TECHNICAL REPORT ON THE WICHEEDA PROPERTY
BRITISH COLUMBIA, CANADA

Approximate Property Location:
557000 m E, 6043500 m N
(NAD 1983 UTM Zone 10N)

Prepared For: Defense Metals Corp.
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Effective Date: August 28th, 2023

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1 Summary

This Technical Report (the “Report”) on the Wicheeda Rare Earth Element (REE) Property (the “Property” or the “Project”) has been prepared for Defense Metals Corp. (“Defense Metals”) by APEX Geoscience Limited (“APEX”). Defense Metals has retained APEX to conduct a surface exploration and diamond drilling programs on the Property between 2019 and 2023. The purpose of this Report is to support the disclosure of a material change to the 2021 Mineral Resource Estimate (“MRE”), with an effective date of August 28 7, 2023, based on drilling completed by Defense Metals in 2021 and 2022.

The Report presents the exploration work, the 2019 to 2023 results, and the subsequent updated resource modelling and MRE results. Mr. Kristopher J. Raffle, P.Geo., Principal of APEX and Director of Defense Metals, and; and Mr. Michael Dufresne, M. Sc., P.Geol., P.Geo., President of APEX, both Qualified Persons, are the authors of this Report.

The Wicheeda Property is located in the Central Mining Division in central British Columbia, NTS map sheet 93J06, approximately 80 km northeast of Prince George, BC and 50 km east of Bear Lake, BC. The Property consists of 12 contiguous mineral claims that cover approximately 6,759 hectares. Currently all claims are 100% owned by Defense Metals. The claims cover Wicheeda Lake and straddle a segment of Wichika Creek. The principal area of interest is the Wicheeda Rare Earth Element (REE) Carbonatite Deposit.

The Wicheeda REE Property is located in the Foreland Belt of the Canadian Cordillera, within the structurally dominant NW-trending Rocky Mountain Trench. The Rocky Mountain Trench is recognized for the occurrence of several Devonian – Mississippian, carbonatite-syenite intrusion-related complexes that were geologically deformed, tilted, and transported to the east in thrust panels. The REE-enriched carbonatites located on the Property is part of a narrow, elongate, south-trending intrusive carbonatite-syenite complex utilizing a structural panel within sedimentary sequences of the Cambrian to Ordovician Kechika Group.

The Wicheeda REE Property was discovered in 1976 by Kol Lovang during follow-up of ca. 1961 Geological Survey of Canada aeromagnetic anomalies. The Property was initially staked and optioned by Teck in 1986. Subsequently soil and rock geochemical sampling, geological mapping, trenching and ground magnetic surveying completed by Teck identified a pronounced cerium anomaly and REE-bearing carbonatite intrusion within the George grid confident with the present day Wicheeda REE Deposit. The claims were later allowed to lapse, and the area was re-staked in March 2001 by Mr. Chris Graf. Mr. Graf, a principal of Spectrum Mining Corporation (“Spectrum”), transferred ownership of the claims to Spectrum in September 2008. During 2008 and 2009 Spectrum completed diamond drilling of 19 holes 2,690 m. A total of 14 drill holes tested the Wicheeda REE Deposit, and the remaining five holes tested carbonatite outcrops and REE soil anomalies located west of Wicheeda Lake that did not return significant results. During 2010 Spectrum collected a total of 977 soil samples at 50 m sample spacing along as series of 100 m spaced east-west oriented grid lines. The soil sampling confirmed the presence of a prominent REE soil geochemical anomaly coincident with the Wicheeda Deposit and also identified in number of secondary REE anomalies to the west and south of the Wicheeda Deposit.

In 2011, Bolero Resources Corporation conducted a helicopter-borne radiometric and magnetic gradiometer survey over its vast Carbonatite Syndicate Property The survey was flown over a portion of the Project and outlined 500 m long by 200 m wide radiometric anomaly inside the southeastern most corner of the Wicheeda claims.

Defense Metals commissioned exploratory metallurgical test work has been carried out on Wicheeda mineralized dolomite-carbonatite by SGS in 2011 and 2012 using a representative composite sample of Wicheeda drill core. The SGS flotation test work successfully produced a 42% REE concentrate with recoveries exceeding 80% for cerium, lanthanum and neodymium. In 2012 SGS conducted hydrometallurgical test work on a composite of the Wicheeda flotation concentrate and developed a conceptual hydromet flow sheet. The flotation concentrate composite was upgraded from 39.7% to 67% TREO (total rare-earth oxide) through pre-leaching and further upgraded to 71% TREO by roasting the pre-leach residue. The hydromet tests were successful in removing 98% of the thorium from the concentrate. In October 2018, Defense Metals collected a 30-tonne surface bulk sample at the Wicheeda Project. Select head assay results for the 30-tonne bulk sample include: 1.77% lanthanum-oxide, 2.34% cerium-oxide, 0.52% neodymium-oxide, and 0.18% praseodymium-oxide, for a total of 4.81% LREO (light rare-earth oxide).

Between 2019 and 2023, Defense Metals completed additional diamond drilling and surface exploration programs at the Wicheeda Property. Sixty diamond drill holes totalling 12,883.91 m between 2019 and 2022. In 2019, the drilling program was designed to test the northern, southern and western extent of the Wicheeda Carbonatite and further delineate the relatively higher-grade near surface dolomite-carbonatite unit. All drill holes intersected variable lengths of significant REE mineralization, mainly in the carbonatite dolomite body and, to a lesser extent, in the lithologies enveloping the Wicheeda Carbonatite. Assay results from 2019 drilling program returned 4.57% TREO over an interval of 83 m, and up to 5.65% TREO over an interval of 33 m. In 2021, the program directive was to test the extent of the Wicheeda deposit where it was still open to the north and northwest, further delineate the relatively higher-grade near-surface dolomite unit, and to convert the inferred and/or indicated mineral resource into indicated and measured mineral resource. All 29 drill holes crosscut significant intercepts of REE-mineralized dolomite carbonatite. Assays results from 2021 drilling program returned 3.09 % TREO over an interval of 251 m including 80 m at 3.92 % TREO. In 2022, the program directive was to test the extent of the Wicheeda deposit where it is still open to the north and northwest, further delineate the relatively higher-grade near-surface dolomite unit, and to convert the inferred and/or indicated mineral resource into indicated and measured mineral resource. Fifteen holes intersected variable lengths of significant REE mineralization, mainly in the carbonatite dolomite body and, to a lesser extent, in the lithologies enveloping the dolomite carbonatite deposit. Assays results from 2022 drilling program returned 3.58 % TREO over an interval of 124 m including 18 m at 6.70 % TREO.

Surface exploration included outcrop mapping and ground geophysics (magnetometric and radiometric surveys) carried out in July 2023. Ground geophysical surveys defined that anomalously higher magnetic values lie in the periphery of the dolomite carbonatite, in the contact zone to the syenite body. Additionally, two previously unknown linear radiometric anomalies were identified, each approximately 40 m in width and extending approximately 250 m northwest from the main body of the Wicheeda REE deposit.

Defense Metals completed flotation and hydrometallurgical testing campaigns for the Wicheeda Project in 2019 and 2020. A total 40 batch flotation tests designed to produce an optimized Wicheeda process flowsheet through iterative test procedures with varying process conditions informed one Locked-Cycle Test ("LCT") that successfully produced a 48.7% TREO high grade concentrate of cerium, lanthanum, neodymium, and praseodymium oxides (Ce_20_3+La_20_3+Nd_20_3+Pr_20_3), and an 85.7% TREO recovery. Hydrometallurgical testing completed in February 2020 led to the successful development of a flowsheet capable of processing the concentrate to a high grade mixed REE hydroxide precipitate. Hydrometallurgical results demonstrated 90% REE extraction from flotation concentrate into a chlorine based leach solution. Treatment of the leach solution with limestone achieved high (94-100%) removal of impurities with only 2-4% REE losses, and overall recoveries of 70-75% TREE (total rare-earth elements) from the bulk sample to a high grade mixed REE hydroxide precipitate, and up to 76-78% TREE with reprocessing of the final leach residue.

Hydrometallurgical testing was completed in February 2020. Samples of Wicheeda flotation concentrate were used in a test program that led to the successful development of a caustic crack hydrometallurgical flowsheet capable of processing the concentrate to a high grade mixed REE hydroxide precipitate. Results from the test program include a high REE extraction from flotation concentrate of 90% into a chlorine based leach solution, treatment of the leach solution with limestone achieved high (94-100%) removal of impurities with only 2-4% REE losses, and overall recoveries of 70-75% TREE from the bulk sample to a high grade mixed REE hydroxide precipitate, and up to 76-78% TREE with reprocessing of the final leach residue.

Subsequent metallurgical studies explored a different hydrometallurgical route different from caustic crack between 2022 and 2023. Initial results of alternative acid-bake (AB) process testwork at SGS Lakefield on Wicheeda Rare Earth Element (REE) Project mineralized showed improved REE extraction, with recoveries >95% for neodymium and praseodymium from flotation concentrate into a leach solution, potentially leading to improvements in capital and operating costs.

Flotation hydrometallurgical test on variability samples were carried out between 2022 and 2023. The flotation response of the Dolomite Carbonatite (DC) Composite and DC variability samples was good, with TREO recoveries of ~75-90% at a 45%TREO grade. It was more challenging to achieve a ~40%TREO grade with high recoveries for the Xenolithic Carbonatite (XE) and Syenite (SYN) samples. The best result for the XE Comp was 38%TREO grade at a 70% recovery, while the SYN Comp achieved a 45%TREO grade at a 46% recovery. The lower head grades of the XE and SYN composites may have partially accounted for the lower recoveries.

REE-enriched carbonatites of the Wicheeda Deposit are part of a narrow, elongate, northwest-southeast trending intrusive carbonatite-syenite sill complex. The carbonatite is intruded into Syenite, mafic dikes, limestone and calcareous sedimentary wall rocks. Diamond drilling data supports the interpretation of a moderately north-northeast dipping, shallowly north plunging, layered sill complex having Syenite at its base. It is overlain by hybrid matrix to clast-supported limestone or mafic intrusive xenolithic carbonatite (fenite), as well as significantly REE-bearing dolomite-carbonatite rocks, which form the main body of the Wicheeda REE Deposit outcropping at surface. This layered sill complex occurs within an unmineralized limestone waste rock. There is no near-surface oxidized material due to recent glaciation. The primary host, Dolomite-Carbonatite, has dimensions of approximately 450 m north-south by 170-300 m east-west by 100-275 vertically. This layered sill complex occurs within an unmineralized limestone waste rock.

The Wicheeda Project mineral resource estimate (MRE) discussed in this 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 10th, 2014.

The 2023 MRE comprises a 6.4 million tonne Measured Mineral Resource, averaging 2.86% TREO (CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3 and Ho_2O_3); 27.8 million tonne Indicated Mineral Indicated Resource, averaging 1.84% TREO; and 11.1 million tonnes Inferred Mineral Resource, averaging 1.02% TREO, reported at a cutoff grade of 0.5% TREO within a conceptual Pseudoflow algorithm open pit shell provided in Table 1.1.

The 2023 MRE represents a 17% increase on a contained TREO basis, or 31% tonnage increase, in comparison to the prior 2021 MRE. The 2023 MRE includes a material change in the geological model compared to the 2021 MRE and considers 47 new drillholes completed by Defense Metals between 2021 and 2022. The resource estimation workflow and methodologies used remain largely the same, with updates to parameters and settings based on the updated data. Factors that may affect the estimates include: metal price and concentrate payable assumptions, changes in interpretations of mineralization geometry, continuity of REE mineralization zones, changes to kriging assumptions, metallurgical recovery assumptions, operating cost assumptions, confidence in the modifying factors, including assumptions that surface rights to allow mining infrastructure to be constructed will be forthcoming, delays or other issues in reaching agreements with regulatory authorities and stakeholders, and changes in land tenure requirements or in permitting requirements.

Based on the presence of high-grade carbonatite intrusion-hosted LREE mineralization exposed at surface and intersected in drill core, which exhibits a reasonable prospect for economic extraction, and favourable geology; the Wicheeda Project is of a high priority for follow-up exploration.

Table 1.1. Wicheeda Mineral Resource (effective date August 28, 2023).

Category	Tonnes (Million)	TREO (%)	TREO (kt)	CeO_2 (%)	La_2O_3 (%)	Pr_6O_{11} (%)	Nd_2O_3 (%)	Sm_2O_3 (ppm)	Gd_2O_3 (ppm)	Eu_2O_3 (ppm)	Dy_2O_3 (ppm)	Tb_4O_7 (ppm)	Ho_2O_3 (ppm)
Measured	6.37	2.86	183	1.39	1.00	0.11	0.31	312	139	63	35	12	4
Indicated	27.80	1.84	516	0.89	0.62	0.07	0.21	232	111	50	32	10	4
M&I	34.17	2.02	699	0.98	0.69	0.08	0.23	247	116	52	32	10	4
Inferred	11.05	1.02	113	0.50	0.31	0.04	0.13	166	91	38	35	9	5

Notes for Resource Table:

- The 2023 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 2023 MRE was prepared by Warren Black, M.Sc., P.Geo. and Tyler Acorn, M.Sc., of APEX Geoscience Ltd under the supervision of the QP, Michael Dufresne, M.Sc., P.Geo. following CIM Definition Standards.
- Mineral Resources that are not mineral reserves have not demonstrated economic viability. There is no guarantee that any part of the mineral resources discussed herein will be converted to a mineral reserve in the future.
- All figures are rounded to reflect the relative accuracy of the estimates. Totals may not sum due to rounding.
- The reasonable prospect for eventual economic extraction is met by reporting the Mineral Resources at a cutoff grade of 0.50% TREO (total rare earth oxide, sum of 10 oxides: CeO2, La2O3, Nd2O3, Pr6O11, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3 and Ho2O3), contained within an optimized open pit shell.
- Median rock densities are supported by 8,075 measurements applied: 2.95 g/cm3 (mineralized dolomite-carbonatite), 2.90 g/cm3 (unmineralized dolomite-carbonatite), 2.85 g/cm3 (mineralized xenolithic-carbonatite), 2.76 g/cm3 (unmineralized xenolithic-carbonatite), 2.73 g/cm3 (Syenite), and 2.76 g/cm3 (limestone).
- The reasonable prospect for eventual economic extraction is met by reporting the Mineral Resources at a cutoff grade of 0.50% TREO (total rare earth oxide, sum of 10 oxides: CeO2, La2O3, Nd2O3, Pr6O11, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3 and Ho2O3), contained within an optimized open pit shell.
- The cutoff grade is calculated, and the open pit shell is optimized based on the assumption that the hydrometallurgical processing can produce mixed REE carbonate precipitates. The parameters utilized, as in the 2021 MRE, include the following considerations:
  - TREO price: $18.66/kg
  - Exchange rate of 1.30 C$:US$
  - Precipitate production grades of 81.09% of TREO
  - Processing costs include $21.47/t of mill feed for flotation plus a variable cost for hydrometallurgical plant that varies based on the feed grade. The average cost of hydrometallurgical plant is assumed to be $1,204/t of concentrate.
  - Mining cost of C$2.00/t for mill feed and waste
  - G&A Costs of C$3.33/t for mill feed.
  - The overall process recoveries: For TREO>=2.3%, recovery is 69.6%; between 2.3% and 1.5% TREO, recovery is 65.3%; and less than 1.5% TREO, recovery is 52.2%. These assume variable flotation recoveries and a constant 87% hydrometallurgical recovery.
  - Overall pit slope angles vary by zone between 40 and 48 degrees.

Future studies should include, but not be limited to: mineral exploration and geotechnical sonic drilling, detailed, further limit delineation and exploring satellite anomalies within the Wicheeda Property claims, expanded property wide LiDAR surveys to cover newly acquired claims, airborne magnetic and radiometric survey, continued metallurgical studies to optimize flotation recoveries across a range of grades and lithologies, in addition to advancement of the acid-bake hydrometallurgical process.

For 2023, APEX recommends at minimum a field drilling program comprising 475 m of sonic overburden infrastructure and pit geotechnical drilling, and geometallurgical sampling and testwork as well as proceeding with ongoing advanced economic studies of the Wicheeda REE Deposit towards the completion of the preliminary feasibility study ("PFS"). The proposed exploration budget is approximately $2,496,489 (Table 1.2).

Table 1.2. Proposed 2023 Wicheeda Property Exploration Budget

Budget Item	**Cost**
APEX personnel, travel costs and site visits	$124,450
APEX Rentals (equipment, trucks, software, etc.)	$7,060
Analytical (~500 core samples+3000 geometallurgy) and fright costs	$124,425
Third Party Rentals & Supplies	$52,250
Camp accommodation, food and maintenance	$157,450
Helicopter	$121,800
Diamond drilling and pad building	$705,100
Freights	$13,500
Geotech (SRK)	$89,500
Management, reporting and modelling	$6,500
Metallurgical Studies	$50,000
Property wide LiDAR survey (75 km^2)	$30,000
Airborne magnetic and radiometric survey (100 m line spacing, 500 line -km at 80/line-km	$40,000
Exploration drilling of radiometric anomalies 250 m at $650/m	$162,500
Pit Geotechnical core drilling at 900 m within 4 holes @ $650/m all up	$585,000
Subtotal	$2,269,535
10% Contingency	$226,954
TOTAL (not including GST)	**$2,496,489**

2 Introduction

2.1 Issuer and Purpose

This report (the "Report") has been prepared to summarize recent and historical exploration work, and provide a mineral resource update for the Wicheeda Property ("Wicheeda", the "Project" or the "Property"). The Property comprises 12 contiguous mineral claims covering a combined area of 6,759 hectares, located in the Cariboo region of British Columbia, Canada, approximately 80 kilometres northeast of Prince George and 50 kilometres east of Bear Lake. The Wicheeda Property includes the Wicheeda Rare Earth Element (REE) Deposit, on which a REE mineral resource estimate has been calculated and is the principal subject of this Report.

The purpose of this Report is to support the disclosure of a material change to the 2021 Mineral Resource Estimate ("MRE"), with an effective date of August 28 7, 2023, based on drilling completed by Defense Metals in 2021 and 2022.

The Report was prepared by APEX Geoscience Ltd. ("APEX") at the request of Defense Metals Corp. ("Defense Metals"). Defense Metals is a publicly listed mining company trading under the ticker "DEFN" on the TSX Venture Exchange, and is headquartered in Vancouver, British Columbia.

The Wicheeda Property is 100% owned by Defense Metals.

2.2 Authors and Site Inspection

Mr. Kristopher Raffle, P.Geo., Principal and Consultant of APEX and Director of Defense Metals, and Mr. Michael Dufresne, M.Sc., P. Geol., P. Geo., President and Consultant of APEX, both Qualified Persons (QP) as defined by the National Instrument 43-101, are the authors of the Report.

Mr. Raffle is not independent of Defense Metals. Mr Raffle has visited the Property on multiple occasions since 2019. Initial visits took place on July 29 to 30, August 27 to 28, and on October 9, 2019. During the initial site visit, Mr. Raffle reviewed historical and recent drill core from several holes completed during the 2008 and 2009 campaigns, examined the secure core storage facility in Prince George, completed a traverse over the deposit area, observed the 2018 bulk sample site. Additional visits to the project were provided by Mr. Raffle on November 8, 2019, October, 20th, 2021, July 6th 2022, August 15th and 16th 2022 and June 27th 2023 and during preparation and execution of drilling campaigns in order to observe logging and sampling protocols, to permit a detailed review of drill holes and inspect terrain conditions and infrastructure.

Mr. Dufresne, who is responsible for Section 14 of the Report, has not visited the Property.

The Report is written in accordance with the requirements of the National Instrument 43-101—*Standards of Disclosure for Mineral Projects*, and is a technical summary of the available geological, geophysical and geochemical data relevant to the Project.

2.3 Sources of Information

The authors, in writing this Report, used sources of information as listed in Section 27 “References”. Government reports were prepared by Qualified Persons holding post-secondary geology, or related university degree(s), and are therefore deemed to be accurate. For those reports that were written by others, who are not Qualified Persons, the information is assumed to be reasonably accurate based on data review and a site visits conducted by the author(s); however, they are not the basis for this Report.

2.4 Units of Measure

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

- Abbreviated shorthand consistent with the International System of Units (International Bureau of Weights and Measures, 2006);
- ‘Bulk’ weight 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 10 of the North American Datum 1983 (NAD 83); and,
- Currency in Canadian dollars (CAD$), unless otherwise specified (e.g., U.S. dollars, USD$).

3 Reliance on Other Experts

Title for the Wicheeda Project was confirmed by independently reviewing the digital tenure records listed on the Province of British Columbia’s “Mineral Titles Online” website (https://mtonline.gove.bc.ca). As of October 27, 2023, the twelve mineral claims comprising the Property were shown to be active, in good standing and owned 100% by Defense Metals. This information is relied upon in the ownership description in Section 4.1 of the Report.

4 Property Description and Location

4.1 Description and Location

The Wicheeda Property is located at Wicheeda Lake, at the base of the Rocky Mountains, on the edge of the Central Interior Plateau, approximately 80 km northeast of Prince George and 50 km east of Bear Lake, BC (Figure 4.1). The Property is situated within the 1:20,000 scale British Columbia Geological Survey ("BCGS") map sheet 93J060 and is centred at approximately latitude 54° 31' 48" N and longitude 122° 05' 12" W. The claims cover Wicheeda Lake and straddle a segment of Wichika Creek. The principal area of interest, the Wicheeda Carbonatite, is centred between Wicheeda Lake and the Wichika gravel pit.

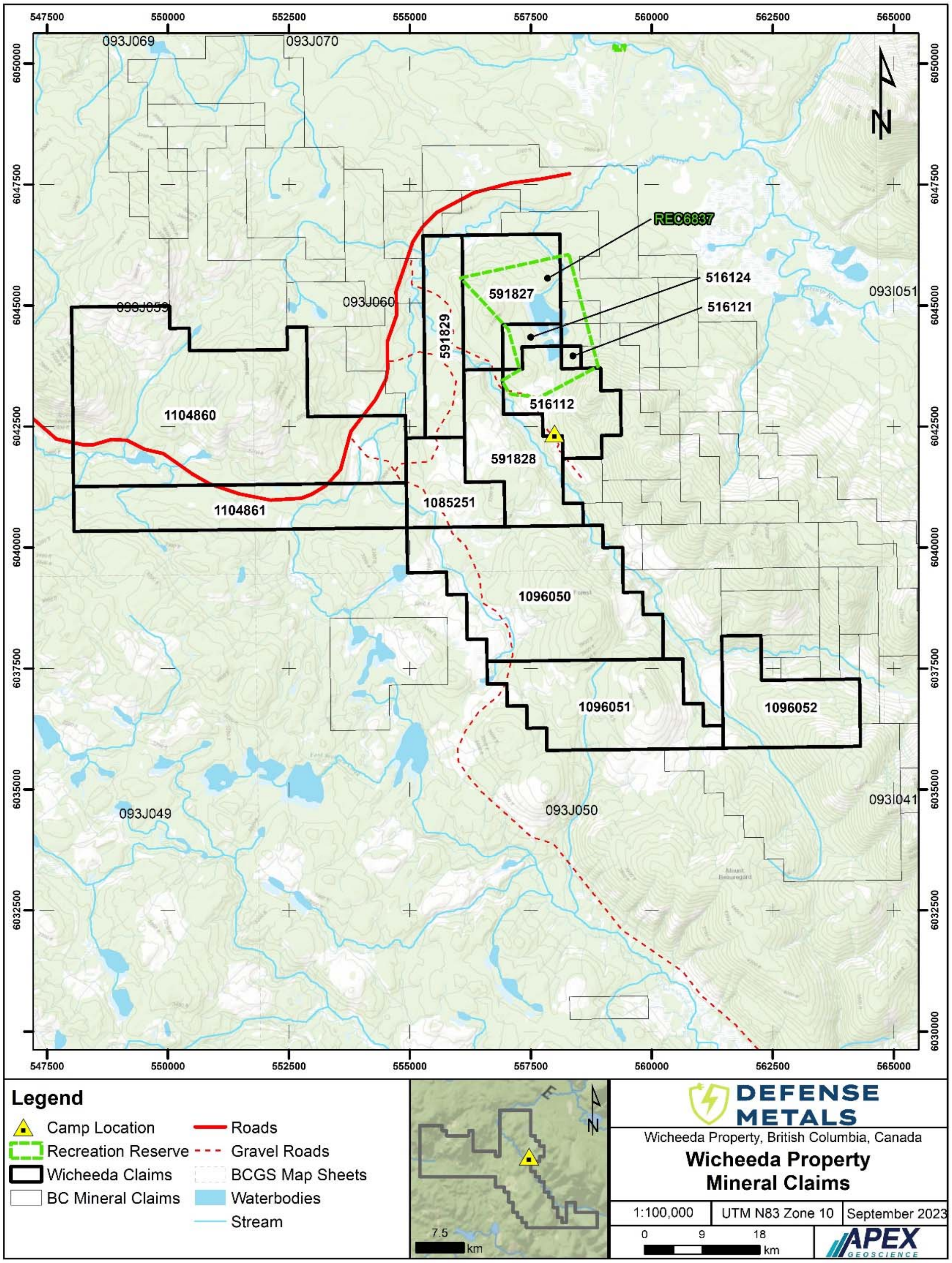
The Property is comprised of twelve contiguous mineral claims, covering 6,759 ha within the Cariboo Mining Division (Table 4.1; Figure 4.2). The claims are registered on the Province of British Columbia's Mineral Titles Online ("MTO") website and are listed as 100%-owned by Defense Metals Corporation. The individual claims and their respective anniversary dates are listed in Table 4.1.

Table 4.1. Wicheeda Property Mineral Claim Details

Tenure Number	Claim Name	Owner (%)	Area (ha)	Good to Date	Map Number
516112		Defense Metals Corporation (100%)	356.59	2033-09-30	093J060
516124	Wicheeda West	Defense Metals Corporation (100%)	75.05	2033-09-30	093J060
516121		Defense Metals Corporation (100%)	18.76	2033-09-30	093J060
591827	Wicheeda 6	Defense Metals Corporation (100%)	450.2	2033-09-30	093J060
591828	Wicheeda 7	Defense Metals Corporation (100%)	469.31	2033-09-30	093J060
591829	Wicheeda 8	Defense Metals Corporation (100%)	337.72	2033-09-30	093J060
1104860		Defense Metals Corporation (100%)	1858	2024-06-20	093J059 - 093J060
1104861		Defense Metals Corporation (100%)	638.38	2024-06-20	093J059 - 093J060
1085251		Defense Metals Corporation (100%)	300.4	2033-05-05	093J060
1096050		Defense Metals Corporation (100%)	1089.48	2033-06-06	093J050 - 093J060
1096051		Defense Metals Corporation (100%)	695.37	2033-06-06	093J050
1096052		Defense Metals Corporation (100%)	469.86	2033-06-06	093J050
Total Area (ha)			6,759.12		

Figure 4.1. Wicheeda Property Location Map

Figure 4.2. Wicheeda Property Claim Map



4.2 Royalties and Agreements

The Property is 100%-owned and operated by Defense Metals Corp ("Defense"). The Property was subject to an Option Agreement dated November 22, 2018 ("Option Agreement Effective Date"), where Spectrum Mining Corporation. ("Spectrum", former owner of the property) and its shareholders (collectively the "Vendors") granted Defense an Option to acquire ownership of the Wicheeda Property.

For this transaction Defense was required to:

a) incur expenditures totaling $1,930,000 as follows: (i) $680,000 within 12 months of the Option Agreement Effective Date (met); (ii) an additional $625,000 within 24 months of the Option Agreement Effective Date; and (iii) an additional $625,000 within 36 months of the Option Agreement Effective Date;

b) pay to Spectrum: (i) $25,000 in cash during the negotiation of this Agreement (met), such funds to be utilized by Spectrum to expend approximately $70,000 of the $120,000 to be advanced to it by Defense Metals as provided to partially finance the collection of approximately thirty (30) tonnes of ore from the Property for sampling at the SGS laboratory in Peterborough, Ontario (met); (ii) $95,000 in cash within five (5) business days of the Option Agreement Effective Date (met); (iii) $50,000 in cash on or before the first anniversary of the Option Agreement Effective Date (met); (iv) $100,000 in cash on or before the second anniversary of the Option Agreement Effective Date; (v) $100,000 in cash on or before the third anniversary of the Option Agreement Effective Date;

c) issue to Spectrum: (i) 200,000 common shares of Defense Metals on the Option Agreement Effective Date (met); (ii) $50,000 in common shares of Defense Metals on or before the first anniversary of the Effective Date (met).

On January 14, 2022, Defense Metals exercised its option and acquired 100% of the Wicheeda Property through the acquisition of 100% of the issued and outstanding shares of Spectrum with the following common share issuances and payments:

a) Issued to the shareholders of Spectrum on a pro rata basis, such number of shares of Defense equal to 49% of the issued and outstanding common shares on a post-issuance basis (78,115,549 common shares issued)
b) Paid $100,000 in cash
c) Issued 1,171,733 common shares pursuant to a finder's fee agreement with Mulgravian Ventures Corporation ("Mulgravian") entered into in connection with the November 22, 2018 option agreement.

The Wicheeda Property is subject to a 2.0% Net Smelter Returns royalty ("NSR Royalty") with respect to the Project, payable upon the commencement of Commercial Production. Defense has the right to purchase one-half (1/2) of the NSR Royalty from the Vendors, also on a basis pro rata to their current shareholdings in the Optionor (being 1.0% of Net

Smelter Returns) for $1,000,000, leaving the Vendors with an aggregate of 1.0% NSR Royalty.

On April 1, 2023, the Company amalgamated with Spectrum, all the issued shares of which were held by the Company, under section 273 of the Business Corporations Act (British Columbia) (the “Amalgamation”), with the continuing entity being Defense Metals. Accordingly, the shares of Spectrum were cancelled pursuant to the Amalgamation.

4.3 Community and Local Relations

Traditional lands of the McLeod Lake Indian Band (“MLIB”) overlap the Project. Spectrum has, in the past, shared information regarding its proposed exploration programs with the MLIB. During 2020 and 2021, Defense Metals conducted several introductory information-sharing virtual meetings with the MLIB regarding its proposed exploration programs.

On September 7, 2022, Defense Metals announced it has entered into a Mineral Exploration Agreement with the MLIB regarding the Wicheeda REE exploration project. The agreement addresses the immediate interests of the parties with respect to mineral exploration activities related to the project and puts into place a framework for communication and cooperation going forward. In addition to providing MLIB with meaningful input into how these activities are to proceed, the agreement provides current economic opportunities for the community and establishes a roadmap for potential future commercial involvement as the exploration activities advance.

The writer is not aware of any other encumbrances, or potential encumbrances, that would negatively impact the future exploration of the Project.

4.4 Environmental Liabilities, Permitting and Significant Factors

The Property currently has an active and amended Multi-Year Permit, issued to Spectrum on February 26, 2019 (Permit MX-13-168). This permit approves exploration work including camp building, storage of fuel, and diamond drilling. The permit was reviewed and approved by the British Columbia Ministry of Energy and Mines. Permit MX-13-168 was originally issued on September 18, 2008 and amendments were approved on February 26, 2019. The permit is valid until February 25, 2024.

Reclamation security funds totalling $19,000 were posted by Spectrum to be held under Permit MX-13-168 by the British Columbia Minister of Finance. The reclamation funds will only be released upon reclamation of the Project and when all conditions of the permit are met in a manner satisfactory to the Chief Inspector of Mines.

No surface rights are held by Defense Metals or, to the authors’ knowledge, by any other parties. Should the Project advance to the mining stage, Defense Metals will be required to obtain all necessary surface rights by way of filing an application for mining leases for the construction and operation of a mine on the Project.

There are no known environmental liabilities associated with the Project as a result of any previous exploration.

With respect to environmental and permitting risk and uncertainty the area surrounding Wicheeda Lake has known to have high recreational and ecological values, including native trout stocks in the lake. The lake and surrounding area is currently covered under recreational reserve REC6837 (Figure 4.2).

As of October 23, 2023 the BC Ministry of Forests Land and Natural Resource (FLNR) indicated that given its current priorities and capacity there is no intent to establish a recreation site at Wicheeda Lake in the near future.

At present there are no restrictions on mineral exploration activities within REC6837. During 2009 five diamond drill holes were completed within REC6837. Recreation reserves are map notations or “an indication of interests” without any legal designation, as opposed to legally established recreational sites having specification of, or restriction against, permitted or specific uses. However, FLNR has requested that Defense Metals take all possible steps to minimize the impacts of exploration to the recreational ecological values associated with Wicheeda Lake.

5 Accessibility, Local Resources, Infrastructure, Climate and Physiography

5.1 Accessibility

The Wicheeda Property is located at Wicheeda Lake, approximately 80 km northeast of Prince George and 50 km east of Bear Lake in the Cariboo region of British Columbia. Access to the Property from Prince George is facilitated via Provincial Highway 97 and two all-season gravel forest service roads. From Prince George, travel north on Highway 97 for approximately 80 km to the turn-off for the Chuchinka Forest Service Road (FSR), located just south of the community of Bear Lake. Travel east on the Chuchinka FSR to the Wichika FSR; then south on the Wichika FSR to the Wichika gravel pit. The gravel pit was used as an equipment staging area and as a camp site during the 2019 drilling program. A cut trail, approximately 1300 m in length, links the gravel pit and areas of diamond drilling.

5.2 Local Resources and Infrastructure

The Property is located about 50 km east of a major paved provincial highway, the CN rail mainline, a natural gas pipeline and a power transmission line. A dormant three-line sawmill, located immediately east of the Highway 97 near its junction with the Chuchinka FSR, has adequate electric power, a railway siding, and nearby gas pipeline that could be utilized for Wicheeda Project development.

The city of Prince George, BC, known as the “Northern Capital of British Columbia”, is located 80 km southwest of the Project. The area’s population of approximately 74,000 could provide a ready, nearby work force. All goods and services required by the Project, including industry services such as laboratory services, mining equipment, drilling contractors, skilled labour and supply dealerships, are available in Prince George. The community of Bear Lake (population 151), located 50 km west of the Property, has a small motel, convenience store and gas station, and may be a source for local labourers.

Daily commercial air service is available between Prince George and Vancouver, BC. Multiple direct flights are available each week between Prince George and several destinations including Victoria, BC, Calgary, AB, and Edmonton, AB. Helicopter charter services are available year-round in Prince George.

5.3 Site Topography, Elevation and Vegetation

The Wicheeda Project is located on the eastern flank of the Rocky Mountains, on the edge of the Central Interior Plateau in east central British Columbia. The Property is characterized by subdued terrain in the southeast, moderate-steep hills in the north, and steep to cliffy topography in the east. Elevations range between 900 m and 1520 m AMSL. Outcrops are sparse within the Property, even in hilly areas.

The area is covered with stands of alder and pine with variably thick undergrowth, or by logged areas. Forest plantations, buck brush and devil’s club occur at lower elevations.

5.4 Climate

The climate of the Project area is typical of northern continental areas, characterized by large seasonal temperature differences, with warm to hot (and often humid) summers and cold winters. Climate data indicate that temperatures vary from an average of 15.9 °C in July, the warmest month, to -10.2 °C in January, the coldest month, with an annual mean temperature of 4.1 °C. The area averages 558 mm of precipitation annually.

6 History

6.1 Property History – Early Exploration

A regional aeromagnetic survey of the area, completed in 1961 by the Geophysics Division of the Geological Survey of Canada, identified a magnetic high feature in the area of the Wicheeda Project. Prospecting of the area in 1976 and 1977 by Kol Lovang identified minor base metal showings which covered two mineral claims. No follow-up work was completed and the claims were allowed to lapse. However, later assaying of Lovang's samples by Teck Explorations Limited ("Teck") revealed anomalous niobium (Betmanis, 1987), and Teck subsequently entered into a prospecting agreement with Lovang in early 1986 (Betmanis, 1987).

6.2 Property History – Teck Explorations Limited

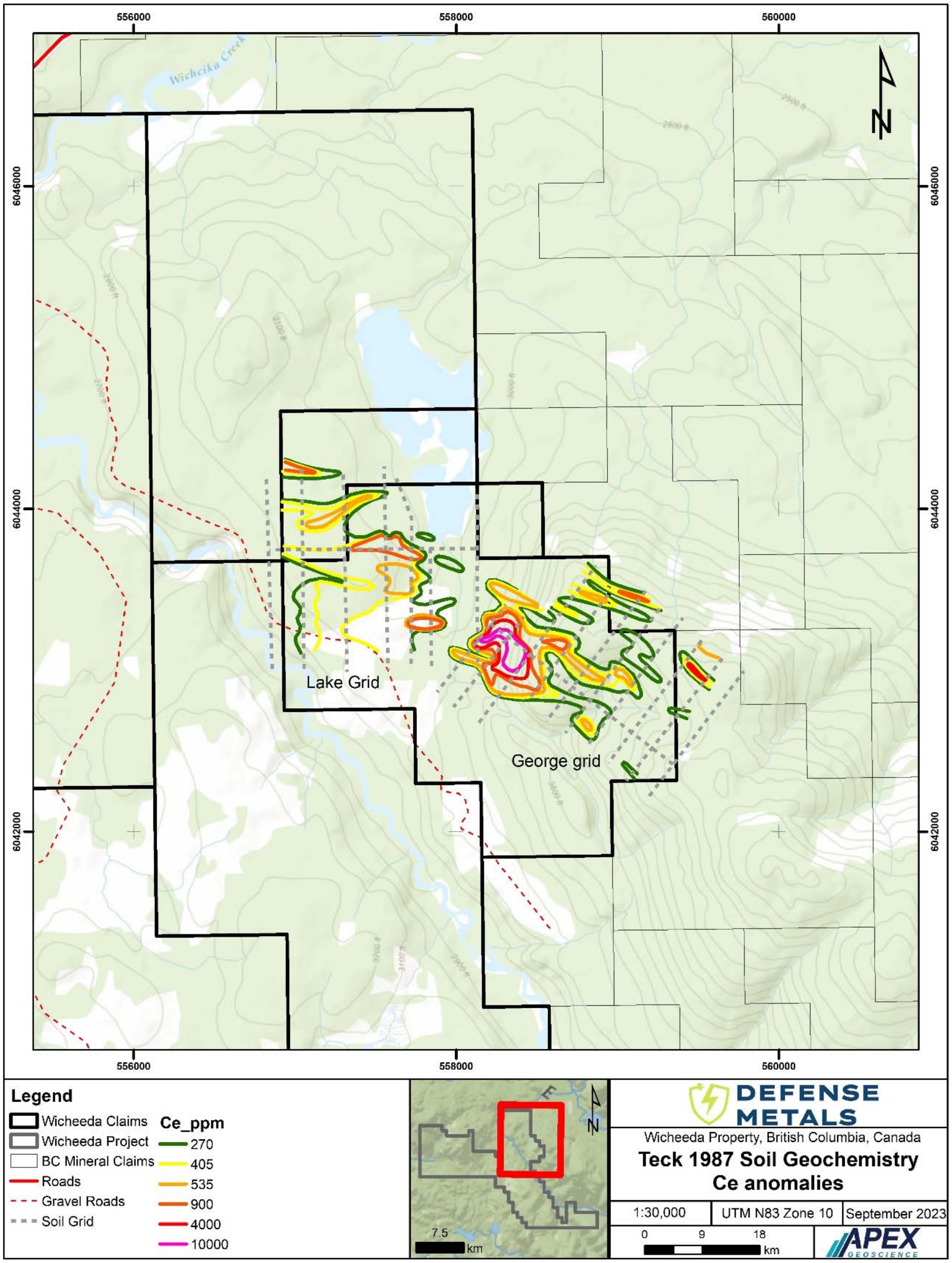
Teck staked its initial claims in April 1986 and proceeded with a helicopter-supported stream silt geochemical survey of the Wichika Creek drainage. This work identified several anomalies, resulting in additional claims being staked (Betmanis, 1987).

Within the claim group, Teck delineated 6 grids (Lake, George, D, F, and Prince Grids) for reconnaissance work. Only the 'Lake' and 'George' grids are covered by the extent of the current claims (Figure 6.1).

Additional exploration completed in 1986 and 1987 consisted of soil and rock geochemical sampling, geological mapping, trenching and ground magnetic surveying (Betmanis, 1988 and 1987). Results from the soil geochemical surveys indicated a linear carbonatitic intrusion and a small syenite body hosted by limestone and calcareous fine-grained sedimentary rocks over a total strike length of 7 km (Betmanis, 1987) contained within the 'Lake' and 'George' grids. Rock geochemical sampling and bedrock mapping led to additional claims being staked during 1986 as the location of intrusive zones became better defined (Betmanis, 1987).

Pronounced cerium in soil geochemical anomalies partially cover both the 'Lake' and 'George' grid areas. Locally, these anomalies coincide with barium and niobium highs and reflect the underlying intrusive rock. Intensely oxidized, coarse grained calcite carbonatite and fine-grained pyrochlore-bearing, pink calcite carbonatite was identified in trenches at the 'Lake' grid by Greenwood and Mader (1988). Ground magnetometer surveys outlined modest magnetic highs on both grids that are thought to be reflective of relatively narrow dykes that may or may not be genetically related to the intrusive carbonatites (Betmanis, 1987).

Figure 6.1. Teck Exploration 1986-1987 Soil Geochemistry Results (Cerium)



Follow-up work outlined a deeply weathered carbonatite of unknown dimensions on the 'Lake' grid (Mader and Greenwood, 1988); and a semi-circular body of carbonatite, measuring about 250 m across, on the 'George' grid (Lovang and Meyer, 1988). A circular thorium (Th) radiometric anomaly, roughly 500 m in diameter, was found to coincide with the 'George' grid carbonatite and additional Th radiometric anomalies 100-200 m across followed a southeasterly trend (Lovang and Meyer, 1988; Mader and Greenwood, 1988). Soil geochemistry on the 'George' grid estimated the circular intrusive body at approximately 400 m in diameter. One or more narrow dyke-like carbonatite bodies were located south of 'George' grid (Lovang and Meyer, 1988; Minfile 093J 014) partially covering the southern portion of the Project area.

Lovang and Meyer (1987) found the carbonatites were generally anomalous in light rare earth elements (LREE) and niobium. A limited hand trenching program on the 'George' grid yielded encouraging values of lanthanum (La), neodymium (Nd) and cerium (Ce), modest values of niobium and yttrium, and anomalous values of samarium (Sm) and europium (Eu). Values for the principal LREE ranged from 202 to >1000 ppm La, from 104 to >1000 ppm Nd, and from 254 to >10000 ppm Ce over sample lengths of 2-10 m and an aggregate sample length of 87 m in three trenches spaced across the carbonatite body (Lovang and Meyer, 1987).

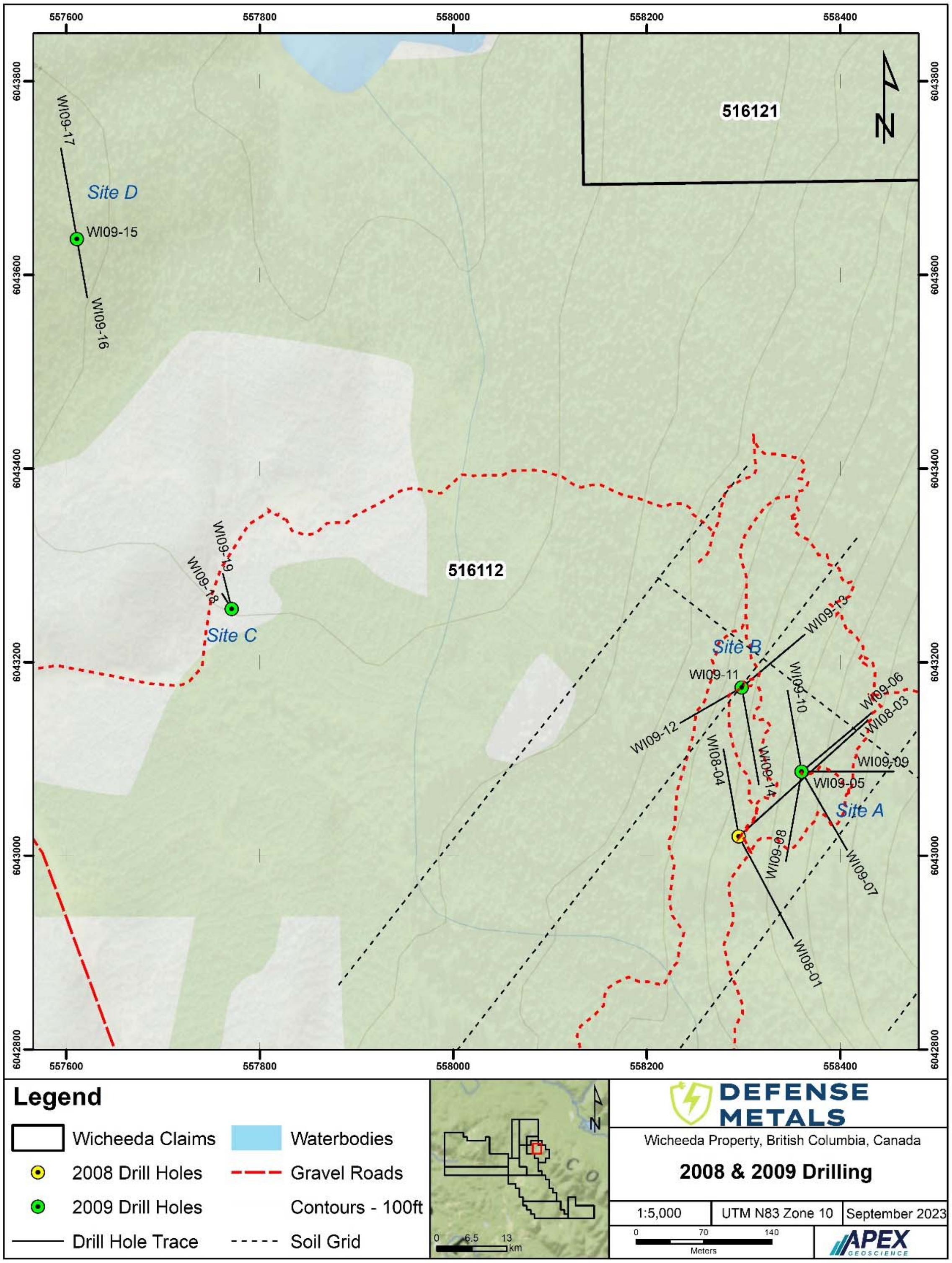
Subsequently, the claims were staked in March 2001 by Mr. Chris Graf after Teck allowed the claims to lapse. Mr. Graf, a principal of Spectrum, did not conduct any work of significance on the claims, and in September 2008, he transferred ownership of the claims to Spectrum.

6.3 Property History – Spectrum Mining Corporation

From late September to mid-October 2008, Spectrum completed four diamond drill holes (WI08-01 to WI08-04) with an aggregate length of 866 m within the 'George' grid area (Lane, 2009; Figure 6.2). The holes were drilled from a single helicopter-supported drill pad and included one vertical hole and three inclined holes drilled on different azimuths. Each drill hole was collared in intrusive carbonatite and confirmed the presence of a LREE-bearing dolomite carbonatite body of significance that outcrops on a west-facing slope 1 km south of Wicheeda Lake. Due to the limited amount of drilling, the overall geometry of the Wicheeda Carbonatite was not resolved; however, the 2008 campaign established an eastern structural footwall to the zone. The western, northern, southern and depth components remained open (Lane, 2009).

The Wicheeda Carbonatite was found to contain significant concentrations of the LREEs cerium (Ce), lanthanum (La), and neodymium (Nd) as well as anomalous concentrations of Nb, Pr, Y, As, Ba, Mo, Mn, Pb, Sr, and Th (Lane, 2009). Significant weighted averages (XRF data) for selected drill hole are presented in Table 6.1 below.

Figure 6.2. Spectrum Mining 2008-2009 Diamond Drilling



In 2009, Spectrum completed 15 additional drill holes (WI09-05 to WI09-20), totaling 1,824 m (Lane, 2010a; Table 6.1; Figure 6.2). Ten holes tested the Wicheeda Carbonatite from two different set-ups (sites A and B), two holes were drilled northwest of previous sites to intersect a small carbonatite dyke that outcrops on a trail leading to Wicheeda Lake (site C), and three holes tested a REE soil anomaly located northwest of site C and southwest of Wicheeda Lake (site D). All ten holes drilled on the Wicheeda Carbonatite intersected significant intervals of REE-bearing dolomite ± calcite carbonatite from surface to variable depths (Table 6.1). The highest REE values correlated with dolomite carbonatite, dolomite carbonatite breccia and calcite carbonatite. To a lesser degree, high REE values also occurred in syenite breccia (later recognized as fenite) where dolomite carbonatite, as matrix to clasts of syenite (fenite), formed >50% of the rock mass (Lane, 2010a).

Drill site C was positioned on small knoll approximately 550m south of the south end of Wicheeda Lake near an access trail that leads to the lake. Two holes targeted a narrow carbonatite dyke that crops out on the trail, one of which intersected 27.20m of dolomite carbonatite similar to that observed at the Main Zone. Only core from drill hole WI09-19 was sampled; while the carbonatite dyke intersected was visually similar to that of the Main Zone, the former returned only weakly elevated concentrations of lanthanum with an individual high value of 523ppm La over 3.0m (Lane, 2010a).

Drill site D was located 315m southwest of the south end of Wicheeda Lake near an old Teck trench. Three holes were drilled from this site to evaluate a rare earth element soil geochemical anomaly. Each hole (WI09-15 to WI09-17) intersected calcite carbonatite and breccia that was consistently elevated in lanthanum. Hole WI09-15 averaged 345ppm La over 96.00m; hole WI09-16 averaged 307ppm La over 91.71m, and hole WI09-17 averaged 307ppm La over 146.30m (Lane, 2010a).

During the same year, a bench scale heavy liquid – magnetic separation was performed on a composite sample from the Wicheeda Lake carbonatite to separate minerals and produce a concentrate comparable to other well-known REE deposits around the world. The study achieved a high grade REE concentrate comparable with the Mianning bastnäsite-bearing carbonatite ore from Sichuan, China (Mariano, 2009).

In 2010, Spectrum contracted Hendex Exploration Limited of Prince George to conduct a GPS-controlled soil sampling survey over a 5.5 km^2 area measuring approximately 2300 m north-south by 2200 m east-west (Graf, 2011; Figure 6.3). The survey covered the Wicheeda Carbonatite as well as other targets to the northwest that were drilled in 2009. A total of 977 soil samples were collected at stations spaced 50 m apart along east-west lines spaced 100 m apart. The survey data outlined three significant multi-element soil geochemical anomalies on the Project: the Wicheeda Carbonatite soil anomaly, the Southwest soil anomaly and the Northwest soil anomaly. Results from the Wicheeda Carbonatite anomaly indicated a strong correlation between cerium, lanthanum, yttrium, niobium, thorium, lead, manganese, molybdenum, iron and phosphorous (Graf, 2011). During 2010 Spectrum collected a total of 977 soil samples were collected at stations spaced 50 m apart along east-west lines spaced 100 m apart.

Table 6.1. 2008 and 2009 Wicheeda Carbonatite Significant Drill Hole Intercepts

Hole	From (m)	To (m)	Interval[1] (m)	CeO_2 %	La_2O _%	Nd_2O _%	Pr_6O_{11} %	Sm_2O_3 %	Dy_2O _%	Tb_4O_7 %	Eu_2O_3 %	Gd_2O_3 %	Ho_2O_3 %	TREE %	TREO[2] %
WI08-01	2.13	68.23	66.1	1.63	1.15	0.27	0.13	0.03	0.00	0.00	0.01	0.01	0.00	2.69	3.23
WI08-02	1.42	86.27	84.85	1.70	1.23	0.29	0.13	0.03	0.00	0.00	0.01	0.01	0.00	2.83	3.40
WI08-03	2.56	234	231.44	1.07	0.75	0.22	0.09	0.03	0.00	0.00	0.01	0.01	0.00	1.81	2.17
Including	2.56	75.55	72.99	1.69	1.23	0.26	0.12	0.03	0.00	0.00	0.01	0.01	0.00	2.80	3.36
WI08-04	1.57	121	119.43	1.63	1.17	0.31	0.13	0.03	0.00	0.00	0.01	0.01	0.00	2.75	3.30
WI09-05	1.52	56.39	54.87	1.18	0.86	0.28	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.06	2.47
Including	1.52	43.52	42	1.30	0.94	0.30	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.25	2.70
WI09-06	1.52	133.5	131.98	1.70	1.29	0.38	0.13	0.04	0.00	0.00	0.01	0.02	0.00	2.98	3.57
WI09-07	2.44	107.44	105	1.64	1.22	0.34	0.13	0.03	0.00	0.00	0.01	0.02	0.00	2.83	3.40
Including	2.44	74.44	72	1.96	1.47	0.40	0.16	0.04	0.01	0.00	0.01	0.02	0.00	3.38	4.05
WI09-08	1.83	97.83	96	1.49	1.08	0.31	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.54	3.04
Including	52.83	97.83	45	2.01	1.48	0.39	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.42	4.10
WI09-09	1.4	145.4	144	1.50	1.11	0.33	0.12	0.03	0.00	0.00	0.01	0.01	0.00	2.59	3.11
Including	1.4	67.4	66	1.76	1.31	0.38	0.14	0.04	0.00	0.00	0.01	0.02	0.00	3.05	3.65
WI09-10	2.44	148.13	145.16	1.33	0.98	0.28	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.28	2.74
Including	62.44	89.44	27	1.72	1.29	0.37	0.13	0.03	0.00	0.00	0.01	0.01	0.00	2.97	3.56
Including	128.44	148.13	19.69	1.92	1.41	0.38	0.15	0.03	0.00	0.00	0.01	0.01	0.00	3.26	3.91
WI09-11	3.2	57.2	54	1.45	1.07	0.31	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.49	2.99
WI09-12	6.7	39.7	33	0.97	0.67	0.21	0.08	0.02	0.00	0.00	0.00	0.01	0.00	1.65	1.98
WI09-13	1.83	147.52	145.69	1.22	0.86	0.29	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.10	2.52
Including	7.83	49.83	42	1.56	1.11	0.37	0.13	0.04	0.00	0.00	0.01	0.01	0.00	2.69	3.22
WI09-14	3	120	117	1.21	0.83	0.27	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.05	2.46
Including	3	39	36	2.15	1.53	0.42	0.16	0.04	0.00	0.00	0.01	0.01	0.00	3.60	4.32

[1]The true width of REE mineralization is estimated to be 70-100% of the drilled interval.

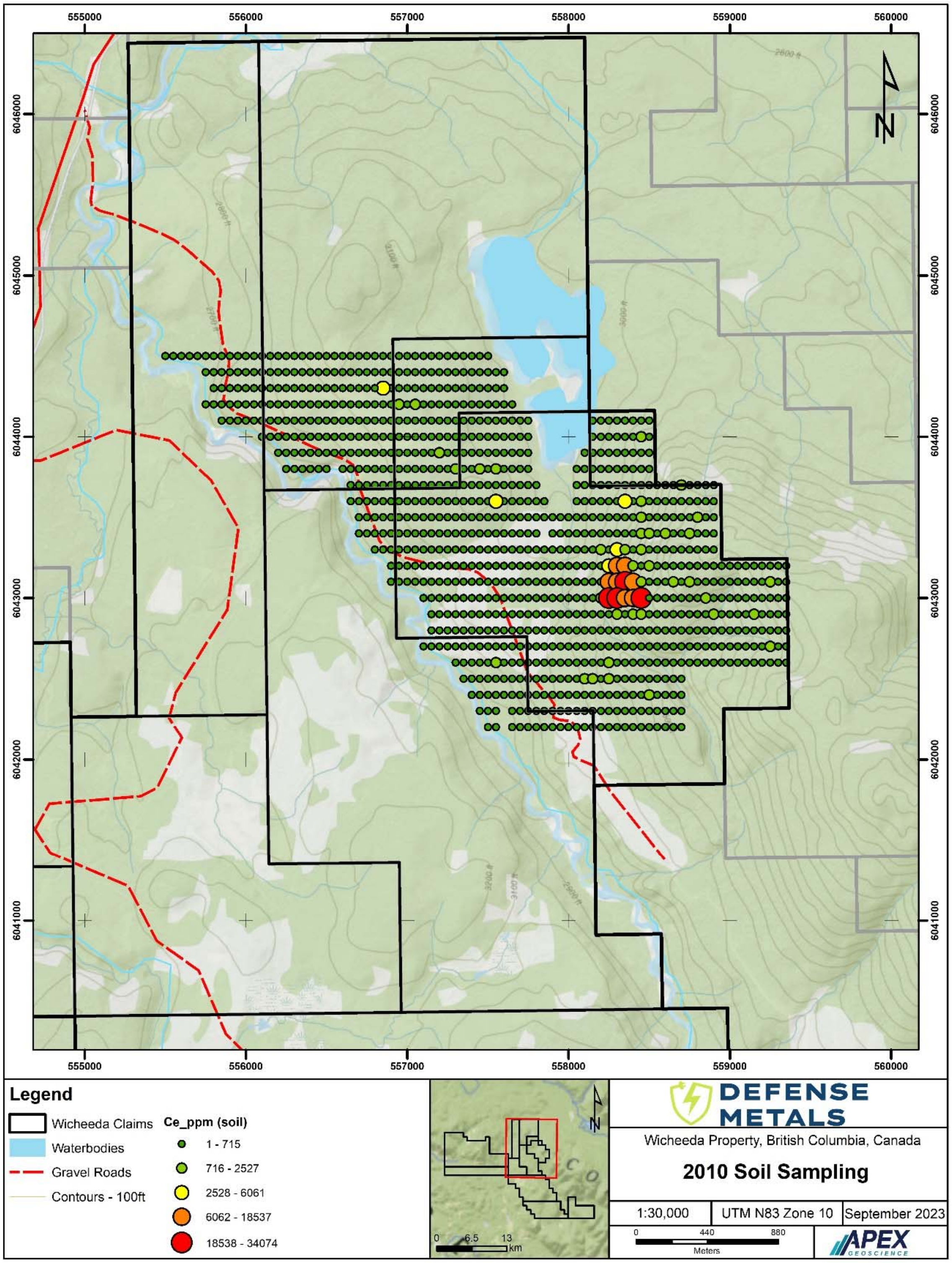
[2]TREO % sum of CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O3 and Ho_2O_3.

The Wicheeda Carbonatite is outlined by the approximately coincident contours of cerium (>400 ppm), lanthanum (>200 ppm), yttrium (>25 ppm), niobium (>100 ppm), thorium (>100 ppm), lead (>100 ppm), phosphorous (>2000 ppm), molybdenum (>10ppm), barium (>2000 ppm), manganese (>2000 ppm) and iron (>50,000 ppm). The Wicheeda Carbonatite multi-element soil anomaly consists of a higher value north-south trending core area roughly 400 m long and 200 m wide east-west with a narrower northeast-trending (015° azimuth) extension that is 300 m long and 100 m wide. The entire multi-element anomaly extends from line 29+00N to 36+00N and is 700 m long by 100-200 m wide (Graf, 2011). The highest niobium and thorium values are restricted to the core area of the soil anomaly and are significantly lower along the northeast extension.

A second coincident multi-element soil geochemical anomaly lies 300 m southwest of the Wicheeda Carbonatite anomaly on the same (195° azimuth) orientation as the northeast (15° azimuth) extension of the Main zone anomaly. This Southwest soil anomaly is outlined by the approximately coincident contours for cerium (400 ppm), lanthanum (200 ppm), yttrium (30 ppm), niobium (40 ppm), thorium (30 ppm), lead (50 ppm), phosphorous (1000 ppm), molybdenum (4 ppm), barium (1,000 ppm), Manganese (1,000 ppm) and iron (40,000 ppm) and extends in a northwest direction from line 24+00N to 29+00N. The Southwest anomaly is 500 m long by 50-150 m wide. The location of the Southwest soil anomaly directly along strike with the northeast extension of the Wicheeda Carbonatite anomaly suggests that it may represent a southwest extension of the Wicheeda Carbonatite body.

A third coincident multi-element soil geochemical anomaly occurs roughly 400 m northwest of the Wicheeda Carbonatite soil anomaly. This Northwest soil anomaly is outlined by the approximately coincident contours for cerium (>200 ppm), lanthanum (>100 ppm), yttrium (>15 ppm), niobium (>100 ppm), thorium (>30 ppm), lead (>50 ppm), phosphorous (1500 ppm), molybdenum (>4 ppm), barium (>1,000 ppm), manganese (>1,000 ppm) and iron (>40,000 ppm). The niobium values of the Northwest soil anomaly are as elevated as the niobium values in the Wicheeda Carbonatite soil anomaly; however, the cerium and lanthanum values are more subdued. This contrasts with the Wicheeda Carbonatite anomaly that has extremely elevated cerium and lanthanum values. The Northwest niobium anomaly (>100 ppm) contour is much larger than the Wicheeda Carbonatite niobium anomaly, measuring 600 m long north-south by 50-400 m wide east-west within a >40 ppm niobium anomaly that is 1100 m long north-south by 400 m to 700 m wide east-west. Additionally, the niobium values are consistently more elevated with a peak value of 901 ppm. There is a narrower multi-element soil anomaly along the west side of the Northwest soil anomaly that may represent a separate mineralized carbonatite dike or sill emanating from a larger carbonatite body that may underlie the larger soil anomaly. It is 300-500 m long by 50-100 m wide and has peak values of 1,893 ppm niobium, 1,512 ppm cerium and 915 ppm lanthanum.

Figure 6.3. Spectrum Mining 2010 Soil Geochemistry (Ce ppm)



In 2011, Spectrum commissioned SGS to complete a test work program to investigate the direct flotation of rare earth oxide (REO) on samples from the Wicheeda Carbonatite (SGS, 2011). The lab work achieved a concentrate grade of 42% and an average recovery of 83%. Subsequent hydrometallurgical testing in 2012 on a 2 kg sample of the concentrate grading 39.7% total rare earth oxide (TREO) produced an upgraded and purified precipitate that contained 71% TREO through a process of pre-leaching and roasting (SGS, 2011). Additional details regarding mineral processing and metallurgical testing are discussed in Section 13.

6.4 Third-Party Regional Airborne Radiometric and Magnetic Surveys

In 2011, Bolero Resources Corporation conducted a helicopter-borne radiometric and magnetic gradiometer survey over its vast Carbonatite Syndicate Property that encompasses the Project (Koffyberg and Gilmour, 2012, Figure 6.4). The survey was flown over a portion of the Project and outlined a potentially significant 500 m long by 200 m wide radiometric anomaly inside the southeastern most corner of the Wicheeda claims. There is incomplete soil sample coverage in this area, however, the existing soil sample data indicates that a multi-element geochemical anomaly may extend into this area and is potentially 400 m long.

The strongest airborne magnetic anomaly on the Project trends in a northwest direction and is 600 m long by 200 m wide. This anomaly may be the expression of a magnetite-bearing syenitic intrusion(s) (Bird et al., 2019).

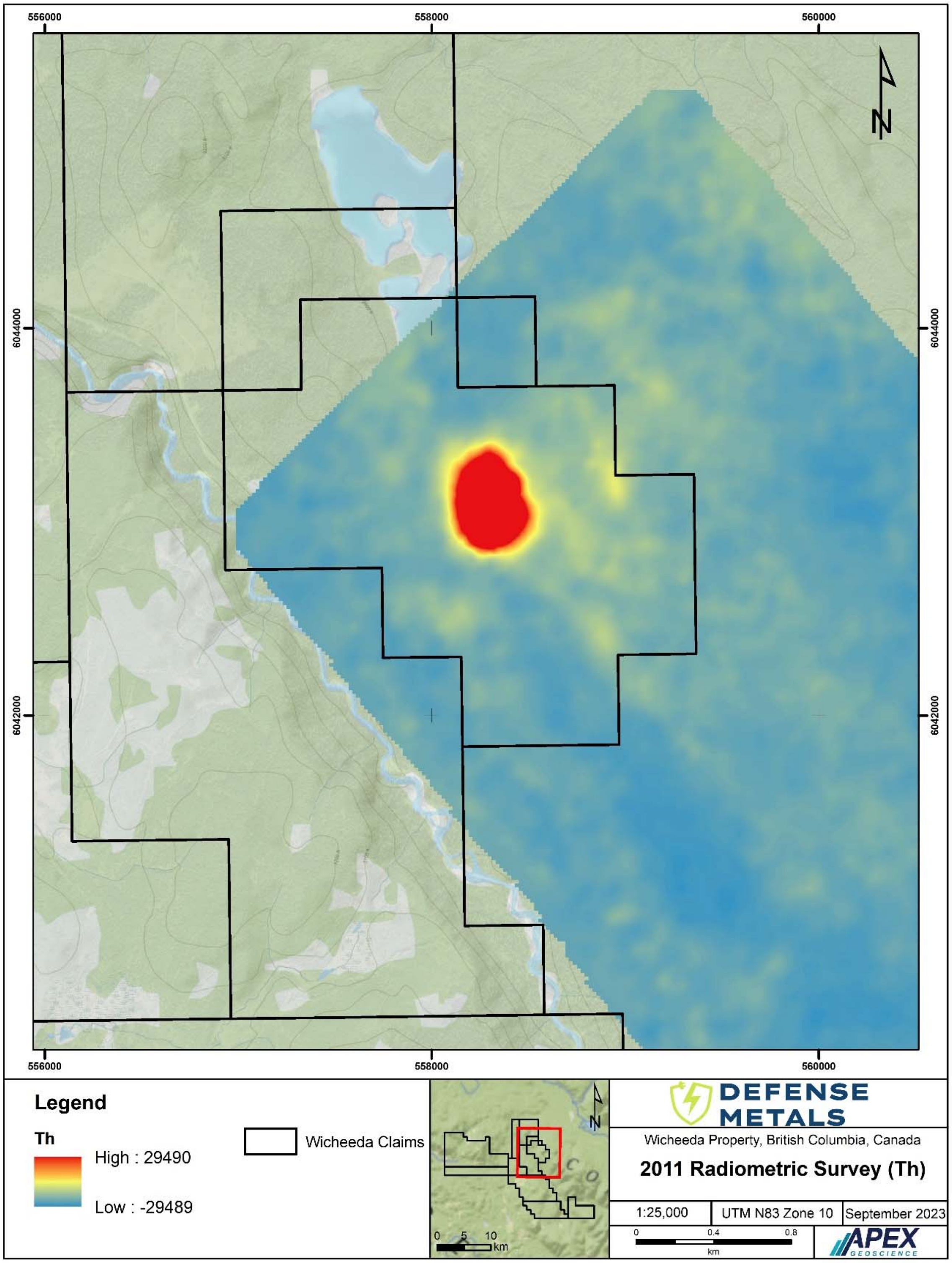
6.5 Property History – Academic Studies

Two academic studies were completed on the Wicheeda Carbonatite in 2014. One study focused on the nature and origin of the deposit; the principal results were:

- the carbonatite comprises a dolomitic core and a thin outer calcitic facies,
- bastnäsite-(Ce) and subordinate monazite-(Ce) are the main REE minerals, and
- the REE mineralization was the product of magmatic hydrothermal fluids which also fenitized the surrounding metasedimentary rocks (Trofanenko et al., 2014).

The other study evaluated the application of portable X-ray fluorescence (XRF) as an exploration tool for REE-enriched carbonatites. It concluded, based on the mineralogy of the Wicheeda carbonatite complex (detectable concentrations of Nb, Ta, La, Ce, Pr, Nd, and Y), that monazite, REE-fluorocarbonates and carbonates, and pyrochlore (± columbite) are prospective indicator minerals for Wicheeda carbonatite-type REE deposits (Mackay and Simandl, 2014).

Figure 6.4. Bolero Resources 2011 Radiometric Survey Results (Thorium)



6.6 Property History – Defense Metals

Exploratory metallurgical test work has been carried out on Wicheeda mineralized dolomite-carbonatite by SGS in 2011 and 2012 using a representative composite sample created with core collected from 7 separate drill holes at varying depths.

Prior to conducting the flotation test work SGS carried out a high definition ("QEMSCAN") mineralogical study of the drill core composite sample that identified the rare earth minerals as bastnaesite and monazite and the main thorium mineral as thorite (SGS, 2010).

Continuing tests done by SGS (2011) concluded that the Wicheeda carbonatite orebody had a fairly homogeneous mineralization and as a result very little ore variability flotation tests would be anticipated in the future. The process test work produced a rare earth oxide concentrate suitable for further treatment in a hydrometallurgical process. The SGS test work successfully produced a 42% REE concentrate with recoveries shown in Table 6.2 (SGS, 2011).

Table 6.2. Locked Cycle Test Recoveries

REE	Recovery to Concentrate (%)
Ce	82.5
La	84.6
Nd	83.8

In 2012 SGS conducted hydrometallurgical test work on a composite of the Wicheeda flotation concentrates they had produced and developed a conceptual hydromet flow sheet consisting of pre-leaching, roasting, leaching and precipitation tests. The flotation concentrate composite grade was 39.7% total rare earth oxides, which through pre-leaching was upgraded to 67% total rare earth oxide material and that in turn was further upgraded to 71% total rare earth oxides by roasting the pre-leach residue. The hydromet tests were successful in removing 98% of the thorium from the concentrate (SGS, 2012).

In October 2018, Defense Metals collected a 30-tonne surface bulk sample at the Wicheeda Project for a multi-phase program of bench-scale metallurgical test work (SGS, 2019). The sample was submitted for metallurgical testing with SGS Canada. Select head assay results for the 30-tonne bulk sample include: 1.77% lanthanum-oxide, 2.34% cerium-oxide, 0.52% neodymium-oxide, and 0.18% praseodymium-oxide, for a total of 4.81% LREO (light rare-earth oxide).

During the summer of 2019, Defense Metals carried out a diamond drilling program. Thirteen diamond drill holes totalling 2,005 m delineated the higher-grade near surface dolomite-carbonatite unit and tested the margins of the deposit (Figure 6.5). All drill holes intersected variable lengths of significant REE mineralization, mainly in the carbonatite dolomite body and, to a lesser extent, in the lithologies enveloping the Wicheeda Carbonatite. The 2019 drilling campaign extended the Wicheeda deposit a 120 m along NNW-strike, 40 m to the southeast and 25 m to the southwest from previously defined resource model (Figure 6.6). More detail is presented in Section 10 of this report.

In 2020, Defense Metals completed a LiDAR survey. The increased resolution of the LiDAR allowed for more robust mine planning, particularly when considering the high relief within the project area (Deiss and Ebrahimi, 2022).

Between 2020 and 2021, all the 2008 and 2009 original drill core pulps were reanalyzed, utilizing a REE lithium metaborate fusion with an ICP-MS finish analytical method, to reduce the uncertainty regarding the historical incomplete XRF analytical results (Deiss and Ebrahimi, 2022). More detail is presented in Section 11 of this Report.

During 2020, Defense Metals initiated a flotation pilot plant based on the 2019 positive metallurgical test work. The work was carried out by SGS on the 30 tonne bulk sample and results indicated: an average REO recovery of 77.3% in a concentrate grading 51.6% TREO. The company also created a 3D geological model and updated the Mineral Resource Estimate (MRE) in 2020 (Raffle and Nicholls, 2020). The updated MRE included: 49% increase in the overall tonnage, 30% increase in the overall average grade, 730,000 tonnes increase of the inferred resource and conversion of 4,890,000 tonnes from previously inferred-defined resource to indicated resource. The 2020 updated MRE was reported at a cut-off grade of 1.5% LREE and comprised an average of 3.02% LREO indicated resource and an average of 2.52% LREE.

During 2021, Defense Metals carried out a diamond drilling program. The program directive was to test the extent of the Wicheeda deposit, open to the north and northwest, further delineate the relatively higher-grade near-surface dolomite unit, and to convert the inferred and/or indicated mineral resource into indicated and measured mineral resource. Twenty-nine NQ diameter diamond drill holes, totalling 5,366.3 m, were completed from 5 different drill pads, testing the southern, central and northern zones of the carbonatite. All 29 drill holes intersected significant intercepts of REE-mineralized dolomite carbonatite. Drilling at the Wicheeda Deposit delineated and expanded the carbonatite body to the north / northwest and marginally around the deposit (Figure 6.7, 6.8). More detail is presented in Section 10 of this report.

Figure 6.5. 2019 Wicheeda Diamond Drilling

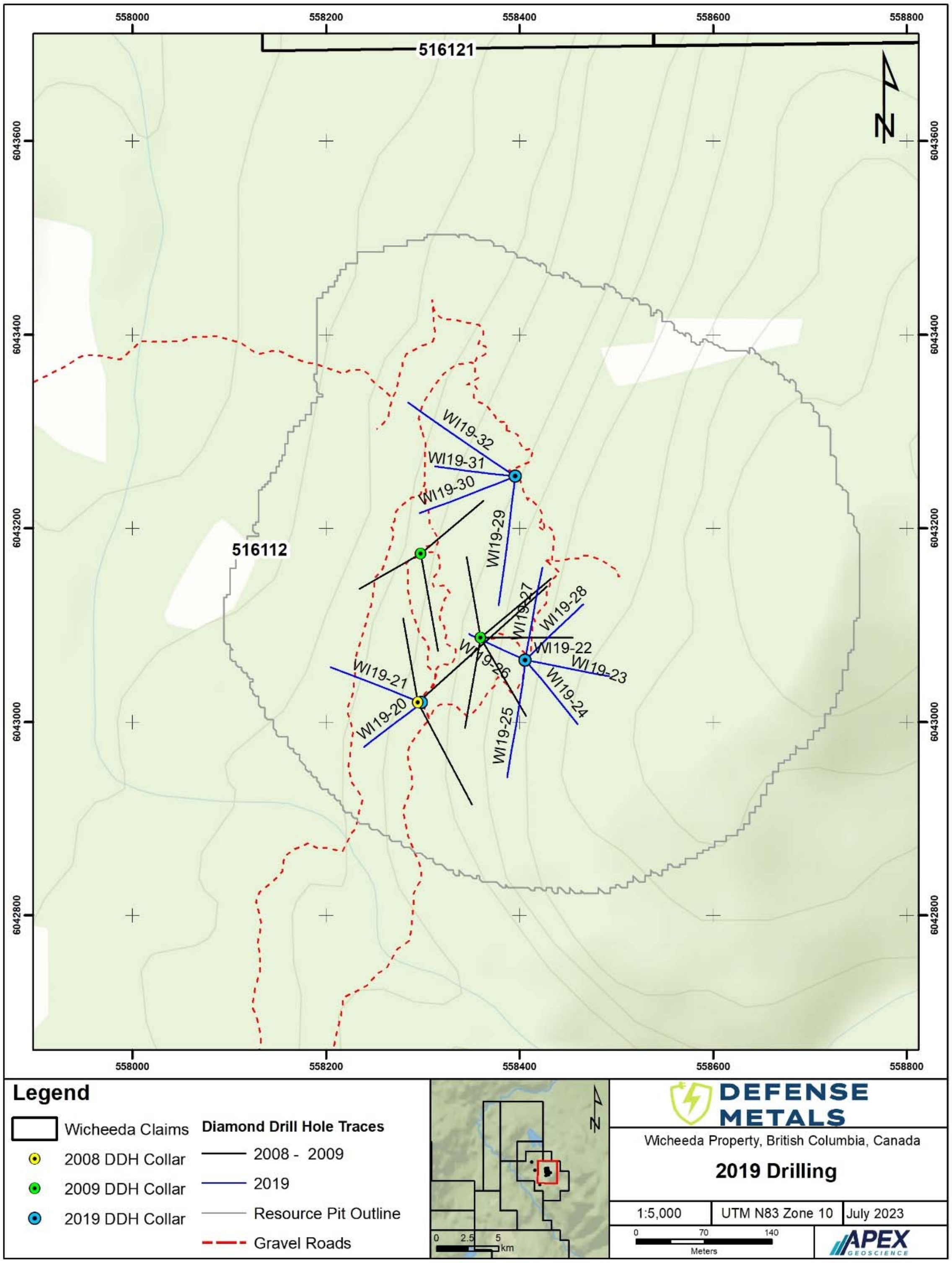


Figure 6.6. 2019 Wicheeda Diamond Drilling (Section View) (After Raffle and Asmail, 2022)

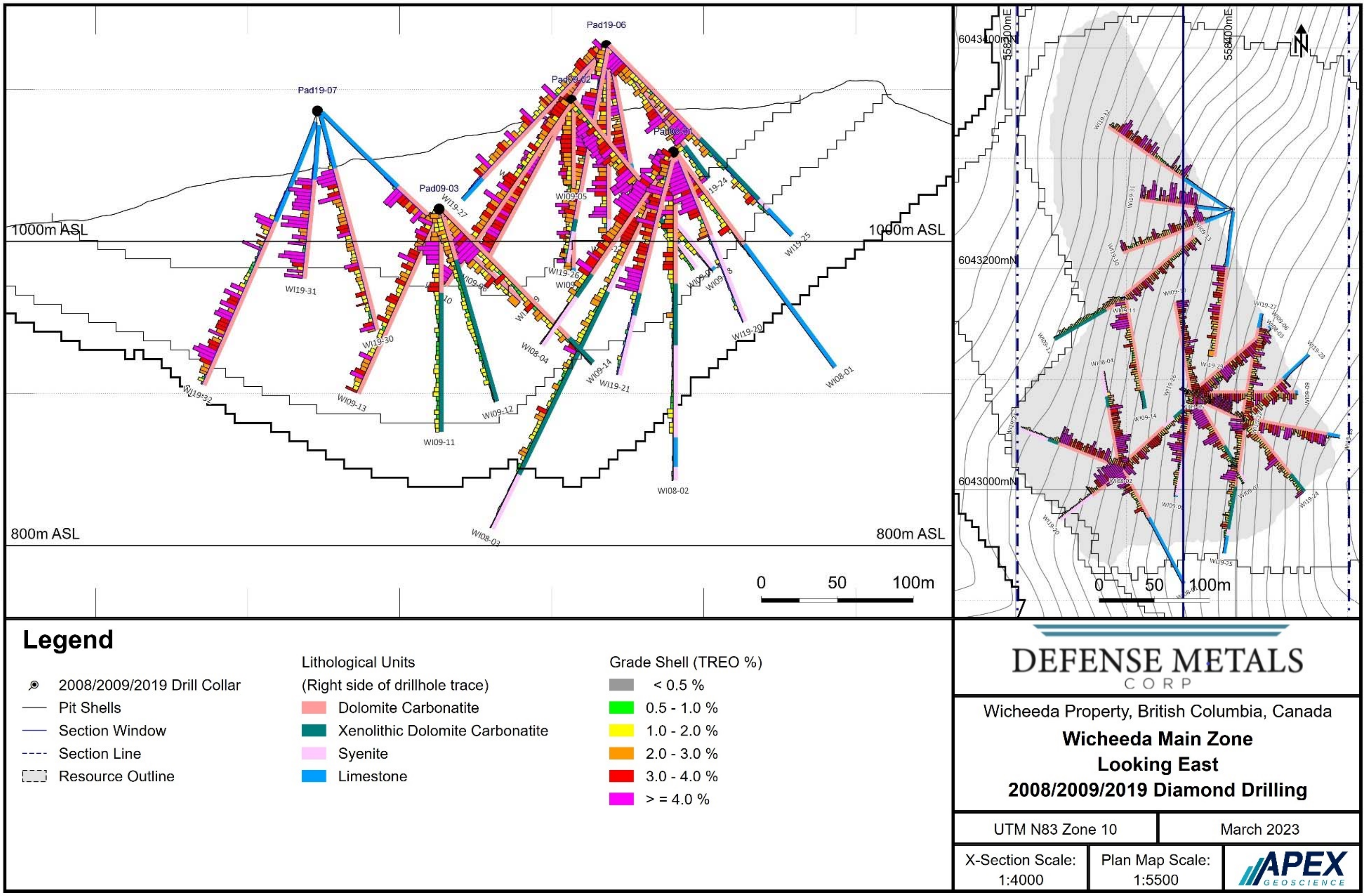


Figure 6.7. 2021 Wicheeda Diamond Drilling

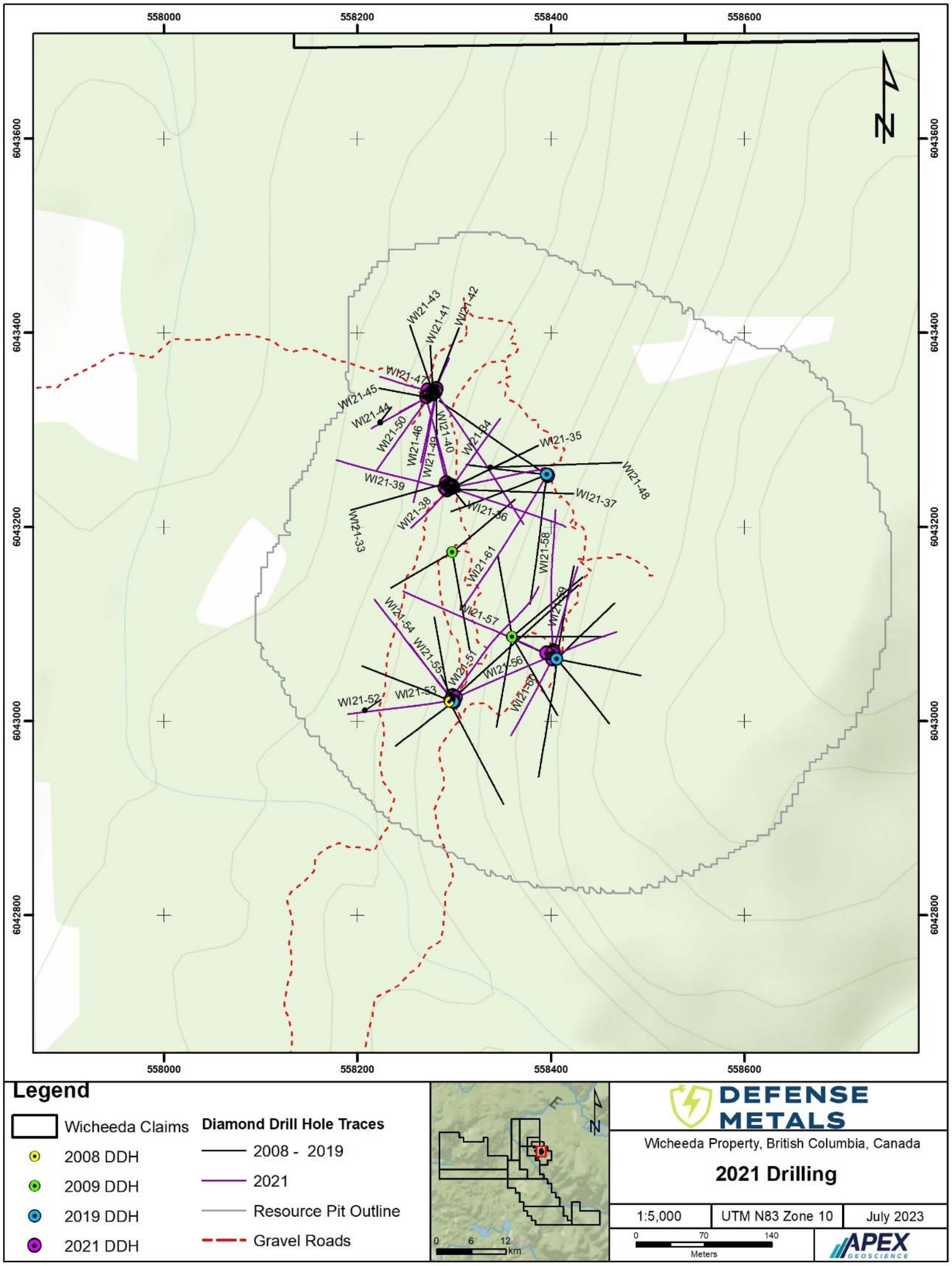
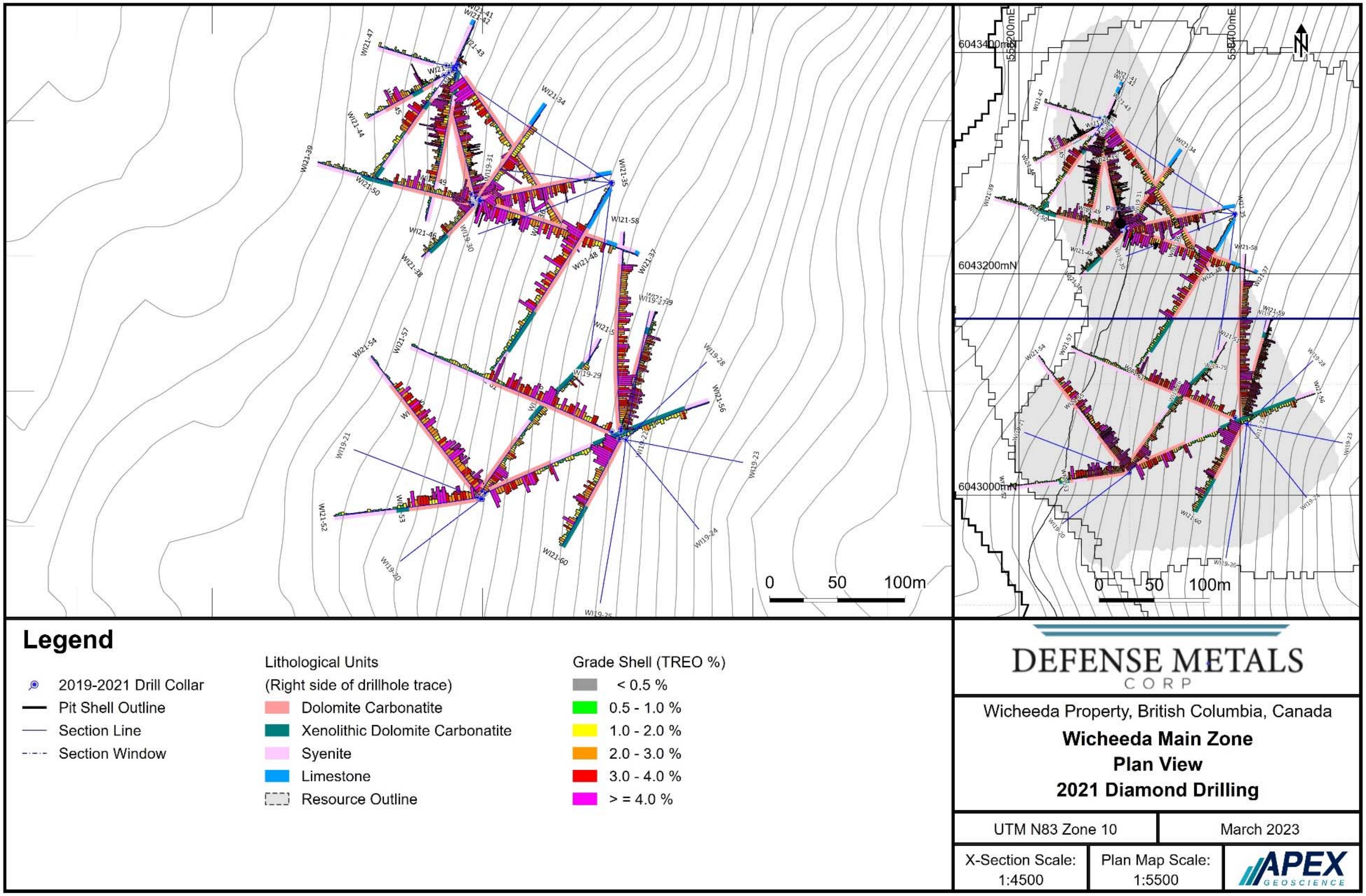


Figure 6.8. 2021 Wicheeda Drillhole Locations - Plan Map (After Raffle and Asmail, 2023 -1)



6.7 Mineral Resource Estimates & Preliminary Economic Assessment

In June 2019, an initial Mineral Resource Estimate (MRE) was prepared for Defense Metals by Moose Mountain Technical Services (Bird et al., 2019) with an effective date of November 26, 2018. The 2019 MRE was reported at a cut-off grade of 1.0% LREE (sum of light rare earth element Ce+La+Nd+Pr+Sm percentages) and comprised an average of 1.96% LREE inferred resource.

In June 2020, an updated MRE was prepared for Defense Metals by APEX (Raffle and Nicholls, 2020), with an effective date of June 27, 2020. The updated 2020 MRE included: 49% increase in the overall tonnage, 30% increase in the overall average grade, 730,000 tonnes increase of the inferred resource and conversion of 4,890,000 tonnes from previously inferred-defined resource to indicated resource (Bird et al., 2019). The mineral resource was reported at a cut-off grade of 1.5% LREE and comprised an average of 3.02% LREO indicated resource and an average of 2.52% LREE.

On November 24, 2021, as amended January 6, 2022, Defense Metals announced an updated MRE and Preliminary Economic Assessment (PEA) National Instrument (NI) 43-101 Technical Report for the Wicheeda REE Project. The NI 43-101 Technical Report, dated January 6, 2022, with an effective date of November 7, 2021, is titled “Preliminary Economic Assessment for the Wicheeda Rare Earth Element Project” and was prepared by SRK Consulting (Canada) Inc (SRK, 2022).

In 2022 an updated MRE for Wicheeda comprised a 5.0 million tonnes Indicated Mineral Resource, averaging 2.95% TREO (Total Rare Earth Oxides: CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3 and Ho_2O_3) and a 29.5 million tonnes Inferred Mineral Resource, averaging 1.83% TREO, reported at a cut-off grade of 0.5% TREO within a conceptual Lerchs-Grossman (LG) pit shell. This MRE represented a 36% increase on a contained metal basis in comparison to the prior 2020 MRE (Raffle and Nicholls, 2020).

The 2022 Wicheeda REE Project Preliminary Economic Assessment technical report ("PEA") outlined a robust after-tax net present value (NPV@8%) of $517 million and an 18% IRR1. This PEA contemplated an open pit mining operation with a 1.75:1 (waste: mill feed) strip ratio providing a 1.8 Mtpa ("million tonnes per year") mill throughput producing an average of 25,423 tonnes REO annually over a 16 year mine life. A Phase 1 initial pit strip ratio of 0.63:1 (waste:mill feed) would yield rapid access to higher grade surface mineralization in year 1 and payback of $440 million initial capital within 5 years (SRK, 2022).

7 Geological Setting and Mineralization

7.1 Regional Geology

The Wicheeda Carbonatite Complex is located in the Foreland Belt, a morphogeological belt of imbricated and folded miogeoclinal rocks that forms the eastern mountain ranges and foothills of the Canadian Cordillera (Gabrielse et al., 1991). In British Columbia, a small number of carbonatite-related complexes occur. These complexes are typically sub-circular to elongate in plan and commonly have well-developed metasomatic alteration haloes. Many of the intrusions that follow the trend of the Rocky Mountain Trench are Devonian to Mississippian in age. They were subjected to sub-greenschist facies metamorphism during the Columbian orogeny but behaved as inflexible and cohesive bodies during orogenesis and were rotated, tilted and/or transported eastwards in thrust panels (Pell, 1987). Well known carbonatite-alkaline complexes of the Foreland Belt include the Aley, Kechika, Ice River, Bearpaw and Rock Canyon (Pell, 1994).

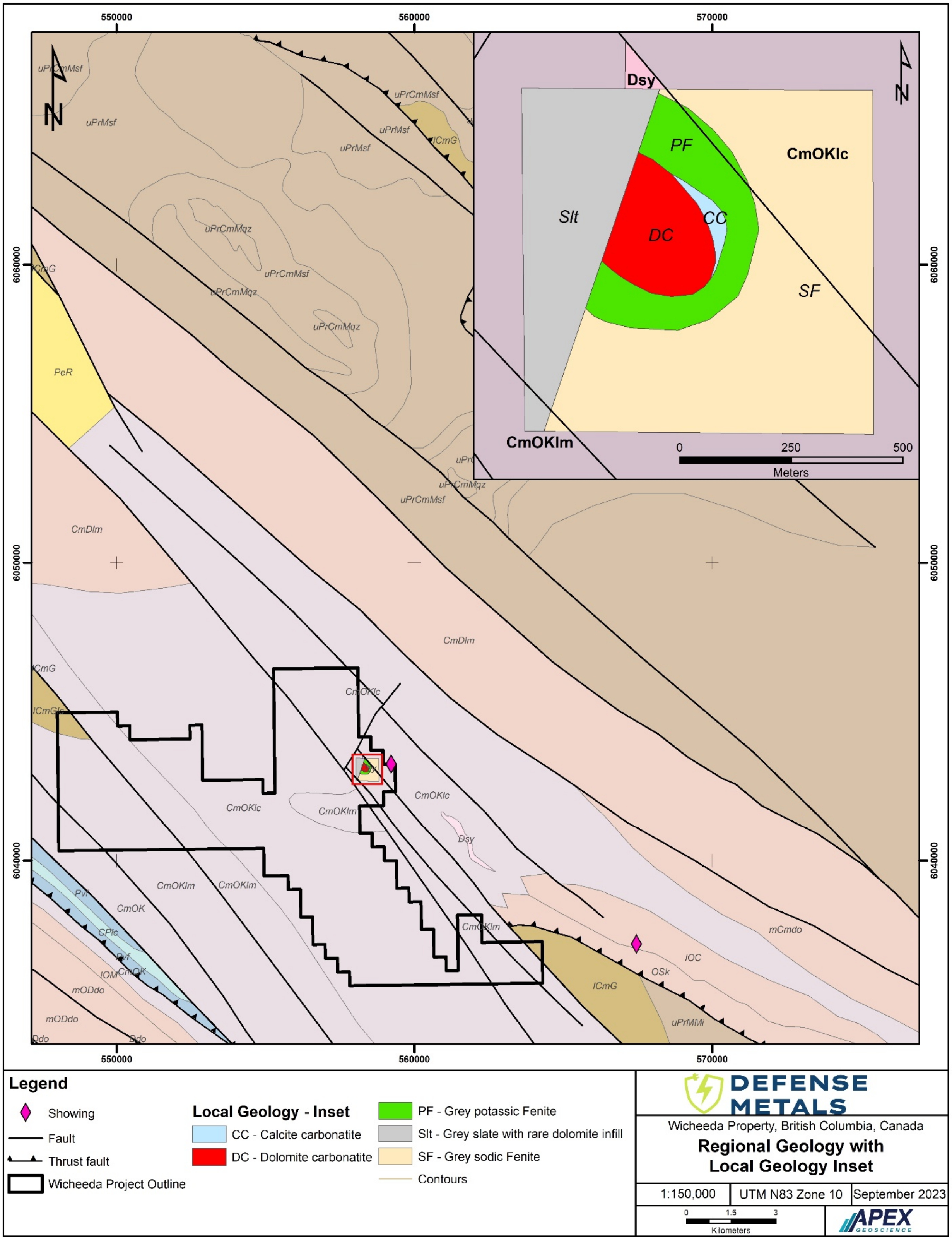
The regional bedrock underlying the Property and enclosing areas mainly consists of limestone, marble, siltstone, argillite and calcareous sedimentary rocks of the upper Cambrian to lower Ordovician Kechika Group. The Kechika Group sedimentary rocks are in fault contact with unassigned, Cambrian to Devonian carbonates, slates and siltstones to the east. To the west, the Kechika Group sedimentary rocks are in fault contact with Upper Proterozoic to Permian Gog Group quartzite rocks and Devonian to Permian unassigned felsic volcanic rocks (Lane, 2009). The Kechika Group lies on top of an erosional surface of uplifted Atan Group. Generally, the strata strike between 120 and 140° with steep dips to the southeast.

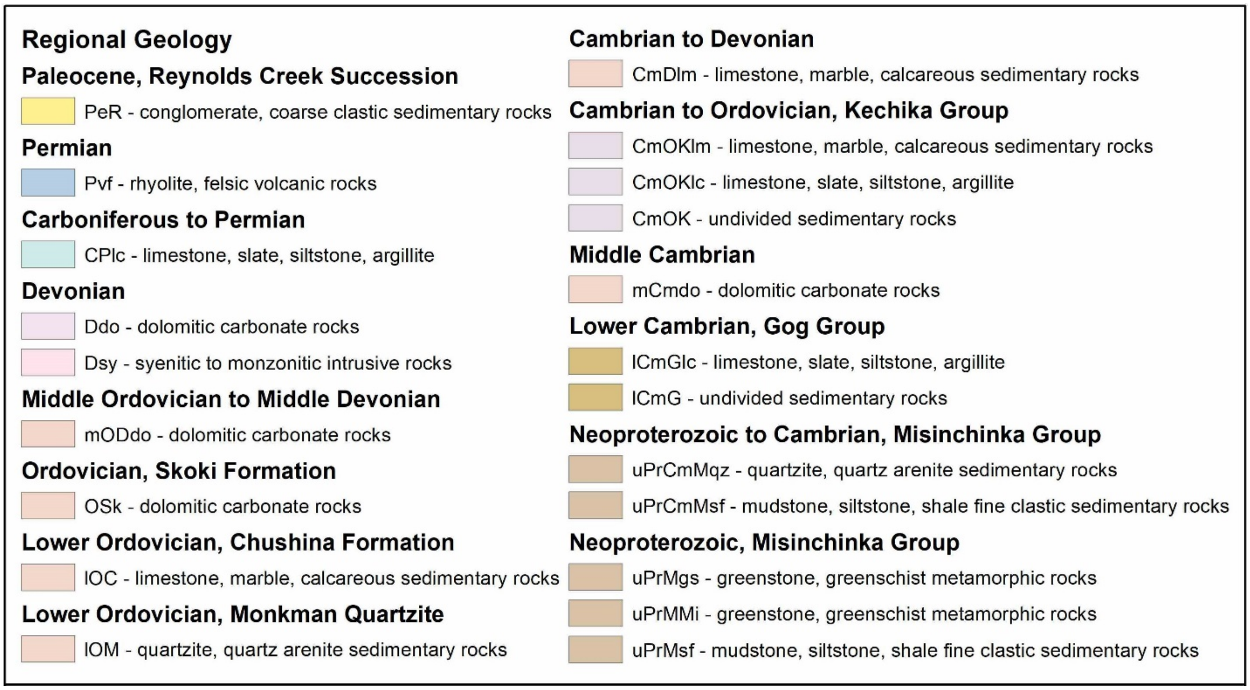
The complex is located within the McGregor Plateau between two dominant faults: the McLeod Lake fault to the west and the Rocky Mountain Trench to the east (Armstrong et al. 1969). The northwest-trending Rocky Mountain Trench parallel to the Parsnip River valley, a dominant structural and geographical feature, occurs east of the Property. Several other major northwest trending faults occur in the area.

The age of carbonatite – alkaline complexes in British Colombia extend over 460 Ma. U-Pb and Th-Pb zircon dating defined three distinct ages of alkaline magmatism; a Neoproterozoic (700-800 Ma), Late Cambrian (~500 Ma) and Upper Devonian to Lower Carboniferous (~340-360 Ma). The Neoproterozoic magmatism corresponds to extensional settings during the initial break-up of the Rodina supercontinent while the other ages correspond to renewed extensional tectonics (Millonig et al., 2012).

The regional geology of the area was described by Armstrong et al. (1969, McLeod Lake map sheet) and Taylor and Stott (1979, Monkman Pass map sheet). The regional geology map presented in Figure 6.1 is from a 1:250,000 scale digital compilation of the area (Digital Geology Map of British Columbia, BC MEMPR, Open file 2005-2).

Figure 7.1. Regional Geology




Regional Geology
Paleocene, Reynolds Creek Succession
PeR - conglomerate, coarse clastic sedimentary rocks
Permian
Pvf - rhyolite, felsic volcanic rocks
Carboniferous to Permian
CPlc - limestone, slate, siltstone, argillite
Devonian
Ddo - dolomitic carbonate rocks
Dsy - syenitic to monzonitic intrusive rocks
Middle Ordovician to Middle Devonian
mODdo - dolomitic carbonate rocks
Ordovician, Skoki Formation
OSk - dolomitic carbonate rocks
Lower Ordovician, Chushina Formation
lOC - limestone, marble, calcareous sedimentary rocks
Lower Ordovician, Monkman Quartzite
lOM - quartzite, quartz arenite sedimentary rocks
Cambrian to Devonian
CmDlm - limestone, marble, calcareous sedimentary rocks
Cambrian to Ordovician, Kechika Group
CmOKlm - limestone, marble, calcareous sedimentary rocks
CmOKlc - limestone, slate, siltstone, argillite
CmOK - undivided sedimentary rocks
Middle Cambrian
mCmdo - dolomitic carbonate rocks
Lower Cambrian, Gog Group
lCmGlc - limestone, slate, siltstone, argillite
lCmG - undivided sedimentary rocks
Neoproterozoic to Cambrian, Misinchinka Group
uPrCmMqz - quartzite, quartz arenite sedimentary rocks
uPrCmMsf - mudstone, siltstone, shale fine clastic sedimentary rocks
Neoproterozoic, Misinchinka Group
uPrMgs - greenstone, greenschist metamorphic rocks
uPrMMi - greenstone, greenschist metamorphic rocks
uPrMsf - mudstone, siltstone, shale fine clastic sedimentary rocks

7.2 Property Geology

Limited areas of the Wicheeda claim group have been covered by reconnaissance and/or grid-based bedrock mapping. The REE-enriched carbonatites located on the Project are part of a narrow elongate, south-trending intrusive carbonatite-syenite complex cutting or occupying a structural panel within calcareous siltstones and limestones of the Cambrian to Ordovician Kechika Group. Some of the geological contacts observed in core are intrusive while others are almost certainly structural. The carbonatite complex extends southward from the south end of Wicheeda Lake for approximately 13 km.

Outcrop on a moderately steep, west-facing slope south of Wicheeda Lake, an area that coincides with part of the former 'George' grid, consists of a sequence of interbedded limestone, calcareous argillite and argillite with consistent northwest-trending attitudes and sub-vertical dips (Betmanis, 1987). A small intrusion cuts the sedimentary rocks in the southern part of the grid, just north of 'A' Creek. This feature was mapped as syenite in 1986 by Betmanis (1987), although during a re-evaluation of the area (including trenching) the following year, it was concluded that the intrusion was a carbonatite (Lovang and Meyer, 1988).

Three types of narrow (0.5 m to 1.5 m), northwest-trending dykes were also observed in the gridded area, including: a K-feldspar phyric type with a fine-grained albite matrix and abundant Fe-rich biotite; a blue sodalite-rich (as phenocrysts and matrix) type, and; a feldspar and augite-phyric intermediate type with aphanitic groundmass that appears to be the youngest of the three varieties (Mader and Greenwood, 1988).

Outcrop in the area covered by the former 'Lake' grid is rare, but consists of strongly weathered, medium to coarse-grained calcite carbonatite, a band of fresh, fine-grained calcite carbonatite and related syenite were exposed in trenches (Mader and Greenwood, 1988).

7.3 Wicheeda Carbonatite and Mineralization

The Wicheeda Carbonatite is comprised mainly of dolomite carbonatite (Figure 7.1), xenolithic dolomite carbonatite with varieties of matrix to clast-supported fenite breccia where dolomite carbonatite occurs as the dominant matrix component, and minor calcite carbonatite. This carbonatite body intrudes into syenite and minor mafic dykes, limestone and calcareous sedimentary wall rocks. The upper part of the complex consists mainly of dolomite carbonatite, brecciated dolomite carbonatite and lesser calcite carbonatite with minor fenitized limestone, mafic dyke and syenite xenoliths whereas the lower part of the complex is weakly constrained by drilling and mainly consists of xenolithic varieties of brecciated dolomite-carbonatite, fenitized limestone, syenite and country wall rocks.

The geometry of the Wicheeda carbonatite was originally interpreted to be sub-circular in plan (Lovang and Meyer, 1988; Greenwood and Mader, 1988). Subsequent modeling of the carbonatite body following diamond drilling showed a more oblong or lens-shaped with a long axis that is approximately north-south (Lane, 2009; 2010a), a subvertical dip and a plunge to the northwest. The main carbonatite body was intersected over the extent of 215 m thick and is in fault contact with unaltered metasedimentary rocks of the Kechika Group on its western edge, and in intrusive contact with fenitized argillaceous limestones of the Kechika Group on is eastern margin (Betmanis, 1987). As defined by drilling, the carbonatite body stretches over 360 m along a north-south strike, 160 m east-west width and up to 250 m deep in the central down-dip portion of the body.

In their study of the Wicheeda Carbonatite on the Wicheeda Project, Trofanenko et al. (2016) proposed a preliminary model in which the carbonatite magma exsolved a fluid which fenitized the host metasediments near the intrusion to potassic fenite and heated formational water distal to the intrusion, altering the metasedimentary rocks to sodic fenite. The REE were concentrated by magmatic hydrothermal fluids, which partially dissolved the carbonatite, altered the dolomite, and lead to deposition of compositionally zoned dolomite and later bastnäsite-(Ce) and monazite-(Ce) in veins and vugs in response to cooling and an increase in pH.

REE mineralization at the Wicheeda carbonatite is zoned into high, moderate and low grade. High REE mineralization is directly related to dolomite-carbonatite, xenolithic dolomite-carbonatite where country rock xenoliths are less than 20%, and around mafic dyke xenoliths where columbite and pyrochlore is observed. Moderate REE mineralization is typically associated with mixed zones where xenolithic dolomite-carbonatite, fenitized limestone, syenite and mafic dyke xenoliths exceed 30% and less than 70%. These mixed zones have the potential to add size to the deposit with more modest grades. Low REE mineralization is typically encountered in fresh and fenitized limestone, calcareous sedimentary rocks, syenite and fresh, weakly brecciated mafic xenoliths.

Field observation of REE mineralization includes disseminated to clotty dark grey-bluish columbite, disseminated, inclusion and fractured pyrochlore, rare fluorite and sphene / rutile and a combination of bastnäsite-parasite and monazite observed as aggregates and patches in veins and vugs. Vein-type mineralization was commonly noted in amorphous to coarse-grained dolomite-carbonate intersecting earlier fine-grained, dolomite carbonatite with disseminated fine-grained REE mineralization and proximal to strongly altered – brecciated mafic dyke xenoliths. Vein-type mineralization range in width from few centimeters to over a meter wide. On the other hand, vuggy and disseminated REE-mineralization was noted in all lithologies, except the fresh limestone and calcareous sedimentary rocks, in variable percentages throughout the drill core.

8 Deposit Type

The principal deposit-type of interest on the Wicheeda Property is a rare earth element-enriched carbonatite deposit.

Carbonatites and carbonatite-associated deposits are mined worldwide for rare-earth elements (REEs) and Nb (e.g., Bayan Obo mine, Inner Mongolia; Kynicky et al., 2012, Araxa mine, Brazil; Biondi, 2005). Carbonatites can be economic targets for several other elements and mineral commodities including F, P, Al, Fe, Ti, Zr, C, Cu, Ni, Au, PGE, Ta, Sr, U, Th, phlogopite, vermiculite, olivine, lime, and barite (Marioano, 1989; Pell, 1996).

Carbonatites are defined by the International Union of Geological Sciences (IUGS) system of igneous rock classification as having more than 50% of primary carbonate minerals (such as calcite, dolomite, and ankerite) and less than 20% SiO2 (Le Maitre, 2002). Simandl and Paradis (2018) summarize the three main hypotheses regarding the origin of carbonatite melts;

1) Immiscible separation of parental carbonated silicate magmas at crustal or mantle pressures
2) Crystal fractionation of parental carbonated silicate magmas such as olivine melilitites or kamafugites
3) Low-degree partial melting of carbonated mantle peridotite below 70 km depth.

Hypotheses involving a possible derivation of carbonatites from the earth's crust (Lentz 1999; Ferrero et al. 2016) or from the Earth's mantle with some crustal contribution (Cheng et al. 2017; Song et al 2017) have also been proposed. It is likely that not all carbonate forming melts are of the same origin.

Most carbonatites and alkaline-carbonatite complexes are emplaced in continental settings in Archean and Proterozoic rocks, or in Phanerozoic rocks underlain by a Precambiran basement. They form in extensional tectonic settings along major linear trends related to large-scale intra-plate fracture zones, in association with doming features or in relation to slab windows in subducting plates (Simandl and Paradis, 2018)

Birkett and Simandl (1999) provide the following concise description of carbonate associated deposits.

Carbonatites are small, pipe-like bodies, dikes, sills, and small plugs or irregular masses. The typical pipe-like bodies have subcircular or elliptical cross sections and are up to 3-4 km in diameter. Magmatic mineralization within pipe-like carbonatites is commonly found in crescent-shaped and steeply-dipping zones, which metasomatic mineralization occurs as irregular forms or veins. A fenitization halo (alkali metasomatized country rocks) commonly surrounds carbonatite intrusions; alteration mineralogy depends largely on the composition of the host rock. Typical minerals are sodic amphibolite, wollastonite, nepheline, mesopertheite, antiperthie, aegirine-augite, pale brown biotite, phlogopite and albite. Desilisiciation with the addition of Fe^{3+} and K is also common.

The REE minerals form pockets and fill fractures within ferrocarbonaitite bodies. Pyrochlore is disseminated, apatite can be disseminated or semi-massive; bastnaesite occurs as disseminated to patchy accumulations; fluorite forms as veins and masses, hematite is semi-massive disseminations, and chalcopyrite and bornite are found in veinlets. Principal magmatic ore mineralogy consists of one or more of: bastnaesite, pyrochlore, apatite, anatase, zircon, baddeleyite, magnetite, monazite, parasite and fersmite.

In the Canadian Cordillera, carbonatites were emplaced episodically, at ca. 810-700, 500, and 360-330 Ma, forming part of the British Columbia alkaline province, which defines a long (~1000 km), narrow (200 km) orogeny-parallel belt. The ca. 810-700 Ma and 500 Ma carbonatites were injected during protracted breakup of the supercontinent Rodinia and passive margin development on the western flank of Laurentia. In contrast to these the 360-330 Ma carbonatites were emplaced near the continental margin during subduction rather than in the cratonic interior during continent-building (Rukhlov et al., 2018). The carbonatites on the Wicheeda Project are believed to be part of this latter group.

In their study of the Wicheeda Main Zone, Trofanenko et al. (2014; 2016) proposed a preliminary model in which the carbonatite magma exsolved a fluid which finitized the host metasediments near the intrusion to potassic fenite and heated formational water distal to the intrusion, altering the metasedimentary fluids, which partially dissolved the carbonatite, altered the dolomite, and lead to deposition of compositionally zoned dolomite and later bastnaesite-(Ce) and monazite-(Ce) in veins and vugs in response to cooling and an increase in pH.

9 Exploration

A summary of exploration completed on the Project is provided in Section 6: History. Recent surface exploration completed by Defense Metals between 2021 and 2023 includes ground geophysics and outcrop mapping.

9.1 Outcrop geological mapping

In the area of the Wicheeda Project rock outcrop is scarce. Previous lithological map is generalized, thus, in order to aide lithological model and correlation of lithology up to surface, an outcrop mapping program was conducted over the year during field programs in 2021 and 2022. The result was an outcrop map that allowed improved understanding of underground lithology and its connection to surface below overburden coverage. This information aided in the creation of the lithological model at the Wicheeda Project (Figure 9.1).

9.2 Ground Geophysics

Between July 6th and July 22nd, 2023, a ground geophysical survey was carried out over the Wicheeda Rare Earth deposit covering an area of approximately 800 m x 900 m over the main deposit. The ground radiometric survey comprised a total of 20 line-km along 50 m spaced, and locally 25 m infill, east-west oriented survey lines.

A NUVIA Dynamics PGIS-2 Gamma-ray spectrometer, equipped with a 0.347 Litre NaI detector and 512-channel resolution ADC was used. This backpack-mounted unit was operated in tandem with a ground magnetics survey, utilizing a 1-second sampling rate for efficient data collection. Data was collected at walking speed, even in challenging bush terrain, without compromising data integrity. Additionally, data was automatically synchronized with GPS, ensuring both time and location accuracy.

The spectrometer's self-stabilizing capabilities on natural radioactive elements such as K, U, and Th eliminated the need for frequent recalibration, assuring reliable and accurate gamma-ray measurements. Given that gamma rays are highly attenuated by overburden (approximately 90% attenuation at 20-30cm overburden depth) ground radiometric surveys are only likely to detect outcropping or very near surface sources.

Based on this ground geophysical survey, it was noticed anomalously higher magnetic values lie in the periphery of the dolomite carbonatite, in the contact zone to the syenite body (Figure 9.2). Additionally, two previously unknown linear radiometric anomalies were identified, each approximately 40 m in width and extending approximately 250 m northwest from the main body of the Wicheeda REE deposit (Figure 9.2).

In the opinion of Mr. Raffle the exploration programs conducted on the Project, as outlined in section 6 and in this section (9) appropriate for the style of mineralization identified. The current degree of geological knowledge and understanding of mineralization is considered to be adequate.

Figure 9.1. Lithology outcrop mapping and geology model projection

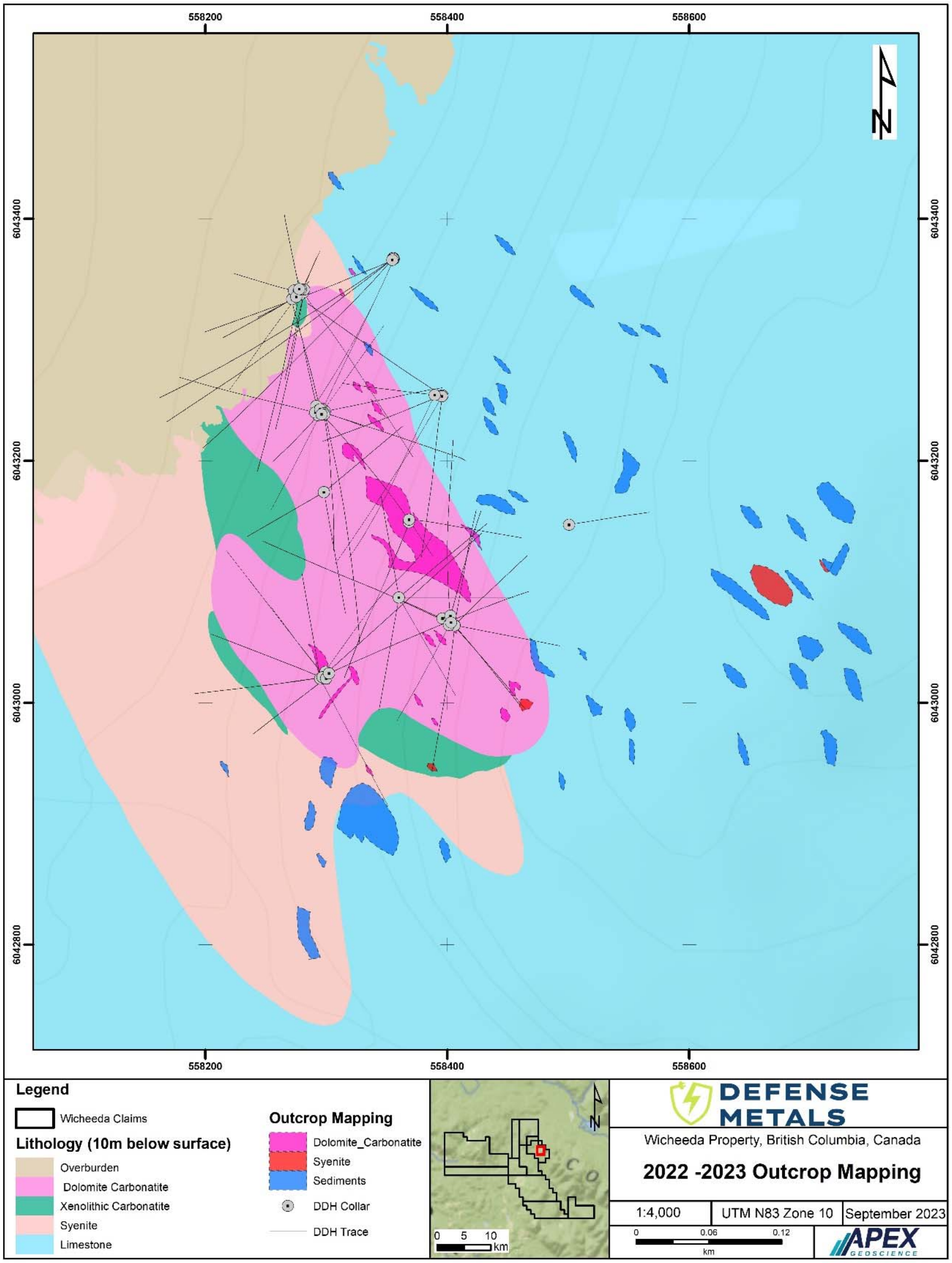


Figure 9.2. Ground Geophysics: Magnetometry, Residual Magnetic Intensity (RMI) Total Horizontal Gradient (THG)

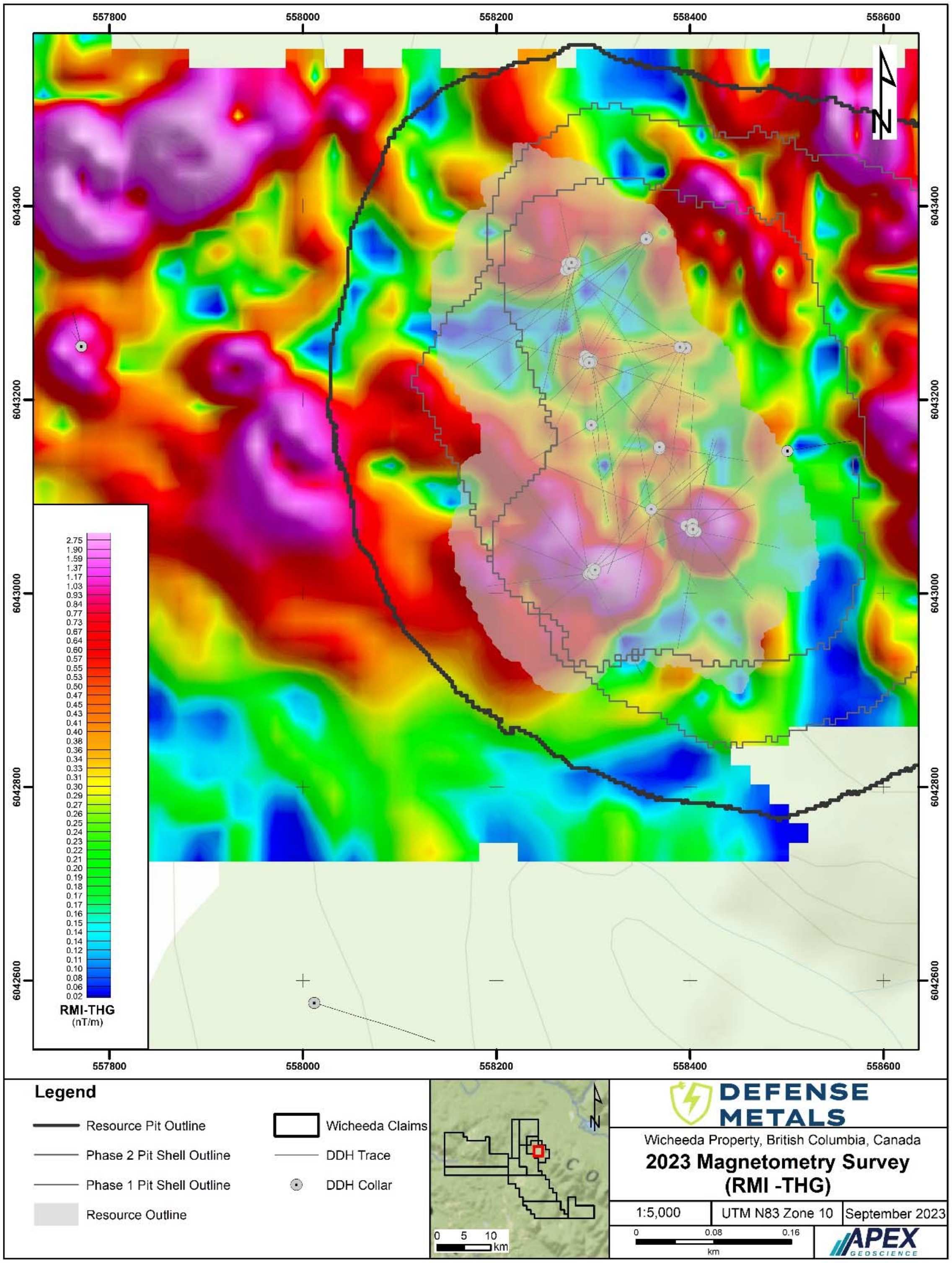
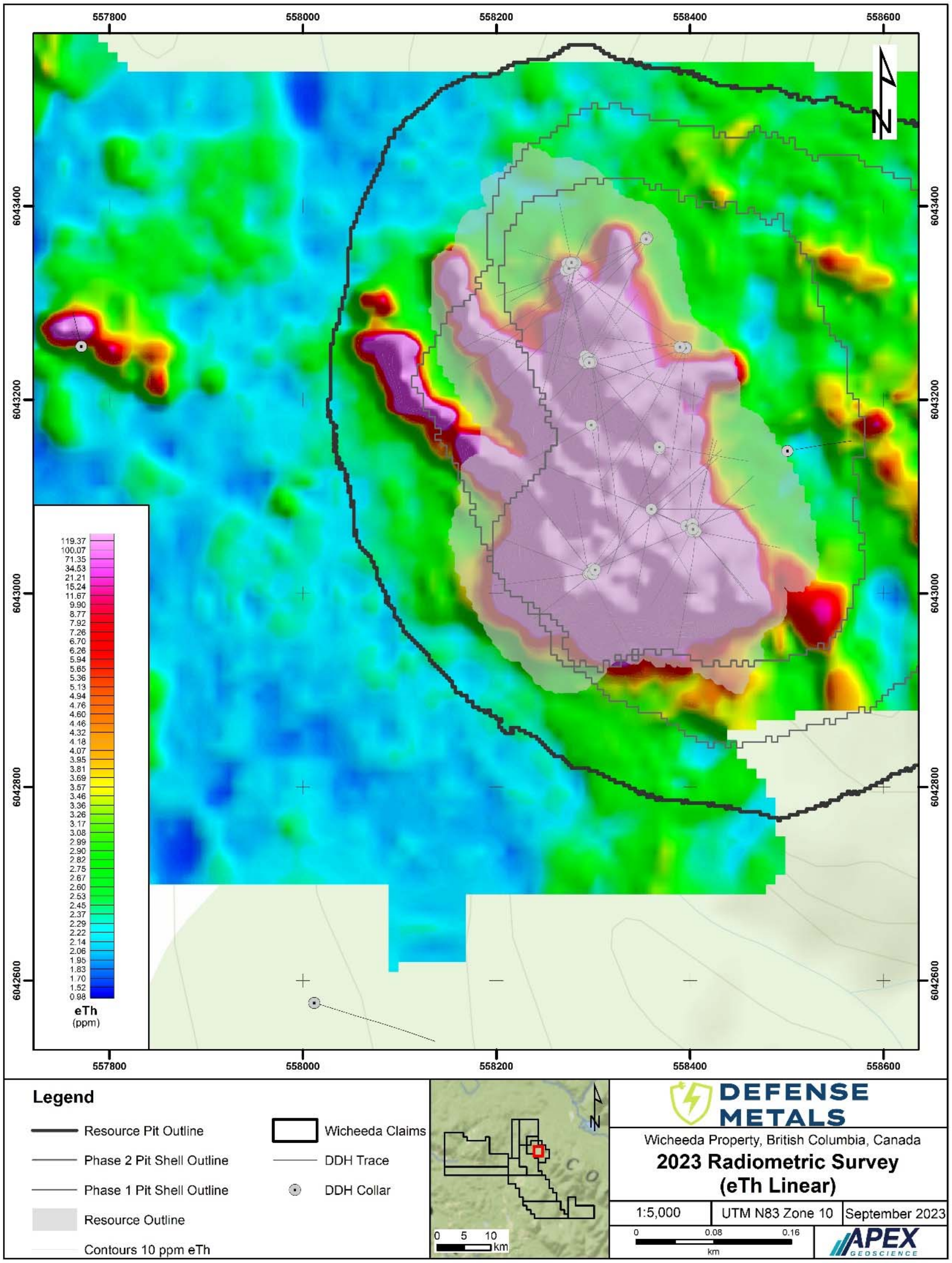


Figure 9.3. Ground Geophysics: Radiometric Survey, Residual Magnetic Intensity (RMI) Total Horizontal Gradient (THG)



10 Drilling

A description of the historical drilling completed within the Property, as it relates to the current mineral resource estimate with respect to the Wicheeda Property (this Report) is considered relevant. A detailed discussion of historical drilling completed on the Property is included in Sections 6.3, 6.6 ,11.4 and 12 and it is summarized below.

Historical drilling on the Property has been conducted by Spectrum Mining from 2008 to 2009 (Section 10.1). Drilling completed between 2019 (Section 10.2), 2021 (Section 10.3) and 2022 (Section 10.4) has been done by Defense Metals 12,883.91 m of drilling in 60 drill holes between 2019 and 2022. In total, 79 drillholes have been completed on the Wicheeda Property totalling 15,580.16 m. Table 10.1 provides drill hole locations and header. Information on these drill holes has been compiled into the Project drillhole database. Wicheeda drill hole locations from the mentioned drill pads are illustrated of Figure 10.1. Most of these drill holes have their splits stored at core storage facilities on the in a core storage facility near Prince George in British Columbia. Half core or all core of some drill holes have been used for metallurgical studies.

In the opinion of the author, there are no sampling or recovery factors that could materially impact the accuracy and reliability of the drill results.

Wicheeda Project diamond drill programs indicate REE-enriched carbonatites of the Wicheeda Deposit are part of a narrow, elongate, northwest-southeast trending intrusive carbonatite-syenite sill complex. The carbonatite is intruded into syenite, mafic dykes, limestone and calcareous sedimentary wall rocks. The Wicheeda REE Deposit has dimensions of approximately 400 m north-south by 100-250 m east-west. Diamond drilling data supports the interpretation of a moderately north-northeast dipping, shallowly north plunging, layered sill complex having syenite at its base, overlain by hybrid matrix to clast-supported limestone or mafic intrusive xenolithic carbonatite (fenite), and finally significantly REE-bearing dolomite-carbonatite rocks, which form the main body of the Wicheeda REE Deposit outcropping at surface. This layered sill complex occurs within an unmineralized limestone waste rock (Figures 10.2-10.5).

Description of historical programs and results of the programs carried out under Defense Metals management are presented in the next sections 10.1,10.2, 10.3 and 10.4 of this Report.

Table 10.1. Wicheeda Project Drill Hole Locations

Hole ID	East UTM N83z10	North UTM N83z10	Elevation (m)	Azimuth	Dip	Total Depth (m)	Year	Core Size	Pad	Drill Contractor	Comments
WI08-01	558295	6043020	1047.7	152	-50	185.62	2008	NQ	2008-1	Falcon Drilling	
WI08-02	558295	6043020	1047.7	0	-90	215.8	2008	NQ	2008-1	Falcon Drilling	
WI08-03	558295	6043020	1047.7	48	-54	305.41	2008	NQ	2008-1	Falcon Drilling	
WI08-04	558295	6043020	1047.7	350	-55	154.23	2008	NQ	2008-1	Falcon Drilling	
WI09-05	558360	6043087	1084	0	-90	56.39	2009	HQ	Site A	Falcon Drilling	
WI09-06	558360	6043087	1084	50	-50	147.83	2009	HQ	Site A	Falcon Drilling	
WI09-07	558360	6043087	1084	150	-50	145.39	2009	HQ	Site A	Falcon Drilling	
WI09-08	558360	6043087	1084	190	-50	146.91	2009	HQ	Site A	Falcon Drilling	
WI09-09	558360	6043087	1084	90	-50	148.13	2009	HQ	Site A	Falcon Drilling	
WI09-10	558360	6043087	1084	350	-55	148.13	2009	HQ	Site A	Falcon Drilling	
WI09-11	558298	6043174	1032	0	-90	146.61	2009	HQ	Site B	Falcon Drilling	
WI09-12	558298	6043174	1032	240	-60	146.61	2009	HQ	Site B	Falcon Drilling	
WI09-13	558298	6043174	1032	50	-55	147.52	2009	HQ	Site B	Falcon Drilling	
WI09-14	558298	6043174	1032	170	-45	144.17	2009	HQ	Site B	Falcon Drilling	
WI09-15	557611	6043637	940	100	-90	101.8	2009	HQ	Site D	Falcon Drilling	
WI09-16	557611	6043637	940	170	-50	95.71	2009	HQ	Site D	Falcon Drilling	
WI09-17	557611	6043637	940	350	-50	148.13	2009	HQ	Site D	Falcon Drilling	
WI09-18	557771	6043255	915	328	-70	53.95	2009	HQ	Site C	Falcon Drilling	
WI09-19	557771	6043255	915	346	-50	57.91	2009	HQ	Site C	Falcon Drilling	
WI19-20	558299	6043020	1051	230	-55	136.4	2019	NQ	2008-1	Falcon Drilling	
WI19-21	558299	6043020	1051	290	-55	179.35	2019	NQ	2008-1	Falcon Drilling	
WI19-22	558406	6043064	1124	100	-90	127.15	2019	NQ	2019-2	Falcon Drilling	
WI19-23	558406	6043064	1124	100	-45	126	2019	NQ	2019-2	Falcon Drilling	
WI19-24	558406	6043064	1124	140	-45	122.95	2019	NQ	2019-2	Falcon Drilling	
WI19-25	558406	6043064	1124	185	-45	175.65	2019	NQ	2019-2	Falcon Drilling	
WI19-26	558406	6043064	1124	295	-65	156.3	2019	NQ	2019-2	Falcon Drilling	
WI19-27	558406	6043064	1124	10	-45	139.85	2019	NQ	2019-2	Falcon Drilling	
WI19-28	558406	6043064	1124	45	-45	117.15	2019	NQ	2019-2	Falcon Drilling	
WI19-29	558396	6043254	1082	190	-45	184.05	2019	NQ	2019-3	Falcon Drilling	
WI19-30	558396	6043254	1082	250	-55	179.5	2019	NQ	2019-3	Falcon Drilling	
WI19-31	558396	6043254	1082	275	-55	138.5	2019	NQ	2019-3	Falcon Drilling	
WI19-32	558396	6043254	1082	300	-55	224.7	2019	NQ	2019-3	Falcon Drilling	
WI21-33	558292	6043245	1017	350.2	-80.1	274.4	2021	NQ	2021-08	Gateway Drilling	
WI21-34	558298	6043242	1017	39.4	-55	150.9	2021	NQ	2021-08	Gateway Drilling	
WI21-35	558299	6043241	1017	79.8	-55	172.85	2021	NQ	2021-08	Gateway Drilling	
WI21-36	558297	6043240	1016	108.1	-80	197.25	2021	NQ	2021-08	Gateway Drilling	
WI21-37	558297	6043240	1016	108.1	-45	175.9	2021	NQ	2021-08	Gateway Drilling	
WI21-38	558293	6043238	1015	219.4	-70	148.5	2021	NQ	2021-08	Gateway Drilling	
WI21-39	558291	6043240	1009	284.6	-60	224.8	2021	NQ	2021-08	Gateway Drilling	
WI21-40	558295	6043243	1015	345	-65	209.15	2021	NQ	2021-08	Gateway Drilling	
WI21-41	558278	6043339	993	26.3	-55	68.3	2021	NQ	2021-09	Gateway Drilling	
WI21-42	558278	6043337	996	26.3	-70	93	2021	NQ	2021-09	Gateway Drilling	

Hole ID	East UTM N83z10	North UTM N83z10	Elevation (m)	Azimuth	Dip	Total Depth (m)	Year	Core Size	Pad	Drill Contractor	Comments
WI21-43	558278	6043339	994	45	-85	124.1	2021	NQ	2021-09	Gateway Drilling	
WI21-44	558272	6043334	1001	240	-60	125.6	2021	NQ	2021-09	Gateway Drilling	
WI21-45	558272	6043334	1001	240	-75	114.35	2021	NQ	2021-09	Gateway Drilling	
WI21-46	558282	6043342	986	190	-50	182.2	2021	NQ	2021-09	Gateway Drilling	
WI21-47	558273	6043341	997	280	-60	98.36	2021	NQ	2021-09	Gateway Drilling	
WI21-48	558281	6043339	994	145	-45	220.45	2021	NQ	2021-09	Gateway Drilling	
WI21-49	558282	6043342	986	190	-70	228.65	2021	NQ	2021-09	Gateway Drilling	
WI21-50	558275	6043336	990	215	-50	149.7	2021	NQ	2021-09	Gateway Drilling	
WI21-51	558299	6043026	1066	30	-55	290.85	2021	NQ	2008-01	Discovery Drilling	
WI21-52	558297	6043021	1064	260	-45	150.9	2021	NQ	2008-01	Discovery Drilling	
WI21-53	558297	6043021	1064	260	-65	111.9	2021	NQ	2008-01	Discovery Drilling	
WI21-54	558300	6043020	1043	320	-45	187.5	2021	NQ	2008-01	Discovery Drilling	
WI21-55	558300	6043020	1043	320	-65	178.95	2021	NQ	2008-01	Discovery Drilling	
WI21-56	558302	6043024	1060	65	-45	250	2021	NQ	2008-01	Discovery Drilling	
WI21-57	558396	6043070	1125	290	-50	263.9	2021	NQ	2019-06	Discovery Drilling	
WI21-58	558402	6043070	1128	355	-60	301.5	2021	NQ	2019-06	Discovery Drilling	
WI21-59	558403	6043072	1130	15	-70	268.9	2021	NQ	2019-06	Discovery Drilling	
WI21-60	558402	6043064	1128	205	-55	154.9	2021	NQ	2019-06	Discovery Drilling	
WI21-61	558397	6043253	1089	210	-50	248.5	2021	NQ	2019-07	Discovery Drilling	
WI-22-62	558356	6043367	1026.1	204	-50	340	2022	HQ3	Pad21-10	Radius Drilling	
WI-22-63	558356	6043367	1026.1	204	-60	322	2022	HQ3	Pad21-10	Radius Drilling	
WI-22-64	558390	6043254	1081.7	204	-65	384.3	2022	HQ3	Pad19-07	Radius Drilling	
WI-22-65	558012	6042577	986.8	106	-60	266	2022	HQ3	Pad22-11	Radius Drilling	
WI-22-66	557447	6044087	915.7	141	-60	264.8	2022	HQ3	Pad22-12	Radius Drilling	
WI-22-67	558279	6043342	990.1	197	-60	320	2022	HQ3	Pad21-09	Radius Drilling	
WI-22-68	558355	6043368	1025.6	219	-55	395	2022	HQ3	Pad21-10	Radius Drilling	
WI-22-69	558355	6043368	1023.9	229	-50	353	2022	HQ3	Pad21-10	Radius Drilling	
WI-22-70	558355	6043367	1025.9	235	-55	386	2022	HQ3	Pad21-10	Radius Drilling	
WI-22-71	558298	6043239	1010.1	163	-50	360	2022	HQ3	Pad21-08	Radius Drilling	
WI-22-72	558298	6043238	1010.4	167	-70	374	2022	HQ3	Pad21-08	Radius Drilling	
WI-22-73	558296	6043238	1009	134	-60	308	2022	HQ3	Pad21-08	Radius Drilling	
WI-22-74	558403	6043066	1131.8	139	-65	251.5	2022	HQ3	Pad19-06	Radius Drilling	GT4*
WI-22-75	558501	6043147	1160.4	79	-70	199	2022	HQ3	Pad22-13	Radius Drilling	GT3*
WI-22-76	558355	6043366	1026.2	242	-55	284	2022	HQ3	Pad21-10	Radius Drilling	
WI-22-77	558278	6043342	997.7	348	-70	171	2022	HQ3	Pad21-09	Radius Drilling	GT05*
WI-22-78	558368	6043149	1083.2	199	-60	300.5	2022	HQ3	Pad22-14	Radius Drilling	GT01*
WI-22-79	558368	6043151	1084	95	-65	231	2022	HQ3	Pad22-14	Radius Drilling	GT02*
79 drill holes.											
Total drilling (m)				15580.16							
* Also a geotechnical drill hole											

Figure 10.1. Wicheeda Property Drill Hole Locations

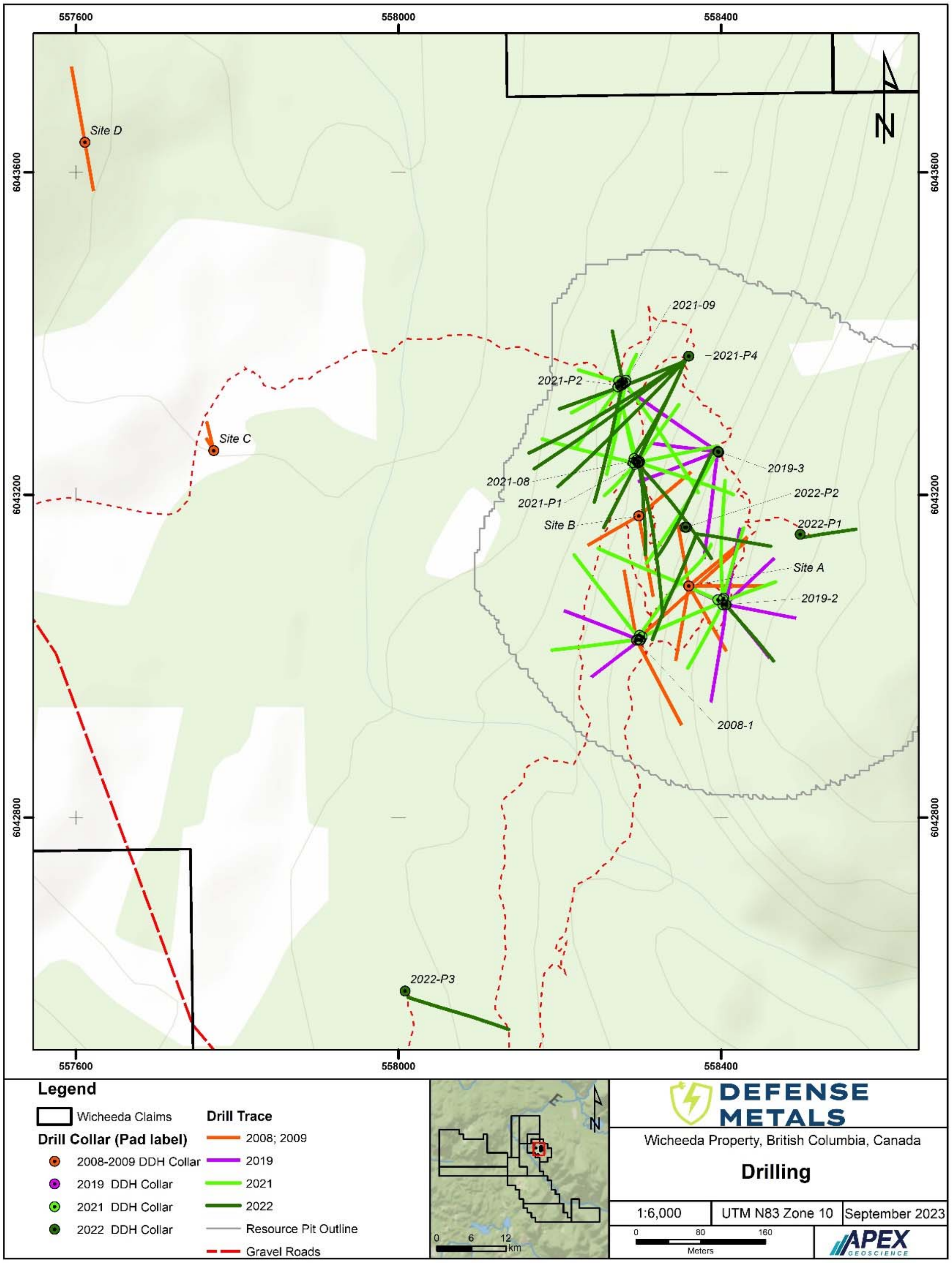


Figure 10.2. Wicheeda Drill Holes (Section Looking NEE), Eastern section.

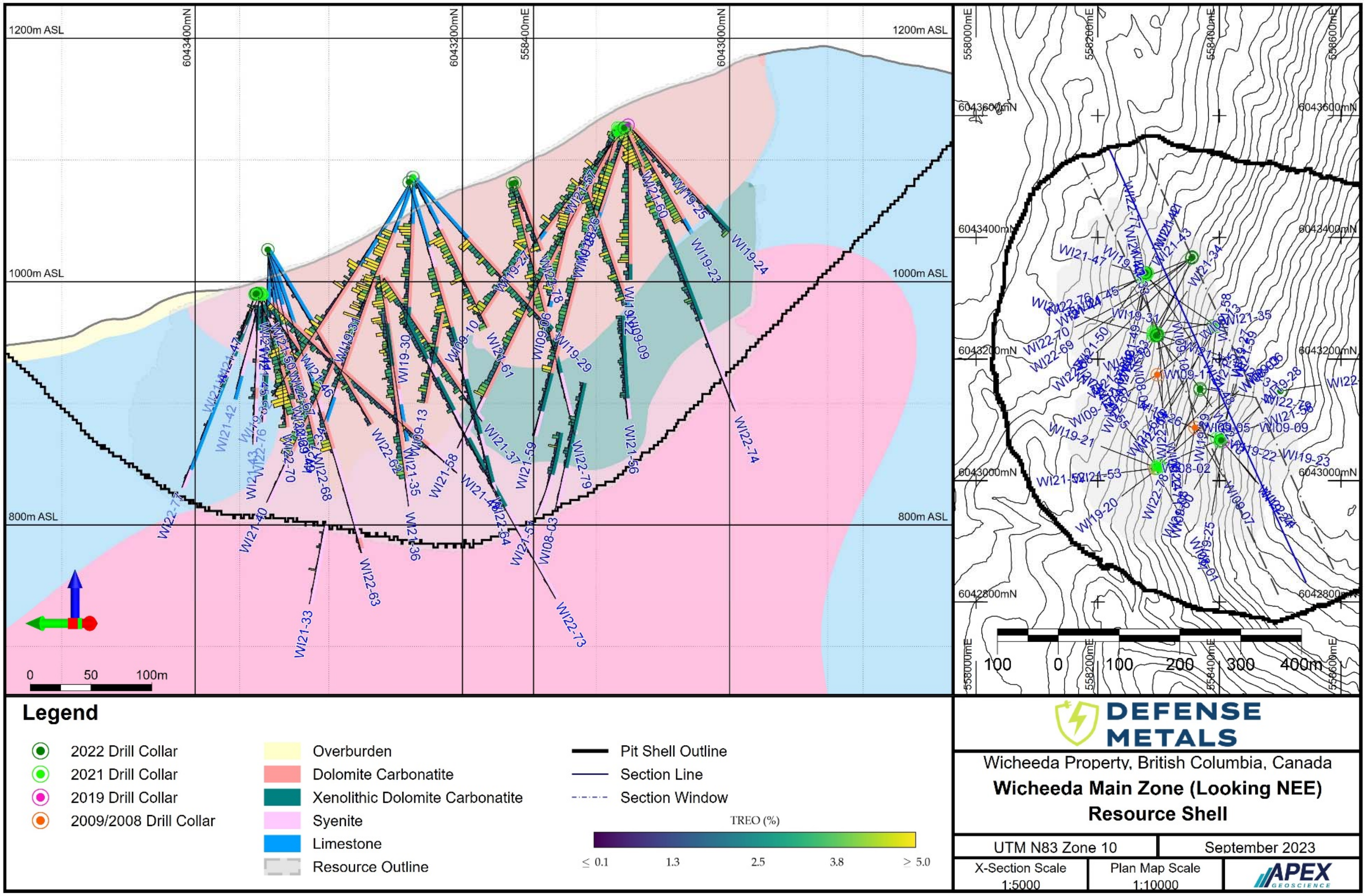


Figure 10.3. Wicheeda Drill Holes (Section Looking NEE). Western Section.

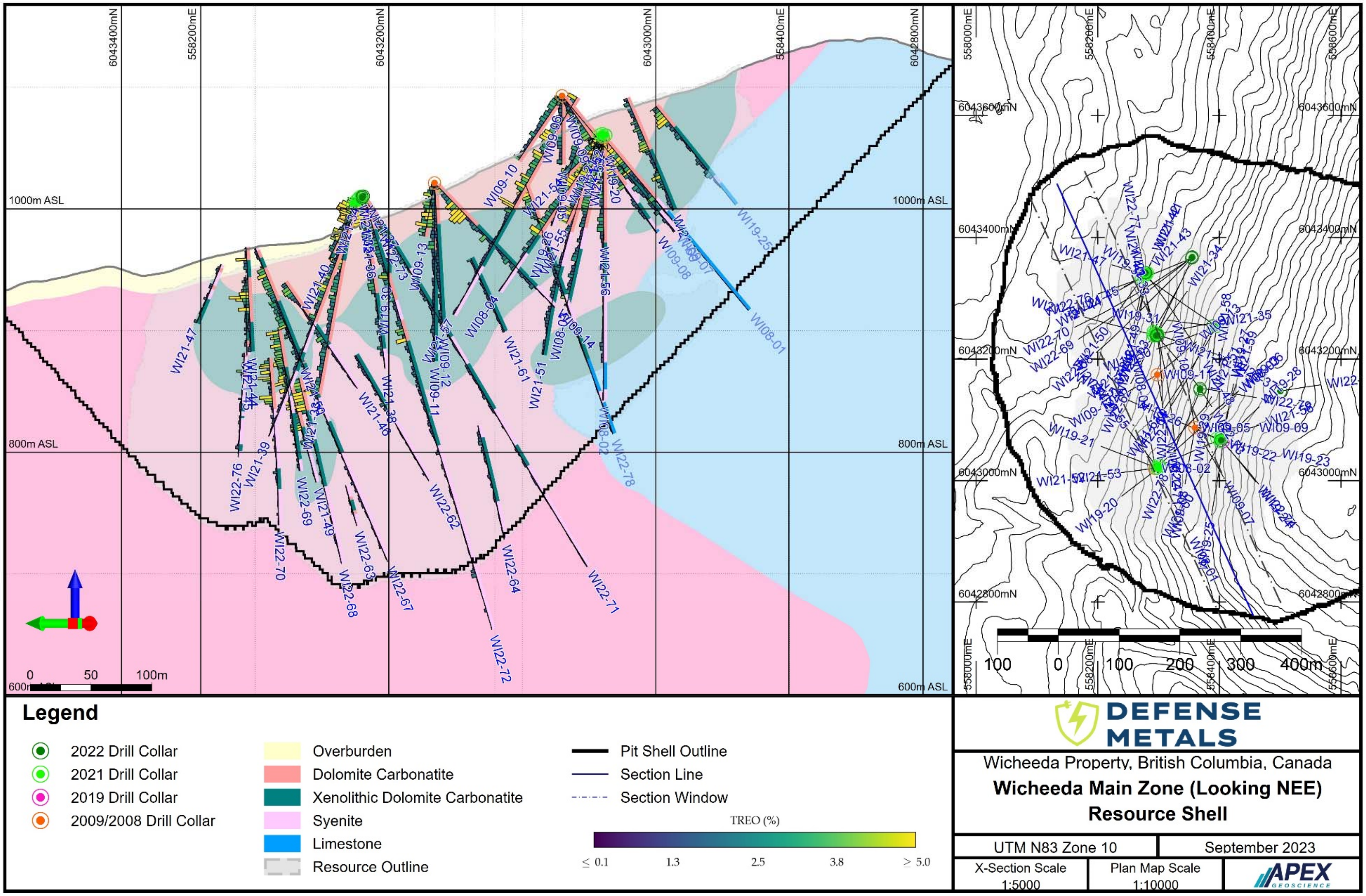


Figure 10.4. Wicheeda Drill Holes (Section Looking NNW). Southern Section.

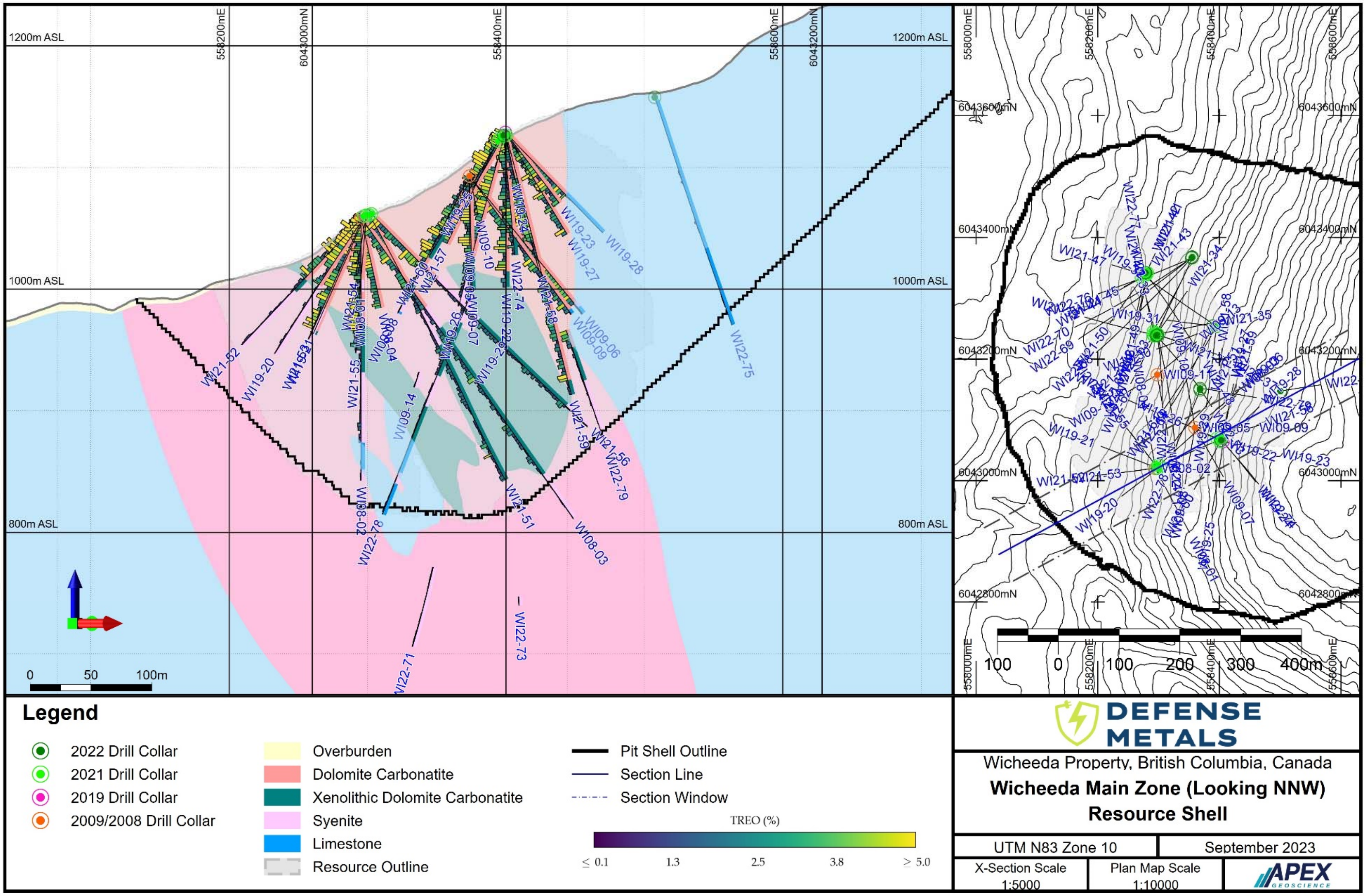


Figure 10.5. Wicheeda Drill Holes (Section Looking NNW). Mid Section.

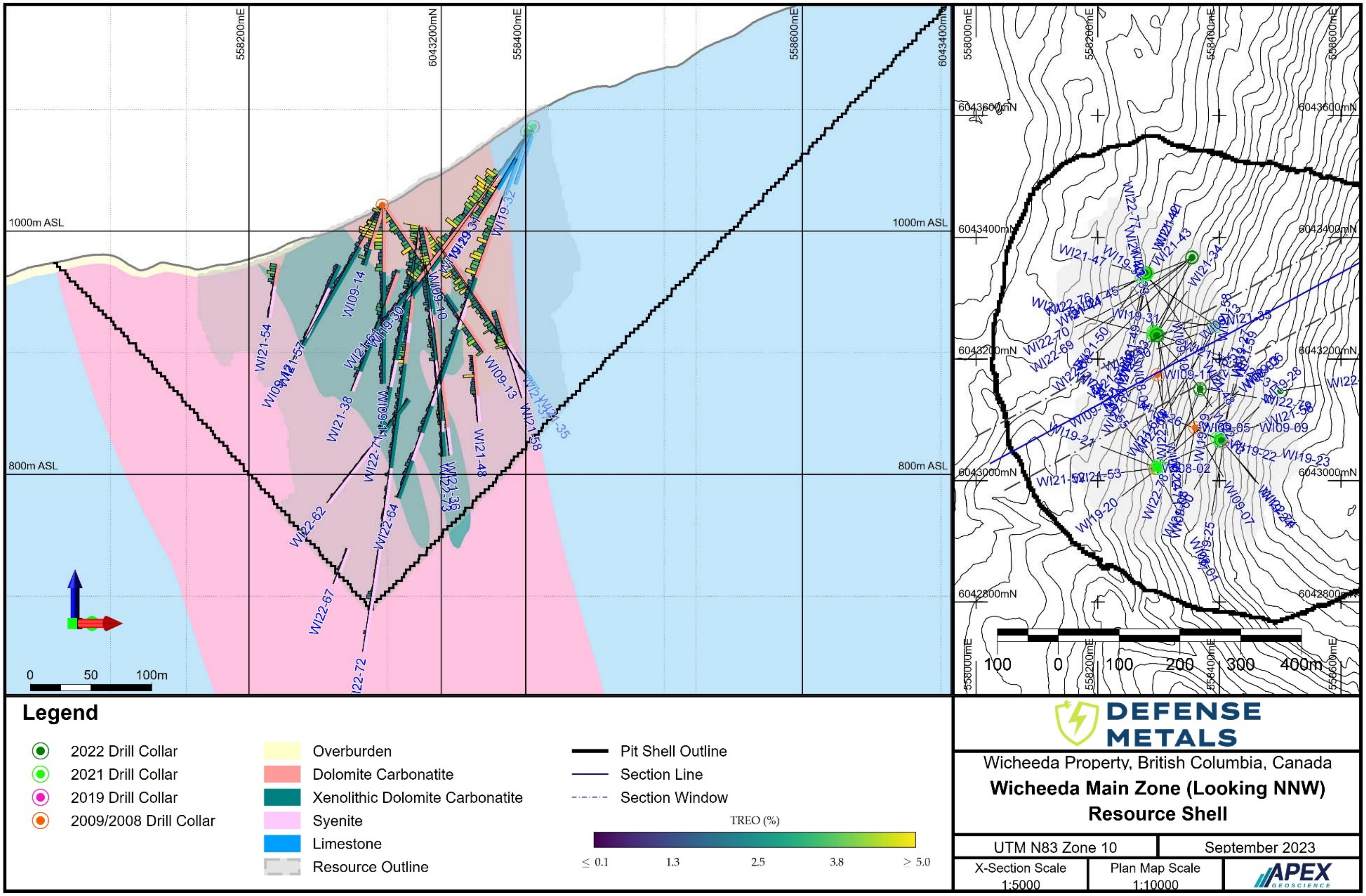
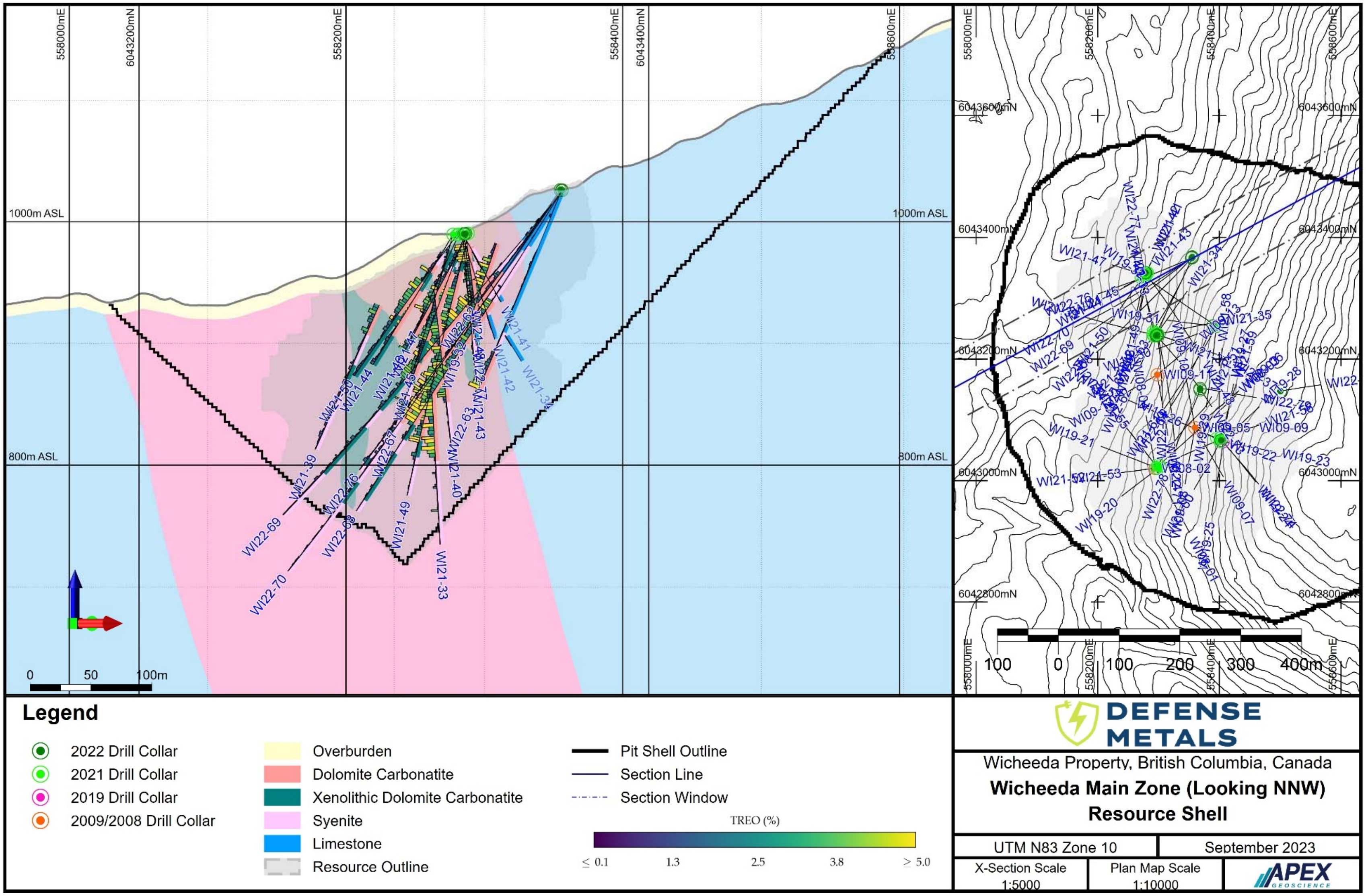


Figure 10.6. Wicheeda Drill Holes (Section Looking NNW). North Section.



10.1 2008 -2009 Historical Drilling

From late September to mid-October 2008, Spectrum completed four diamond drill holes (WI08-01 to WI08-04) with an aggregate length of 866 m (Lane, 2009). The holes were drilled from a single helicopter-supported drill pad and included one vertical hole and three inclined holes drilled on different azimuths. Each drill hole was collared in intrusive carbonatite and confirmed the presence of a LREE-bearing dolomite carbonatite body of significance that outcrops on a west-facing slope 1 km south of Wicheeda Lake. Due to the limited amount of drilling, the overall geometry of the Wicheeda Carbonatite was not resolved; however, the 2008 campaign established an eastern structural footwall to the zone. The western, northern, southern and depth components remained open (Lane, 2009). The Wicheeda Carbonatite was found to contain significant concentrations of the LREEs cerium (Ce), lanthanum (La), and neodymium (Nd) as well as anomalous concentrations of Nb, Pr, Y, As, Ba, Mo, Mn, Pb, Sr, and Th (Lane, 2009).

In 2009, Spectrum completed 15 additional drill holes (WI09-05 to WI09-20), totaling 1,824 m (Lane, 2010a). Ten holes tested the Wicheeda Carbonatite from two different set-ups (sites A and B), two holes were drilled northwest of previous sites to intersect a small carbonatite dyke that outcrops on a trail leading to Wicheeda Lake (site C), and three holes tested a REE soil anomaly located northwest of site C and southwest of Wicheeda Lake (site D). All ten holes drilled on the Wicheeda Carbonatite intersected significant intervals of REE-bearing dolomite ± calcite carbonatite from surface to variable depths. The highest REE values correlated with dolomite carbonatite, dolomite carbonatite breccia and calcite carbonatite. To a lesser degree, high REE values also occurred in syenite breccia (later recognized as fenite) where dolomite carbonatite, as matrix to clasts of syenite (fenite), formed >50% of the rock mass (Lane, 2010a).

10.2 2019 Diamond Drilling

During 2019, Defense Metals retained APEX Geoscience Ltd. to conduct a diamond drilling exploration program at the Wicheeda Property. The program directive was to test the extent of the Wicheeda deposit where it is still open, and further delineate the relatively higher-grade near surface dolomite unit. Thirteen diamond drill holes, totalling 2,007.5 m from 3 different drill pads, tested the southern, central and northern zones of the carbonatite. All drill holes intersected variable lengths of significant REE mineralization, mainly in the carbonatite dolomite body and, to a lesser extent, in the lithologies enveloping the carbonatite deposit. The 2019 diamond drill program was successful in expanding the REE mineralized footprint of the Wicheeda Deposit to the south and north (Raffle and Nichols, 2020).

The drilling program was completed between July 28th and October 22nd, 2019.Drilling began at the location of the 2019 bulk sample (and 2008 drill site). Prior to drilling, drill hole collars and drill sites were located by handheld GPS. Falcon Drilling Ltd. of Prince George, British Columbia was contracted to complete the drilling. At each drill site, drill pads were constructed on steep mountain terrains. Once retrieved, drill core was removed from the core tube and placed directly into four row NQ-sized wooden core boxes with standard 1.2 m length. The core boxes were then sealed with wooden lids, strapped tightly and transported by a helicopter to the gravel pit camp site for logging purposes. Then, the core were carefully reconstructed, geotechnical data were recorded (depth markers, core recovery, rock quality designation (RQD), specific gravity, scintillometer), geological observations were recorded (lithology, alteration and weathering, structure, veining, mineralization) and core was then sampled. Once sampled, the core is cut, placed in a sealed polybag and shipped to the lab in rice bags. Down-hole survey directional data was collected using a Reflex EZ-Shot instrument (Raffle and Nichols, 2020).

All 13 drill holes intersected significant intercepts of REE-mineralized dolomite carbonatite rocks. Drilling at the northern extent delineated and expanded the northern margin of the deposit a 120 m, representing a 50% increase in the strike length of the known Wicheeda Carbonatite at the time. The last hole (WI19-32) of the drilling program intersected a 130 m interval of REE-mineralized dolomite-carbonatite and as a result, the deposit is still open to the north. Infill drilling southeast of the deposit expanded the deposit 40 m beyond the existing limit and delineation drilling in the southwest area of the deposit extended the limit of the dolomite-carbonatite a further 25 m (Raffle and Nichols, 2020). Table 10.2 outlines significant drill intercepts from the 2019 drilling program.

Two diamond drill holes (WI19-20 and WI19-21) were collared at the 2018 Wicheeda bulk sample site (Pad 1). Drill hole WI19-20, drilled southwestward, intersected REE mineralized carbonatite from start of sampling at 4.6 m to a downhole depth of 68.8 m, with medium to coarse-grained REE minerals (monazite and bastnäsite-parasite) forming millimetre to centimeter-scale aggregates interstitial to dolomite. Assay results returned 4.46 % TREO over a drill core interval of 64.2 m. Drill hole WI19-21, drilled northwest, intersected REE-mineralized dolomite carbonatite containing visible REE mineralization from 3.9 m to a downhole depth of 114 m, with aggregates of medium to coarse-grained REE minerals (monazite and bastnäsite-parasite) observed throughout the interval. Assay results returned 3.37 % TREO over a 110 m interval from surface.

Drill hole WI19-22 was collared at Pad 2, northeast of Pad 1 at higher elevation, and is part of a cluster of seven holes (WI19-22 to WI19-28) designed to increase the confidence of the REE mineralized dolomite-carbonatite within the deposit. Hole WI19-22, is a vertical hole, intersected REE-mineralized dolomite carbonatite from a depth of 7.0 m to a depth of 113 m with medium-to-coarse-grained REE minerals forming millimetre to centimeter scale aggregates interstitial to dolomite. Hole WI19-22 assayed 2.80 % TREO over a drill core interval of 106 m.

Drill hole WI19-23 was drilled eastward and assay results returned an average grade of 3.22% TREO over an interval of 105 m, expanding the eastern drill-defined edge of the deposit a distance of 40 m beyond the limit of the previous model. Significantly, much of the WI19-23 mineralized intercept (a 39 m core interval) also occurs inside the 2019 Lerchs-Grossman (LG) pit shell within rocks previously defined as waste.

Drill hole WI19-24 was drilled southeastward. The drill hole intersected REE-mineralized carbonatite containing REE mineralization from the start of sampling at 2.9 m to a downhole depth of 83 m, and returned an average grade of 2.52% TREO over 80.1 m. This hole modestly expanded the eastern drill-defined edge of the deposit a distance of 8.0 m and provided an additional pierce point of the carbonatite envelope.

Drill hole WI19-25 was drilled southeastward. It has intersected REE-mineralized dolomite carbonatite containing REE mineralization from the start of sampling at 1.1 m to a downhole depth of 143.4 m. Assay results returned an average grade of 2.30% TREO over a 142.3 m interval, including 4.00 % TREO over 23.9 m and 4.06% TREO over 23 m. This hole also expanded the eastern drill-defined edge of the deposit and provided an additional pierce point of the carbonatite envelope.

Drill hole WI19-26 was drilled southwestward. It has intersected REE-mineralized dolomite carbonatite containing REE mineralization from the start of sampling at 1.8 m to a downhole depth of 128 m. Assay results returned an average grade of 2.91% TREO over 126.2 m interval including 4.34% TREO over 48.0 m.

Drill hole WI19-27 was drilled westward. It intersected REE-mineralized dolomite carbonatite containing REE mineralization from the start of sampling at 2.0 m to a downhole depth of 120.3 m. Assay results returned an average grade of 2.63% TREO over an interval of 118.3 m.

The last drill hole on Pad 2 was drill hole WI19-28. This definition drill hole was designed to cut through the northeastern contact of the dolomite-carbonatite. Assays returned values of 2.54% TREO over a drill core interval of 69.5 m.

Four diamond drill holes were collared from Pad 3 to test the potential of REE-mineralized dolomite carbonatite zones beyond the limit of the previous block model to the north. Drill hole WI19-29 drilled southward and returned assays values of 3.11% TREO over a drill core interval of 89 m. This hole successfully expanded the REE-mineralized dolomite carbonate a distance of 45 m. Drill hole WI19-30 was drilled westward and intersected a broad zone of mineralization returning 2.69% TREO over an interval of 130.8 m, including a 4.58% TREO over an interval of 27 m. Drill hole WI19-31 was drilled northwestward and due to technical challenges, the hole was terminated in mineralization at a downhole depth of 138.5 m. Assay values returned 4.57% TREO over an interval of 82.9 m, including a 5.5.65% TREO over an interval of 33 m. Drill hole WI19-32 drilled northwestward and was the final hole of the 2019 resource definition program. This hole returned 4.14% TREO over an interval of 58 m, within a broader zone of mineralization assaying 3.76% TREO over an interval of 75 m, in addition to an upper mineralized intercept assaying 2.80% TREO over a 28 m interval.

Table 10.2. 2019 Significant Drill Intercepts

Hole ID	From (m)	To (m)	Interval[1] (m)	CeO_2_%	La_2O_3_%	Nd_2O_3_%	Pr_6O_{11}_%	Sm_2O_3_%	Dy_2O_3_%	Tb_4O_7_%	Eu_2O_3_%	Gd_2O_3_%	Ho_2O_3_%	TREE %	TREO[2] %
WI19-20	4.6	68.8	64.2	2.20	1.54	0.46	0.18	0.04	0.01	0.00	0.01	0.02	0.00	3.72	4.46
WI19-21	3.9	114	110.1	1.65	1.16	0.36	0.14	0.04	0.00	0.00	0.01	0.02	0.00	2.81	3.37
WI19-22	7	113	106	1.37	0.98	0.28	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.33	2.80
WI19-23	4	109	105	1.56	1.14	0.34	0.13	0.03	0.00	0.00	0.01	0.01	0.00	2.68	3.22
WI19-24	2.9	83	80.1	1.24	0.83	0.29	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.10	2.52
WI19-25	1.1	143.4	142.3	1.13	0.78	0.24	0.09	0.03	0.00	0.00	0.01	0.01	0.00	1.92	2.30
including	1.1	25	23.9	1.98	1.42	0.39	0.15	0.04	0.00	0.00	0.01	0.01	0.00	3.33	4.00
and including	60	83	23	1.99	1.42	0.43	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.39	4.06
WI19-26	1.8	128	126.2	1.40	1.07	0.29	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.43	2.91
including	32	80	48	2.09	1.61	0.42	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.62	4.34
WI19-27	2	120.3	118.3	1.28	0.92	0.27	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.19	2.63
WI19-28	3.2	72.6	69.5	1.23	0.90	0.27	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.11	2.54
WI19-29	73	162	89	1.51	1.07	0.35	0.13	0.04	0.00	0.00	0.01	0.02	0.00	2.60	3.11
WI19-30	47	177.8	130.8	1.30	0.91	0.31	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.24	2.69
including	47	74	27	2.21	1.59	0.50	0.19	0.05	0.00	0.00	0.01	0.02	0.00	3.82	4.58
WI19-31	55.7	138.5	82.9	2.18	1.60	0.51	0.19	0.05	0.00	0.00	0.01	0.02	0.00	3.81	4.57
including	64	97	33	2.70	1.96	0.64	0.24	0.06	0.01	0.00	0.01	0.03	0.00	4.71	5.65
WI19-32	86	114	28	1.32	1.01	0.30	0.12	0.03	0.00	0.00	0.01	0.02	0.00	2.34	2.80
WI19-32	142	217	75	1.83	1.33	0.37	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.13	3.76
including	151	209	58	2.01	1.49	0.40	0.16	0.04	0.00	0.00	0.01	0.02	0.00	3.45	4.14

[1]The true width of REE mineralization is estimated to be 60-100% of the drilled interval.

[2]TREO % sum of CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy2O3 and Ho_2O_3.

10.3 2021 Diamond Drilling

During 2021, Defense Metals retained APEX Geoscience Ltd. to conduct a diamond drilling exploration program at the Wicheeda Property a follow up diamond drilling program. The program directive was to test the extent of the Wicheeda deposit where it was still open to the north and northwest, further delineate the relatively higher-grade near-surface dolomite unit, and to convert the inferred and/or indicated mineral resource into indicated and measured mineral resource. Twenty-nine NQ diameter diamond drill holes, totalling 5,366.3 m, were completed from 5 different drill pads, testing the southern, central and northern zones of the carbonatite.

All 29 drill holes crosscut significant intercepts of REE-mineralized dolomite carbonatite. Drilling at the Wicheeda Deposit in 2021 delineated and expanded the carbonatite body to the north / northwest and marginally around the deposit. Drilling increased the extent of the deposit roughly 30m along NW/SE strike from 2019 last drill hole (WI19-32) and up to 85 m to the west from drill hole WI19-31.

All drill holes yield fine to coarse-grained REE minerals (monazite and bastnäsite/parasite/synchysite) forming millimetre to centimeter-scale aggregates interstitial to dolomite-ankerite. Table 10.3 outlines significant drill intercepts from the 2021 drilling program.

Eight diamond drill holes (WI21-33 to WI21-40) were collared on Pad21-08 near the northern extent of the deposit to follow up on the 2019 campaign, to expand and further delineate inferred resources at depth. The first drill hole (WI21-33 at -80° dip / 350° azimuth) intersected mineralized dolomite carbonatite to a depth of 201 m downhole returning assays of 3.17% TREO over 196 m; including higher grade intervals of 3.63% TREO over 50.25 m near surface, and 4.29% TREO over 55 m at depth expanding high-grade REE mineralization 32 m beyond the mineral resource pit shell at the time.

Drillhole WI21-34 (-55° dip / 040° azimuth), drilled northeast to intermediate depths below WI19-32 intersected mineralized dolomite carbonatite to a depth of 117 m downhole grading 2.97% TREO over 114 m; including a higher grade near surface interval averaging 3.84% TREO over 67 m.

Resource delineation drill holes WI21-35 (-55° dip / 080° azimuth) and WI21-36 (-80° dip / 108° azimuth) were drilled on section under 2019 drill hole WI19-31 and established continuity of REE mineralized dolomite carbonatite at depth. Drillhole WI21-35 yield 3.87% TREO over 119.8 m and WI21-36 intersecting a mixed-country rock bearing interval grading 2.34% TREO over 172.9 m; including higher grade near surface and at depth intervals of 3.45% TREO over 38 m.

Resource infill drill holes WI21-37 (-45° dip / 108° azimuth), and WI21-38 (-70° dip / 220° azimuth), established continuity of REE mineralized dolomite carbonatite at depth with WI21-37 yielding 3.19% TREO over 138 m, including 4.00% TREO over 55 m; and WI21-38 intersecting a mixed-country rock bearing interval grading 3.08% TREO over 81 m;

including 3.45% TREO over 35 m and 6.01% TREO 23.4 m, respectively (Figures 10.2, 10.3).

Resource infill drill hole WI21-39 (-60° dip / 285° azimuth) returned assays of 2.62% TREO over 110 metres and in conjunction with WI21-36 and WI21-37 completes sectional drilling within the northern quarter of the Wicheeda Deposit confirming the presence of high-grade dolomite carbonatite to a vertical depth of 175 m and horizontal width of 160 m.

Delineation drill hole WI21-40 (-65° dip / 345° azimuth) intersected mineralized dolomite carbonate from surface grading 3.23% TREO over 162.25 m; including higher grade intervals from surface of 4.21% TREO over 44.75 m, and at depth of 3.67% TREO over 71 m.

Ten diamond drill holes (WI21-41 to WI21-50) were collared on Pad21-09, about 100 meters north of Pad21-08. These drill holes were designed to increase the confidence of the REE mineralized dolomite-carbonatite within the deposit. Drill holes WI21-41 (-55° dip / 025° azimuth), WI21-42 (-70° dip / 025° azimuth), and WI21-43 (-85° dip / 045° azimuth), totaling 285 meters, successfully delineated the northeast margin of the deposit. Drill hole WI21-43 intersected several carbonate dykes, syenite and limestone host rocks above resource cut-off averaging 0.55% TREO over 113.35 meters.

Drill hole WI21-44 (-60° dip / 240° azimuth) tested the northwestern margin of the deposit and intersected a mixed interval of dolomite carbonatite near surface and REE mineralized syenite at depth. Assay results averaged 1.72% TREO over 108 m; including 2.59% TREO over 54 m near surface.

Delineation drill holes WI21-45 (-75° dip / 240° azimuth) and WI21-47 (-60° dip / 280° azimuth) established the northwest margin of the Wicheeda Deposit in the near surface intercepting mixed syenite and xenolithic carbonatite rocks averaging 1.46% TREO over 59.1 m; including 2.48% TREO over 26.2 m; and 0.58% TREO over 81.36 m, respectively.

Infill drill holes WI21-46 (-50° dip / 190° azimuth), WI21-48 (-45° dip / 145° azimuth), and WI21-49 (-70° dip / 190° azimuth) targeting the north central area of the deposit yielded broad REE mineralized dolomite carbonatite intercepts consistent with nearby drill holes. Drilling southwest, WI21-46 returned 1.66% TREO over 116.4 m; including 2.27% TREO over 42 m, and 2.32% TREO over 17.75 m. Drilling southeast WI21-48 returned 2.50% TREO over 176 m; including 6.15% TREO over 20 metres from surface.

Drill hole WI21-49 expanded and further delineated broad intervals of REE mineralized dolomite-carbonatite intersected in drill holes WI21-33 and WI21-40, yielding 3.79% TREO over 150 m; including 4.77% TREO over 60 m. This higher-grade interval includes 12 m averaging 8.06% TREO from 84 to 96 me downhole, which contained the highest single (3 m) combined neodymium-praseodymium (Nd-Pr) oxide assay value to date on the Wicheeda Project of 1.41% Nd-Pr Oxide at 10% TREO.

Drill holes WI21-50 (-50º dip / 215º azimuth) established the northwest margin of the Wicheeda Deposit in the near surface intercepting a broad mixed syenite and xenolithic carbonatite interval above resource cut-off grade averaging 1.60% TREO over 126.7m; including a higher-grade interval of 3.34% TREO over 35.3 m.

Six diamond drill holes (WI21-51 to WI21-56) were collared at Pad08-01. Delineation drill holes WI21-51 (-55º dip / 030º azimuth) and WI21-56 (-45º dip / 065º azimuth) targeted the relatively untested southeastern depth extent of the Wicheeda deposit. Both holes returned higher grade dolomite carbonatite intercepts from surface averaging 2.47% TREO over 88.45 m, and 3.56% TREO over 51.15 m, respectively. At depth both holes are interpreted at low oblique angles down dip along a zone of mixed lithology zone comprising xenolithic dolomite carbonatite and syenite rocks returning broad mineralized zones averaging 1.27% TREO over 158.3 ms, and 1.41% TREO over 168.7 m, respectively.

Delineation drill holes WI21-52 (-45º dip / 260º azimuth) and WI21-53 (-65º dip / 260º azimuth) on the same section (Figure 10.4) both interested high-grade dolomite carbonatite intervals from surface matching closely to the geological and resource block model, averaging 3.31% TREO over 69.55 m, and 3.06% TREO over 80.3 m, respectively.

Similarly, drill holes WI21-54 (-45º dip / 320º azimuth) and WI21-55 (-65º dip / 320º azimuth) on the same section (Figure 10.3) with WI21-54 returning 3.06% TREO over 144.6 m, extending the zone of high-grade dolomite carbonatite 25 m beyond the extent of the geological model at the time; and WI21-55 yielding 3.81% TREO over 116.8 m, including two separate higher-grade intervals averaging 4.33% TREO over 38.8 m, and 4.87% TREO over 37.5 m.

Four infill diamond drill holes (WI21-57 – WI21-60) were collared on Pad19-06. Infill drill holes WI21-57 (-50º dip / 290º azimuth) testing a gap within the central area of the deposit returned a high-grade dolomite carbonate interval averaging 3.45% TREO over 115.9 m from surface, giving way to mixed syenite at depth averaging 1.37% TREO over 96.5 m along the western contact. Delineation drill holes WI21-58 (-60º dip / 355º azimuth) and WI21-59 (-70º dip / 015º azimuth) targeted inferred resources at depth along the eastern contact and intersected two of the three highest grade x width intercepts of the 2021 drill campaign, with WI21-58 averaging 3.09% TREO over 250.8 m, including 3.92% TREO over 80 m; and WI21-59 returning 2.76% TREO over 211.6 m; including 3.25% TREO over 89.6 m from surface.

Infill drill hole WI21-60 (-55º dip / 205º azimuth) targeting the southern area of the Deposit returned 2.93% TREO over 153.6 m; including 5.47% TREO over 38.9 m from surface.

Infill drill hole WI21-61 (-50º dip / 210º azimuth) was collared on Pad19-07 and targeted the central gap area from a pad 200 m north. The hole collared into the east-side limestone host rock and intersected a broad high-grade dolomite carbonatite interval

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averaging 3.44% TREO over 114 m, giving way to mixed xenolithic carbonatite and syenite rocks at depth returning 0.93% TREO over 79 m.

10.4 2022 Diamond Drilling

During 2022, Defense Metals retained APEX Geoscience Ltd. to conduct a follow up diamond drilling exploration program at the Wicheeda Property. The program directive was to test the extent of the Wicheeda deposit where it is still open to the north and northwest, further delineate the relatively higher-grade near-surface dolomite unit, and to convert the inferred and/or indicated mineral resource into indicated and measured mineral resource. Eighteen HQ3 diameter diamond drill holes, totalling 5,510.1 m, were completed from 9 different drill pads, testing the southern, central and northern zones of the carbonatite (Figures 10.2-10.6).

Fifteen holes intersected variable lengths of significant REE mineralization, mainly in the carbonatite dolomite body and, to a lesser extent, in the lithologies enveloping the dolomite carbonatite deposit. The 2022 drilling program aimed to delineate existing resources further, assessing near deposit exploration targets, collecting geotechnical and hydrogeological drilling for the purpose of optimization of open pit slope design, and generating additional REE mineralized material for metallurgical testwork exploration. The delineation program expanded the main carbonatite body to the north and northwest at depth and marginally around the deposit. The drilling program also increased the higher-grade dolomite carbonatite zones and xenolithic dolomite carbonatite throughout the deposit. Table 10.4 outlines significant drill intercepts from the 2022 drilling program.

The drilling program was supervised by APEX which provided geological and logistical services in the field. Diamond drilling was carried out by Radius Drilling Corp. of Prince George, BC. Pad building was completed by Rugged Edge Holdings, BC. Drill logging and core cutting were carried out by APEX Geoscience Ltd from the Wicheeda camp, 80 km northeast of Prince George, BC.

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Table 10.3. 2021 Significant Drill Intercepts

Hole ID	From (m)	To (m)	Interval[1] (m)	CeO_2_%	La_2O_3_%	Nd_2O_3_%	Pr_6O_{11}_%	Sm_2O_3_%	Dy_2O_3_%	Tb_4O_7_%	Eu_2O_3_%	Gd_2O_3_%	Ho_2O_3_%	TREE %	TREO[2] %
WI21-33	5	201	196	1.52	1.07	0.37	0.13	0.04	0.00	0.00	0.01	0.02	0.00	2.64	3.17
including	5	55.25	50.25	1.74	1.26	0.41	0.14	0.04	0.01	0.00	0.01	0.02	0.00	3.03	3.63
including	146	201	55	2.07	1.48	0.47	0.17	0.05	0.01	0.00	0.01	0.02	0.00	3.57	4.29
WI21-34	3	117	114	1.46	1.02	0.33	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.48	2.97
including	3	70	67	1.89	1.34	0.41	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.20	3.84
WI21-35	1.2	121	119.8	1.87	1.34	0.43	0.15	0.04	0.01	0.00	0.01	0.02	0.00	3.23	3.87
WI21-36	1.1	174	172.9	1.14	0.78	0.27	0.09	0.03	0.00	0.00	0.01	0.01	0.00	1.95	2.34
including	1.1	35.65	34.55	1.66	1.21	0.38	0.13	0.04	0.00	0.00	0.01	0.02	0.00	2.87	3.45
including	136	174	38	1.46	1.05	0.33	0.12	0.03	0.00	0.00	0.01	0.02	0.00	2.52	3.02
WI21-37	2	139.9	137.85	1.56	1.10	0.35	0.12	0.04	0.00	0.00	0.01	0.01	0.00	2.66	3.19
including	2	57	55	1.96	1.38	0.42	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.33	4.00
WI21-38	1.35	82	80.65	1.50	1.07	0.33	0.12	0.03	0.00	0.00	0.01	0.02	0.00	2.57	3.08
including	1.35	24.75	23.4	2.91	2.14	0.62	0.23	0.06	0.01	0.00	0.01	0.02	0.00	5.01	6.01
WI21-39	4	114	110	1.28	0.87	0.30	0.10	0.03	0.00	0.00	0.01	0.02	0.00	2.18	2.62
WI21-39	114	224.8	110.8	0.35	0.21	0.10	0.03	0.01	0.00	0.00	0.00	0.01	0.00	0.60	0.72
WI21-40	2.75	165	162.25	1.57	1.11	0.36	0.13	0.04	0.00	0.00	0.01	0.02	0.00	2.70	3.23
including	2.75	47.5	44.75	2.05	1.46	0.46	0.16	0.05	0.01	0.00	0.01	0.02	0.00	3.51	4.21
including	96	167	71	1.79	1.26	0.41	0.14	0.04	0.00	0.00	0.01	0.02	0.00	3.06	3.67
WI21-43	10.75	124.1	113.35	0.26	0.17	0.07	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.46	0.55
WI21-44	17.5	125.6	108.1	0.83	0.57	0.20	0.07	0.03	0.00	0.00	0.01	0.01	0.00	1.43	1.72
including	35	89	54	1.24	0.87	0.29	0.10	0.04	0.01	0.00	0.01	0.02	0.00	2.16	2.59
WI21-45	47.8	106.9	59.1	0.67	0.51	0.17	0.06	0.02	0.00	0.00	0.01	0.01	0.00	1.22	1.46
including	47.8	74	26.2	1.13	0.88	0.29	0.10	0.04	0.01	0.00	0.02	0.02	0.00	2.07	2.48
WI21-46	18.9	135.3	116.4	0.80	0.56	0.20	0.06	0.02	0.00	0.00	0.00	0.01	0.00	1.39	1.66
including	48	90	42	1.09	0.79	0.25	0.09	0.03	0.00	0.00	0.00	0.01	0.00	1.89	2.27
including	117.6	135.3	17.75	1.12	0.74	0.30	0.09	0.03	0.00	0.00	0.01	0.02	0.00	1.94	2.32
WI21-47	17	98.36	81.36	0.28	0.18	0.08	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.49	0.58
WI21-48	12	188	176	1.22	0.84	0.29	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.08	2.50

Hole ID	From (m)	To (m)	Interval[1] (m)	CeO_2_%	La_2O_3_%	Nd_2O_3_%	Pr_6O_{11}_%	Sm_2O_3_%	Dy_2O_3_%	Tb_4O_7_%	Eu_2O_3_%	Gd_2O_3_%	Ho_2O_3_%	TREE %	TREO[2] %
including	12	32	20	2.98	2.11	0.69	0.24	0.07	0.01	0.00	0.01	0.03	0.00	5.12	6.15
WI21-49	33	183	150	1.80	1.36	0.41	0.14	0.04	0.00	0.00	0.01	0.02	0.00	3.16	3.79
including	82	142	60	2.28	1.71	0.51	0.18	0.05	0.01	0.00	0.01	0.02	0.00	3.98	4.77
including	84	96	12	3.82	2.96	0.85	0.31	0.08	0.01	0.00	0.02	0.04	0.00	6.72	8.06
WI21-50	23	149.7	126.7	0.76	0.55	0.18	0.06	0.02	0.00	0.00	0.00	0.01	0.00	1.33	1.60
including	50.35	85.65	35.3	1.59	1.23	0.33	0.12	0.03	0.00	0.00	0.01	0.02	0.00	2.78	3.34
WI21-51	4.25	92.7	88.45	1.18	0.88	0.26	0.09	0.03	0.00	0.00	0.01	0.01	0.00	2.06	2.47
and	92.7	251	158.3	0.62	0.39	0.17	0.05	0.02	0.00	0.00	0.00	0.01	0.00	1.06	1.27
WI21-52	3.25	72.8	69.55	1.58	1.16	0.37	0.13	0.04	0.01	0.00	0.01	0.02	0.00	2.76	3.31
WI21-53	2.7	83	80.3	1.48	1.08	0.32	0.12	0.03	0.00	0.00	0.01	0.01	0.00	2.55	3.06
WI21-54	2.4	147	144.6	1.48	1.10	0.31	0.12	0.03	0.00	0.00	0.01	0.01	0.00	2.55	3.06
WI21-55	2.2	119	116.8	1.85	1.36	0.39	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.18	3.81
including	2.2	41	38.8	2.11	1.51	0.46	0.17	0.05	0.00	0.00	0.01	0.02	0.00	3.61	4.33
including	67	104.5	37.5	2.36	1.79	0.47	0.18	0.04	0.00	0.00	0.01	0.02	0.00	4.06	4.87
WI21-56	5.35	56.5	51.15	1.74	1.27	0.35	0.14	0.03	0.00	0.00	0.01	0.01	0.00	2.97	3.56
WI21-56	56.5	225.2	168.7	0.69	0.47	0.16	0.06	0.02	0.00	0.00	0.00	0.01	0.00	1.18	1.41
WI21-57	21.6	137.5	115.9	1.68	1.24	0.35	0.13	0.03	0.00	0.00	0.01	0.01	0.00	2.88	3.45
WI21-57	137.5	234	96.5	0.67	0.48	0.15	0.05	0.02	0.00	0.00	0.00	0.01	0.00	1.15	1.37
WI21-58	1.8	252.6	250.8	1.51	1.08	0.33	0.12	0.03	0.00	0.00	0.01	0.01	0.00	2.57	3.09
including	51	131	80	1.93	1.39	0.40	0.14	0.04	0.00	0.00	0.01	0.02	0.00	3.27	3.92
WI21-59	2.4	214	211.6	1.32	0.99	0.29	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.30	2.76
including	2.4	92	89.6	1.58	1.18	0.32	0.12	0.03	0.00	0.00	0.01	0.01	0.00	2.71	3.25
WI21-60	1.3	154.9	153.6	1.43	1.01	0.31	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.44	2.93
including	1.3	40	38.7	2.69	1.93	0.55	0.21	0.05	0.01	0.00	0.01	0.02	0.00	4.56	5.47
WI21-61	57	170	113	1.64	1.22	0.38	0.13	0.04	0.00	0.00	0.01	0.02	0.00	2.87	3.44
WI21-61	170	248.5	78.5	0.45	0.28	0.12	0.04	0.02	0.00	0.00	0.00	0.01	0.00	0.77	0.93

[1]The true width of REE mineralization is estimated to be 60-100% of the drilled interval.

[2]TREO % sum of CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O3 and Ho_2O_3.

Prior to drilling, drill pads were sighted by handheld GPS to be built and later, drill hole collars were positioned using a Reflex Azimuth Positioning System (APS) unit. Upon completion of a 3 m drill run, drill core was removed from the core tube and placed directly into four row NQ-sized wooden core boxes with a standard 1.2 m length. Core boxes were sealed with wooden lids, strapped tightly and transported by helicopter to camp. Once in camp, core was carefully reconstructed, then, geotechnical data were recorded (depth markers, core recovery, rock quality designation (RQD), specific gravity, scintillometer), geological observations were recorded (lithology, alteration and weathering, structure, veining, mineralization), core photos were taken and sample intervals were marked for analysis. Once sampled, the core was cut in half, placed in a sealed poly bags marked with a sample number and shipped to the analyzing laboratory. Down-hole survey directional data was collected using a Reflex EZ-Shot instrument at specific depths, averaging at 50 m. For geotechnical holes, data collection additionally included oriented drill core, field point load and laboratory-based intact rock and discontinuity strength testing .

Drill hole WI22-62 (-50° dip / 204° azimuth) collared 120 m to the north of WI21-61, intersected a 109 m drilled interval of mineralized dolomite carbonatite above a mixed xenolithic dolomite carbonatite and syenite at depth returning 1.39% TREO over 167 m; including 2.29% TREO over 48 m.

Drill hole WI22-63 (-60° dip / 204° azimuth) collared from the same drill site as WI22-62, tested the interpreted eastern contact of the carbonatite body at depth and returned 2.29% TREO over 39 m; including 5.08% TREO over 9 m.

Infill drill hole WI22-64 (-65° dip / 204° azimuth) drilled southwest to depth within central area of the deposit yield a broad mineralized intercept of high-grade dolomite carbonate higher in the hole, and mixed mineralized xenolithic dolomite carbonate and syenite at depth averaging 1.78% TREO over 192 m; including 3.13% TREO over 73 m.

Exploration drill holes WI22-65 (-60° dip /105° azimuth), WI22-66 (-60 dip / 141° azimuth), targeted geophysical anomalies to the west and the northwest of the, only intersecting barren sedimentary beds.
Infill drill hole WI22-67 (-60° dip / 197° azimuth) was drilled southward within the northern area of the deposit and yielded a broad mixed lithology mineralized intercept comprising dolomite carbonatite and syenite averaging 2.53% TREO over 106.3 m; including a high-grade zone of 3.42% TREO over 59 m.
Infill drill hole WI22-68 (-55° dip / 220° azimuth), the deepest hole to date on the Wicheeda Project at 395 m, was drilled southwest within the northern area of the deposit and yielded a broad mineralized intercept of high-grade dolomite carbonatite averaging 3.58% TREO over 123.6 m; including an exceptionally high-grade zone of 6.70% TREO over 18 m that included one 3 m sample yielding 8.58% TREO.

Infill drill hole WI22-69 (-50° dip / 230° azimuth) was drilled southwest within the northern area of the deposit intersected a broad zone of mineralized dolomite carbonatite averaging 2.14% TREO over 221 m; including a higher-grade interval averaging 3.52% TREO over 111 m. Infill drill hole WI22-70 (-55° dip / 234° azimuth) was drilled southwest within the northern area of the deposit intersected a broad zone of mineralized dolomite carbonatite averaging 2.50% TREO over 113 m.

Resource delineation drill holes WI22-71 (-50° dip at 163° azimuth) and WI22-73 (-60° dip at azimuth 134°) drilled within the central area of the deposit similarly intersected mineralized dolomite-carbonatite, from surface. WI22-71 assayed 1.47% TREO over 206.5 m, including 2.83% TREO over 65.5 m, while WI22-73 assayed 1.42% TREO over 221.68 m, including 2.35% TREO over 81.18 m.

Infill drill hole WI22-72 (-70° dip / 167° azimuth) was drilled south within the central area of the deposit intersected high-grade mineralized dolomite carbonate from surface grading 3.02% TREO over 54.75 m within a broader zone averaging 2.56% TREO over a 121.95 m; in addition to a well mineralized mixed lithology lower zone grading 0.9% TREO over 97 m.

Pit slope geotechnical drill hole WI22-74 (-65° dip at azimuth 139°) drilled into the south pit wall intersected high-grade mineralized dolomite carbonatite that assayed 3.77% over 30 m from surface and 2.52% TREO over 59 m at mid-hole depths, within a broader zone averaging 2.03% TREO over a 191.5 m interval.

Exploration drill hole drill holes WI22-75 (-70° dip at 79° azimuth), targeted the high pit wall to the east and intersected sedimentary packages that were variably altered, by carbonatite and syenite, with weak mineralization.

Resource delineation and pit slope geotechnical drill holes WI22-76 (-55° dip at 242° azimuth) and WI22-77 (-70° dip at 348° azimuth) returned moderate-grade, mixed syenite-xenolithic dolomite carbonatite intervals from the northern limit of the Wicheeda Deposit and north pit wall that assayed 0.64% TREO over 151 m; and 0.67% TREO over 76 m, respectively.

Pit slope geotechnical drill hole WI22-78 (-60° dip at 200° azimuth) drilled into the west pit wall intersected well mineralized dolomite carbonatite that assayed 2.63% TREO over 96.97 m from surface within a broader mineralized one returning 2.03% TREO over 167.67 m.

WI22-79 (-65° dip at 095° azimuth), drilled within the central area of the Wicheeda Deposit and into the east pit wall intersected an upper high-grade mineralized dolomite-carbonatite interval from surface assaying 3.66% TREO over 138 m; and lower interval grading 0.50% TREO over 43 m.

Table 10.4. 2022 Significant Drill Intercepts

Hole ID	From (m)	To (m)	Interval[1] (m)	CeO_2_%	La_2O_3_%	Nd_2O_3_%	Pr_6O_{11}_%	Sm_2O_3_%	Dy_2O_3_%	Tb_4O_7_%	Eu_2O_3_%	Gd_2O_3_%	Ho_2O_3_%	TREE %	TREO[2] %
WI22-62	93	260	167	0.68	0.43	0.18	0.06	0.02	0.00	0.00	0.00	0.01	0.00	1.16	1.39
including	121	169	48	1.13	0.72	0.29	0.10	0.03	0.00	0.00	0.01	0.01	0.00	1.91	2.29
WI22-63	148	187	39	1.12	0.79	0.25	0.09	0.02	0.00	0.00	0.00	0.01	0.00	1.91	2.29
including	175	184	9	2.45	1.84	0.52	0.19	0.05	0.00	0.00	0.01	0.02	0.00	4.24	5.08
WI22-64	77	269	192.3	0.86	0.58	0.22	0.08	0.02	0.00	0.00	0.01	0.01	0.00	1.49	1.78
including	77	150	73	1.51	1.06	0.37	0.13	0.04	0.00	0.00	0.01	0.02	0.00	2.61	3.13
WI22-67	30.7	137	106.3	1.22	0.87	0.28	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.11	2.53
including	41	100	59	1.65	1.19	0.37	0.14	0.04	0.00	0.00	0.01	0.02	0.00	2.85	3.42
WI22-68	109.4	233	123.6	1.69	1.29	0.38	0.14	0.04	0.00	0.00	0.01	0.02	0.00	2.98	3.58
including	212	230	18	3.11	2.50	0.71	0.27	0.06	0.00	0.00	0.01	0.03	0.00	5.59	6.70
including	212	215	3	3.95	3.21	0.93	0.08	0.01	0.00	0.01	0.03	0.00	0.00	7.16	8.58
WI22-69	93	314	221	1.02	0.74	0.24	0.09	0.03	0.00	0.00	0.01	0.01	0.00	1.79	2.14
including	93	204	111	1.68	1.25	0.37	0.14	0.04	0.00	0.00	0.01	0.02	0.00	2.93	3.52
WI22-70	117	230	113	1.20	0.84	0.29	0.10	0.04	0.01	0.00	0.01	0.02	0.00	2.08	2.50
WI22-71	3.5	210	206.5	0.72	0.48	0.18	0.06	0.02	0.00	0.00	0.00	0.01	0.00	1.23	1.47
including	3.5	69	65.5	1.38	0.96	0.32	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.36	2.83
WI22-72	3.05	125	121.95	1.25	0.85	0.29	0.11	0.03	0.00	0.00	0.01	0.01	0.00	2.13	2.56
including	3.05	57.8	54.75	1.47	1.02	0.34	0.12	0.03	0.00	0.00	0.01	0.01	0.00	2.52	3.02
WI22-72	125	222	97	0.44	0.27	0.12	0.04	0.02	0.00	0.00	0.00	0.01	0.00	0.75	0.90
WI22-73	2.32	224	221.68	0.69	0.46	0.17	0.06	0.02	0.00	0.00	0.00	0.01	0.00	1.19	1.42
including	2.32	83.5	81.18	1.14	0.80	0.26	0.09	0.03	0.00	0.00	0.01	0.01	0.00	1.96	2.35
WI22-74	2.5	194	191.5	0.99	0.68	0.23	0.08	0.02	0.00	0.00	0.00	0.01	0.00	1.69	2.03
including	2.5	32.5	30	1.83	1.33	0.39	0.15	0.03	0.00	0.00	0.01	0.01	0.00	3.14	3.77
and including	59	116	56.8	1.22	0.87	0.27	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.10	2.52
WI22-76	125	276	151	0.31	0.20	0.08	0.03	0.01	0.00	0.00	0.00	0.01	0.00	0.53	0.64
WI22-77	16.5	93	76.5	0.32	0.20	0.09	0.03	0.02	0.00	0.00	0.00	0.01	0.00	0.56	0.67
WI22-78	4.63	172	167.67	0.99	0.70	0.21	0.08	0.02	0.00	0.00	0.00	0.01	0.00	1.69	2.03

Hole ID	From (m)	To (m)	Interval[1] (m)	CeO_2_%	La_2O_3_%	Nd_2O_3_%	Pr_6O_{11}_%	Sm_2O_3_%	Dy_2O_3_%	Tb_4O_7_%	Eu_2O_3_%	Gd_2O_3_%	Ho_2O_3_%	TREE %	TREO[2] %
including	4.63	102	96.97	1.29	0.93	0.26	0.10	0.03	0.00	0.00	0.01	0.01	0.00	2.19	2.63
WI22-79	3	141	138	1.74	1.31	0.39	0.15	0.04	0.00	0.00	0.01	0.02	0.00	3.05	3.66
WI22-79	141	184	42.7	0.23	0.13	0.08	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.42	0.50

[1]The true width of REE mineralization is estimated to be 60-100% of the drilled interval.

[2]TREO % sum of CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O3 and Ho_2O_3.

11 Sample Preparation, Analyses and Security

11.1 Bulk Sample (2019 and 2020)

11.1.1 *Sample Collection and Security*

During September 2018, Spectrum received approval from the BC Ministry of Mines for a work permit to collect a 30 tonne bulk sample of rare earth mineralization from Wicheeda. Subsequently, BC based mining contracting company Minconsult Exploration Services (Minconsult) was contracted to conduct the surface bulk sample blast trenching program and during October 2019 they successfully completed the collection of the 30 tonne rock sample via conventional compressed air drill and blast from a level area at the location of the 2008 diamond drill site. The 2008 diamond drill assay results provided geological and REE mineralization control for sample site selection, which was overseen by a Minconsult geologist. Prior to blasting the shallow overburden was stripped using hand tool to expose the dolomite-carbonatite outcrop. After blasting loose rock was further reduced using a demolition and placed into 1 tonne poly-woven duffle top bulk bags and transported to a nearby logging road staging area and placed onto a commercial flatbed haul truck for transport to Prince George for secure storage prior to shipment to SGS. The 30 tonne Wicheeda deposit bulk sample was then trucked to SGS Minerals Lakefield, ON facility. Upon receipt at SGS the sample was inventoried (i.e. bag counts and gross weights), then placed in a containment area on a clean concrete pad.

11.1.2 Sample Preparation and Analysis

At SGS the entire 30 tonne bulk sample was jaw crushed to nominal 1 inch, and homogenized/blended via backhoe. A 400 kg sample representative sample was then selected and further homogenized by tumbling and crushed to ½ inch. Half of the 400 kg sample was retained for future testing. The primary 200 kg sample was then crushed to 6 mesh (3.36 mm), homogenized and split into 10 kg charges. Two of the 10 kg charges were combined and split into 2 kg charges, from one of which 150 g was pulverized to 80% passing 75 micron. Major element, and lanthanum and neodymium oxides, and loss on ignition (LOI) were determined by whole rock analysis, via lithium-borate fusion of a 0.5 gram sample analyzed via wavelength dispersion X-ray fluorescence (WD-XRF). The remaining rare earth elements were determined via 0.5 gram sodium-peroxide fusion multi-element ICP-MS.

A sub-sample of the head sample was submitted for abrasion index testing, and the remainder crushed to 100% passing 12.7 mm and 25 kg sample was taken for Bond Rod Mill Work Index (RWI) AND Bond Ball Mill Work Index (BWI) test work. The rest of the sample was further crushed to 100% passing 3.3 mm. The less than 3.3 mm sample was split into 2 kg and 10 kg charges for batch and bulk concentrate flotation production tests. Flotation charges were stage-ground to 100% passing 106 µm or 150 µm based on mineralogical data and SGS's prior experience with REE flotation testwork programs.

For the locked-cycle test, a stability check reveals that reasonable stability was achieved quickly for all elements, and three cycles were deemed suitable for projected mass balance calculation, to simulate the metallurgical performance that would be achieved in a continuous operation.

Head grade, batch, and locked-cycle concentrate products for cerium, lanthanum, neodymium and praseodymium oxides were determined via lithium-borate fusion of a 0.5 gram sample analyzed via wavelength dispersion X-ray fluorescence (WD-XRF). The remaining rare earth elements for the head sample were determined via 0.5 gram sodium-peroxide fusion multi-element ICP-MS.

SGS Minerals Lakefield is an ISO/IEC 17025 and ISO9001:2015 accredited geoanalytical services provider. SGS is independent of Defense Metals and the authors.

11.1.3 Quality Assurance – Quality Control

The SGS analysis included a quality assurance / quality control (QA/QC) program including the insertion of rare earth element standard and blank samples. The authors detected no significant QA/QC issues during review of the data.

11.2 Drill Core Samples (2008 and 2009)

11.2.1 *Sample Collection and Security*

In 2008, four BTW-diameter (Ø 40.7 mm) holes totaling 866.06m were drilled on the Project. In 2008, drill core was transported to Prince George following the completion of all four holes and was logged and sampled in a secure, gated warehouse located on the premises of Allnorth Consulting Ltd. After delivery of the core the driller's run blocks were converted to metric units, and recovery and RQD were measured prior to logging. The core was logged for geological and geotechnical properties by Jay W. Page, P.Geo. Each section of core to be sampled was clearly identified and then marked with a centre line. All core was photographed, sawn and sampled using a nominal sample interval of 3m. Core splitting, using a water-cooled diamond saw, was conducted by competent, experienced technicians under the guidance of Page and Lane (Lane, 2009).

Two hundred fifty-five (255) core samples were labelled, cut and bagged. Thirty-three (33) quality control samples (blanks, duplicates and just two standards) were inserted into the sample stream at regular intervals following a prescribed sequence. All of the bagged core samples were recorded on shipment forms, packed in large woven nylon 'rice' bags and trucked via independent commercial transport to the Global Discovery Labs (TeckCominco) in Vancouver, BC, for 30 element ICP-AES analysis and for selected light rare-earth element analysis (i.e. lanthanum, cerium and neodymium) and niobium by XRF (pressed pellet) analysis. The lab inserted its own blanks, duplicates and standards into the sample stream and routinely conducted repeat analysis.

Following receipt of the ICP-AES and XRF data, pulps from the upper part of each drill hole, prepared by Global Discovery Labs, were shipped to Activation Laboratories Ltd. in Ancaster, Ontario, for lithium metaborate/tetraborate fusion ICP/MS analysis. A total of 73 sample pulps were analyzed for 43 elements including the light and heavy REE. Nine quality control samples (blanks, standards and duplicates) were inserted into the sample stream at regular intervals.

In 2009, 15 HQ (63.5 mm diameter) holes totaling 1,823.61m were drilled on the Project. In 2009, drill core was transported to Prince George following the completion of each hole and was logged and sampled in a secure, gated warehouse located on the premises of Falcon Drilling Ltd. After delivery of the core the driller's run blocks were converted to metric units, and recovery and RQD were measured prior to logging.

Geological logging in 2009 was performed by veteran geologist Murray Morrison. All core was photographed, sawn and sampled using a nominal sample interval of 3m. Core splitting, using a water-cooled diamond saw, was conducted by competent, experienced technicians under the guidance of Morrison and Lane (Lane, 2010a).

11.2.2 Sample Preparation and Analysis

Five hundred eighty-three (583) core samples were labelled, cut and bagged. Seventy-four (74) quality control samples (blanks, standards and duplicates) were inserted into the sample stream at regular intervals following a prescribed sequence. All of the samples were recorded on shipment forms and the samples were trucked to the Global Discovery Labs (which was purchased by Acme Analytical Labs during the year and was subsequently purchase by Bureau Veritas) in Vancouver, BC, for 30 element ICP-AES analysis. Samples from drill holes WI09-05 to WI09-14 were also analyzed for selected light REE (La, Ce, Sm and Nd) and Nb by XRF (pressed pellet) analysis. The lab also inserted its own blanks, duplicates and standards into the sample stream and routinely conducted repeat analysis.

Acme Analytical Labs, Bureau Veritas, and Activation Laboratories Ltd. are all ISO/IEC 17025 and ISO9001:2015 accredited geoanalytical services providers, and are independent of Defense Metals and the authors.

ALS is an ISO 9001:2008 certified laboratory and is also accredited by the Standards Council of Canada (SCC) and has been found to conform to the requirements of ISO/IEC 17025:2005. ALS is independent of Defense Metals and the authors.

11.2.3 Quality Assurance – Quality Control

This section includes a review of control samples (blanks, standards and duplicates) used in the 2008 and 2009 diamond drill programs. The 2008 drilling at the Project did not include adequate control samples as the percentage of certified reference standards fell below the recommended minimum level of 5%, but this was improved in 2009. The control sample insertion rate is presented in Table 11.1 below and shows an acceptable overall rate of more than 12%.

Two different field blanks were used (CDN-BL-3 and CDN-BL-4); both gave consistently low values for REE and Nb. The analytical results for the blanks inserted into the 2009 sample stream indicated that there was little to no contamination in the lab. Blank results ranged from 11-65 ppm Ce, 8-64 ppm La, <3-26 ppm Nd, 4-8 ppm Nb and <3-8 ppm Sm.

The principal certified reference standard material (SRM) used in the field in 2009 was SY-4. SY-4 is diorite gneiss and is source from the Natural Resources Canada (NRC). SY-4 certified values (±95% confidence interval) include: Ce – 122 ± 2 ppm; La – 58 ± 1 ppm, Nb – 13 ± 1 ppm, Nd – 57 ± 1 ppm, and Sm – 12.7 ± 0.4 ppm. SY-4 analytical results were within a relatively narrow range with the exception of one result for La, which was approximately twice that of the other received values for that REE. This result may be spurious or may indicate minor analytical inconsistencies at the lab.

Table 11.1. Quality Control Sample Insertion Rate Summary (XRF Data)

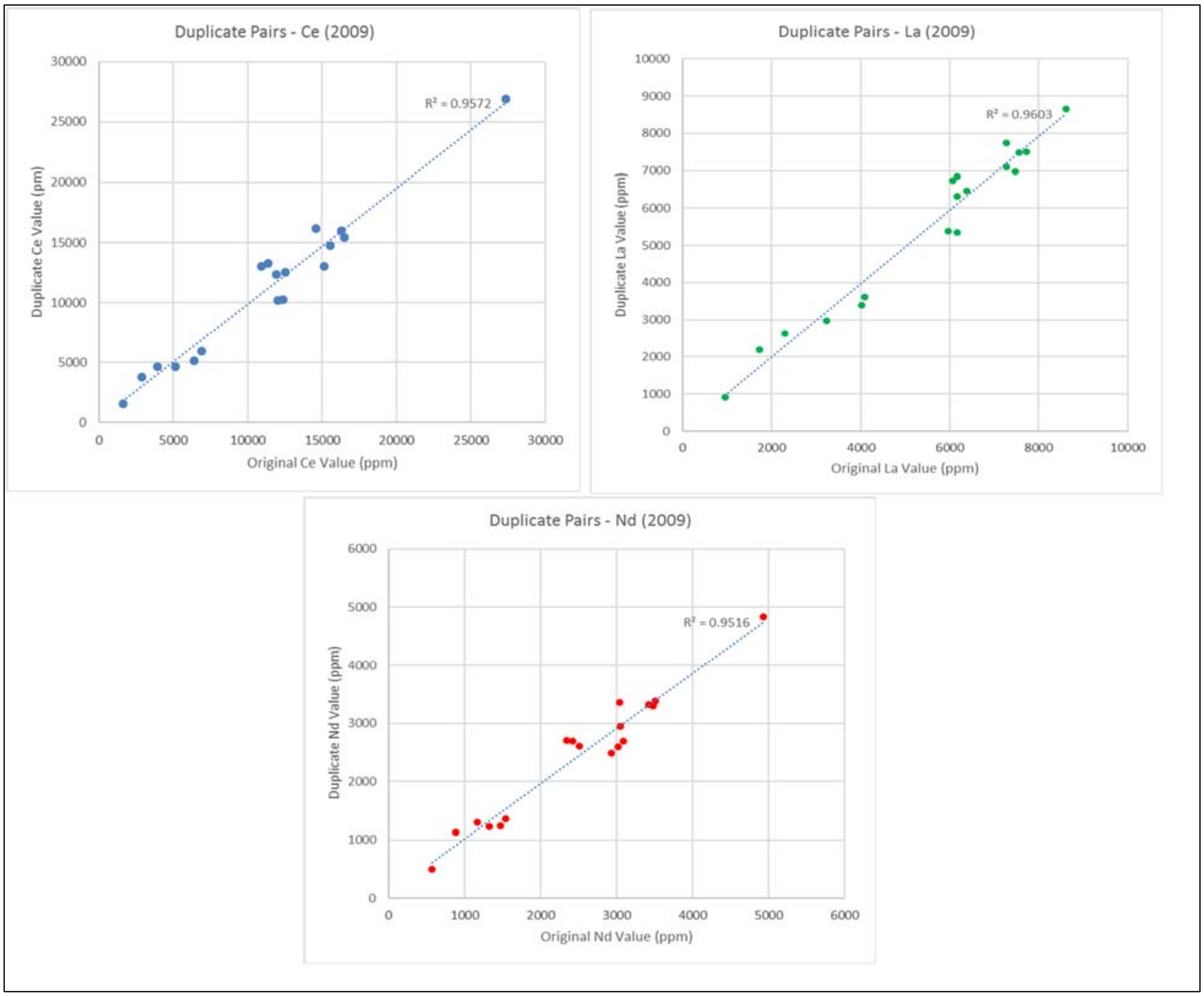
Type	2008	2009
Field Blank	16	28
Field Standard	2	28
Field Duplicate	15	18
Primary Samples	255	583
Insertion Rates		
Blanks	6.3%	4.8%
Field Standards	0.7%	4.8%
Field Duplicates	5.9%	3.1%
Primary Samples	87.1%	87.3%

SY-4 is suitable as a standard for background or low grade REE mineralization, but is not suitable as a standard for high grade REE mineralization. The lab inserted of higher grade SRMs into each batch of Wicheeda samples, including SY-3 and OKA-1. SY-3 is a sample of syenite that may no longer be commercially available. Actual recommended values for this SRM could not be confirmed, but one reference suggested values of: 2400 ppm Ce, 1400 ppm La, 840 ppm Nd; and 145 ppm Nb (Fay and Sutarno, 1976). OKA-1 is sample of niobium ore typical of the carbonatite deposit at Oka in western Quebec. It has a recommended value of 0.37 ± 0.1 wt % Nb and is suitable as an SRM for that element (NRC website).

Core duplicates were prepared by sawing a sawn sample a second time to produce a two ¼ samples for analysis with the remaining ½ returned to the core box. Duplicates followed the original sample in the sample stream. Plots of duplicate pairs for Ce, La and Nd are shown below (Figure 11.1). The REE core duplicates for 2009 are divided into individual plots for Ce, La and Nd. They show reasonable correlation with coefficients of correlation of 0.9572 for Ce, 0.9603 for La, and 0.9516 for Nd.

It is the writer's opinion that core logging, sampling, assaying, and chain of custody procedures utilized by Spectrum in 2008 and 2009 were generally consistent with best industry practices at the time the data was collected.

Figure 11.1. Ce, La and Nd Duplicate Pairs



11.3 Drill Core Samples (2008 and 2009): Core Pulp Re-analysis (2020/2021)

11.3.1 Sample Collection and Security

During late 2020, APEX personnel travelled to the Prince George secure core storage facility to retrieve original 2008 and 2009 drill core prepared pulps. The prepared pulps were found to be in good condition, having been stored indoors within their original packaging, and affixed with labels consistent with their original sample IDs. A total of 743 samples were sent for analysis, including 91 QA/QC samples.

The samples were palletized in their original containers and transported by an APEX geologist to a commercial shipping company in Prince George, BC. Samples were then shipped via ground service to the ALS Minerals (ALS) laboratory in Vancouver, BC. Upon receiving the samples, the laboratory sorted and checked the samples received against the sample submission form.

APEX did not always monitor the samples during transport; however, the pallet was reportedly undamaged when received by ALS. Therefore, there is no reason to believe that the security of the samples was compromised in any way during transport or once they entered the ALS chain of custody

11.3.2 Sample Preparation and Analysis

Re-analysis of all 2008 and 2009 original drill core pulps (less the 73 samples submitted to Actlabs during 2008 described above for which sample pulps no longer remain) was completed during 2020 and 2021 to reduce the uncertainty regarding the historical incomplete XRF analytical results.

Once received by ALS in Vancouver, the drill core pulps were logged in to the ALS computerized tracking system and assigned bar code labels. The samples were then analyzed using lithium metaborate fusion with an ICP-MS finish (ALS code ME-MS81). Samples returning greater than 10,000 ppm Ce or La, or greater than 1,000 ppm Pr were subject to overlimit analysis of via high grade REE lithium metaborate fusion with an ICP-MS finish (ME-MS81h).

ALS is an ISO 9001:2008 certified laboratory and is also accredited by the Standards Council of Canada (SCC) and has been found to conform to the requirements of ISO/IEC 17025:2005. ALS is independent of Defense Metals and APEX.

11.3.3 Quality Assurance – Quality Control

Re-analysis of 2008 and 2009 original drill core pulps (less 73 samples submitted to Actlabs during 2008 for which sample pulps no longer remain) was completed during 2020 and 2021 to reduce the uncertainty regarding the historical incomplete XRF analytical results. A total of 743 samples were sent for analysis, including 91 QA/QC samples to ALS.

APEX GEOSCIENCE

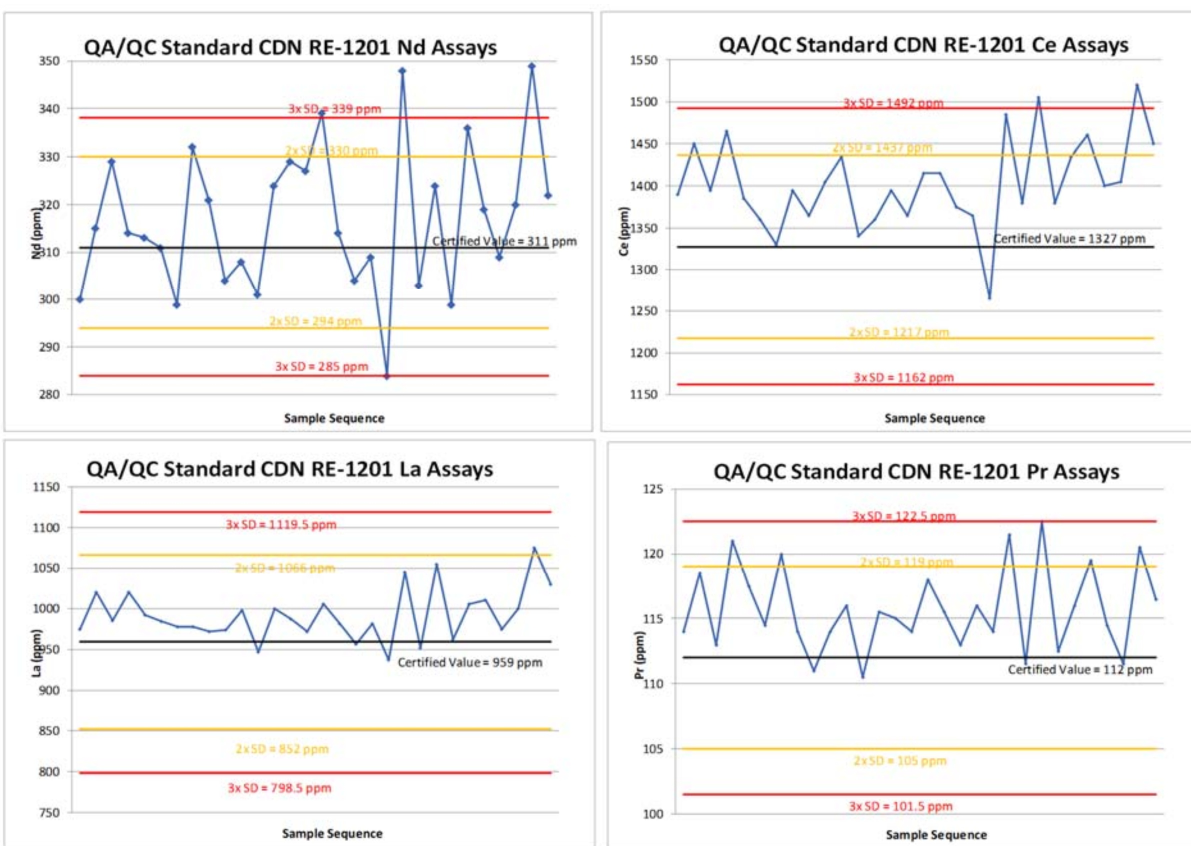
The current drill hole database used for the MRE comprises REEs determined by fusion ICP-MS analysis at Actlabs and ALS (2008 and 2009 drill core pulp re-analysis), in addition to the 2019 drill core samples (ICP-MS at ALS).

The QA/QC procedures implemented during the 2008 and 2009 diamond drill programs include the insertion of control samples (blanks, standards, and duplicates). In general, the 2008 drilling did not include adequate control samples as the percentage of certified reference standards fell below a recommended minimum level of 5%, but this was improved in 2009. The control sample insertion rate is presented in Table 11-1 and shows an acceptable overall rate of more than 12%.

11.3.3.1 Standards

Thirty analytical standards (CDN-RE-1201) were inserted into the 2008 and 2009 drill core pulp re- analysis sample sequence. Assay results show two Nd assays exceeded the acceptable three standard deviation from the certified value (311 ppm ± 27 ppm, and two Ce assay results exceeded the acceptable standard deviation for the certified value (1327 ppm ± 165 ppm). All La results were within the acceptable standard deviation (certified value; 959 ppm ± 161 ppm), and all Pr assays were within the acceptable standard deviation from certified value (112 ppm ± 11 ppm). QA/QC summary charts are presented in Figure 11.2.

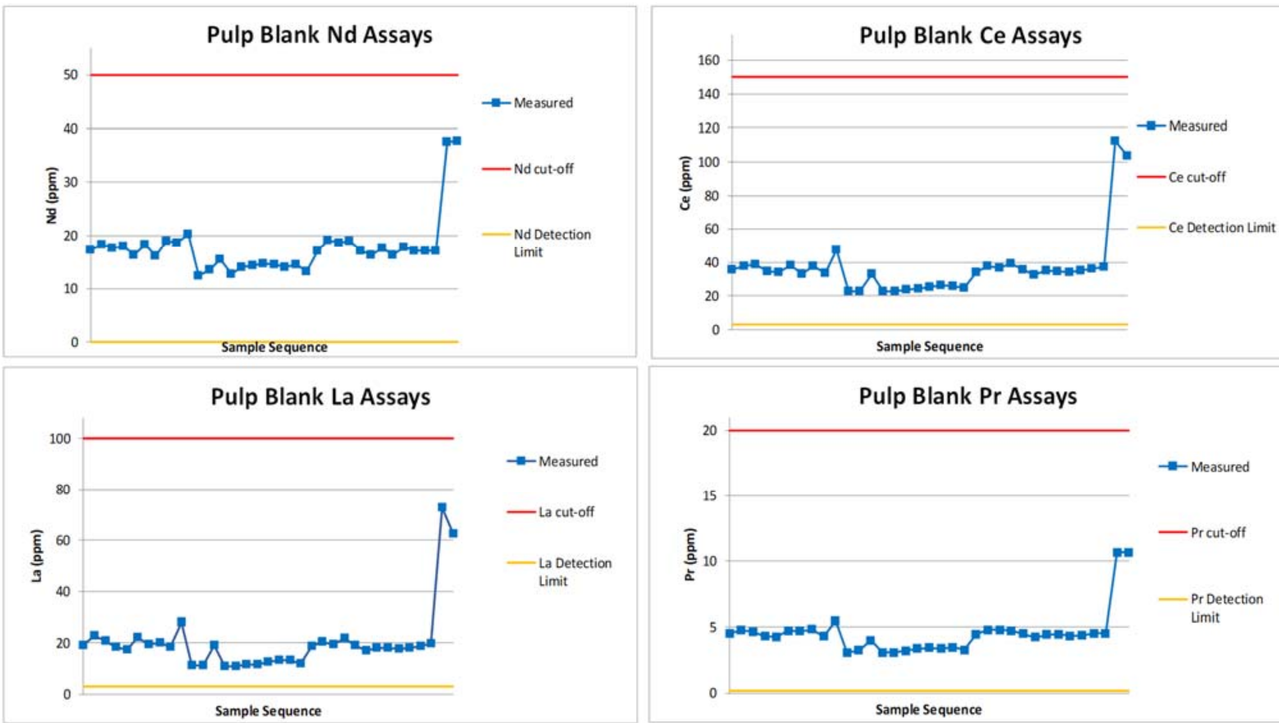
Figure 11.2. QA/QC Analytical Standards (Nd, Ce, La, Pr)



11.3.3.2 Blanks

Thirty-five CDN Resource Laboratories (CDN) granitic material pulps blanks (CD-BL-3 and CDN- BL-4) were used. For the 35 blanks, no samples exceeded the established cut-off values of 50 ppm Nd, 150 ppm Ce, 100 ppm La, and 20 ppm Pr. QA/QC summary charts for the blanks are presented in Figure 11.3.

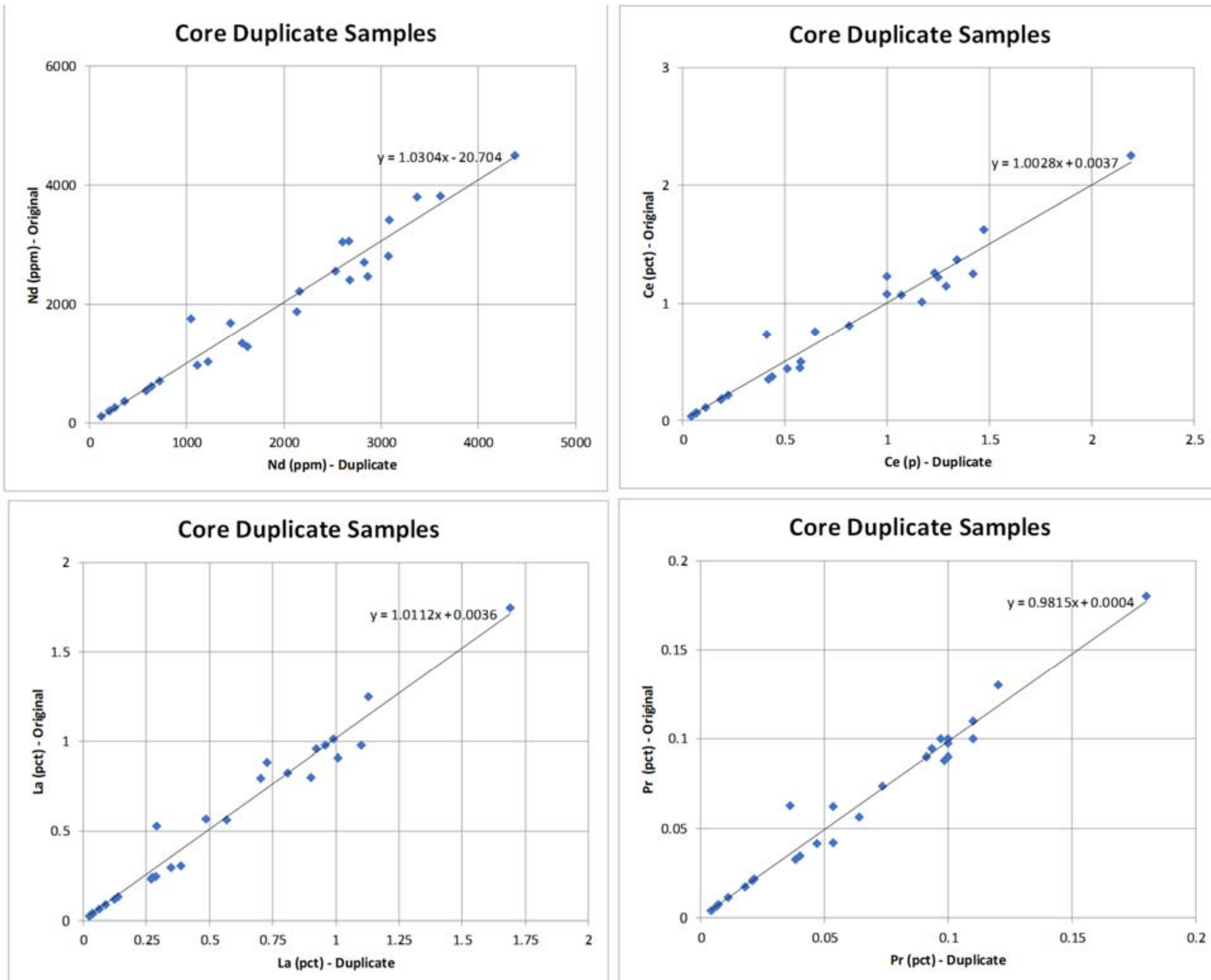
Figure 11.3. QA/QC Blank Samples (Nd, Ce, La, Pr)



11.3.3.3 Duplicates

Twenty-six quartered drill core samples were collected during the diamond drill program. Results of duplicate samples indicate good overall repeatability of the Nd, Ce, La, and Pr values. This is interpreted to indicate a low “nugget” effect with respect to REE analysis. Excluding primary geological heterogeneity (quarter-core), the data show a homogenous distribution of Ne, Ce, La and Pr values within the Wicheeda drill core. QA/QC summary charts for duplicate samples are presented in Figure 11.4.

Figure 11.4.QA/QC Quartered Core Duplicate Samples (Nd, Ce, La, Pr)



11.4 Drill Core Samples (2019)

11.4.1 Sample Collection and Security

A total of 717 samples were collected and sent for analysis, including 145 QA/QC samples. Sample intervals were typically between 1 and 3 m. Due to poor core recovery, one sample measured 7.05 m hole length; however, the actual core length was 1.85 m (Raffle and Asmail, 2022). Sample intervals were marked out and tagged by APEX geologists, and the core was then photographed. Standard, blank and duplicate samples were inserted at regular intervals in the sample sequence.

Drill core samples were sawed in half longitudinally using a diamond bladed core saw. For each sample, one half core was sent for analysis and the other was left in the box. Duplicate samples were cut into quarters, where one quarter of the core was used as the “original” sample and the other quarter was used as the “duplicate” sample. The remaining half core was left in the box.

Drill core samples were placed into labelled plastic sample bags along with a sample tag inscribed with the unique sample number. The samples, including requisite QA/QC samples, were placed into woven poly (rice) bags for shipping to the analyzing laboratory. Cable ties were used to securely close the rice bags. Samples were transported by APEX personnel to a shipping company in Prince George, BC. Samples were then shipped via ground service to ALS Minerals ("ALS") laboratory in Kamloops, British Columbia for preparation. Upon receiving the samples, the laboratory sorted and checked the samples received against the sample submission form.

The authors did not monitor the drill core samples at all times during transport; however, the sealed rice bags with unique identifiers were intact when received by ALS. The authors have no reason to believe that the security of the samples was compromised in any way during transport or once they entered the ALS chain of custody.

11.4.2 Sample Preparation and Analysis

Once received by ALS, the drill core samples were logged in to the ALS computerized tracking system, assigned bar code labels. The samples were then air dried overnight or dried to a maximum of 120^{o}C. The samples are then weighed, crushed to better than 70% passing 2 mm, and the whole sample homogenized before taking the final split for the pulp. Once the samples were homogenized, a 250 g split was selected to be pulverized to better than 85% passing 75 microns. The prepped samples were then shipped to the ALS facility in North Vancouver, British Columbia, for analysis for high grade REE. The samples were analyzed using lithium metaborate fusion with an ICP/MS finish (ALS code ME-MS81h).

ALS is an ISO 9001:2008 certified laboratory and is also accredited by the Standards Council of Canada (SCC) and has been found to conform to the requirements of ISO/IEC 17025:2005. ALS is independent of Defense Metals and the authors.

11.4.3 Quality Assurance – Quality Control

Quality assurance and quality control (QA/QC) measures at ALS include routine screentests to verify crushing and pulverizing efficiency, sample preparation duplicates (every 50 samples), and analytical quality controls (blanks, standards, and duplicates). Quality control samples are inserted with each analytical run, with the minimum number of QC samples dependant on the rack size specific to the chosen analytical method. Results for quality control samples that fall beyond the established limits are automatically red-flagged for serious failures and yellow-flagged for borderline results. Every batch of samples is subject to a dual approval and review process, both by the individual analyst and the Department Manager, before final approval and certification.

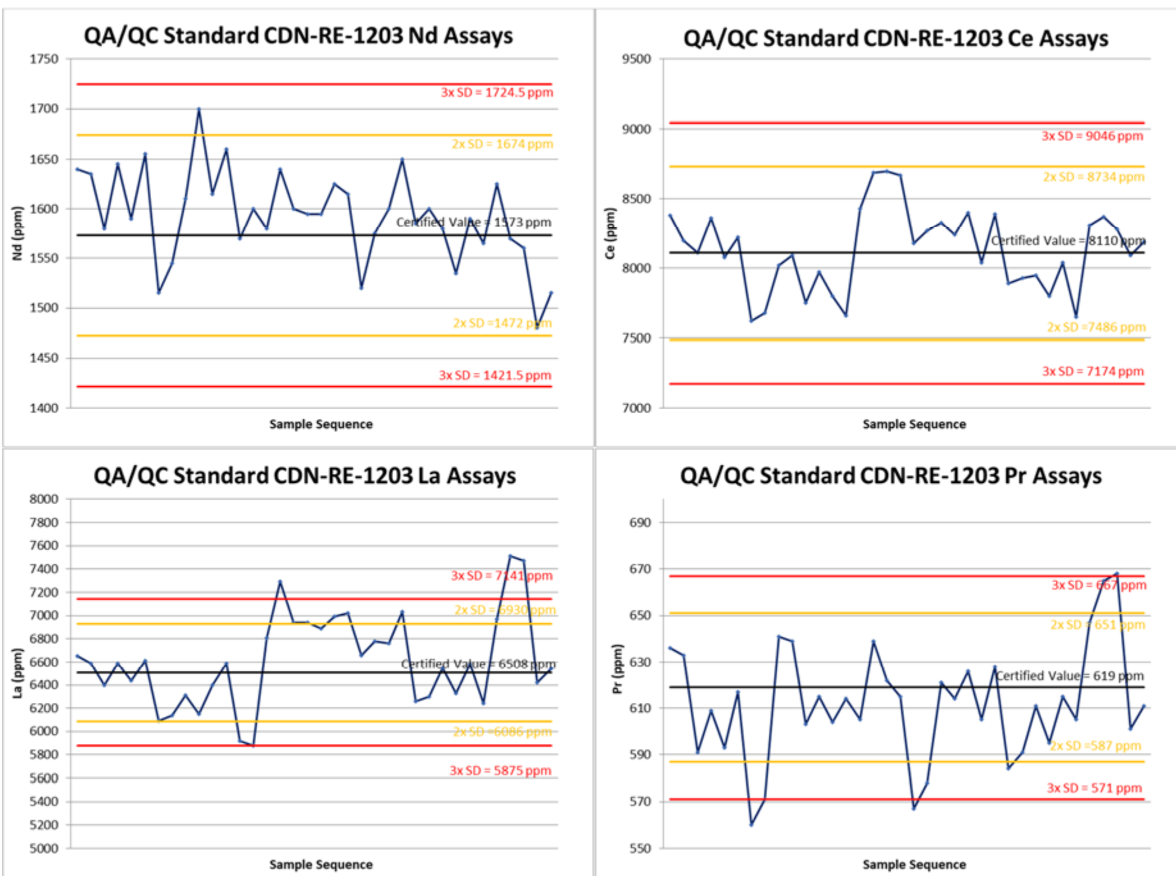
The QA/QC measures employed by APEX geologist comprised inserting field standards, blanks and duplicate samples. Analytical standards were inserted into the sample stream to verify the accuracy of the laboratory analysis. Barren coarse material was used for coarse "blank" samples to monitor potential contamination during the sample preparation procedure. Duplicate samples were collected to assess the repeatability of individual analytical values. QA/QC samples were inserted at a rate of approximately 1 standard, black or duplicate per 20 samples.

The standards, blanks and duplicates were assayed for Nd, Ce, La, and Pr. No significant QA/QC issues were detected during review of the diamond drilling data.

11.4.3.1 Standards

Thirty-six analytical standards (CDN-RE-1203) were selected for the diamond drilling program. Assay results show all Nd assay were within the acceptable standard deviation from the certified value (1573 ppm ± 151.5 ppm), and all Ce assay results were within the acceptable standard deviation for the certified value (8110 ppm ± 936 ppm). Three La result fell outside of the acceptable standard deviation (certified value; 6508 ppm ± 633 ppm), and three Pr assays fell outside of the acceptable standard deviation from certified value (619 ppm ± 48 ppm). QA/QC summary charts are presented in Figure 11.5.

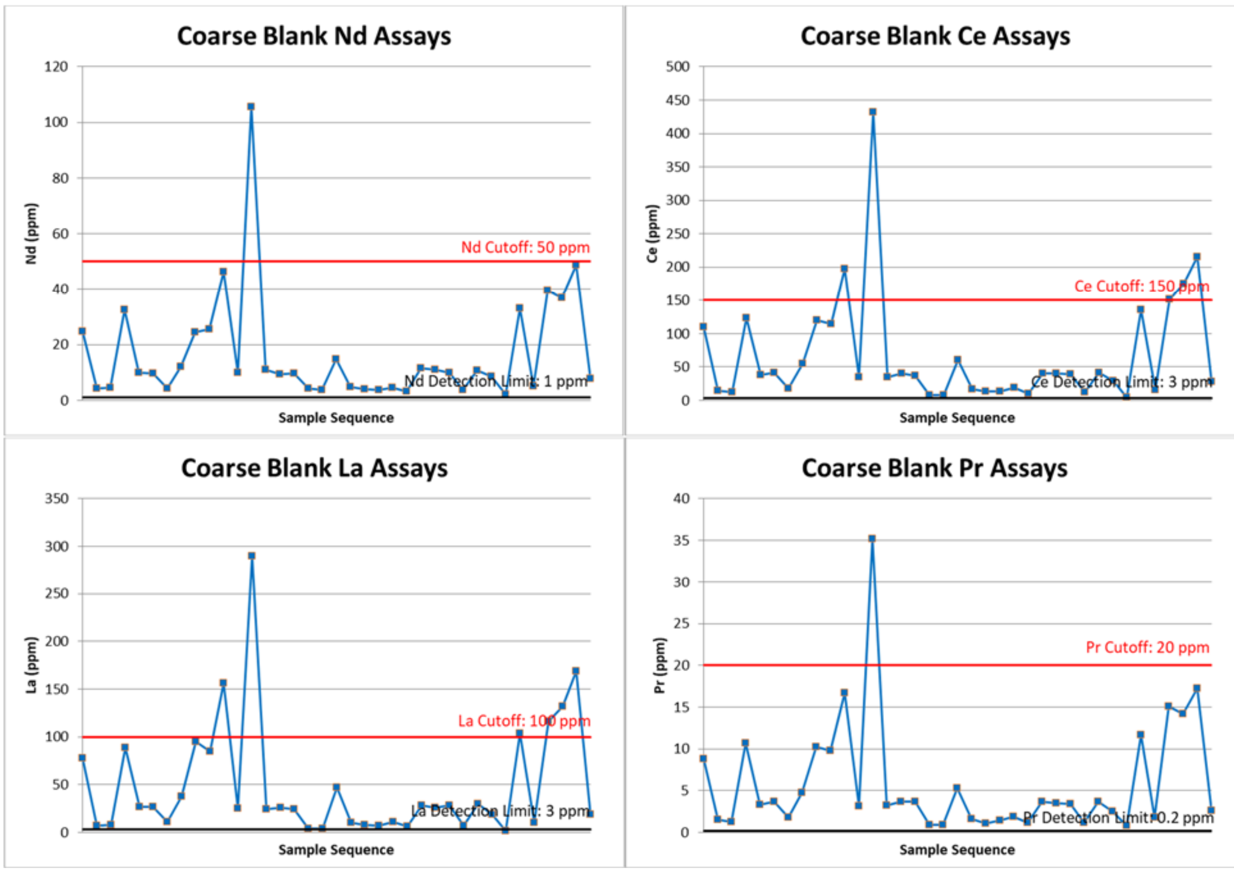
Figure 11.5. QA/QC Analytical Standards (Nd, Ce, La, Pr)



11.4.3.2 Blanks

Thirty-seven Analytical Solutions Ltd. (ASL) coarse silica blanks were used, sourced from Carboniferous sedimentary rocks of the Maritimes Basin in New Brunswick. For the 37 blanks, only one Nd sample exceeded the cut-off value of 50 ppm, while three Ce assays exceeded the cut-off value of 150 ppm. Five La results exceeded the cut-off value of 100 ppm, and 1 Pr assay exceeded the cut-off value of 20 ppm. QA/QC summary charts for the blanks are presented in Figure 11.6.

Figure 11.6. QA/QC Blank Samples (Nd, Ce, La, Pr)



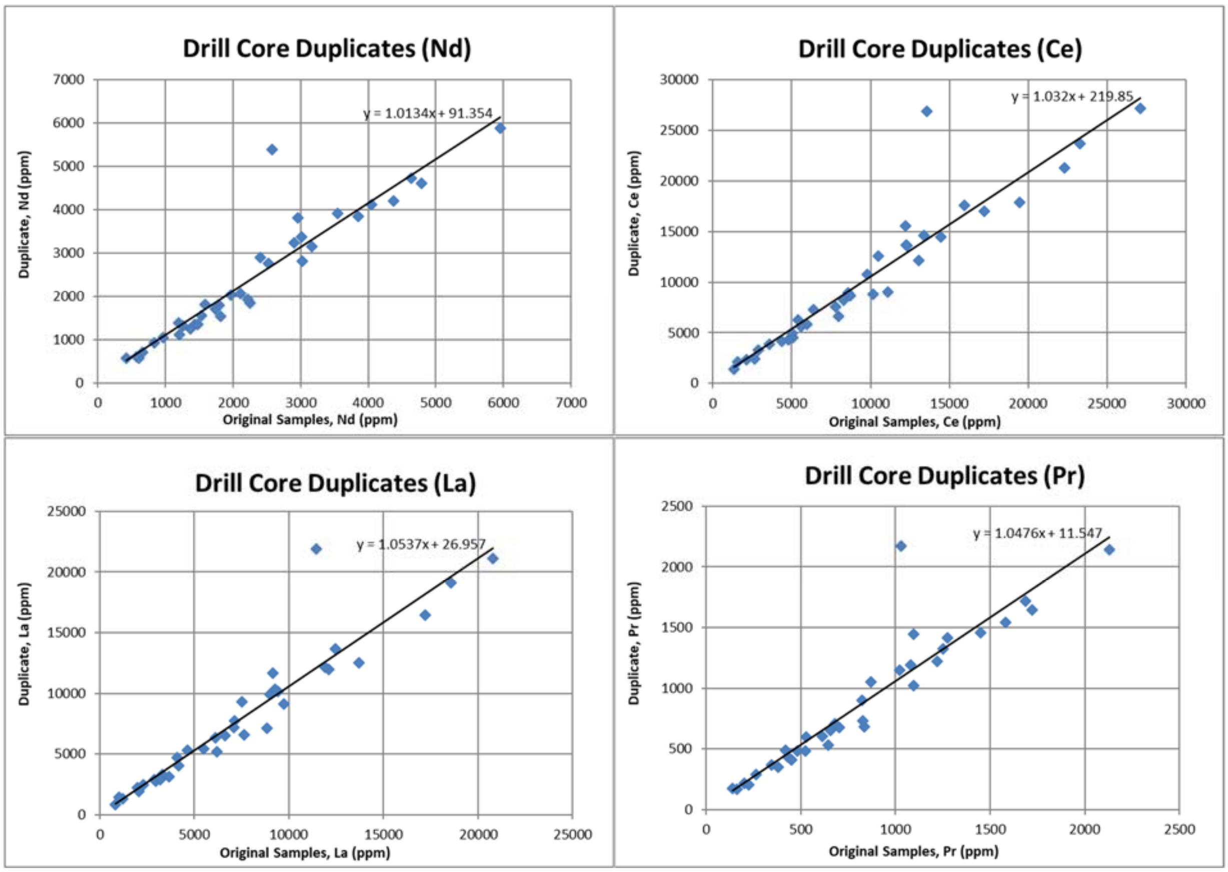
11.4.3.3 Duplicates

Seventy-two quartered drill core samples were collected during the diamond drill program. Results of duplicate samples indicate good overall repeatability of the Nd, Ce, La, and Pr values. This is interpreted to indicate a low “nugget” effect with respect to REE analysis. Excluding primary geological heterogeneity (quarter-core), the data show a homogenous distribution of Ne, Ce, La and Pr values within the Wicheeda drill core. QA/QC summary charts for duplicate samples are presented in Figure 11.7.

As part of their internal QA/QC program, ALS completed routine re-analysis of prep (coarse reject) and pulp duplicates to monitor precision. ALS analyzed a total of 10 prep duplicates and 25 pulp duplicates for a total of 35 prep/pulp duplicates.

It is the authors' opinion that the sample collection, preparation, security, analytical and QA/QC measures used during the 2019 diamond drilling program were adequate for this stage of exploration at the Wicheeda Property.

Figure 11.7.QA/QC Quartered Core Duplicate Samples (Nd, Ce, La, Pr)



11.5 Drill Core Samples (2021)

A total of 2171 samples were collected and sent for analysis, including 338 QA/QC samples. Sample intervals were typically between 1 and 3 m. Due to poor core recovery, few samples were over 3 meters: two samples measured 9.15 m; however, the actual core lengths were 1.15 – 1.4 m, and three samples measured 6.1 m hole length; however the actual core length were 0.61 cm – 1.1 m. Sample intervals were marked out and tagged by APEX geologists, and the core was then photographed. Standard, blank and duplicate samples were inserted at regular intervals in the sample sequence.

Drill core samples were sawed in half longitudinally using a diamond bladed core saw. For each sample, one half core was sent for analysis and the other was left in the box. Duplicate samples were cut into quarters, where one quarter of the core was used as the “original” sample and the other quarter was used as the “duplicate” sample. The remaining half core was left in the box.

Drill core samples were placed into labelled plastic sample bags along with a sample tag inscribed with the unique sample number. The samples, including requisite QA/QC samples, were placed into woven poly (rice) bags for shipping to the analyzing laboratory. Cable ties were used to securely close the rice bags. Samples were transported by APEX personnel to a shipping company in Prince George, BC. Samples were then shipped via ground service to ALS Minerals (“ALS”) laboratory in Langley, British Columbia for preparation. Upon receiving the samples, the laboratory sorted and checked the samples received against the sample submission form.

The authors did not monitor the drill core samples at all times during transport; however, the sealed rice bags with unique identifiers were intact when received by ALS. The authors have no reason to believe that the security of the samples was compromised in any way during transport or once they entered the ALS chain of custody.

11.5.1 Sample Preparation and Analysis

Once received by ALS, the drill core samples were logged in to the ALS computerized tracking system, assigned bar code labels. The samples were then air dried overnight or oven dried to a maximum of 120^{o}C. The samples were then weighed, crushed to better than 70% passing 2 mm, and the whole sample homogenized before taking the final split for the pulp. Once the samples were homogenized, a 250 g split was selected to be pulverized to better than 85% passing 75 microns. The prepped samples were then shipped to the ALS facility in North Vancouver, British Columbia, for analysis for high grade REE. The samples were analyzed using lithium metaborate fusion with an ICP/MS finish (ALS code ME-MS81h).

ALS is an ISO 9001:2015 certified laboratory and has received ISO/IEC 17025:2017 accreditation from the Standards Council of Canada (SCC).

11.5.2 Quality Assurance – Quality Control

Quality assurance and quality control (QA/QC) measures at ALS include routine screentests to verify crushing and pulverizing efficiency, sample preparation duplicates (every 50 samples), and analytical quality controls (blanks, standards, and duplicates). Quality control samples are inserted with each analytical run, with the minimum number of QC samples dependant on the rack size specific to the chosen analytical method. Results for quality control samples that fall beyond the established limits are automatically red-flagged for serious failures and yellow-flagged for borderline results. Every batch of samples is subject to a dual approval and review process, both by the individual analyst and the Department Manager, before final approval and certification. ALS North

Vancouver is certified with ISO/IEC 17025:2017 and ISO 9001:2015 accreditation from the Standards Council of Canada.

The QA/QC measures employed by APEX geologist comprised inserting field standards, blacks and duplicate samples. Analytical standards were inserted into the sample stream to verify the accuracy of the laboratory analysis. Barren coarse material was used for coarse “blank” samples to monitor potential contamination during the sample preparation procedure. Duplicate samples were collected to assess the repeatability of individual analytical values. QA/QC samples were inserted at a rate of approximately 1 standard, blank or duplicate per 20 samples.

The standards, blanks and duplicates were assayed for Nd, Ce, La, and Pr. No significant QA/QC issues were detected during review of the diamond drilling data.

11.5.2.1 Standards

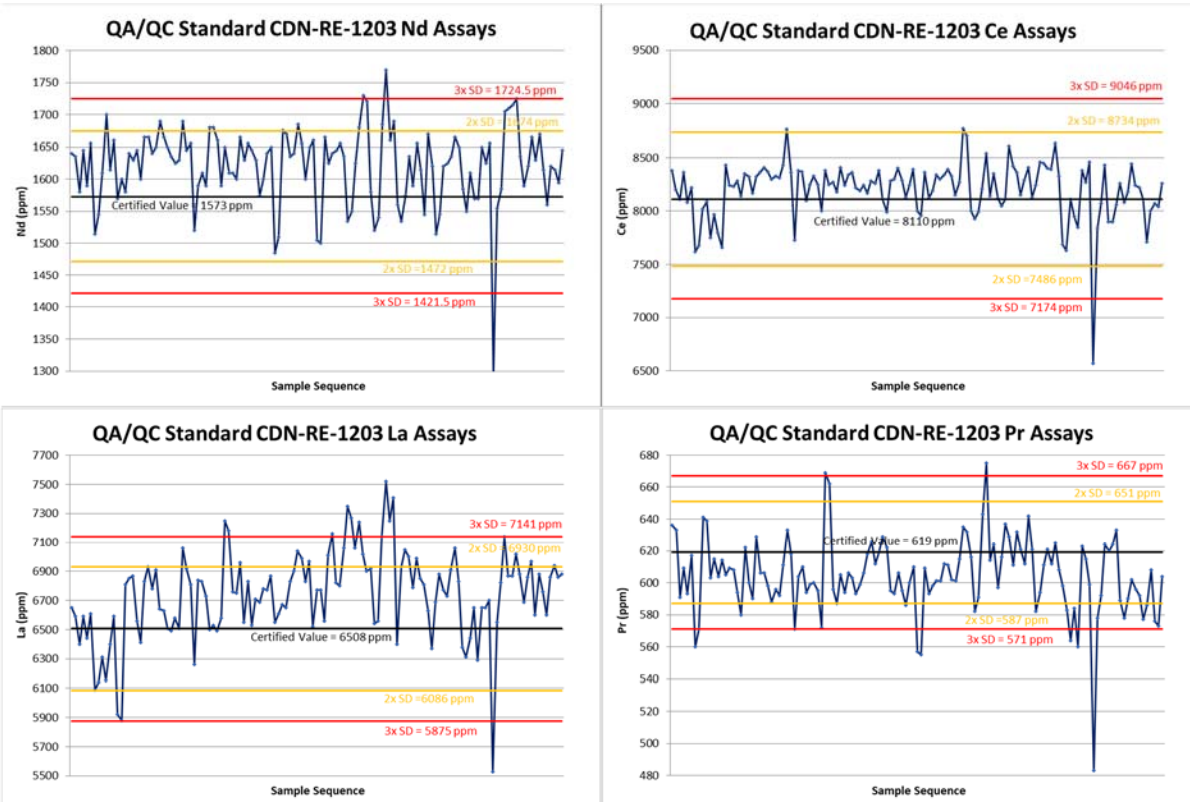
Analytical standards were inserted into the sample stream to verify the accuracy of the laboratory analysis. CDN Resource Laboratories CDN-RE-1203 reference material was selected for the 2021 diamond drilling program. A total of 129 standards were inserted into the sample stream. QA/QC summary charts showing the measured values for each standard, in addition to the certified value, and the second and third “between laboratory” standard deviation for Nd, Ce, La and Pr are presented in Figure 11.8.

Each standard has an accepted concentration as well as known “between laboratory” standard deviations or expected variability. There are two general industry criteria employed by which standards are assigned a “pass” or “reviewable” status. First, a “reviewable” standard is defined as any standard occurring anywhere in a drill hole returning greater than three standard deviations (>3SD) above or below the accepted value for an element. Second, if two or more consecutive standards from the same batch return values greater than two standard deviations (>2SD) above or below the accepted value on the same side of the mean for at least one element, they are classified as “reviewable”. QA/QC samples falling outside established limits are flagged and subject to review and possibly re-analysis, along with the 10 preceding and succeeding samples.
Assay values show: four Nd assays fell outside of the acceptable standard deviation from the certified value (1573 ppm ± 151.5 ppm), one Ce assay fell outside of the acceptable standard deviation for the certified value (8110 ppm ± 936 ppm), ten La assays fell outside of the acceptable standard deviation (certified value; 6508 ppm ± 633 ppm), and eight Pr assays fell outside of the acceptable standard deviation from certified value (619 ppm ± 48 ppm).

11.5.2.2 Blanks

Blank samples were inserted into the sample stream to check for contamination during the sample preparation procedures. Standard coarse-crushed silica blanks were used, sourced from landscaping material. Of the 101 blanks analyzed, six samples exceeded the Nd cut-off value of 50 ppm, while ten Ce assays exceeded the cut-off value of 150 ppm. Fifteen La results exceeded the cut-off value of 100 ppm, and five Pr assay exceeded the cut-off value of 20 ppm. QA/QC summary charts for the blanks are presented in Figure 11.9.

Figure 11.8. QA/QC Analytical Standards (Nd, Ce, La, Pr)



As part of their internal QA/QC program, ALS completed routine re-analysis of blank samples to monitor precision. ALS analyzed a total of 25 blanks.

11.5.2.3 Duplicates

Duplicate (quartered drill core) samples were collected to assess the repeatability of individual analytical values. One hundred and seven duplicate core samples were collected during the diamond drill program. Results of duplicate samples indicate good overall repeatability of the Nd, Ce, La, and Pr values. This is interpreted to indicate a low “nugget” effect with respect to REE analysis. Excluding primary geological heterogeneity (quarter-core), the data show a homogenous distribution of Nd, Ce, La and Pr values within the Wicheeda drill core. QA/QC summary charts for duplicate samples are presented in Figure 11.10.

It is the authors’ opinion that the sample collection, preparation, security, analytical and QA/QC measures used during the 2021 diamond drilling program were adequate for this stage of exploration at the Wicheeda Property.

Figure 11.9 QA/QC Blank Samples (Nd, Ce, La, Pr)

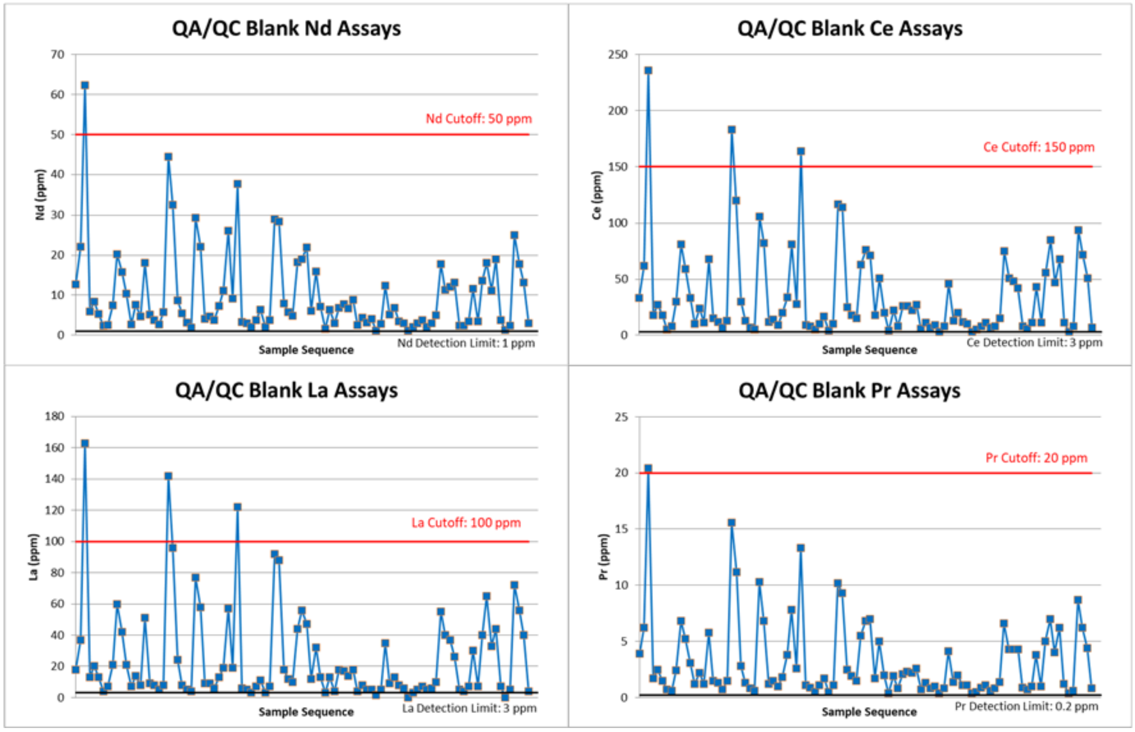
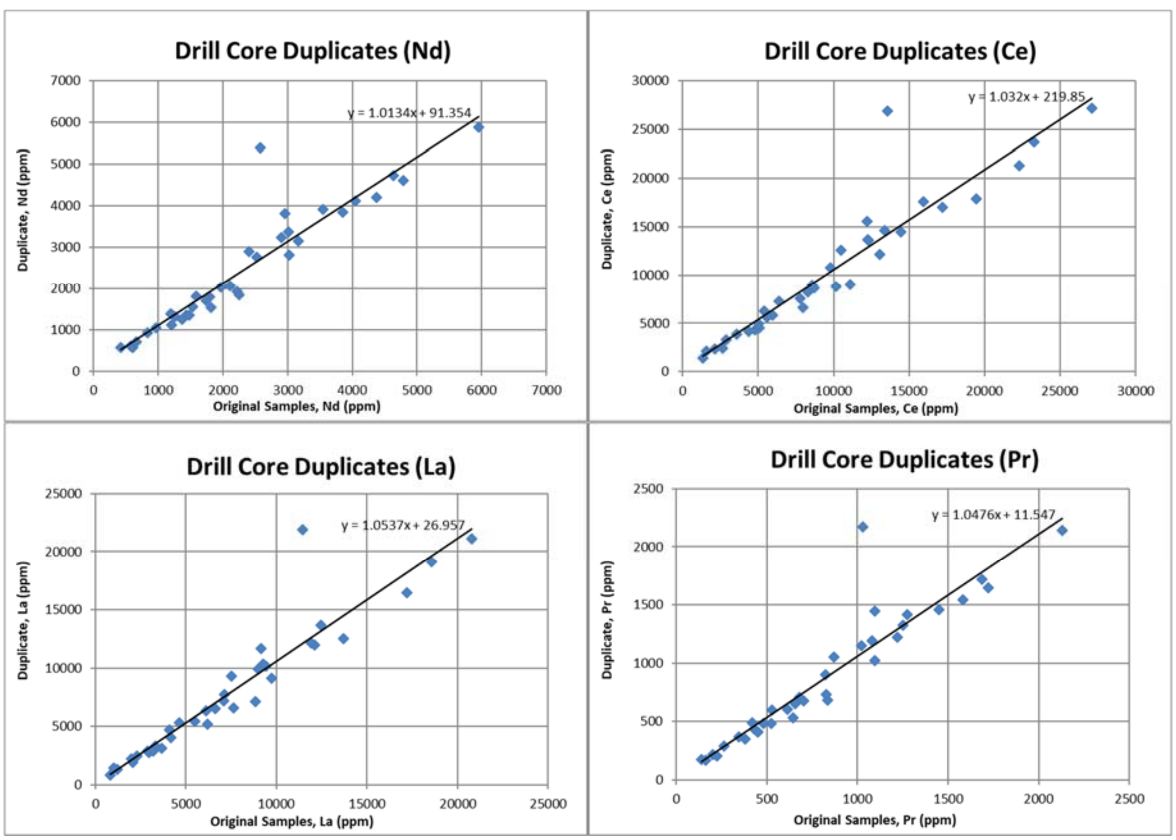


Figure 11.10. QA/QC Quartered Core Duplicate Samples (Nd, Ce, La, Pr)



11.6 Drill Core Samples (2022)

11.6.1 Sample Collection and Security

A total of 1971 samples were collected and sent for analysis, including 296 QA/QC samples. Sample intervals were typically between 1 and 3 m. Due to poor core recovery, 2 samples were over 3 m and not over 4.5 m. Sample intervals were marked out and tagged by APEX geologists, and the core was then photographed. Standard, blank and duplicate samples were inserted at regular intervals in the sample sequence.

Drill core samples were sawed in half longitudinally using a diamond bladed core saw. For each sample, one half core was sent for analysis and the other was left in the box. Duplicate samples were cut into quarters, where one quarter of the core was used as the “original” sample and the other quarter was used as the “duplicate” sample. The remaining half core was left in the box.

Drill core samples were placed into labelled plastic sample bags along with a sample tag inscribed with the unique sample number. The samples, including requisite QA/QC samples, were placed into woven poly (rice) bags for shipping to the analyzing laboratory. Cable ties were used to securely close the rice bags. Samples were transported by APEX personnel to a shipping company in Prince George, BC. Samples were then shipped via ground service to ALS Minerals (“ALS”) laboratory in Langley, British Columbia for preparation. Upon receiving the samples, the laboratory sorted and checked the samples received against the sample submission form.

The authors did not monitor the drill core samples at all times during transport; however, the sealed rice bags with unique identifiers (security tags) were intact when received by ALS. The authors have no reason to believe that the security of the samples was compromised in any way during transport or once they entered the ALS chain of custody.

11.6.2 Sample Preparation and Analysis

Once received by ALS, the drill core samples were logged in to the ALS computerized tracking system, assigned bar code labels. The samples were then air dried overnight or oven dried to a maximum of 120°C. The samples were then weighed, crushed to better than 70% passing 2 mm, and the whole sample homogenized before taking the final split for the pulp. Once the samples were homogenized, a 250 g split was selected to be pulverized to better than 85% passing 75 microns. The prepped samples were then shipped to the ALS facility in North Vancouver, British Columbia, for analysis for high grade REE. The samples were analyzed using lithium metaborate fusion with an ICP/MS finish (ALS code ME-MS81h).

ALS is an ISO 9001:2015 certified laboratory and has received ISO/IEC 17025:2017 accreditation from the Standards Council of Canada (SCC).

11.6.3 Quality Assurance – Quality Control

Quality assurance and quality control (QA/QC) measures at ALS include routine screentests to verify crushing and pulverizing efficiency, sample preparation duplicates (every 50 samples), and analytical quality controls (blanks, standards, and duplicates). Quality control samples are inserted with each analytical run, with the minimum number of QC samples dependant on the rack size specific to the chosen analytical method. Results for quality control samples that fall beyond the established limits are automatically red-flagged for serious failures and yellow-flagged for borderline results. Every batch of samples is subject to a dual approval and review process, both by the individual analyst and the Department Manager, before final approval and certification. ALS North Vancouver is certified with ISO/IEC 17025:2017 and ISO 9001:2015 accreditation from the Standards Council of Canada.

The QA/QC measures employed by APEX geologist comprised inserting field standards, blacks and duplicate samples. Analytical standards were inserted into the sample stream to verify the accuracy of the laboratory analysis. Barren coarse material was used for coarse “blank” samples to monitor potential contamination during the sample preparation procedure. Duplicate samples were collected to assess the repeatability of individual analytical values. QA/QC samples were inserted at a rate of approximately 1 standard, blank or duplicate per 20 samples.

The standards, blanks and duplicates were assayed for Nd, Ce, La, and Pr. No significant QA/QC issues were detected during review of the diamond drilling data.

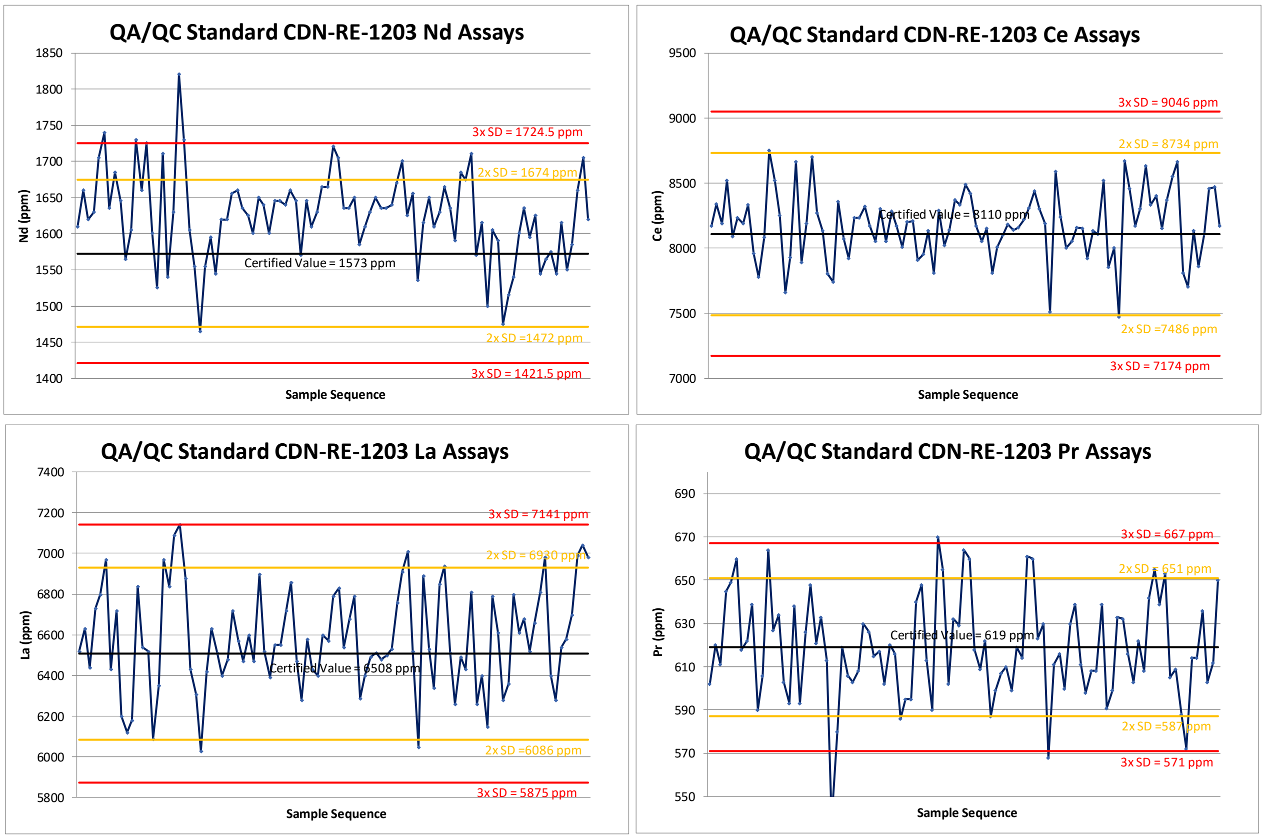
11.6.3.1 Standards

Analytical standards were inserted into the sample stream to verify the accuracy of the laboratory analysis. CDN Resource Laboratories CDN-RE-1203 reference material was selected for the 2022 diamond drilling program. A total of 97 standards were inserted into the sample stream. QA/QC summary charts showing the measured values for each standard, in addition to the certified value, and the second and third “between laboratory” standard deviation for Nd, Ce, La and Pr are presented in Figure 11.11.

Each standard has an accepted concentration as well as known “between laboratory” standard deviations or expected variability. There are two general industry criteria employed by which standards are assigned a “pass” or “reviewable” status. First, a “reviewable” standard is defined as any standard occurring anywhere in a drill hole returning greater than three standard deviations (>3SD) above or below the accepted value for an element. Second, if two or more consecutive standards from the same batch return values greater than two standard deviations (>2SD) above or below the accepted value on the same side of the mean for at least one element, they are classified as “reviewable”. QA/QC samples falling outside established limits are flagged and subject to review and possibly re-analysis, along with the 10 preceding and succeeding samples.

Assay values show: five Nd assays fell outside of the acceptable standard deviation from the certified value (1573 ppm ± 151.5 ppm), none of Ce assay fell outside of the acceptable standard deviation for the certified value (8110 ppm ± 936 ppm), none of La assays fell outside of the acceptable standard deviation (certified value; 6508 ppm ± 633 ppm), and one Pr assay fell outside of the acceptable standard deviation from certified value (619 ppm ± 48 ppm).

Figure 11.11. QA/QC Analytical Standards (Nd, Ce, La, Pr)

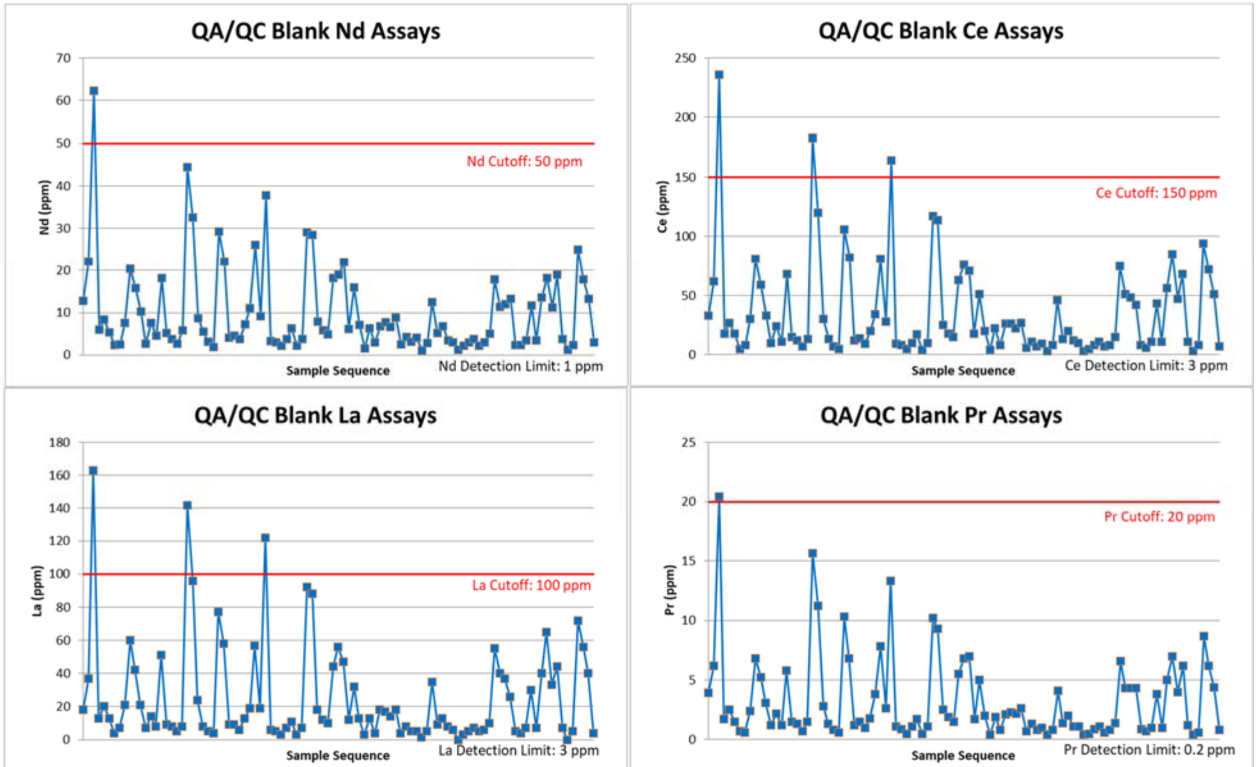


11.6.3.2 Blanks

Blank samples were inserted into the sample stream to check for contamination during the sample preparation procedures. Standard coarse-crushed silica blanks were used, sourced from landscaping material. Of the 99 blanks analyzed, one sample exceeded the Nd cut-off value of 50 ppm, while three Ce assays exceeded the cut-off value of 150 ppm. Three La results exceeded the cut-off value of 100 ppm, and one Pr assay exceeded the cut-off value of 20 ppm. QA/QC summary charts for the blanks are presented in Figure 11.12.

As part of their internal QA/QC program, ALS completed routine re-analysis of blank samples to monitor precision.

Figure 11.12. QA/QC Blank Samples (Nd, Ce, La, Pr)

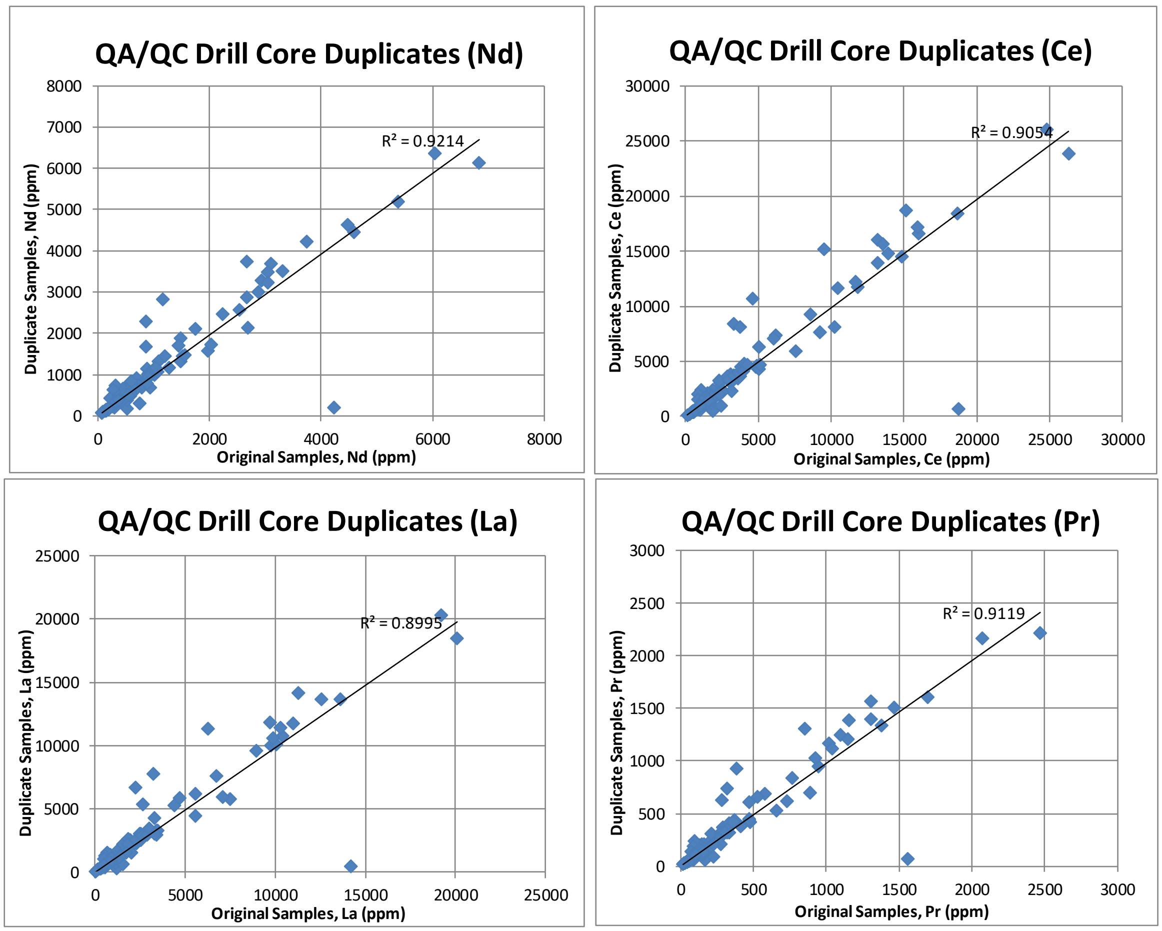


11.6.3.3 Duplicates

Duplicate (quartered drill core) samples were collected to assess the repeatability of individual analytical values. Ninety-nine duplicate core samples were collected during the diamond drill program. Results of duplicate samples indicate good overall repeatability of the Nd, Ce, La, and Pr values. This is interpreted to indicate a low nuggety" nature of mineralization with respect to REE analysis. Excluding primary geological heterogeneity (quarter-core), the data show a homogenous distribution of Nd, Ce, La and Pr values within the Wicheeda drill core. QA/QC summary charts for duplicate samples are presented in Figure 11.13.

It is the authors' opinion that the sample collection, preparation, security, analytical and QA/QC measures used during the 2022 diamond drilling program were adequate for this stage of exploration at the Wicheeda Property.

Figure 11.13. QA/QC Quartered Core Duplicate Samples (Nd, Ce, La, Pr)



11.7 Variability Samples for Metallurgy Testwork Sample (2022)

11.7.1 *Sample Collection and Security*

Defense Metals prepared 17 variability samples covering different lithologies, areas of the deposit, and head grades using drill core material. The average mass of each sample was 31 kg, with the Total Rare Earth Oxide ("TREO") assays ranging from 1.07% to 4.52% with an average of 2.34% TREO. Drill core material was also used to make a 260 kg Master Composite (MC) sample containing each of the three lithologies in their respective life-of-mine proportions. The MC sample had a head grade assay of 2.49% TREO. All variability samples and the MC sample were shipped to SGS, Lakefield, Ontario. SGS Lakefield is an ISO/IEC 17025 and ISO9001:2015 accredited laboratory. SGS is independent of Defense Metals Corp.

11.7.2 Sample Preparation and Analysis

Once at SGS where samples were checked, crushed, and composited. A total of 87 flotation tests were completed to investigate the impact of collector type and dosage, depressant type and dosage, pulp temperature, pulp density, pulp pH, and flotation feed size.

Bulk flotation and other operations were carried out at SGS in order to prepare concentrate samples for continuing hydrometallurgical test work and planned hydrometallurgical pilot plant testing.

Feed samples were analyzed by Inductively coupled plasma mass spectrometry (ICP-MS) and flotation products were analyzed by SGS using wavelength dispersive X-ray fluorescence (WD-XRF) following lithium borate fusion of the sample. The SGS analyses included a quality assurance / quality control (QA/QC) program including the insertion of rare earth element standard and blank samples.

11.7.3 Quality Assurance – Quality Control

The SGS analysis included a quality assurance / quality control (QA/QC) program including the insertion of rare earth element standard and blank samples. The authors detected no significant QA/QC issues during review of the data.

12 Data Verification

Mr. Raffle managed and oversaw technical aspects of the 2019 Wicheeda diamond drill campaign; including selection of diamond drill sites, establishing geotechnical and geological core logging and sampling procedures, in addition to QA/QC program design and monitoring. Mr. Raffle conducted three site visits to the Wicheeda Project during the periods July 29-30, August 27-28, and October 9, 2019 in advance of, during, and following completion of the 2019 diamond drilling, respectively. During the initial site visit Mr. Raffle reviewed a number of historic drill holes from the 2008 and 2009 drill campaigns held in secure storage along with all original sample pulps and coarse reject material at Prince George; and traversed the Wicheeda deposit for the purpose of finalizing the proposed 2019 diamond drill hole collar locations, and to observe the 2019 bulk sample site, and aerial extent of dolomite-carbonatite exposed at surface. Subsequent site visits conducted at the mid-point and following completion of 2019 drilling operations were completed for the purpose of observing logging and sampling protocols, and to permit detailed review all 2019 drill holes (Raffle & Nicholls., 2020). Additional visits to the project during preparation and executions of the different drilling programs provided by Mr. Raffle took place on November 8, 2019, October, 20th, 2021, July 6th 2022, August 15th and 16th 2022 and June 27th 2023. Visits to the project took place as part of the ongoing supervision of exploration programs to verify quality of the data collected, review conditions of terrain, prepare pre-feasibility study.

The complete Wicheeda Project drill hole database was reviewed in 2023 by APEX to ensure it was suitable for resource estimation. Validation by APEX and the authors included visual inspection and validation of drill hole collar, downhole survey data, and core recovery; in addition to digital validation for overlapping and missing lithology and sample intervals. Data from the drilling programs between 2019 and 2022 was captured and validated by APEX during each drilling campaign, after which APEX compiled the results with the historical data. Subsequently, the authors created an updated 3D geological model for the Wicheeda Deposit consistent with interpretation as a carbonate-hosted intrusion REE deposit.

In addition to the above, during late 2020, APEX personnel travelled to the Prince George secure core storage facility to retrieve original 2008 and 2009 drill core prepared pulps. The prepared pulps were found to be in good condition, having been stored indoors within their original packaging, and affixed with labels consistent with their original sample IDs. A total of 743 samples were sent for analysis, including 91 QA/QC samples. Details of results and associated QAQC is presented in Section 11.3. Samples were then analyzed using lithium metaborate fusion with an ICP-MS finish (ALS code ME-MS81). Samples returning greater than 10,000 ppm Ce or La, or greater than 1,000 ppm Pr were subject to overlimit analysis of via high grade REE lithium metaborate fusion with an ICP-MS finish (ME-MS81h). This type of analysis has been considered the appropriate analysis for this mineralization style and has been used in subsequent drilling programs in 2019, 2021 and 2022. Details of results and associated QAQC is presented in Section 11.3.

Based on the results of the data review, verification, validation, and results of the 2019, 2021, 2022 diamond Wicheeda REE Deposit drill programs; the current Wicheeda drillhole database and 3D geological model is considered to be in good condition and suitable to use in ongoing resource estimation studies.

13 Mineral Processing and Metallurgical Testing

Defense Metals completed metallurgical testing campaigns for the Wicheeda Project between 2019 and 2023. Initial testing was mainly focused on developing an initial caustic crack hydrometallurgical flowsheet (SGS, 2019). Subsequent studies have included variability samples tests as well as acid-bake (AB) tests for improved recoveries done within the hydrometallurgical pilot plant developed by SGS for the Wicheeda Project's ongoing metallurgical studies.

13.1 2019 - 2020 Metallurgical Testing

The first of the two scoping level testing campaigns was conducted in 2019 at SGS Canada. Feed material for metallurgical testing was sourced from the approximately 30 tonne bulk sample collected from the Wicheeda Deposit by Spectrum during October 2018. The 2019 SGS flotation testwork worked to establish a Wicheeda metallurgical process base-case by confirming the reproducibility of previous 2011 metallurgical test work, followed by process flowsheet optimization through researching the effects of various reagent combinations, in addition to varying grind size, flotation pulp temperature, and pH.

Results from a total 40 batch flotation tests designed to produce an optimized Wicheeda process flowsheet through iterative test procedures with varying process conditions as described above informed one Locked-Cycle Test ("LCT") that successfully produced a 48.7% total rare earth oxide (TREO) high grade concentrate of cerium, lanthanum, neodymium, and praseodymium oxides (Ce_20_3+La_20_3+Nd_20_3+Pr_20_3), and an 85.7% TREO recovery (Table 13.1, and Figure 13.1).

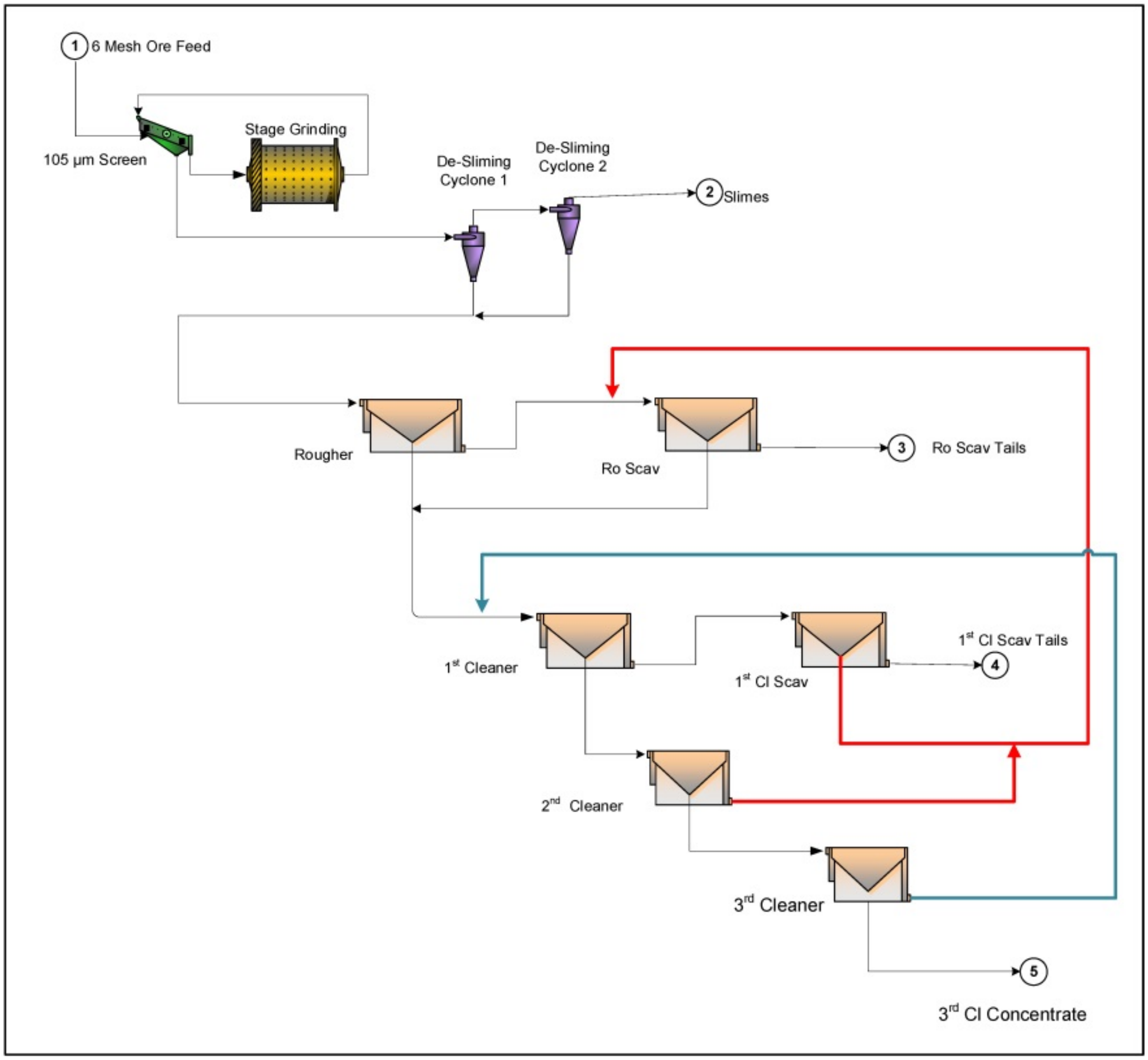
Table 13.1. Metallurgical test results from Wicheeda bulk sample

Combined Products	Weight		Assays %					Global Distribution %				
	g	%	Ce_2O_3	La_2O_3	Nd_2O_3	Pr_2O_3	REO	Ce_2O_3	La_2O_3	Nd_2O_3	Pr_2O_3	REO
LCT-1 REE 3rd Cl Conc	1,050	8.2	23.7	17.9	5.26	1.84	**48.7**	85.4	86.6	85.6	82.0	**85.7**
LCT-1 REE 1st Cl Scav Tail	2,093	16.4	0.47	0.32	0.09	0.03	0.91	3.4	3.1	3.0	3.0	3.2
LCT-1 REE Ro Scav Tail	9,643	75.4	0.34	0.23	0.08	0.04	0.69	11.3	10.3	11.4	15.0	11.1
Total Feed	12,786	100	2.28	1.70	0.50	0.18	4.66	100	100	100	100	100
Direct Feed			2.34	1.77	0.52	0.18	**4.81**					

The main flowsheet evaluated in the testwork was direct froth flotation. The LREO grade in the Defense Metals (DM) Head sample was relatively high, at 4.81% LREO (Ce_2O_3 + La_2O_3 + Nd_2O_3 + Pr_2O_3). The main REE minerals in the feed were monazite (3.7%), parisite/synchysite (3.4%), and bastnäsite (0.45%). The major gangue minerals were dolomite (46%) and ankerite (30%). REE Carbonates (combined synchysite/parisite and bastnäsite) were well-liberated at 100% passing 106 µm, with 91% of the total REE

Carbonates classified as free or liberated. Monazite liberation was reasonably good, with 80% of the monazite classified as free or liberated at a particle size of 100% passing 106 µm. Based on the results of grindability testwork, the DM Head sample was characterized as very soft and very mildly abrasive, compared to the SGS mineral grindability database. The DM Head sample was stage-ground to 100% passing 106 µm prior to flotation testwork.

Figure 13.1. Locked Cycle Flotation Test Flowsheet



The flotation beneficiation response of the Wicheeda Rare Earth deposit is believed to rank among the best relative to other known REE projects. Excellent results were achieved through the flotation process, including a high scale-up ratio, to a high-grade concentrate at high recoveries. The downstream hydrometallurgical process is expected to benefit significantly from this quality of flotation concentrate grade, resulting in a lower overall potential OPEX for the project (SGS, 2019). There remains very good potential to further simplify the flowsheet and reduce the operational cost with further optimization of grind size, conditioning/flotation temperature and depressant dosage.

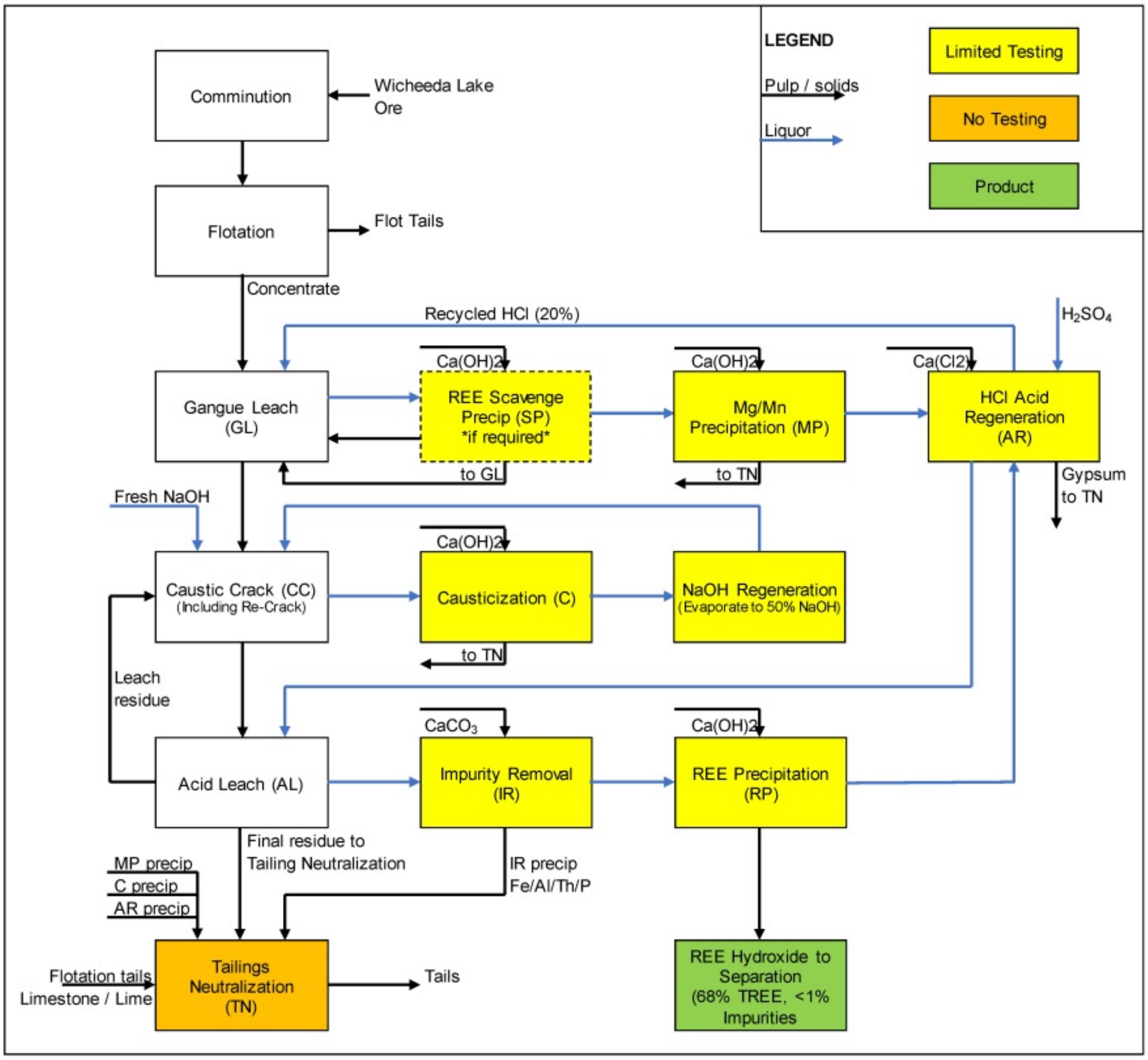
Hydrometallurgical testing was completed in February 2020. Samples of Wicheeda flotation concentrate were used in a test program that led to the successful development of a flowsheet capable of processing the concentrate to a high grade mixed REE hydroxide precipitate. Results from the test program include a high REE extraction from flotation concentrate of 90% into a chlorine based leach solution, treatment of the leach solution with limestone achieved high (94-100%) removal of impurities with only 2-4% REE losses, and overall recoveries of 70-75% TREE from the bulk sample to a high grade mixed REE hydroxide precipitate, and up to 76-78% TREE with reprocessing of the final leach residue (Table 13.2; SGS, 2020).

Table 13.2. Hydrometallurgical Test Results from Wicheeda Bulk Sample

REE Hydroxide Precipitate (g/t)		REE Hydroxide Precipitate (%)	
La	224000	Si	0.26
Ce	333000	Al	0.06
Pr	27500	Fe	0.03
Nd	76400	Mg	<0.01
Sm	7210	Ca	0.03
Eu	1606	Na	-
Gd	3720	K	<0.01
Tb	260	Ti	<0.01
Dy	718	P	<0.01
Ho	51.6	Mn	0.02
Y	<700		
Er	55		
Tm	2.6		
Yb	4.1		
Lu	<0.5		
Sc	<40		
Th	5.4		
U	2		
TREE (%)	**67.5**		
LREE (%)	**66.8**		
HREE (%)	0.7		

The overall hydrometallurgical flowsheet is chloride based and uses hydrochloric acid to dissolve gangue minerals away from the REE carrying minerals. The REE containing leach residue is subsequently processed in a caustic treatment step to convert REE phosphates and fluorides into acid soluble REE hydroxides. The REE hydroxides are leached in hydrochloric acid and the leach solution is treated to remove impurities such as iron, aluminium, phosphorous and thorium. A purified and mixed REE product suitable for further REE separation can be produced either by hydroxide or oxalate precipitation. Final filtrates from gangue leaching and REE precipitation are combined and reacted with sulphuric acid to produce 20% (w/w) hydrochloric acid for re-use (Figure 13.2; SGS, 2020).

Figure 13.2. Simplified Wicheeda Caustic Crack Hydrometallurgical Flowsheet



A Wicheeda rare earth concentration process will concentrate low levels of thorium. The overall radiation level in the concentrate is expected to be below Canadian TDGR (transportation of dangerous goods regulations) and should not require special handling as Dangerous Goods.

Although the 2019 results are not necessarily representative of potential flotation performance of the deposit as a whole, the current batch flotation test results are consistent with the 2011 flotation testwork completed on a composite dolomite-carbonatite sample collected from 7 separate drill holes throughout the deposit. There are no other known processing factors or deleterious elements that could have a significant effect on potential economic extraction.

13.2 Acid-Bake Process Metallurgical Testing (2021-2023)

Initial results of alternative acid-bake (AB) process testwork at SGS Lakefield on Wicheeda Rare Earth Element (REE) Project mineralized showed improved REE extraction, and potentially improvements in capital and operating costs (Defense Metals, 2022).

The previous hydrometallurgical flowsheet that was included (Section 13.1, Figure 13.2) was based on a more costly and complex gangue-leach – caustic-crack process. Acid-bake process for the Wicheeda ore was recommended Defense Metals' lead metallurgical consultant, John Goode, P.Eng. in 2021. Preliminary results show that the acid-bake process is more efficient, yielding >95% recovery of neodymium and praseodymium from flotation concentrate into a leach solution (Figure 13.3,13.4).

Figure 13.3. Selected Preliminary Acid-Bake Results

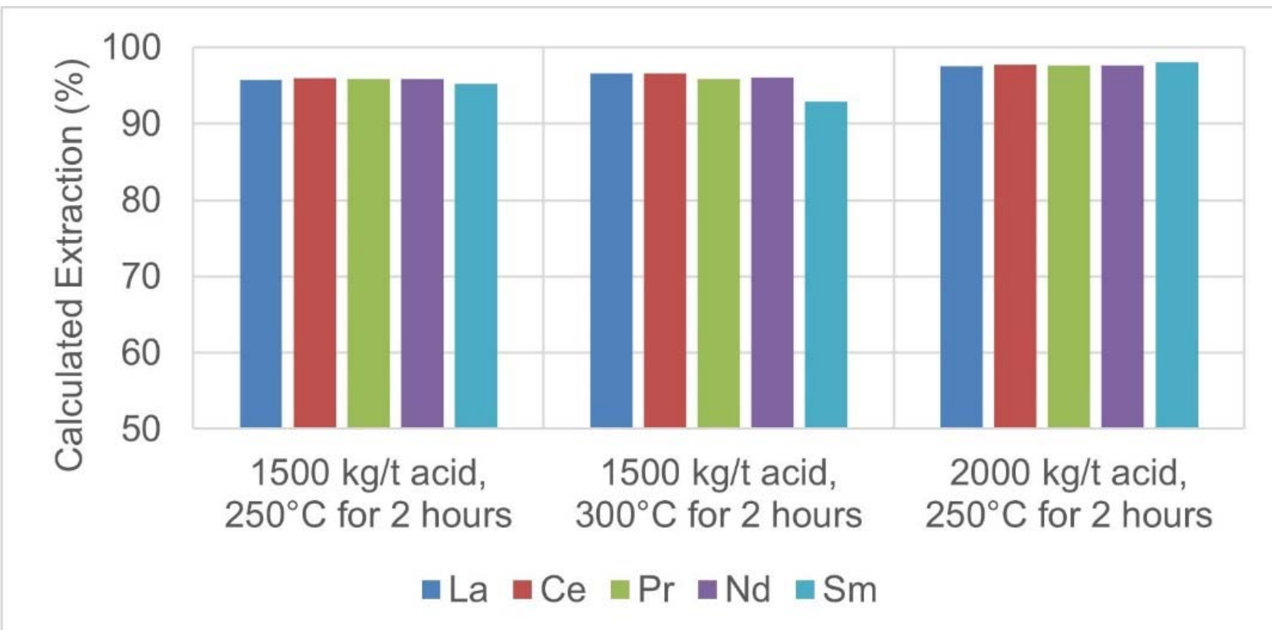
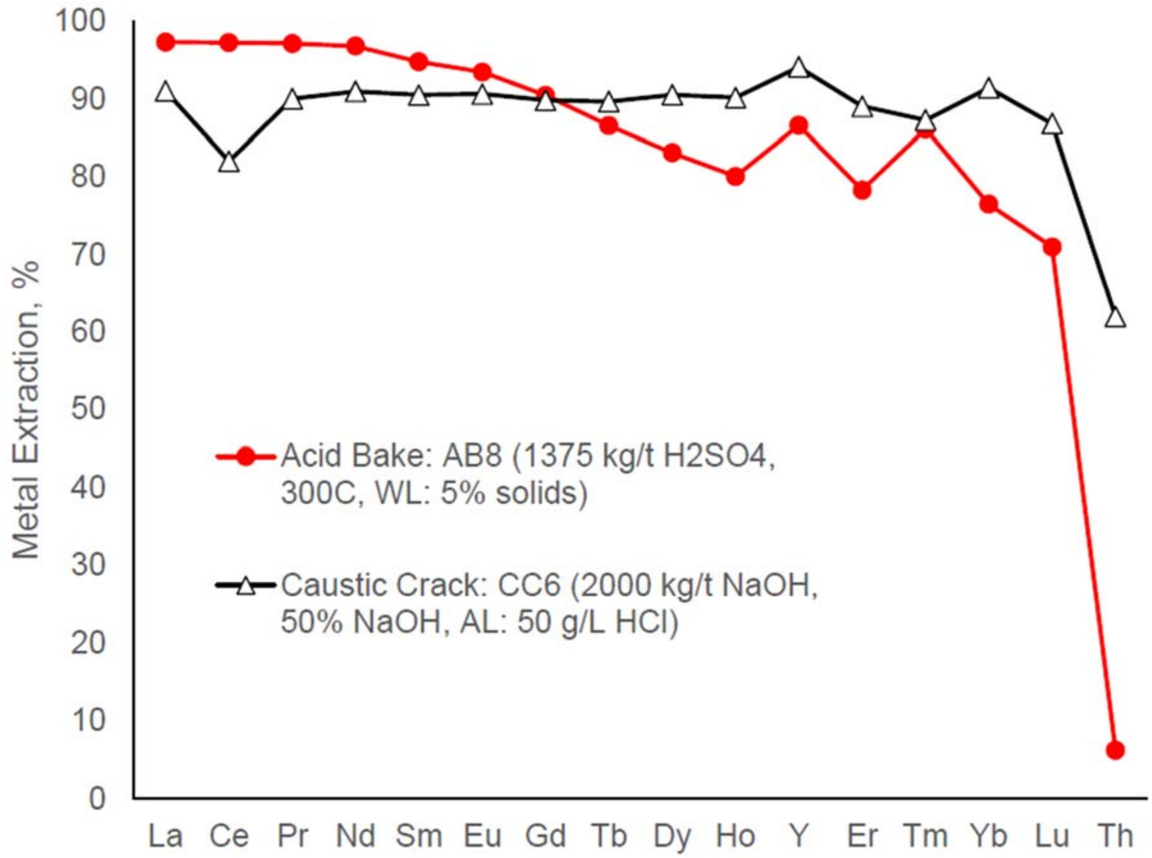


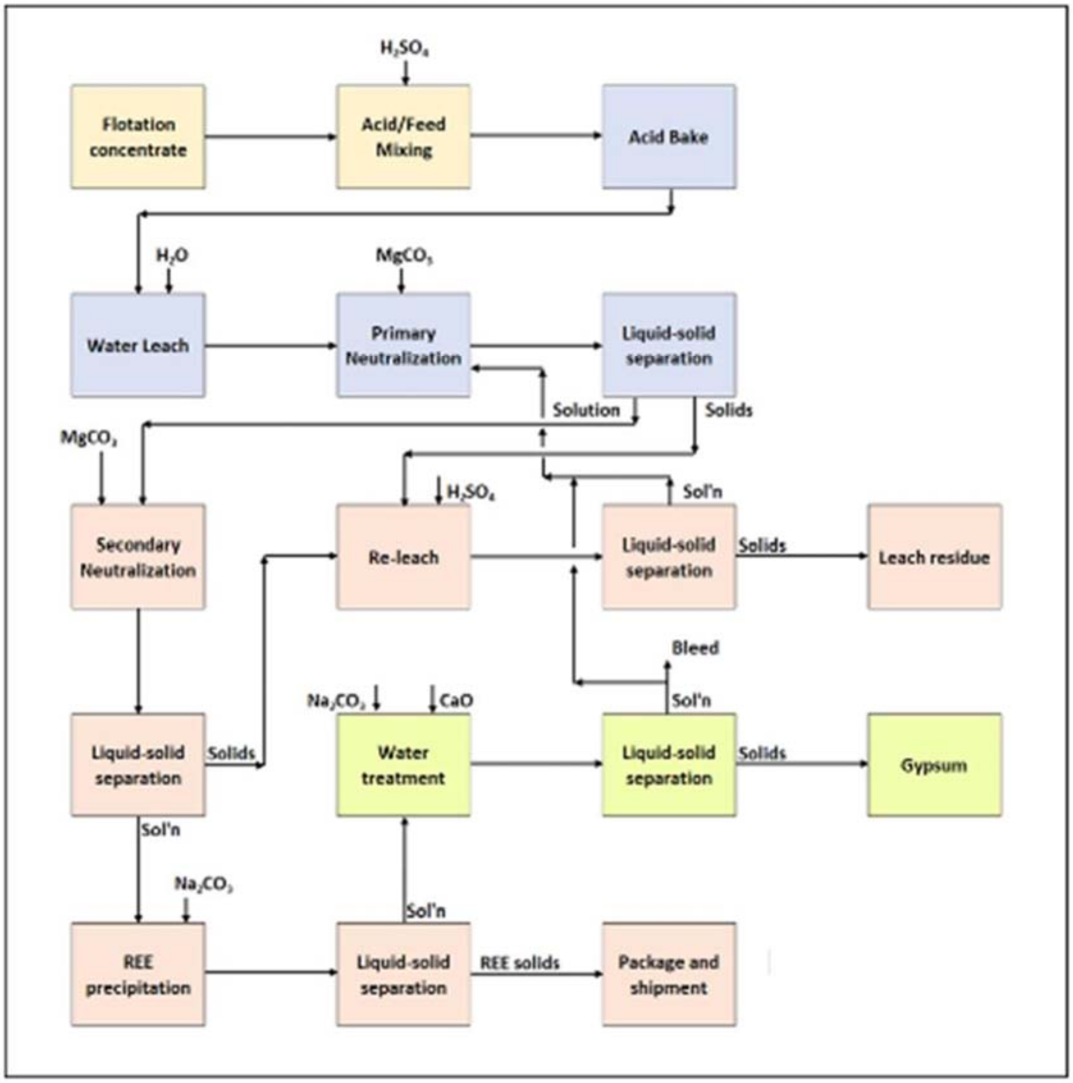
Figure 13.4 Leach Extraction. Acid Bak versus Caustic Crack (After Verbaan et al., 2022).



13.2.1 Details of the Acid-Bake-Water-Leach (AB-WL) Process

In the AB-WL process, Wicheeda's mineral concentrate is treated with concentrated sulphuric acid at high temperatures (200˚C-600˚C) converting the rare earths in the minerals to water-soluble sulphates, which readily dissolve during the subsequent water leach. The leachate is then purified, and the rare-earth elements recovered by a simple precipitation process. This process requires less equipment, and involves fewer steps and circuits, as schematically presented in Figure 13.5. Importantly, this flowsheet is the same as that used by Lynas at its Kuantan REE production facility and by Baogang at the Bayan Obo REE recovery plants (using a bastnasite and monazite ore). Most of the world's REE are produced by the Acid-Bake process (Defense Metals, 2022).

Figure 13.5 Acid-Bake Process Flowsheet (CNW Group/Defense Metals Corp., 2022)



13.3 Variability Sample and Metallurgical Testing (2022-2023)

A metallurgical testing program was executed by SGS to validate the flowsheet developed during previous testwork on the Wicheeda Rare Earth deposit in 2019, on lower grade samples including variability samples from different lithologies. This section is extracted from the report associated with this study (SGS, 2023). About 900 kg of drill core samples were received at SGS Lakefield for metallurgical testwork, including ~260 kg of a Master Composite and 17 variability samples from the deposit. The program included sample preparation, mineralogical analyses, grindability, flotation testing, bulk concentrate production, heavy liquid separation, solid liquid separation, and environmental testing. The head grade of the Master Composite was 2.49% TREO and the head grades of the variability samples ranged from 1.07 to 4.52%TREO. The samples evaluated in this program are summarized in Table13.3.

Table 13.3: Summary of Samples Evaluated In this Program

Sample ID	Description	TREO %
Master Comp (MC)	73.7%DC, 22.5%XE, 3.8%SYN (composited by Defense Metals)	2.49
NMC Comp	73.7%DC, 22.5%XE, 3.8%SYN (composited by SGS)	2.91
DC Comp	Composited from DC02 to DC09	3.39
XE Comp	Composited from DC01, XE1 to XE5	1.44
SYN Comp	Composited from SYN1 and SYN2	1.15
DC-XE2	DC Comp: XE Comp = 1:2	2.09
DC-XE3	DC Comp: XE Comp = 2:1	2.74
DC-SYN1	DC03: SYN Comp = 2:1	1.88
DC-SYN2	DC Comp: SYN Comp = 2:1	2.64
DC02	DC Variability Sample	2.02
DC03	DC Variability Sample	2.25
DC04	DC Variability Sample	3.14
DC05	DC Variability Sample	2.87
DC06	DC Variability Sample	3.62
DC07	DC Variability Sample	3.44
DC08	DC Variability Sample	4.52
DC09	DC Variability Sample	4.32
DC01	XE Variability Sample	1.70
XE1	XE Variability Sample	1.27
XE2	XE Variability Sample	1.37
XE3	XE Variability Sample	1.24
XE4	XE Variability Sample	1.56
XE5	XE Variability Sample	1.55
DC_XEN1	DC-XE Blend by Defense Metals	2.69
SYN1	SYN Variability Sample	1.25
SYN2	SYN Variability Sample	1.07

The ratio of the fluorocarbonate rare earth minerals (synchysite/parisite, bastnaesite) to monazite varied across the variability samples. The xenolithic carbonatite (XE) and syenite (SYN) contained more silicate gangue minerals compared to the dolomite carbonatite (DC) sample. The liberation of the rare earth minerals (REM) was similar in the variability samples.

The SMC comminution testwork (an abbreviated version of the standard JK drop-weight test, performed on 100 rocks from a single size fraction; -31.5+26.5 mm in this case) demonstrated the received samples were very soft to medium in terms of resistance to impact breakage, with A x b values ranging from 154 to 45.5. The BWI's for the variability samples ranged from 8.0 to 12.8 kWh/t. The Master Comp and the DC samples (DC02 to DC09) were categorized as very soft, the XE samples (DC01, XE1 to XE5) were categorized as soft, and the SYN samples (SYN1 and SYN2) were categorized as moderately soft. The rod mill work index (RWI) for the Master Composite was 9.6 kWh/t, which placed it in the very soft category. The Master Comp was characterized as mildly abrasive, with an abrasion index (AI) of 0.059 g.

Heavy liquid separation testing showed that the REO losses would be high compared to flotation. In the flotation testing, the primary grind size, alternative collector and depressant scheme and dosages, and alternative pulp temperatures were evaluated. The previously developed flotation flowsheet still applied to most of the new samples, with the following modifications.

- Primary grind size P100 = 106 µm or P80 ~80 µm
- High intensity conditioning
- Addition of collector Aero 6493
- Conditioning at 60°C in the Rougher and Rougher Scavenger stages and 75°C in the Cleaners

The selected best batch flotation test results are presented in Figure 13.6. The flotation response of the DC Comp and DC variability samples was good, with TREO recoveries of ~75-90% at a 45%TREO grade. It was more challenging to achieve a ~40%TREO grade with high recoveries for the XE and SYN samples. The best result for the XE Comp was 38%TREO grade at a 70% recovery, while the SYN Comp achieved a 45%TREO grade at a 46% recovery. The lower head grades of the XE and SYN composites may have partially accounted for the lower recoveries.

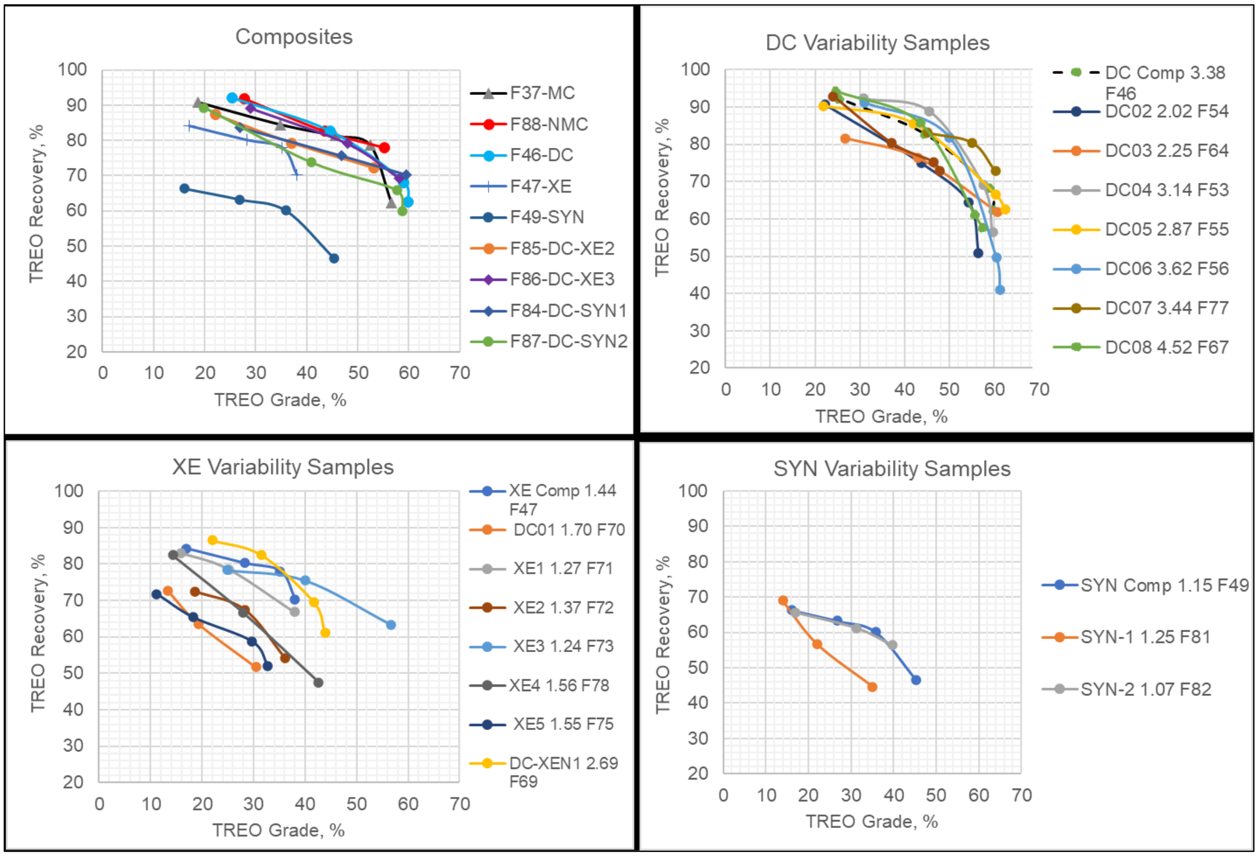
A locked-cycle flotation test (LCT-3) was carried out using the optimized flowsheet on the New Master Comp (NMC) sample using 12 kg charges. As shown in Table 13.4, the 2nd cleaner concentrate produced a high grade REE concentrate (51.2%TREO) at 84.8%TREO recovery. Two locked cycle tests on the Master Comp using 1 kg test charges did not yield as high a grade concentrate. LCT-1 achieved 34.0%TREO grade at 87.9% recovery and LCT-2 achieved 39.2%TREO grade at 79.2% recovery.

Table 13.4. LCT-3 Metallurgical Projections (Cycle C to G)

Products	Wt	Assays %				Distribution %			
	%	LREO	HREO	TREO	TREE	LREO	HREO	TREO	TREE
LCT-3 2nd Cl Conc	4.8	50.7	0.45	51.2	42.6	84.8	61.8	84.5	84.5
LCT-3 Ro Tail	95.2	0.46	0.01	0.47	0.39	15.2	38.2	15.5	15.5
Total Feed	100	2.85	0.03	2.89	2.40	100	100	100	100
Direct Feed		2.88	0.03	2.91	2.43				

In summary, flotation results show higher recoveries of 85% for 40 and 45% REO for the highest grade associated with Dolomite Carbonatite (DC) samples (Table 13.5).

Figure 13.6 Selected Best Batch Flotation Tests for Each Sample



Note: Head Assay was provided for Variability Samples

Table 13.5 Feed grade versus recovery at variable target concentrate grades. Demonstrates high concentrate grade and recoveries across a range of feed grades.

	Variability Samples		Target Concentrate			
		Avg. Head Grade REO%	**40% REO**	**45% REO**	**50% REO**	**55% REO**
Recovery %	DC Samples (n=9)	3.3	85	81	77	71
	DC-XE-SYN Blends (n=4)	2.5	80	77	75	68
	XE-SYN Samples (n=10)	1.3	59	-	-	-

Preliminary, it had been defined that flotation tests on variability samples are representative of the three key REE-bearing lithologies in the Wicheeda deposit: 1) the higher-grade dolomite carbonatite ("DC") which makes up 73% of the deposit, 2) the xenolithic carbonatite ("XE") that represents 24%; and 3) the syenite ("SYN") (Defense Metals, 2023). The primary rare earths minerals are monazite, bastnäsite and synchysite/parisite.

14 Mineral Resource Estimates

14.1 Introduction

This section details the statistical analysis, geological modelling, and resource estimation work for the updated 2023 MRE completed for the Wicheeda REE project near Prince George, BC, Canada. The 2023 MRE detailed in this report now supersedes the 2021 MRE reported in the previous NI 43-101 report (SRK, 2022). The estimated metals include cerium (Ce), dysprosium (Dy), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), neodymium (Nd), praseodymium (Pr), samarium (Sm), and terbium (Tb).

The 2023 MRE includes a material change in the geological model compared to the 2021 MRE and considers 45 of a total of 47 new drillholes completed by Defence Metals in 2021 and 2021. The resource estimation workflow and methodologies used remain largely the same, with updates to parameters and settings based on the updated data.

The 2023 MRE was prepared by Mr. Warren Black, M.Sc., P.Geo. and Mr. Tyler Acorn, M.Sc of APEX Geoscience Ltd. under the supervision of the QP, Mr. Michael Dufresne, M.Sc., P.Geol., P.Geo, also of APEX, following CIM Definition Standards. Mr. Dufresne has reviewed the drillhole hole samples and composites used for the estimation, estimation parameters used in the OK process, estimation results, and validations, and he has accepted The 2023 MRE as he considers them to follow industry-standard practices. The workflow for calculating the 2023 MRE was completed using commercial mine planning software Micromine v 21.0 (Micromine), Leapfrog Geo v2023.1.1 (Leapfrog), Resource Modelling Solutions Platform v.1.10.2 (RMSP), and Deswik CAD v2022.2 (Deswik). Supplementary data analysis was completed using the Anaconda Python distribution and custom Python packages developed by APEX.

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 10, 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 have not demonstrated economic viability.

14.2 Drillhole Data Description

Defence Metals provided APEX with the historical drillhole database for the Wicheeda project, comprised of data collected from 2008 to 2009 before involvement with the program. APEX reviewed the data in 2019 to ensure it was suitable for resource estimation. Data from the recent 2019, 2021, and 2022 drilling programs was captured and validated by APEX during each program, after which APEX compiled the results with the historical data.

The subset of the Project drillhole database used to calculate the 2023 MRE comprises 79 core drillholes totalling 15,541 m, containing 4,835 drill core samples analyzed for REE by multi-element fusion ICP-MS (Table 14.1). Drillhole collars are snapped to the LiDAR surface.

Table 14.1. Summary of drillhole database used to calculate 2023 MRE.

Phase of Drilling	Operator	Drillhole Type	Number of Drillholes	Total Meters
2008-2009	Spectrum Mining	Core	13	2,008
2019	Defence Metals	Core	19	2,696
2021-222	Defence Metals	Core	47	10,837
		Total	79	15,541

In the drillhole database, 82 intervals were not analyzed. These blank intervals are commonly found at the top of drillholes before mineralization is first encountered or at the end of the drillhole after exiting the mineralized zone. APEX evaluated supporting documents to assess if these blank intervals were either identified as waste material and, therefore, not analyzed on purpose or if insufficient material was returned during drilling to allow the interval to be analyzed. It is essential to distinguish between these two cases as they are treated differently during resource estimation. Intervals classified as “no sample” (NS) are assigned a nominal waste, as Table 14.2 describes. Intervals classified as “insufficient recovery” (IR) are left blank. APEX was conservative when classifying the type of blank interval as NS and IR. If APEX could not confidently determine that a blank interval was IR, it is assumed NS. 28 blank intervals are classified as NS, totalling 405.8 m, and were assigned a nominal waste value.58 blank intervals are classified as IR, totalling 703.58 m.

All data was validated using the Micromine validation tools at the time the data was imported into the software. No validation errors were encountered. A detailed discussion on the verification of both historical and Defence Metals drillhole data is provided in Sections 11 and 12 of this report. The APEX authors of this report consider the current Wicheeda drillhole database to be in good condition and suitable for ongoing resource estimation studies.

Table 14.2. Nominal metal values applied to intervals classified as NS.

Metal	Nominal Waste Value (ppm)
Ce	0.025
Dy	0.025
Eu	0.01
Gd	0.025
Ho	0.005
La	0.05
Nd	0.05
Pr	0.01
Sm	0.015
Tb	0.005

14.3 Estimation Domain Interpretation

14.3.1 Geological Interpretation of Mineralization Domains

REE-enriched carbonatites of the Wicheeda Deposit are part of a narrow, elongate, northwest-southeast trending intrusive carbonatite-syenite sill complex. The carbonatite is intruded into Syenite, mafic dikes, limestone and calcareous sedimentary wall rocks. Diamond drilling data supports the interpretation of a moderately north-northeast dipping, shallowly north plunging, layered sill complex having Syenite at its base. It is overlain by hybrid matrix to clast-supported limestone or mafic intrusive xenolithic carbonatite (fenite), as well as significantly REE-bearing dolomite-carbonatite rocks, which form the main body of the Wicheeda REE Deposit outcropping at surface. This layered sill complex occurs within an unmineralized limestone waste rock. There is no near-surface oxidized material due to recent glaciation. The primary host, Dolomite-Carbonatite, has dimensions of approximately 450 m north-south by 170-300 m east-west by 100-275 vertically.

The drill pads considered in the 2023 MRE detailed in this report are in areas of very high relief. Most drillholes from them were collared directly into outcrops or minor amounts of talus/rubble material. The westernmost drillholes start in overburden at the base of a slope that dips westward. The 2023 MRE includes an overburden model to account for this.

14.3.2 Estimation Domain Interpretation Methodology

For calculating the 2023 MRE, the syenite-carbonatite complex geology was simplified into four lithologic domains within the 3-D rock model with different mineralization controls and styles that contain varying grades of REE. These domains (and their short name for charts and tables) are:

- Dolomite Carbonatite (DC)
- Xenolithic Carbonatite (Xeno)
- Syenite (Syn)
- Limestone (Lim)

Drillhole intervals were classified as one of the four lithologic domains based on their logged lithology. There are instances where a small interval contained within a dominant domain was simplified to the dominant lithology. Relatively high-grade REE mineralization occurs within Dolomite-Carbonatite (where country rock xenoliths are <20%). Xenolithic Carbonatite represents a hybrid mixed lithology where discontinuous narrow dikes and breccia-zones of dolomite-carbonatite intrude fenitized limestone, Syenite, and mafic dike xenoliths comprising between 30-70% of the rock volume. Syenite rocks are interpreted to represent the earliest intrusive phase of the intrusive complex. REE-poor host rocks include fresh and fenitized limestone, calcareous sedimentary rocks, and volumetrically minor mafic dikes.

The geological model was constructed using Leapfrog, focusing on a hierarchy of lithological domains from youngest to oldest. Overburden is modelled using drill hole logs, mapped outcrop extents, and the LiDAR. The Dolomite Carbonatite and Xenolithic Carbonatite are modelled as the youngest intrusion package, where Xenolithic Carbonatite represents a mixing of the high-grade dolomite carbonatite and the surrounding Syenite. Syenite intrusion is the second youngest unit and is modelled based on drillhole intercepts. Finally, limestone, the oldest rock, is considered the default host and is intruded by the other units. This approach integrates various data sources to represent the geological features comprehensively.

The model's extent was defined by ensuring that any resource pits would be fully contained within it, allowing waste blocks to be assigned the correct density. 3-D wireframe solids were constructed using the bounding contact surfaces and cut to the LiDAR topography surface. The final 3-D geological model is comprised of a solid of each of the four domains and overburden, totalling five solids. The 3-D rock model was used to discretize drillhole data and the deposit volume into distinct zones (domains) that were treated separately during exploratory data analysis and resource estimation. Figure 14.1, Figure 14.2, and Figure 14.3 represent oblique, plan and sectional views of the geologically modelled domain wireframes.

Figure 14.1. Oblique view of the domain wireframes looking northeast.

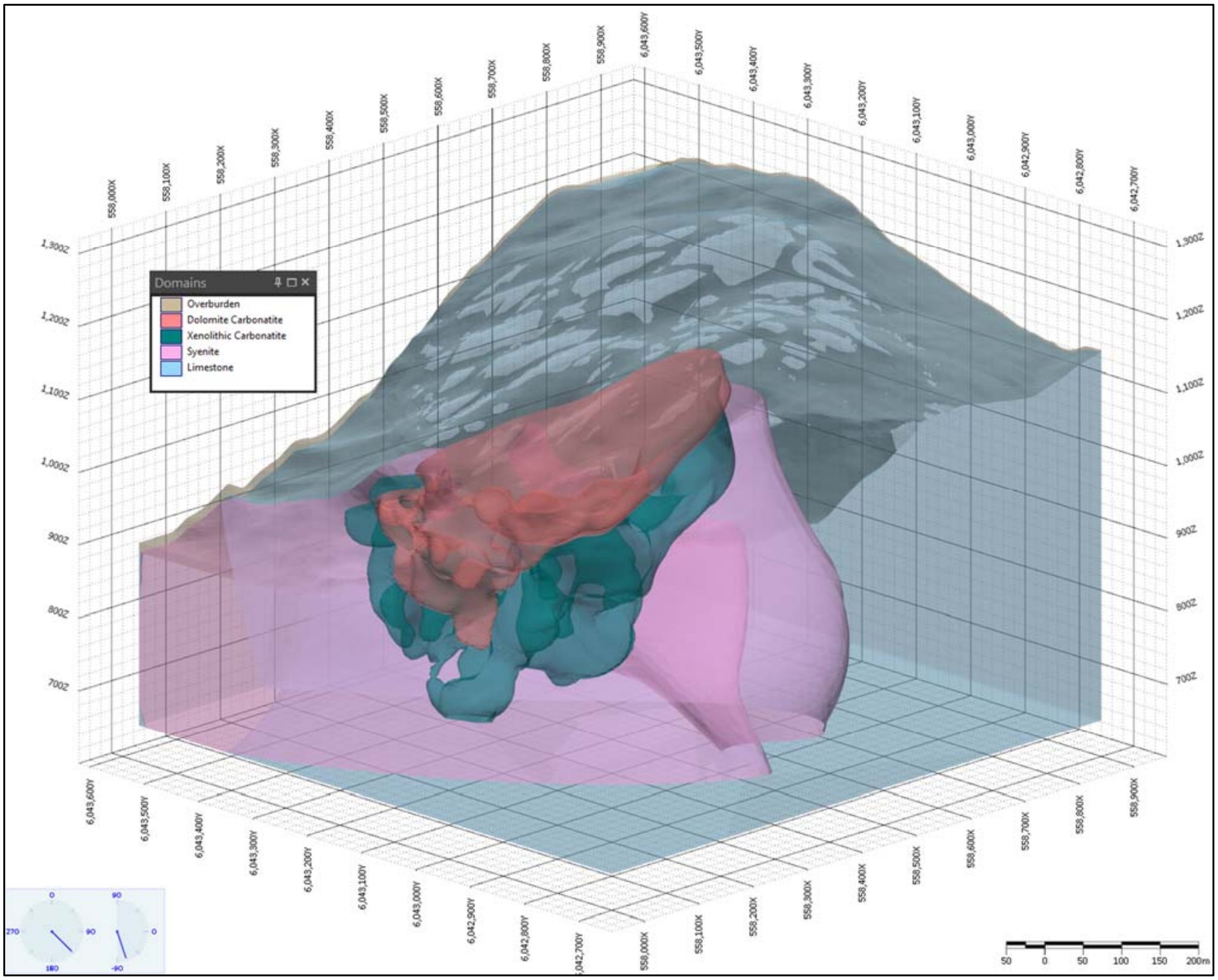
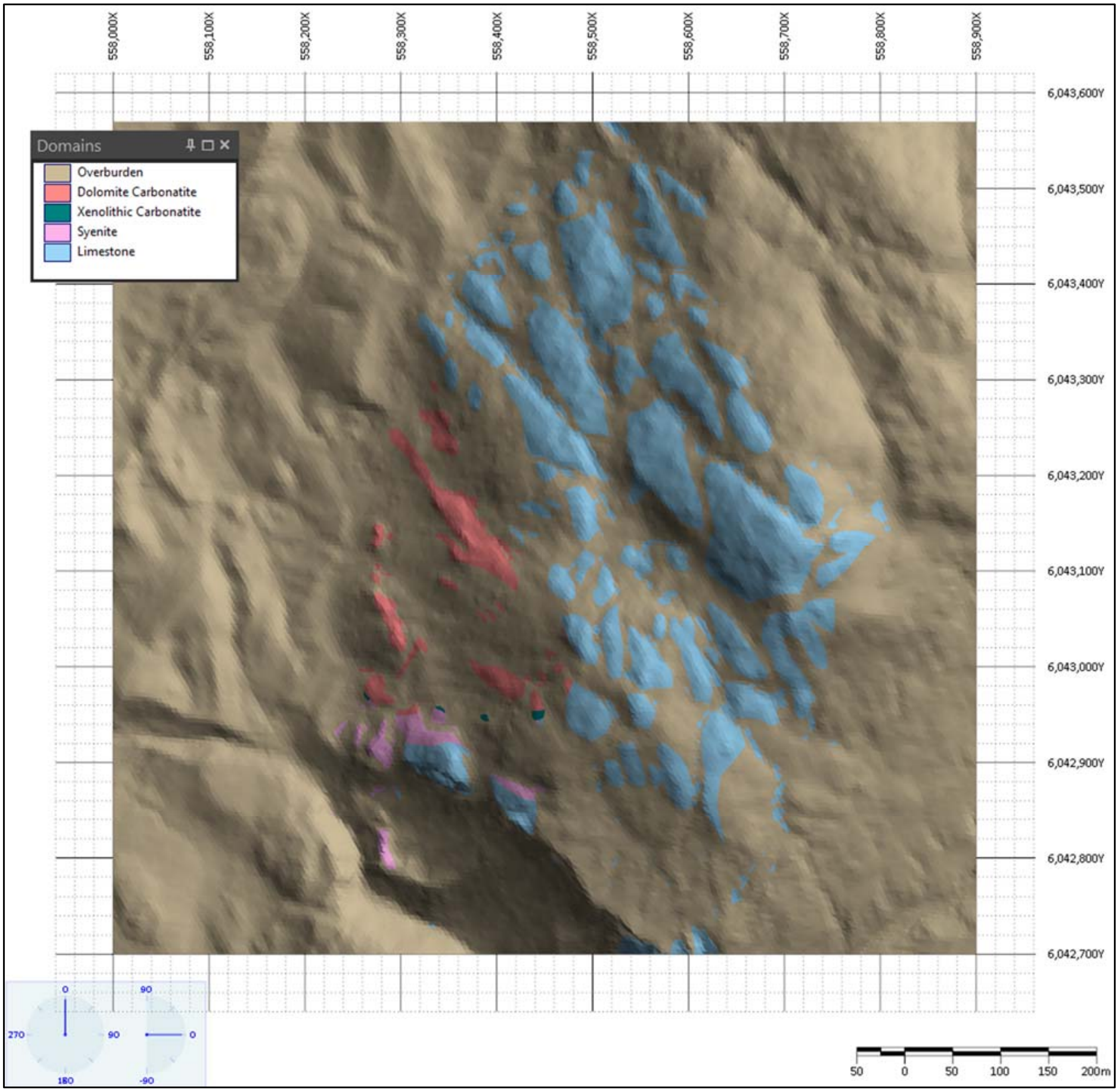
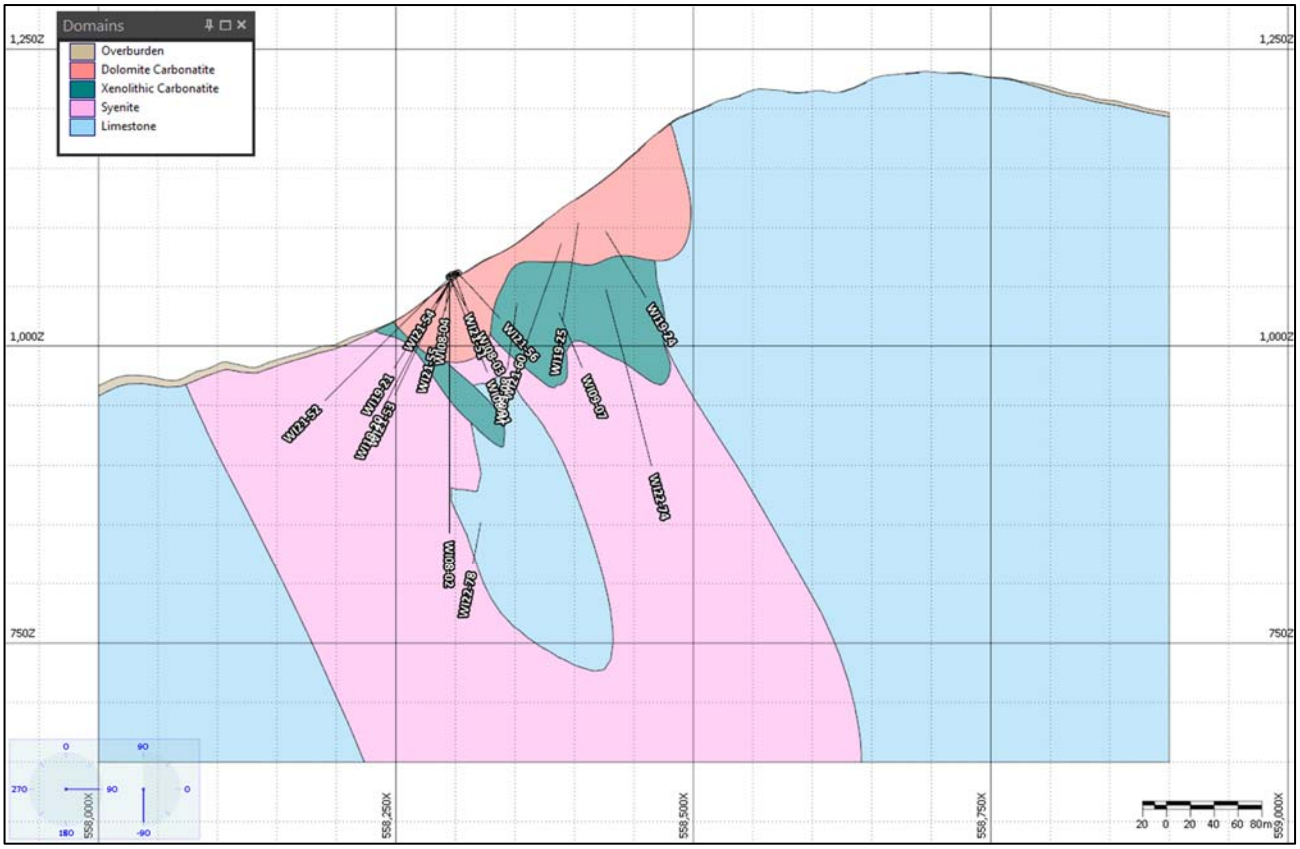


Figure 14.2. Surficial map of the estimation domain wireframes.



Note: Xenolithic DC = Xenolithic Carbonatite

Figure 14.3. Cross-section along 6,043,000E, looking north showing drillhole traces.



14.4 Exploratory Data Analysis and Compositing

14.4.1 Bulk Density

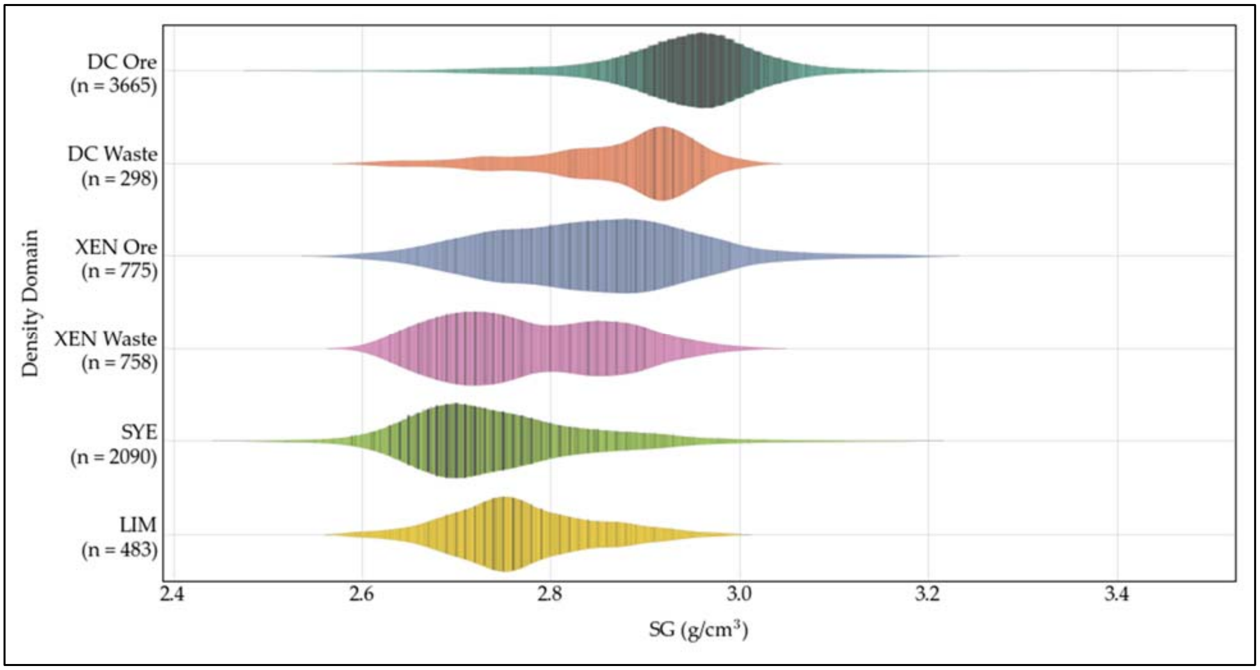
APEX analyzed the available density data to determine what bulk density value to apply to the block model. The Wicheeda project database contains 8,069 density measurements within the estimation domains. Table 14.3 details summary statistics of the measurements categorized by which estimation domain contains each collected sample. Figure 14.4 illustrates the variation in the measurements within each estimation domain. Density measurements from both dolomite-carbonatite and xenolithic-carbonatite are classified as either ore or waste based on their TREO value. Specifically, measurements with a TREO value of 1% or higher are labelled as ore, while those below this threshold are categorized as waste.

Median rock densities are supported by 8,069 measurements applied: 2.95 g/cm^3 (mineralized dolomite-carbonatite), 2.90 g/cm^3 (unmineralized dolomite-carbonatite), 2.85 g/cm^3 (mineralized xenolithic-carbonatite), 2.76 g/cm^3 (unmineralized xenolithic-carbonatite), 2.73 g/cm^3 (Syenite), and 2.76 g/cm3 (limestone).

Table 14.3. Summary statistics of density measurements categorized by estimation domain.

Domain	Material Type	count	mean	std	min	25%	50%	75%	max
DC	Ore	3665	2.94	0.09	2.51	2.9	2.95	2.99	3.44
	Waste	298	2.87	0.09	2.6	2.82	2.9	2.93	3.01
Xeno	Ore	775	2.85	0.11	2.58	2.77	2.85	2.92	3.19
	Waste	758	2.78	0.09	2.6	2.7	2.76	2.85	3.01
Lim	Ore/Waste	483	2.77	0.08	2.59	2.72	2.76	2.82	2.98
Syn	Ore/Waste	2090	2.75	0.1	2.48	2.68	2.73	2.8	3.18

Figure 14.4. Violin plot illustrating the variation of density measurements.



Note: Vertical lines represent a single observation.

14.4.2 Raw Analytical Data

Cumulative histograms and summary statistics for the raw (un-composited) assays from sample intervals contained within the interpreted estimation domains are presented in Figure 14.5 and tabulated in Table 14.4. The assays within each domain generally exhibit a single population for all metals.

Figure 14.5. Cumulative histogram of each metal from sample intervals in the estimation domains.

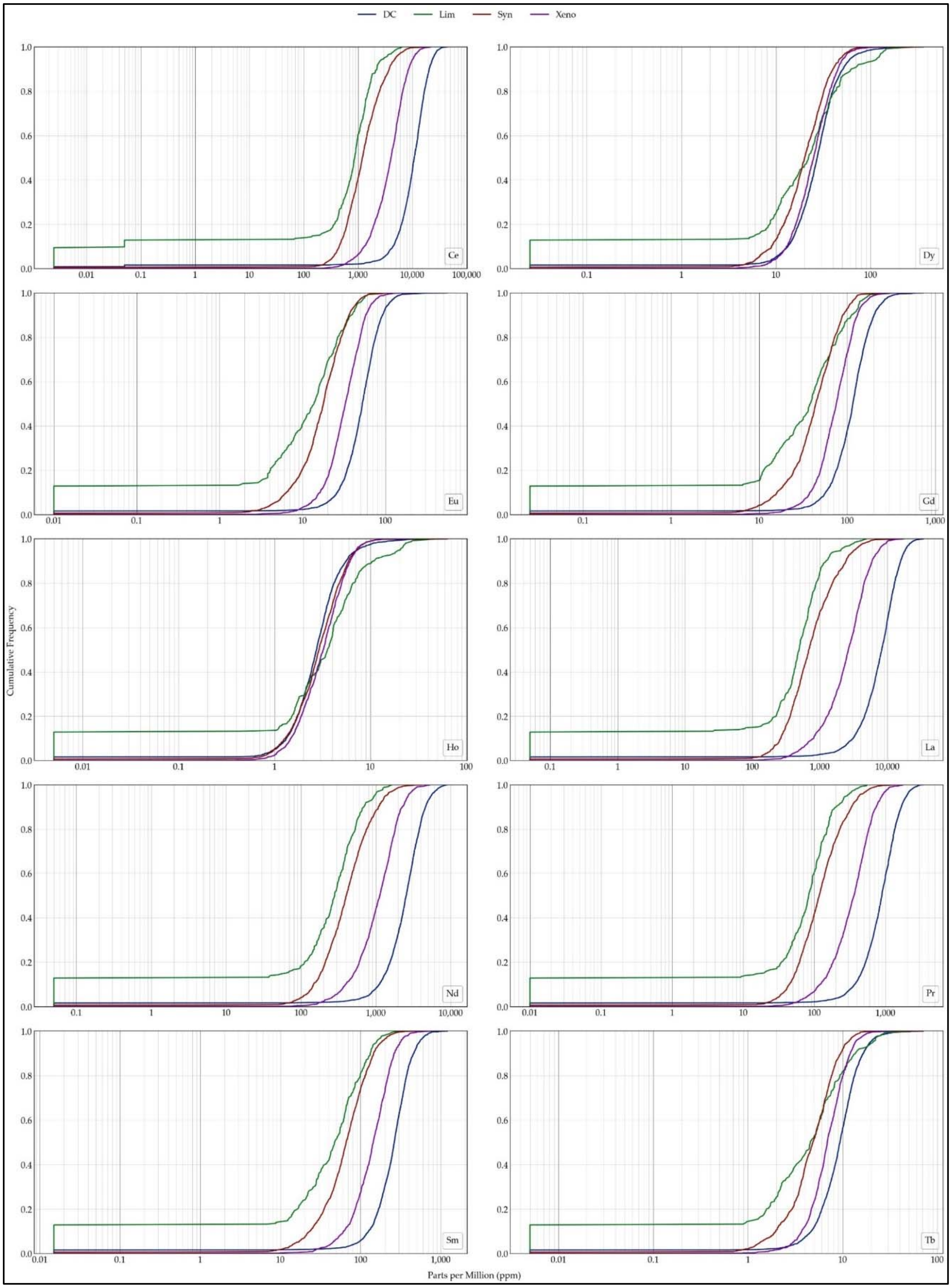


Table 14.4. Summary statistics of each metal from sample intervals in the estimation domains.

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Syenite	Limestone
Ce (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	7,218	11,851	1,080	1,734	4,615
std	6,683	6,544	1,038	1,684	3,070
var	44,660,030	42,822,556	1,076,747	2,835,043	9,424,214
CV	0.93	0.55	0.96	0.97	0.67
min	0.0025	0.0025	0.0025	0.0025	0.0025
25%	1,675	7,160	447	704	2,350
50%	5,260	10,900	870	1,205	4,050
75%	10,950	15,500	1,370	2,130	6,130
max	44,300	44,300	6,480	18,500	21,700
Dy (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	28.2	30.9	30.8	23.1	27.4
std	20.1	21.1	36.0	16.7	14.0
var	405.8	445.0	1,298.3	278.4	197.2
CV	0.71	0.68	1.17	0.72	0.51
min	0.025	0.025	0.025	0.025	0.025
25%	16.8	19.1	10.0	13.6	17.6
50%	24.9	27.2	22.1	20.1	24.9
75%	34.6	36.8	36.5	29.7	34.4
max	362.0	274.0	286.0	362.0	158.0
Eu (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	41.3	57.1	16.9	20.2	36.0
std	30.1	32.3	15.7	13.1	18.8
var	903.6	1,046.0	246.0	171.4	351.8
CV	0.73	0.57	0.93	0.65	0.52
min	0.01	0.01	0.01	0.01	0.01
25%	20.4	37.9	5.2	11.4	23.3
50%	36.0	52.5	13.8	17.8	32.7
75%	55.4	70.1	24.4	26.3	46.3
max	557.0	557.0	108.0	137.5	200.0

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Syenite	Limestone
Gd (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	93.0	124.7	48.5	50.4	81.4
std	62.5	66.0	47.0	32.8	40.7
var	3,911.7	4,361.7	2,207.4	1,077.4	1,656.4
CV	0.67	0.53	0.97	0.65	0.50
min	0.025	0.025	0.025	0.025	0.025
25%	49.5	82.5	14.9	29.2	54.0
50%	82.1	115.5	38.2	43.9	75.1
75%	123.0	153.0	66.1	66.2	103.5
max	734.0	734.0	344.0	460.0	438.0
Ho (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	3.51	3.33	5.15	3.41	3.59
std	2.99	2.89	6.23	2.69	2.06
var	8.96	8.32	38.84	7.26	4.24
CV	0.85	0.87	1.21	0.79	0.57
min	0.005	0.005	0.005	0.005	0.005
25%	1.94	1.90	1.70	1.93	2.09
50%	2.89	2.74	3.57	2.92	3.23
75%	4.20	3.81	5.92	4.31	4.65
max	63.50	41.80	47.10	63.50	25.50
La (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	5,315	8,962	652	1,081	3,136
std	5,219	5,147	714	1,184	2,242
var	27,240,207	26,489,908	509,508	1,402,228	5,024,560
CV	0.98	0.57	1.09	1.10	0.71
min	0.05	0.05	0.05	0.05	0.05
25%	983	5,250	256	402	1,515
50%	3,620	8,265	492	683	2,640
75%	8,260	11,800	776	1,310	4,190
max	34,400	34,400	4,890	14,850	17,550

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Syenite	Limestone
Nd (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	1,748.2	2,742.1	341.3	528.9	1,259.1
std	1,483.4	1,453.7	295.8	440.2	775.6
var	2,200,540.7	2,113,202.2	87,482.2	193,746.1	601,526.0
CV	0.85	0.53	0.87	0.83	0.62
min	0.05	0.05	0.05	0.05	0.05
25%	530.0	1,720.0	144.9	240.0	683.0
50%	1,395.0	2,550.0	282.0	405.0	1,130.0
75%	2,590.0	3,520.0	457.8	658.3	1,665.0
max	9,030.0	9,030.0	1,655.0	4,490.0	5,360.0
Pr (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	602.6	971.2	102.2	160.8	404.7
std	540.9	533.3	92.0	145.0	259.2
var	292,616.1	284,442.4	8,459.2	21,019.2	67,188.5
CV	0.90	0.55	0.90	0.90	0.64
min	0.01	0.01	0.01	0.01	0.01
25%	157.0	589.0	44.6	69.5	213.0
50%	456.0	893.0	83.7	117.8	364.0
75%	899.0	1,270.0	132.1	198.1	537.0
max	3,440.0	3,440.0	548.0	1,600.0	1,800.0
Sm (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	192.1	279.6	59.5	78.5	157.8
std	141.9	140.6	52.4	54.6	87.4
var	20,123.1	19,765.8	2,740.6	2,984.7	7,638.6
CV	0.74	0.50	0.88	0.70	0.55
min	0.015	0.015	0.015	0.015	0.015
25%	81.1	184.5	21.1	41.6	95.0
50%	164.5	263.0	47.5	66.0	143.5
75%	270.0	351.0	84.6	101.6	204.0
max	1,205.0	1,205.0	318.0	520.0	774.0

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Syenite	Limestone
Tb (ppm)					
count	4,917	2,372	264	1,192	1,089
mean	8.26	10.21	6.29	5.47	7.56
std	5.40	5.85	6.78	3.68	3.60
var	29.17	34.25	45.90	13.55	12.93
CV	0.65	0.57	1.08	0.67	0.48
min	0.005	0.005	0.005	0.005	0.005
25%	4.83	6.66	1.99	3.28	5.16
50%	7.36	9.38	4.55	4.85	6.87
75%	10.55	12.41	8.16	7.08	9.33
max	71.30	71.30	53.40	70.60	34.70

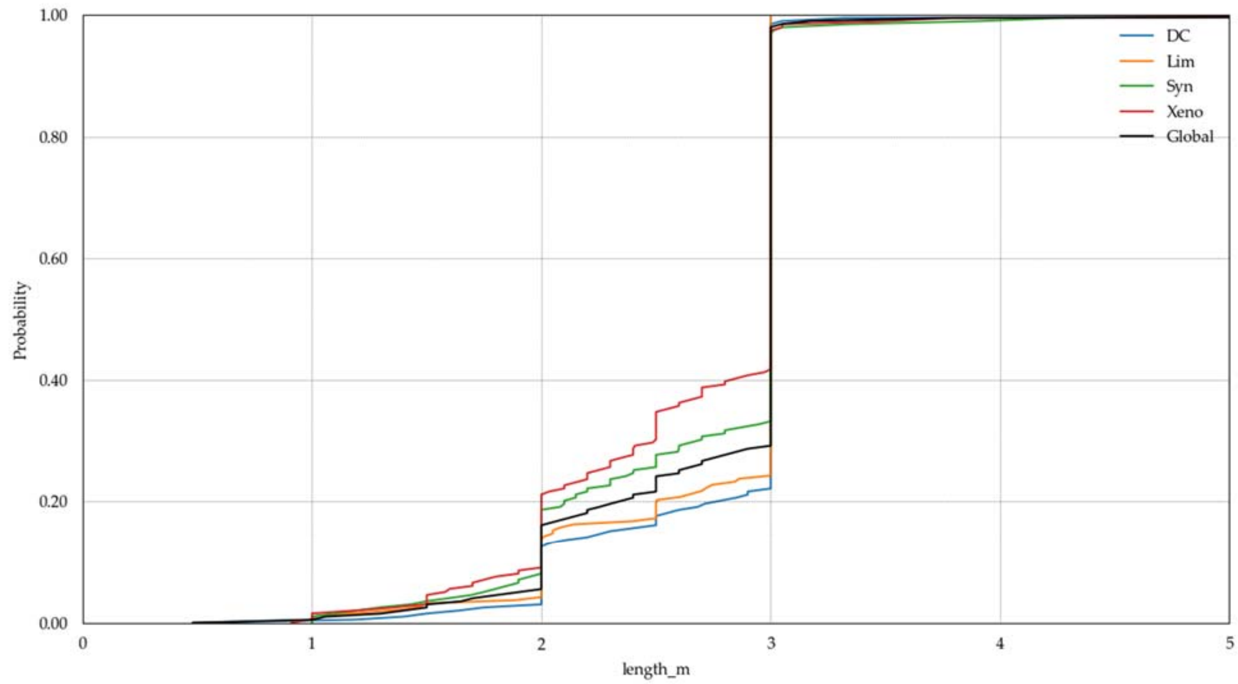
14.4.3 Compositing Methodology

Downhole sample length analysis shows sample lengths range from 0.48 to 9.15 m, with the dominant sample length being 3.00 m. A composite length of 3.00 m is selected as it provides adequate resolution for mining purposes and is equal to or larger than 98.1% of the drillhole samples (Figure 14.6). Out of 4,835 core samples, 82 exceed the composite length. These longer samples come from areas with poor core recovery, requiring more extensive intervals to ensure the sample contained enough material for analysis.

The length-weighted compositing begins at the drillhole's top and ends at its bottom. However, composites can't cross hard boundary domain contacts. So, if a composite hits such a boundary, it's cut short. A new composite starts at that point and continues until it reaches the maximum length, hits another boundary, or reaches the end of the drillhole.

A balanced compositing approach is used. Each continuous section of a drillholes intersection with an estimation domain is examined. The composite length used for each section is adjusted to be uniform, aiming to match a target length and preventing the creation of small, "orphan" composites that standard compositing often produces. A histogram of the composited interval lengths is presented in Figure 14.7. Any composites with a final length of less than 1.5 m are dropped.

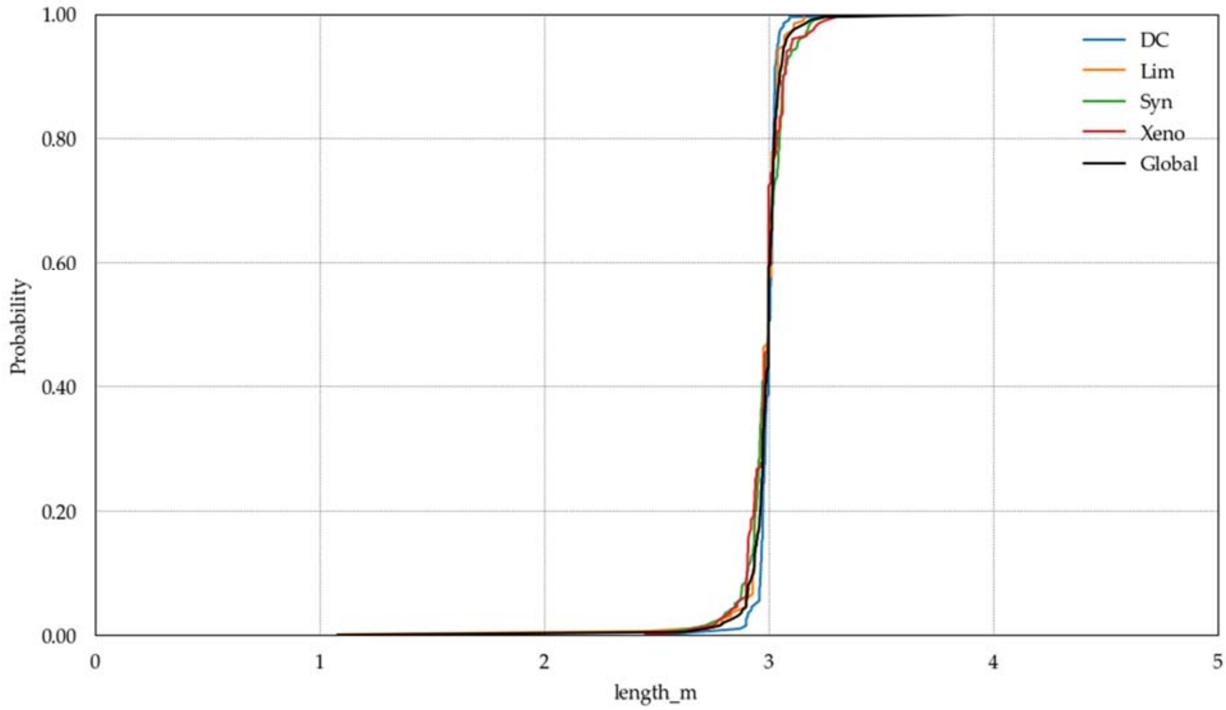
Figure 14.6. Cumulative histogram of sample interval lengths within the estimation domains.



	Global	DC	Lim	Syn	Xeno
count	4,835	2,333	230	1,184	1,088
mean	2.76	2.82	2.78	2.72	2.65
stdev	0.51	0.46	0.45	0.55	0.55
cv	0.18	0.16	0.16	0.20	0.21
min	0.48	0.48	1.00	1.00	0.91
P10	2.00	2.00	2.00	2.00	2.00
P50	3.00	3.00	3.00	3.00	3.00
P90	3.00	3.00	3.00	3.00	3.00
max	9.15	9.15	3.00	6.10	7.05

Note: Intervals that were not sampled or had insufficient recovery are not illustrated.

Figure 14.7. Cumulative histogram of composite interval lengths within the estimation domains.



	Global	DC	Lim	Syn	Xeno
count	4,824	2,234	488	1,130	972
mean	2.99	3.00	2.98	2.99	2.99
stdev	0.08	0.05	0.11	0.09	0.09
cv	0.03	0.02	0.04	0.03	0.03
min	1.08	2.50	1.08	2.48	2.45
P10	2.93	2.96	2.93	2.91	2.90
P50	3.00	3.00	3.00	3.00	3.00
P90	3.05	3.03	3.04	3.07	3.07
max	4.00	4.00	3.16	3.25	3.30

Note: Illustrates composite lengths after compositing but before orphans are dropped.

14.4.4 Declustering

Data collection often focuses on high-value areas, resulting in lower-value areas being underrepresented in the raw composite statistics and distributions, often leading to an inflated mean. Spatially representative (declustered) statistics and distributions are required for accurate validation. Declustering techniques calculate a weight for each datum, giving more weight to data in sparse and less in dense areas. Using the cell sizes described in Table 14.5, APEX applied cell declustering to calculate weights for each drillhole composite across all estimation domains.

Table 14.5. Cell sizes used to calculate declustering weight in each estimation domain.

Estimation Domain	Cell Declustering Size (m)
Dolomite-Carbonatite	36
Xenolithic-Carbonatite	45
Syenite	55
Limestone	65

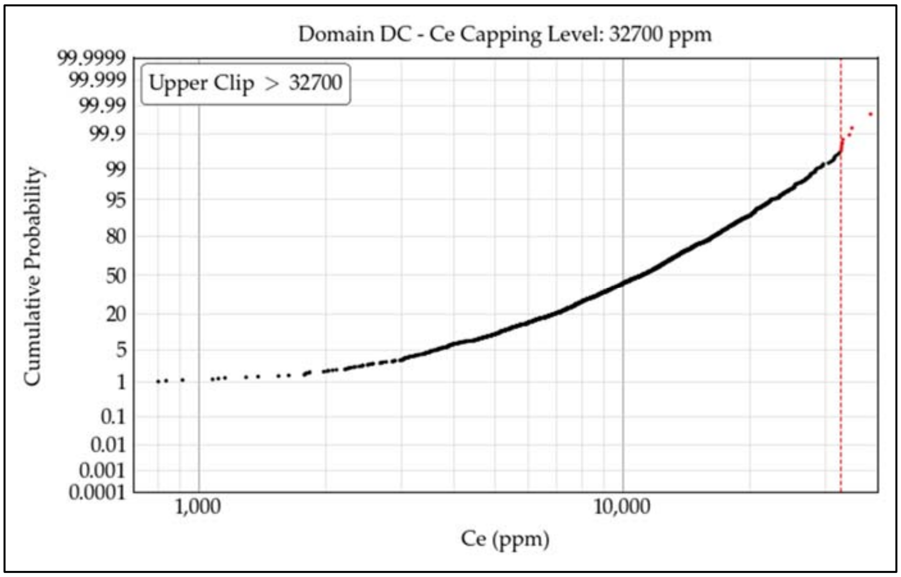
14.4.5 Capping

Composites are capped to a specified maximum value to ensure metal grades are not overestimated by including outlier values during estimation. Probability plots illustrating all values are used to identify outlier values that appear higher than expected relative to the composite population of each metal with the estimation domains. An example of a cumulative probability plot used to select the respective capping levels is shown in Figure 14.8. Visual inspection of the potential outliers revealed that they have no spatial continuity with each other. The capping levels detailed in Table 14.6 were applied to the composites used to calculate the 2023 MRE.

Table 14.6. Capping levels applied to composites before estimation.

Rock Type	Ce (ppm)	Dy (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)
DC	32,700	130	153	400	20	25,900	7,900	2,700	850	44.0
Xeno	15,500	68	83	187	10	9,000	3,200	1,150	393	16.3
Syn	9,500	70	57	124	12	6,300	2,400	690	270	14.8
Lim	3,000	140	48	160	25	2,200	1,100	300	170	24.0

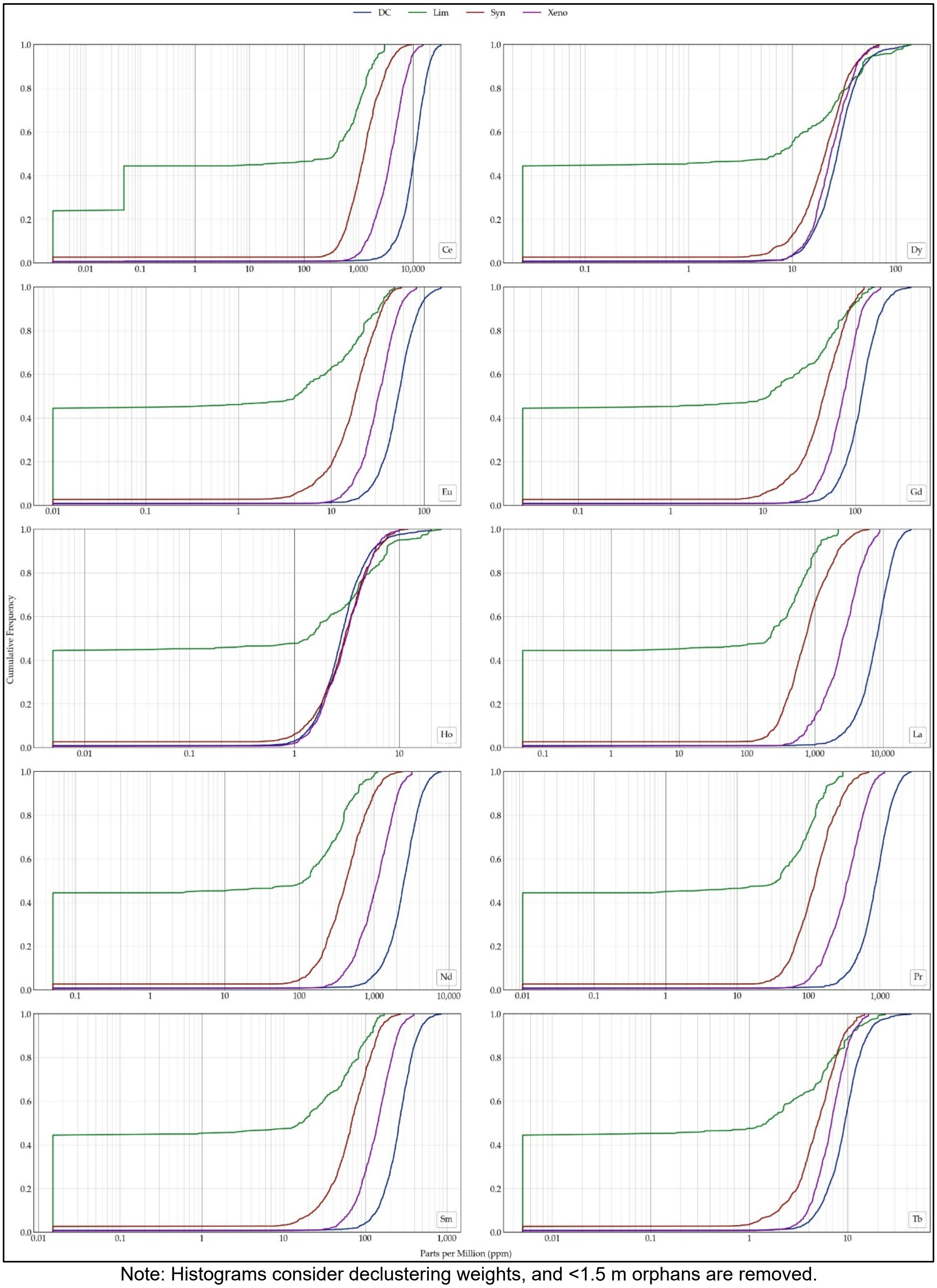
Figure 14.8. Example of cumulative probability plot of the composited metal values used to determine capping level.



14.4.6 Final Composite Statistics

Cumulative histograms and summary statistics for the declustered and capped composites contained within the interpreted estimation domains, without orphans <1.5 m, are presented in Figure 14.9 and tabulated in Table 14.7. The assays within each domain generally exhibit a single population for all metals. The large number of waste values within the Limestone domain are due to discretization of large intervals of unsampled rock being that were assigned a nominal into smaller composites.

Figure 14.9. Cumulative histogram of each metal from capped and declustered composites.



Note: Histograms consider declustering weights, and <1.5 m orphans are removed.

Table 14.7. Summary statistics of each metal from composites contained within the estimation domains.

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Limestone	Syenite
Ce (ppm)					
count	4,824	2,234	972	488	1,130
mean	6,260	11,547	4,502	636	1,670
std	6,054	5,917	2,799	792	1,378
var	36,654,909	35,012,269	7,834,004	627,579	1,897,860
CV	0.97	0.51	0.62	1.25	0.82
min	0.0025	0.0025	0.0025	0.0025	0.0025
25%	1,413	7,385	2,307	0	731
50%	4,217	10,676	3,920	366	1,271
75%	9,413	14,857	6,014	1,085	2,088
max	32,700	32,700	15,500	3,000	9,500
Dy (ppm)					
count	4,824	2,234	972	488	1,130
mean	26.4	30.6	26.1	17.9	22.9
std	16.8	17.9	11.8	26.2	12.8
var	281.4	321.5	138.7	687.9	164.0
CV	0.64	0.59	0.45	1.46	0.56
min	0.025	0.025	0.025	0.025	0.025
25%	16.4	20.2	17.6	0.0	14.1
50%	24.0	27.2	23.6	7.4	20.8
75%	33.1	36.2	32.8	27.9	29.6
max	140.0	130.0	68.0	140.0	70.0
Eu (ppm)					
count	4,824	2,234	972	488	1,130
mean	37.5	56.5	34.5	10.3	19.8
std	25.7	25.6	15.3	13.1	11.2
var	659.2	653.7	233.0	171.7	124.5
CV	0.69	0.45	0.44	1.27	0.56
min	0.01	0.01	0.01	0.01	0.01
25%	18.9	39.9	23.6	0.0	11.6
50%	33.3	52.7	32.2	4.1	18.1
75%	50.9	69.2	43.3	18.6	26.4
max	153.0	153.0	83.0	48.0	57.0

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Limestone	Syenite
Gd (ppm)					
count	4,824	2,234	972	488	1,130
mean	85.4	125.0	78.4	29.4	49.6
std	56.4	57.7	33.8	38.5	27.6
var	3,185.3	3,330.2	1,139.4	1,481.4	761.3
CV	0.66	0.46	0.43	1.31	0.56
min	0.025	0.025	0.025	0.025	0.025
25%	46.3	87.5	54.7	0.0	30.0
50%	77.5	116.5	74.2	11.6	45.7
75%	114.5	152.3	97.6	49.8	67.1
max	400.0	400.0	187.0	160.0	124.0
Ho (ppm)					
count	4,824	2,234	972	488	1,130
mean	3.34	3.35	3.43	2.91	3.37
std	2.44	2.51	1.77	4.34	1.95
var	5.94	6.32	3.14	18.85	3.80
CV	0.73	0.75	0.52	1.49	0.58
min	0.005	0.005	0.005	0.005	0.005
25%	1.90	1.97	2.06	0.01	1.99
50%	2.87	2.77	3.08	1.34	2.98
75%	4.17	3.82	4.41	4.12	4.30
max	25.00	20.00	10.00	25.00	12.00
La (ppm)					
count	4,824	2,234	972	488	1,130
mean	4,565	8,705	3,060	388	1,026
std	4,711	4,678	2,015	513	938
var	22,191,692	21,879,895	4,060,669	263,504	879,126
CV	1.03	0.54	0.66	1.32	0.91
min	0.05	0.05	0.05	0.05	0.05
25%	834	5,391	1,491	0	419
50%	2,850	8,080	2,574	208	722
75%	7,034	11,426	4,145	637	1,299
max	25,900	25,900	9,000	2,200	6,300

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Limestone	Syenite
Nd (ppm)					
count	4,824	2,234	972	488	1,130
mean	1,545.5	2,712.3	1,209.2	206.1	514.1
std	1,361.4	1,321.9	662.6	259.6	371.1
var	1,853,381.2	1,747,457.0	439,036.2	67,390.0	137,678.0
CV	0.88	0.49	0.55	1.26	0.72
min	0.05	0.05	0.05	0.05	0.05
25%	465.5	1,798.4	676.0	0.1	249.2
50%	1,170.4	2,506.8	1,114.5	114.4	419.8
75%	2,286.5	3,452.0	1,636.4	368.6	680.6
max	7,900.0	7,900.0	3,200.0	1,100.0	2,400.0
Pr (ppm)					
count	4,824	2,234	972	488	1,130
mean	527.5	953.7	392.1	61.1	155.5
std	492.5	483.6	228.0	76.0	119.4
var	242,562.2	233,833.0	51,975.5	5,781.4	14,263.9
CV	0.93	0.51	0.58	1.24	0.77
min	0.01	0.01	0.01	0.01	0.01
25%	136.3	617.2	211.8	0.0	72.0
50%	373.5	889.9	350.2	36.5	123.5
75%	790.4	1,225.0	531.5	106.5	194.0
max	2,700.0	2,700.0	1,150.0	300.0	690.0
Sm (ppm)					
count	4,824	2,234	972	488	1,130
mean	173.2	278.1	151.7	36.3	77.2
std	130.2	125.6	73.6	45.4	47.6
var	16,948.0	15,780.7	5,415.8	2,057.0	2,262.8
CV	0.75	0.45	0.49	1.25	0.62
min	0.015	0.015	0.015	0.015	0.015
25%	73.7	194.1	95.8	0.0	43.9
50%	146.3	260.1	142.2	15.4	67.7
75%	247.5	344.0	196.9	63.4	102.8
max	850.0	850.0	393.0	170.0	270.0

	Global	Dolomite Carbonatite	Xenolithic Carbonatite	Limestone	Syenite
Tb (ppm)					
count	4,824	2,234	972	488	1,130
mean	7.62	10.16	7.20	3.72	5.39
std	4.74	5.17	2.90	5.08	2.92
var	22.44	26.69	8.42	25.79	8.50
CV	0.62	0.51	0.40	1.37	0.54
min	0.005	0.005	0.005	0.005	0.005
25%	4.59	6.97	5.07	0.01	3.43
50%	7.05	9.35	6.83	1.49	4.97
75%	9.85	12.06	8.89	6.14	7.16
max	44.00	44.00	16.30	24.00	14.80

Note: Statistics consider declustering weights, and <1.5 m orphans are removed.

14.4.7 Variography and Grade Continuity

Experimental semi-variograms for each estimation 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. A rotation about the Z-axis (azimuth) with positive angles being clockwise rotation and negative representing counter-clockwise rotation;

2. A rotation about the X-axis (dip) with positive angles being counter-clockwise rotation and negative representing clockwise rotation; and

3. A rotation about the Y-axis (tilt) with positive angles being clockwise rotation and negative representing counter-clockwise rotation.

APEX calculated experimental semi-variograms for estimated metals in each domain using the correlogram algorithm. Only the dolomite-carbonatite domain yielded stable variograms. Due to the high correlation among REE metals, the modelled variogram structures showed immaterial variation. Hence, a single variogram model based on Ce was used for all metals and domains (See Figure 14.10). Standardized nugget effect and covariance parameters are reported as percentages to allow them to be scaled to each estimation domain variance for kriging purposes (Table 14.8).

Figure 14.10. Standardized experimental and modelled semi-variogram of the estimated metals.

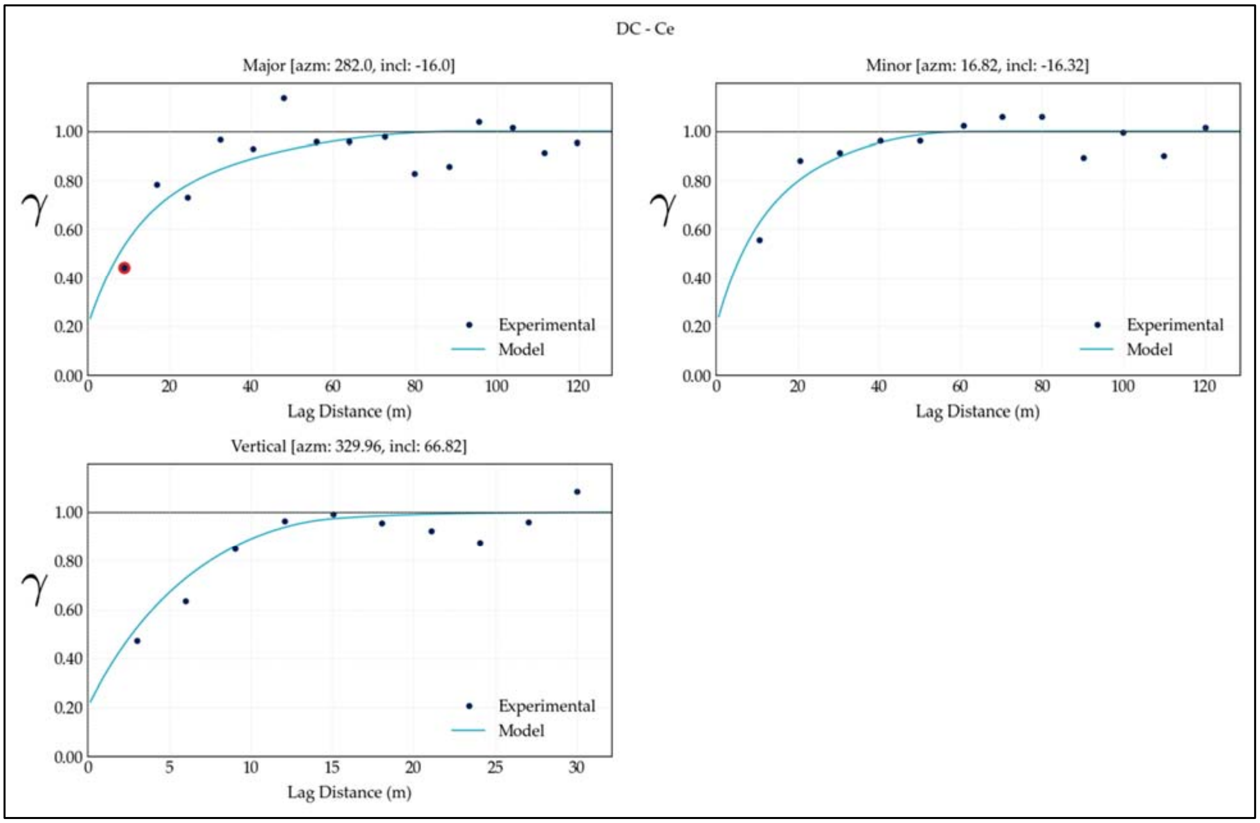


Table 14.8. Standardized variogram model parameters used by Kriging.

Azm [1]	Dip [1]	Tilt[1]	Sill	C0[4]	Structure 1					Structure 2				
					Type [2]	C1[4]	Ranges (m)			Type [3]	C2[4]	Ranges (m)		
							Major	Minor	Vertical			Major	Minor	Vertical
LVA	LVA	LVA	1.00	20%	exp	55%	35	30	15	sph	25%	90	60	15

Notes:
1. LVA represents locally varying anisotropy
2. exp represents a variogram exponential structure
3. sph represents a variogram spherical structure
4. The variogram nugget effect and covariance contribution parameters are indicated as a percentage of the total variance (sill)

14.5 Wicheeda Block Model

14.5.1 Block Model Parameters

Data spacing and potential mining equipment parameters are the main factors to consider when selecting block size. Block sizes exceeding 25% of the data spacing can introduce estimation errors, especially when using Kriging for grade estimation. The data spacing is approximately 62 m, and truck and shovel open-pit mining methods are assumed. A selective mining unit block size of 3 m satisfies both factors.

Each estimation domain used for the 2023 MRE was populated with a percent model. The percentage of the block within the model is calculated for each domain. No blocks were created outside of the estimation domains. Table 14.9. details the grid definition used.

Table 14.9. Wicheeda 3-D block model size and extent.

Axis	Number of Blocks	Block Size (m)	Minimum Extent (m)	Maximum Extent (m)
X (Easting)	372	3	557863.5	558976.5
Y (Northing)	369	3	6042627.5	6043725.5
Z (Elevation)	205	3	667.5	1279.5

14.5.2 Volumetric Checks

A comparison of estimation domain wireframe volumes versus block model volumes illustrates there is no considerable over- or under-stating of tonnages (Table 14.10). The calculated block factor for each block is used to scale its volume when calculating the block model's total volume within each estimation domain.

Table 14.10. Estimation domain wireframe versus block-model volume comparison.

Estimation Domain	Wireframe Volume (m^3)	Block Model Volume with Block Factor (m^3)	Volume Difference (%)
Dolomite-Carbonatite	6,226,631	6,227,541	-0.01%
Xenolithic-Carbonatite	6,487,857	6,491,576	-0.06%
Syenite	46,863,912	47,489,275	-1.32%
Limestone	106,073,786	108,023,735	-1.81%
Total	165,652,186	168,232,127	-1.53%

14.6 Grade Estimation Methodology

Ordinary Kriging (OK) was used to estimate REE metal grades for the 2023 MRE. Grade estimates are only calculated for blocks that contain more than 0.5% mineralized material by volume.

Estimation uses locally varying anisotropy (LVA), which employs different rotation angles to set the variogram model's principal directions and search ellipsoid for each block. Trend surface wireframes assign these angles to blocks within the estimation domain, enabling structural complexities to be captured in the estimated block model.

During grade estimation for each domain, the nugget effect and covariance contributions of the standardized variogram model are scaled to match the variance of the composites within that domain. The ranges used for each mineralized zone are unchanged from the standardized variogram model.

Boundaries between estimation domains and country rock are considered hard boundaries—data from outside a domain can't be used for grade estimation within that domain.

A three-pass estimation method was employed to control Kriging's inherent smoothing and manage the influence of high-grade samples, ensuring accurate volume variance at the chosen block scale. Specific rules for each pass—such as composite limits per drillhole and search sector—are detailed in Table 14.11. The variogram models from Section 14.5 remain unchanged. Kriging settings were optimized for Ce in the dolomite-carbonatite domain. Given the high correlation among REE metals, individual tuning yielded negligible differences; hence, a unified search and kriging approach is applied to all metals and domains. Although this method introduces local bias, it enhances the overall accuracy of grade and tonnage estimates above the set cutoff.

Table 14.11. Estimation search and kriging parameters.

Pass	Max Variogram and Search Range			Max Comps Per Hole	Min No. Comps	Max No. Comps
	Major	Minor	Vertical			
1	30	15	5	2	1	15
2	60	30	10	3	1	15
3	150	70	10	3	1	15

14.7 Model Validation

APEX completed visual and statistical validation to ensure that the estimated block model honors directional trends observed in the composites and that the block model is not over-smoothed or over- or under-estimated. However, as discussed in Section 14.8, the only economical estimation domains are the Dolomite-Carbonatite and Xenolithic-Carbonatite. Because no blocks from the Syenite and Limestone domains are above the cutoff grade, the validation completed for those domains is not detailed in this section to keep the discussion focused.

14.7.1 Visual Validation

The block model was visually validated in plan view and in cross-section (Figure 14.11 and Figure 14.12) to compare the estimated metal values versus the conditioning composites. Overall, the 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, this is the expected result. Overall, the estimated block values compare well with composite metal values.

Figure 14.11. Cross-section along 6,043,000E, looking north showing REE in composites and block model.

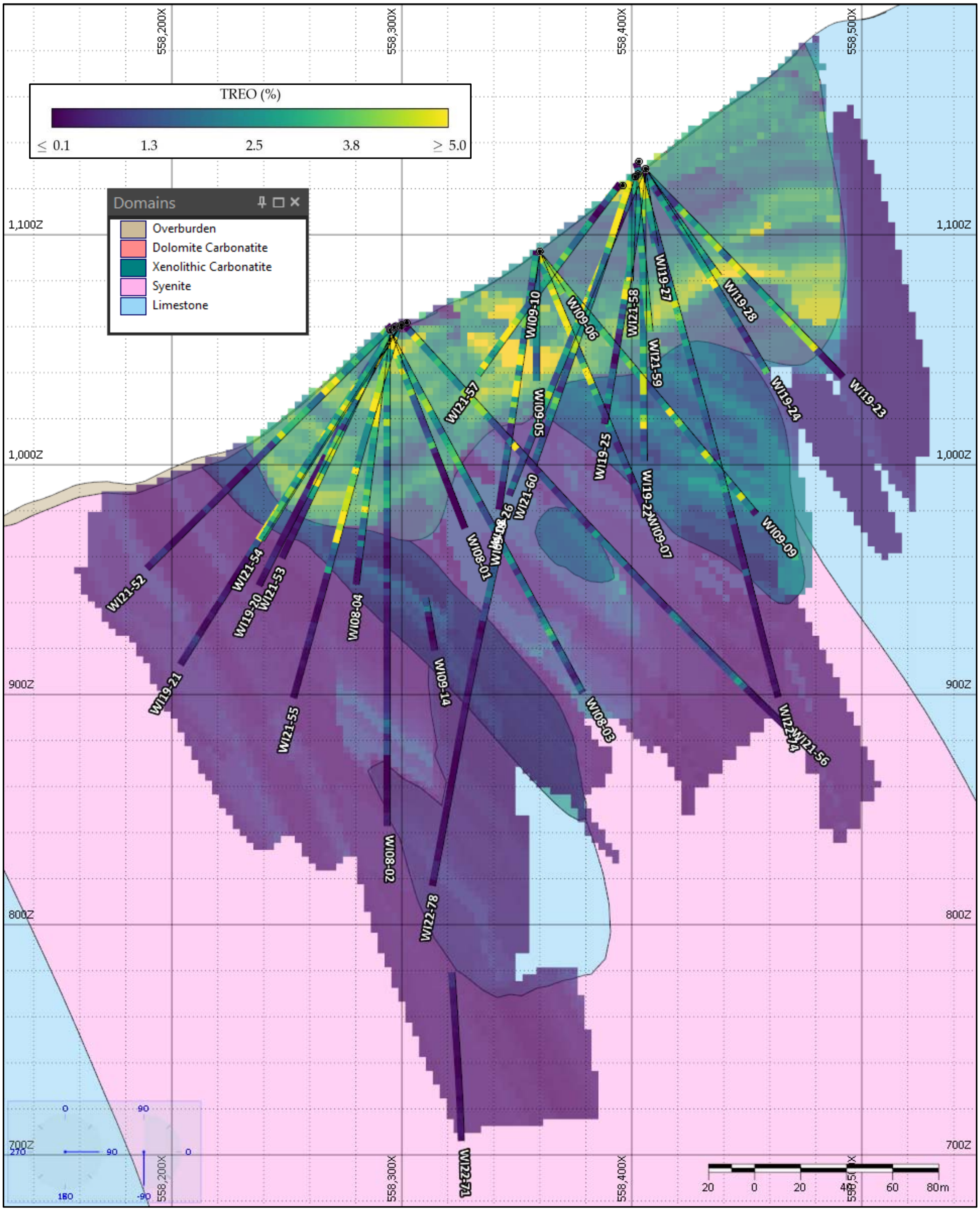
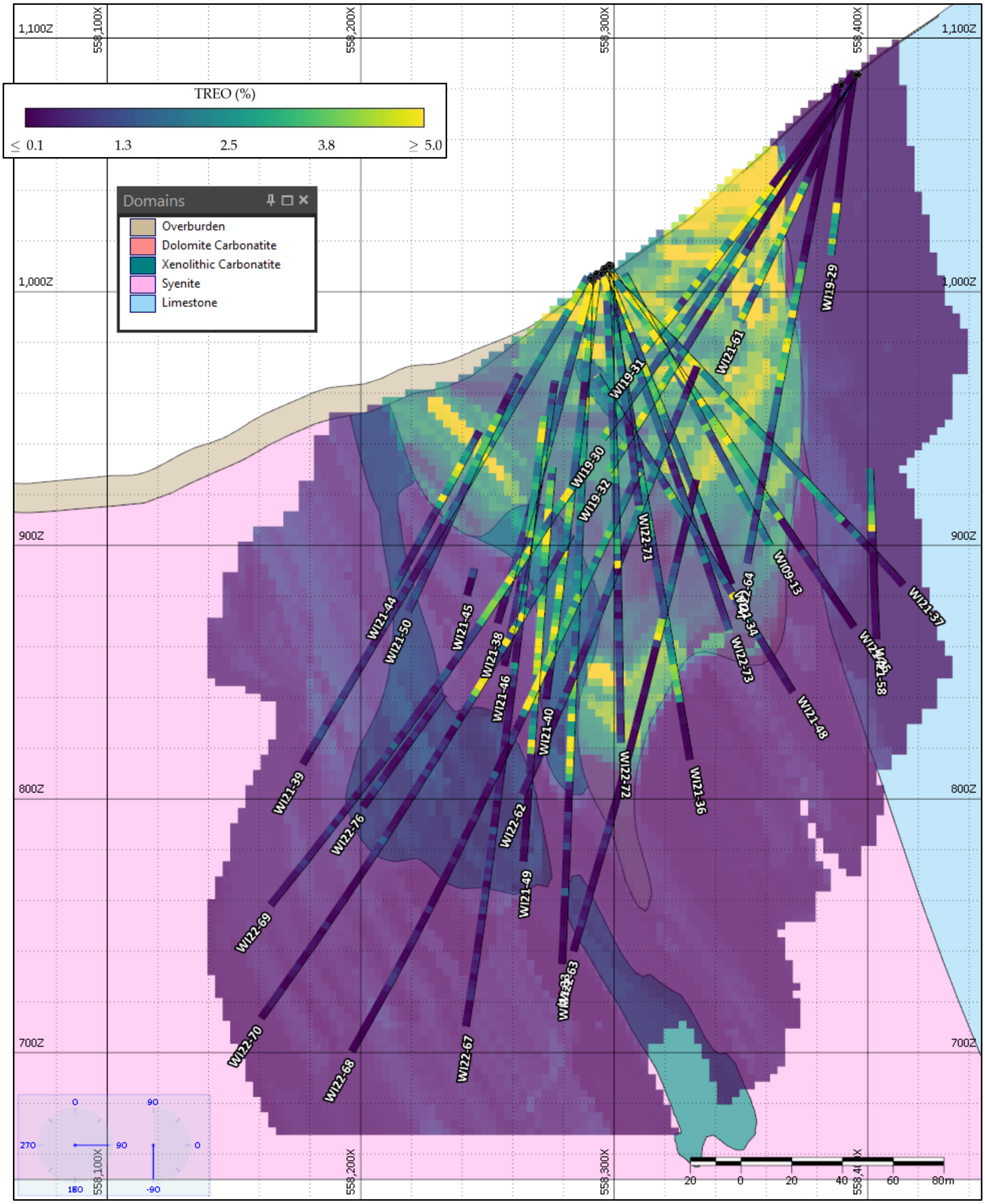


Figure 14.12. Cross-section along 6,043,250E, looking north showing REE in composites and block model.



14.7.2 Statistical Validation

14.7.2.1 Swath Plots

Swath plots verify that the estimated block model honours directional trends and identifies potential areas of over- or under-estimation. They are generated by calculating the average metal grades of composites and estimated block models within directional slices. All three directional slices used a window of 30 m.

Swath plots for all metals estimates in the Dolomite-Carbonatite, Xenolithic-Carbonatite, Limestone and Syenite estimation domains are illustrated in Figure 14.13 to Figure 14.16. There are minor instances of localized over- and under-estimation; however, it is believed to be a product of a lack of conditioning data in those areas and the smoothing effect of Kriging. Overall, the block model adequately reproduces the trends observed in the composites in all three directions.

14.7.2.2 Volume-Variance Validation

As described in Section 14.6, volume-variance corrections are used to ensure the estimated models are not over-smoothed, which would lead to inaccurate estimation of global tonnage and grade. To verify that the correct level of smoothing is achieved, grade and tonnage curves using the theoretical histograms that indicate the anticipated variance and distribution of each estimated metal at the selected block model size are calculated and plotted against the estimated final block model. The Dolomite-Carbonatite and Syenite domains show some smoothing in the higher cutoff ranges as shown in the Ce example in Figure 14.17 and Figure 14.20. APEX believes this is mainly due to the sparsely sampled areas of the estimation domain because limited drilling is informing a large volume of rock. As described in Section 14.8, these sparsely sampled areas are classified as inferred resources. The Xenolithic Carbonatite and Limestone domains reproduce the targeted amount of smoothing as shown in Figure 14.18 and Figure 14.19. Continued infill drilling and more refined estimation domain interpretations will help control smoothing in future work.

Figure 14.13. Swath plots of composite values versus estimated block model values in the Dolomite Carbonatite.

Figure 14.14. Swath plots of composite values versus estimated block model values in the Xenolithic Carbonatite.

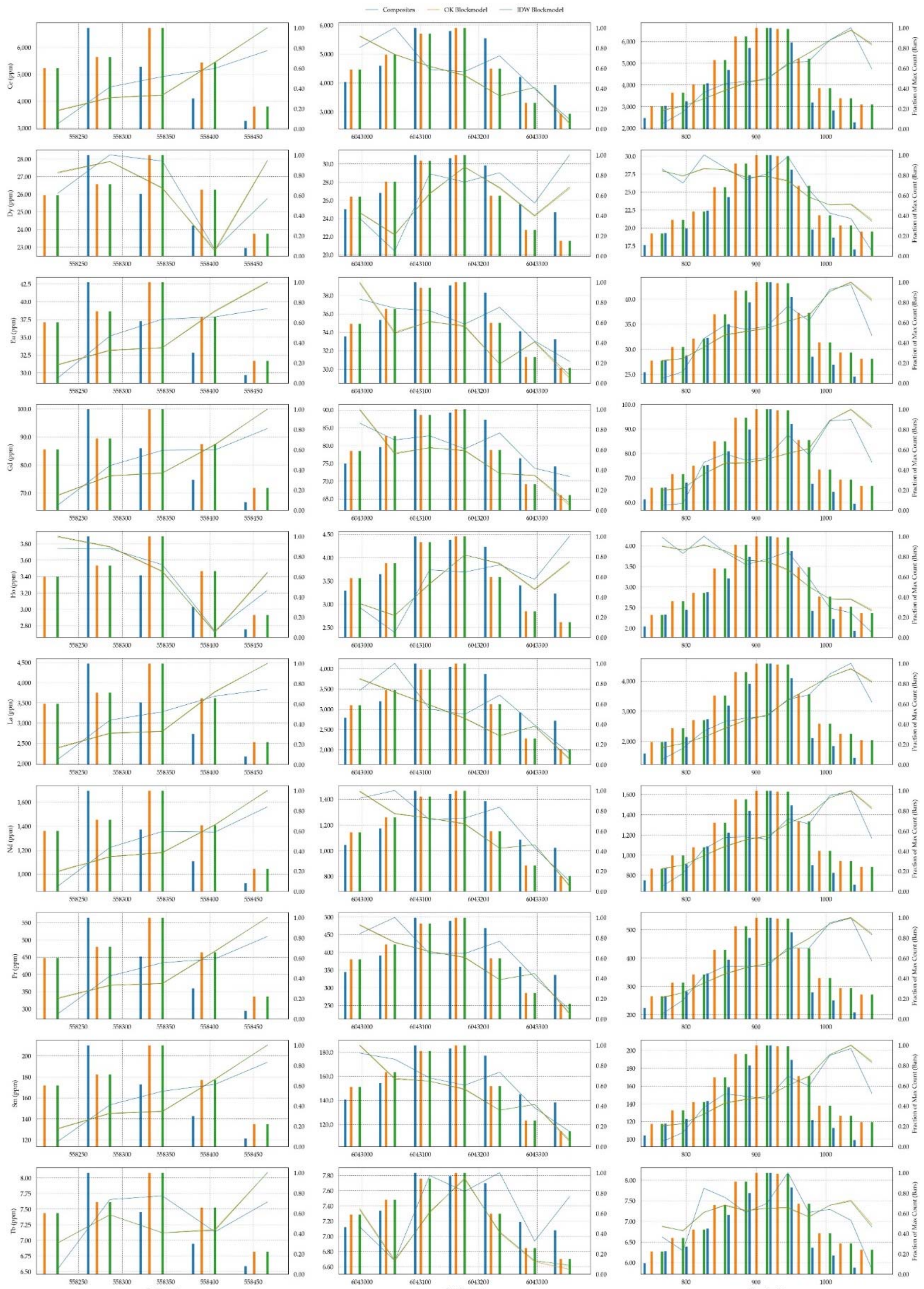
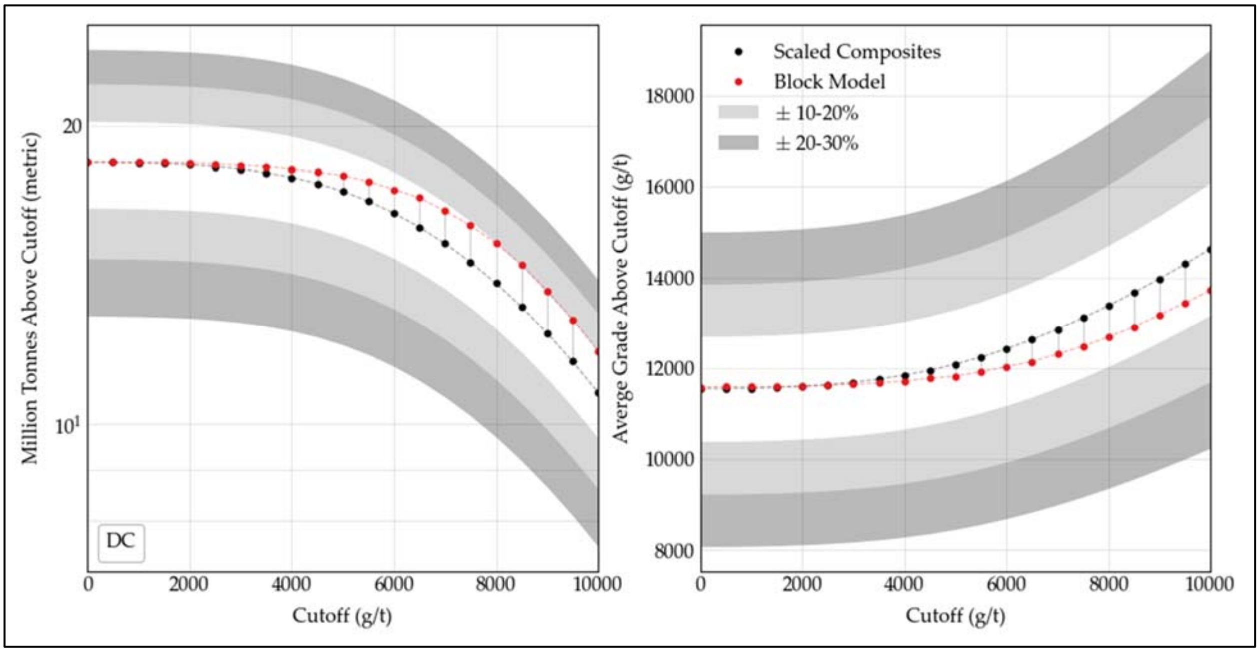


Figure 14.15. Swath plots of composite values versus estimated block model values in the Limestone

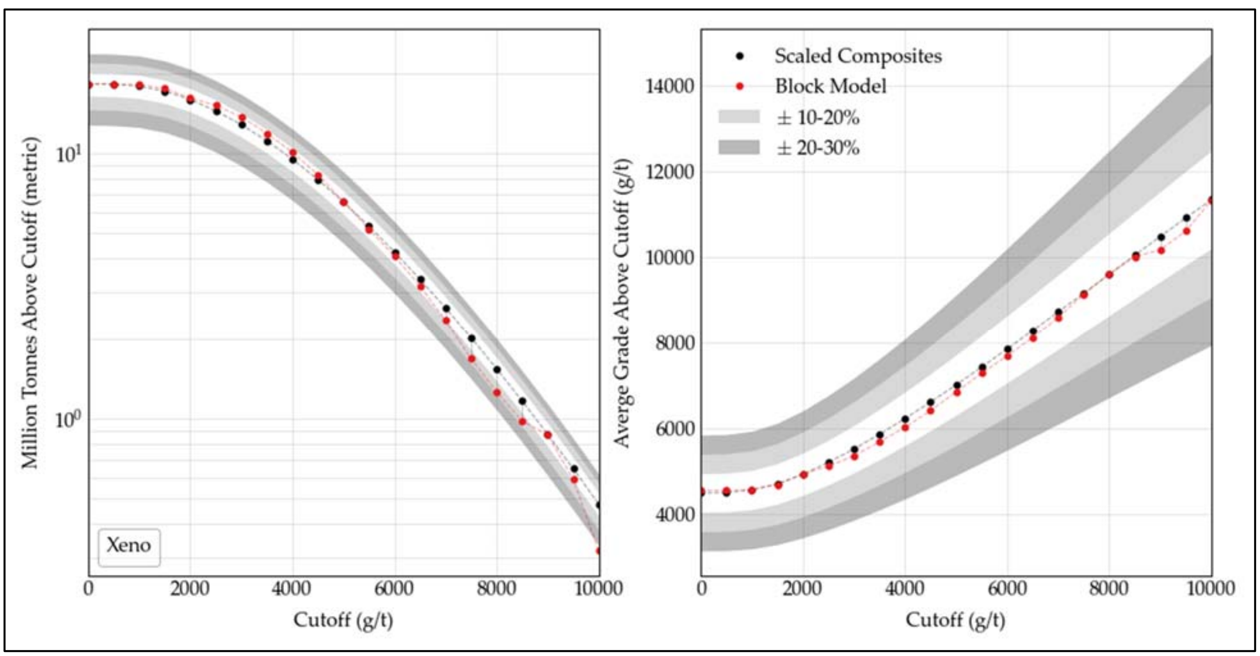
Figure 14.16. Swath plots of composite values versus estimated block model values in the Syenite.

Figure 14.17 Volume-Variance Review of Ce (ppm) scaled composite values versus estimated block model values in the Dolomite Carbonatite.



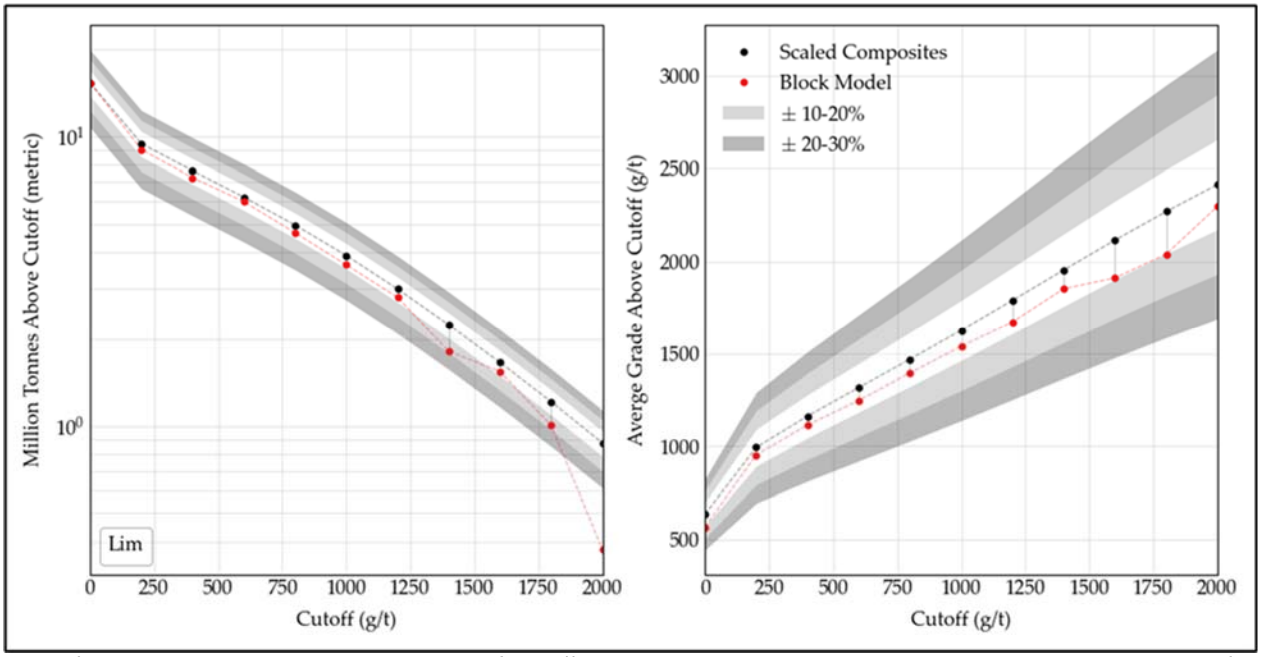
Note: Ce composite values are scaled with DGM Diffusion correction using the cell declustering weights and the Ce variogram

Figure 14.18 Volume-Variance Review of Ce (ppm) scaled composite values versus estimated block model values in the Xenolithic Carbonatite.



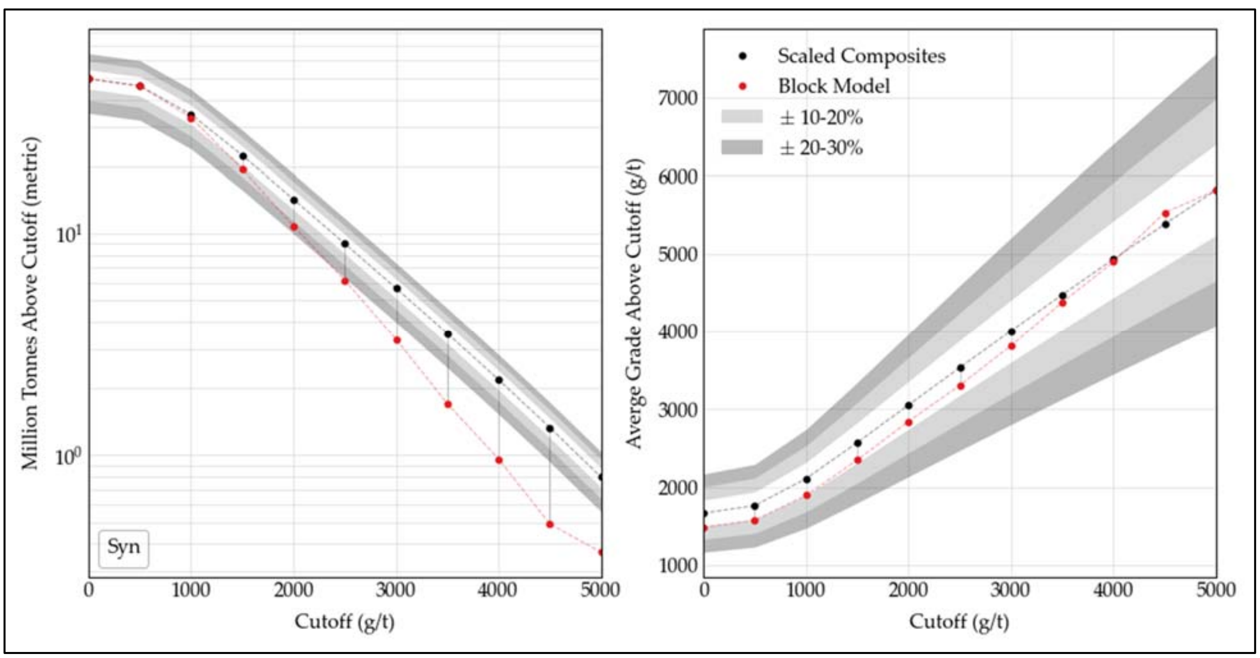
Note: Ce composite values are scaled with DGM Diffusion correction using the cell declustering weights and the Ce variogram

Figure 14.19 Volume-Variance Review of Ce (ppm) scaled composite values versus estimated block model values in the Limestone.



Note: Ce composite values are scaled with DGM Diffusion correction using the cell declustering weights and the Ce variogram

Figure 14.20 Volume-Variance Review of Ce (ppm) scaled composite values versus estimated block model values in the Syenite.



Note: Ce composite values are scaled with DGM Diffusion correction using the cell declustering weights and the Ce variogram

14.8 Mineral Resource Classification

14.8.1 Classification Definitions

The 2023 MRE discussed in this 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 10, 2014.

A measured mineral resource is that part of a mineral resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A measured mineral resource has a higher level of confidence than that applying to either an indicated mineral resource or an inferred mineral resource. It may be converted to a proven mineral reserve or to a probable mineral reserve.

An indicated mineral resource is that part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An indicated mineral resource has a lower level of confidence than that applying to a measured mineral resource and may only be converted to a probable mineral reserve.

An inferred mineral resource is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An inferred mineral resource has a lower level of confidence than that applying to an indicated mineral resource and must not be converted to a mineral reserve. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.

14.8.2 Classification Methodology

According to the CIM Definition Standards, the 2023 MRE update is classified as measured, indicated, and inferred resources. The classification is based on geological confidence, data quality and grade continuity of the data. The most relevant factors considered in the classification process were the following:

- Density of conditioning data.
- Level of confidence in drilling results and collar locations.

- Level of confidence in the geological interpretation.
- Continuity of mineralization.
- Level of confidence in the assigned densities.
- Metallurgical information to establish recoveries.

A multiple-pass classification strategy consisting of a sequence of runs flagged each block with the run number first meeting a set of search restrictions described in Table 14.12. With each subsequent pass, the search restrictions decrease, 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. This process is completed separately from grade estimation. The results were smoothed using an LVA variant of the maximum a posterior selection (MAPS) algorithm developed by APEX. Finally, a small zone was manually upgraded to measured resources to ensure the classification model was adequately continuous.

Mineral resources are not mineral reserves and have not demonstrated economic viability.

Table 14.12. Search parameters utilized by the multiple-pass classification strategy.

Classification	Pass	Minimum No. of Drillholes	Ranges (m)		
			Major	Minor	Vertical
Measured	1	3	30	30	15
Indicated	2	3	90	60	30
Inferred	3	2	120	120	30

14.9 Evaluation of Reasonable Prospects for Eventual Economic Extraction

The unconstrained resource block model was subjected to a Pseudoflow pit optimization to demonstrate that the Wicheeda REE Deposit has the potential for future economic extraction (Figure 14.21). The cutoff grade is calculated, and the pit is optimized based on the assumption that the hydrometallurgical processes can produce mixed REE precipitates. A net smelter return (NSR) calculation was used to perform the pit optimization. The following input parameters were used for the NSR Calculation:

- TREO price: USD$18.66/kg
- Exchange rate of 1.30 C$:USD$
- Processing cost includes USD$18.34/t of mill feed for flotation plus a variable cost for hydrometallurgical plant that varies based on the feed grade. The average cost of hydrometallurgical plant is assumed to be USD$1,204/t of concentrate.
- Mining cost of C$2.00/t for mill feed and waste

- G&A cost of C$3.33/t for mill feed.
- The flotation process recoveries:
    - TREO>=2.3%, recovery is 80%;
    - TREO between 2.3% and 1.5%, recovery is 75%
    - TREO less than 1.5%, recovery is 60%.
- The flotation concentrate grade is assumed to be 43% with 10% moisture content
- The hydrometallurgical process recovery is assumed to be 87% with a precipitate purity of 81.09%
- Pit slope angles of: Overburden – 43°; DC – 43°; Lim – 46°; Syn – 47°; Xeno – 45°

The NSR calculation used is as follows:

1) Mass of floatation concentrate produced:

$$mass_{conc} = (mass_{oreblock} * grade_{TREO} * \ Recovery_{flotation})/grade_{concentrate}$$

With the flotation recovery being variable based on TREO grade and the grade of concentrate being 43%

2) The floatation concentrate mass is adjusted for moisture by:

$$mass_{conc-wet} = mass_{conc}/(1 - moisture_{conc})$$

With the moisture content of the floatation concentrate being 10%

3) The costs of producing the floatation concentrate is:

$$costs_{float} = mass_{oreblock} * \ costs_{proc-float}$$

With the floatation processing costs being USD$18.34 /tonne

4) Transportation Costs of floatation concentrate:

$$costs_{conc} = mass_{conc-wet} * costs_{transport}$$

With the transportation costs of the flotation concentrate being USD$136/tonne of wet concentrate

5) Mass of Hydromet precipitate produced:

$$mass_{hydromet} = (mass_{conc} * recovery_{hydromet})/purity_{hydromet}$$

With the hydrometallurgical precipitate recovery being 87% and the expected purity being 81.09%

6) The TREO sale price is adjusted for VAT:

$$saleprice_{TREOadjusted} = saleprice_{TREO}/(1 - VAT)$$

With the TREO sale price being USD$ 18.66/kg and the Chinese VAT at 13%

7) The Sale price for the hydrometallurgical precipitate is then adjusted for precipitate purity:

$$saleprice_{precipitate} = saleprice_{TREOadjusted} * purity_{precipitate}$$

With the sale price of precipitate estimated at USD$ 1,204/tonne of

8) The revenue from the hydrometallurgical precipitate produced:

$$Revenue_{precipitate} = saleprice_{precipitate} * mass_{hydromet}$$

9) Cost of processing the hydrometallurgical precipitate:

$$costs_{hydromet} = mass_{conc} * cost_{proc-hydromet}$$

10) Mining costs:

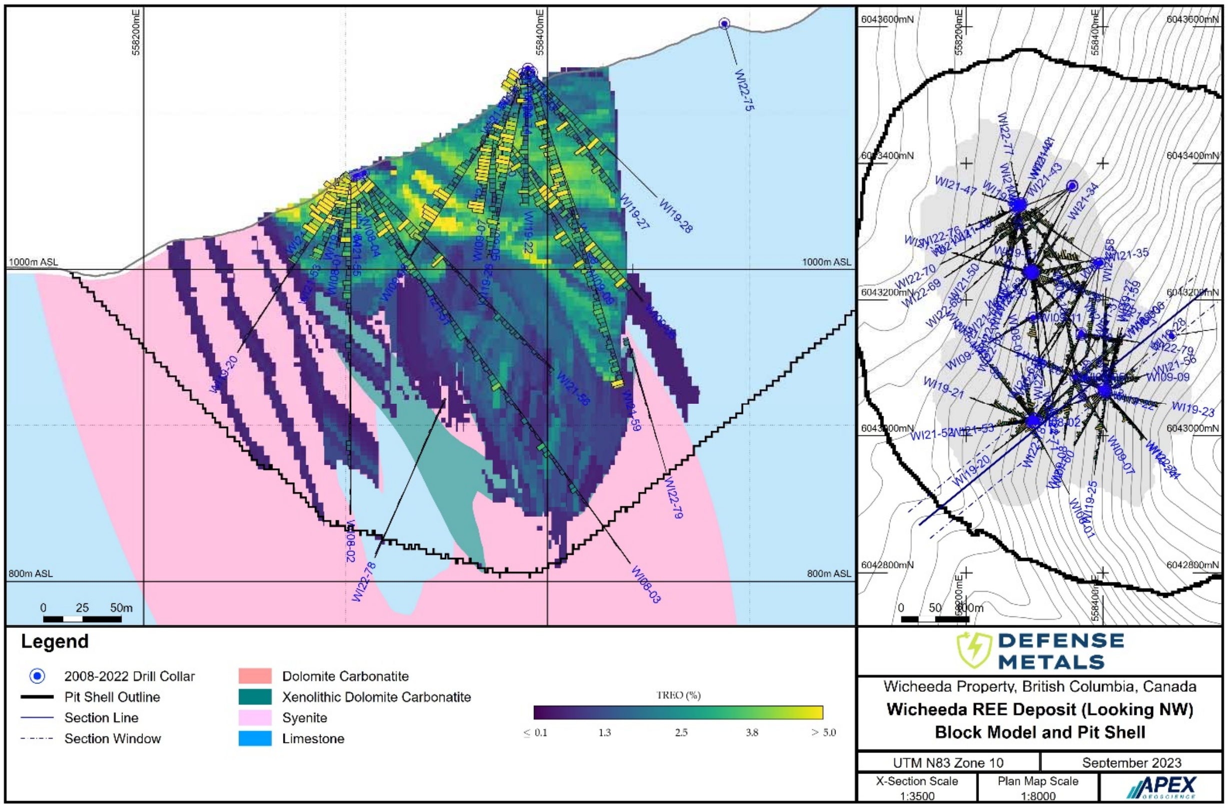
$$costs_{ore-mined} = mass_{oreblock} * \left(costs_{mining} + costs_{g\&a}\right)$$

$$costs_{waste-mined} = mass_{wasteblock} * costs_{mining}$$

With the mining costs being C$ 2/tonne and the G&A costs being C$ 3.33/tonne

The total economic value for each block is then calculated as the total revenue – total costs.

Figure 14.21. Wicheeda REE deposit showing block model and resource constraining pit.



Note: Blocks below the reported cutoff of 0.5% TREO are not displayed

Mineral resources are reported at a cutoff grade of 0.5% TREO (sum of 10 oxides: CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3 and Ho_2O_3). The cutoff grade was established based on consideration of the pit optimization, metal price, concentrate payable, metallurgical recovery, and operating cost assumptions and uncertainty. TREO prices were established based on a review of publicly available price data and comparable carbonatite intrusion-hosted REE deposit NI 43-101 MREs.

The APEX QP considers the pit parameters appropriate to evaluate the reasonable prospect for future economic extraction of the Wicheeda project to provide an MRE. The resources presented herein are not a mineral reserve and have not demonstrated economic viability.

14.10 Sources of Risk and Uncertainty in the Mineral Resource Estimation

Factors that may affect the estimates include metal price and concentrate payable assumptions, changes in interpretations of mineralization geometry, continuity of REE mineralization zones, changes to kriging assumptions, metallurgical recovery assumptions, operating cost assumptions, confidence in the modifying factors, including assumptions that surface rights to allow mining infrastructure to be constructed will be forthcoming, delays or other issues in reaching agreements with regulatory authorities and stakeholders, and changes in land tenure requirements or in permitting requirements.

There are currently no known additional legal, political, title, taxation, socio-economic, marketing, political or other relevant factors that could materially affect the potential development of the mineral resources. As the project develops and economic studies are completed, more information on these factors will become available.

REO price assumptions are based on the available TREO price information. However, rare earth offtakes are established with long term contracts to a limited number of refineries - primarily in Asia. The likely terms of these contracts are not public information. Offtake term assumptions are indicative only. It is not possible to accurately forecast these assumptions, and there is no guarantee that these terms will be realized. Assumptions on the product sales are indicative of potential market values but moving forward should be confirmed via commercial negotiations with refineries.

Refining charges used to establish reasonable prospects for economic extraction were based on a survey of comparable carbonatite intrusion hosted REE deposit NI 43-101 MREs.

With respect to environmental and permitting risk and uncertainty, the area surrounding Wicheeda Lake has been known to have high recreational and ecological values. The lake and surrounding area are currently covered under recreational reserve REC6837 established by FLNR. The northern limit of the LG pit lies approximately 400 m southeast of the southern limit of Wicheeda Lake, and approximately 50 m within REC6837 (Figure 4.2). At present there are no restrictions on mineral exploration activities within REC6837. However, FLNR has requested that Defense Metals take all possible steps to minimize the impacts of exploration to the recreational ecological values associated with Wicheeda Lake.

However, the QP considers these sources of uncertainty minor, given that approximately 93% of the current resource is hosted within Dolomite Carbonatite rocks, and no current resources of any category occur within the Syenite or Limestone domains.

The APEX QP is unaware of any other risks or uncertainties that could affect the accuracy or confidence of the 2023 MRE.

14.11 Mineral Resource Reporting

The updated Wicheeda 2023 MRE is reported in accordance with the Canadian Securities Administrators 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 10, 2014.

A block model with a regularized cell size of 3 m (X) by 3 m (Y) by 3 m (Z) was used to estimate grade by OK for each REE metal. The percentage of the volume of each block below the topographic surface and within each rock type was calculated using the 3-D geological model and the surface topography digital terrain model (DTM). The search ellipsoid size used to estimate each metal was defined by the modelled variograms, with a range of 90 m in the major axis, 60 m in the minor axis, and 15 m in the vertical axis. Block estimation employed 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 estimation domains are assigned rotation angles using a modelled 3-D mineralization trend surface wireframe, which allows structural complexities to be reproduced in the estimated block model. A total of 8,069 density measurements were used to assign density to each block based on its dominant rock type. Density values applied to the block model were 2.95 g/cm^3 (mineralized dolomite-carbonatite), 2.90 g/cm3 (unmineralized dolomite-carbonatite), 2.85 g/cm3 (mineralized xenolithic-carbonatite), 2.76 g/cm3 (unmineralized xenolithic-carbonatite), 2.73 g/cm3 (Syenite), and 2.76 g/cm3 (limestone). The final grade estimates are validated visually by comparing each block's metal estimates to the raw downhole assay data and statistically by generating swath and volume-variance plots.

The 2023 MRE comprises a 6.4 million tonne Measured Mineral Resource, averaging 2.86% TREO CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3 and Ho_2O_3); 27.8 million tonne Indicated Mineral Indicated Resource, averaging 1.84% TREO; and 11.1 million tonnes Inferred Mineral Resource, averaging 1.02% TREO, reported at a cutoff grade of 0.5% TREO within a conceptual Pseudoflow algorithm open pit shell provided in Table 14.13.

Table 14.14 illustrates the resource's sensitivity at different cutoff grades for a potential open-pit operation scenario with a reasonable outlook for economic extraction. The reader is cautioned that the figures provided in these tables should not be interpreted as a statement of mineral resources. Quantities and estimated grades for different cutoff grades are presented to demonstrate the sensitivity of the resource model to specific cutoff grades.

Table 14.15 above illustrates the 2023 MRE by lithology which illustrates the relatively high REE grade nature of the dominant dolomite carbonatite unit, intermediate grade xenolithic dolomite carbonate rocks and lower grade syenite and limestone lithologies peripheral to the main body of the Wicheeda REE Deposit.

Table 14.13. Wicheeda Mineral Resource (effective date August 28, 2023).

Category	Tonnes (Million)	TREO (%)	TREO (kt)	CeO_2 (%)	La_2O_3 (%)	Pr_6O_{11} (%)	Nd_2O_3 (%)	Sm_2O_3 (ppm)	Gd_2O_3 (ppm)	Eu_2O_3 (ppm)	Dy_2O_3 (ppm)	Tb_4O_7 (ppm)	Ho_2O_3 (ppm)
Measured	6.37	2.86	183	1.39	1.00	0.11	0.31	312	139	63	35	12	4
Indicated	27.80	1.84	516	0.89	0.62	0.07	0.21	232	111	50	32	10	4
M&I	34.17	2.02	699	0.98	0.69	0.08	0.23	247	116	52	32	10	4
Inferred	11.05	1.02	113	0.50	0.31	0.04	0.13	166	91	38	35	9	5

Notes for Resource Table:

- The 2023 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 2023 MRE was prepared by Warren Black, M.Sc., P.Geo. and Tyler Acorn, M.Sc., of APEX Geoscience Ltd under the supervision of the QP, Michael Dufresne, M.Sc., P.Geo. following CIM Definition Standards.
- Mineral Resources that are not mineral reserves have not demonstrated economic viability. There is no guarantee that any part of the mineral resources discussed herein will be converted to a mineral reserve in the future.
- All figures are rounded to reflect the relative accuracy of the estimates. Totals may not sum due to rounding.
- The reasonable prospect for eventual economic extraction is met by reporting the Mineral Resources at a cutoff grade of 0.50% TREO (total rare earth oxide, sum of 10 oxides: CeO2, La2O3, Nd2O3, Pr6O11, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3 and Ho2O3), contained within an optimized open pit shell.
- Median rock densities are supported by 8,075 measurements applied: 2.95 g/cm3 (mineralized dolomite-carbonatite), 2.90 g/cm3 (unmineralized dolomite-carbonatite), 2.85 g/cm3 (mineralized xenolithic-carbonatite), 2.76 g/cm3 (unmineralized xenolithic-carbonatite), 2.73 g/cm3 (Syenite), and 2.76 g/cm3 (limestone).
- The reasonable prospect for eventual economic extraction is met by reporting the Mineral Resources at a cutoff grade of 0.50% TREO (total rare earth oxide, sum of 10 oxides: CeO2, La2O3, Nd2O3, Pr6O11, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3 and Ho2O3), contained within an optimized open pit shell.
- The cutoff grade is calculated, and the open pit shell is optimized based on the assumption that the hydrometallurgical processing can produce mixed REE carbonate precipitates. The parameters utilized, as in the 2021 MRE, include the following considerations:
    - TREO price: $18.66/kg
    - Exchange rate of 1.30 C$:US$
    - Precipitate production grades of 81.09% of TREO
    - Processing costs include $21.47/t of mill feed for flotation plus a variable cost for hydrometallurgical plant that varies based on the feed grade. The average cost of hydrometallurgical plant is assumed to be $1,204/t of concentrate.
    - Mining cost of C$2.00/t for mill feed and waste
    - G&A Costs of C$3.33/t for mill feed.
    - The overall process recoveries: For TREO>=2.3%, recovery is 69.6%; between 2.3% and 1.5% TREO, recovery is 65.3%; and less than 1.5% TREO, recovery is 52.2%. These assume variable flotation recoveries and a constant 87% hydrometallurgical recovery.
    - Overall pit slope angles vary by zone between 40 and 48 degrees.

Table 14.14. Mineral Resource cutoff sensitivity

Category	Cutoff TREO (%)[2]	Tonnes[1] (Million)	TREO[2] (%)	TREO (kt)	CeO_2 (%)	La_2O_3 (%)	Pr_6O_{11} (%)	Nd_2O_3 (%)	Sm_2O_3 (ppm)	Gd_2O_3 (ppm)	Eu_2O_3 (ppm)	Dy_2O_3 (ppm)	Tb_4O_7 (ppm)	Ho_2O_3 (ppm)
Measured	0.25	6.68	2.737	184	1.33	0.96	0.11	0.29	301	136	61	36	12	4
	0.5	6.37	2.858	183	1.39	1.00	0.11	0.31	312	139	63	35	12	4
	0.75	6.27	2.901	182	1.41	1.01	0.11	0.31	315	140	64	35	12	4
	1	6.19	2.928	182	1.42	1.02	0.11	0.31	318	141	64	35	12	4
	1.5	5.92	3.007	178	1.46	1.05	0.12	0.32	324	143	65	35	12	4
	2	5.20	3.179	165	1.54	1.12	0.12	0.34	338	148	68	37	12	4
	2.5	4.08	3.433	140	1.66	1.21	0.13	0.36	358	157	72	38	13	4
Indicated	0.25	36.11	1.491	546	0.72	0.50	0.06	0.17	197	98	43	31	9	4
	0.5	27.80	1.837	516	0.89	0.62	0.07	0.21	232	111	50	32	10	4
	0.75	23.05	2.099	487	1.02	0.71	0.08	0.24	257	120	54	32	10	4
	1	19.54	2.329	456	1.13	0.79	0.09	0.26	277	128	58	33	11	4
	1.5	13.89	2.780	387	1.35	0.96	0.11	0.30	312	141	64	34	12	4
	2	10.29	3.147	324	1.53	1.10	0.12	0.34	339	151	69	36	12	4
	2.5	7.64	3.456	264	1.68	1.21	0.14	0.37	363	161	74	38	13	4
Inferred	0.25	21.79	0.702	153	0.34	0.21	0.03	0.09	126	75	30	34	8	5
	0.5	11.05	1.021	113	0.50	0.31	0.04	0.13	166	91	38	35	9	5
	0.75	5.85	1.393	81	0.68	0.44	0.06	0.17	206	103	45	33	9	4
	1	3.63	1.721	62	0.85	0.55	0.07	0.21	240	116	51	35	10	4
	1.5	1.73	2.260	39	1.12	0.74	0.09	0.26	289	136	60	37	11	4
	2	1.03	2.615	27	1.29	0.87	0.11	0.29	317	148	65	41	12	5
	2.5	0.46	3.028	14	1.49	1.02	0.12	0.33	335	156	69	44	13	5

Notes:

1. Tonnes are constrained within an open pit.
2. TREO % sum of CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3 and Ho_2O_3.

Table 14.15. Wicheeda Mineral Resource by Lithology (cut-off grade of 0.5% TREO)

Lithology	Category	Tonnes (Million)	TREO (%)	TREO (kt)	CeO_2 (%)	La2O3 (%)	Pr_6O_{11} (%)	Nd_2O_3 (%)	Sm_2O_3 (ppm)	Gd_2O_3 (ppm)	Eu_2O_3 (ppm)	Dy_2O_3 (ppm)	Tb_4O_7 (ppm)	Ho_2O_3 (ppm)
Dolomite Carbonatite	Measured	5.9	2.98	177	1.44	1.04	0.12	0.32	320	142	65	35	12	4
	Indicated	11.8	2.88	342	1.40	1.01	0.11	0.31	315	141	64	34	12	4
	M&I	17.8	2.92	519	1.41	1.02	0.11	0.31	316	141	64	34	12	4
	Inferred	0.6	2.66	15	1.30	0.91	0.11	0.29	281	134	60	37	11	4
Xenolithic-Dolomite Carbonatite	Measured	0.3	1.43	5	0.69	0.46	0.06	0.17	209	107	47	35	10	5
	Indicated	11.6	1.22	142	0.59	0.38	0.05	0.15	188	95	42	30	9	4
	M&I	12.0	1.22	147	0.60	0.39	0.05	0.15	189	95	42	30	9	4
	Inferred	4.0	1.28	51	0.63	0.40	0.05	0.16	198	98	43	32	9	4
Syenite	Measured	0.1	0.81	1	0.39	0.26	0.03	0.10	138	84	34	32	9	5
	Indicated	4.1	0.74	31	0.36	0.22	0.03	0.10	132	73	31	28	7	4
	M&I	4.2	0.74	31	0.36	0.22	0.03	0.10	132	73	31	28	7	4
	Inferred	5.8	0.73	42	0.36	0.21	0.03	0.10	136	78	33	33	8	5
Limestone	Measured	0.0	1.05	0	0.49	0.34	0.05	0.13	178	120	43	63	14	10
	Indicated	0.2	0.81	1	0.38	0.25	0.03	0.11	156	117	41	62	14	10
	M&I	0.2	0.83	2	0.39	0.26	0.03	0.11	157	117	41	63	14	10
	Inferred	0.7	0.73	5	0.34	0.22	0.03	0.09	143	111	39	70	14	11

14.12 Previous Mineral Resource Estimates

APEX completed the previous 2021 MRE with an effective date of November 07, 2021 (Table 14.16). The 2021 Wicheeda MRE comprised an indicated mineral resource of 5.0 Million tonnes averaging 2.95% TREO, in addition to an inferred mineral resource of 29.5 Million tonnes averaging 1.83% TREO reported at a cutoff grade of 0.5% TREO (sum of CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3 and Ho_2O_3). The 2021 MRE was constrained by applying a conceptual LG pit shell (SRK, 2022). The 2023 MRE cutoff value was based on consideration of metal price and concentrate payable, metallurgical recovery, and operating cost assumptions and uncertainty and is the same consideration as used in the 2021 MRE.

The 2023 MRE represents a 17% increase on a contained TREO basis, or 31% tonnage increase, in comparison to the prior 2021 MRE. The 2023 MRE includes a material change in the geological model compared to the 2021 MRE and considers 47 new drillholes completed by Defense Metals in 2021 and 2022. The resource estimation workflow and methodologies used remain largely the same, with updates to parameters and settings based on the updated data.

The 2021 MRE did not have enough overburden material within the resource area to impact the MRE materially. However, glacial material does cover bedrock as you move west from the resource area down-slope, which is now within the extent of the 2023 MRE. An overburden surface has been added on the western side of the deposit in the updated 2023 MRE.

Table 14.16. Mineral Resources for LREE and sensitivity analysis.

Category	Tonnes (Million)	TREO (%)	TREO (kt)	CeO_2 (%)	La_2O_3 (%)	Pr_6O_{11} (%)	Nd_2O_3 (%)	Sm_2O_3 (ppm)	Gd_2O_3 (ppm)	Eu_2O_3 (ppm)	Dy_2O_3 (ppm)	Tb_4O_7 (ppm)	Ho_2O_3 (ppm)
Indicated	5.0	2.95	148	1.44	1.04	0.11	0.30	296	126	60	33	11	3
Inferred	29.5	1.83	539	0.89	0.61	0.08	0.21	240	112	50	32	10	4

Source: (SRK, 2022) Footnotes:

Notes for 2022 Resource

- The 2022 MRE was prepared by Warren Black, M.Sc., P.Geo. of APEX Geoscience Ltd under the supervision of the QP, André M. Deiss, Bsc (Hons), Pri.Sci.Nat. of SRK Consulting (Canada) Inc., in accordance with CIM Definition Standards.
- The 2022 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.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. There is no guarantee that any part of the mineral resources discussed herein will be converted to a mineral reserve in the future.
- All figures are rounded to reflect the relative accuracy of the estimates. Total may not sum due to rounding.
- Mean rock densities supported by 795 measurements applied: 2.94 g/cm3 (dolomite-carbonatite), 2.87 g/cm3 (xenolithic-carbonatite), 2.70 g/cm3 (Syenite), and 2.74 g/cm3 (limestone).
- The reasonable prospect for eventual economic extraction is met by reporting the Mineral Resources at a cutoff grade of 0.50% TREO (total rare earth oxide, sum of 10 oxides: CeO2, La2O3, Nd2O3, Pr6O11, Sm2O3, Eu2O3, Gd2O3, Tb4O7, Dy2O3 and Ho2O3), contained within a Lerchs-Grossman (LG) optimized pit shell
- The cutoff grade is calculated, and the LG pit is optimized based on the assumption that the hydrometallurgical processes can produce mixed REE carbonate precipitates. The parameters utilized include the following considerations:
    - TREO price: $18.66/kg
    - Exchange rate of 1.30 C$:US$
    - Precipitate production grades of 81.09% of TREO
    - Processing cost includes $21.47/t of ore for flotation plus a variable cost for hydrometallurgical plant that varies based on the feed grade. The average cost of hydrometallurgical plant is assumed to be $1,204/t of concentrate.
    - Mining cost of C$2.00/t for ore and waste
    - G&A Costs included in the processing cost is C$6M/yr
    - The overall process recoveries: For TREO>=2.3%, recovery is 69.6%; between 2.3% and 1.5% TREO, recovery is 65.3%; and less than 1.5% TREO, recovery is 52.2%. These assume variable flotation recoveries and a constant 87% hydrometallurgical recovery.
    - Overall pit slope angles vary by zone between 40 and 48 degrees

15 Adjacent Properties

Adjacent properties to the Project include the Wicheeda East group of properties and D1 – D2 properties under the name of Leonard Jack Harris, a claim northeast of the Project under the name of Randolph Kasum (previously belonged to the Carbonatite Syndicate property of Canadian Carbon Resources). Records of drilling appear in the assessment reports of these property. No significant intersections were presented for the Carbonatite Syndicate property drilling campaign in 2011 (Churchill et al., 2011). Additional properties surrounding Defense Metal's Wicheeda project include: Caravan Energy Corporation's Wicheeda SE and associated properties, Power One Resources Corp.'s Wicheeda Northwest group of properties, Eagle Bay Resources Corp.'s Carbo Extension, Corona and Wicheeda as well as a few other mineral claims of different owners (Figure 15.1).

15.1 D1 Claim

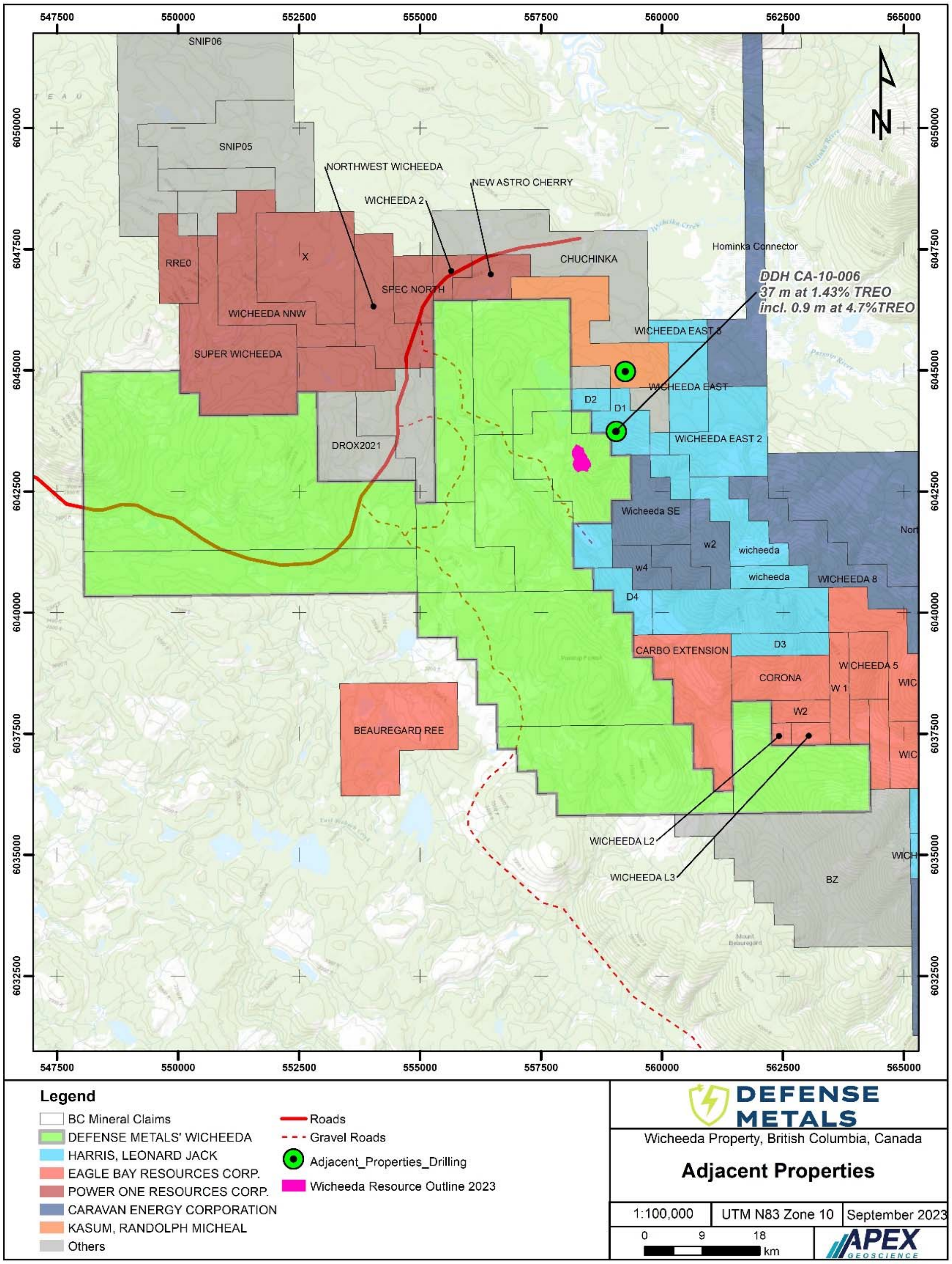
The D1 claim (claim number 1106061), located to the East of the Wicheeda deposit has 112.6 ha. Records of drilling have been reported for the D1 claim in the past while it was considered part of the Carbo 1 property of Canadian International Minerals INC. ("CCE"), which were originally staked by Jody Dahrouge in 2005 and 2006 (Bruland, 2011).

After positive geophysical airborne and soil sampling geochemical campaigns drilling took place Carbo 1 property claim in 2010. The drilling intersected REE mineralization in carbonatite dykes and a network of carbonatite/calcite veins that intruded the Upper Cambrian to Lower Ordovician Kechika Group bedded sediments. The bedded argillites and siltstones have a general NW-SE strike with a near vertical dip while the carbonatite dykes appear to have NW-SE strike and dipping steeply to the SE cross-cutting the sedimentary stratigraphy. Breccias with carbonatite matrix are locally found along the contacts of the carbonatite dykes. The dykes are generally narrow with width of < 10 m (Bruland, 2011).

The drilling returned Light Rare Earth Elements (LREE;Ce, La, Nd) and praseodymium Pr ranging from 4.7% Total Rare Earth Oxide (TREO) over 0.9 m to 1.4% TREO over 37.3 m in carbonatite dykes. REE minerals identified are parisite (of variable composition), bastnaesite, burbankite, monazite, and aeschynite with parasite the most common. Sulphide mineralization (pyrite, pyrrhotite, sphalerite, galena, arsenopyrite, chalcopyrite) is unrelated to the REE mineralization as is the Nb (Nb-rutile) (Bruland, 2011).

The Carbo 1 property lapse and was re-staked by different entities. The D1 block appears as owned by Leonard Jack Harries since July 16 2023 with a good to date of July 16 2024.

Figure 15.1. Adjacent Properties



16 Other Relevant Data and Information

The authors are not aware of any other relevant data and information regarding the Wicheeda Project.

17 Interpretation and Conclusions

The Wicheeda REE Property is an exploration project with historical exploration holes dating back to 2008. The Property is located in the Foreland Belt of the Canadian Cordillera, within the structurally dominant NW-trending Rocky Mountain Trench. The Rocky Mountain Trench is recognized for the occurrence of several Devonian – Mississippian, carbonatite-syenite intrusion-related complexes that were geologically deformed, tilted, and transported east in thrust panels. The deposit has a characteristic geophysical signature evident from airborne radiometric surveys overlapping the Property.

Between 2019 and 2023, Defense Metals completed additional diamond drilling and surface exploration programs at the Wicheeda Property. Sixty diamond drill holes totalling 12,883.91 m between 2019 and 2022.

In 2019, the drilling program was designed to test the northern, southern and western extent of the Wicheeda Carbonatite and further delineate the relatively higher-grade near surface dolomite-carbonatite unit. All drill holes intersected variable lengths of significant REE mineralization, mainly in the carbonatite dolomite body and, to a lesser extent, in the lithologies enveloping the Wicheeda Carbonatite. Assay results from 2019 drilling program returned 4.57% TREO over an interval of 83 m, and up to 5.65% TREO over an interval of 33 m.

In 2021, the program directive was to test the extent of the Wicheeda deposit where it was still open to the north and northwest, further delineate the relatively higher-grade near-surface dolomite unit, and to convert the inferred and/or indicated mineral resource into indicated and measured mineral resource. All 29 drill holes crosscut significant intercepts of REE-mineralized dolomite carbonatite. Assays results from 2021 drilling program returned 3.09 % TREO over an interval of 251 m including 80 m at 3.92 % TREO.

In 2022, the program directive was to test the extent of the Wicheeda deposit where it is still open to the north and northwest, further delineate the relatively higher-grade near-surface dolomite unit, and to convert the inferred and/or indicated mineral resource into indicated and measured mineral resource. Fifteen holes intersected variable lengths of significant REE mineralization, mainly in the carbonatite dolomite body and, to a lesser extent, in the lithologies enveloping the dolomite carbonatite deposit. Assays results from 2022 drilling program returned 3.58 % TREO over an interval of 124 m including 18 m at 6.70 % TREO

Wicheeda REE mineralization is preferentially hosted in dolomite carbonatite, xenolithic dolomite-carbonatite, strongly altered – brecciated mafic xenoliths and to a lesser degree, dolomite-calcite carbonatite and syenite. Mineralization appears in vuggy, disseminated, aggregates, patches and vein related. Positive assay values strongly correspond to bastnäsite-parasite and monazite ± pyrochlore ± sphene ± columbite.

Hydrometallurgical testing was completed in February 2020. Samples of Wicheeda flotation concentrate were used in a test program that led to the successful development of a caustic crack hydrometallurgical flowsheet capable of processing the concentrate to a high grade mixed REE hydroxide precipitate. Results from the test program include a high REE extraction from flotation concentrate of 90% into a chlorine based leach solution, treatment of the leach solution with limestone achieved high (94-100%) removal of impurities with only 2-4% REE losses, and overall recoveries of 70-75% TREE from the bulk sample to a high grade mixed REE hydroxide precipitate, and up to 76-78% TREE with reprocessing of the final leach residue.

Subsequent metallurgical studies explored a different hydrometallurgical route different from caustic crack between 2022 and 2023. Initial results of alternative acid-bake (AB) process testwork at SGS Lakefield on Wicheeda Rare Earth Element (REE) Project mineralized showed improved REE extraction, with recoveries >95% for neodymium and praseodymium from flotation concentrate into a leach solution, potentially leading to improvements in capital and operating costs.

Flotation hydrometallurgical test on variability samples were carried out between 2022 and 2023. The flotation response of the DC Comp and DC variability samples was good, with TREO recoveries of ~75-90% at a 45%TREO grade. It was more challenging to achieve a ~40%TREO grade with high recoveries for the XE and SYN samples. The best result for the XE Comp was 38%TREO grade at a 70% recovery, while the SYN Comp achieved a 45%TREO grade at a 46% recovery. The lower head grades of the XE and SYN composites may have partially accounted for the lower recoveries.

REE-enriched carbonatites of the Wicheeda Deposit are part of a narrow, elongate, northwest-southeast trending intrusive carbonatite-syenite sill complex. The carbonatite is intruded into Syenite, mafic dikes, limestone and calcareous sedimentary wall rocks. Diamond drilling data supports the interpretation of a moderately north-northeast dipping, shallowly north plunging, layered sill complex having Syenite at its base. It is overlain by hybrid matrix to clast-supported limestone or mafic intrusive xenolithic carbonatite (fenite), as well as significantly REE-bearing dolomite-carbonatite rocks, which form the main body of the Wicheeda REE Deposit outcropping at surface. This layered sill complex occurs within an unmineralized limestone waste rock. There is no near-surface oxidized material due to recent glaciation. The primary host, Dolomite-Carbonatite, has dimensions of approximately 450 m north-south by 170-300 m east-west by 100-275 vertically. This layered sill complex occurs within an unmineralized limestone waste rock.

The 2023 MRE comprises a 6.4 million tonne Measured Mineral Resource, averaging 2.86% TREO CeO_2, La_2O_3, Nd_2O_3, Pr_6O_{11}, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_4O_7, Dy_2O_3 and Ho_2O_3); 27.8 million tonne Indicated Mineral Indicated Resource, averaging 1.84% TREO; and

11.1 million tonnes Inferred Mineral Resource, averaging 1.02% TREO, reported at a cutoff grade of 0.5% TREO within a conceptual Pseudoflow algorithm open pit shell.

The work that was completed evaluated and confirmed the exploration potential. Results indicate that additional drilling at the northern end of the deposit is warranted to further define the extent and attempt to close the deposit.

18 Recommendations

Based on the presence of high-grade carbonatite intrusion-hosted REE mineralization exposed at surface and intersected in drill core, which exhibits a reasonable prospect for economic extraction, and favourable geology; the Wicheeda Project is of a high priority for follow-up exploration.

Future studies should include, but not be limited to: mineral exploration and geotechnical sonic drilling, detailed, further limit delineation and exploring satellite anomalies within the Wicheeda Property claims, expanded property wide LiDAR surveys to cover newly acquired claims, airborne magnetic and radiometric survey, continued metallurgical studies to optimize flotation recoveries across a range of grades and lithologies, in addition to advancement of the acid-bake hydrometallurgical process.

For 2023, APEX recommends at minimum a field drilling program comprising 475 m of sonic overburden infrastructure and pit geotechnical drilling, and geometallurgical sampling and testwork as well as proceeding with ongoing advanced economic studies of the Wicheeda REE Deposit towards the completion of the preliminary feasibility study (“PFS”). The proposed exploration budget is approximately $2,496,489 (Table 18.1).

Table 18.1. Proposed 2023 Wicheeda Property Exploration Budget

Budget Item	Cost
APEX personnel, travel costs and site visits	$124,450
APEX Rentals (equipment, trucks, software, etc.)	$7,060
Analytical (~500 core samples+3000 geometallurgy) and fright costs	$124,425
Third Party Rentals & Supplies	$52,250
Camp accommodation, food and maintenance	$157,450
Helicopter	$121,800
Diamond drilling and pad building	$705,100
Freights	$13,500
Geotech (SRK)	$89,500
Management, reporting and modelling	$6,500
Metallurgical Studies	$50,000
Property wide LiDAR survey (75 km^2)	$30,000
Airborne magnetic and radiometric survey (100 m line spacing, 500 line -km at 80/line-km	$40,000
Exploration drilling of radiometric anomalies 250 m at $650/m	$162,500
Pit Geotechnical core drilling at 900 m within 4 holes @ $650/m all up	$585,000
Subtotal	$2,269,535
10% Contingency	$226,954
TOTAL (not including GST)	**$2,496,489**

19 Date and Signature Page

This Technical Report was prepared to NI 43-101 standards by the following Qualified Persons. The effective date of this report is August 28, 2023.

“Signed”

Kristopher J. Raffle, B.Sc., P.Geo.

“Signed”

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

Vancouver, British Columbia, Canada
Signing Date: October 27, 2023

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21 Certificate of Author

21.1 Kristopher J. Raffle

I, Kristopher J. Raffle, residing in Vancouver British Columbia, do hereby certify that:

1. I am a Principal of APEX Geoscience Ltd. ("APEX"), located at 410-800 West Pender Street, Vancouver, British Columbia, Canada.

2. I am the author of this Technical Report entitled: "Technical Report on the Wicheeda Property, British Columbia, Canada" having an effective date of August 28, 2023 (the "Technical Report"). I am a graduate of The University of British Columbia, Vancouver, British Columbia with a B.Sc. (Honours) in Geology (2000) and have practiced my profession continuously since 2000. Over the past 10 years I have supervised exploration programs specific to carbonatite-hosted and peralkaline intrusion related rare earth element deposits having similar geologic characteristics to the Wicheeda Deposit within the Foreland Belt of British Columbia, Ontario and Quebec, Canada, and Mexico. I am a Professional Geologist registered with APEGBC (Association of Professional Engineers and Geoscientists of British Columbia) and I am a 'Qualified Person' in relation to the subject matter of this Technical Report.

4. I visited the Property that is the subject of this Report on several occasions between 2019 and 2023.

5. I am responsible for all sections of the Technical Report, except Section 14: Mineral Resource Estimates, which was authored by Michael Dufresne.

6. I am a Director of Defense Metals Corp. and I am not independent of Defense Metals Corp., applying all of the tests in section 1.5 of National Instrument 43-101. I am not aware of any other information or circumstance that could interfere with my judgment regarding the preparation of the Technical Report.

7. I have read and understand National Instrument 43-101 and Form 43-101 FI and the Report has been prepared in compliance with the instrument.

8. To the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

9. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this October 27, 2023

Vancouver British Columbia, Canada

"Signed"

Kristopher J. Raffle, B.Sc., P.Geo.

21.2 Michael B. Dufresne

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

1. I am a Professional Geologist, currently employed as a Principal Geologist with APEX Geoscience Ltd. ("APEX"), with an office address of 100, 11450 – 160th Street NW, Edmonton, Alberta, Canada T5M 3Y7.
2. This certificate applies to the technical report titled, "Technical Report on the Wicheeda Property, British Columbia, Canada," (the "Technical Report"), prepared for Defense Metals Corp. (the "Company") with an effective date of August 28, 2023 (the "Effective Date") and a report date of October 27, 2023
3. I graduated with a B.Sc. in Geology from the University of North Carolina at Wilmington in 1983 and with a M.Sc. in Economic Geology from the University of Alberta in 1987.
4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Provinces of Alberta, British Columbia and New Brunswick, Registration numbers # 48439, # 37074 and F6534, respectively and the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists' Registration# L3378.
5. I have practiced my profession continuously for more than 35 years. I have been directly involved in mineral resource estimation and geology from exploration through to feasibility studies and mining including being a Qualified Person for numerous studies and reports on base precious metal deposits, as well as rare earth element (REE) deposits, including the Buckton Mineralized Zone, SBH Property, in Alberta, Canada. I have constructed and supervised mineral resource estimates on numerous mineral deposits over the last 20 years.
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101 in connection with those sections of the Technical Report that I am responsible for preparing.
7. I have not visited the Wicheeda Property.
8. I am responsible for Sections 14 and joint responsible for Sections 1, 2.2 and 17 of the Technical Report.
9. I am not independent of Defense Metals Corp. in accordance to section 1.5 of NI 43-101. I am Principal of APEX Geoscience Ltd. APEX was hired by Defense Metals Corp. to carry out previous work programs on the Project and Kristopher Raffle who is a Principal at APEX is also a director of Defense Metals Corp.
10. I have read NI 43-101, Form 43-101F1 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101, Form 43-101F1
11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 27, 2023

Edmonton, Alberta, Canada
"Signed"

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