the Flinders River prospect and the Runnymede area, potentially leading to the calculation of a maiden MRE for the Flinders River area (to be completed in Phase 2). The drill program will provide additional material for first pass metallurgical test work and whole rock analysis for

mineralogy studies. The estimated cost for the Phase 1 program is AUD \$410,000, not including contingency.

Phase 2 exploration is dependent on the results of Phase 1 and should include regional fieldwork comprising geological mapping and prospecting to delineate and assess outcropping Toolebuc Formation within the Property, assist in drill target delineation and expand and fill in gaps in the existing database. Phase 2 should include additional AC drilling, the calculation of an MRE for the Flinders River prospect, as well as more advanced metallurgical testwork and processing studies. Phase 2 drilling is estimated to encompass 50 AC holes for a total of 2,500 m. The costs for both Phase 1 and Phase 2 are estimated at approximately AUD \$944,900.00 (CAD ~\$873,650.00).

2 Introduction

2.1 Issuer and Purpose

This Technical Report (the “Technical Report”) has been prepared on behalf of the Issuer, Currie Rose Resources Inc. (“Currie Rose” or the “Company”) by APEX Geoscience Ltd. (“APEX”). Currie Rose is a publicly listed (TSXV: CUI) Toronto-based mineral exploration company exploring for precious metals and battery metals in Canada (British Columbia and Ontario) and Queensland, Australia.

The focus of this Technical Report is on the North Queensland Vanadium Property (“NQVP” or the “Property”) situated in northwest Queensland, Australia. In October 2021, Currie Rose entered into a purchase agreement with Liontown Resources Ltd. (“Liontown”) and CGM Vanadium Pty Ltd. to acquire a 100% ownership of the seven exploration permits that comprise the NQVP. The acquisition agreement is subject to a 2% Net Gross Revenue Royalty, 50% of the Royalty can be purchased by Currie Rose by making a payment of AUD \$1,000,000, in cash. Currie Rose announced the completion of the acquisition in August, 2022.

The NQVP is an early-stage exploration project within a favourable geological setting. The Property is located in northwest Queensland, Australia, along the Flinders Highway between Julia Creek and Richmond (Figure 2.1). The Property is situated approximately 500 kilometres (km) southwest of the port city of Townsville and comprises seven Exploration Permit for Minerals (EPM) covering an area of approximately 1,250 km² (125,009 hectares (ha)).

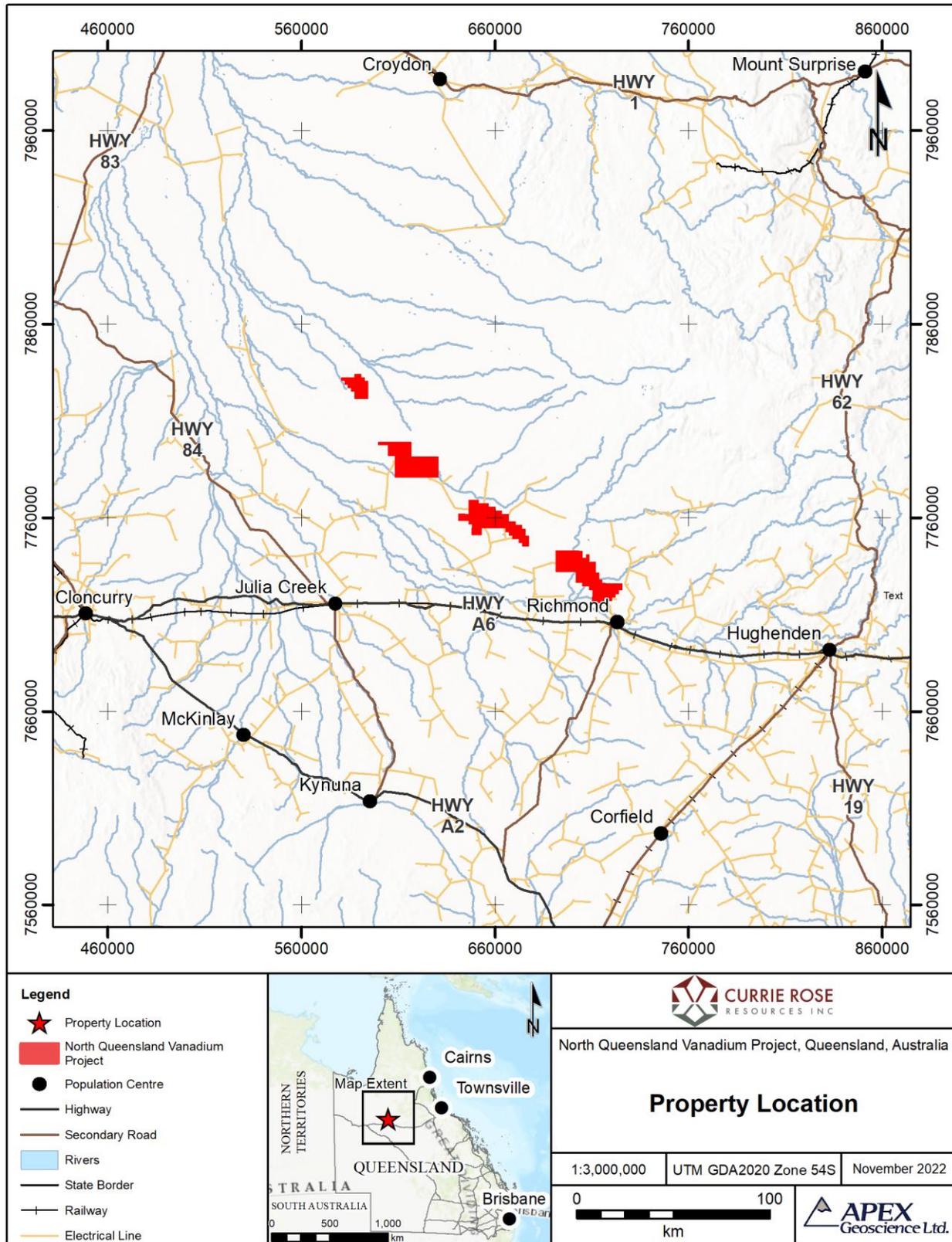
This Technical Report summarizes a National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101) maiden mineral resource estimation (MRE) for the Property and provides a technical summary of the relevant location, tenure, historical and geological information, a summary of recent metallurgical work completed on behalf the Issuer and recommendations for future exploration programs. This Technical Report summarizes the technical information available up to the effective date of November 1, 2022.

This Technical Report has been prepared in accordance with the Canadian Securities Administration’s (CSA’s) NI 43-101 and guidelines for technical reporting Canadian Institute of Mining, Metallurgy and Petroleum (CIM) “Best Practices and Reporting Guidelines” for disclosing mineral exploration. The mineral resource has been estimated using the CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines”, dated November 29, 2019, and the CIM “Definition Standards for Mineral Resources and Mineral Reserves”, amended and adopted May 10, 2014.

2.2 Authors and Site Inspection

This Technical Report was prepared by Mr. Michael Dufresne M.Sc., P.Geol., P.Geo., Mr. Steven Nicholls, BA Sc, M.AIG and Mr. Roy Eccles, M.Sc., P.Geol. of APEX. The

Figure 2.1. General location of the North Queensland Vanadium Property.



authors are all independent geological consultants and Qualified Persons (“QPs”) as defined in NI 43-101. The CIM defines a QP as “an individual who is a geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association.” The authors have extensive experience exploring for precious and base metals deposits and industrial minerals in Canada, Australia and internationally, including Cretaceous shale hosted metal deposits (including Vanadium) in the Western Canadian Sedimentary Basin as well as other sedimentary hosted mineral deposits in Australia and around the world.

Mr. Dufresne takes responsibility for the preparation and publication of Sections 9 to 11, 13, 27, and joint responsibility of sections 1, 14, 25 and 26 of this Technical Report. Mr. Dufresne is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of British Columbia (EGBC), has worked as a mineral exploration geologist for more than 35 years since his graduation from university and has been involved in all aspects and stages of mineral exploration, including mineral resource estimation, in North America and internationally for precious and base metal deposits.

Mr. Nicholls takes responsibility for sections 2 to 5, 12, 23 and 24, and joint responsibility of sections 1, 14, 25, and 26. Mr. Nicholls is a Member of the Australian Institute of Geoscientists (M.AIG), has worked as a mineral exploration geologist for more than 24 years since his graduation from university and has been involved in most facets of the mineral exploration and mining industry, including mineral resource estimation, for precious and base metals, along with various industrial minerals.

Mr. Eccles takes responsibility for sections 6 to 8, with joint responsibility for sections 1, 25 and 26. Mr. Eccles is a Professional Geologist with APEGA and has worked as a mineral exploration geologist for more than 30 years since his graduation from university and has been involved in all aspects and stages of mineral exploration in North America and internationally for metallic, industrial, and specialty mineral projects and deposits.

Mr. Tyler Acorn, M.Sc. of APEX is a contributor to this Technical Report. Under the direct supervision of Mr. Dufresne and Mr. Nicholls, Mr. Acorn prepared the resource estimation statistical analysis, three-dimensional modelling, block modelling and resource estimations presented in Section 14. Mr. Nicholls compiled the mineralized domains for the MRE. Mr. Dufresne and Mr. Nicholls performed an internal audit of the MRE and are responsible for the completion of the MRE presented in Section 14 of this Technical Report.

A site visit was conducted by Mr. Nicholls on November 2nd and 3rd, 2021. During the 2021 visit, Mr. Nicholls collected 6 samples on the Property and verified the reported exploration activities where possible.

2.3 Sources of Information

This Technical Report is a compilation of propriety and public information, as listed in the reference section, and relies heavily on reports provided by the Currie Rose and annual and relinquishment reports submitted to the Queensland Government, including:

- A project summary report compiled by Currie Rose in October 2021 (Currie Rose, 2021a).
- Historical reports from previous exploration programs accessible on the Queensland Government website (<https://geoscience.data.qld.gov.au>).
- Press releases from Currie Rose (Currie Rose, 2021b; 2022), Liontown Resources Ltd. (Liontown Resources, 2020) and the Queensland Government (Queensland Government, 2019; 2020a; b; 2021a; b).

The authors of this Technical Report have reviewed these sources and consider them to contain all the relevant geological and historical exploration information regarding the Property area. Based on the authors review of these documents and/or information, the authors have deemed that these reports and information, to the best of their knowledge, are valid contributions to this Technical Report, and therefore, take ownership of the ideas as they pertain to this Technical Report.

2.4 Units of Measure

With respect to units of measure, unless otherwise stated, this Technical Report uses:

- Abbreviated shorthand consistent with the International System of Units (International Bureau of Weights and Measures, 2006)
- 'Bulk' weight is presented in both United States short tons ("tons"; 2,000 lbs or 907.2 kg) and metric tonnes ("tonnes"; 1,000 kg or 2,204.6 lbs.)
- Geographic coordinates are projected in the Universal Transverse Mercator (UTM) system relative to Zone 54S of the Geodetic Datum of Australia (GDA) 2020 and converted from the Geocentric Datum of Australia (GDA) 1994
- Currency in Canadian dollars (CAD \$), unless otherwise specified (e.g., U.S. dollars, USD \$; Australian dollars, AUD \$)
- Counts per second (cps) for radiation measurements
- US gallon per short ton (gpt)
- Liters per metric tonne (l/t)

3 Reliance of Other Experts

This Technical Report was prepared by the authors for Currie Rose. The authors are not qualified to provide an opinion or comment on issues related to legal, political, environmental or tax matters relevant to the Technical Report, and have relied upon representatives and information from Currie Rose, and their legal counsel in respect thereof. In particular, the authors have relied upon:

- Background information and details regarding the nature and extent of Mineral Tenure (in Section 4.1) provided by Currie Rose. Title for NQVP was confirmed by independently reviewing the digital tenure records listed on the Queensland Government mining and mineral tenure website (<https://www.data.qld.gov.au/dataset/queensland-mining-and-exploration-tenure-series>). As of December 14, 2022, the authors confirmed that five (5) exploration permits (EPM) are owned by Liontown Resources Ltd. (100%), and two (2) exploration permits are owned by CGM Lithium Pty Ltd. (100%). Renewal applications were lodged for all tenements, with seven tenements active and good in good standing with expiry dates ranging from 10/15/2023 to 08/07/2027. EPM 26495 is listed as expired; however, a renewal has been lodged for this EPM and is expected to be granted for an additional year. The EPMs are owned 100% by the respective companies; and
- Details regarding acquisition agreements and royalties (in Section 4.3) were provided by Mike Griffiths of Currie Rose, on January 18, 2022, including:
 - Tenement Sale Agreement – Flinders River Project CGM Lithium Pty Ltd., Currie Rose Vanadium Pty Ltd., Currie Rose Resources Inc.
 - Tenement Sale Agreement – Toolebuc Project Liontown Resources Limited, Currie Rose Vanadium Pty Ltd., Currie Rose Resources Inc.

4 Property Description and Location

4.1 Description and Location

The North Queensland Vanadium Property (“NQVP”) is located in northwest Queensland, Australia, between the regional centers of Townsville and Mt. Isa. The Property comprises seven partially contiguous to non-contiguous Exploration Permits for Minerals (EPM) which are composed of 389 subblocks covering approximately 1,250 km².

As of December 14, 2022, the authors confirmed that five (5) exploration permits (EPM) are owned by Liontown Resources Ltd. (100%), and two (2) exploration permits are owned by CGM Lithium Pty Ltd. (100%) (Table 4.1). Renewal applications were lodged for all tenements, with seven tenements active and in good standing with expiry dates ranging from 10/15/2023 to 08/07/2027. EPM 26495 is listed as expired; however, a renewal has been lodged for this EPM and is expected to be granted for an additional year.

EPM 26866 is contiguous with EPM 26495. EPM26491 is contiguous with EPM 26490, and EPM 26494 is contiguous with EPM 26492. EPM 26861 does not border any of the other licences in the Project (Figure 4.1).

Upon full renewal, the tenements can be transferred to Currie Rose. Currie Rose has paid the fees for all transfers and the Stamp Duty of AUD \$44,000.

Table 4.1. Permit descriptions and status for Currie Rose’s North Queensland Vanadium Property.

LICENSE NO.	AREA (km ²)	REGISTERED HOLDER	GRANT DATE	EXPIRY DATE	SUB-BLOCKS
EPM 26490	163.82	LIONTOWN RESOURCES LTD	2017-07-13	2027-07-12	51
EPM 26491	199.21	LIONTOWN RESOURCES LTD	2017-08-08	2027-08-07	62
EPM 26492	218.05	LIONTOWN RESOURCES LTD	2017-07-13	2027-07-12	68
EPM 26494	205.35	LIONTOWN RESOURCES LTD	2017-07-13	2027-07-12	64
EPM 26495	250.98	LIONTOWN RESOURCES LTD	2017-10-06	2022-10-05*	78
EPM 26861	112.88	CGM LITHIUM PTY LTD	2018-10-16	2023-10-15	35
EPM 26866	99.80	CGM LITHIUM PTY LTD	2018-10-16	2023-10-15	31
TOTAL AREA	1250.09				

*A renewal has been lodged for License EPM 26495.

4.2 Royalties and Agreements

An arm’s length agreement between Currie Rose and CGM Lithium Pty Ltd. (“CGM Lithium”) a wholly owned subsidiary of Chalice Mining Limited, to acquire licences EPM 26861 and EPM 26866 (Flinders River Vanadium Project) from CGM Lithium was reached on October 27, 2021. According to the Tenement Sale Agreement (Flinders River Project and Currie Rose press release dated October 27, 2021), Currie Rose agreed to

issue the following in exchange for 100% ownership of the Flinders River Vanadium Project:

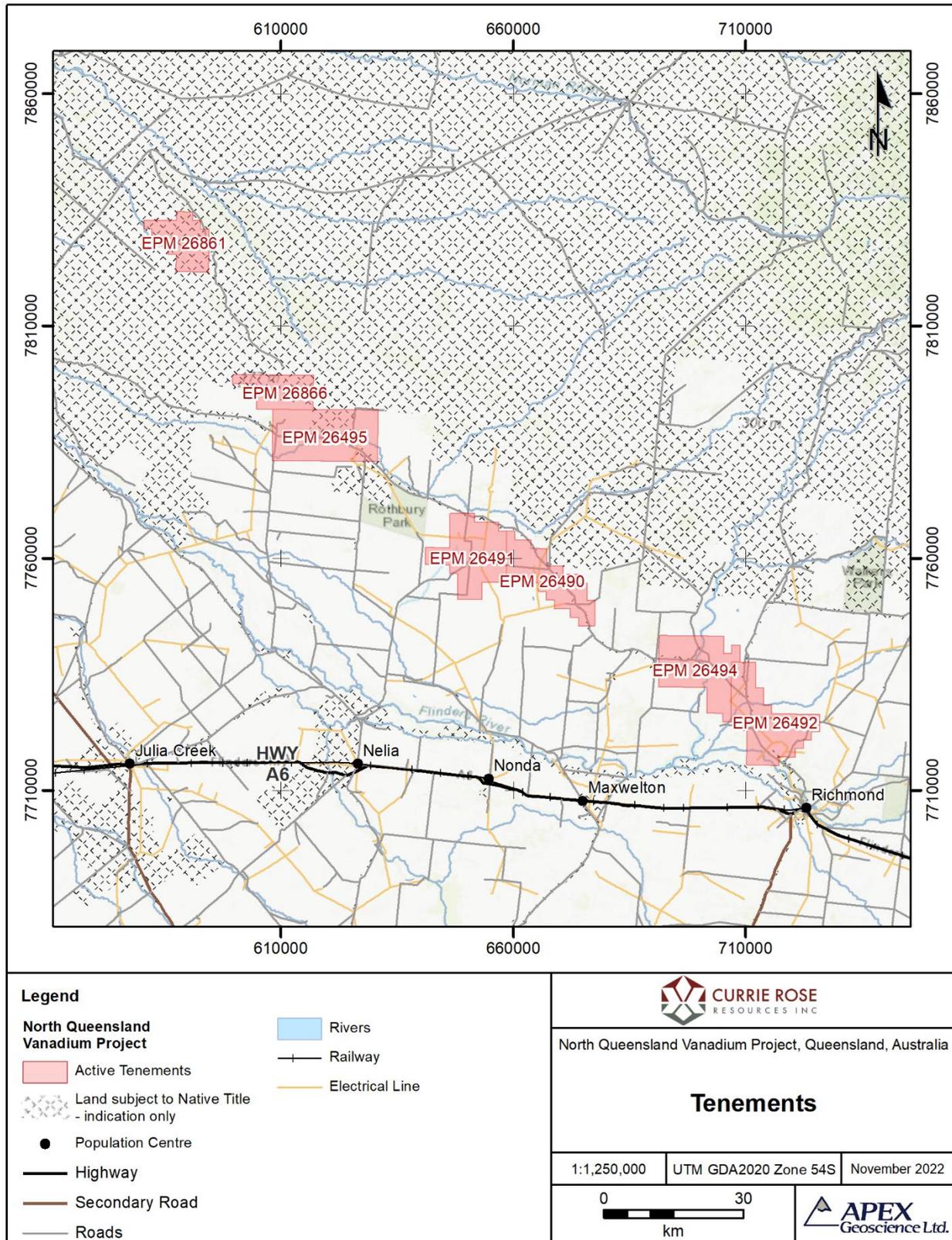
- Issue 12,500,000 ordinary shares at a deemed value of AUD \$475,000
- Issue 4,000,000 share purchase warrants at CDN \$0.10 with a 2-year expiry.
- Grant a 2% Net Gross Revenue Royalty with the Company holding the right to purchase 50% of the Royalty by making a payment to the Royalty Holder of \$1,000,000, in cash.

An arm's length agreement between Currie Rose and Liontown Resources Ltd. (Liontown), to acquire licences EPM 26490, EPM 26491, EPM 26492, EPM 26494, and EPM 26495 (Toolebuc Vanadium Project) from Liontown was reached on October 27, 2021. According to a press release from October 27, 2021, Currie Rose agreed to issue the following in exchange for 100% of the Toolebuc Vanadium Project:

- Issue 12,500,000 ordinary shares at a deem value of A\$475,000
- Issue 4,000,000 share purchase warrants at C\$0.10 with a 2-year expiry.
- Grant a 2% Net Gross Revenue Royalty with the Company holding the right to purchase 50% of the Royalty by making a payment to the Royalty Holder of \$1,000,000, in cash.

The acquisition and consolidation of the vanadium projects from Liontown and CGM Lithium comprise the Currie Rose North Queensland Vanadium Project. In August 2022, Currie Rose announced the completion of the acquisition (Currie Rose, 2022).

Figure 4.1. North Queensland Vanadium Property exploration permits.



4.3 Environmental Liabilities, Permitting and Significant Factors

The authors are not experts in land, legal, environmental, and permitting matters. This section is based on information provided by Currie Rose and available online. The authors present this information to fulfill reporting requirements of NI 43-101 and express no opinion regarding the mineral tenure, legal or environmental status of the NQVP. To the author's knowledge and based upon field observations during the Property visit, there are no significant environmental liabilities to which the Property is subject. The authors understand that Currie Rose has yet to perform any significant ground disturbance work and there appears to be no significant historical work which would result in any significant environmental liabilities on the Property.

In Queensland, all mineral resources are owned by the state and an exploration resource authority (EP) is required for individuals or companies to carry out exploration or mining activities. To acquire an EP, a work program must be submitted along with applications for Native title and an Environmental Authority (EA) if required. The scope of the work program varies dependant on the size and complexity of the proposed operations. Work program compliance can be assessed by the government at any time during the term of the EP and is a condition for the renewal of the property (Mineral and Coal Exploration Guideline, 2021).

To explore for minerals (excluding coal), an Exploration Permit for Minerals (EPM), must be acquired from the Queensland Government under the Mineral Resources Act 1989 (MRA) with a physical application form or online. To retain the property, an annual fee of \$167.70 AUD (plus GST) per sub block must be paid as rent to the Queensland Government. Individual EPMs must contain less than 100 sub blocks. According to the Natural Resources and Other Legislation Amendment Act 2019 (NROLA) passed in 2019 EPMs that have been granted after May 25, 2020 can be held for 15 years, on renewable 5 year terms. At the end of Year 5, a 50% reduction in the area of the tenement is required, at the end of Year 10, a further 50% reduction is required, and at the end of Year 15 the permit will expire. For EPMs that were granted prior to 25th May 2020, at the first renewal following this date, no reduction is required. At Year 5 following the first renewal date, a 50% reduction is required, and at Year 10 following the first renewal date, the permit will expire.

If a significant mineral occurrence of possible economic potential exists within an EPM, a Mineral Development Licence (MDL) may be granted by the Department of Natural Resources, Mines and Energy (DNRME) for a duration of up to 5 years. The transfer of an EMP to an MDL allows the holder to conduct further studies of a resource and to assess the development potential of a property and is an interim step between an EPM and a Mining Lease (ML). There is no size restriction on an MDL.

To conduct larger scale mining operations or to conduct activities associated with mining within an EPM or MDL, an ML is required. An ML is renewable, and the duration of an ML depends on identified reserves within the property and the projected mine life. The application process for an ML can be lengthy due to the requirements associated

with native title, environmental authorities, land access and compensation. If an objection to the grant of an ML is made, the application must be assessed by the Land Court. As with an application to renew an EPM, where the holder applies for an MDL or ML in respect of any land which the EPM applies, if the application decision has not been decided prior to the expiration date of the EPM, the holder will continue to have all the responsibilities, duties, and authorities that the holder would have if the EPM was current (Carter Newell Lawyers, 2014).

The Lione town and CGM Lithium tenements that are the subject of this report were acquired in 2017 and 2018, respectively. The Lione town permits had their first renewal following the introduction of NROLA at various anniversary dates in 2022. No reductions will be required at these renewal times. Each permit can be continued to be renewed (if justifiable) until their total expiries in 2032. A 50% reduction of each permit will be required in 2027. The CGM Lithium permits will have their first renewal following the introduction of NROLA at various anniversary dates on October 15, 2023. No reductions will be required at this renewal. Each permit can be continued to be renewed (if justifiable) until their total expiries in 2033. A 50% reduction of each permit will be required in 2028.

Environmental Authorities (EA) are required to conduct exploration activities on any EPM greater than 4 sub-blocks. EAs are administered by the Department of Environment and Science. In December 2021, the authors conducted an audit of the Queensland Government Environmental Authority (EA) public register. An EA permit was granted to Lione town Resources on May 1, 2020, for EPM 26491, EPM 26492, EPM 26490, EPM26494, and EPM 26495. An EA permit was granted to CGM Lithium on September 7, 2020, for EPM 26861 and EPM 26866. No notices or enforcement actions were found. An application to change, combine, and/or transfer an EA can be made at any time (Mineral and Coal Exploration Guideline, 2021, and Queensland, 2021).

Certain areas of Queensland are subject to Native title, which according to the Queensland Government, is *“the recognition in Australian law that some Indigenous people continue to hold the rights to their land and waters based on their traditional laws and customs.”* (Queensland, 2020a). Portions of the NQVP fall within land that is categorized as “Native title – indication only” of the Aboriginal/Torres Straight Islanders which indicates there is no Applicant or Granted Title in that area (Figure 4.1). For this area there is no requirement to send any Notice; however, upon completion of the transfer of property title all necessary contact will be made in accordance with the regulation.

Exploration Permit for Minerals (EPM), in Queensland are transferrable between individuals or companies and require a dutiful transaction statement, an agreement, a transfer duty statement, a consideration for the transaction, and independent evidence for the value of the resource authority (EP). A transfer duty is charged on any transactions involving resource authorities (EP). The transfer duty is calculated on the dutiable value of the resource authority, which is the higher of the consideration for the resource authority (purchase price) or the unencumbered value (Queensland, 2020b).

In 2021, Lione town and CGM Lithium filed applications for special variation to seek an exemption from the minimum expenditure commitments for 2021 with the government. Approvals to vary permit conditions have been received for 7 tenements, with approval for EPM 26495 granted in April 2022.

The Property falls within the North-West Queensland Mineral and Energy Province (NWQMEP) and straddles the western boundary of the North West Queensland Minerals Province (NWMP). This region is a major producer of base and precious metals in addition to non-traditional energy resources (shale gas and geothermal energy). The federal and state government have committed to significant investments in infrastructure supporting the mining sector in the region and incentives for exploration companies. The Queensland Government has also announced at least AUD \$10 million dollars in funding for a government owned, multi-user, multi-purpose critical mineral processing plant, which includes vanadium. Land packages that fall within the NWMP are also assessed by the state by six principles according to the Mineral and Coal Exploration Guideline (2021). These include:

1. Provide for, or bring forward mineral project development.
2. Build on mineral inventories or assist in achieving a critical mass to fast-track resource development opportunities.
3. Encourage higher risk exploration that is targeting areas under cover.
4. Encourage exploration targeting, emerging commodities or strategic minerals.
5. Support exploration promoting the use of technology or new data to enable rapid assessment of areas.
6. Facilitate land turnover to achieve better resource knowledge outcomes.

The Cretaceous Toolebuc Formation, and other members of the Rolling Downs Group are known to host some fossil deposits in addition to the typical invertebrate marine fossil assemblages. These fossils can include pterosaurs (Kellner et al., 2010), fish/fish debris (scales, bones, and teeth) reptilian bone fragments (Kear, 2010; Lewis et al., 2010), marine reptiles (kronosaurus) (Kronosaurus, 2022), and dinosaurs (e.g., ankylosaurs) (Leahey et al., 2015). On the NQVP, the targeted Toolebuc Formation is shallow and oxidized and thus it is likely that any fossil discoveries would be of poor quality. No significant fossil discoveries have been found on the Property to date. However, this is a significant factor that could potentially cause a delay in permitting or further exploration/potential mining activities conducted on the Property.

There are no other significant factors or risks that the authors are aware of that would affect access, title or the ability to perform work on the Property.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Property is located in northwest Queensland, Australia, approximately 500 km by road west of Townsville and 350 km east of the regional mining center, Mt Isa (population of 18,588 in 2018). Townsville is a port city and the major city servicing the area. The nearest towns to the Property are Julia Creek (population of 511 in 2016) and Richmond (population of 648 in 2016).

The NQVP can be accessed via the Richmond-Woolgar sealed road through tenements EPM 26492 and EPM 26494 and then via unsealed roads and station tracks to the remainder of the tenement holding.

Two small airports are located in the nearby communities of Richmond and Julia Creek with regular flights to Townsville and Mt Isa.

5.2 Site Topography, Elevation and Vegetation

The NQVP is located in the Eromanga Basin of northwest Queensland, which is characterized by flat, black soil plains. Very gentle topographic rises are often related to outcropping zones of the Toolebuc Formation which hosts the oil shale and vanadium mineralization.

Vertical relief is generally less than one metre per kilometer in most areas, except where creeks cross the plains. The major regional surface drainage systems flow to the northwest with minor local streams in the project area flowing east-west. These rivers and streams flow infrequently, usually during the summer months.

The land in the region is used primarily for grazing cattle which is reliant for stock water on artesian groundwater bores established during the last hundred years.

Vegetation in the Julia Creek region is typically Mitchell grass dominated native pasture with sparse or absent trees and shrubs. Prickly acacia is common in areas of disturbance around existing road quarries and open bore drains (Hale, 2020).

5.3 Climate

The climate is described as semi-arid with hot humid summers and hot dry winters. The area is subject to monsoonal influences from the northwest and east. The average annual temperature is 29 degrees Celsius (°C) with summer temperatures ranging from 21°C to 35°C and winter temperatures ranging from 10°C to 22°C. About 80% of rain falls between December and March, with nearby Julia Creek receiving a mean annual rainfall of approximately 469 millimetres (mm) per year. Evaporation exceeds rainfall in the region by a factor of five (5).

Cyclonic rain events and/or extreme heat (greater than 35°C) may temporarily limit access with respect to geological fieldwork activities between November and March each year but are not considered to be significant issues. Exploration and mining activities are expected to run year-round.

5.4 Local Resources and Infrastructure

The Property is located 350 km to the east of Mt. Isa, Queensland. Mt. Isa is a full-service community that includes housing, motels, food and restaurants, schools, medical clinics and a hospital, a regional airport with daily services to Brisbane, Cairns and Townsville, and skilled and experienced labor for the exploration and mining industry.

Mt. Isa serves as northern Queensland's mining centre and is situated in close proximity to several producing base metal mines and processing facilities. Glencore's Mount Isa copper smelter is the second largest copper mining and smelting operation in Australia, with copper and lead smelted on site and shipped to the port city of Townsville. Townsville, located 500 km to the east of the Property, is the nearest major city and hosts a population of 180,820 as of 2018. The Port of Townsville is the third largest seaport in Queensland and the leader in Australia for exports of copper, lead, zinc and sugar.

Infrastructure near the Property includes a gas pipeline, Flinders Highway (A6), the sealed Richmond-Woolgar Road and a railway linked to the Port of Townsville.

In the opinion of the authors, the Property is of sufficient size to accommodate potential exploration and mining facilities, including waste rock disposal and processing infrastructure. There are no other significant factors or risks that the authors are aware of that would affect access or the ability to perform work on the Property.

6 History

The information discussed in this history section largely draws from a project summary report from Currie Rose, historical data and reports from the Queensland Government website, internal company reports, and data provided to APEX by Currie Rose.

Mineral exploration in the Richmond-Julia Creek area has been completed from around 1967 to the present and has targeted phosphate, kerogen hosted in the oil shale, roll-type/sedimentary uranium, sedimentary-hosted vanadium and molybdenum, and iron oxide copper gold (IOCG) (Figure 6.1). The NQVP, currently held by Currie Rose, has been part of numerous expired EPMS with exploration from 1967 continuing to the present. Exploration programs and result highlights are discussed in Sections 6.1 and 6.2.

The information in this section represents a comprehensive compilation of historical exploration conducted by numerous owners in the Property area since 1967. The reader is cautioned that some of the historical information presented extends beyond the Issuer's Property boundaries (e.g., Figures 6.1, 6.3, 6.4 and Table 6.1). In these instances, the QP has been unable to verify the information that occurs outside of the Issuer's Property, and, therefore, the information is not necessarily indicative of the mineralization on the Property that is the subject of this Technical Report.

6.1 Ownership

Portions of the Property that is currently held by Currie Rose were held by other companies over the past 50 years, including Kennecott Explorations (Australia) Pty Ltd (Kennecott), Exoil N.L., Pacminex Pty Ltd (Pacminex), Central Coast Exploration N.L., Dampier Mining Company Ltd, CSR Energy Division, Pacific Coal Pty Ltd, MRX Pty Ltd, Broken Hill Proprietary Ltd (BHP), North Exploration, WMC Resources, CR Tritton Pty Ltd, Wiluna Gold Pty Ltd., Phelps Dodge Australasia Inc., Horizon/Intermin Minerals Ltd., Cyclone Resources Pty Ltd, Jacaranda Minerals Pty Ltd, Mt Isa Metals Ltd, Jems Exploration Pty Ltd, Millungera Energy Mineral Pty Ltd, Liontown Resources Ltd, and Chalice Gold Mines Ltd. Ownership, Exploration Permit for Minerals (EPM) numbers and exploration activities are presented in Table 6.1.

6.2 Exploration and Development Work Conducted by Previous Owners

6.2.1 Kennecott Explorations (1967)

Kennecott held several tenements in the area in 1967. Kennecott targeted the Toolebuc Formation for phosphate on exploration permits EPM 391 (Bunda), which covers portions of EPM 26495, and EPM 393 (Dribbly), which covers portions of EPM 26492 and EPM 26494. Exploration activities included surface mapping and sampling of the Toolebuc Formation, downhole radiometrics, an airborne radiometric survey, and a rotary drilling program (Figure 6.2). The program at Bunda included 5 drillholes totalling 42.67 m with a maximum reported phosphate interval of 1% over 2 feet (0.6 m). The

exploration activities on EPM 391 did not cover the current claim EPM 26426. Exploration activities at Dribbly consisted of 30 drillholes (trailer mounted auger) totalling 211.84 m, downhole radiometric surveys, and airborne radiometric surveys. Six of these drillholes and several lines of airborne radiometric surveying are located within EPM 26492. Assays for phosphate were completed on site using the Shapiro method (detailed below in Section 6.3.1). The best phosphate interval was 0.30 m at 12% phosphate. The Toolebuc Formation was noted as being consistently mineralized with phosphate, but the thickness and continuity of the mineralization was not enough to support mining operations, so the property was relinquished (Williamson, 1967a; 1967b).

6.2.2 Exoil NL/Transoil NL (1969-1970)

Exoil No Liability (70% ownership) and Transoil No Liability (30% ownership) held EPM 679 from 1969-1970 targeting the oil shale potential of the area. They completed a drilling program consisting of 60 open collar (rotary) holes totaling 2,761.49 m and 2 core drillholes totaling 35.05 m. A total of 14 of these drillholes are located within EPM 26492 (Figure 6.2). A few drill logs and oil analysis are included in the report, but all data are located outside of the current property. Oil analysis was completed at the the Australian Mineral Development Laboratories, but no details of the analysis or sampling methods were reported. The oil results from hole 4S show oil grades from 1 to 10 gallons per ton (gpt). Large amounts of shale oil were reported to exist on the property, but the grades were sub-economic and so the property was relinquished (Draper, 1970).

Table 6.1. Summary table of Property ownership and exploration activities in the NQVP.

EPMs	Years Active	Company	Exploration Targets	Current EPM	Exploration Conducted
EPM 391	1967	Kennecott Explorations (Australia) Pty Ltd	Phosphate	EPM 26495	
EPM 393	1967	Kennecott Explorations (Australia) Pty Ltd	Phosphate	EPM 26492, EPM 26494	35 rotary drillholes, phosphate assays, downhole radiometrics, air radiometrics
EPM 679	1969-1970	Exoil No Liability/Transoil No Liability	Shale Oil	EPM 26492, EPM 26494	62 rotary/core drilling and shale oil analysis
EPM 1028	1972	Pacminex Pty Ltd	Vanadium	EPM 26492	
EPM 1283	1971-1980	Pacminex Pty Ltd	Vanadium/Oil Shale	EPM 26492, EPM 26494	47 rotary/core drilling with oil and multielement analysis.
EPM 2347	1971-1980	Central Coast Exploration N.L.	Shale Oil	EPM 26492, EPM 26494	19 percussion drillholes with multielement analysis
EPM 2511	1980-1981	Central Coast Exploration N.L.	Shale Oil	EPM 26492	9 drillholes with oil and multielement analysis
EPM 2512	1980-1981	Central Coast Exploration N.L.	Shale Oil	EPM 26490	8 drillholes with oil and multielement analysis
EPM 2570	1980-1983	Dampier Mining Company Ltd	Shale Oil	EPM 26492	12 open air and core drillholes with oil analysis
EPM 2612	1980-1983	CSR Energy Division Ltd	Shale Oil	EPM 26490	10 drillholes and oil analysis.
EPM 2743	1980-1981	Pacific Coal Pty Ltd	Shale Oil	EPM26866, EPM26495	3,397.97m drilling program with oil analysis (for both properties)
EPM 2744	1980-1981	Pacific Coal Pty Ltd	Shale Oil	EPM 26495	3,397.97m drilling program with oil analysis (for both properties)
EPM 2853	1981	MRX Pty Ltd	Shale Oil	EPM 26861	6 drillholes
EPM 2881	1981-1982	Broken Hill Proprietary Co Ltd (BHP)	Shale Oil	EPM 26866	9 drillholes with oil analysis on 2881 and 2880

EPMs	Years Active	Company	Exploration Targets	Current EPM	Exploration Conducted
EPM 2880	1981-1982	Broken Hill Proprietary Co Ltd (BHP)	Shale Oil	EPM 26861	9 drillholes with oil analysis on 2881 and 2880
EPM 3512	1982-1984	Broken Hill Proprietary Co Ltd (BHP)	Shale Oil	EPM 26492, EPM 26494	11 open air and core drillholes with oil analysis and gamma logs
EPM 9298	1994	North Exploration-North Mining Ltd	Iron Oxide Copper Gold	EPM 26861	4 drillholes with downhole TEM, surface gravity and magnetics surveys
EPM 10325	1994-1996	WMC Resources Ltd	Iron Oxide Copper Gold	EPM 26861	Airborne gravity and magnetics
EPM 10611	1995-1997	CR Tritton Pty Ltd	No Information	EPM 26492	No exploration activities
EPM 10884	1995-1998	Wiluna Gold Pty Ltd (Wiluna Mines Ltd)	Cu/Au	EPM 26861	Ground gravity survey
EPM 13314	2001-2002	Phelps Dodge Australasia Inc	Iron Oxide Copper Gold	EPM 26861	Data compilation
EPM 14798	2005-2013	Horizon Minerals Ltd/Intermin Resources Ltd	Shale Oil	EPM 26491	Site visits, 15 holes RC drilling, historical oil modeling calculation, historical vanadium and molybdenum resource calculation and metallurgical testing of vanadium and molybdenum ore
EPM 15256	2006	Cyclone Resources Pty Ltd	No Information	EPM 26492, EPM 26494, EPM 26490, EPM 26491, EPM 26495	Data analysis with no exploration
EPM 15869	2006-2014	Horizon Minerals Ltd/Intermin Resources Ltd	Oil, V, and Mo	EPM 26491, EPM 26490	28 AC drillholes
EPM 15877	2006-2014	Horizon Minerals Ltd/Intermin Resources Ltd	V and Mo	EPM 26490	188 AC holes for Lilyvale resource
EPM 15878	2008-2016	Horizon Minerals Ltd/Intermin Resources Ltd	V and Mo	EPM26494	33 RC holes for Rothbury resource
EPM 15938	2008-2010	Mt Isa Metals Ltd	U and polymetallic mineralization	EPM 26861	Data analysis with no exploration
EPM 15939	2008-2010	Mt Isa Metals Ltd	U and polymetallic mineralization	EPM 26495	Data analysis with no exploration
EPM 15940	2008-2010	Mt Isa Metals Ltd	U and polymetallic mineralization	EPM 26861	Data analysis with no exploration

EPMs	Years Active	Company	Exploration Targets	Current EPM	Exploration Conducted
EPM 16135	2007-2009	Jacaranda Minerals Pty Ltd	Mo, V, and U	EPM 26492	Ground radiometric survey, 26 grab samples with multielement analysis, 35 AC scout drillholes with pXRF analysis
EPM 16141	2007-2014	Jacaranda Minerals Pty Ltd	Mo, V, and U	EPM 26494	Airborne radiometric survey, 68 AC drillholes, 2 RC drillholes
EPM 16147	2008-2010	Mt Isa Metals Ltd	U and polymetallic mineralization	EPM 26495	Data analysis with no exploration
EPM 17108	2012-2014	Horizon Minerals Ltd/Intermin Resources Ltd	Shale Oil, V, and Mo	EPM 26490, EPM 26494	Ground-based field investigations.
EPM 18549	2010-2015	Horizon Minerals Ltd/Intermin Resources Ltd	Shale Oil, V, and Mo	EPM 26492	No ground-based exploration activities
EPM 18551	2010-2015	Horizon Minerals Ltd/Intermin Resources Ltd	Shale Oil, V, and Mo	EPM 26495	No ground-based exploration activities
EPM 19600	2013-2015	Jems Exploration QLD Pty Ltd	Shale Oil	EPM 26495	Research and data compilation
EPM 25163	2013-2017 (*2023)	Horizon Minerals Ltd/Intermin Resources Ltd	Shale Oil, V, and Mo	EPM 26494, EPM 26490, EPM 26491	No ground-based exploration activities
EPM 25164	2014-2017 (*2023)	Horizon Minerals Ltd/Intermin Resources Ltd	Shale Oil, V, and Mo	EPM 26492, EPM 26494	No additional ground-based exploration in current tenement area.
EPM 25541	2015-2016	Millungera Energy Minerals Pty Ltd	Mo, V, and U	EPM 26492, EPM 26494	Data analysis with no ground-based exploration activities
EPM 26490	2017-2021	Liontown Resources Ltd	V		No additional ground-based exploration
EPM 26491	2017-2021	Liontown Resources Ltd	V		No additional ground-based exploration
EPM 26492	2017-2021	Liontown Resources Ltd	V		No additional ground-based exploration
EPM 26494	2017-2021	Liontown Resources Ltd	V		30 AC drillholes, vanadium resource released,
EPM 26495	2017-2021	Liontown Resources Ltd	V		No additional ground-based exploration

EPMs	Years Active	Company	Exploration Targets	Current EPM	Exploration Conducted
EPM 26861	2016-2021	CGM Lithium Pty Ltd	V		No additional ground-based exploration
EPM 26866	2016-2021	CGM Lithium Pty Ltd	V		13 AC drillholes

Figure 6.1. An overview of the historical drilling in the Property area.

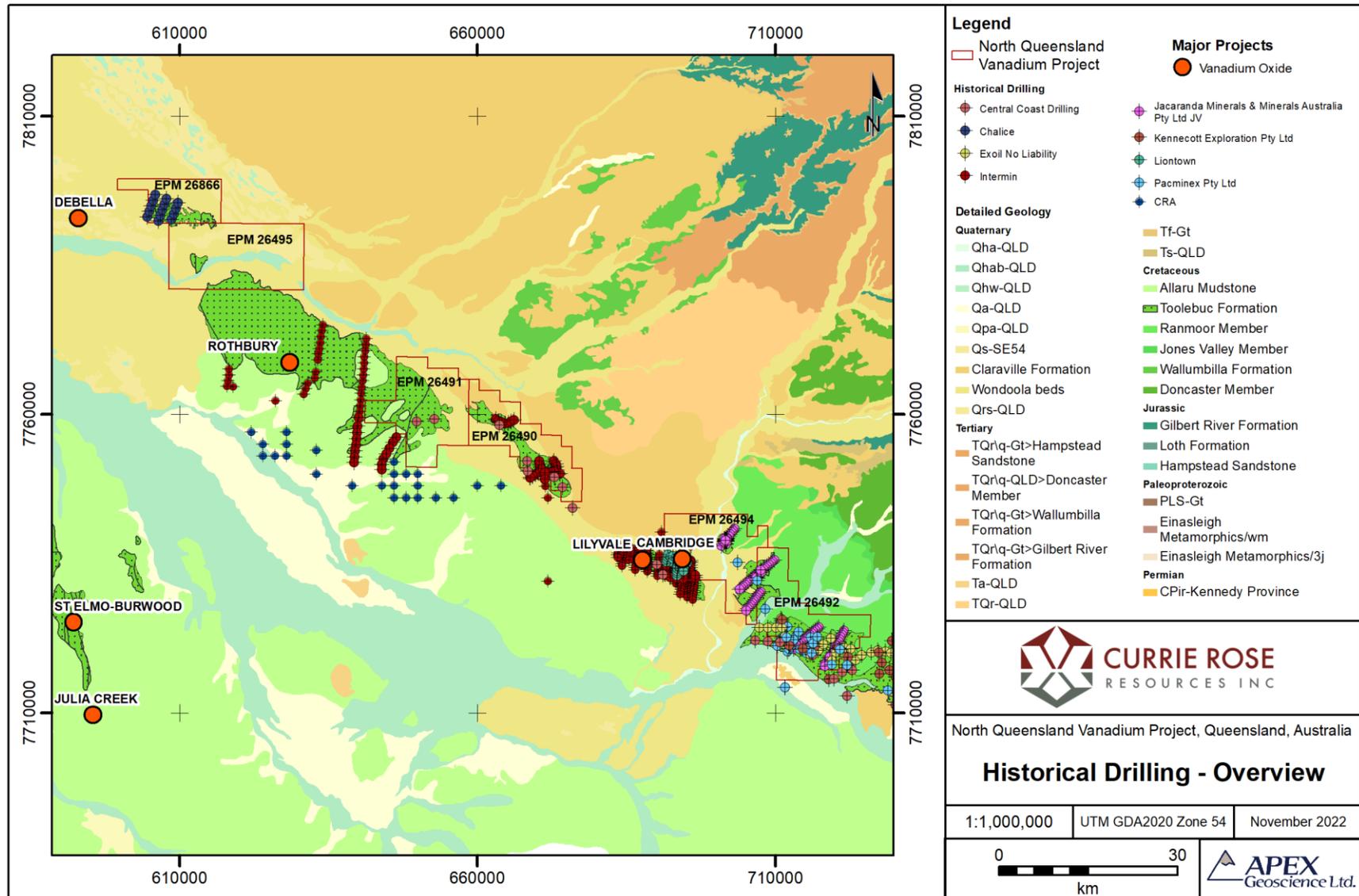
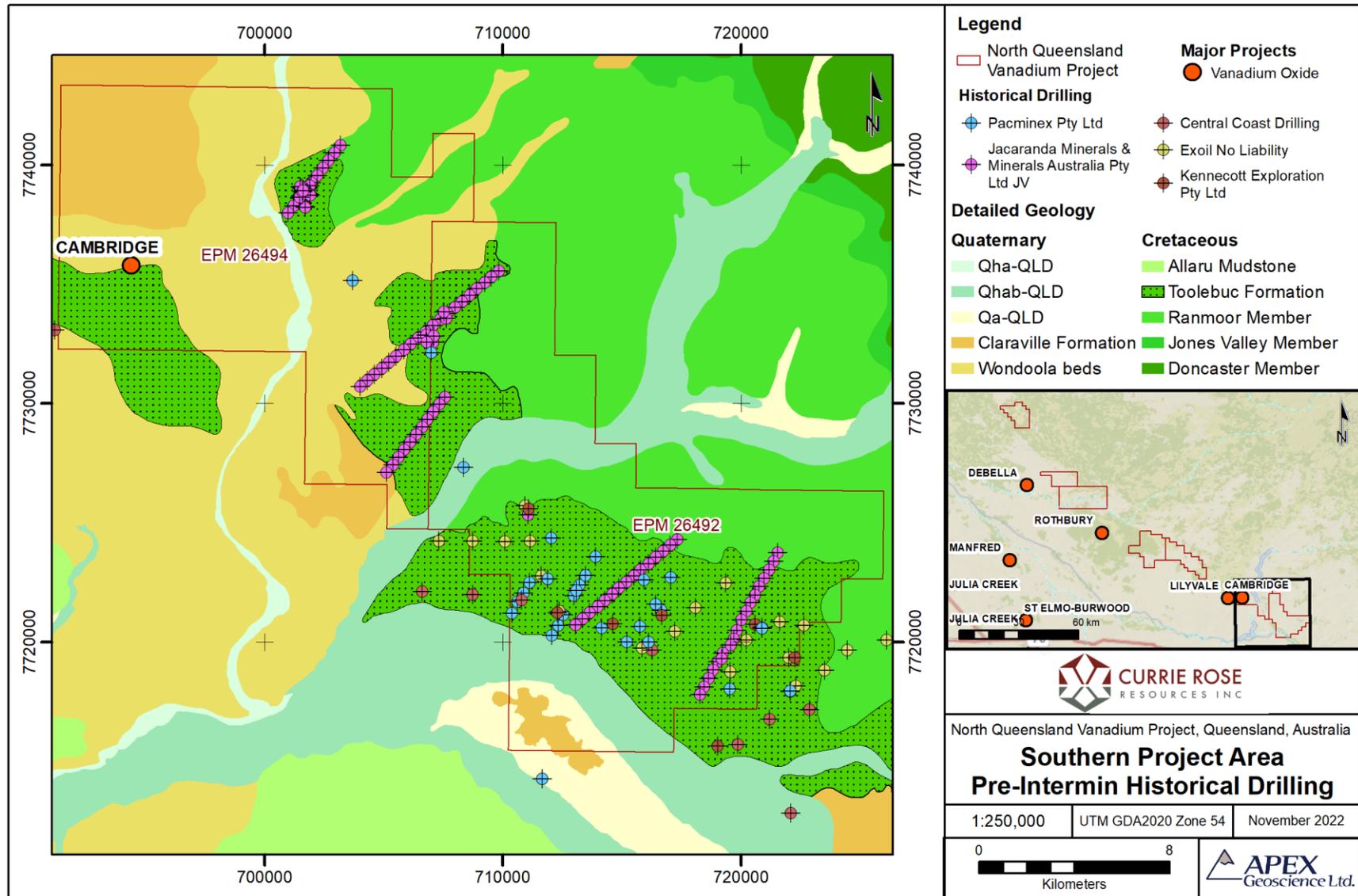


Figure 6.2. Pre-intermin historical drilling in the southeast Property area.



6.2.3 Pacminex (1971-1980)

The first record of vanadium exploration on the NQVP was by Pacminex Pty Ltd from 1971-1980 on EPM 1028 and EPM 1283, which cover portions of EPM 26492 and EPM 26494 (Figure 6.2). The drilling program in 1972 consisted of coring and open collar (rotary) drilling in 19 drillholes totaling 229.69 m. Eight of these drillholes are located on EPM 26492 (Figure 6.2). The best result from this drilling program was 0.7% vanadium (V; weighted grade average) over 2.6 m in hole RH2 (located on the NQVP). Drilling targeted vanadium mineralization in the weathered portion of the Toolebuc Formation. The area that covers the current tenement is noted as having the best grades in the exploration program. A summary of drilling highlights is shown in Table 6.2.

Table 6.2. Vanadium drilling highlights from the Pacminex 1972 drilling program (Jones, 1972).

Drillhole	Highest Assay (V ₂ O ₅ %)	Thickness (m)	Weighted Grade Average (V ₂ O ₅ %)	Depth to Intercept (m)
RH2	0.82	2.6	0.7	5.7
		4.9	0.5	5.5
RH3	0.77	1.5	0.6	2.3
		3.4	0.5	2.3
RH5	0.46	1.4	0.4	1.5
		0.5	0.4	4.4
		0.7	0.4	7.8
RH7	0.41	4.5	0.34	1.6

A subsequent drilling program in 1973 followed up on the previous drilling intercepts with core and open-air drilling (air-flush rotary-percussion). The program included 20 cored holes totaling of 319.34 m and 5 bulk sampling holes. Nineteen of the Pacminex drillholes are located within the NQVP on tenements EPM 26492 and EPM 26494 (Figure 6.2). Three (RH20, RH21, and RH22) of the 20 drillholes were located to the northwest of the main drilling on EPM 26494 and 26492. Assay results were low compared to the other drillholes with the highest intercepts returning 0.20% to 0.49% V₂O₅. The best results from the main drilling area included 2.5 m of 0.59% V with 1 m of 0.62% V in RH33; the highest vanadium result was 0.76% V in hole RH39. Pacminex prepared a historical preliminary inferred reserve estimate which is discussed in Section 6.5.1.

Another core and rotary drilling program were conducted in 1974 by Pacminex to evaluate both vanadium and oil potential on EPM 1283. This program included 2 rotary holes and 1 core hole drilled to the south and southeast of the 1972-1973 vanadium drilling programs (Table 6.3). Of the results presented in Table 6.3 only RH31 and RH41 are on the Property (Wigglesworth, 1975).

Table 6.3. Shale oil and vanadium results from Pacminex 1974 drilling program.

(1) Drilled in October 1973, V₂O₅ assay by McPhar Laboratories in Adelaide and Fischer assay by CSR Research Laboratories (2) Vanadium assays are the original results from ALS (3) Has V₂O₅ weighted averages using (a) CSR Central Laboratory results; (b) ALS results (Wigglesworth, 1975).

Hole No.	Highest Oil Value (USGPT)	Intersection (m)			Weighted Average Oil (USGPT)	Weighted Average (% V ₂ O ₅)	Strip Ratio
		Top	Bottom	Thickness			
RH 31(1)	17	19	24	5	17	0.42	3.8:1
RH 41(2)	13.6	15	19	4	12.9	0.3	3.7:1
		15	23	8	10.7	0.24	1.9:1
RH 42(2)	16.8	26	38	12	15.6	0.22	2.2:1
RH 47(3)	16.6	26.2	36.2	10	13.7	0.37(a)	2.6:1
						0.26(b)	

6.2.4 Central Coast Exploration (1971-1981)

Central coast exploration held 3 different land packages EPM 2347 (1971-1980), EPM 2511 (1980-1981), and EPM 2512 (1980-1981) exploring for oil in the shale of Toolebuc Formation.

Exploration up to 1981 (EPM 2347) consisted of 19 percussion drillholes totaling 1,199 m. Holes 17 and 18 are located within EPM 26492 and EPM 26494. All drillholes were analyzed for oil content and vanadium and a few select holes for multielement analysis (Au, Ag, Pb, Cu, Zn, Mo, and U). Drilling highlights from these programs are included in Table 6.4 and Table 6.5 (O'Rourke, 1981; Whitney, 1981a).

Table 6.4. Oil and Vanadium Results from Central Coast Exploration Drilling program (Whitney, 1981a).

Hole ID	Length (m)	Oil (l/t)	V (%)
1	9	21.2	-
2	-	-	-
3	3	63	0.12
4	4	58.5	0.11
5	6	51	0.11
6	8	47	-
15	-	-	-
15B	-	-	-
17	10	-	0.14
18	-	-	-
19	2	50.5	0.15
20	8	45	0.12
21	-	-	-
22	7	44.6	-

Table 6.5. Multielement composite results from Central Coast Exploration Drilling program (Whitney, 1981a).

Hole ID	From (m)	To (m)	Interval (m)	Au (ppb)	Ag (ppm)	Pb (ppm)	Cu (ppm)	Zn (ppm)	Mo (ppm)	U (ppm)
Hole 3	31	34	3	30	5	55	210	620	70	17
Hole 4	37	41	4	25	5	60	250	780	80	17
Hole 5	55	61	6	10	5	60	230	700	80	16
Hole 6	41	49	8	10	5	55	170	520	50	12
Hole 19	25	27	2	35	4	50	185	800	100	20
Hole 20	17	25	8	10	4	60	170	740	105	29
Hole 22	36	37	1	40	3	60	110	560	95	29
Hole 22	37	42	5	10	4	55	140	660	135	25

A drilling program with 9 holes totaling of 672 m was completed on EPM 2511 in 1981. Only one of these drillholes, hole 23, falls on EPM 26492. The oil, vanadium, and composite multielement results are presented in Table 6.6 and Table 6.7 (Whitney, 1981b).

Table 6.6. Oil and Vanadium results from the 1981 Central Coast Exploration drilling program (Whitney, 1981b).

Hole ID	Length (m)	Oil (l/t)	V (%)
7	-	-	-
8	-	-	-
9	6	42.8	0.11
10	-	-	-
11	2	56	-
12	2	50.5	0.11
13	-	-	-
14	-	-	-
23	-	-	-

Table 6.7. Multielement results from the 1981 Central Coast Exploration drilling program (Whitney, 1981b).

Hole ID	From (m)	To (m)	Interval (m)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ag (ppm)	Au (ppb)	U (ppm)
Hole 11	18	19	1	260	55	740	75	6	25	17
	34	35	1	75	45	200	10	3	10	4
Hole 12	19	20	1	170	55	800	145	4	10	31
Hole 9	17	22	5	165	55	590	70	5	10	18

Eight holes totaling 392 m of drilling were completed on EPM 2512, seven of these holes are located on the current NQVP. Vanadium results were reported as being 0.01 or 0.02% and oil shale results were reported as low (Whitney, 1981c).

6.2.5 Dampier Mining Company Ltd (1980-1983)

Dampier (subsidiary of BHP) conducted oil shale exploration in 1981 with an rotary and coring HQ drill program consisting of 6 drillholes, totaling 240.11 m, with minimal overlap with EPM 26492. Another program was conducted in 1982 with 6 holes totalling 240 m. None of the drillholes from this program are located within the current Property. The maximum oil yield from the drilling program was 50 l/t, with an average of 44 l/t over 6 m (40 l/t cut off) (Dampier, 1983a; b).

6.2.6 CSR Energy Division (1980-1983)

CSR Energy Division was exploring for oil shale on EPM 2610, EPM 2611, and EPM 2612, and conducted two drilling programs in 1980 and 1982. Drilling in the area immediately to the south of the Property consisted of 10 holes totaling 252.7 m. The average thickness of oil shale in the area south of the Property was 7.0 m at 53.3 l/t. None of this drilling falls within the NQVP. There is an overlap between EPM 2612 and EPM 26866/EPM 26495 (Osborne, 1984). The area within the NQVP was described as having low drilling density with moderately well-developed oil shales (Osborne, 1982).

6.2.7 Pacific Coal Pty Ltd (1980-1981)

Pacific Coal Pty Ltd held EPM 2743 and EPM 2744, which partially cover EPM 26495/EPM 26866, from 1980-1981 and conducted a 3,397.97 m drilling program evaluating the oil shale. Only drillhole 1C is located on the current NQVP. Hole 1C was drilled to 23.1 m and was recorded as all weathered. The drilling in the Toolebuc Formation immediately to the west of the NQVP is also noted to be weathered. Oil grades from these holes range from 4.1-61.4 l/t of oil and thicknesses from 2.86-16.28 m within the Toolebuc Formation. Samples were analyzed for oil yield by the Fischer Retort Method. Some samples outside of the NQVP were submitted for multielement and trace element analysis (Matheson et al., 1982).

6.2.8 MRX (1981)

MRX held EPM 2853 in 1981 which covered portions of EPM 26861, EPM 26866, and 26495. A 6-hole drill program targeting the oil shale was completed that fell on ground outside of the NQVP. None of the drilling is located on the current NQVP (Vukotich, 1981).

6.2.9 BHP (1981-1984)

BHP held EPM 2880 and EPM 2881 and completed exploration from 1981-1982. BHP conducted drilling programs testing the oil shale in the Toolebuc Formation. Nine holes were drilled with the best results of 12 l/t of oil returned from the weathered sections of

the Toolebuc Formation and 75 l/t from the unweathered sections of the Toolebuc Formation. Five of these holes (MIL 2-MIL 6) were drilled on EPM 2880/EPM2881. The exact locations of these drillholes are unknown. A thick covering of sand, up to 19 m, and the deep weathering, up to 40 m, was reported to diminish the prospectivity of the area (BHP, 1982).

BHP also held EPM 3512 from 1982-1984. This claim overlaps EPM 26492 and EPM 26494. The exploration program consisted of two drilling programs of 11 open holes and HQ coring holes totaling 482.88 m with accompanying downhole gamma logs. The best oil grade was 61 l/t over 10 m. The locations of these drillholes could not be determined (BHP, 1983).

6.2.10 North Exploration-North Mining Ltd (1994)

Exploration on EPM 9298 was conducted by North Exploration prospecting for IOCG (Olympic Dam) type deposits in the basement rocks which covers part of EPM 26861. Magnetics and gravity survey responses generated targets for 4 drillholes and downhole magnetics were conducted around the Gidya prospect. None of the drillholes are located within the NQVP. Downhole TEM (transient domain electromagnetic) surveys were done on all the drillholes. Drillholes were reported to be assayed for Cu, Pb, Zn, As, Mo, Co, Bi, Sb, and Au. However, full results are not available, and no significant results were reported from these assays (Wightman, 1995).

6.2.11 WMC Resources Ltd (1994-1996)

WMC Resources held EPM 100325 from 1994-1996 which covers part of EPM 26861. Airborne magnetics and gravity surveys were conducted that covered the entire tenement block. No drilling was reported (Uppill and Harris, 1996).

6.2.12 RC Tritton Pty Ltd (1995-1997)

RC Tritton held EPM 10611 which covers part of EPM 26492. There is no record of any exploration activities.

6.2.13 Wiluna Gold Pty Ltd (1995-1998)

Wiluna Gold conducted exploration on EPM 10884 in 1995-1998. A gravity survey was conducted over the area likely to explore for IOCG (Olympic Dam) type deposits in the area. No other exploration efforts are reported (Johnson and Withers, 1996).

6.2.14 Phelps Dodge Australasia Inc. (2001-2002)

Phelps Dodge Australasia Inc. acquired the tenements in the NQVP area from 2001-2002 to complete a data compilation of historical exploration in the area searching for IOCG (Olympic Dam) type deposits. Their work concluded that all high priority targets in the area had already been tested and the land was dropped (Kary, 2002).

6.2.15 Cyclone Resources (2006)

Cyclone Resources held EPM 15256 in 2006, there is no record of any exploration activities occurring during this time.

6.2.16 Mt. Isa Metals Ltd (2008-2010)

Mt. Isa Metals held EPM 15938, EPM 15939, EPM 15940, and EPM 16147 from 2008-2010. Mt Isa was exploring for secondary uranium and polymetallic mineralization (Mo, Pb, and Zn). A data compilation concluded the properties were not prospective, and the project was relinquished. No new exploration was conducted on any of the properties (Bowden, 2010).

6.2.17 Jacaranda Minerals (2007-2014)

Jacaranda Minerals held a contiguous group of tenements from 2007-2014 including EPM 16135 and EPM 16141 which overlap parts of EPM 26492 and EPM 26494. The exploration program targeted roll-type molybdenum-vanadium-uranium deposits.

Exploration on EPM 16135 consisted of a preliminary ground-based radiometric survey along public roads using a scintillometer and a rock sampling survey of 26 grab samples analyzed at ALS Townsville. The best radioactivity anomalies were reported along the Wallumbilla/Toolebuc contact with a few readings higher than 500 cps (counts per second). The best grab samples returned assays of up to 168 ppm U (uranium) from the Toolebuc Formation, up to 280 ppm Mo (molybdenum), and 2,190 ppm V. An air core (AC) drilling program in 2008 drilled 35 scout holes. All Jacaranda holes are located within the NQVP (Figure 6.2). Air core samples were analyzed using a Niton XL3T portable XRF (pXRF). The Toolebuc Formation was reported to have a zone of approximately 10 m thick with anomalous levels of U, Mo, V, and base metals over 50 km of strike length. The dip of the stratigraphy and the lack of traps for fluids in the roll-type model were not observed and the land was surrendered (Collings, 2008; 2009).

Exploration on EPM 16141 consisted of programs in 2008-2009, 2010, and 2011-2012. Exploration activities included a low-level aerial radiometric survey, which covered portions of EPM 26861 and EPM 26866. A total of 48 scout AC holes were drilled during the 2008-2009 program targeting radiometric anomalies. The AC drilling was targeting the Toolebuc Formation that had an average thickness of 10 m with anomalous levels of U-Mo-V-Zn-As. This drilling program intercepted two separate zones of anomalous Zn values in RCAC0028 (3 m at 0.25% Zn in the Toolebuc Mudstone and 3 m at 0.79% Zn in the Wallumbilla Formation) in addition to 120 ppm U and 130 ppm Mo over 1 m in a separate portion of the Toolebuc Formation. Another notable drilling result included V up to 2,339 ppm from 2-3 m in hole RCAC012.

Follow up drilling in 2010 included 20 AC holes targeting anomalous Zn values from the previous program. Two reverse circulation (RC) holes were drilled in 2011-2012 to target a tabular magnetic anomaly. Samples from the RC holes were analyzed at ALS in

Townsville. The previous anomalous zinc zones were not intercepted in the follow-up drilling and no other significant geochemical anomalies were reported from the AC and RC holes and the property was relinquished (Collings, 2012).

6.2.18 Millungera Energy Minerals Pty Ltd (2015-2016)

Millungera Energy held a land package overlapping EPM 26492 and EPM 26494 in 2015-2016. Plans were put forward to explore the area for roll-type uranium. After a data review, further ground exploration efforts were not considered viable and the ground was surrendered (Millungera, 2016).

6.2.19 Jems Exploration (2013-2015)

Jems Exploration held EPM 19600 from 2013-2015 which covered parts of EPM 26495. Exploration activities included evaluating the Toolebuc oil shale for in situ oil extraction with steam. Activities included research and data compilation. No ground-based exploration activities were conducted (Jems, 2014).

6.2.20 Horizon Minerals/Intermin Resources (2004-2021)

In 2004 Horizon Minerals (previously known as Intermin Resources, Horizon and Intermin are used interchangeably in this section) acquired tenements in the area and subsequently increased their land position to over 4,100 km² (Figure 6.3). The Horizon Minerals tenements partially overlapped the NQVP and lay to the west of the NQVP. Currently, Horizon currently holds tenements EPM 25163, EPM 25164, EPM 25258 and EPM 26426 bordering the NQVP to the west.

Horizon Minerals were targeting economic and extractable quantities of vanadium and molybdenum. Between 2006 and 2013 Horizon Minerals conducted several Reverse Circulation (RC) and diamond drilling programs totaling over 11,000 m of drilling, to validate and increase the known mineralization in the area. From the Horizon Minerals drilling, 63 holes totaling 1,442 m are located within the NQVP (Figure 6.4). In addition, Horizon completed extensive metallurgical test work focused on both material pre-treatment and metal extraction.

In 2008, the Queensland government announced a 20-year moratorium on exploration and development of oil shale in the state. The moratorium prevented all ground-based exploration activities that targeted oil shale deposits. In February 2013, the Queensland Government revised the policy to allow for exploration and development of oil shale deposits with thorough environmental oversight. During this period exploration work on these tenements focused largely on mineral processing, metallurgy, and preliminary resource estimates based on historical drilling.

Exploration on EPM 14798 which partially overlaps NQVP EPM 26491 included a RC drilling program in 2007 and did not include any subsequent ground-based exploration through to 2013. Intermin completed an infill RC drilling program over an area where the

Figure 6.3. Intermin historical EPM locations.

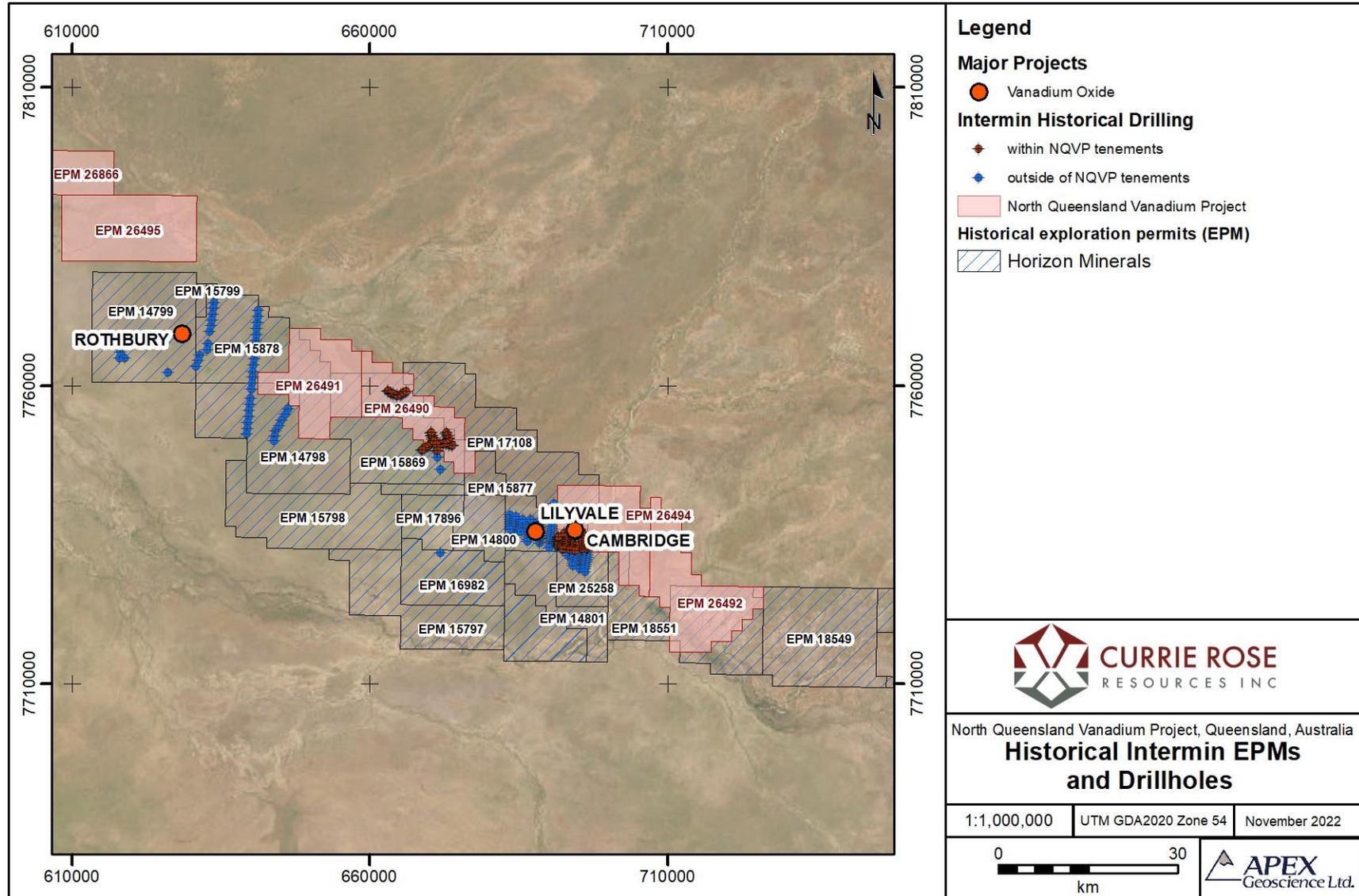
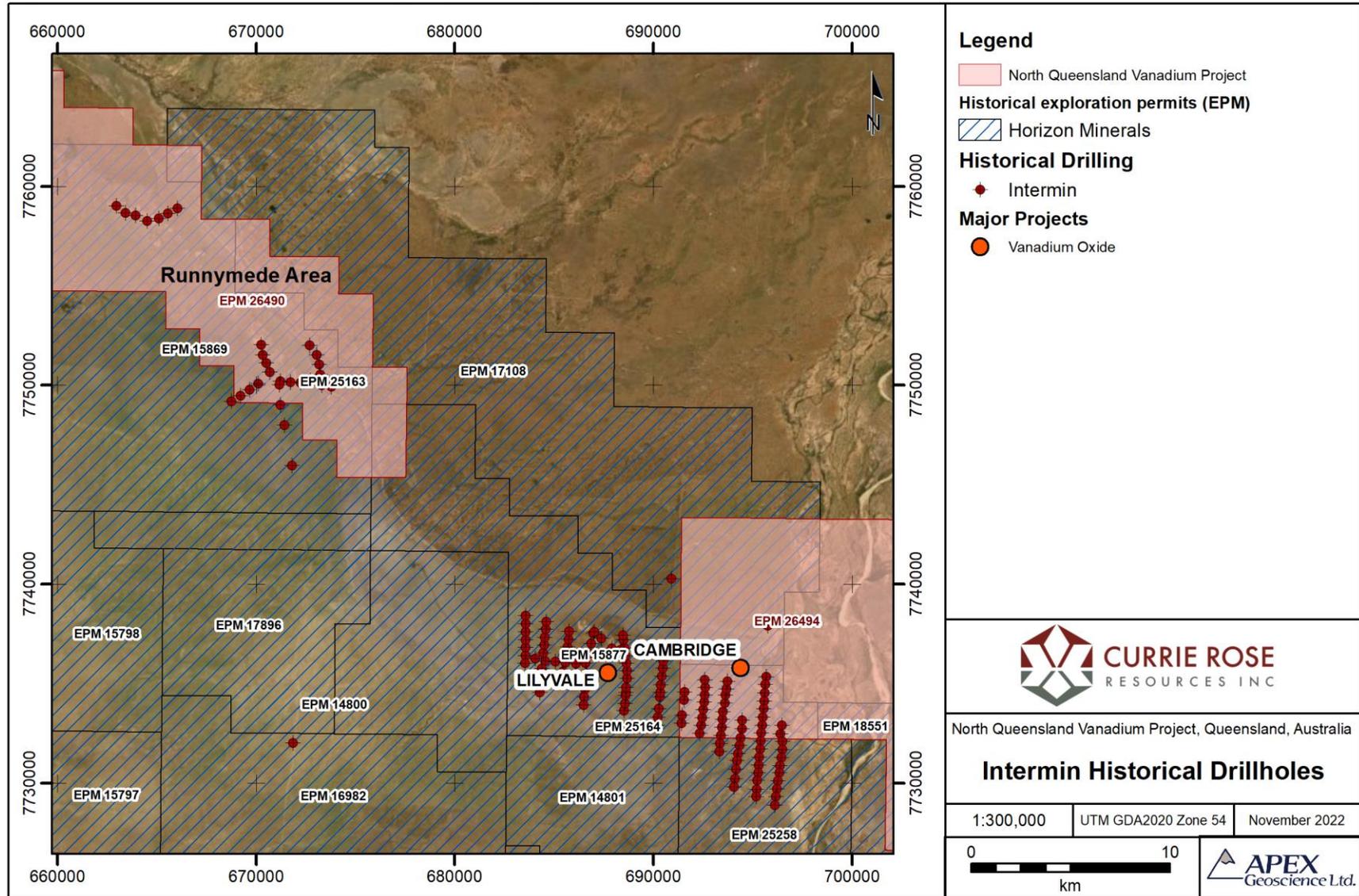


Figure 6.4. Intermin historical drilling Lilyvale deposit area.



Coquina unit was determined to be shallower based on historical drilling. The program consisted of 15 shallow RC holes totaling 326 m of drilling. Table 6.8 shows significant intercepts of the 2007 program (Cranley, 2008a).

Table 6.8. Significant results from Intermin Resources 2007 RC drilling program on EPM 14798 (Cranley, 2008a).

Hole_ID	From (m)	To (m)	Ag ppm	Mo ppm	MoO ₃ ppm	V ppm	V ₂ O ₅ %	Zn ppm	Ni ppm
JRC07260	15	20	2.56	204	309	2204	0.393	1080	185
JRC07261	16	22	2.22	246	371	1602	0.286	897	187
JRC07263	19	24	2.04	201	304	1700	0.299	834	158
JRC07264	13	22	1.77	187	282	1608	0.283	853	165
JRC07265	22	30	1.94	215	325	1752	0.308	896	169

Exploration on EPM 15869 (Runnymede area) consisted of 28 AC holes, totalling 648 m, drilled in 2006-2007. The drilling defined the presence of shallow, vanadium mineralization over a 3.5 by 3.5 km area. The Runnymede prospect is located 25-30 km northwest of the Cambridge Deposit (Figure 6.4). Highlight intersections from drilling in this area include 9 m grading at 0.37% V₂O₅ in hole JRC07282, 8 m grading at 0.41% V₂O₅ in hole JRC07292 and 9 m grading 0.36% V₂O₅ in hole JRC07293. The work completed suggested that, subject to the vanadium price staying at current levels, a viable vanadium project could be developed at Julia Creek (Cranley, 2007a; b). Exploration shifted to the metallurgy and extraction of oxidized and unoxidized vanadium, molybdenum, and oil from the Toolebuc oil shale from 2007-2021.

The Lilyvale Deposit lies within tenement EPM 15877. This tenement partially overlaps NQVP tenement EPM 26494 and extends west of this tenement. A significant amount of drilling was completed on EPM 15877 to delineate the Lilyvale Deposit. The northeastern portion of the initial Lilyvale Deposit extended into NQVP tenement EPM 26494. Upon acquisition of tenement EPM 26494 Liontown renamed this area the Cambridge Deposit to avoid confusion with Horizon's neighboring Lilyvale Deposit (Figures 6.3 and 6.4). In 2006-2007, 10 AC holes totaling 249 m were completed over the Lilyvale Deposit area followed by 117 holes totaling 2,810 m in 2007-2008 (Table 6.9). A total of 36 of these holes totaling 844 m targeted the Cambridge Deposit which lies on NQVP EPM 26494 (Figure 6.4). The main Lilyvale Deposit area is located west of and adjacent to NQVP EPM26494. Most of the drilling targeted the Lilyvale Deposit, located west of EPM26494. An infill drill program in 2009-2010 of 56 AC holes totaling 1,754 m was completed to facilitate the calculation of a historical mineral resource in accordance with the JORC Code for the main area of the Lilyvale Deposit. Five additional vertical AC holes totaling 283 m were drilled in 2012-2013. Metallurgical studies assessing the extraction of metals from the oil shale were completed from 2008-2014 (Cranley 2007c; 2008b; 2012; O'Farrell, 2014). A historical mineral resource was calculated in 2011-2012. The historical mineral resource for the Lilyvale Deposit is discussed in Section 6.5.

On EPM 15878 33 RC holes were drilled totaling 917 m in 2008-2009. None of these drillholes were located on the NQVP (Figure 6.4). The drill program provided metallurgical

samples in support of the historical resource calculation for the Rothbury Deposit as discussed in Section 6.5.

Table 6.9. Drilling result highlights from the 2006-2007 drilling programs on EPM 15877 (Cranley, 2007c)

Hole Id	From (m)	To (m)	Ca ppm	Cu ppm	K %	Mn ppm	Mo ppm	V ppm	V ₂ O ₅ %	Zn ppm
JRC07304	13.00	15.00	27.60	196	0	137	165	2085	0.371	939
JRC07304	18.00	19.00	25.60	251	0	192	254	2060	0.367	948
JRC07304	22.00	25.00	17.95	192	0	381	282	2603	0.463	1116
JRC07305	13.00	14.00	25.70	224	0	242	201	2390	0.425	1045
JRC07305	17.00	20.00	14.38	187	0	410	258	2550	0.454	1093
JRC07306	9.00	14.00	14.29	189	0	473	271	2532	0.451	1208
JRC07307	21.00	27.00	14.69	190	0	347	297	2582	0.460	1235
JRC07308	2.00	9.00	12.22	208	0	333	223	2887	0.514	1344
JRC07309	13.00	23.00	13.79	189	0	317	277	2580	0.459	1270
JRC07310	6.00	14.00	10.74	237	0	353	256	3308	0.589	1566
JRC07311	6.00	15.00	11.80	221	0	409	249	3278	0.583	1516
JRC07312	6.00	16.00	13.40	188	0	255	291	2739	0.488	1230
JRC07312	16.00	17.00	6.26	194	0	252	170	2080	0.370	1130
JRC07313	7.00	16.00	11.73	227	0	336	344	3152	0.561	1519

6.2.21 Chalice Gold Mines (CGM Lithium) (2018-2021)

Chalice Gold Mines (CGM Lithium) acquired tenements EPM 26861 and EPM 26866 in 2018, these tenements form part of the current NQVP. Chalice explored the area for vanadium mineralization in the Toolebuc Formation between 2018 and 2020. In 2020, a 13-hole AC drill program totaling 378 m was completed on EPM 26866 as known as the Flinders River area (Figure 6.5). The drill program targeted a radiometric anomaly that was interpreted to outline the Toolebuc Formation. Drilling outlined a coquina horizon in the Toolebuc Formation with anomalous vanadium. The best drilling result was returned from hole DEAC002 with 5 m grading at 0.42% V₂O₅ from within the Toolebuc coquina. The mineralized horizon remained open to the east and west of the drilling grid (Currie Rose, 2021).

Chalice Gold Mines has not completed any ground-based exploration programs on EPM 26861. An AC drilling program was recommended to continue exploration in the area (Hale, 2020).

6.2.22 Liontown Resources (2017-2021)

Liontown Resources acquired EPM 26490, EPM 26491, EPM 26492, EPM 26494, and EPM 26495 in 2017.

In 2018, Liontown contracted Optiro Pty Ltd to prepare mineral resource estimate (MRE) in accordance with the JORC 2012 Code for the Cambridge Deposit based on historical drilling from Horizon Minerals (Intermin). The Cambridge Deposit lies within EPM 26494. The historical resource calculation is discussed in Section 6.5.

In 2019, Liontown completed a 30 AC hole drill program totaling of 745 m over the Cambridge Deposit area (Figure 6.6). The program was designed to confirm the results of Intermin's historical drilling, test for a northern extension to the mineralization, and provide samples for metallurgical work. Confirmation drilling included twinning seven historical Intermin drillholes. Assay results from the twinned holes showed a good correlation with similar widths and grades of mineralization intersected. Drilling to the north of the historical Optiro MRE intersected additional mineralization averaging ~7 m in thickness and 0.38% V₂O₅ over a 3.7 km² area. Liontown concluded that the quality of the drill program was sufficient to prepare an updated and expanded MRE for Cambridge Deposit as these drillholes were not included in the Optiro MRE. These drillholes are included in the Maiden MRE detailed in Section 14 of this Technical Report. Mapping and rock-chip sampling of outcropping Toolebuc Formation by Liontown indicates that the mineralization extends to the north and east of the Optiro historical MRE.

No ground-based exploration was conducted on EPM 26490, EPM 26491, EPM 26492, and EPM 26495 by Liontown Resources.

6.3 Historical Preparation and Analysis Review

The historical preparation, analysis methods, and Quality Assurance/Quality Control (QA/QC) procedures for most of the historical exploration programs on the NQVP were not available to the authors. The information found in historical reports is included below.

The main methods used for oil content and assay are the Fischer Retort Method for analysis for oil yield from oil shales and multielement analysis by borate fusion x-ray fluorescence (XRF), portable x-ray fluorescence, emission spectroscopy, or atomic absorption spectroscopy (AAS).

6.3.1 Kennecott Explorations (1967)

The phosphate analysis on the drill core during Kennecott exploration program is described by Williamson (1967a; b) as follows:

“Assaying for phosphate using a colorimetric molybdo-vanadate method devised by Shapiro of the U.S.G.S. was carried out concurrently with drilling. A portable box was constructed to house test tubes, reagent bottles, standard colours, and other requirements, enabling rapid analyses to be done without any hold-up of the drill. Assaying was completed and results recorded while the augers were being recovered.”

Figure 6.5. CGM Lithium historical drilling.

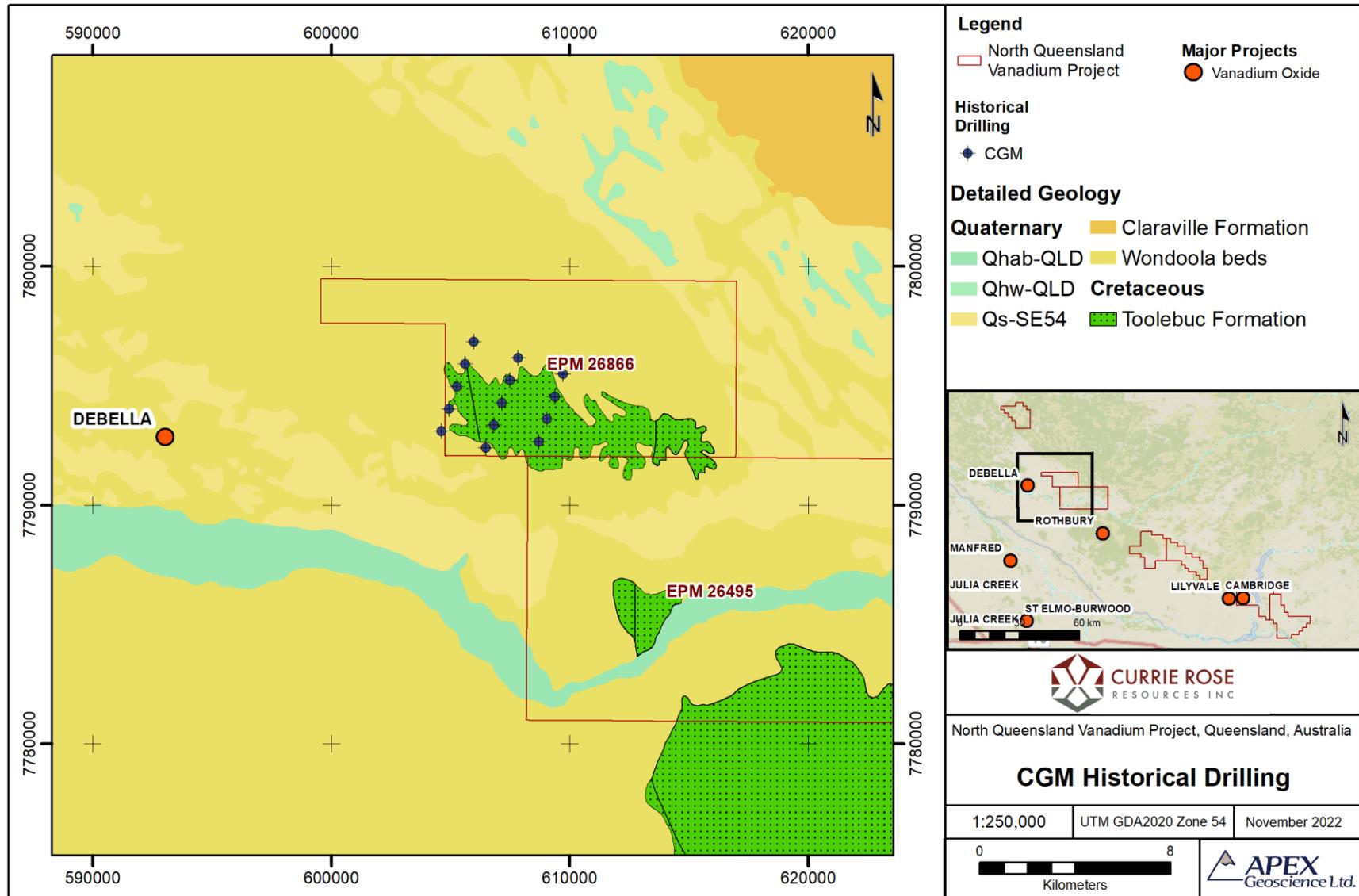
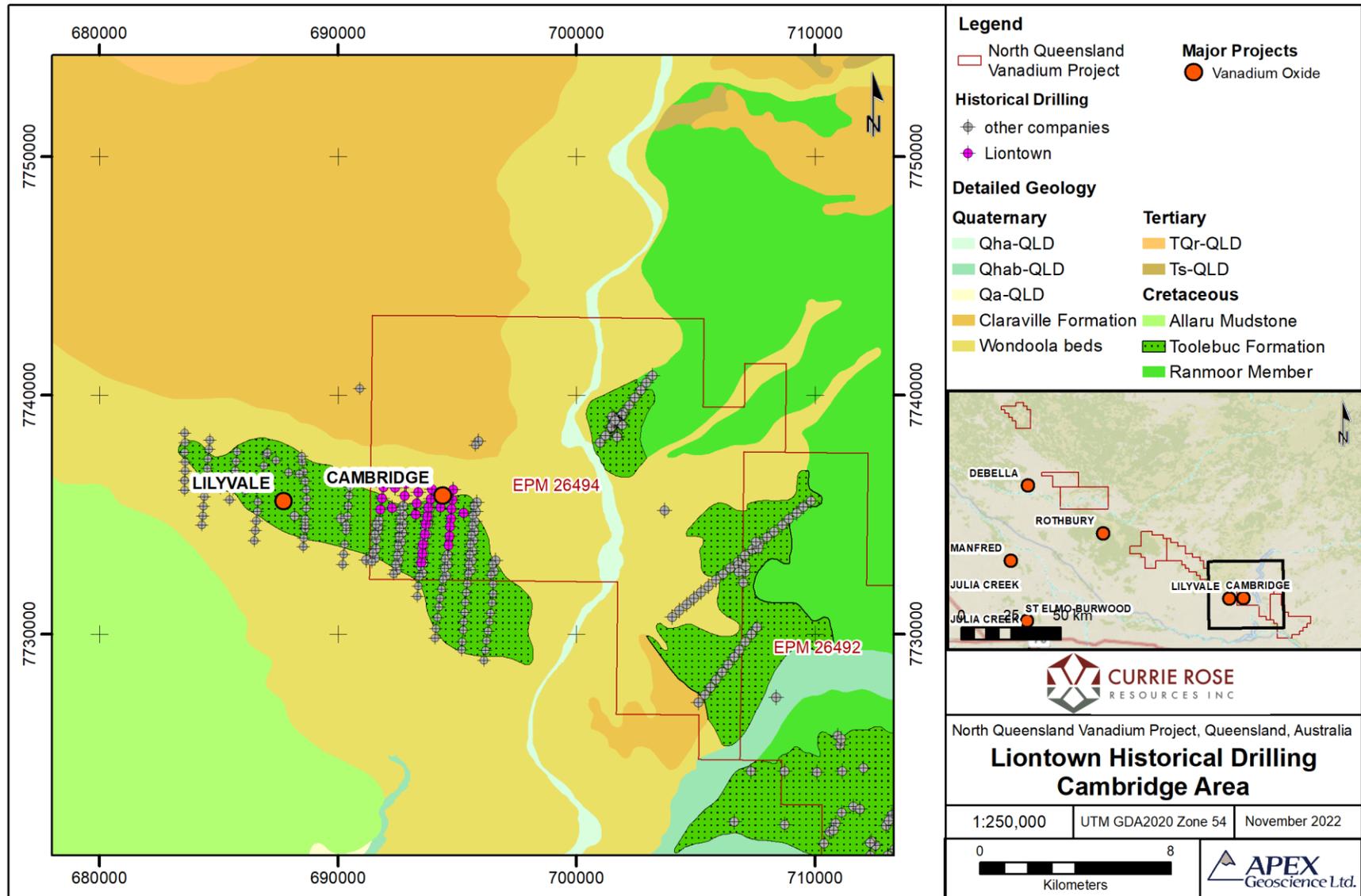


Figure 6.6. Liontown historical drilling.



Potassium dichromate solutions were prepared to match the colours produced by the molybdo-vanadate reagent with standard phosphate samples using a constant sample size. The same sample scoop was used for all assays and was of a size selected to give reliable readings up to 15%. A smaller sample scoop was carried which gives reliable readings up to 30% but the larger sample size gave a greater colour sensitivity, hence a more accurate determination for the lower values.”

6.3.2 Exoil NL/Tronsoil NL (1969-1970)

The Australian Mineral Development Laboratories performed the shale oil analysis for Exoil NL/Tronsoil NL; however, no details of the analysis or sampling methods were described (Draper, 1970).

6.3.3 Pacminex (1971-1980)

Drilling, sampling, and analysis methods in the 1972 Pacminex program in EPM 1028 is described by Jones (1972) as follows:

“Open hole drill cuttings were sampled over 1.00 metre intervals and core was sampled in 0.50 metre lengths. Drill cores and samples from open holing were dispatched to Julia Creek from Richmond. The cores were then cut to obtain continuous samples. All the samples were sent air freight to C.S.R. Central Laboratories in Sydney for analysis for V₂O₅ A.A.S. [Atomic Absorption Spectroscopy].”

Drilling, sampling and in the 1973 Pacminex program in EPM 1283 is described by Wigglesworth (1973) as follows:

“The drill core was split by bolster and hammer and sampled in 0.50 metre intervals with occasional 1.00 metre intervals at the bottom of the holes when in the Ranmoor Member. The amount of core taken for assay varied between 25% to 50% of the actual core.

All samples were sent to McPhar Laboratories, Mt. Isa for sample preparation and then despatched to McPhar, Adelaide for analysis for vanadium by emission spectrography. Samples showing vanadium in the order of 3,000 ppm or greater were to be checked assayed by XRF. Time from sample despatch to receipt of assay results was estimated as three to five days by McPhar prior to the programme. However, the actual time was in the order of two weeks which is what should normally be expected for this region.

Nineteen samples were sent to CSR Central Laboratories in Sydney for analysis of vanadium by A.A.S. Fourteen of these were samples not analysed by McPhar and five were duplicates. It appears that Central Laboratories results read

slightly lower than McPhar. Insufficient duplicate assaying was done for a realistic statistical check.”

Sampling methods from the drilling programs and lab analysis in the Pacminex 1974 drilling program is described by Wigglesworth (1975) as follows:

“Samples from open holes were collected through a cyclone in 1 m intervals over horizons of interest. For open holes samples were assayed in 1 m intervals for V₂O₅ and 2 m intervals for oil. The core hole was assayed in 0.5 m intervals for V₂O₅ and 2 m intervals for oil. Pacminex report (PMR 155/74) gives a more detailed account on how the samples were prepared, and the method of assaying used.

V₂O₅ assaying was done by Australian Laboratory Services (ALS) in Brisbane and the oil (Fischer) assays by TOSCO's Laboratories in Colorado, USA.

Core from RH 47 was taken to Sydney and sawn in half before being sampled. Samples from this core were used for reference duplicate samples to check ALS assaying. The duplicate assaying was done by CSR Central Laboratory.

All drillholes were logged with gamma probe using Pacminex's Austral mini-logger.”

6.3.4 Central Coast Exploration (1971-1981)

Oil results from Central Coast Exploration drilling program were analyzed by Australian Laboratory Services, of Brisbane, using the modified Fischer method ASTM D 3904. The multielement results from the drilling program were selected composite samples that were analyzed for Cu, Pb, Zn, Mo, Ag, Au, and U by AAS (Whitney, 1981a; b; c).

6.3.5 Dampier Mining Company Ltd (1980-1983)

The drilling programs from Dampier Mining Company consisted of HQ and rotary drilling. Sampling was limited to the oil shale. The HQ core was sampled at 2 m intervals and split, with half of the core sent to Australian Laboratory Services of Brisbane, for oil yield analysis. Core from the 1982 program was sent to the Mobil research laboratory in Texas, U.S.A. Results from the Mobil laboratory could not be located. Both drilling programs used the modified Fischer Analysis ASTM D 3904 to analyze for oil content (Dampier, 1983a; b).

6.3.6 CSR Energy Division (1980-1983)

Whole core of the coquinite and oil shales was sampled at approximately 2 m intervals with respect to lithological boundaries and were sent to Australian Laboratory Services Brisbane for analysis by the ASTM method (Modified Fischer Retort Method), for oil, and by XRF for Mo, V and U, and apparent relative density (Osborne, 1982).

6.3.7 Pacific Coal Pty Ltd (1980-1981)

Samples were approximately 2 m in width and targeted the oil shales recovered from drilling. Samples were sent to ACIRL at Rockhampton and Dinmore for Fischer analysis. Some selected samples outside of the NQVP were submitted for total sulphur content and trace element XRF analysis at Australian Laboratory Services Pty Ltd (ALS).

6.3.8 BHP (1981-1984)

The following from BHP (1982) describes the preparation and analysis of drill samples from BHP's drilling programs:

“Representative chip samples were collected in the open hole sections, and bulk chip samples for analysis were taken from likely oil shale horizons that did not warrant coring. The core obtained was logged geologically on-site and then split longitudinally, with one half photographed and retained as core. The other half was sampled in approximately 2m intervals and analysed for oil yield. Contact between the core and the air was minimised by sealing the core in plastic tube as soon as practical after logging and cutting. Oil yield analysis was performed by Australian Laboratory Services of Brisbane and employed the modified Fischer Analysis ASTM D 3904”*

6.3.9 North Exploration-North Mining Ltd (1994)

Drill samples were submitted for unspecified multielement analysis for Cu, Pb, Zn, As, Co, Mo, Bi, Sb, and Au was performed by Australian Laboratory Services, Charters Towers, QLD (Wightman, 1995).

6.3.10 Jacaranda Minerals (2007-2014)

Grab samples from surface programs in 2007-2008 were analyzed by ALS Townsville for:

- Pt, Pd, Au50 by fire assay and ICP by PGM-ICP24
- 48 elements by ICP-MS (inductively couple plasma mass spectrometry with rare earth elements (REEs) by ME-MS61r
- Trace level XRF analysis by MEXRF05 (Collings, 2008).

For the AC drilling programs samples were split with a riffle splitter at 1 m intervals and analyzed using a Niton XL3T portable XRF in a kraft sample bag. Analysis was performed by Hancock Exploration Services (Collings, 2009).

RC holes were sampled at 1 m intervals and analyzed with a Niton XL3T portable XRF in a kraft sample bag. Analysis was performed by Hancock Exploration Services. Samples were also submitted to ALS in Townsville for unspecified Ag, As, Cu, Pb, Zn, and Mo analysis (Collings, 2012).

6.3.11 Horizon Minerals/Intermin Resources (2006-2021)

The vanadium and molybdenum historical mineral resource and oil content calculation was based upon the drilling data from CSR Energy in 1981.

The details of the sampling procedure and analysis of samples from the 2007 RC drill program on EPM 14798 were not available to the authors.

Samples from the AC drill program on EPM 15869 was collected by a rig mounted splitter. Preparation and analysis are described in Cranley (2007b) as follows:

“Samples were collected on the AC drill program on EPM 15869 every metre, bagged and sent to ALS in Townsville for analysis and then submitted to ALS in Perth. Samples were pulverized and then digested with a mixture of Hydrofluoric, Nitric, Hydrochloric and Perchloric acids. The digest was then analysed using ICPMS for Ag (ppm) and Mo (ppm), and using ICP Optical Emission Spectrometry for Al (%), Ca (%), Cu (ppm), Mn (ppm), Na (%), P (ppm), S (ppm), Ti (%), V (ppm), and Zn (ppm).”

6.3.12 Chalice Gold Mines (CGM Lithium) (2018-2021)

Drillholes from the 2020 AC drilling program on EPM 26866 were continuously sampled every 1 m and submitted for whole rock 40-element analysis via borate fusion and an XRF finish.

Certified reference material (CRM) samples OREAS 198, OREAS 199, and Terrasearch blank sand samples TSSND003 were inserted into the sample sequence and submitted to the laboratory (Currie Rose, 2021). QA/QC samples constituted approximately 8% of the analyzed samples. All OREAS 198 and OREAS 199 returned assays of 0.07% V and 0.12% V₂O₅. All Terrasearch blank sand samples reported vanadium below detection. No duplicates were inserted into the sample sequence.

6.3.13 Liontown Resources (2017-2021)

Samples from the 2019 AC drilling program were split using a riffle splitter and collected at 1 m intervals. Samples were submitted to SGS Australia, in Perth, Western Australia. QA/QC samples were inserted into the sample stream. Samples were analysed using XRF78S which includes a borate fusion with XRF analysis for major elements, including Al₂O₃, CaO, Cr₂O₃, K₂O, MgO, MnO, Na₂O, P₂O₅, Fe₂O₃, SiO₂, TiO₂, V₂O₅, SUM, LOI and S as SO₃ and minor elements including As, Ba, Cl, Co, Cu, Ni, Pb, Sn, Sr, Ta, V, Zn, and Zr.

CRM and blank samples were inserted at a rate of around 8% of the total samples submitted to the lab. This included OREAS CRMs 198 and 199 and a Terrasearch blank sand sample TSSND003. No duplicates were inserted into the sample sequence.

All of the OREAS 198 and OREAS 199 samples returned assays of 700 ppm V and 0.12% V₂O₅, which is on the high side of the certified mean value yielding a positive standard deviation (SD; Figures 11.1 and 11.2). However, the CRMs used in this analysis are not certified for Borate XRF fusion. The certificate of analysis for OREAS 198 presents an indicative value of 1,060 ppm V₂O₅ for borate fusion XRF and 644 ppm ± 66 ppm (2SD) for V by borate/peroxide fusion ICP. For OREAS 199, the certificate of analysis presents an indicative value of 1,092 V₂O₅ for borate fusion XRF and 657 ppm ± 76 ppm (2SD) for V by borate/peroxide fusion ICP.

6.4 Historical Oil and Vanadium Metallurgical Processing

Developing an extraction process for economic quantities of oil and metals from the oil shale has presented a challenge from the onset of exploration in the area in the 1960's. Aquitaine Minerals and The Oil Shale Corporation (TOSCO) conducted preliminary studies on the processing of the oil shale and metals.

Numerous companies in the Julia Creek area initiated studies into the extraction of the oil from mined Toolebuc material (Aquitaine, TOSCO, and CSR) and in-situ extraction methods (Jems Exploration). The overall grade of the oil in the area is considered low compared to other oil shales in the world. The economics of extracting the oil from the Toolebuc Formation are largely dependant on the price of oil and the efficiency of the extraction methods. The current focus of exploration is extracting vanadium, but the oil is another factor that needs to be considered when planning extraction and processing of the Toolebuc Formation.

Horizon/Intermin undertook several years of study to determine the best methods for extracting oil and vanadium from the oil shales. Metallurgical test work evaluated a number of parameters for best extracting oil from the oil shales and shifted focus to the extraction of vanadium and other metals from the oil shales with different formulations of a pre-leach and leaching processes and pyrometallurgical studies (Percival, 2014).

In February 2018, ANSTO Minerals of Sydney, Australia, completed preliminary metallurgical testwork on a 20 kg surface sample collected from the Silver Hills area. This testwork indicated the following, as reproduced from Currie Rose (2021):

“The mineralized material is oxidized, shallow, soft, friable and probably free-digging;

- The vanadium is largely contained with the finer fraction (<38 um) meaning it may be suitable for pre-concentration; and*
- The mineralization is amenable to acid leaching.*
- These results are consistent with data published by Intermin for its Lilyvale resource.”*

In late 2019, Inception Consulting Engineers were engaged by Liontown to conduct a review of historical metallurgical testing and process assumptions for various vanadium

deposits situated in northwest Queensland, in order to develop a testwork program for the Toolebuc Project. The geology and mineralization of the off-Property vanadium deposits were interpreted to be similar to the Cambridge Deposit.

Inception concluded that there were various opportunities to achieve a 1% V₂O₅ concentrate grade through relatively simple beneficiation. They recommended bench-pilot studies on the vanadium mineralization, including variability studies based on lithology, grade, mineralogy, etc. Mineralogy of the different samples should be detailed to show:

- 1) The relative abundances of the mineral or element of interest.
- 2) Department of elements between minerals.
- 3) Liberation and locking data for key elements or minerals (e.g., V, Fe, Si)
- 4) The grain size of vanadium particles in the ore (Inception Consulting Engineers, 2019).

Inception suggested a variety of testwork methodologies, including gravity concentration, flotation (or reverse flotation) of the carbonate gangue material prior to leaching, the further investigation of salt roast with sodium carbonate leach, and the investigation of ROM screen test analysis (ROM screen, -2 mm to -0.5 mm staged rolls crushed screening) (Inception Consulting Engineers, 2019).

6.5 Historical Resources

6.5.1 Pacminex (1971-1980)

Pacminex prepared a historical preliminary inferred geological reserves estimate for V₂O₅ mineralization situated within EPM 26492 of the NQVP, as summarized in Table 6.10. The reader is cautioned that the use of the term “reserves” in the estimation of mineralized material is simply a reproduction of the original terminology used in Wigglesworth (1973) and does not reflect the current definition of the term “reserve” or imply that there are current reserves defined within the Property. The historical mineral reserve estimate was calculated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by the CIM Definition Standard on Mineral Resources and Ore Reserves dated May 10, 2014). The authors of this Technical Report have not done sufficient work to classify this historical estimate as a current mineral reserve or mineral resource. The authors refer to this estimate as a “historical resource or reserve” and the reader is cautioned not to treat it, or any part of it, as a current mineral resource or reserve. The reliability of the historical estimate is considered reasonable but there is insufficient information available to properly assess the data quality, estimation parameters and standards by which the estimate was categorized and to classify the historical estimate as a current mineral reserve. The Company is not treating the historical estimate as a current mineral reserve. The historical resource and reserve have been included simply to demonstrate the mineral potential of the NQVP Property. A current Mineral Resource Estimate for the Cambridge Deposit is detailed in Section 14 of this Technical Report.

Table 6.10. Summary of Inferred Vanadium Reserves*.

a) Irrespective of overburden/mineralization ratio in drillholes b) Considering only those holes with an overburden to mineralization ratio of less than 10:1 (Wigglesworth, 1973).

a)

% Cut Off Grade Taken in Drillholes	Tonnes (x10 ⁶)	Weighted Average Grades (V ₂ O ₅)	Strip Ratio
0.5	71	0.59	6:1
0.6	30	0.65	8:1
0.7	8	0.73	3:1

b)

% Cut Off Grade Taken in Drillholes	Tonnes (x10 ⁶)	Weighted Average Grades (V ₂ O ₅)	Strip Ratio
0.5	66	0.59	4:1
0.6	23	0.66	5.5:1
0.7	8	0.73	3:1

* The reader is cautioned that the use of the term “reserves” in the estimation of mineralized material is simply a reproduction of the original terminology used in Wigglesworth (1973) and does not reflect the current definition of the term “reserve” or imply that there are current reserves defined within the Property. The historical mineral reserve estimate was calculated prior to the implementation of the standards set forth in NI 43-101 and current CIM standards for mineral resource estimation (as defined by the CIM Definition Standard on Mineral Resources and Ore Reserves dated May 10, 2014). The authors of this Technical Report have not done sufficient work to classify this historical estimate as a current mineral reserve or mineral resource. The authors refer to this estimate as a “historical resource or reserve” and the reader is cautioned not to treat it, or any part of it, as a current mineral resource or reserve. There is insufficient information available to properly assess the data quality, estimation parameters and standards by which the estimate was categorized. The historical resource and reserve has been included simply to demonstrate the mineral potential of the NQVP Property. A current Mineral Resource Estimate for the Cambridge Deposit is detailed in Section 14 of this Technical Report.

Some material from RH31 was submitted for a Fischer analysis and returned a result of 17 US gallons/short ton over 5 m with a strip ratio (barren material to oil shale) of 3.8:1 (Wigglesworth, 1973; Wigglesworth, 1975).

6.5.2 Horizon Minerals/Intermin

Horizon/Intermin calculated resources for oil in unoxidized oil shale and vanadium and molybdenum in the oxidized portion of the oil shale across their tenements. They identified two deposits, Lilyvale and Rothbury, located adjacent to the west of the NQVP. The most recent mineral resource estimates for the Lilyvale and Rothbury deposits are discussed in Section 23.

6.5.3 Liontown Resources

A historical mineral resource estimate (MRE) was calculated for the Cambridge Deposit located on EPM 26494 by Optiro Pty Ltd. for Liontown Resources in 2018 (the “Optiro MRE”). The resource was calculated based on 35 vertical aircore (AC) drillholes totaling 832 m drilled by Intermin in 2008. The Cambridge Deposit is located east of the Lilyvale Deposit. At the Cambridge Deposit the mineralization ranges in thickness from 1 to 17 m with an average thickness of 9 m.

The resource model for the Cambridge Deposit was constructed using a parent block size of 200 mE by 500 mN on 1.0 m benches, and the parent blocks were allowed to sub-cell down to 100 mE by 40 mN by 0.5 m RL to more accurately represent the geometry and volumes of the geological and mineralization horizons. Vanadium pentoxide (V₂O₅) % and molybdenum trioxide (MoO₃) ppm block grades were estimated using ordinary kriging techniques, with appropriate top-cuts applied to the MoO₃ data and search ellipses oriented within the plane of the mineralization. A bulk density of 1.8 t/m³ was applied for tonnage estimation (Standing and Glacken, 2018).

Table 6.11 shows the inferred V₂O₅ and MoO₃ MRE for the Cambridge Deposit. The resource was calculated in accordance with the JORC Code 2012 and was reported above a cut-off grade of 0.25% V₂O₅. There are no material differences between the definitions of Mineral Resources under the applicable definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM Definition Standards") and the corresponding equivalent definitions in the JORC Code for Mineral Resources. Mr. Dufresne and Mr. Nicholls have reviewed the resource and the underlying data and conclude the MRE was completed to current CIM standards. The reliability of the historical estimate is considered reasonable. However, the MRE is now considered historical in nature as the additional drilling completed by Liontown in 2019 is not included in the 2018 Optiro MRE and the MRE was completed on behalf of Liontown Resources. Mr. Dufresne and Mr. Nicholls confirm that the quality of the 2019 drill program was sufficient to prepare an updated and expanded MRE for Cambridge Deposit.

Table 6.11. 2018 historical mineral resource for the Cambridge Deposit (Standing, 2018).

Resource category	Million tonnes	V ₂ O ₅ %	MoO ₃ ppm
Inferred	83.7	0.30	188
Total	83.7	0.30	188

- Reported above a V₂O₅ cut-off grade of 0.25%
- Tonnages and grades have been rounded to reflect the relative uncertainty of the estimate
- Mr. Dufresne and Mr. Nicholls have reviewed the resource and the underlying data and conclude the MRE was completed to current CIM standards. However, the MRE is now considered historical in nature as the additional drilling completed by Liontown in 2019 is not included in the 2018 Optiro MRE and the MRE was completed on behalf of Liontown. A current MRE for the Cambridge Deposit is detailed below in Section 14.

6.6 Historical Production at the North Queensland Vanadium Property

There is no record of any production on the NQVP.

7 Geological Setting and Mineralization

7.1 Regional Geology

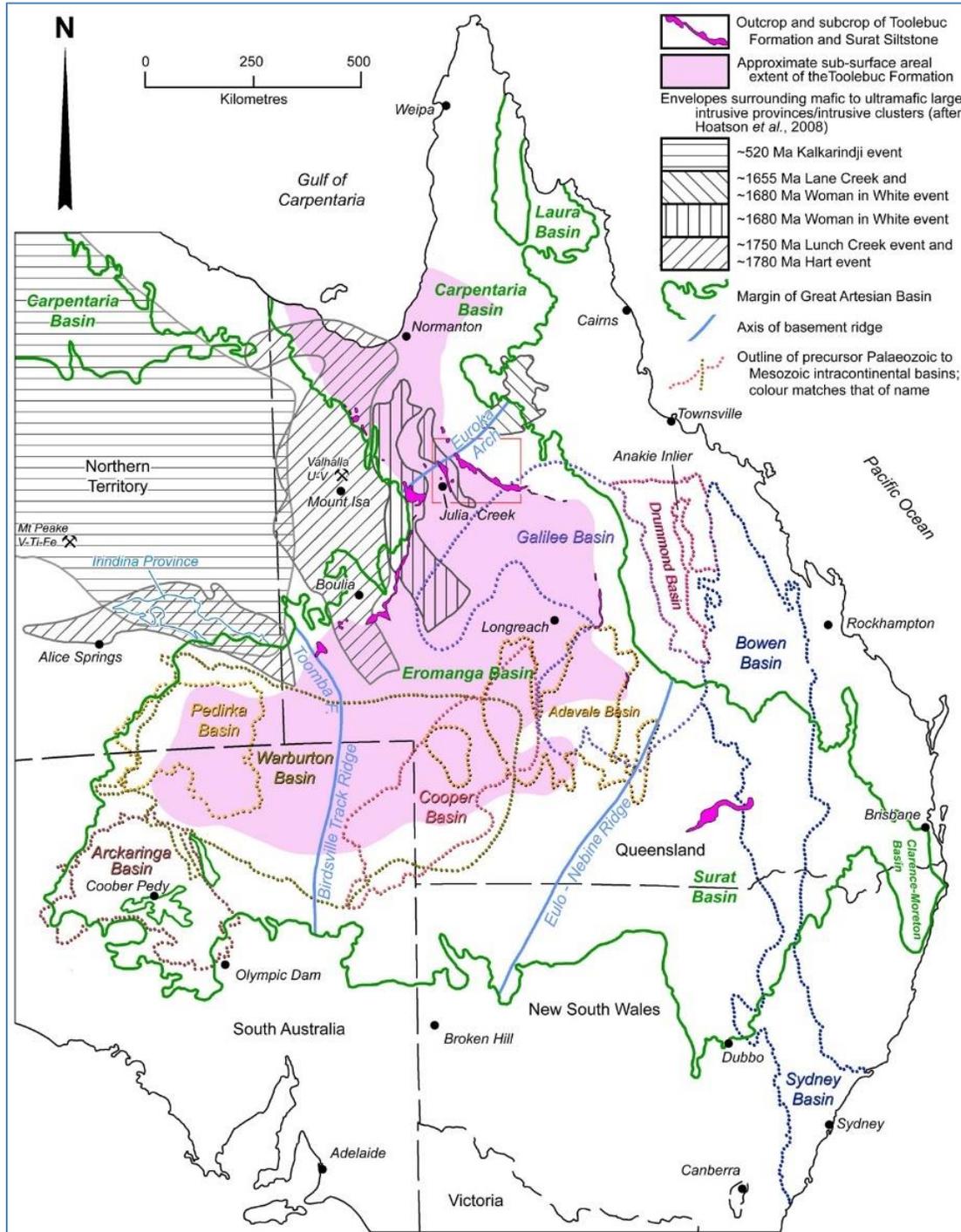
The North Queensland Vanadium Project (“NQVP”) is located between the contact of the Eromanga Basin and the Carpentaria Basin in Northern Queensland. Both basins are part of the larger Great Artesian Basin of eastern Australia (Figure 7.1). The Jurassic-Cretaceous Carpentaria Basin is located to the north of the Eromanga Basin and continues offshore under the Gulf of Carpentaria. The Carpentaria Basin is an intracratonic basin composed of marine sandstones and siltstones that covers a surface area of approximately 680,000 km² with a maximum thickness of 1,760 m. The rock units of the Carpentaria were deposited directly above the Proterozoic and Paleozoic basement rocks (Munson et al., 2013).

The Eromanga Basin covers approximately 1,000,000 km² and is up to 3,000 m thick. The basin was created by a down-warp of Proterozoic and Paleozoic metamorphic and igneous rocks during the Jurassic-Cretaceous and is largely composed of marine clastic and carbonate rock sequences. The Eromanga Basin unconformably overlies the older Cambrian-Triassic basins which were deposited above the Proterozoic-Paleozoic basement rocks, except in the northeast part of the basin where they are directly above the basement rocks (Toolebuc, 2020; Coxhell and Felhberg, 2000).

The Euroka Arch is a northeast-southwest oriented basement high that separates the Carpentaria and the Eromanga Basins. It is assumed there is stratigraphic continuity between the Carpentaria and Eromanga Basins and the Euroka Arch marks a change in depositional environment to more restricted lower energy settings to the southeast of the arch in the Eromanga (Munson et al., 2013).

Within the Cretaceous portions of the Eromanga and Carpentaria Basins is the Rolling Downs Group which includes the Toolebuc Formation. The Toolebuc Formation is the focus of vanadium and oil shale exploration in the NQVP. The Toolebuc Formation is Late Albian in age, approximately 105 Ma, and is composed of marine black bituminous shales, siltstones, limestones, and coquinite layers (mixed shelly limestone and clays). The Toolebuc Formation is relatively thin, generally ranging from 20 to 45 m with a maximum thickness of 65 m in the Eromanga Basin and 6 to 21 m in the Carpentaria Basin. The Toolebuc Formation covers an area of approximately 500,000 km² (Figure 7.1). The Toolebuc Formation is generally found 200 m below the surface except along the margins of the Eromanga Basin and the Carpentaria Basin where the Toolebuc Formation is exposed at or near the surface (Lewis et al., 2010). In the NQVP area, the Toolebuc Formation is draped over an original basement high, bringing the Toolebuc Formation closer to the surface than in other parts of the basin (Coxhell and Felhberg, 2000; O’Farrell, 2018).

Figure 7.1. The regional geological setting of the North Queensland Vanadium Project showing the Great Artesian Basin (outlined in green), the Eromanga Basin, and extent of the Toolebuc Formation in the subsurface and in outcrop in Eastern Australia. The red box denotes the location of the Julia Creek and NQVP areas (Toolebuc, 2020).

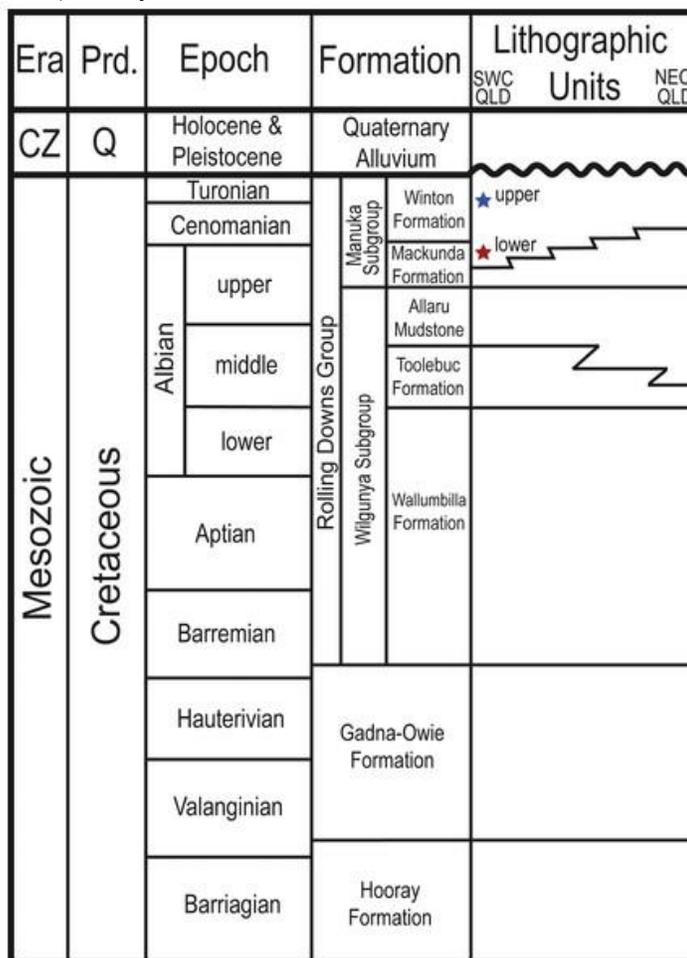


7.2 Property Geology

The geology of the area surrounding the NQVP includes exposures of the Paleoproterozoic Einasleigh metamorphic basement rocks approximately 80 km to the northeast, along with exposures of Jurassic sandstones from the Gilbert River, Loth, and the Hamstead Formation.

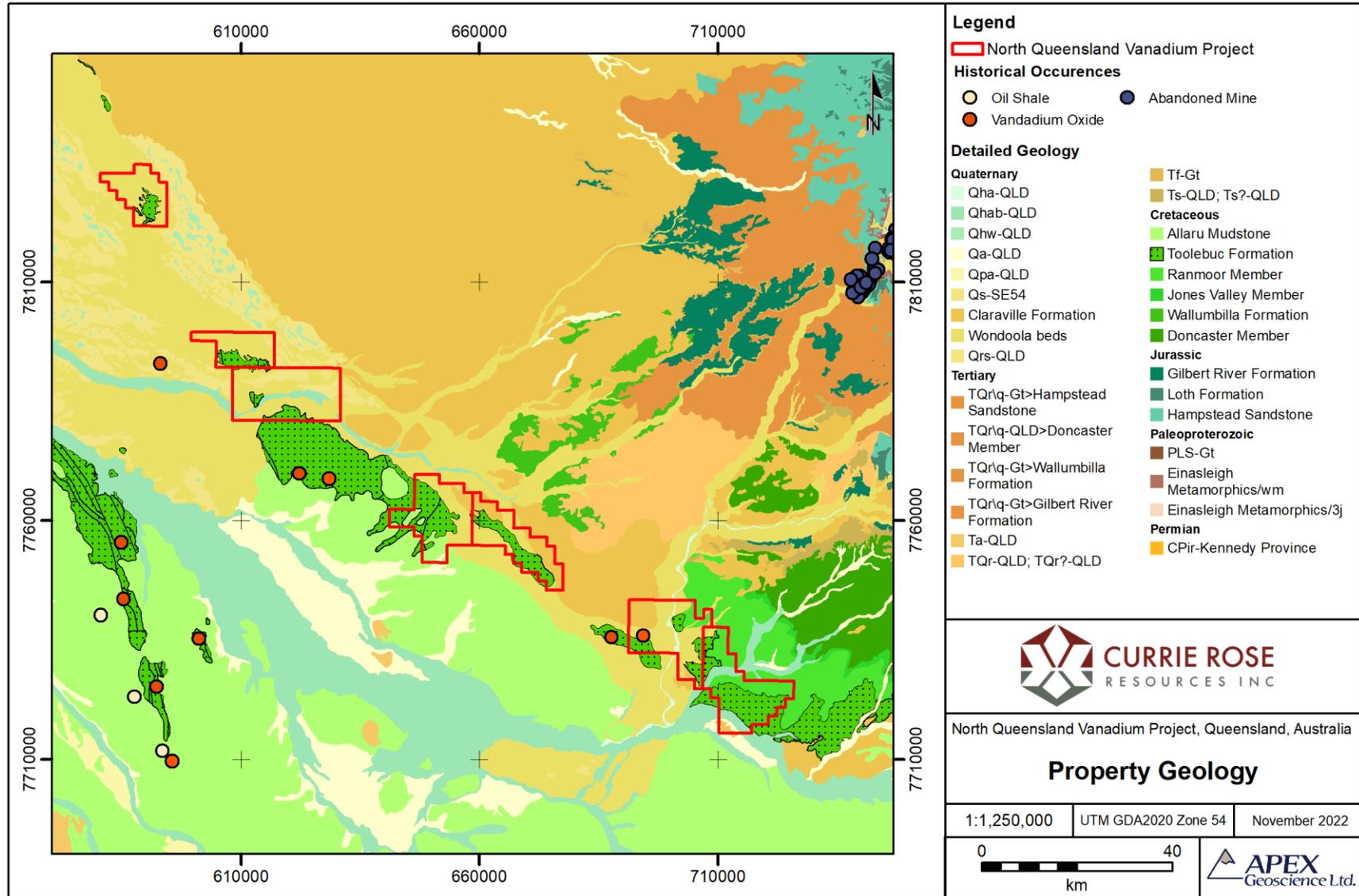
The geology of the NQVP is dominated by surface and near surface exposures of the Cretaceous marine units from the Rolling Downs Group including the Ranmoor Member of the Wallumbilla Formation and the Toolebuc Formation, and the Allaru Mudstone. The Cretaceous units are obscured by recent Quaternary and Tertiary deposits (Figures 7.2 and 7.3).

Figure 7.2. A detailed stratigraphic column of the Rolling Downs Group and the Toolebuc Formation (Fletcher et al., 2018).



The Wallumbilla Formation is the oldest unit in the Wilgunya subgroup and consists of a grey to black mudstone with increasing carbon content towards the contact with the Toolebuc Formation (Lewis et al., 2010).

Figure 7.3 Property geology showing occurrences of the Toolebuc Formation with the property boundaries of the NQVP.



The Toolebuc Formation is exposed in a northwest-southeast orientation with a relatively shallow dip. The Toolebuc Formation is dominantly composed of black bituminous shales, siltstones, limestones, and coquina layers (mixed shelly limestone and clays) (Lewis et al., 2010). In this area the Toolebuc Formation consists of two primary units representing different facies: an upper, coarse limestone-rich-clay-oil shale unit (coquina unit) and a lower, fine-grained carbonate-clay-oil shale unit (Coxhell and Felhberg, 2000; O'Farrell, 2018). The upper coquina unit averages 5-6 m in thickness and comprises shells and other fossils including fish debris, reptilian bone fragments and belemnites within a matrix of black shale. These fragments are interpreted to impart the unit its distinctive gamma ray response and contribute to the phosphate component in the deposit. In fresh core the unit is recognised by its distinctive black-and-white colouration. The thickness of the lower black shale unit varies considerably however it averages 7-8 m in thickness. Organic matter in the black shales is predominately bituminite and micrinite. The organic matter is interpreted to have formed from cyanobacteria mats (Lewis et al., 2010 and references therein).

The Allaru Mudstone overlies the Toolebuc Formation and is largely composed of blue-grey mudstones (Lewis et al., 2010). The contact between the Toolebuc Formation and Allaru Mudstone is largely gradational.

Weathering has been identified in the area to extend down to a depth of 19 m (Coxhell and Fehlbberg, 2000). The weathering can include oxidation and carbonate cementation and is recognised by the colour of the shale: the Toolebuc shale changes from a black colour to a light grey. At the nearby Julia Creek deposit, eight different rock types have been identified in the 30 m below ground surface (Lewis et al., 2010). These include:

- weathered Allaru Formation,
- fresh Toolebuc coquina,
- weathered and uncemented Toolebuc coquina,
- weathered and cemented Toolebuc coquina,
- fresh Toolebuc shale, weathered Toolebuc shale,
- fresh Ranmoor Member and
- weathered Ranmoor Member.

7.3 Mineralization

Vanadium and oil shale mineralization in the NQVP is hosted in the Cretaceous marine sediments of the Toolebuc Formation. The Toolebuc Formation consists of black carbonaceous and bituminous shales and siltstones, limestone lenses, and coquinites (mixed shelly limestones and clays). The Toolebuc Formation consists of two distinct units: an upper coarse oil shale-rich limestone (coquina) and a lower, fine-grained oil shale (Coxhell and Felhberg, 2000; O'Farrell, 2018). Weathering of the Toolebuc Formation removed organic components resulting in residual enrichment of trace metals including vanadium in the weathered portions of the Formation. Through the weathering processes the vanadium became predominantly associated with iron oxide/hydroxide phases (Lewis et al., 2010). The oxidized portions of the Toolebuc Formation are the main

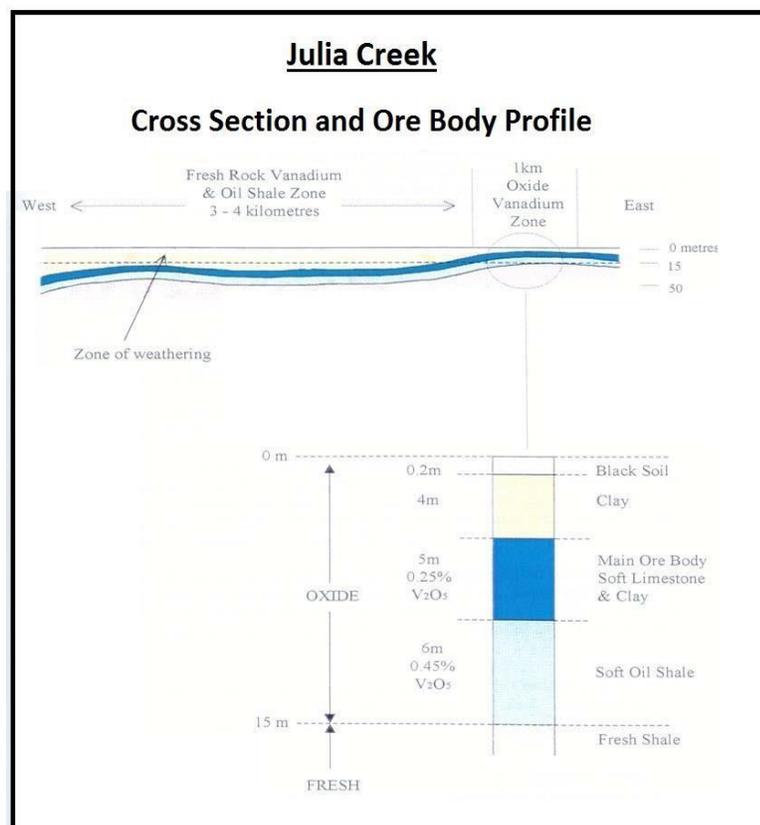
target for V_2O_5 mineralization (Figure 7.4). Unoxidized oil shales in the area generally have low oil grade however a few samples have reported oil grades up to 65 to 75 l/t (Toolebuc, 2020).

The mineralized portion of the Toolebuc Formation ranges from 1 to 17 m in thickness, with an average thickness of 9 m, and is found at surface or underlying the Allaru Mudstone or recent overburden. Significant vanadium mineralization can extend along strike for several kilometers as found at the Lilyvale Deposit and Cambridge Deposit.

The following description of the origin of metals enrichment in the Toolebuc Formation is taken from Coxhell and Felhberg (2000) and O’Farrell (2018):

“The Toolebuc Formation is anomalous in a wide range of elements, including copper, zinc, nickel, vanadium and molybdenum. The vanadium within the Toolebuc Formation is interpreted to have been concentrated by marine organisms, fixing the vanadium from seawater over a long period of time in an anaerobic environment. The vanadium occurs as both organic and inorganic forms, suggesting that a unique combination of physical and chemical conditions was necessary for the accumulation of the various vanadium mineral species.”

Figure 7.4. Schematic cross section of oxidized and fresh mineralization styles of the Toolebuc Formation found in the Julia Creek area (Richmond, 2020).

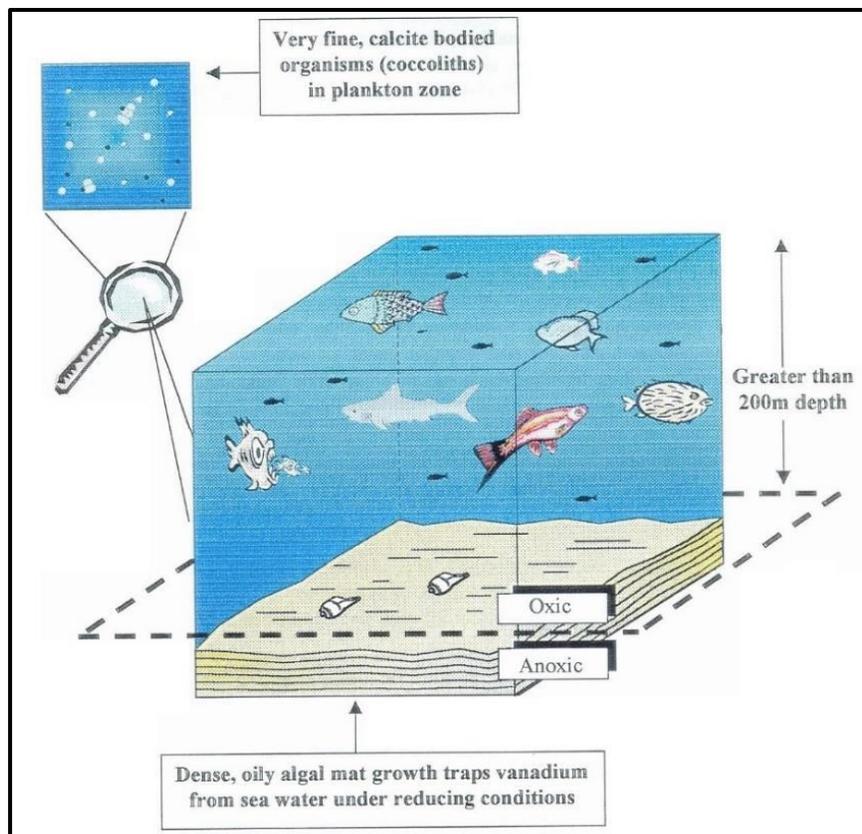


8 Deposit Types

Exploration at the NQVP has targeted five different deposit types including sedimentary-hosted phosphates, roll-type molybdenum-vanadium-uranium, Iron Oxide Copper Gold (IOGC) deposits, kerogen in oil shale, and oil shale-hosted vanadium. The focus of current exploration programs is oil shale hosted vanadium.

Current exploration in the NQVP is focused on oil shale hosted vanadium within the Toolebuc Formation. The Toolebuc Formation consists of black carbonaceous and bituminous shales and siltstones, limestone lenses, and coquinities (mixed shelly limestones and clays) that is known to host anomalous metals including vanadium and molybdenum. The vanadium is thought to have accumulated in a shallow sea 50-220 m below the surface from shelled organisms in the anaerobic conditions of the seafloor (Figure 8.1). The vanadium was incorporated in the shells of these organisms, possibly sourced from weathered material of the igneous rocks from the hinterland of the Eromanga Basin (Toolebuc, 2020; Coxhell and Felhberg, 2000). Portions of the near-surface Toolebuc Formation have been oxidized which has removed most, if not all, of the volatile organic material and resulted in the enrichment of vanadium in this unit. These oxidized portions of the Toolebuc Formation occur beneath the NQVP tenements and are favorable exploration targets for future development.

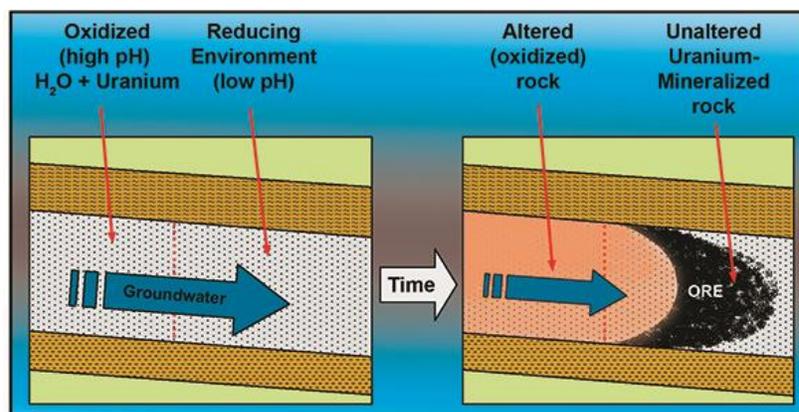
Figure 8.1. Possible depositional setting for vanadium-rich oil shale in the Toolebuc Formation in the North Queensland Vanadium Project (Richmond, 2020).



Sedimentary hosted phosphate was found on the Property hosted in the carbonate rocks of the Eromanga Basin. Sedimentary hosted phosphate deposits are stratiform or lens shaped deposits ranging from <1 m to 10's of metres in thickness and can extend for hundreds of kilometers. The primary mineralization usually consists of primary or reworked phosphorites or phosphate rocks laid down in the bedding of sedimentary rocks. Ore minerals are usually microcrystalline francolite, pellets, oolites, nodules, and fragments of bones or shells (Simandl et al., 2012). Phosphate deposits were found within the NQVP during the exploration in the 1960's but the total amount of phosphates was too low to support a mine at the time (Draper, 1970).

Roll-type or roll-front molybdenum-vanadium-uranium deposits are formed when oxidizing high pH meteoric waters dissolve and transport mobile metals (molybdenum, vanadium, and/or uranium) through a permeable rock, most typically a sandstone, and deposit those metals along a redox (reduction-oxidation) boundary. Fluids continue to flow along the permeable horizon and deposit metals in a crescent shaped ore deposit (Figure 8.2; Kehoe, 2022). The Toolebuc Formation is known to host anomalous quantities of numerous metals that could possibly be transported and concentrated in a roll-type exploration model. Jacaranda Minerals were exploring for roll-type deposits from 2007-2014. Samples from the Toolebuc Formation returned anomalous levels of uranium, molybdenum, and base metals but there was no evidence for any down dip concentration of these metals. The low dip angles of the Toolebuc Formation are thought to be too low to transport fluids necessary to produce roll-type deposits in this area (Collings, 2012).

Figure 8.2. Simplified roll-front or roll-type uranium model (Kehoe, 2022).



IOCGs are a loose grouping of structurally controlled magmatic-hydrothermal deposits, commonly with initial sodic or sodic-calcic alteration phases, minor quartz veins, they often occur in Precambrian inter-cratonic settings, and contain precious metals associated with iron oxide (hematite, magnetite) (Groves et al., 2010). Grades in most IOCG deposits are moderate to low (with some rare giant deposits like Olympic Dam in Australia) and can contain economic quantities of a variety of commodities (Fe, Cu, Pb, Zn, Co, Bi, Mo, V, U, Th and rare earth elements). Mineralization styles in IOCG deposits are diverse and can consist of strata-bound, discordant breccia zones, veins, replacements, disseminations, mantos, and skarns (Potter et al., 2020). At the NQVP, the

Proterozoic and Paleozoic basement rocks below the rocks of the Eromanga and Carpentaria Basins hold the potential to host IOCG deposits. Historical exploration programs did not find any IOCG mineralization or any potential for IOCG targets from magnetic, radiometric, and gravity surveys in the area (Wightman, 1995; Uppill and Harris, 1996; Johnson and Withers, 1996; Kary, 2002).

Oil shale is a type of fine-grained sedimentary rock embedded with organic material known as kerogen (an immature form of petroleum). The kerogen in the oil shale was formed from the deposition of organic material (plants, animal material, algae, and/or marine organisms) over time in a terrestrial, marine, or lacustrine environment. If the kerogen is in high enough concentrations and is extractable, the oil shale can be mined and processed to produce hydrocarbons (Knaus et al., 2010). The Toolebuc Formation contains layers of oil shale that have been explored from the 1960's to the present and still hold potential to produce economic quantities of petroleum.

Shale-hosted vanadium deposit types are typically explored for using magnetic, gravity and radiometric geophysical surveys, geological mapping and geochemical sampling programs with proof-of-concept drill programs.

9 Exploration

Currie Rose has not conducted any exploration on the Property to date. Historical exploration completed on the Property is discussed in Section 6. None of this work was completed by or on behalf of Currie Rose.

10 Drilling

Currie Rose has not yet conducted drilling at the NQVP. A summary of historical drilling completed within the Property is presented in the following section. A detailed discussion of historical drilling completed on the Property and significant results of these drill programs are provided in Section 6.2 of this Technical Report.

An overview of the historical drilling and pre-Intermin historical drilling in the southeast Property area is illustrated above in Figures 6.1 and 6.2.

10.1 Historical Drilling

Significant historical drill programs that overlapped the NQVP Property and targeted the vanadium mineralization were completed by Pacminex in 1973, Jacaranda Minerals in 2007, Intermin/Horizon between 2006 and 2013, and LioneTown and CGM Lithium in 2019-2020. In total, 270 historical drillholes are located on the Property. The historical drilling largely targeted the oil shale and vanadium mineralization hosted in the Toolebuc Formation.

Historical drilling from the 1970's and early 2000's completed by Pacminex and Jacaranda Minerals, respectively, intersected shallow (<5 m deep), widespread vanadium mineralization (>0.25% V₂O₅) in the Silver Hills area (on EPM 26492). The Silver Hills area includes the outcropping Toolebuc Formation and is located 10-30 km east – southeast of the Cambridge prospect.

Intermin/Horizon completed extensive drilling and exploration across a large land package partially overlapping the NQVP from 2006 up to present day. Intermin completed over 11,000 m of drilling across their land package at that time, to delineate the vanadium mineralization in the area. A total of 63 holes, totaling 1,442 m, from the Intermin drill programs are located within the NQVP. Intermin delineated the Lilyvale Deposit adjacent to the west of NQVP tenement EPM 26494 and identified the Cambridge Deposit adjacent to the Lilyvale Deposit. The Cambridge Deposit lies within the current NQVP Property. Additionally, drilling at the Runnymede area, currently on NQVP EPM 26490 defined the presence of shallow, vanadium mineralization over a 3.5 km by 3.5 km area. The Runnymede prospect is located 25-30 km northwest of the Cambridge Deposit. Highlight intersections from drilling in this area include 9 m with an average grade of 0.37% V₂O₅ in hole JRC07282, 8 m grading at 0.41 % V₂O₅ in hole JRC07292 and 9 m grading 0.36% V₂O₅ in hole JRC07293.

The Intermin drillholes at the Cambridge Deposit were completed at a nominal spacing of approximately 1,000 m by 400 to 500 m with the drillholes oriented perpendicular to the interpreted strike of the mineralized trend. The drilling was completed by Belldale Drilling with a truck mounted 650cfm 300 psi aircore rig. All drillholes were located using a handheld GPS. One second digital elevation data from a Geoscience Australia dataset was used to construct a topographical surface and the drillhole collar data was projected to this surface to determine the collar elevations. The samples were collected every metre, bagged, speared and set to ALS Laboratory (ALS) in Townsville, Queensland, for preparation and then shipped to ALS in Perth, Western Australia, for analysis. ALS is an ISO 9001:2015 certified and ISO/IEC 17025:2005 accredited geoanalytical laboratory and is independent of Currie Rose and the authors of this Technical Report. Details of the sample preparation, analysis and security of the 2008 Intermin drilling program are provided below in Section 11.1.

In 2019, LioneTown completed additional exploration and a confirmation drill program over the Cambridge Deposit including 30 holes totaling 745 m. LioneTown's AC program was designed to validate the Intermin drill results and test for a northern extension of the Cambridge Deposit. A total of seven holes twinned historical Intermin drillholes and the assay results showed a good correlation with similar widths and grades of mineralization intersected. The drilling was completed by Eagle Drilling with a truck mounted aircore rig. Samples were submitted to SGS Australia (SGS), in Townsville, Queensland, for preparation and shipped to SGS in Perth, Western Australia, for analysis. The entire sample was pulverized and analysed via XRF78S, which includes a borate fusion with XRF analysis. SGS is an ISO/IEC 17025:2005 accredited geoanalytical laboratory and is independent of Currie Rose and the authors of this Technical Report. The sample

preparation, analyses and security of the 2019 Liontown drill program was completed in accordance with modern standards, as detailed below in Section 11.2.

The best intersections from the Liontown drill program include:

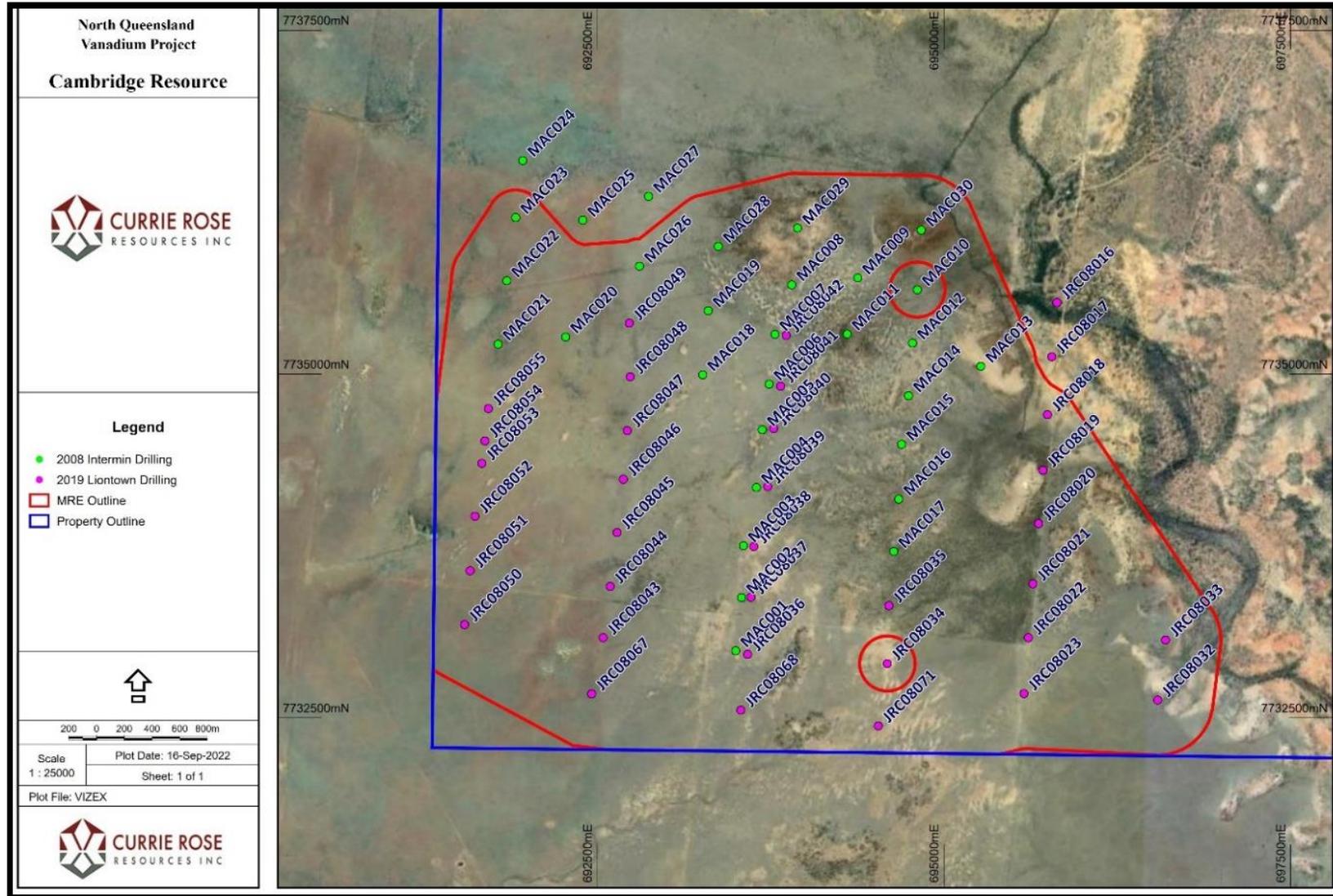
- 6 m at 0.45% V₂O₅ from 2 m in drillhole MAC013
- 10 m at 0.45% V₂O₅ from 10 m in drillhole MAC015
- 9 m at 0.36% V₂O₅ from 7 m in drillhole MAC022
- 6 m at 0.39% V₂O₅ from 3 m in drillhole MAC029 (Liontown Resources, 2020).

The Liontown drilling verified the historical drilling and defined additional vanadium mineralization immediately to the north of the Cambridge Deposit, covering an area of 3.7 km² and averaging 7 m thick at 0.38% V₂O₅. Drilling to the north of the area hosting the historical Optiro MRE intersected additional mineralization averaging ~7 m in thickness and 0.38% V₂O₅ over a 3.7 km² area. Mr. Dufresne and Mr. Nicholls confirm that the quality of the 2019 drill program was sufficient to prepare a maiden MRE for the Cambridge Deposit, as detailed in Section 14 of this Technical Report.

In 2020, CGM Lithium completed a 13-hole aircore (AC) drill program totaling 378 m on EPM 26866 (Flinders River). Drilling outlined the coquina horizon within the Toolebuc Formation that contains anomalous vanadium mineralization. Hole DEAC002 returned the highest assay at 0.42% V₂O₅ over 5 m from within the Toolebuc coquina unit. Mineralization is open to the east and west of the drilling grid. The highest prospectivity is interpreted to be east of the completed drilling along strike of the uranium radiometric anomaly. Radiometric data, historical mapping and darker soils identified from aerial photo imagery indicate that the area southeast of the completed drilling has strong potential to host similarly mineralized zones within the Toolebuc Formation. Further drill testing is recommended.

Most of the historical drilling on the Property was completed in the southern half of the tenement package, with recent drilling by Liontown focused on the current area of interest of Currie Rose. A total of 65 AC drillholes were used in the estimation of the mineral resource discussed in Section 14 below, including 35 drillholes completed by Intermin and 30 drillholes completed by Liontown. Of these, 58 drillholes intersect the interpreted mineralization wireframe (Figure 10.1). All of the holes were drilled vertically with depths ranging from 9 to 33 m, with an average depth of 24 m.

Figure 10.1. Plan View of the NQVP Cambridge Deposit showing historical drillhole locations and the interpreted mineralization extents.



11 Sample Preparation, Analyses and Security

Currie Rose has not conducted any ground exploration at the NQVP. The following information summarizes the sample preparation, analysis and security of historical drill samples completed by Intermin in 2008 and Liantown in 2019 and used in the calculation of the MRE discussed in Section 14 below.

A thorough summary of the sample preparation, analysis and security of all historical exploration programs completed in the vicinity of the NQVP is presented above in Section 6.3.

11.1 Intermin Resources (2008)

A total of 35 Intermin AC holes for 832 m were utilised in the calculation of the MRE detailed in Section 14. The Interim holes were drilled in 2008 using a truck mounted AC rig with an 89 mm drill bit. The drilling was dry, with drill samples collected by the metre from the drill rig cyclone, bagged and speared. The cyclone was cleaned on a regular basis to prevent cross-sample contamination. Samples were typically dry. Sample recovery was visually estimated and recorded for each metre (Standing, 2008).

The sampling and sample storage was supervised by Intermin geologists. No unauthorised access to the work site was permitted. No drill logs were available to the authors; however, the electronic database contains information on the lithology, formation, and general comments for each metre drilled during the program.

The drill samples were sent to ALS in Townsville, Queensland, for preparation then shipped to ALS in Perth, Western Australia, for analysis. Samples were pulverized and then digested with a mixture of Hydrofluoric, Nitric, Hydrochloric and Perchloric acids. The digest was analysed using Inductively Coupled Plasma – Mass Spectrometry (ICP-MS) for Ag and Mo and ICP Optical Emission Spectrometry (OES) for Al, Ca, Cu, Mn, Na, P, S, Ti, V and Zn (Cranley, 2008b). ALS is an ISO 9001:2015 certified and ISO/IEC 17025:2005 accredited geoanalytical laboratory and is independent of Currie Rose and the authors of this Technical Report.

Regarding Quality Assurance/Quality Control (QA/QC), there is no record of the insertion of standard reference materials or duplicate samples into the AC sample stream. However, the authors note that ALS utilizes quality control measures throughout the sample preparation and analysis process, including the insertion of laboratory duplicates and several different certified reference standards and blanks. Standing (2008) indicates that the QA/QC data provided by ALS was considered adequate by Intermin.

11.2 Liantown Resources (2019)

A total of 30 Liantown AC holes for 745 m were utilised in the calculation of the MRE detailed in Section 14. The Liantown holes were drilled in 2019 using a truck mounted AC

rig with a standard AC drill bit. The drilling was dry, with drill samples collected by the metre from the drill rig cyclone. The samples were bagged and riffle split (75/25) prior to being dispatched to the laboratory. The cyclone was cleaned on a regular basis to remove hung up clays and to prevent cross-sample contamination. Samples were typically dry. Sample recovery was visually estimated and recorded for each metre.

The sampling and sample storage was supervised by Liontown geologists. No unauthorised access to the work site was permitted. The Liontown AC holes were geologically logged, with recovery, colour, grainsize, weathering and general comments recording in the logs. The logging was quantitative with logging conducted on 1 m intervals over the entire drillhole.

Samples were submitted to SGS in Townsville, Queensland, for preparation and shipped to SGS in Perth, Western Australia, for analysis. The entire sample was pulverized and analysed via XRF78S, which includes a borate fusion with XRF analysis for major elements, including Al_2O_3 , CaO , Cr_2O_3 , K_2O , MgO , MnO , Na_2O , P_2O_5 , Fe_2O_3 , SiO_2 , TiO_2 , V_2O_5 , SUM, LOI and S as SO_3 and minor elements including As, Ba, Cl, Co, Cu, Ni, Pb, Sn, Sr, Ta, V, Zn, and Zr. SGS is an ISO/IEC 17025:2005 accredited geoanalytical laboratory and is independent of Currie Rose and the authors of this Technical Report.

CRM and blank samples were inserted at a rate of around 8% of the total samples submitted to the lab. This included OREAS CRMs 198 and 199 and a Terrasearch blank sand sample TSSND003. No duplicates were inserted into the sample sequence.

All of the OREAS 198 and OREAS 199 samples returned assays of 700 ppm V and 0.12% V_2O_5 , which is on the high side of the certified mean value yielding a positive standard deviation (SD; Figures 11.1 and 11.2). However, the CRMs used in this analysis are not certified for Borate XRF fusion. The certificate of analysis for OREAS 198 presents an indicative value of 1,060 ppm V_2O_5 for borate fusion XRF and 644 ppm \pm 66 ppm (2SD) for V by borate/peroxide fusion ICP. For OREAS 199, the certificate of analysis presents an indicative value of 1,092 V_2O_5 for borate fusion XRF and 657 ppm \pm 76 ppm (2SD) for V by borate/peroxide fusion ICP. The authors hypothesize that the lower value of V returned via borate/peroxide fusion ICP may be due to the reliance of a digestion in the method, in comparison to the total V_2O_5 returned using borate fusion XRF. This hypothesis should be verified with further QA-QC studies.

All of the blank Terrasearch sand samples returned values at the lower detection limit of 50 ppm V and 0.01% V_2O_5 except sample 246799 which returned 100 ppm V and 0.02% V_2O_5 . No failures were observed in the blank samples (n=33), with all samples falling well below the maximum blank value of 0.03% V_2O_5 (Figure 11.3).

Figure 11.1. Liontown standard OREAS 198 analysis (V ppm), 2019 AC drill program.

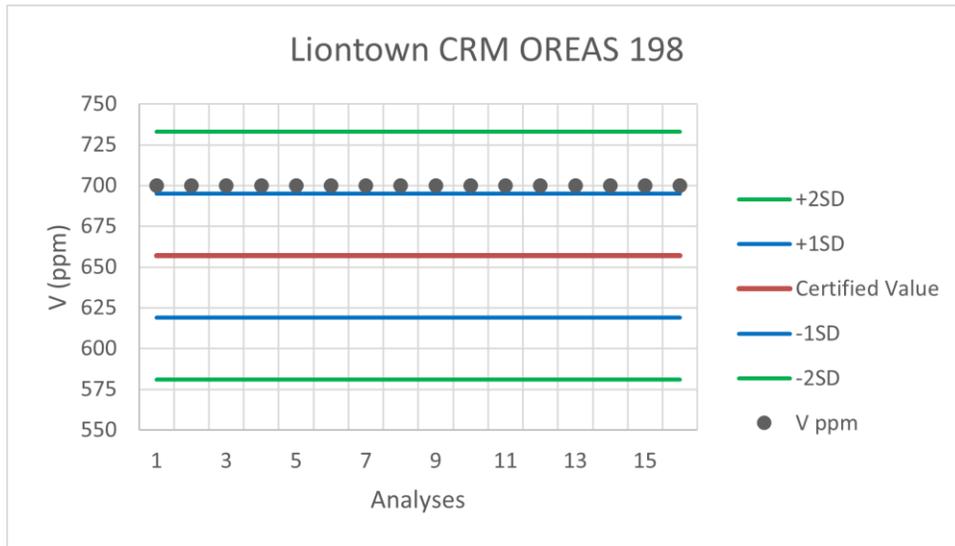


Figure 11.2. Liontown standard OREAS 199 analysis (V ppm), 2019 AC drill program.

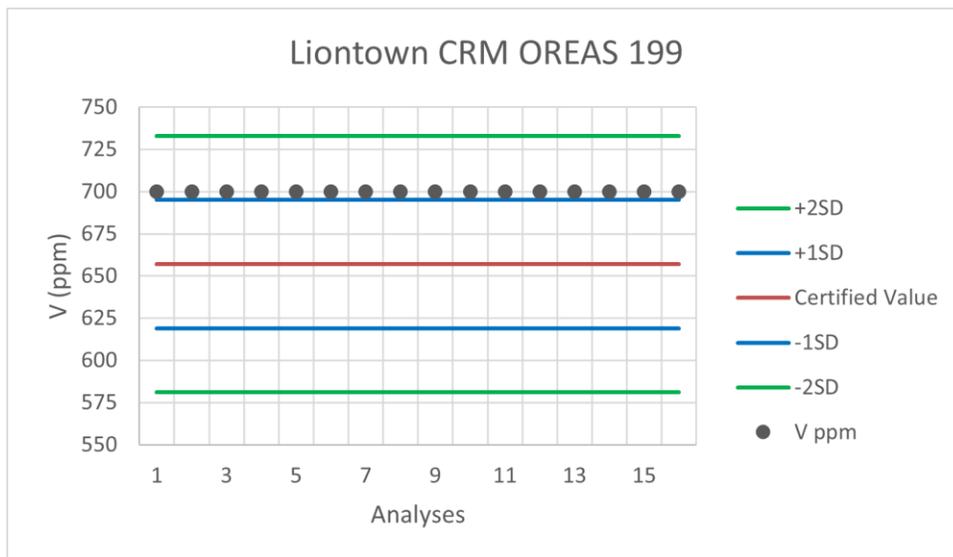
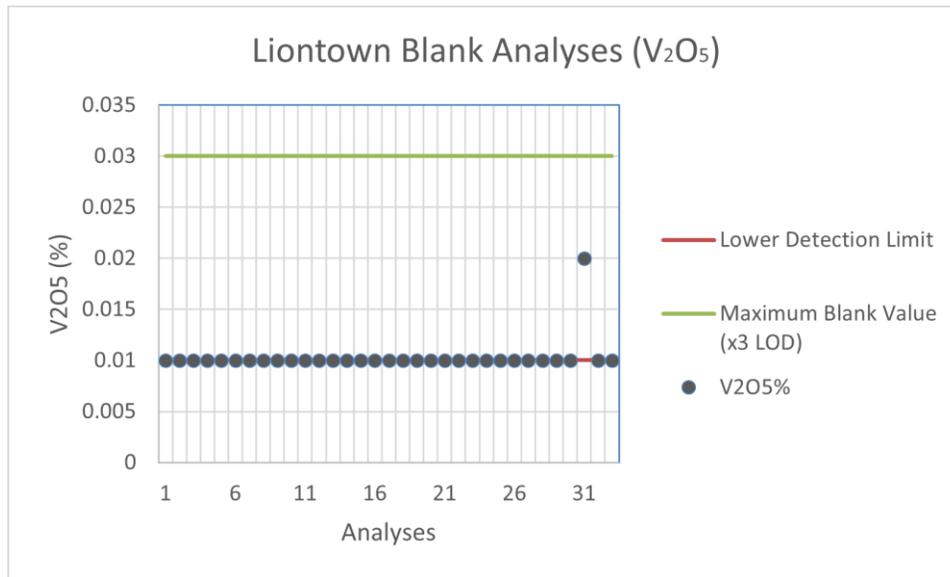


Figure 11.3. Liontown Terrasearch blank analysis (V_2O_5 ppm), 2019 AC drill program.



11.3 Adequacy of Sample Collection, Preparation, Security and Analytical Procedures

In the opinion of the authors of this Technical Report, there were no issues with respect to the sample collection methodology, sample security, sample preparation or sample analyses in the Intermin or Liontown drilling programs completed at the NQVP in 2008 and 2019, respectively. In addition, there were no indications that there were any significant issues with respect to sample bias.

The authors note that no geological logs were available for the Intermin drilling and only main lithologies exist in the drillhole database.

The sample collection, preparation, security and analytical procedures used at the NQVP are appropriate for the type of mineralization that is evaluated and the stage of the Project.

Regarding QA/QC, there is no record of the insertion of standard reference materials or duplicate samples into the AC sample stream for the Intermin drilling. However, ALS utilizes quality control measures throughout the sample preparation and analysis process, including the insertion of laboratory duplicates and several different certified reference standards and blanks.

The QA/QC measures, including insertion rates and performance of blanks and standards, for the 2019 Liontown drilling were adequate, with no failure rates and no apparent significant assay biases; however, no duplicates were inserted into the sample stream.

In conclusion, the data within the NWVP's exploration databases are considered suitable for use in the further evaluation of the Property and for its intended use herein, including the maiden mineral resource estimate presented in Section 14 of this Technical Report. For future drilling programs, the authors recommend:

- A standard insertion rate of 10 to 20%;
- A more diverse range of certified reference materials;
- CRM samples should be selected that are certified for the analysis method being used at the lab;
- Duplicate samples should be regularly inserted (approximately every 20 samples);
- Further QA-QC studies to provide additional information on assay methods to analyse V and V₂O₅ (i.e., borate fusion XRF versus borate/peroxide fusion ICP).

12 Data Verification

12.1 Data Verification Procedures

The authors, Mr. Dufresne, Mr. Nicholls and Mr. Eccles completed a data review for the NQVP. Currie Rose provided access to a full data room package for review, which included surface and drillhole data, geological data, title information and recent assessment and summary reports.

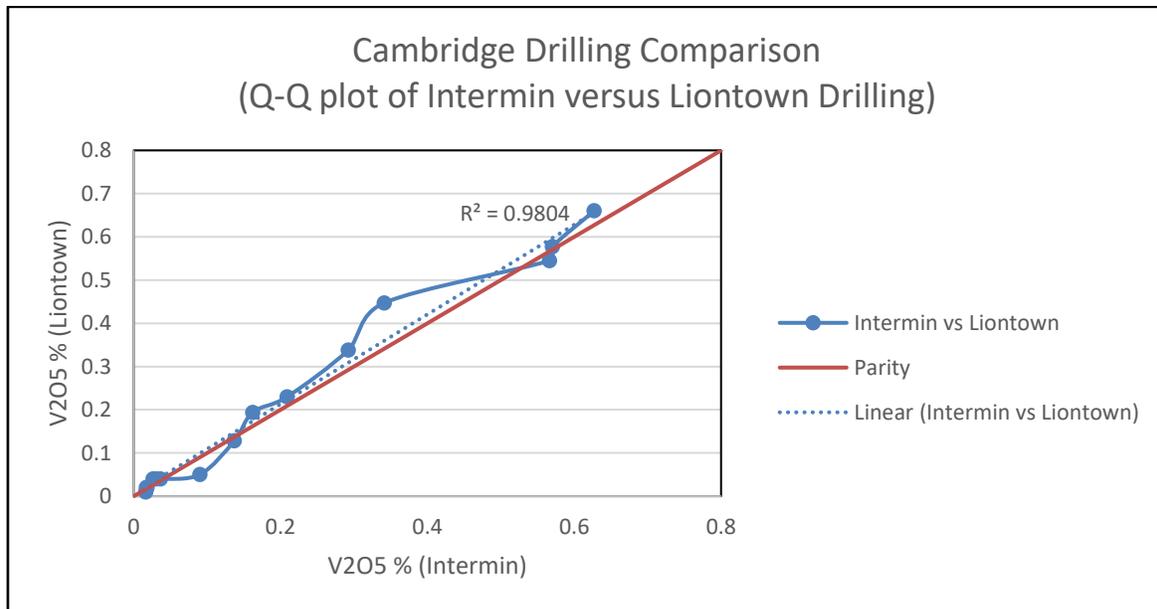
The QPs reviewed recent reports and other documents, including a recent independent mineral resource estimate (MRE) report ("Cambridge Resource") authored by Optiro Pty Ltd. (2018), a summary report by Mike Griffiths of Currie Rose (2021) and a number of ASX news releases (by Liontown Resources Ltd.) as well as presentations and Annual Reports by Liontown and Currie Rose. The Optiro Report documents a modern MRE (the "Optiro MRE") that the QPs considered to be compliant with recent CIM guidelines (2014 and 2019). However, the Optiro MRE was calculated based on 35 aircore holes completed in 2008 by Intermin and is now considered historical and is superseded by the MRE provide in Section 14 below. Mr. Dufresne and Mr. Nicholls reviewed the Optiro MRE and the underlying data.

Liontown completed a total of 30 aircore holes in 2019 that were not included in the Optiro MRE but are available and well documented. The authors conducted data verification on the Liontown drillhole data, including drill logs, assay analytical results and the SGS laboratory certificates. The data verification included comparing 20% of the analytical results in the drillhole database to the laboratory certificates with no errors noted in the database. In addition, the authors reviewed the Liontown metallurgical testwork data and reports.

The drilling by Liontown in 2019 on the Cambridge Exploration Licence 26494 has confirmed the presence of vanadium mineralization in twin holes in the Cambridge Resource area identified in the Optiro (2018) report and has likely extended the mineralization envelope. Mr. Nicholls has reviewed the assay data for the seven twin

drillholes in comparison with the historical Intermin drillholes and the results returned show comparable V₂O₅% assay results between the two sets of data (Figure 12.1).

Figure 12.1 Liontown Twin drillhole assay comparison



The QPs have reviewed all of the reports, the data that backs up the reports and the Optiro MRE data including drillhole data, wireframes and block models, as well as the SGS laboratory certificates from the 2019 Liontown drilling, and confirm that the work and data are of a good standard and suitable for use in this NI 43-101 Technical Report and for the calculation of a modern MRE, as detailed in Section 14 of this Technical Report. The Authors accept responsibility for all of the Intermin and Liontown data utilized herein.

12.2 Qualified Person Site Inspection

Mr. Nicholls visited the Property on November the 2nd and 3rd, 2021. During the site inspection, Mr. Nicholls examined historical trenches at the main Cambridge resource area, visited numerous drill locations across the resource area to verify the drill collars and collected six verification samples. The mineralized horizon does not outcrop over the Cambridge resource area; therefore, the QP was limited to examining the existing trenches where historical rock chip samples were previously collected. The QP was able to verify previously reported vanadium assay results as reported from historical rock chip samples.

The samples were collected from three trench locations over the historical Cambridge resource area. The majority of the samples were collected from the overlying Cretaceous sedimentary package. Due to the inability to sample the main mineralised Toolebuc Formation the samples are thought to have been collected from either the overlying Allaru Mudstone, which is positioned immediately above the Toolebuc Formation or the upper

Toolebuc Formation. The samples were collected from a sequence of thinly bedded mudstone/siltstone with thin siliceous banding within the lower Allaru mudstone or upper Toolebuc Formation (Figures 12.2 to 12.5). The samples were collected on the Cambridge and Silver Hill Exploration Licences 26494 and 26492 (Liontown). Geochemical results confirmed the presence of anomalous vanadium and molybdenum in Cretaceous shale-siltstone (Table 12.1 and Figure 12.6) on the Property. One sample (Sample NWD7973, Figure 12.5) was collected on the Silver Hill Exploration Licence 26492 from a location of historical rock chip sampling. Once again, the QP was able to verify previously reported mineralization for this sample area.

Table 12.1. QP verifications sample locations and geochemical results.

Sample Id	East (GDA94z54)	North (GDA94z54)	Elevation (m)	Depth (m)	V (ppm)	V ₂ O ₅ (%)	Mo (ppm)	MoO ₃ (ppm)
NWD7968	695433	7734751	211	1	360	0.06	20	30
NWD7969	695440	7734744	211	1	760	0.14	40	60
NWD7970	695530	7733890	211	1	900	0.16	60	90
NWD7971	695529	7733907	211	1	980	0.17	50	75
NWD7972	693572	7735811	211	1	140	0.02	10	15
NWD7973	714022	7721535	211	0	440	0.08	40	60

Figure 12.2. Sample NWD7969 (Cambridge Deposit area).



Figure 12.3. Sample NWD7970 (Cambridge Deposit area).



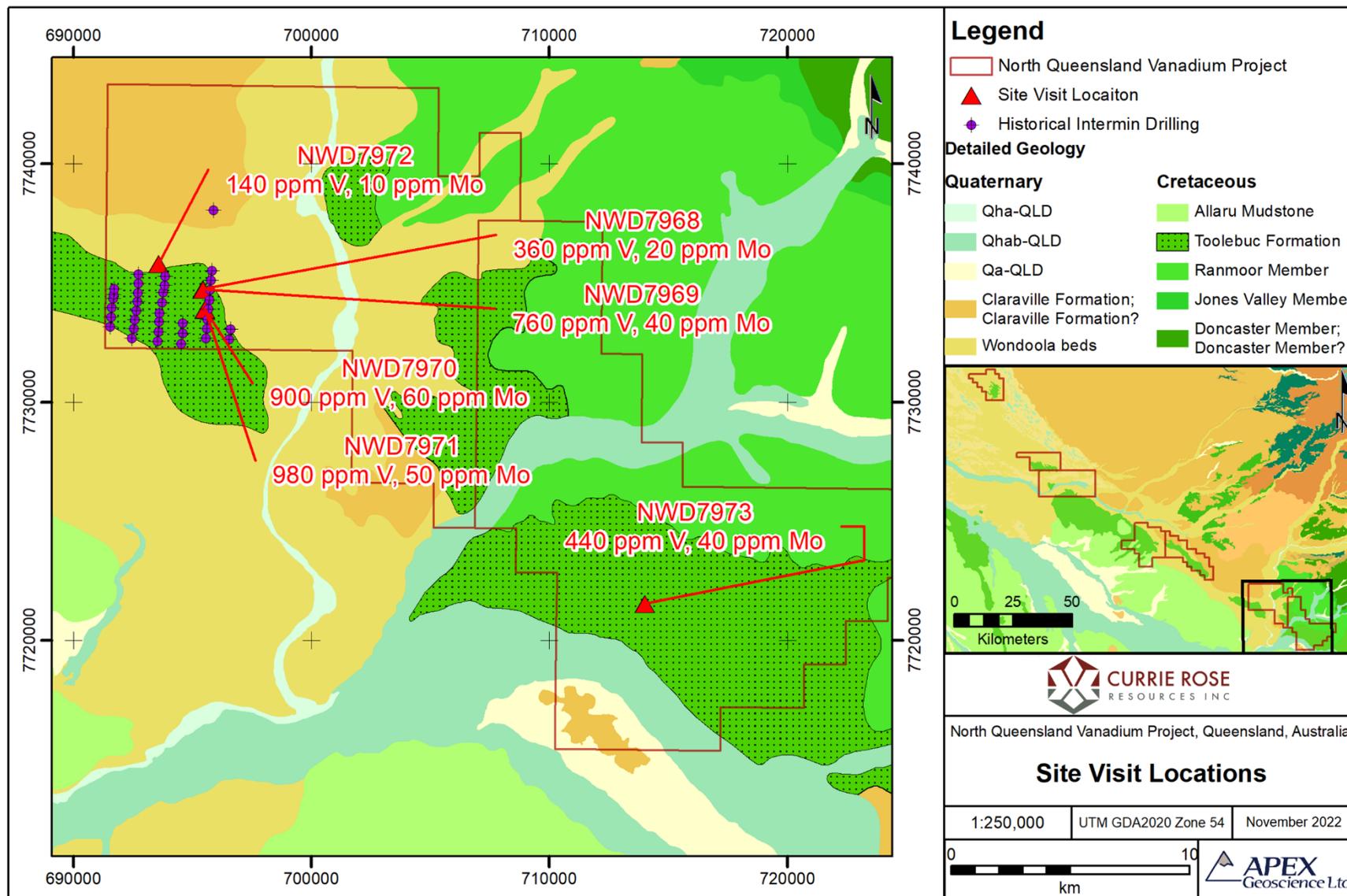
Figure 12.4. Trench photograph and sample location of NWD7971 (Cambridge Deposit area).



Figure 12.5. Sample NWD7973, collected on the Silver Hill Exploration Licence 26492.



Figure 12.6. QP site visit samples and geochemical results.



12.3 Validation Limitations

Due to the rehabilitation requirements of the Queensland government and pastoral requirements, all the drillholes and resulting sample piles were completely rehabilitated, and as such, the collar locations were not able to be verified. However, one of the drill section lines from the initial Intermin drilling was able to be verified from clearing and remnant drill rig tracks. The section line is located where it was expected.

12.4 Adequacy of the Data

A Property visit was completed by Mr. Steven Nicholls, BA.Sc., MAIG, QP, on November 2nd and 3rd, 2021. Mr. Nicholls collected six verification samples on the Property. The geochemical results confirmed the presence of anomalous vanadium and molybdenum in Cretaceous shale-siltstone on the Cambridge and Silver Hill Exploration Licences 26494 and 26492.

Based on the review of the historical data and observations made during the site visit, it is the opinion of the QP that the historical exploration data is reliable for the intended purposes used herein, including estimation of an MRE, and for compiling this technical report.

It is the QP's opinion that the quality and reliability of the historical data is sufficient to provide an excellent overview of the exploration history of the North Queensland Vanadium Project. During the data review and site visit, the QP did not identify any issues or significant discrepancies that would cause one to question the validity of the historical data. Furthermore, the coverage and level of detail in the historical data is adequate for the purposes of identifying exploration target areas of merit on the Project that will require follow up exploration.

13 Mineral Processing and Metallurgical Testing

Currie Rose has yet to complete mineral processing and metallurgical testing at the NQVP. Section 6 summarizes metallurgical work completed by previous operators.

14 Mineral Resource Estimates

The Mineral Resource Estimate (MRE) herein is based upon the historical drilling and drilling conducted during 2019 by Liontown and supersedes all of the prior resource estimates for the Cambridge Deposit. Other older resource estimates constructed for other companies are superseded and are considered historical in nature.

This section details a maiden MRE completed for Currie Rose for the Cambridge Deposit by APEX Geoscience Ltd. (APEX) of Edmonton, Alberta, Canada. The 2022 MRE for the Cambridge Deposit was completed by Mr. Tyler Acorn of APEX under the direct

supervision of Mr. Dufresne, M.Sc., P.Geol., P.Geo., QP, and Mr. Steven Nicholls, BA.Sc., M. AIG, QP, who take responsibility for the MRE contained herein. Mr. Nicholls visited the Property in November 2021 and reviewed the assay data for seven twin drillholes completed by Liontown Resources Ltd. in comparison with the historical Horizon Minerals/Intermin Resources drillholes.

Definitions used in this section are consistent with those adopted by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Council in "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 29, 2019 and "Definition Standards for Mineral Resources and Mineral Reserves" dated May 10th, 2014, and prescribed by the Canadian Securities Administrators' NI 43-101 and Form 43-101F1, Standards of Disclosure for Mineral Projects. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

14.1 Introduction

Statistical analysis, three-dimensional (3D) modelling and resource estimation was completed by Mr. Tyler Acorn, M.Sc. under the direct supervision of Mr. Michael Dufresne, M.Sc., P.Geol. and Mr. Steven Nicholls, BA.Sc., MAIG. Mr. Nicholls compiled the mineralized domains for the MRE. Mr. Dufresne and Mr. Nicholls performed an internal audit of the MRE and take full responsibility for Section 14 of the Technical Report. The workflow implemented for the calculation of the Cambridge Project MRE was completed using the commercial mine planning software MICROMINE (v 22.5), commercial resource estimation software Resource Modeling Solutions Platform (v.1.9.2). Supplementary data analysis was completed using the Anaconda Python distribution (Continuum Analytics, 2017) and a custom Python package developed by Mr. Warren Black, M.Sc., P.Geo. and Mr. Acorn, M.Sc.

Currie Rose Resources Inc. ("Currie Rose") provided APEX with the Cambridge Deposit drillhole database that consists of analytical, geological, density, collar, survey information and downhole survey information. The provided data was reviewed by APEX personnel and used to conduct a Resource Estimate in 2022 for it's Cambridge Deposit that forms part of the NQVP. In the opinion of the authors and QPs, the current Cambridge Deposit drillhole database is deemed to be in good condition and suitable to use in ongoing resource estimation studies.

Modelling was conducted in the Map Grid of Australia (MGA) coordinate space relative to the Geocentric Datum of Australia (GDA) 2020, and MGA zone 54 (EPSG:7854). The mineral resource block model utilized a block size of 100 m (X) x 50 m (Y) x 2 m (Z) to honour the mineralization wireframes. The percentage of the volume of each block below the bare earth surface and within the mineralization domain was calculated using the 3D geological models and a 3D surface model.

The MRE is based on the combination of geological modelling, geostatistics and conventional block modelling using the Ordinary Kriging (OK) method of grade interpolation with locally varying anisotropy variogram models.

For grade estimation, 1 m composites were used to create the interpreted mineralization boundaries. A lower cut-off grade of 0.12% V₂O₅ was used to define the domain outline. This lower cut-off was chosen as a natural inflection in the V₂O₅ assay population. A single mineralized domain was defined. Block tonnes were estimated using 1.8 g/cm³ for mineralized material.

The V₂O₅ and MoO₃ grade estimations were completed independently of each other and were completed using OK. The search ellipsoid size used to estimate the V₂O₅ and MoO₃ grades was informed by the modelled variograms for each variable. Block grade estimation employed locally varying anisotropy, which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis.

Blocks within estimation domains are assigned rotation angles using a modelled 3D mineralization trend surface wireframe. The estimation was performed using three estimation passes whereby each successive pass utilized a less restrictive sample search strategy for block estimation.

14.2 Drill Hole Data Description

14.2.1 Drill Hole Data

Currie Rose has not yet conducted any drilling on the North Queensland Vanadium Property. In 2018, Optiro Pty Ltd. completed an independent MRE report for the Cambridge Deposit (the “Optiro MRE”), which is now superseded and is considered a historical estimate.

The QPs reviewed recent reports and other documents including a recent independent mineral resource estimate report (“Cambridge Resource”) authored by Optiro Pty Ltd. (2018), a summary report by Mike Griffiths of Currie Rose (2021), and a number of ASX news releases (by Liontown Resources Ltd.). The Optiro Report documents a historical MRE that the QPs consider to having been compliant with recent CIM guidelines (2014) at the time it was constructed.

The Optiro MRE was calculated based on 35 aircore holes completed in 2008 by Intermin. Mr. Dufresne and Mr. Steven Nicholls of APEX, both QPs reviewed the MRE and the underlying data. Liontown completed a total of 30 aircore holes in 2019 that are not included in the historical Optiro MRE but are available, well documented and were utilized in the current MRE.

The 2019 Liontown drillholes were drilled after the completion of the Optiro MRE and hence the MRE is now considered historical. The QPs have reviewed all the reports, the data that backs up the reports and the recent MRE data including drillhole data, wireframes and block models and confirm that the work and data are of a good standard and suitable for use herein and for the calculation of a current MRE.

The drilling by Liontown in 2019 on the Cambridge Exploration License 26494 has confirmed the presence of vanadium mineralization in twin holes in the Cambridge Resource area identified in the Optiro (2018) Report and has likely extended the mineralization envelope.

Mr. Nicholls of APEX performed a Property visit in 2021 and reviewed the assay data for the seven twin drillholes in comparison with the historical Intermin drillholes, and the results returned show comparable $V_2O_5\%$ assay results between the two sets of data.

14.2.2 Mineral Resource Estimate Drill Hole Database

Sixty five (65) aircore drillholes totalling 1,577 m were completed to delineate the Cambridge Deposit between 2008 and 2019 by Horizon Minerals/Intermin Resources (“Horizon/Intermin”) in 2008 and Liontown Resources Ltd (“Liontown”) in 2019. The drilling defined one flat lying horizon of V_2O_5 and MoO_3 mineralization ranging in thickness from 1 m to around 17 m, with an average thickness of 9 m, covering a lateral area of 5.8 x 4.3 km.

The mineral resource estimation drillhole database consists of 58 drillholes that intersected the interpreted mineralization wireframe. The V_2O_5 and MoO_3 assays were composited to 1m composite lengths, and the estimation utilized 575 composited samples. All intervals within the interpreted wireframe were visually checked to ensure the flagging process was completed correctly.

All data was validated using the Micromine validation tools when the data was imported into the software. Any validation errors encountered were data entry errors rectified by consulting original documentation.

14.3 Estimation Domain Interpretation

14.3.1 Geological Interpretation of Mineralization Domains

The Cambridge Deposit vanadium pentoxide (V_2O_5) mineralization is located within marine sediments of the Early Cretaceous Toolebuc Formation, a stratigraphic unit that occurs throughout the Eromanga Basin in Central Northern Queensland. The Toolebuc Formation is a flat-lying, early Cretaceous (Albian ~100 Ma) sedimentary package that consists predominantly of black carbonaceous and bituminous shale and minor siltstone, with limestone lenses and coquinites (mixed limestone and clays). The Cambridge MRE is situated within the flat lying Toolebuc Formation.

The Toolebuc Formation is the main host of the vanadium mineralization in the area. The Toolebuc Formation is a flat-lying, laterally extensive sedimentary unit that consists of black carbonaceous and bituminous shale, minor siltstone with limestone lenses and coquinites. In the Project area, the Toolebuc Formation is draped over an interpreted basement high and has been structurally uplifted bringing it closer to the surface. Weathering of the Toolebuc Formation has removed or oxidised certain organic (and possibly sulphide) components resulting in residual enrichment of trace metals including

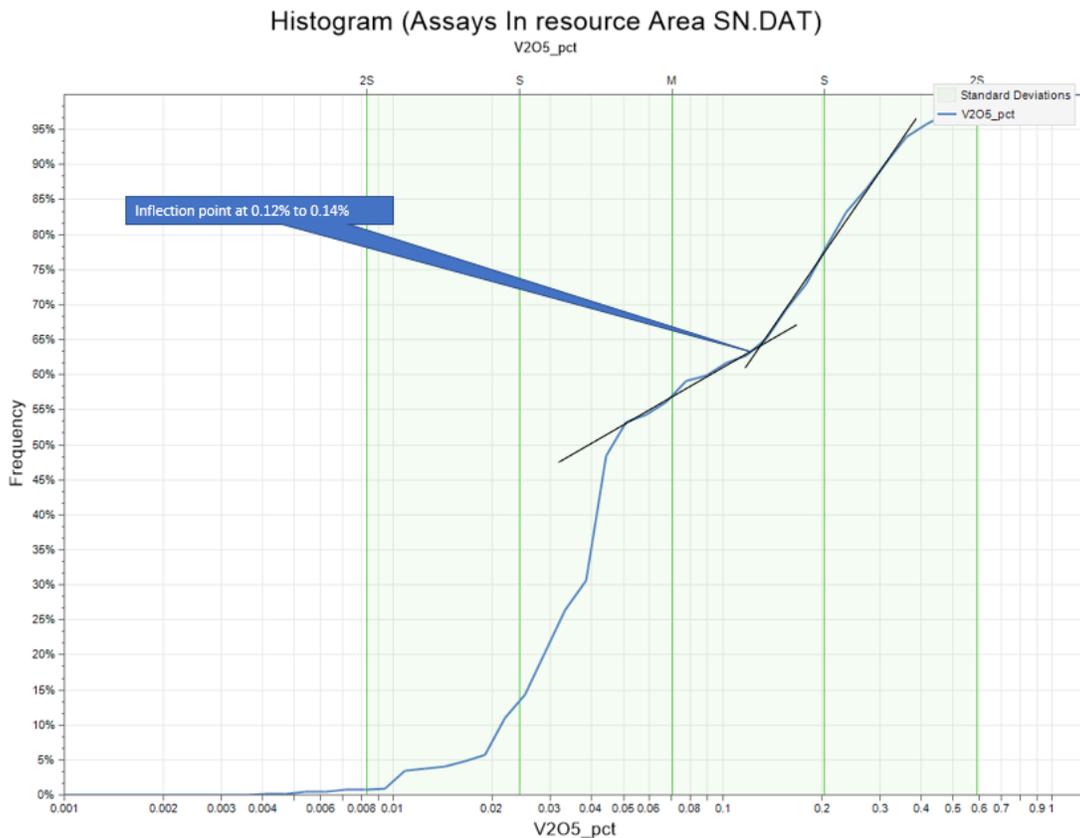
vanadium in the weathered portions of the Formation. Through the weathering processes the vanadium became predominantly associated with iron oxide/hydroxide phases (Lewis et al., 2010).

The mineralized portions of the Toolebuc Formation range from 1 to 17 m in thickness, with an average thickness of 9 m, and are found at surface or are found at shallow depths (1 m to 22 m below surface) underlying the Allaru Mudstone or recent overburden. Potentially economic vanadium mineralization in the area has been documented to extend for several kilometers along strike as found at the Lilyvale Deposit adjacent to the NQVP and the Cambridge Deposit on the NQVP.

14.3.2 Estimation Domain Interpretation Methodology

The interpreted mineralization domain boundaries were created using a lower cut-off grade of 0.12% V_2O_5 . This lower cut-off was chosen as a natural inflection in the V_2O_5 assay population as shown in Figure 14.1.

Figure 14.1 Cumulative Histogram of the V_2O_5 and Inflection point used to inform the interpreted mineralization domain boundaries.



Plan view of the extents of the estimation domain projected to surface with the drill hole collar locations is shown in Figure 14.2, and cross section views showing the estimation domain, intrusion outline, and drill strings are shown in Figures 14.3 and 14.4.

Figure 14.2 Plan view of the NQVP – Cambridge Deposit showing the drill hole locations and the interpreted mineralization extents.

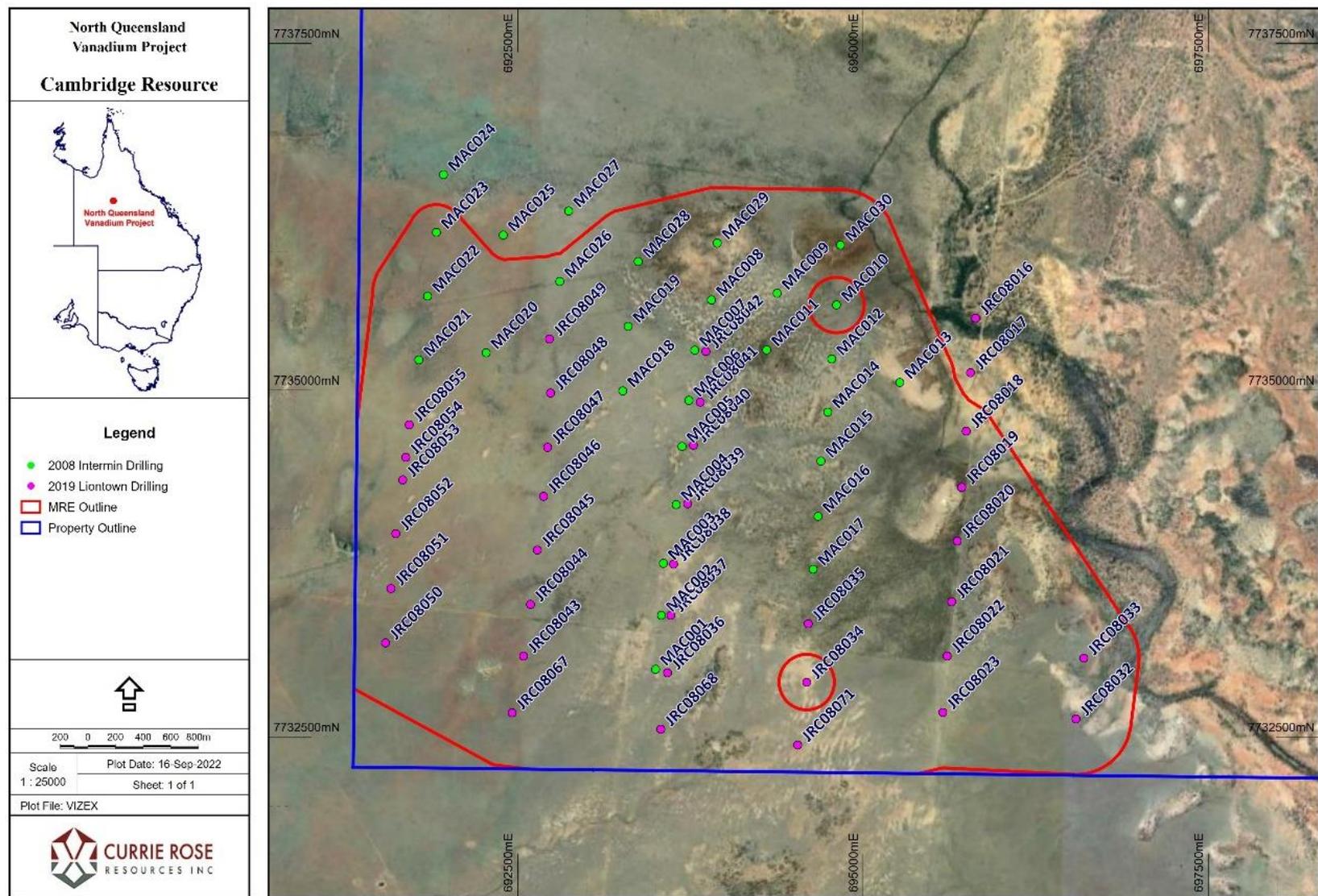


Figure 14.3. Cross sectional view at 694700 mE (+/- 200m window and 1:25 Vertical Exaggeration) of the Cambridge Deposit showing the V₂O₅ estimated grades, drillhole assays and the interpreted mineralization extents.

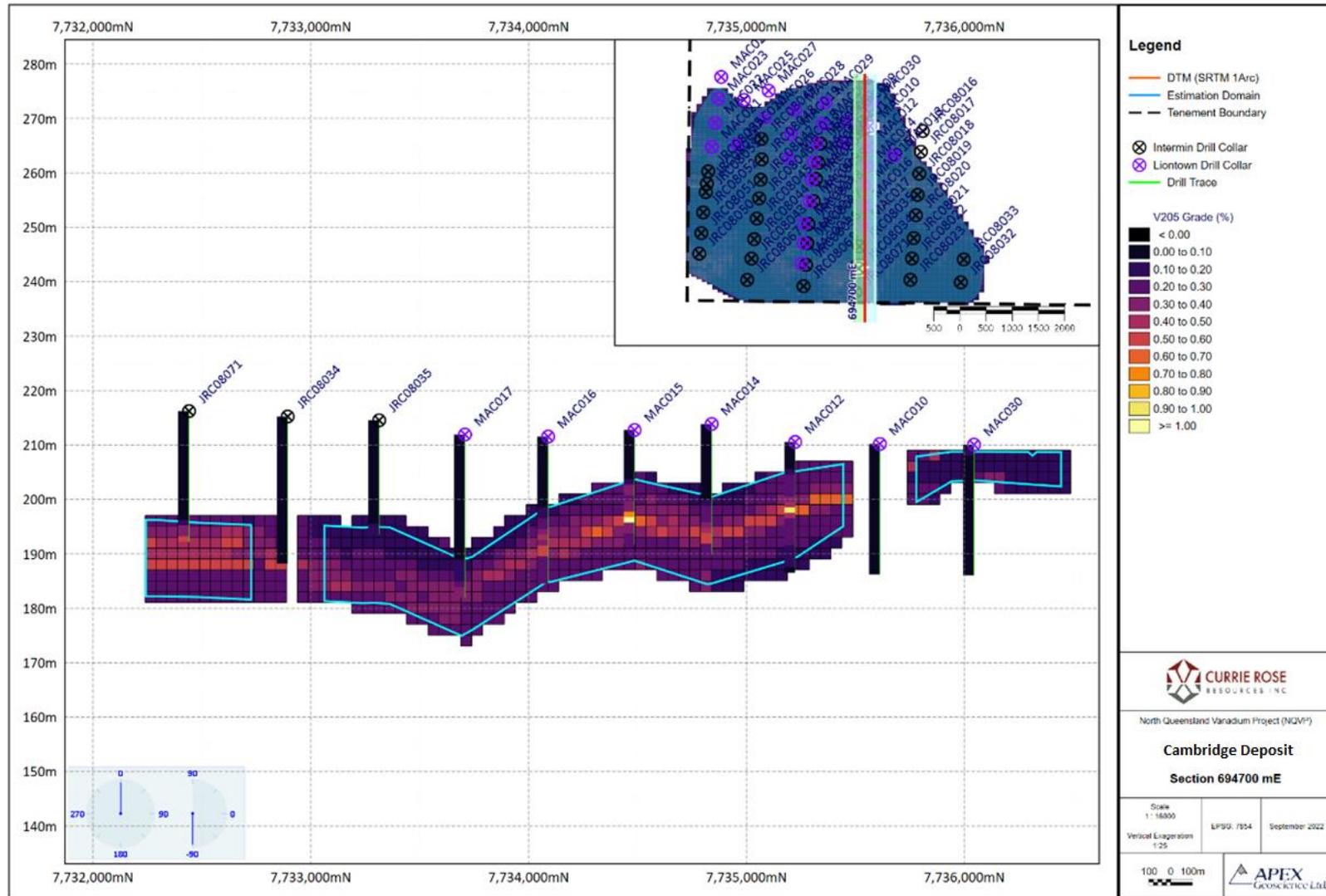
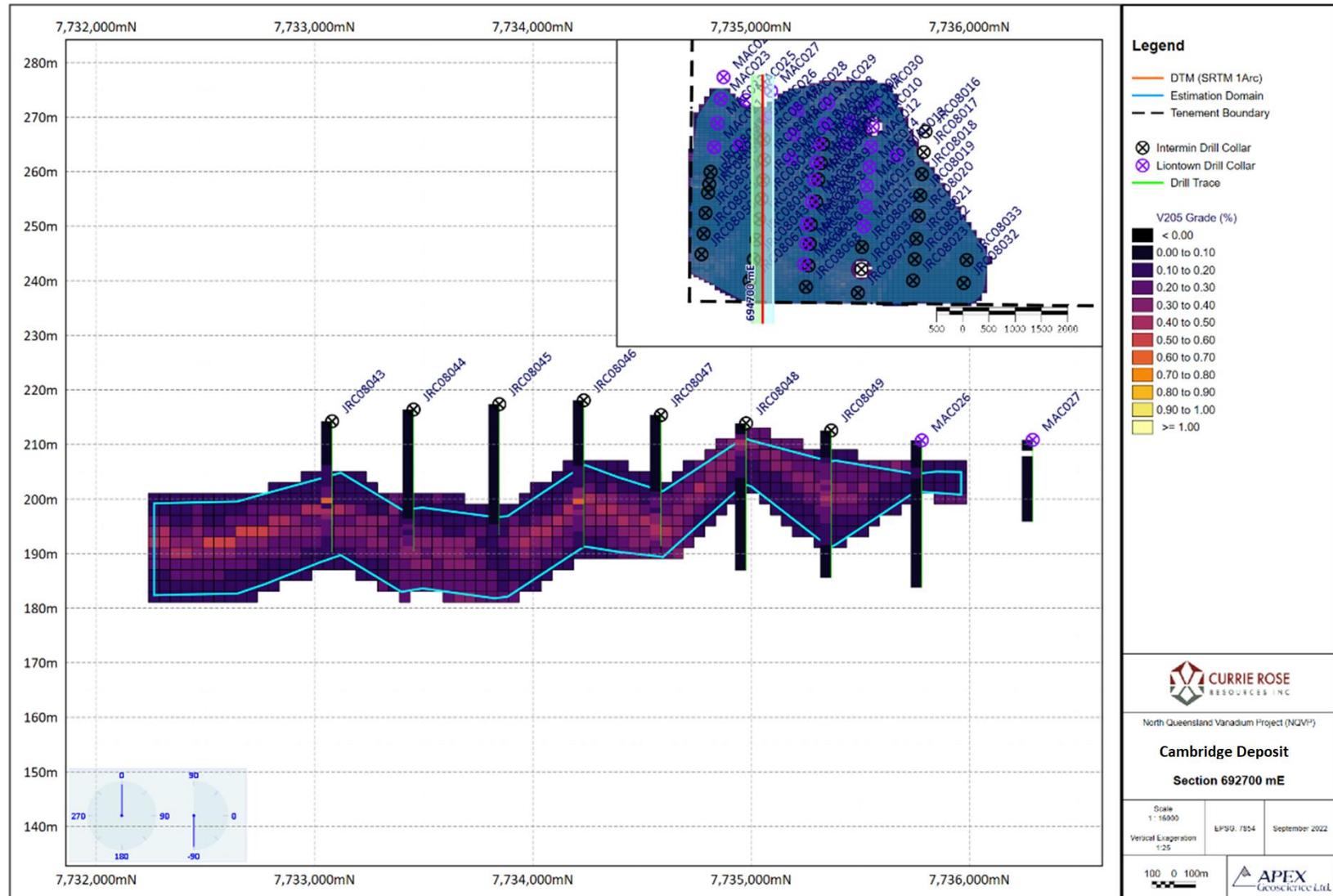


Figure 14.4. Cross sectional view at 692700 mE (+/- 200m window and 1:25 Vertical Exaggeration) of the Cambridge Deposit showing the V₂O₅ estimated grades, drillhole assays and the interpreted mineralization extents.



14.4 Exploratory Data Analysis and Compositing

14.4.1 Bulk Density

An assumed bulk density of 1.8 t/m³ was assigned to the block model for tonnage estimation, based upon reviewing the adjacent Lilyvale Deposit data which is part of the Richmond Vanadium Project (Horizon Minerals Ltd and Richmond Vanadium Technology Pty Ltd).

14.4.2 Raw Analytical Data

Cumulative histograms and summary statistics for the raw (un-composited) assays from sample intervals contained within the estimation domains are presented in Figure 14.5 and Figure 14.6 and tabulated in Table 4.1. The assays within the estimation domains appear to exhibit a single coherent statistical population.

Figure 14.5. Cumulative frequency plot of raw V₂O₅ assays (in pct) from sample intervals flagged within the estimation domain.

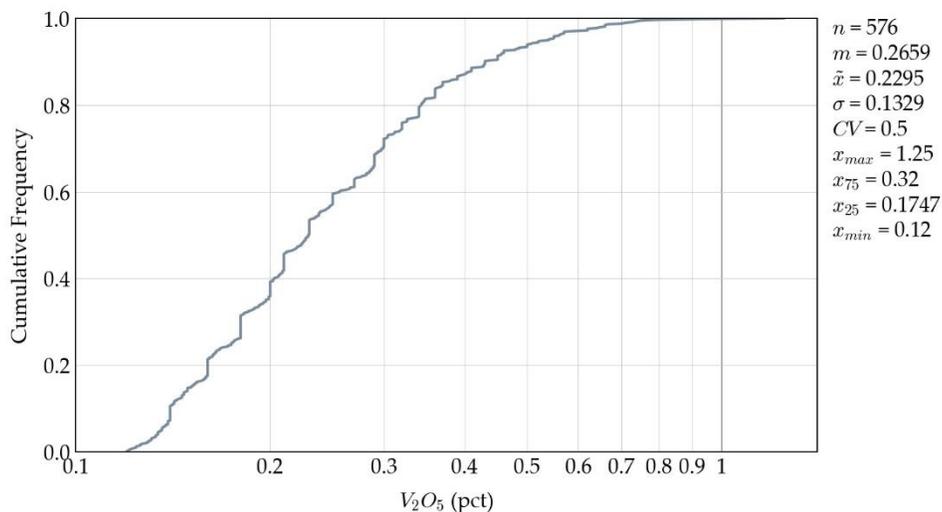


Figure 14.6. Cumulative frequency plot of raw MoO₃ assays (in ppm) from sample intervals flagged within the estimation domain.

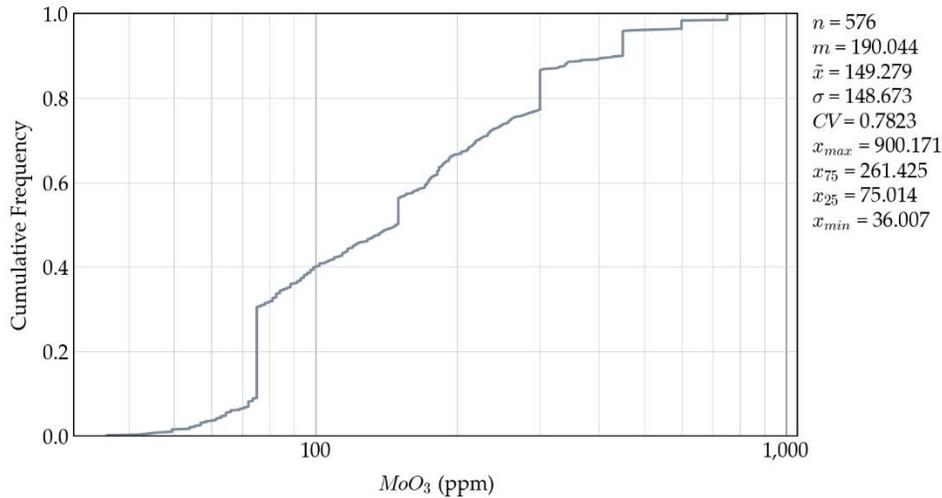


Table 14.1. Summary statistics of raw V₂O₅ and MoO₃ assays from sample intervals flagged within the estimation domain.

	Cambridge Mineralized Domain	
	V ₂ O ₅ (pct)	MoO ₃ (ppm)
count	576	576
mean	0.266	190.04
median	0.230	149.28
Standard deviation	0.133	148.67
variance	0.018	22103.78
Coefficient of variation	0.500	0.78
min	0.120	36.01
25%	0.175	75.01
50%	0.230	149.28
75%	0.320	261.43
max	1.250	900.17

14.4.3 Compositing Methodology

Downhole sample length analysis shows that all of the sample lengths were one meter intervals. The one meter interval provides adequate resolution for mining purposes and estimating the resources within the estimation domains. No compositing was done.

14.4.4 Capping

To ensure metal grades are not overestimated by including outlier values during estimation, composites are capped to a specified maximum value. Probability plots illustrating each composite's values are used to identify outlier values that appear higher than expected relative to each estimation domain's V_2O_5 and MoO_3 distribution. Composites identified as potential outliers on the probability plots are evaluated in three dimensions (3-D) to determine if they are part of a high-grade trend or not. If identified outliers are deemed part of a high-grade trend that still requires a capping level, the capping level applied on them may not be as aggressive as the capping level used to control isolated high-grade outliers.

The probability plots for V_2O_5 and MoO_3 of composited values indicate the capping levels detailed in Table 14.2 and are illustrated in Figures 14.7 and 14.8. The cumulative frequency plot of declustered MoO_3 assays in the estimation domain is presented in Figure 14.9.

Figure 14.7. Probability plot of the composited V_2O_5 values in domain Lode01 before capping. Capped values highlighted in red.

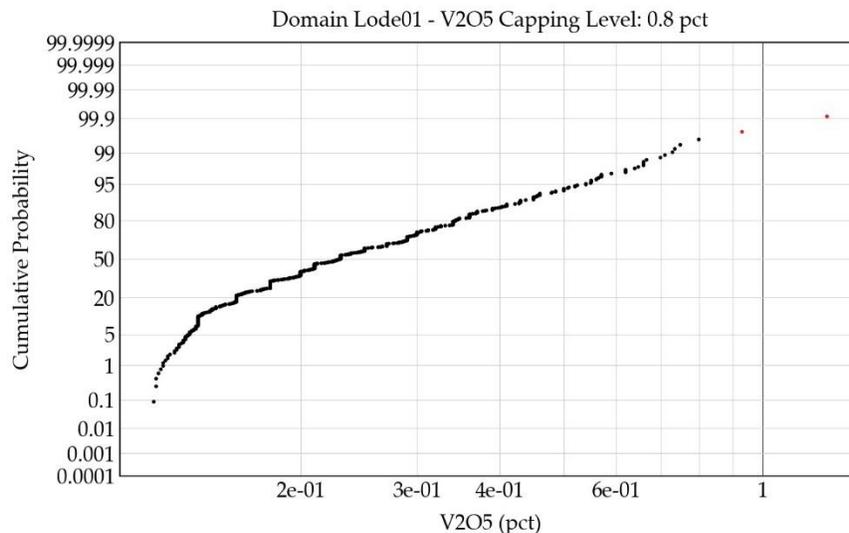


Figure 14.8. Probability plot of the composited MoO₃ values in domain Lode01 before capping. Capped values highlighted in red.

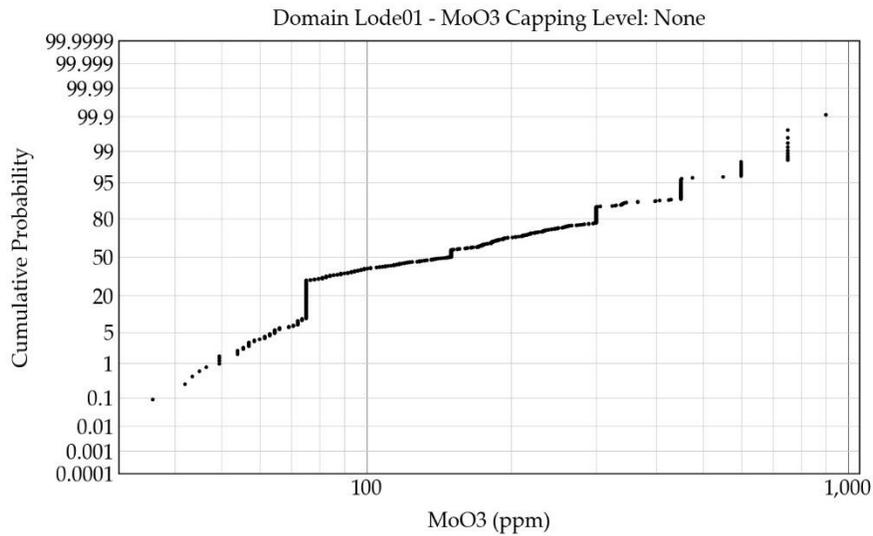
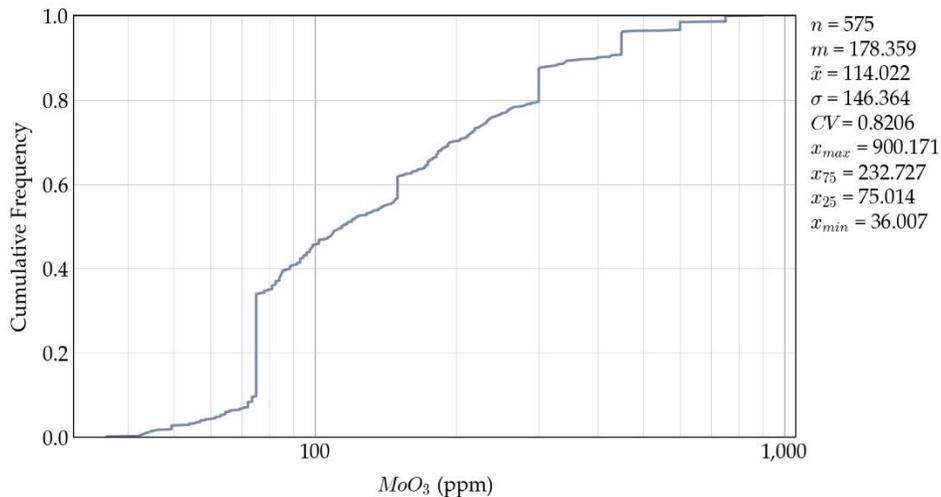


Figure 14.9. Cumulative frequency plot of declustered MoO₃ assays in the estimation domain.



Visual inspection of the potential outliers revealed they have no spatial continuity with respect to each other. Therefore, the capping levels detailed in Table 14.2 are applied to all composites used to calculate the MRE.

Table 14.2. Capping levels applied to composites before estimation.

Capping Levels Per Domain		
Domain	V ₂ O ₅ (pct)	# Samples Capped
Lode01	0.8	2

14.4.5 Declustering

It is typical to collect data in a manner that preferentially samples high valued areas over low-value areas. This preferential sampling is an acceptable practice; however, it produces closely spaced measurements that are likely statistically redundant, which results in under-represented sparse data compared to the over-represented closer-spaced data. Therefore, it is desirable to have spatially representative (i.e., declustered) statistics for global resource assessment and to check estimated models. Declustering techniques calculate a weight for each datum that results in sparse data having a higher weight than closely spaced data. The calculated declustering weights allow spatially repetitive summary statistics to be calculated, such as a declustered mean.

Cell declustering is performed globally on all composites within the estimation domains, which calculates a declustering weight for each composite. Cell declustering works by discretizing a 3-D volume into cells that are the same size. The sum of the weights of all the composites within the cell must equal 1. Therefore, the weight assigned to each composite is proportional to the number of composites within each cell. For example, if there are four composites within a cell, they are all assigned a declustering weight of 0.25.

As a general rule of thumb, the cell size used to calculate declustering weights will ideally contain one composite per cell in the sparsely sampled areas. Visual evaluation of the sparsely sampled areas in a 3-D visualization software gives a rough idea of this size. Additionally, a high-resolution block model populated with the distance to each block nearest composite can help guide the declustering of the cell size. The 90-percentile of the distance block model, with a cell size much lower than the final declustering cell size, approximates the optimal cell size.

Finally, plotting a series of declustered means for a range of declustering cell sizes will help determine the optimal cell size. The optimal cell size will likely be when the declustered mean in the plot is locally low or high at a cell size that is very close to the two potential cell sizes that were determined from the visual review and calculated 90-percentile distance. Preferential sampling in high-grade zones results in a declustered mean that is likely within a local minimum. In contrast, preferential sampling in low-grade zones results in a declustered mean that is expected within a local maximum.

14.4.6 Final Declustered Statistics

Calculated declustering weights for the estimation domain were constructed. Visual evaluation of the sparsely sampled areas in Micromine suggests similar cell sizes as the

90-percentiles from the distance block model for each estimation domain. Plots comprised of a series of declustered means for a range of declustering cell sizes were utilized to inform the final cell sizes.

Cumulative histograms and summary statistics for the declustered and capped assays contained within the interpreted estimation domains, are presented in Figures 14.10 and 14.11. Tables 14.3 and 14.4 tabulate the declustered statistics and details the cell size used, which was very close to the size indicated by the visual evaluation and distance block model.

Figure 14.10. Cumulative Frequency plot of declustered V₂O₅ assays in the estimation domain.

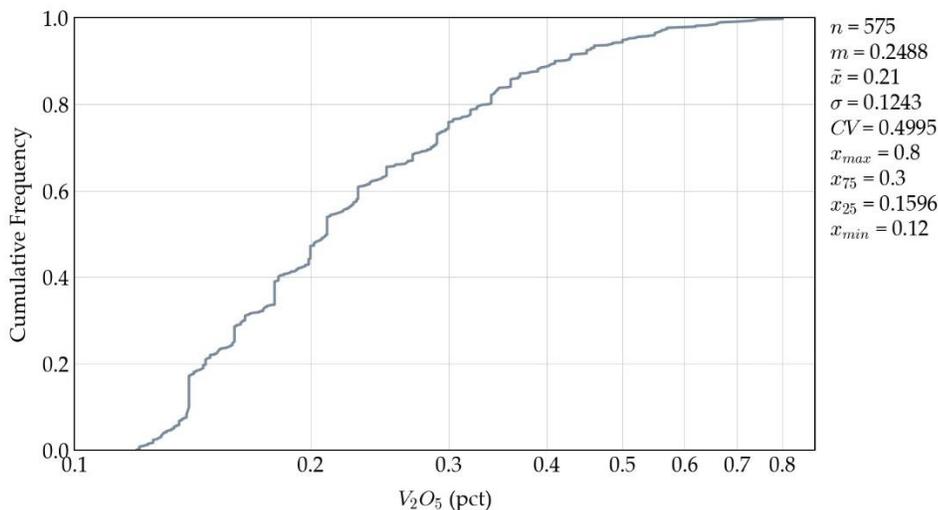


Figure 14.11. Cumulative Frequency plot of declustered MoO₃ assays in the estimation domain.

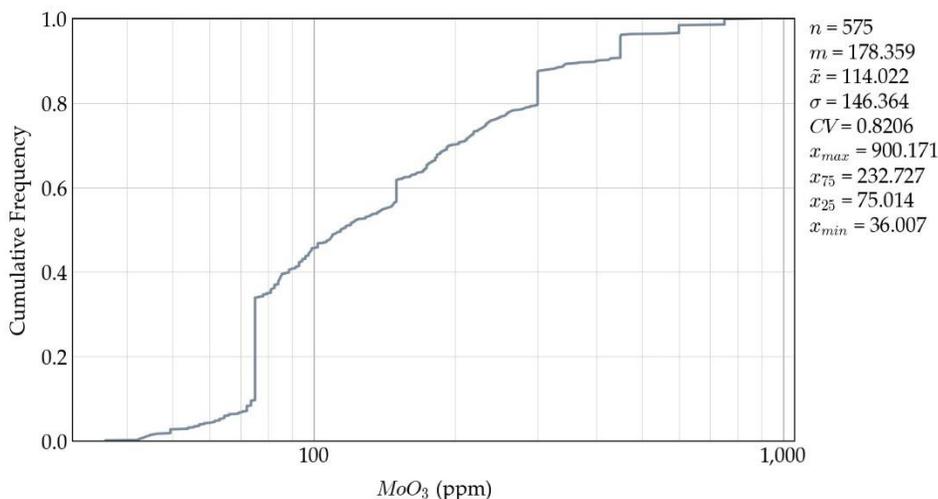


Table 14.3. Declustering statistics for V₂O₅ in the estimation domain.

V ₂ O ₅	Clustered Value	Declustered Value	Diff.(%)
count	575	575	0
mean	0.26	0.25	-6.05
stdev	0.13	0.12	-2.46
cv	0.48	0.5	3.83
min	0.12	0.12	0
P10	0.14	0.14	0
P50	0.23	0.21	-8.46
P90	0.43	0.42	-2.23
max	0.8	0.8	0
Cell Size	150		

Table 14.4. Declustering statistics for MoO₃ in the estimation domain.

MoO ₃	Clustered Value	Declustered Value	Diff.(%)
count	575	575	0
mean	189.85	178.36	-6.05
stdev	148.73	146.36	-1.59
cv	0.78	0.82	4.75
min	36.01	36.01	0
P10	75.01	74.92	-0.12
P50	148.75	114.17	-23.25
P90	450.09	405.63	-9.88
max	900.17	900.17	0
Cell Size	150		

14.5 Variography and Grade Continuity

Experimental semi-variograms for each domain are calculated along the major, minor, and vertical principal directions of continuity that are defined by three Euler angles. Euler angles describe the orientation of anisotropy as a series of rotations (using a left-hand rule) that are as follows:

1. Angle 1: A rotation about the Z-axis (azimuth) with positive angles being clockwise rotation and negative representing counter-clockwise rotation;
2. Angle 2: A rotation about the X-axis (dip) with positive angles being counter-clockwise rotation and negative representing clockwise rotation; and
3. Angle 3: A rotation about the Y-axis (tilt) with positive angles being clockwise rotation and negative representing counter-clockwise rotation.

14.5.1 Estimation Domain Variography

Using the two structures exponential variogram model, calculated V₂O₅ and MoO₃ experimental variograms were completed using the composites within each estimation domain. Table 14.5 shows the summary of all variogram parameters for each variable and domain, and Figures 14.12 and 14.13 are Error! Reference source not found. detailed examples of the final variogram model parameters used by Kriging for the mineralization domain.

As described in Section 14.7, estimation uses locally varying anisotropy (LVA) that defines the variogram's orientation on a per-block basis. The three Euler angles described in Table 14.5 are not used during estimation, as they are only used to calculate the experimental variogram.

Table 14.5. Variogram model parameters.

Variable	Ang1	Ang 2	Ang 3	Sill	C0	Type-1	C-1	Range Maj-1	Range Min-1	Range Vert-1	Type-2	C-2	Range Maj-2	Range Min-2	Range Vert-2
V2O5	95	0	0	0.016	0	exp	0.00488	100	300	4	exp	0.00976	500	1800	5
MoO3	90	0	0	22160	2216	exp	19943.71	1500	800	6	-	-	-	-	-

sph: spherical, exp: exponential; C0: nugget effect; C1: covariance contribution of structure 1; C2: covariance contribution of structure 2; LVA - locally varying anisotropy

Figure 14.12. Variogram Model used for Kriging estimate of V₂O₅ mineralized domain.

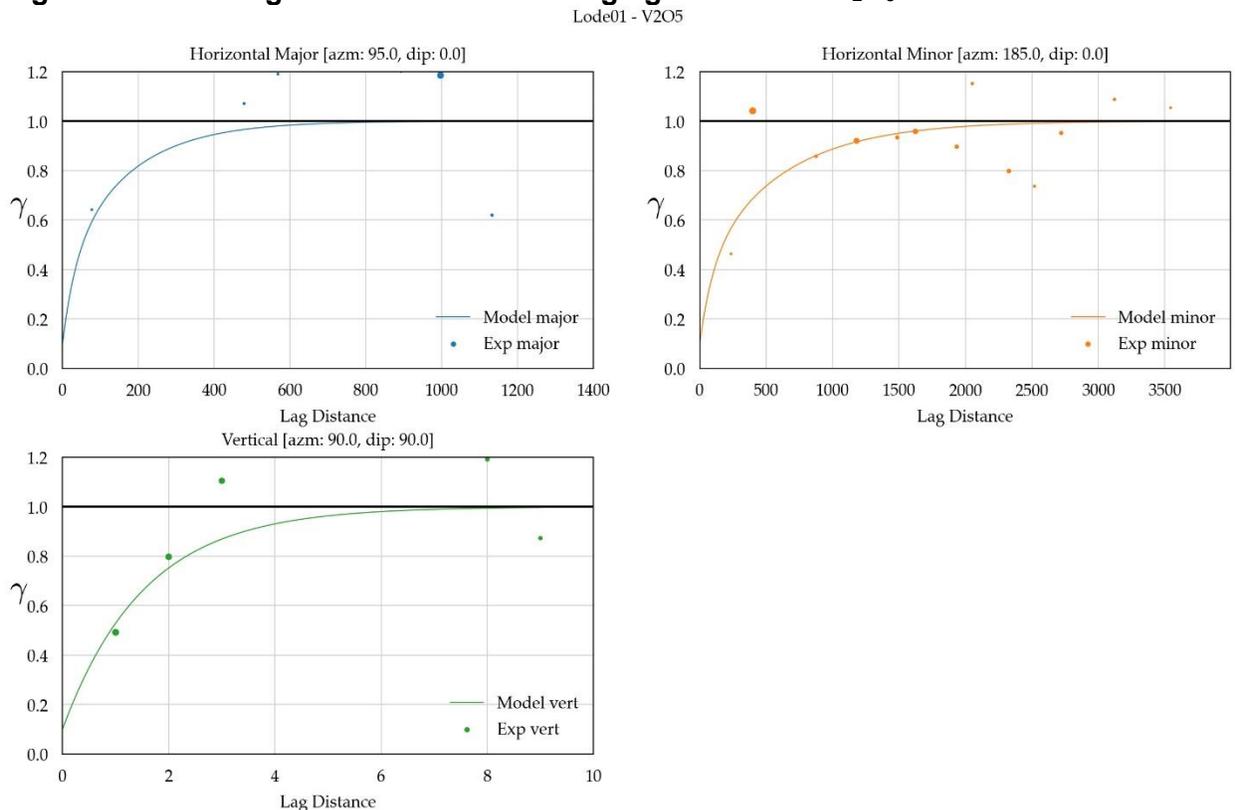
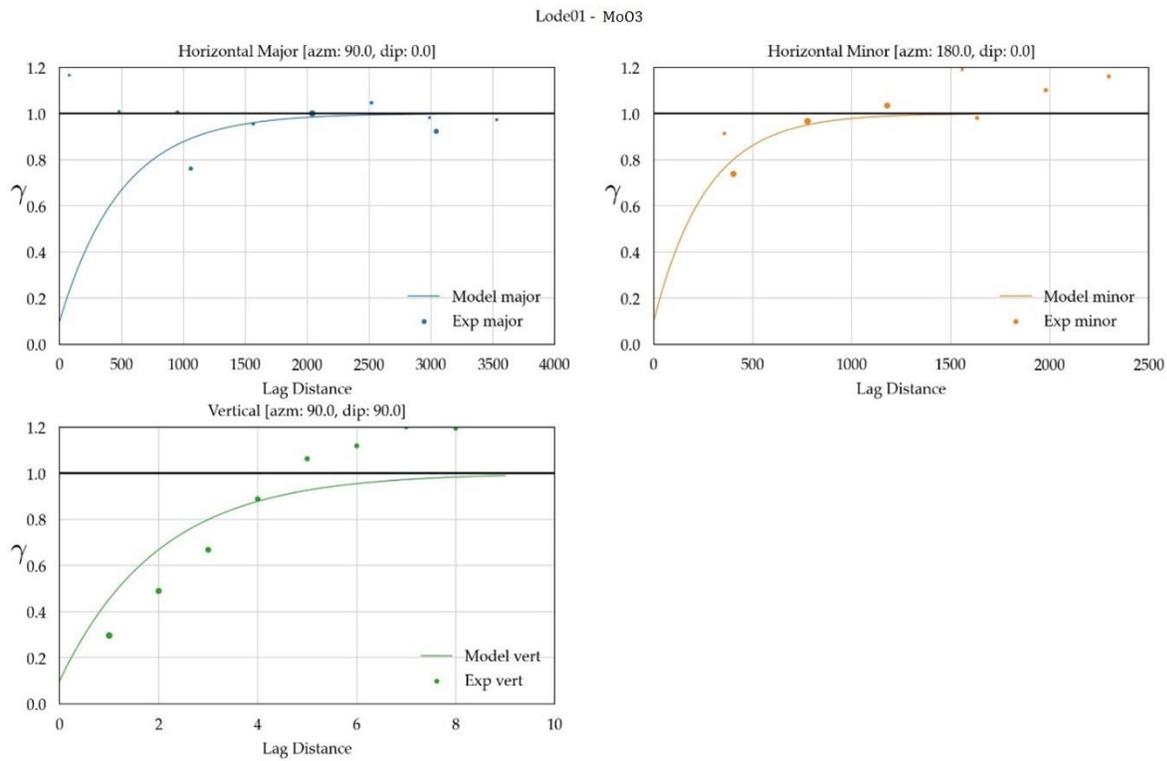


Figure 14.13. Variogram Model used for Kriging estimate of MoO₃ mineralized domain.

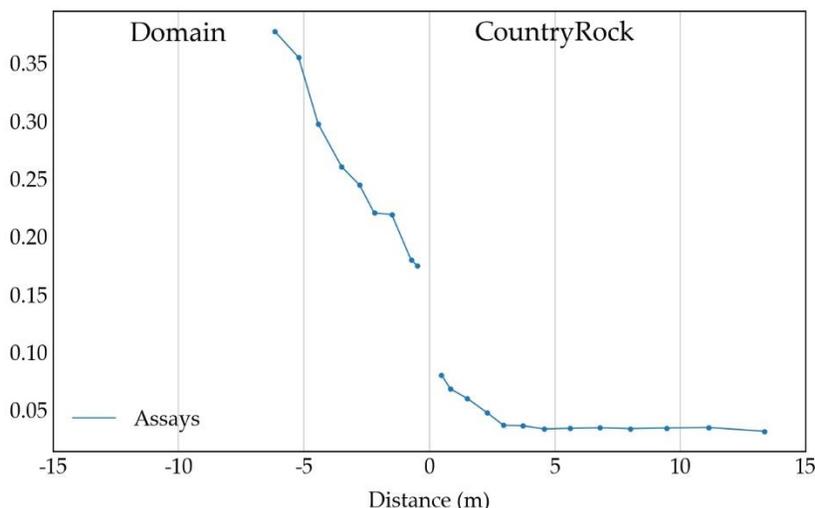


14.5.2 Contact Analysis

The mineralization profile at the contact between the estimation domain and the waste rock can occur in a soft, hard, or semi-soft manner. Soft boundaries occur when mineralization at the contact gradually changes from high to low as you cross into the neighbouring domain. Hard boundaries occur when mineralization at the contact abruptly changes as you cross into the neighbouring domain. Semi-soft boundaries occur when mineralization changes gradually within a small window as you cross into the neighbouring domain.

If possible, the final block model should reproduce the mineralization profile observed in the drill hole data at contacts between domains. A contact analysis was completed to evaluate the mineralization profile at the estimation domain and waste rock contact using plots of grade as a function of distance to the contact to determine the type of mineralization profile as shown in Figure 14.14. The resultant analysis illustrates a hard boundary.

Figure 14.14. Contact Analysis. Average V_2O_5 grade (blue line) as a function of the distance* to the edge of the estimation domain.



*Negative distance is inside domain and positive distances represent outside of the domain and into waste model.

14.6 Block Model

14.6.1 Block Model Parameters

The block model used for the calculation of the Cambridge Deposit Mineral Resource Estimate fully encapsulates the estimation domains used for resource estimation described in Section 14.3. When determining block model parameters, data spacing is the primary consideration. Additionally, the volume of the 3D estimation domain wireframes need to be adequately captured and potential mining equipment parameters need to be considered.

The data spacing of irregularly spaced drilling can be approximated by calculating the 90th percentile of a high-resolution block model of the distance from each block's centroid to the nearest sample. Estimation errors are introduced when kriging is used to estimate a grade for blocks with a size larger than 25% of the data spacing. As illustrated in Figure 14.15, the 90th percentile is 466 meters. The domain is also a tabular style domain with a max thickness of 17 meters and the drill spacing is preferentially drilled with greater density in the y direction, therefore a block size of 100 m (x) by 50 m (y) by 2 m (z) is used. The coordinate ranges and block size dimensions used to build the Cambridge 3D block model are presented in Table 14.6.

A block factor (BF) that represents the percentage of each block's volume that lies within the estimation domain is calculated and used to:

- flag the dominant lode, by volume, for each block; and
- calculate the percentage of mineralized material and waste for each block

Figure 14.15. Cumulative frequency plot illustrating the distance from each block’s centroid to the nearest composite sample in meters.

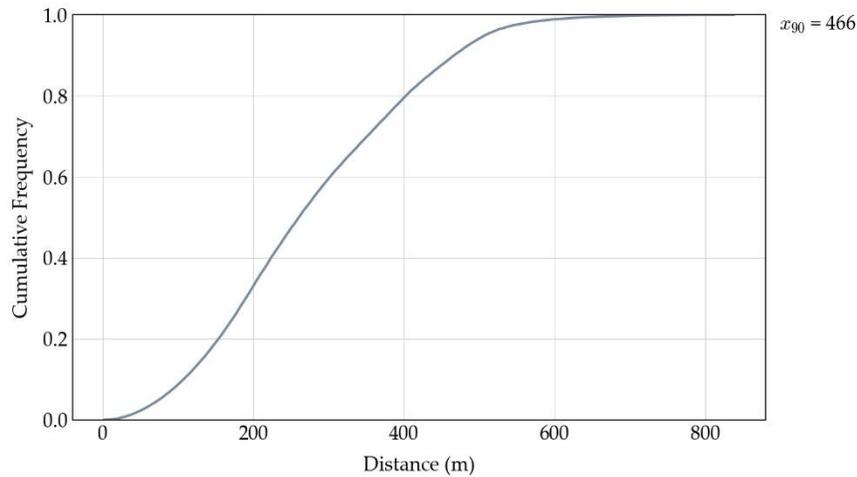


Table 14.6. Cambridge Deposit block model size and extents.

	X (Easting)	Y (Northing)	Z (Elevation)
Minimum Extents (m)	691,090	7,731,990	123
Maximum Extents (m)	697,090	7,736,590	263
Block Size (m)	100	50	2
Number of Blocks	60	92	70

14.6.2 Volumetric Checks

A comparison of wireframe volume versus block model volume is performed to ensure there is no considerable over- or understating of tonnages (Table 14.7). The calculated block factor for each block is used to scale its volume when calculating the total volume of the block model.

Table 14.7. Wireframe versus block model volume comparison.

Wireframe	Wireframe Volume (ft ³)	Block Model Volume with Block Factor (ft ³)	Volume Difference (%)
Lode01	240,237,546	240,228,400	0.004%

14.7 Grade Estimation Methodology

Ordinary Kriging (OK) was used to estimate V₂O₅ and MoO₃ grades for the Cambridge Deposit block model.

Estimation of blocks is completed with locally varying anisotropy (LVA), which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis. Blocks within the estimation domain are assigned rotation angles using a trend surface wireframe. This method allows structural complexities to be reproduced in the estimated block model. Variogram and search ranges are defined by the variogram model described in Section 14.5.

To ensure that all blocks within the estimation domains are estimated, a three-pass method was used for each domain that utilizes three different search ellipsoid configurations (Table 14.8). The range of the first variogram structure never changes.

Table 14.1: Estimation search and Kriging parameters.

Parameter	Unit	V2O5	MoO3
Data Search Constraints - Run 1			
Search Orientations		LVA	LVA
Major Range	m	350	750
Minor Range	m	350	400
Vertical Range	m	3	3
Number of Search Sectors		1	1
Max Samples per Sector		20	20
Max Samples per DrillHole		2	6
Min Samples		1	1
Data Search Constraints - Run 2			
Search Orientations		LVA	LVA
Major Range	m	800	1500
Minor Range	m	600	800
Vertical Range	m	6	6
Number of Search Sectors		1	1
Max Samples per Sector		20	20
Max Samples per DrillHole		4	8
Min Samples		1	1
Data Search Constraints - Run 3			
Search Orientations		LVA	LVA
Major Range	m	1200	1800
Minor Range	m	1200	1300
Vertical Range	m	15	15
Number of Search Sectors		1	1
Max Samples per Sector		20	20
Max Samples per DrillHole		6	8
Min Samples		1	1

Each pass uses the variogram ranges as modelled and detailed in Section 14.5. while the search ellipsoid distances are extended in each subsequent pass, and the minimum data constraints are changed as needed to help control the smoothing.

The correct volume-variance relationship for the estimated V₂O₅ and MoO₃ grades is enforced by restricting the maximum number of conditioning data (composites) using the estimation parameters shown in Table 14.8. These restrictions are implemented to ensure the estimated models are not over smoothed, which would lead to inaccurate estimation of global tonnage and grade. The parameters used to enforce the right volume-variance relationship cause local conditional bias but ensure the global estimate of grade and tonnes is accurately estimated.

Blocks that contain more than or equal to 1.56% waste by volume are diluted using a nominal waste value that is volume-weight averaged with the estimated grade. It is desired that the behaviour of V₂O₅ and MoO₃ at the boundary between the estimation domain and waste beyond its boundary is reproduced. The nature of mineralization at the mineralized/waste contact is evaluated to ensure adequate block dilution is occurring.

As illustrated in Section 14.5.2, V₂O₅ behaves in a hard manner, where the grade of the composite centroids flagged within an estimation domain sharply transitions from mineralized to waste over a short window. Blocks containing waste values are assigned a volume weighted grade for the Lerchs-Grossman (LG) pit optimizations. The MRE is reported undiluted.

14.8 Model Validation

Visual and statistical validation was completed to ensure that the estimated block model honours directional trends observed in the composites and that the block model is not over-smoothed or over- or under-estimated with respect to grade

14.8.1 Visual Validation

Swath Plots

Swath plots can be used to evaluate how well the estimated block model locally honours directional trends and identify potential areas of over- or under-estimation in grade. They are generated by calculating the average metal grades of the composites and the estimated blocks within directional slices. A window of 500 m is used in east-west slices, 500 m in north-south slices, and 4 m in vertical slices.

The block model was visually validated in plan view and in cross-section to compare the estimated metal values versus the conditioning composites using swath plots (Figures 14.16 to 14.21). Overall, the block model compares well with the composites. There is some local over- and under-estimation observed. Due to the limited number of conditioning data available for the estimation in those areas, local differences are expected.

Figure 14.16. Swath plot for V₂O₅ along Easting sections with a +/- 500 m section window.

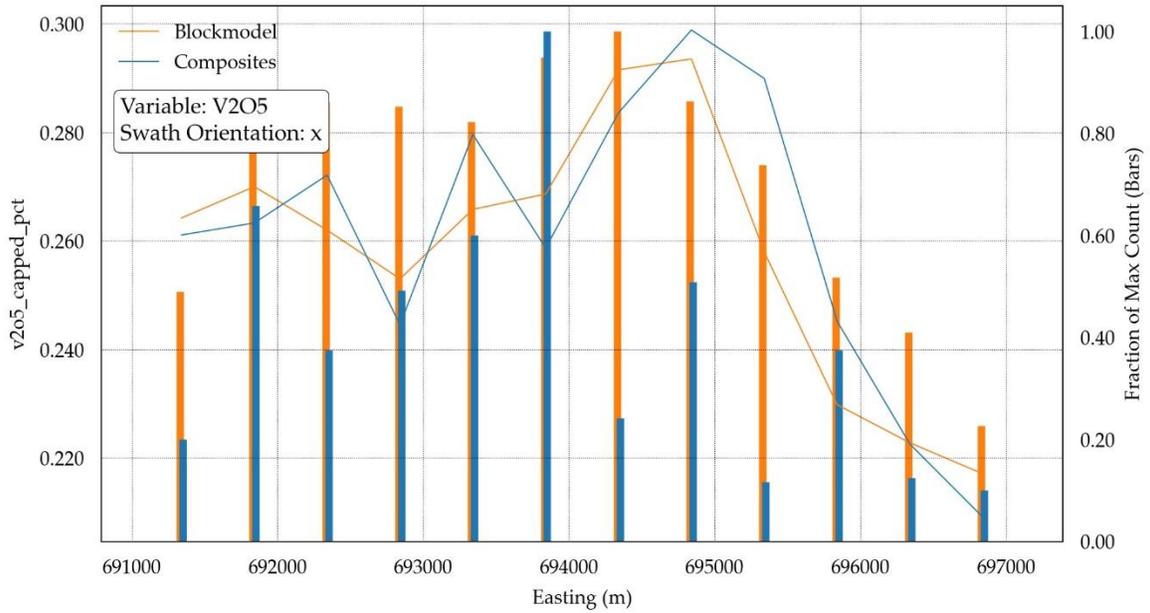


Figure 14.17. Swath plot for V₂O₅ along Northing sections with a +/- 500 m section window.

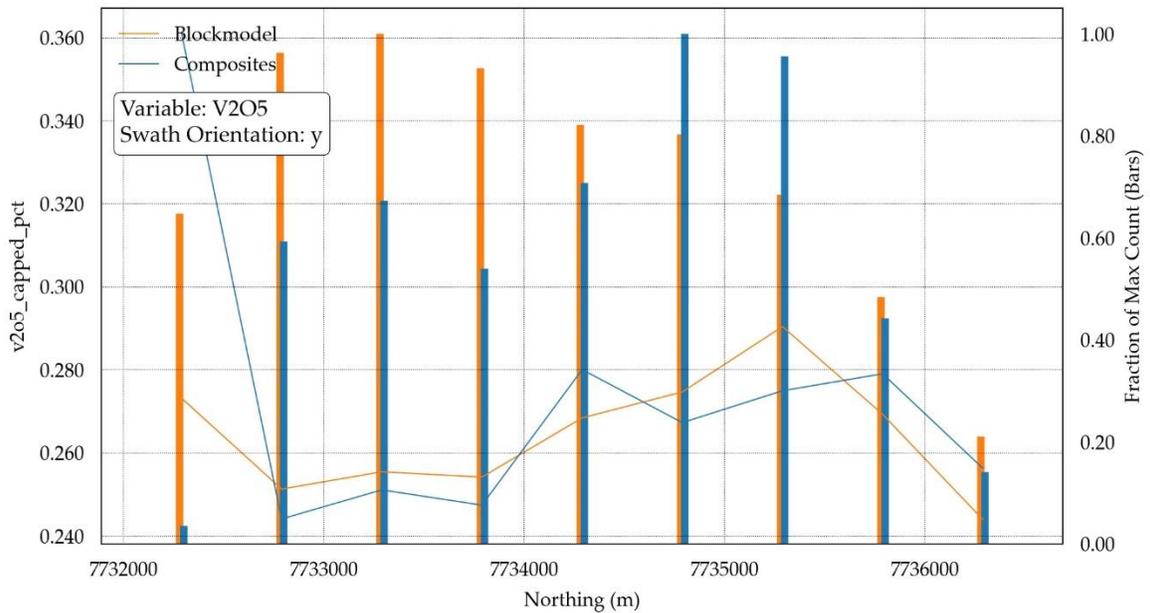


Figure 14.18. Swath plot for V₂O₅ along Elevation sections with a +/- 4 m section window.

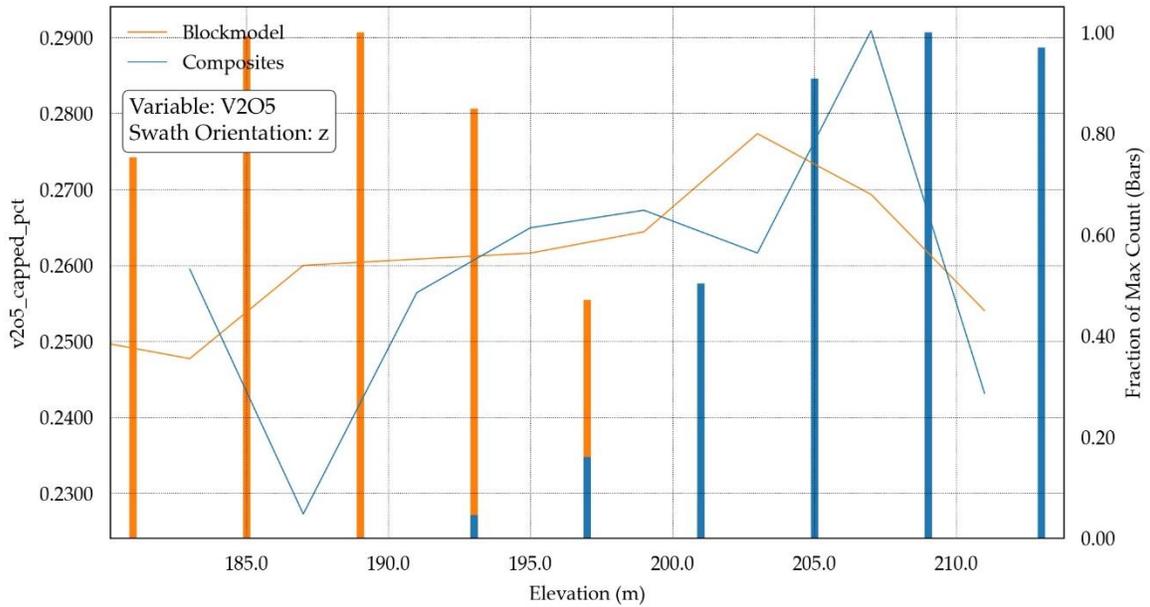


Figure 14.19. Swath plot for MoO₃ along Easting sections with a +/- 500 m section window.

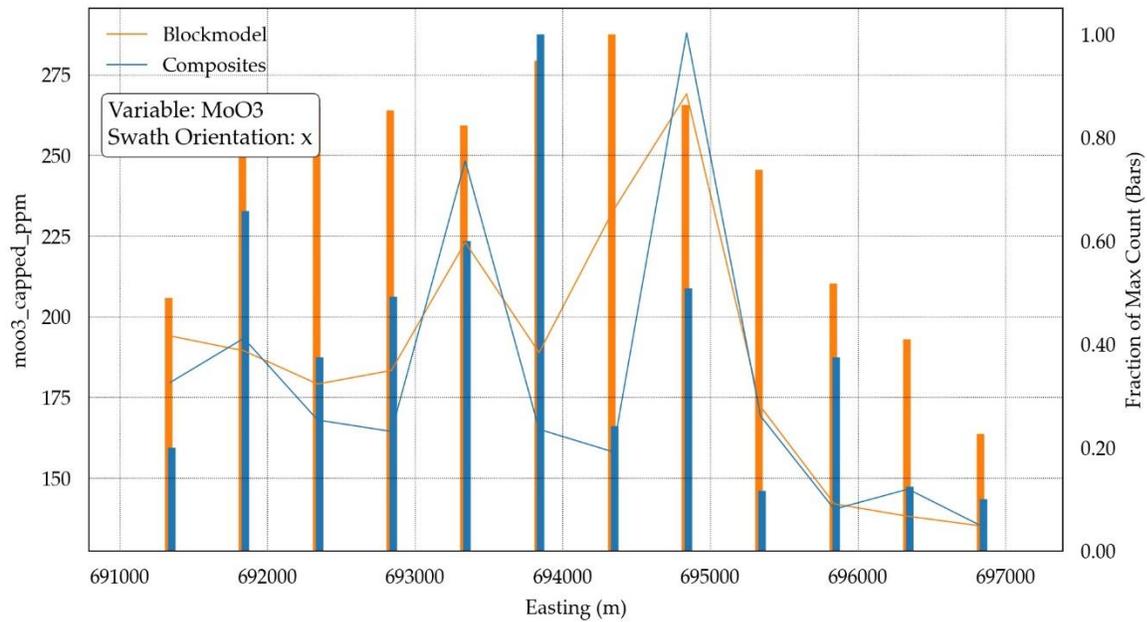


Figure 14.20. Swath plot for MoO₃ along Northing sections with a +/- 500 m section window.

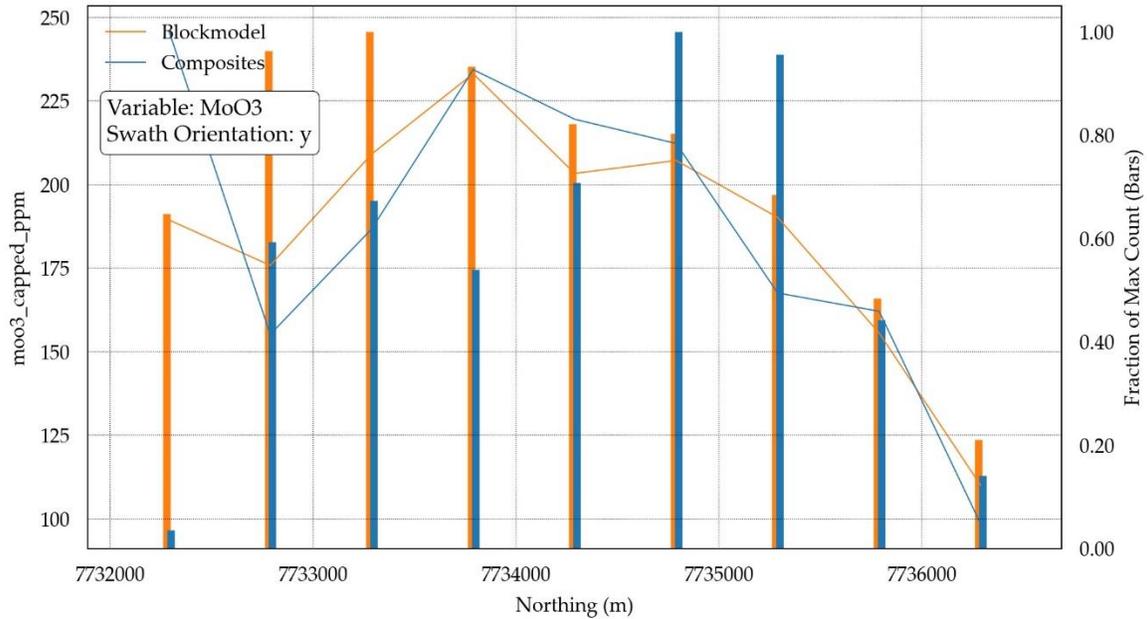
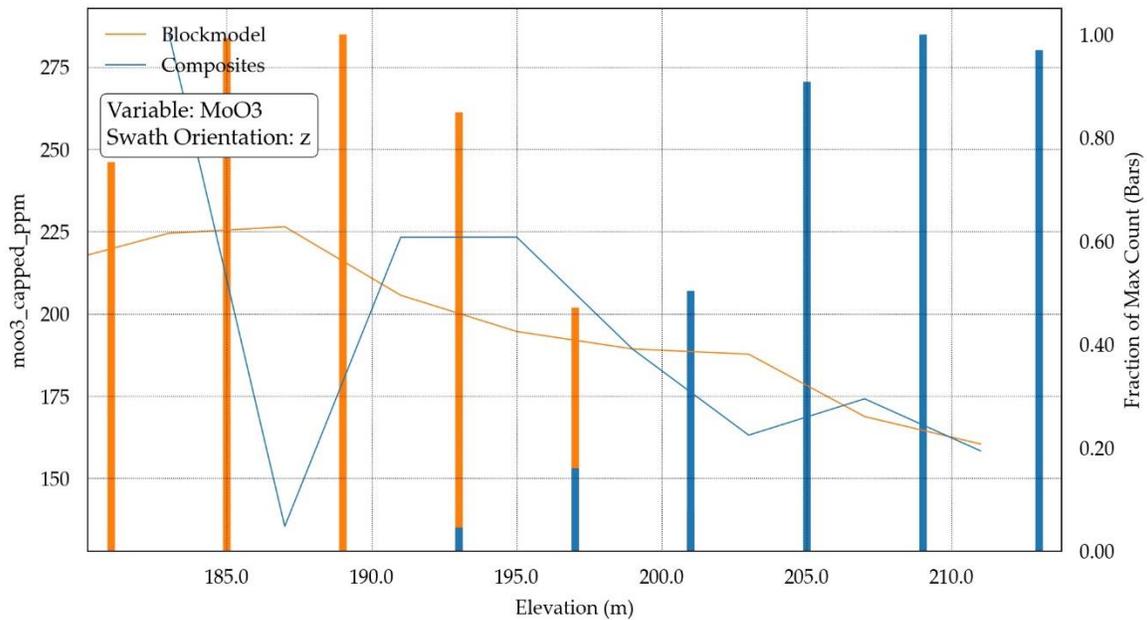


Figure 14.21. Swath plot for MoO₃ along Elevation sections with a +/- 4 m section window.



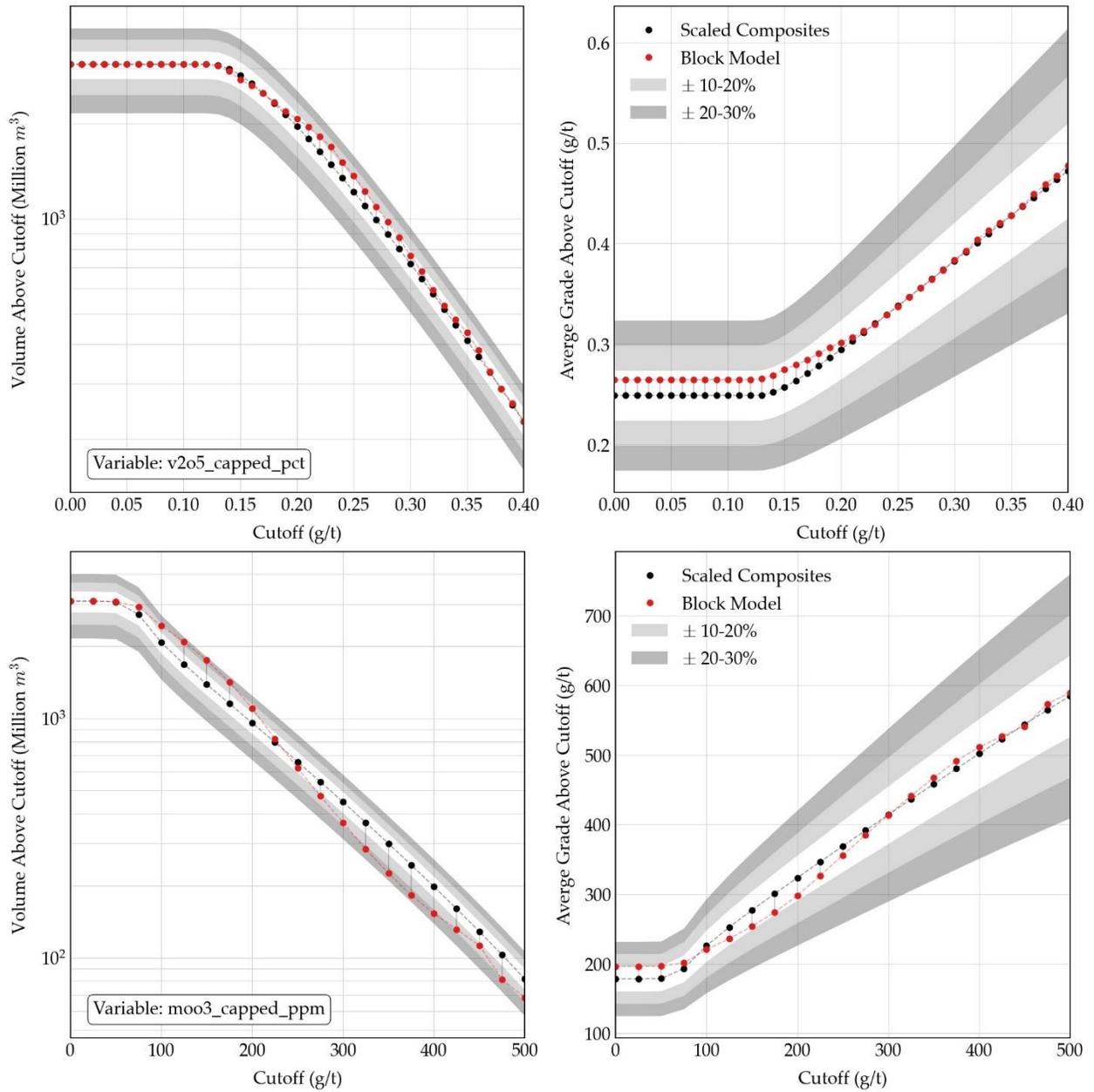
Volume-Variance Validation

Smoothing is an intrinsic property of Kriging, and as described in Section 14.7 volume-variance corrections are used to help reduce its effects and evaluated the block model resource globally and at different cut-off grades. To verify that the correct level of smoothing is achieved at the MRE specified cutoff grade, theoretical histograms that indicate each estimated metal's anticipated variance and distribution at the selected block model size are calculated and plotted against the estimated final block model in Figure 14.22.

Global smoothing is observed; however, further modifications of the search strategy to help control the smoothing will degrade the quality of the V_2O_5 and MoO_3 estimates. The theoretical models and the estimated model are similar in distribution.

In conclusion, the local model validation, evaluated with swath plots, shows some local over and under estimation of block model grades; However, globally, the correct tonnages at the MRE cutoff of 0.25% V_2O_5 are achieved with slight over estimation of tonnes but a correct estimation of the block model grades.

Figure 14.22. Volume variance cumulative histogram comparison. Cumulative histograms of declustered composited data, volume variance corrected models, and the block model estimates.

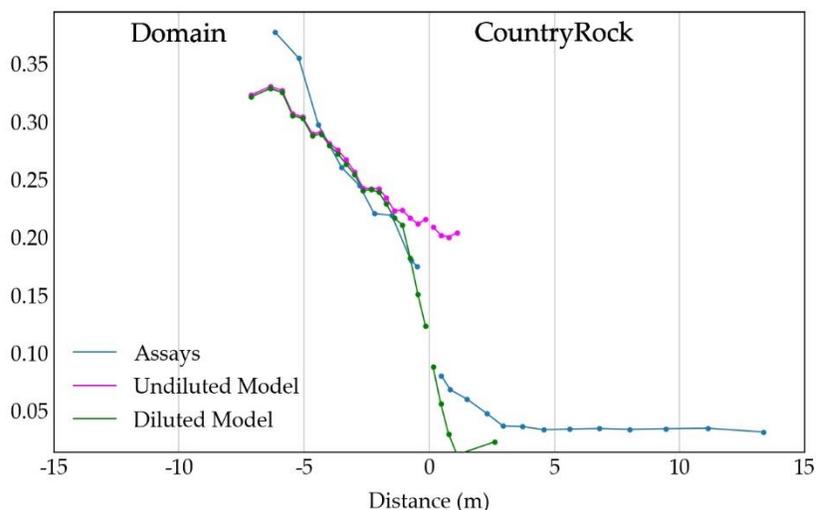


Contact Analysis

As described in Section 14.7, blocks within the Cambridge Deposit block model that contain more than or equal to 1.56% waste by volume are diluted, using the nominal waste values and mineralized domain V_2O_5 and MoO_3 values. The diluted grades are used for the pit optimization, ideally, the nature of mineralization at the mineralized zone/waste contact observed in the composites is reproduced in the block model.

A contact analysis plot checking contact profile reproduction is illustrated in Figure 14.23. The mineralized zone/waste contact profile is adequately reproduced with some under-estimation into waste.

Figure 14.23. Contact analyses showing average V_2O_5 grade (%) by distance* to the domain edge of composite data, undiluted block model and diluted block model.



*Negative distance is inside domain and positive distances represent outside of the domain and into waste model.

14.9 Mineral Resource Classification

The Cambridge Deposit MRE discussed in this Technical Report has been classified in accordance with guidelines established by the CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” dated November 29, 2019 and CIM “Definition Standards for Mineral Resources and Mineral Reserves” dated May 14th, 2014.

A ‘Measured Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.

An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.

The 2021 Cambridge Deposit MRE is classified as Indicated and Inferred according to the CIM definition standards. The classification of the Indicated and Inferred Resources is based on geological confidence, data quality and grade continuity of that data. The most relevant factors used in the classification process were:

- density of conditioning data;
- level of confidence in drilling results and collar locations;
- level of confidence in the geological interpretation; and
- continuity of mineralization.

Resource classification was determined using a multiple-pass strategy that consists of a sequence of runs that flag each block with the run number a block first meets a set of search restrictions. With each subsequent pass, the search restrictions are decreased, representing a decrease in confidence and classification from the previous run. For each run, a search ellipsoid is centred on each block and orientated in the same way described in Section 14.7.

Table 14.9 details the range of the search ellipsoids and the number of composites that must be found within the ellipse for a block to be flagged with that run number. The runs are executed in sequence from run 1 to run 2. Classification is then determined by relating the run number that each block is flagged as to indicated (run 1) or inferred (run 2).

Table 14.9. Search restrictions applied during each run of the multiple-pass classification strategy.

Run No.	Classification	Min No. Holes	Min No. Comp	Major Range (m)	Minor Range (m)	Vertical Range (m)
Run 1	Indicated	3	12	600	600	12
Run 2	Inferred	3	1	1000	1000	20

14.10 Evaluation of Reasonable Prospects for Eventual Economic Extraction

To demonstrate that the Cambridge Deposit has the potential for future economic extraction, the unconstrained and partially diluted resource block model was subjected to several pit optimization scenarios to look at the prospect for eventual economic extraction. Pit optimization was performed using a Lerch's Grossman (LG) pit optimization algorithm.

All mineral resources reported below are reported within an optimized pit shell using \$US7.5/lb for vanadium and was defined using blocks classified as Indicated or Inferred. The other criteria used for the \$US7.5/lb conceptual pit shell optimization are shown in Table 14.10.

The unconstrained resource block model was subjected to several open pit optimization scenarios and surface mining parameters. The following criteria, Table 14.10, were considered reasonable for the purpose of providing an MRE. The resources presented herein are not mineral reserves, and they do not have demonstrated economic viability. There is no guarantee that any part of the resources identified herein will be converted to a mineral reserve in future.

Table 14.10. Parameters for open pit optimization for the Mineral Resource Estimate.

Item	Unit	Value
Vanadium Price	USD/lb	7.5
Molybdenum Price	–	–
Mining Cost	AUD/tonne	2.86
Processing + G&A	AUD/tonne	7.86
AUD – USD Exchange Rate		0.7
Assumed V ₂ O ₅ Recovery	%	85
Assumed Molybdenum Recovery	–	–

**Molybdenum was treated as a by-product of Vanadium and as such not used in the economic parameters of reasonable prospects of eventual economic extraction (LG Pit design).*

14.11 Mineral Resource Reporting

The Cambridge Deposit MRE of the NQVP is reported in accordance with the CSA NI 43-101 rules for disclosure and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 29, 2019 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated May 10th, 2014.

The MRE was estimated within three-dimensional (3-D) solids that were created from the implicit modeling interpretation of geology and grade shells. The upper contact has been cut by the topographic surface and the outer contact was cut to the property boundary. Where there is overburden modeled, the upper contact was subsequently cut

by the overburden surface. Grade was estimated into a block model with a block size of 100 m (X) by 50 m (Y) by 2 m (Z).

Grade estimation of V_2O_5 and MoO_3 was performed using Ordinary Kriging (OK). For the purposes of the pit shell optimization, blocks that contain waste were diluted by estimating a waste value using composites within a transition zone along the outer boundary of the estimation domains. The final diluted vanadium pentoxide grade for the diluted model assigned to each block is a volume-weighted average of the estimated vanadium pentoxide grade for the mineralized domain and for the waste portion of the each block. The diluted model was utilized for the pit optimization. The MRE is reported within a pit shell and is undiluted.

The updated MRE is based on “reasonable prospects for eventual economic extraction” and is constrained in a LG open pit shell that was constructed using \$AUD 23,152/tonne (\$USD 7.5/lb) for V_2O_5 . The MRE has an effective date of November 1, 2022 and is based on historical drilling from 2008 to 2019. Details of the MRE are shown in Table 14.11.

The Indicated resource includes 61.3 million tonnes of mineralized material at an average V_2O_5 grade of 0.34% for a total of 210.3 thousand tonnes. The Inferred resource includes 144.9 million tonnes of mineralized material at an average V_2O_5 grade of 0.33% for a total of 483.4 thousand tonnes.

Table 14.11. Mineral Resource Estimate for the Cambridge Deposit at 0.25 % Vanadium cut-off grade*

Cut-Off V_2O_5 (%)	Classification	Tonnes (Mt)	V_2O_5 (t)	V_2O_5 (%)	MoO_3 (t)	MoO_3 (ppm)
0.25	Indicated	61.33	210,300	0.339	14,600	234.6
	Inferred	144.87	483,400	0.33	35,500	241.9

*Notes:

1. Mineral resource estimates are reported at a cut-off grade of 0.25% V_2O_5
2. The unconstrained resource block model was estimated using ordinary kriging utilizing blocks at 100m(X) x 50m(Y) x 2m(Z) and was subject to several open pit optimization scenarios utilizing several V_2O_5 prices, mining cost scenarios and recovery factors typical of Vanadium mining operations and advanced projects in Australia. The Cambridge Deposit final MRE conceptual pit shell utilized a V_2O_5 price of US\$ 7.5/lb, Mining cost of AU\$2.86/tonne, Processing and G&A cost of AU\$7.86/tonne, V_2O_5 total recovery of 85%, pit slopes of 35° and an AU\$ to US\$ exchange rate of 0.70. Mr. Dufresne considers the pit parameters to be appropriate to evaluate the reasonable prospect for potential future economic extraction at the Cambridge Deposit of the NQVP for the purpose of providing a MRE.
3. Indicated and Inferred Mineral Resources are not Mineral Reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. There has been insufficient exploration to define the inferred resources tabulated above as an indicated or measured mineral resource, however, it is reasonably expected that the majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. There is no guarantee that any part of the mineral resources discussed herein will be converted into a mineral reserve in the future.
4. The mineral resources have been classified according to the Canadian Institute of Mining (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May, 2014).and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (2019).
5. Differences may occur in totals due to rounding
6. Mr. Mike Dufresne, P.Geol., P.Geol. and Mr. Steven Nicholls, M.AIG of APEX Geoscience Ltd., who are deemed qualified persons as defined by NI 43-101 are responsible for the completion of the updated mineral resource estimation.

7. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
8. This mineral resource estimate is dated November 1, 2022

Mineral Resources can be sensitive to the selection of the reporting cut-off grade. For sensitivity analysis other cut-off grades are presented in Table 14.12 for review, ranging from 0.2% to 0.4% V₂O₅ cut-off grades.

Table 14.12. Sensitivity analysis of the mineral resource estimate at various cut-off grades*

Classification	Cut-Off V ₂ O ₅ (%)	Tonnes (Mt)	V ₂ O ₅ (t)	V ₂ O ₅ (%)	MoO ₃ (t)	MoO ₃ (ppm)
Indicated	0.2	87.63	269,700	0.301	19,200	214.6
Indicated	0.25	61.33	210,300	0.339	14,600	234.6
Indicated	0.3	38.32	147,400	0.383	10,100	263.3
Indicated	0.35	22.15	95,200	0.429	6,300	283.5
Indicated	0.4	12.59	59,500	0.473	3,900	306.8
Inferred	0.2	217.59	648,300	0.294	48,800	220.6
Inferred	0.25	144.87	483,400	0.33	35,500	241.9
Inferred	0.3	80.83	308,700	0.38	21,600	264.5
Inferred	0.35	46.81	199,600	0.426	13,500	287.7
Inferred	0.4	23.97	114,900	0.478	6,900	288.8

*Notes:

1. Mineral resource estimates are reported at a cut-off grade of 0.25% V₂O₅
2. The unconstrained resource block model was estimated using ordinary kriging utilizing blocks at 100m(X) x 50m(Y) x 2m(Z) and was subject to several open pit optimization scenarios utilizing several V₂O₅ prices, mining cost scenarios and recovery factors typical of Vanadium mining operations and advanced projects in Australia. The Cambridge Deposit final MRE conceptual pit shell utilized a V₂O₅ price of US\$ 7.5/lb, Mining cost of AU\$2.86/tonne, Processing and G&A cost of AU\$7.86/tonne, V₂O₅ total recovery of 85%, pit slopes of 35° and an AU\$ to US\$ exchange rate of 0.70. Mr. Dufresne considers the pit parameters to be appropriate to evaluate the reasonable prospect for potential future economic extraction at the Cambridge Deposit of the NQVP for the purpose of providing a MRE.
3. Indicated and Inferred Mineral Resources are not Mineral Reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. There has been insufficient exploration to define the inferred resources tabulated above as an indicated or measured mineral resource, however, it is reasonably expected that the majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. There is no guarantee that any part of the mineral resources discussed herein will be converted into a mineral reserve in the future.
4. The mineral resources have been classified according to the Canadian Institute of Mining (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May, 2014).and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (2019).
5. Differences may occur in totals due to rounding
6. Mr. Mike Dufresne, P.Geol., P.Geo. and Mr. Steven Nicholls, M.AIG of APEX Geoscience Ltd., who are deemed qualified persons as defined by NI 43-101 are responsible for the completion of the updated mineral resource estimation.
7. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
8. This mineral resource estimate is dated November 1, 2022

14.12 Discussion of the Mineral Resource Estimate along with Risks and Opportunities

Mr. Dufresne and Mr. Nicholls have reviewed and take responsibility for the Cambridge Deposit MRE and consider there to be both risks and opportunities to the estimation of the Cambridge Mineral Resource and the evaluation of the reasonable prospects for eventual economic extraction. Mr. Dufresne and Mr. Nicholls consider the following to be the main risks and opportunities associated with the Cambridge MRE.

The lack of metallurgical information for samples directly from the NQVP poses some risk for future development. The metallurgy of the deposit must be economically established with metallurgical testwork across the deposit. There are numerous companies conducting exploration and metallurgy in the area surrounding the Property targeting vanadium in the Toolebuc Formation. A review of metallurgical processes used by these companies should be completed and used to inform the choice of metallurgical work required on the Property. The Australian government has committed to build a common user facility to process vanadium in nearby Townsville. The processing facility will allow smaller mining companies to process samples at scale. Additionally, there is high global demand for vanadium. Based on these factors the current lack of metallurgy on the Property is considered a low to moderate risk.

Drill hole spacing in general is excellent for a significant portion of the Cambridge Deposit. However, mineralization continuity in areas of inferred resources is an area of concern until further drilling is conducted. Further drilling within or near the areas of inferred resources, in particular the southern half of the deposit, would increase the confidence of the mineralization boundaries and the estimated grades. The mineralization appears to be open in all directions; however, the mineralization to the south and to the west is restricted and cannot be extended due to the position of the tenement boundary. There is a potential opportunity to increase the extents of the Cambridge Deposit by completing additional drilling to the east and the north of the deposit.

The Cretaceous Toolebuc Formation and other members of the Rolling Downs Group are known to host some fossil deposits in addition to the typical invertebrate marine fossil assemblages. These fossils can include pterosaurs (Kellner et al., 2010), fish/fish debris (scales, bones, and teeth) reptilian bone fragments (Kear, 2010; Lewis et al., 2010), marine reptiles (kronosaurus) (Kronosaurus, 2022), and dinosaurs (e.g., ankylosaurs) (Leahey et al., 2015). Any mining activities in the NQVP that encountered any significant fossil discoveries would be slowed or stopped to allow the excavation and study of any unique fossil specimens. No significant fossil discoveries have been found on the Property to date. On the Property the targeted Toolebuc Formation is shallow and oxidised and thus it is likely that any fossil discoveries would be of poor quality. This is considered a low risk at this early stage of exploration.

The presence and recoverability of secondary, or companion, metals as by-products to the mineralization at the NQVP has not yet been fully assessed by the Company. Modern technology is becoming increasingly dependant on certain minor metals or metalloids that are typically found in low concentrations within the continental crust and

tend to form interstitially with similar metals and are often recovered only as by-products. In the opinion of Mr. Dufresne and Mr. Nicholls, opportunity may exist for the recoverability of secondary metals, including Mo and other potential metals, as by-products to the mineralization at the NQVP. Additional drilling along with geochemical, mineralogical and metallurgical studies will be required to assess the potential for the recoverability of secondary metals.

Sections 15-22 are not required.
The NQVP is an early stage exploration project.

23 Adjacent Properties

The reader is cautioned that the following section discusses mineralization that is not located on the North Queensland Vanadium Project (NQVP) but is located in the vicinity of the Property. The authors of this report have not had the opportunity to visit these sites and mineral deposits, or verify any of information presented below, and the reader is further cautioned that this information is not intended to imply that such mineralization exists at the NQVP. The information provided in this section is simply intended to describe examples of the type and tenor of mineralization that exists in the region and that is being explored for in the NQVP.

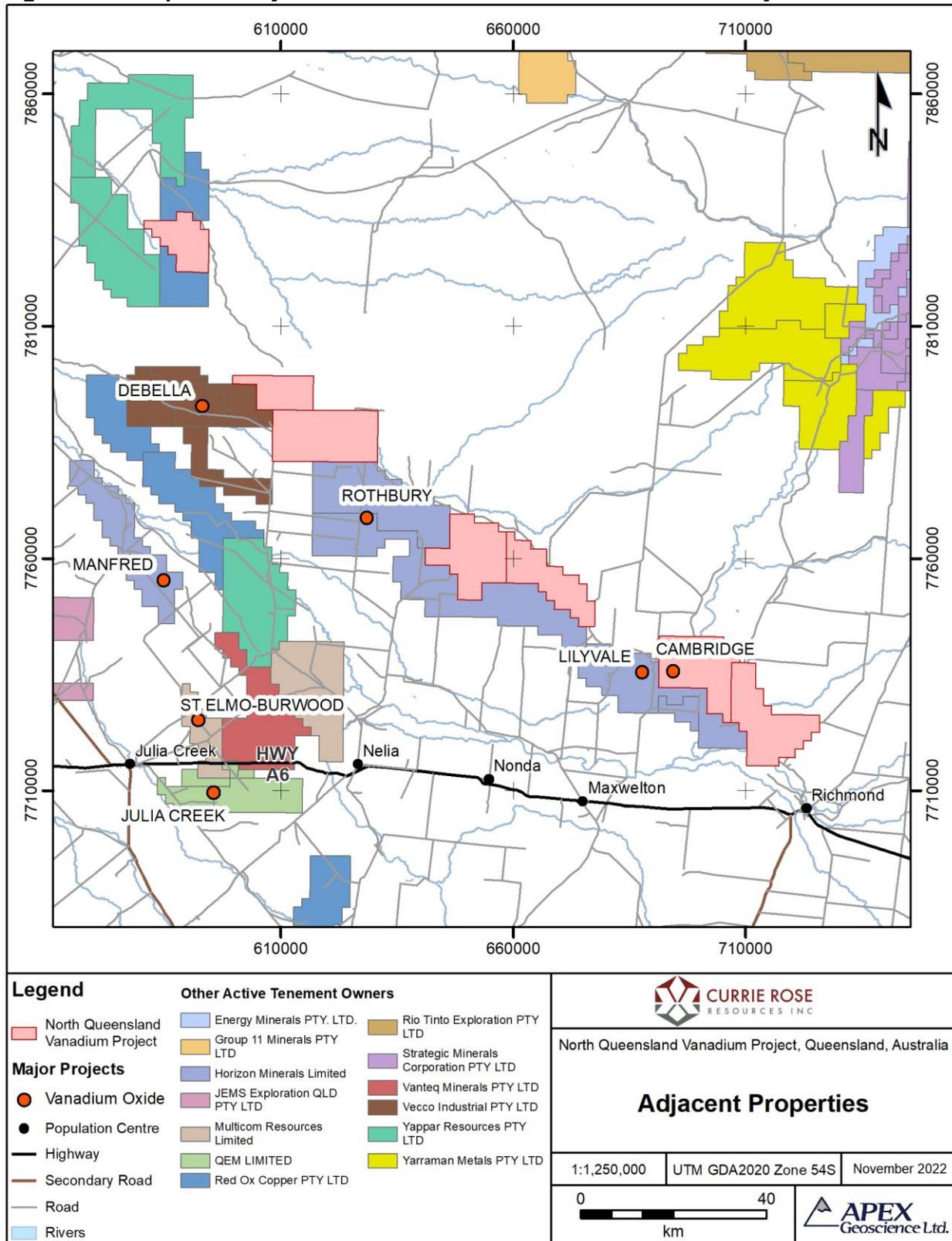
The NQVP is located in the Julia Creek-Richmond area where exploration for shale gas and vanadium has been active for several decades. Currently, active exploration in the area is conducted by both ASX listed companies and private companies (Figure 23.1).

Four nearby projects have resources reported in accordance with the JORC Code (Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves), including: Horizon Minerals (ASX:HRZ) and JV partners Richmond Vanadium Technology (RVT) for the Richmond - Julia Creek Vanadium Project, Vecco Industrial for the Debella Project, QEM Ltd. (ASX:QEM) for the Julia Creek Project, and Multicom for the Saint Elmo project. Other companies active in the area include Yappar Resources, Red Ox Copper, and Vanteq Minerals. Background information about the project status and exploration completed to date for the privately owned projects is limited to the information posted by the private companies on their websites.

23.1 Richmond - Julia Creek Vanadium Project

The Richmond - Julia Creek Vanadium Project lies adjacent to the west of the NQVP tenements. The Richmond Vanadium Project is owned by a Joint Venture between Horizon Minerals (25%) and Richmond Vanadium Technology Pty Ltd. (75%). The project covers an area of 1,550 km². The Richmond-Julia Creek Project is underlain by marine sediments of the Early Cretaceous Toolebuc Formation, of the Eromanga Basin central-

Figure 23.1 Properties adjacent to the North Queensland Vanadium Project.



northern Queensland. This is the same unit that hosts the vanadium mineralization on the NQVP. The Richmond - Julia Creek Vanadium Project encompasses 3 deposits: Lilyvale, Rothbury, and Manfred that were included in an updated global mineral resource estimate (MRE) in 2020. The 2020 updated MRE for the Richmond - Julia Creek Vanadium Project was reported in accordance with the JORC Code 2012 and is provided in Tables 23.1 and 23.2 (Horizon, 2020a).

The Lilyvale Deposit is at the most advanced stage of development. The eastern most extent of the Lilyvale Deposit lies 4 km west of Currie Rose' tenement boundary and 6.5 km west of the Cambridge resource area. The mineralized unit varies in thickness between 5-10 m, and covers an areal extent of approximately 6 by 6 km. The unit is tabular and horizontal and is open along strike (Figure 23.2). Overburden thickness over the deposit area varies between 2 and 15 m. The Lilyvale Deposit has a MRE of Indicated comprising 430 Mt grading 0.50% V_2O_5 for 2.15 Mt of contained metal of V_2O_5 , 0.10 Mt of Mo and 0.1 Mt of Ni and Inferred comprising 130 Mt grading 0.41% V_2O_5 for 0.53 Mt of contained metal of V_2O_5 , 0.03 Mt of Mo and 0.03 Mt of Ni at a 0.30% V_2O_5 lower grade cut-off (Tables 23.1 and 23.2; Horizon 2020a; b).

Table 23.1. Inferred Mineral Resources for the Richmond-Julia-Creek project (Horizon, 2020a).

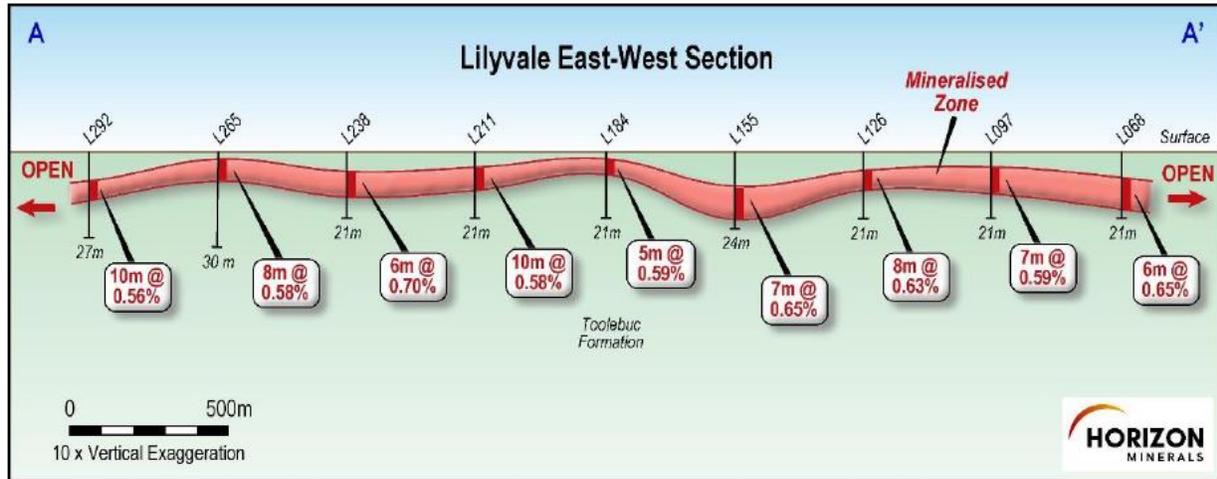
Resource Category	Cut off grade (%)	Tonnage (Mt)	Grade			Metal Content (Mt)		
			V_2O_5 (%)	Mo (ppm)	Ni (ppm)	V_2O_5	Mo	Ni
Rothbury (Inferred)	0.30	1202	0.312	259	151	3.75	0.31	0.18
Lilyvale (Inferred)	0.30	130	0.41	213	231	0.53	0.03	0.03
Manfred (Inferred)	0.30	76	0.345	369	249	0.26	0.03	0.02

Table 23.2. Indicated Mineral Resource for the Lilyvale Deposit (Horizon, 2020a).

Resource Category	Cut off grade (%)	Tonnage (Mt)	Grade			Metal Content (Mt)		
			V_2O_5 (%)	Mo (ppm)	Ni (ppm)	V_2O_5	Mo	Ni
Lilyvale (Indicated)	0.30	430	0.5	240	291	2.15	0.1	0.1

Each deposit area was interpreted and modelled separately due to the size and lode orientations. The updated Lilyvale resource is based on 333 drillholes. The resource area has been interpreted based on geology which comprises the Toolebuc Formation units: Coquina, Kaolinized Weathered Oil Shale and Oil Shale, and grade information based on V_2O_5 values only. A nominal 0.3% V_2O_5 lower cut-off grade was used and allowed for flexibility for geological continuity. The vanadium grade was estimated into a block model using a parent block size of 100 m (X) by 100 m (Y) by 1 m (Z) allowing for subblocks within the parent blocks as small as 25 m (X) x 25 m (Y) x 0.25 m (Z). Grade estimation was performed using Inverse Distance Squared (ID2) with dynamic anisotropy following the 0.3% V_2O_5 mineralization trend (Horizon, 2020a).

Figure 23.2 Lilyvale deposit east-west schematic cross section (Horizon, 2020a).



The Richmond - Julia Creek global MRE and Lilyvale MRE were calculated in accordance with the JORC code 2012. There are no material differences between the definitions of Mineral Resources under the applicable definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM Definition Standards") and the corresponding equivalent definitions in the JORC Code for Mineral Resources. The authors of this Technical Report have not visited the Property or verified the Richmond - Julia Creek MRE in detail however the MRE was prepared by QPs in accordance with the JORC code and is considered to be a valid current MRE. The authors do not imply any size or grade relationship between the Richmond - Julia Creek Deposits and note that this information is not necessarily indicative of the mineralization known or to be expected on the NQVP, which is the subject of this Technical Report.

On 27 October 2020, Horizon and RVT released a positive Pre-Feasibility Study (PFS) focussed on the development of the Lilyvale Deposit (Horizon, 2020b). The PFS included a maiden ore reserve for the Lilyvale Deposit that was calculated in accordance with the JORC Code 2012. The maiden open pit ore reserve totaled 459.2 Mt of material grading 0.49% V₂O₅ with a total metal content of 2.25 Mt V₂O₅ (Horizon, 2020b). The reserve has not been published in accordance with the NI 43-101 reporting requirement for a mineral reserve. The authors of this Technical Report have not visited the Property or validated the Lilyvale data or Mineral Reserve in detail, however, the Mineral Reserve was prepared by QPs in accordance with the JORC code and is considered to be a valid current Mineral Reserve. The authors do not imply any size or grade relationship between the Lilyvale Deposit and note that this information is not necessarily indicative of the mineralization known, or to be expected on the NQVP, which is the subject of this Technical Report

The PFS was based on an initial 20-year, open pit mine life at Lilyvale with concentrate production on site. Extensive metallurgical test work was completed on representative samples of the mineralization domains that included full process vanadium beneficiation tests, including concentration and smelting of the raw material. The metallurgical work identified a two-step process to concentrate the V₂O₅ into a commercial grade product.

The initial stage involves upgrading the pentoxide from a mined grade of 0.49% V₂O₅ to a shipping grade of 1.82% V₂O₅ using concentration and floatation techniques. Second stage beneficiation involves roasting, grinding, acid leaching/ripening, solids/liquid separation, de-silicification, ammonium vanadate precipitation and de-ammoniation to produce high grade vanadium pentoxide flakes (Horizon, 2020b).

The Queensland Government declared the Richmond Vanadium Project to be a Coordinated Project in May 2022; the first critical minerals project to be awarded this status in Queensland.

23.2 Debella Vanadium and High Purity Alumina Project

Vecco Industrial owns the Vanadium and High Purity Alumina Project which lies on tenements adjacent to the west of the NQVP tenements EPM 26866 and EPM26495 (Figure 23.1). On their website, Vecco reports a mineral resource estimate that includes an Inferred resource of 130.1 Mt at 0.43% V₂O₅ and an indicated resource of 45 Mt at 0.47% V₂O₅ that was calculated in accordance with the JORC Code 2012 (Table 23.3). No additional information is available on the parameters used for the resource calculation (Summerfield, 2018; www.veccogroup.com.au).

The Debella resource estimate was completed in accordance the JORC code 2012. There are no material differences between the definitions of Mineral Resources under the applicable definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM Definition Standards") and the corresponding equivalent definitions in the JORC Code for Mineral Resources. The authors of this Technical Report have not visited the Property or validated the Debella data or MRE; however, the MRE was prepared by QPs in accordance with the JORC code and is considered to be a valid current MRE. The authors do not imply any size or grade relationship between the Debella Deposit and note that this information is not necessarily indicative of the mineralization known or to be expected on the NQVP, which is the subject of this Technical Report.

The deposit is hosted by the Toolebuc Formation which lies approximately 16.4 m below surface in this area. The mineralized zone is reported to be flat-lying. A mining lease application is underway, with Vecco targeting production in 2024 (www.veccogroup.com.au). Vecco is also aiming to build an integrated supply chain for battery manufacturing and has partnered with C-Tech Innovation Ltd. to design and build Australia's first commercial-scale vanadium electrolyte manufacturing in Brisbane (C-Tech, 2021). C-Tech Innovation is a technology company based in the UK which makes electrochemical equipment for making vanadium electrolyte.

Table 23.3. Debella Vanadium Inferred Resource summary (www.veccogroup.com.au)

Resource Category	Tonnes (Mt)	V ₂ O ₅ (%)	HPA (%)
Inferred	130.1	0.43	-

Table 23.4. Debella Vanadium Indicated Resource summary (www.veccogroup.com.au)

Resource Category	Tonnes (Mt)	V ₂ O ₅ (%)	HPA (%)
Indicated	45.1	0.47	-

23.3 Saint Elmo

Multicom Resources' ("Multicom") Saint Elmo project is located approximately 100 km west of the southern portion of the NQVP (Figure 23.1). Multicom is a privately held Queensland based company focused on the development of the Saint Elmo project. The Saint Elmo project comprises mining lease application MLA100162 and Exploration Permits for Minerals (EPM) 26410, both of which are 100 per cent owned by Multicom. The Mining Lease MLA100162 is located along the Flinders Highway and northern railway approximately 25 km east of Julia Creek.

The project is underlain by sediments of the Late Early Cretaceous, Toolebuc Formation, and the overlying Allaru Mudstone. The Toolebuc Formation comprises a widespread coquinite and underlying oil shale, varying between 6 and 45 m in thickness across the basin. At Saint Elmo, the unit is characterised as a vanadium enriched coquinite approximately 6 m thick underlain by vanadium enriched calcareous oil shale unit with an average thickness of 12 m (Epic Environmental, 2018). Vanadium occurs within the oxidised units of the Toolebuc Formation as V₂O₅, and is found within organic compounds (kerogen and vanadyl porphyrins), clays and pyrites (within the fresh portion of the unit) and associated goethite within the oxidised units. In the oxidised rocks, vanadium within the organic compounds is unbound, which typically enhances metalliferous recovery and mining / beneficiation properties of the material. The mineralized units of the Toolebuc Formation are widespread and have excellent continuity across the Saint Elmo project. A broad, low amplitude, north-south trending anticline has resulted in the target formation being exposed and weathered over a 15 by 5 km region (Epic Environmental, 2019 and references therein).

In 2019, a MRE was released for the Saint Elmo project that was reported in accordance with the JORC Code consisting of 20.5 Mt Measured Resource, 228 Mt Indicated Resource and 245 Mt Inferred Resource having been estimated at a 0.2% V₂O₅ cut-off (Epic Environmental, 2019 and references therein). No additional information is available on the parameters used for resource calculation.

The Saint Elmo resource estimate was completed in accordance with the JORC code 2012. There are no material differences between the definitions of Mineral Resources under the applicable definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM Definition Standards") and the corresponding equivalent definitions in the JORC Code for Mineral Resources. The authors of this Technical Report have not visited the Property or validated the Saint Elmo MRE however the MRE was prepared by QPs in accordance with the JORC code and is considered to be a valid current MRE. The authors do not imply any size or grade relationship between the Saint

Elmo MRE and note that this information is not necessarily indicative of the mineralization known or to be expected on the NQVP, which is the subject of this Technical Report.

In September 2021, Multicom was granted approval to develop the Saint Elmo Mine. Construction is expected to begin in 2022 with the first production forecast for late 2023 (Queensland Government, 2021a). Multicom is initially targeting production of 5,000-10,000 tonnes per annum (tpa) of V_2O_5 for the first two years. Subsequent production may increase to 20,000 tpa, with a 30 year mine life. The Project will consist of a shallow open cut mine, ranging in depth from 20 to 40 m depending on depth of overburden (Epic Environmental, 2019).

23.4 QEM Julia Creek

QEM Ltd.'s ("QEM") Julia Creek project is located approximately 90 km southwest of the NQVP. The Julia Creek project covers a total of 249.6 km² and is located 16 km east of Julia Creek along the Flinders Highway and the Great Northern Railway. The Julia Creek Oil Shale was deposited as the basal layer to the Early Cretaceous Toolebuc Formation. The oil shale comprises fine-grained carbonate-clay-oil shale overlain by coarse limestone rich clay oil shale termed the Coquina limestone. The Toolebuc Formation is overlain by the Late Cretaceous Allaru Mudstone which in the area of the Project can reach up to 100 m thickness (Figure 23.3). The vanadium is hosted by the oil shale and Coquina units of the Toolebuc Formation which is found between 35-140 m below the surface across the Julia Creek project. The Toolebuc Formation is centered around a regional basement high known as the Saint Elmo Structure (QEM, 2019).

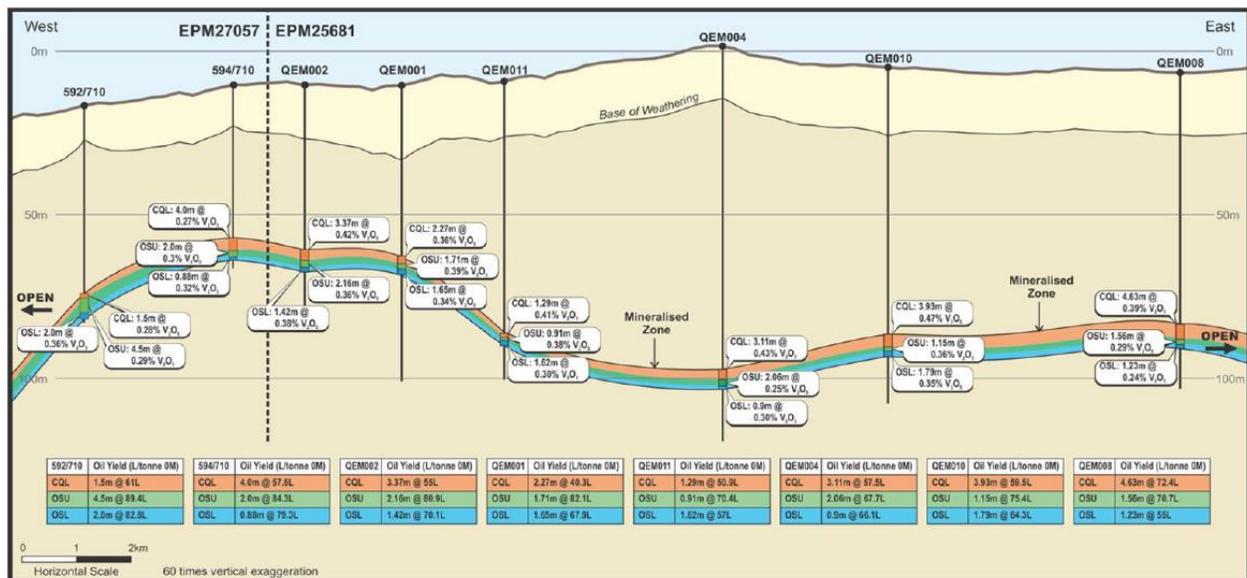
In October 2019, QEM announced an upgraded resource for the Julia Creek project that includes 220 Mt in the Indicated category with an average grade of 0.30% V_2O_5 and 2,540 Mt in the Inferred category with an average grade of 0.30% V_2O_5 . A minimum cut off grade of 0.2% V_2O_5 was used for the shale units and 0.15% for the Coquina units (QEM, 2019). The MRE was calculated in accordance with JORC code 2012. Additionally, the same deposit contains 783 million barrels of oil in the 3C category (QEM, 2019).

Geological interpretation of the Julia Creek resource area is sourced from historical mapping, drill core, geophysical logs, 2D seismic surveys and assay results. Ranges from variography were used to inform minimum spacing of points of observation for the resource model with 4,000 m used for the inferred category classification and 1,200 m for the indicated category. The estimation methodology used grid cells of 20 m for the topographic model, 50 m for the structural model and 400 m for the quality model. Ordinary Kriging was used for interpolation of percent V_2O_5 . Linear interpolation (Inverse Distance power1) was used for other grade parameters including oil grade parameters (QEM, 2019).

The Julia Creek MRE was completed in accordance with the JORC code 2012. There are no material differences between the definitions of Mineral Resources under the applicable definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM Definition Standards") and the corresponding equivalent definitions

in the JORC Code for Mineral Resources. The authors of this Technical Report have not reviewed the Julia Creek MRE however the MRE was prepared by QPs in accordance with the JORC code and is considered to be a valid current MRE. The authors do not imply any size or grade relationship between the Julia Creek Deposit and note that this information is not necessarily indicative of the mineralization known or to be expected on the NQVP, which is the subject of this Technical Report.

Figure 23.3 Cross Section of the Julia Creek Oil Deposit (QEM, 2021).



24 Other Relevant Data and Information

In 2021, vanadium was included on the critical minerals lists by numerous governments worldwide including the Canadian, Australian and United States of America governments. Vanadium is critical in the production of both steel alloys and low carbon battery technologies including the Vanadium Redox Flow Thru Battery. The Australian and Queensland governments have identified the Mt Isa to Townsville Economic Development Zone (“MITEZ”) corridor in North West Queensland where the NQVP is located as an area of economic interest and have pledged substantial infrastructure funding to encourage the development of critical minerals, other commodities and industry in the region. Additionally, on November 23, 2021, the Queensland Government announced an initial AUD \$10 million investment to support development of a common user facility to process vanadium domestically at Townsville. The NQVP is located approximately 500 km from Townsville along a major rail link. This investment is intended to accelerate the development of known vanadium resources in the Richmond-Julia Creek area. The processing facility will be accessible to smaller mining companies precluding the necessity for companies to fund and construct their own processing facilities. Companies will be able to transport ore from their mine site to Townsville allowing for the processing of samples at scale. The final location of the facility in

Townsville is still to be determined; construction is expected to start in 2022 and the plant is expected to be commissioned in 2023 (Queensland Government, 2021b).

25 Interpretation and Conclusions

Based upon a review of available information, historical exploration data, Mr. Nicholls' site visit and the maiden MRE for the Cambridge Deposit of NQVP, the authors view the Property as a property of merit prospective for the discovery of additional vanadium mineralization.

The NQVP is located in northwest Queensland, Australia, along the Flinders Highway between Julia Creek and Richmond. The Property is situated approximately 500 km southwest of the port city of Townsville and lies within the MITEZ corridor. The MITEZ corridor has been identified as an area of economic interest and has received significant infrastructure funding from the Queensland and Australian government to encourage the development of critical minerals including vanadium, other commodities and industry in the region. In 2021 the Queensland Government announced an initial AUD \$10 million investment to support development of a common user facility to process vanadium domestically at Townsville.

25.1 Geology

The Property is hosted in a favourable geological setting within the Mesozoic Eromanga Basin. The Project area is largely underlain by sediments of the Lower Cretaceous Rolling Downs Group which includes the Toolebuc Formation. The Toolebuc Formation is the main host of the vanadium mineralization in the area. The Toolebuc Formation is a flat-lying, laterally extensive sedimentary unit that consists of black carbonaceous and bituminous shale, minor siltstone with limestone lenses and coquinites. In the Project area, the Toolebuc Formation is draped over an interpreted basement high and has been structurally uplifted bringing it closer to the surface. Weathering of the Toolebuc Formation has removed or oxidised certain organic (and possibly sulphide) components resulting in residual enrichment of trace metals including vanadium in the weathered portions of the Formation. Through the weathering processes the vanadium became predominantly associated with iron oxide/hydroxide phases (Lewis et al., 2010). The mineralized portions of the Toolebuc Formation range from 1 to 17 m in thickness, with an average thickness of 9 m, and are found at surface or at shallow depths (1 to 22 m below surface) underlying the Allaru Mudstone or recent overburden. Potentially significant vanadium mineralization in the area has been documented to extend for several kilometers along strike, as found at the Lilyvale Deposit adjacent to the NQVP (off-Property) and the Cambridge Deposit on the NQVP.

25.2 Historical Exploration

Exploration in the Julia Creek-Richmond area, initially focused on hydrocarbons in oil shale, however the focus has shifted to vanadium exploration over the last couple of decades. As discussed in the Section 23, several vanadium resources totaling more than

5.4 billion tonnes of mineralized sediments have been reported in the area, making the region home to some of the world's largest undeveloped vanadium resources.

Significant historical drill programs that overlapped the NQVP Property and targeted the vanadium mineralization were completed by Pacminex in 1973, Jacaranda Minerals in 2007, Intermin Resources/Horizon Minerals (Intermin/Horizon) between 2006 and 2013, CGM Lithium in 2020 and Liontown Resources in 2019. In total 270 historical drillholes are located on the Property. The historical drilling largely targeted the oil shale and vanadium mineralization hosted in the Toolebuc Formation.

Historical drilling from the 1970's and early 2000's completed by Pacminex and Jacaranda Minerals, respectively, intersected shallow (<5 m deep), widespread vanadium mineralization (>0.25% V_2O_5) in the Silver Hills area (on EPM 26492). The Silver Hills area includes the outcropping Toolebuc Formation and is located 10-30 km east – southeast of the Cambridge Deposit.

Intermin/Horizon completed extensive drilling and exploration across a large land package partially overlapping the NQVP from 2006 up to present day. Intermin completed over 11,000 m of drilling across their land package, to delineate the vanadium mineralization in the area. A total of 63 holes from the Intermin drill programs totaling 1,442 m are located within the NQVP. Intermin delineated the Lilyvale Deposit adjacent to the west of the NQVP tenement EPM 26494 and identified the Cambridge Deposit adjacent to the Lilyvale Deposit. The Cambridge Deposit lies within the current NQVP property. Additionally, drilling at the Runnymede area, currently on NQVP EPM 26490 defined the presence of shallow, vanadium mineralization over a 3.5 by 3.5 km area. The Runnymede prospect is located 25 to 30 km northwest of the Cambridge Deposit. Highlight intersections from drilling in this area include 9 m with an average grade of 0.37% V_2O_5 in hole JRC07282, 8 m with an average grade of 0.41 % V_2O_5 in hole JRC07292 and 9 m with an average grade of 0.36% V_2O_5 in hole JRC07293.

In 2018, Liontown commissioned Optiro to calculate a MRE for the Cambridge Deposit (the "Optiro MRE") which is located on EPM 26494. The Optiro MRE was calculated and reported in accordance with the Joint Ore Reserves Committee (JORC) 2012 guidelines. The Cambridge Deposit is located adjacent to and immediately east of the Lilyvale Deposit owned by Horizon Minerals. The Cambridge Deposit has been delineated over an area of 5 by 3 km. The mineralization is hosted in the Toolebuc Formation which extends from 1 to 22 m below surface (average 10 m) and ranges in thickness from 1 m to 17 m, with an average thickness of 9 m. The Optiro MRE for the Cambridge Deposit was calculated based on 35 vertical aircore holes totaling 832 m that were drilled by Intermin/Horizon in 2008. The Optiro Cambridge inferred MRE contains 83.7 million tonnes with a V_2O_5 average grade of 0.30% and a MoO_3 average grade of 188 ppm. The resource was calculated in accordance with the JORC Code 2012 and was reported above a cut-off grade of 0.25% V_2O_5 . There are no material differences between the definitions of Mineral Resources under the applicable definitions adopted by the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM Definition Standards") and the corresponding equivalent definitions in the JORC Code 2012 for Mineral Resources. Mr.

Dufresne and Mr. Nicholls have reviewed the resource and the underlying data and conclude the Optiro MRE was completed to current CIM standards. However, the Optiro MRE is now considered historical in nature as the additional drilling completed by Liontown in 2019 was not included in the 2018 Optiro MRE and the MRE was not constructed on behalf of Currie Rose. A current MRE for the Cambridge Deposit is detailed in Section 14 of this Technical Report.

In 2019, Liontown completed additional exploration and confirmation drill program over the Cambridge Deposit including 30 holes totaling 745 m. A total of seven holes twinned historical Intermin drillholes, and assay results showed a good correlation with similar widths and grades of mineralization intersected. Drilling to the north of the historical Cambridge MRE intersected additional mineralization averaging ~7 m in thickness and 0.38% V_2O_5 over a 3.7 km² area. Mr. Dufresne and Mr. Nicholls confirm that the quality of the 2019 drill program was sufficient to prepare a maiden MRE for the Cambridge Deposit.

In 2020, CGM Lithium completed a 13-hole AC drill program totaling 378 m on EPM 26866 (Flinders River). Drilling outlined the coquina horizon within the Toolebuc Formation that contains anomalous vanadium mineralization. Hole DEAC002 returned the highest assay at 0.42% V_2O_5 over 5 m from within the Toolebuc coquina unit. Mineralization is open to the east and west of the drilling grid. The highest prospectivity is interpreted to be east of the completed drilling along strike of the uranium radiometric anomaly. Radiometric, historical mapping and darker soils identified from aerial photo imagery indicate that the area southeast of the completed drilling has strong potential to host similarly mineralized zones within the Toolebuc Formation. Further drill testing is recommended.

25.3 Site Inspection

Mr. Nicholls conducted a site inspection of the NQVP on November 2nd and 3rd, 2021. Mr. Nicholls collected six verification samples on the Property and verified the reported exploration activities where possible. The geochemical results confirmed the presence of anomalous vanadium and molybdenum in Cretaceous shale-siltstone on the Cambridge and Silver Hill Exploration Licences 26494 and 26492.

25.4 Current Mineral Resource Estimate

This Technical Report details a maiden MRE on behalf of Currie Rose for the Cambridge Deposit of the NQVP. The 2022 MRE for the Cambridge Deposit was completed by Mr. Tyler Acorn, M.Sc. of APEX Geoscience Ltd. under the direct supervision of Mr. Michael Dufresne, M.Sc., P.Geol., P.Geo., QP, and Mr. Steven Nicholls, BA.Sc., MAIG, QP, who take responsibility for the MRE contained herein. The Cambridge Deposit MRE is an update to Liontown's historical 2018 MRE, incorporating data from Liontown's 2019 RC drill program.

Modelling was conducted in the Map Grid of Australia (MGA) coordinate space relative to the Geocentric Datum of Australia (GDA) 2020, and MGA zone 54 (EPSG:7854). The mineral resource block model utilized a block size of 100 m (X) x 50 m (Y) x 2 m (Z) to honour the mineralization wireframes. The percentage of the volume of each block below the bare earth surface and within the mineralization domain was calculated using the three dimensional (3D) geological models and a 3D surface model.

The Cambridge Deposit drillhole database consists of 58 drillholes that intersect the interpreted mineralization wireframe. The V_2O_5 and MoO_3 assays were composited to 1 m composite lengths, and the estimation utilized 575 composited samples. All intervals within the interpreted wireframe were visually checked to ensure the flagging process was completed correctly.

The MRE is based on the combination of geological modelling, geostatistics and conventional block modelling using the Ordinary Kriging (OK) method of grade interpolation with locally varying anisotropy variogram models.

For grade estimation, 1 m composites were used to create the interpreted mineralization boundaries. A lower cut-off grade of 0.12% V_2O_5 was used to define the domain outline. This lower cut-off was chosen as a natural inflection in the V_2O_5 assay population. A single mineralized domain was defined. Block tonnes were estimated using 1.8 g/cm³ for mineralized material.

The V_2O_5 and MoO_3 grade estimations were completed independently of each other and were completed using OK. The search ellipsoid size used to estimate the V_2O_5 and MoO_3 grades was informed by the modelled variograms for each variable. Block grade estimation employed locally varying anisotropy, which uses different rotation angles to define the principal directions of the variogram model and search ellipsoid on a per-block basis.

Blocks within estimation domains are assigned rotation angles using a modelled 3D mineralization trend surface wireframe. The estimation was performed using three estimation passes whereby each successive pass utilized a less restrictive sample search strategy for block estimation.

The search radii for the first estimation pass equals half of the variogram ranges. The second pass increases the search distance to the variogram range. The third pass further expanded the search distances up to twice the variogram range. Over 95% of the blocks were estimated within the first two estimation passes.

The maiden MRE is classified according to the CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” dated November 29, 2019, and CIM “Definition Standards for Mineral Resources and Mineral Reserves” dated May 10, 2014.

The maiden MRE for the Cambridge Deposit of the NQVP is presented in Table 25.1 below.

Table 25.1. Mineral Resource Estimate for the Cambridge Deposit at 0.25% Vanadium cut-off grade.

Cut-Off V ₂ O ₅ (%)	Classification	Tonnes (Mt)	V ₂ O ₅ (t)	V ₂ O ₅ (%)	MoO ₃ (t)	MoO ₃ (ppm)
0.25	Indicated	61.33	210,300	0.34	14,600	234.6
	Inferred	144.87	483,400	0.33	35,500	241.9

*Notes:

1. Mineral resource estimates are reported at a cut-off grade of 0.25% V₂O₅
2. The unconstrained resource block model was estimated using ordinary kriging utilizing blocks at 100m(X) x 50m(Y) x 2m(Z) and was subject to several open pit optimization scenarios utilizing several V₂O₅ prices, mining cost scenarios and recovery factors typical of Vanadium mining operations and advanced projects in Australia. The Cambridge Deposit final MRE conceptual pit shell utilized a V₂O₅ price of US\$ 7.5/lb, Mining cost of AU\$2.86/tonne, Processing and G&A cost of AU\$7.86/tonne, V₂O₅ total recovery of 85%, pit slopes of 35° and an AU\$ to US\$ exchange rate of 0.70. Mr. Dufresne considers the pit parameters to be appropriate to evaluate the reasonable prospect for potential future economic extraction at the Cambridge Deposit of the NQVP for the purpose of providing a MRE.
3. Indicated and Inferred Mineral Resources are not Mineral Reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. There has been insufficient exploration to define the inferred resources tabulated above as an indicated or measured mineral resource, however, it is reasonably expected that the majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. There is no guarantee that any part of the mineral resources discussed herein will be converted into a mineral reserve in the future.
4. The mineral resources have been classified according to the Canadian Institute of Mining (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May, 2014), and CIM Estimation of Mineral Resources & Mineral Reserves Best Practices Guidelines (2019).
5. Differences may occur in totals due to rounding
6. Mr. Mike Dufresne, P.Geol., P.Geo. and Mr. Steven Nicholls, M.AIG of APEX Geoscience Ltd., who are deemed qualified persons as defined by NI 43-101 are responsible for the completion of the updated mineral resource estimation.
7. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
8. This mineral resource estimate is dated November 1, 2022.

25.5 Risks and Uncertainties

The authors have considered risks and uncertainties that could reasonably be expected to affect exploration and development of the NQVP. These risks and uncertainties are summarized and assessed in the following text.

The lack of metallurgical information for samples directly from the NQVP poses some risk for future development. The metallurgy of the deposit must be economically established with metallurgical testwork across the deposit. There are numerous companies conducting exploration and metallurgy in the area surrounding the Property targeting vanadium in the Toolebuc Formation. A review of metallurgical processes used by these companies should be completed and used to inform the choice of metallurgical work required on the Property. The Australian government has committed to build a common user facility to process vanadium in nearby Townsville. The processing facility will allow smaller mining companies to process samples at scale. Additionally, there is high global demand for vanadium. Based on these factors the current lack of metallurgy on the Property is considered a low to moderate risk.

There is a low risk associated with the Inferred classification of a portion of the Cambridge Deposit MRE. Further drilling within or near the areas of the Inferred resources, in particular the southern half of the deposit, would increase the confidence of the mineralization boundaries and the estimated grades, and potentially upgrade the Inferred resources to Indicated resources. The classification upgrade would allow for advanced studies, including Pre-Feasibility Studies and Feasibility Studies, to be conducted on the Cambridge Deposit.

The Cambridge Deposit mineralization appears to be open in all directions; however, the mineralization to the south and to the west is restricted and cannot be extended due to the position of the tenement boundary. There is a potential opportunity to increase the extents of the Cambridge Deposit by completing additional drilling to the east and the north of the deposit. In addition to expanding the mineralization at the Cambridge Deposit, opportunity exists within the NQVP to add additional mineral resources on other EPMs, including the Runnymede, Silver Hills and Flinders River areas.

Portions of the NQVP fall within land that is categorized as “Native title – indication only” which indicates there is no Applicant or Granted Title in that area. However, there is potential that a Native Title application could be filed. The grant of Native Title over any area overlying the Property would require negotiations to proceed with exploration work but is unlikely to stop exploration. This is assessed as a low risk.

There is a very low potential for ignition of the oil shale beds during exploration and mining. This is assessed as a low to very low risk.

The Cretaceous Toolebuc Formation and other members of the Rolling Downs Group are known to host some fossil deposits in addition to the typical invertebrate marine fossil assemblages. These fossils can include pterosaurs (Kellner et al., 2010), fish/fish debris (scales, bones, and teeth) reptilian bone fragments (Kear, 2010; Lewis et al., 2010), marine reptiles (kronosaurus) (Kronosaurus, 2022), and dinosaurs (e.g., ankylosaurs) (Leahey et al., 2015). Any mining activities in the NQVP that encountered any significant fossil discoveries would be slowed or stopped to allow the excavation and study of any unique fossil specimens. No significant fossil discoveries have been found on the Property to date. On the Property the targeted Toolebuc Formation is shallow and oxidised and thus it is likely that any fossil discoveries would be of poor quality. This is considered a low risk at this early stage of exploration.

The presence and recoverability of secondary, or companion, metals as by-products to the mineralization at the NQVP has not yet been fully assessed by the Company. Modern technology is becoming increasingly dependant on certain minor metals or metalloids that are typically found in low concentrations within the continental crust and tend to form interstitially with similar metals and are often recovered only as by-products. In the opinion of Mr. Dufresne and Mr. Nicholls, opportunity may exist for the recoverability of secondary metals, including Mo and other potential metals, as by-products to the mineralization at the NQVP. Additional drilling along with geochemical, mineralogical and

metallurgical studies will be required to assess the potential for the recoverability of secondary metals.

In addition to the risks and uncertainties mentioned above, the Property is subject to the typical external risks that apply to all mineral exploration projects, such as changes in vanadium prices, and volatility of supply and demand economics associated in particular with high tech metals which can affect the availability of investment capital as well as changes in government regulations, community engagement and general environmental concerns. The authors are unaware of any unusual risk factors, other than the ones mentioned above and risks normally associated with mineral exploration that might affect future exploration work and potential development of the Property. There is no guarantee that further exploration at the NQVP will result in the discovery of additional mineralization.

26 Recommendations

The NQVP comprises seven partially contiguous to non-contiguous Exploration Permits for Minerals (EPM) covering approximately 1,250 km². Wide-spread vanadium mineralization hosted by the Toolebuc Formation has been identified across the NQVP by historical and recent exploration programs. The mineralized portions of the Toolebuc Formation range from 1 to 17 m in thickness, with an average thickness of 9 m, and either outcrops or is found at shallow depths between 1 to 22 m below surface over large areas of the Property. Recent drilling by Liontown in 2019 validated historical drill data and confirmed the presence of significant vanadium mineralization within the Property. The results of the drill program were used to calculate a maiden MRE for the Cambridge Deposit of the NQVP, as presented in this Technical Report.

Additional areas with historical drilling that require follow up work include the Flinders River area on EPM 26866 where recent drilling has identified an area of extensive vanadium mineralization that is open in the east-west direction. Follow-up exploratory and confirmation drilling should be completed leading to an initial MRE if warranted. Historical drilling in the Runnymede area (EPM 26490) defined the presence of shallow, vanadium mineralization over a 3.5 by 3.5 km area that warrants follow up drilling. High priority drill targets have been identified in the Silver Hills area (EPM 26492) that are based on the results of the reviewed historical drilling and recent rock chip sampling. Additionally, large areas of the Property remain unexplored where the outcropping Toolebuc Formation has not yet been assessed for vanadium mineralization. Reconnaissance exploration to assess these areas is recommended.

The authors recommend a comprehensive exploration program for NQVP involving surface exploration, exploration drilling, resource expansion and infill drilling, advanced metallurgical testwork and processing studies. A staged follow-up exploration program is recommended for the NQVP.

Phase 1 should include detailed metallurgical testwork on the remaining Cambridge Deposit samples from the Liontown drilling. The samples have been stored in a secure location since they were acquired. Testwork should include re-assaying of individual samples, assaying for a wide range of untested elements, followed by sizing characterization. Additionally, sample composites from the historical drilling should be compiled for concentration tests, floatation tests and metallurgical balance determination along with preliminary recoveries (yield).

With respect to surface exploration, Phase 1 should include an infill diamond drill program of six NQ-sized holes, totalling 250 m, at the Cambridge Deposit with downhole gamma geophysics to verify the historical drill results, deposit mineralization and potentially expand the deposit model and associated mineral resource estimation. Infill, validation and exploration aircore drilling should be completed at the Flinders River prospect and the Runnymede area, potentially leading to the calculation of a maiden MRE for the Flinders River area (to be completed in Phase 2). The drill program will provide additional material for first pass metallurgical test work and whole rock analysis for mineralogy studies. The estimated cost for the Phase 1 program is AUD \$410,000, not including contingency.

Phase 2 exploration is dependent on the results of Phase 1 and should include regional fieldwork comprising geological mapping and prospecting to delineate and assess outcropping Toolebuc Formation within the Property, assist in drill target delineation and expand and fill in gaps in the existing database. Phase 2 should include additional AC drilling, the calculation of an MRE for the Flinders River prospect, as well as more advanced metallurgical testwork and processing studies. Phase 2 drilling is estimated to encompass 50 AC holes for a total of 2,500 m.

A recommended budget for the two-phase exploration program is included as Table 26.1. The costs for both Phase 1 and Phase 2 are estimated at approximately AUD \$944,900.00 (CAD \$873,650).

Table 26.1. Recommended budget for Phase 1 and Phase 2 proposed exploration programs.

Phase	Description	Cost Estimate (AUD\$)	Sub-Totals (AUD\$)
1	Infill diamond drilling and downhole geophysical surveys (gamma) to test the potential to expand the vanadium mineralization at the Cambridge Deposit (~ 6 holes for 250 m)	\$175,000.00	
	Metallurgical studies	\$175,000.00	
	Aircore drilling at Runnymede or Flinders (twinning, infill, exploration; ~1,000 m)	\$60,000.00	\$410,000.00
2	Geological mapping and prospecting	\$10,000.00	
	Infill and exploration aircore drilling (~5,000 m)	\$300,000.00	
	Metallurgical studies	\$100,000.00	
	Resource estimation and reporting	\$39,000.00	\$449,000.00
	Sub-total (AUD\$)		\$859,000.00
	10% contingency		\$85,900.00
	Total (AUD\$)		\$944,900.00

“ORIGINAL SIGNED AND SEALED”

Michael B. Dufresne, M.Sc., P.Geol., P.Geo.
APEGA ID #48439

“ORIGINAL SIGNED AND SEALED”

Steven J. Nicholls, BA Sc (Geology), M. AIG.
M. AIG. ID#3555

“ORIGINAL SIGNED AND SEALED”

D. Roy Eccles, M.Sc., P. Geol.
APEGA ID #74150

APEX Geoscience Ltd.

APEGA Licence # 5284; EGBC Licence # 1003016

Effective Date: November 1, 2022

Signing Date: December 14, 2022

Edmonton, Alberta, Canada

Fremantle, Western Australia

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28 Certificate of Author

I, Michael B. Dufresne, M.Sc., P.Geol., P. Geo., do hereby certify that:

1. I am President and a Principal Consultant of APEX Geoscience Ltd., Suite 100, 11450 –160th Street NW, Edmonton, AB, Canada, T5M 3Y7.
2. I graduated with a B.Sc. Degree in Geology from the University of North Carolina Wilmington in 1983 and a M.Sc. Degree in Economic Geology from the University of Alberta in 1987.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists (“APEGA”) of Alberta since 1989 (Licence# 48439). I have been registered as a Professional Geoscientist with the association of Professional Engineers and Geoscientists of BC (“EGBC”) since 2012 (Licence# 37074).
4. I have worked as a geologist for more than 35 years since my graduation from University and have extensive experience with exploration for, and the evaluation of (including mineral resource estimation), Cretaceous shale hosted mineral deposits (including Vanadium) in the Western Canadian Sedimentary Basin as well as other sedimentary hosted mineral deposits in Australia and around the world.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for Sections 9 to 11, 13, 27, and share joint responsibility for Sections 1, 14, 25 and 26 of the Technical Report titled “Technical Report and Maiden Mineral Resource Estimate, North Queensland Vanadium Project, Queensland, Australia”, with an effective date of November 1, 2022 (the “Technical Report”). I have not visited the North Queensland Vanadium Project.
7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I am independent of the issuer, the vendor and the Property applying all of the tests in Section 1.5 of Companion Policy 43-101 CP.
10. I co-authored the “Technical Report North Queensland Vanadium Project Queensland, Australia”, with an effective date of January 25th, 2022. Other than this, I have not had any prior involvement with the Property that is the subject of the Technical Report.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective Date: November 1, 2022

Signing Date: December 14, 2022

Edmonton, Alberta, Canada

“ORIGINAL SIGNED AND SEALED”

Michael B. Dufresne, M.Sc., P.Geol., P.Geo.

I, Steven J. Nicholls, BA Sc (Geology), M AIG., do hereby certify that:

1. I am an employee of: APEX Geoscience Australia Pty Ltd. (APEX)
9/18 Parry Street
Fremantle, Western Australia 6160
Phone: 08 9221 6200
2. I graduated with a Bachelor of Applied Science in Geology from the University of Ballarat in 1997.
3. I am and have been registered as a Member with the Australian Institute of Geoscientists, Australia (AIG ID 3555) since 2007.
4. I have worked as a geologist for more than 24 years since my graduation from university and have extensive experience with exploration/resource estimation for, and the evaluation of, Cretaceous shale hosted mineral deposits in the Western Canadian Sedimentary Basin as well as other sedimentary hosted mineral deposits in Australia and around the world.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a “Qualified Person”.
6. I am responsible for Sections 2 to 5, 12, 23 and 24, and share joint responsibility for Sections 1, 14, 25 and 26 of the Technical Report titled “Technical Report and Maiden Mineral Resource Estimate, North Queensland Vanadium Project, Queensland, Australia”, with an effective date of November 1, 2022 (the “Technical Report”). I visited the North Queensland Vanadium Project on November 2nd and 3rd, 2021.
7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I am independent of the issuer, the vendor and the Property applying all the tests in Section 1.5 of Companion Policy 43-101 CP.
10. I co-authored the “Technical Report North Queensland Vanadium Project Queensland, Australia”, with an effective date of January 25th, 2022. Other than this, I have not had any prior involvement with the Property that is the subject of the Technical Report.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective Date: November 1, 2022
Signing Date: December 14, 2022
Fremantle, Western Australia, Australia

“ORIGINAL SIGNED AND SEALED”

Steven J. Nicholls, BA Sc (Geology), M. AIG.

I, D. Roy Eccles, M.Sc., P. Geol., do hereby certify that:

1. I am a Senior Consulting Geologist and Chief Operations Officer of APEX Geoscience Ltd., Suite 100, 11450 – 160 Street, Edmonton, Alberta T5M 3Y7.
2. I graduated with a B.Sc. in Geology from the University of Manitoba in Winnipeg, Manitoba in 1986 and with a M.Sc. in Geology from the University of Alberta in Edmonton, Alberta in 2004.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA, Member ID 74150) since 2003.
4. I have worked as a geologist for more than 35 years since my graduation from university and have been involved in all aspects of global mineral exploration, mineral research, and mineral resource estimations for metallic, industrial, and specialty mineral projects and deposits. I have extensive experience in Phanerozoic sediment-hosted mineral deposits (including vanadium and polymetallic black shale deposits) in the Western Canada Sedimentary Basin and other international sedimentary basins.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purposes of NI 43-101.
6. I am responsible for Sections 6 to 8, and contributed to Sections 1, 25 and 26 of the Technical Report titled “Technical Report and Maiden Mineral Resource Estimate, North Queensland Vanadium Project, Queensland, Australia”, with an effective date of November 1, 2022 (the “Technical Report”). I have not visited the North Queensland Vanadium Project.
7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific and technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. I am independent of the issuer, the vendor and the Property applying all the tests in Section 1.5 of Companion Policy 43-101 CP.
10. I co-authored the “Technical Report North Queensland Vanadium Project Queensland, Australia”, with an effective date of January 25th, 2022. Other than this, I have not had any prior involvement with the Property that is the subject of the Technical Report.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective Date: November 1, 2022
Signing Date: December 14, 2022
Edmonton, Alberta, Canada

“ORIGINAL SIGNED AND SEALED”

D. Roy Eccles, M.Sc., P. Geol.