NI 43-101 TECHNICAL REPORT

on the
LAB Critical Metals District Project
Newfoundland and Labrador

NTS Map Sheets
13A/01,08,09,10,11,14,
03D/05,04, 12P/16 and 2M/13

Centered at

At -56.21° Longitude
and
52.28°Latitude

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Prepared for
Nuclear Fuels Corp.
Prepared By
Derrick Strickland
Effective Date:
March 1, 2023, 2023

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1 SUMMARY

This report was commissioned by Nuclear Fuels Corp. ("Nuclear" or the "Company") and prepared by Derrick Strickland, P. Geo. As an independent professional geologist, the author was asked to undertake a review of the available data, and recommend, if warranted, specific areas for further work on the LAB Critical Metals District Project ("Project"). This technical report was prepared to support a business combination of private company Nuclear Fuels Inc. and TSX-V publicly traded Uravan Minerals Inc (Uravan). The author visited the Property on October 6, 2022

The Project is located in southeastern Labrador Centered at -56.21º Longitude and 52.28ºLatitude on NTS Map Sheets 13A/01,08,09,10,11,14,03D/05,04, 12P/16 and 2M/13. The LAB Critical Metals District Rare Earth Project is comprised of 53 non-contiguous mineral licences which are made up of 1508 minerals claims totaling 37,700 ha in size.

An Option Agreement provided to the author dated October 1, 2022 between Nuclear Fuels Inc. and Gary Lewis and additional Claim Holders allows Nuclear Fuels Inc. to acquire 100% of the Project for the issuance of 5 million of Nuclear Fuels Inc. shares and make $200,000 in cash payments.

The proposed business combination contemplates a share consolidation of the Uravan Shares on the basis of 0.8 pre-consolidation Uravan Share for every one post-consolidation Uravan Share. Uravan will complete the share consolidation immediately prior to closing the transaction with Nuclear. On closing shareholders of Nuclear will exchange their Nuclear Shares for post-consolidation Uravan Shares based on an exchange ratio of one to one of post-consolidation Uravan Share for each Nuclear Share.

The Port Hope Simpson Critical Rare Earth Element District is transected by the Trans Labrador Highway and is in close proximity to the coastal communities of Port Hope Simpson and St. Lewis, the latter which has a deep-water port accessible year-round. The nearest community is Port Hope Simpson, located approximately 60 km southeast of the property on the southeastern coast of Labrador. The Trans-Labrador Highway is located within 13 km to the north–northeast of the Property centre.

The Project is in the Nain and Superior Province Archean cratons. Broad episodic crustal extension, rifting and anorogenic magmatism characterize the Elsonian event (1.6-1.0 Ga). Accretionary episodes in the Middle Proterozoic were accompanied by intrusion of anorthosite-mangerite-charnockite-rapakivi granite suites AMCG (1.46-1.29 Ga); Nain Plutonic Suites (1.35-1.29 Ga); dykes (Harp, Nain and Nutak dykes) and peralkaline/alkaline bodies along the Nain-Southeastern Churchill Province boundary zone. Accretion to the southern margin of the continent occurred from 1.7 Ga until the Grenvillian Orogeny and terminal continental collision at 1.0 Ga which can be traced north by the presence of east-west trending structures. (Beesley, 1997)

There are 29 (twenty-nine) minerals occurrences identified on the Project, these consist of pegmatite rare earth showings and uranium showings, two examples of these are the Pesky Hill and BB Shot showings.

Pesky Hill, Rare Earth Element, mineralized pegmatite veins vary in size up to 15 m in width and form a discontinuous zone in outcrop over 200 m. Mineralized veins appear to have a string-like geometry, with intersection thicknesses of the high-grade HREE zones ranging up to 2.56 m. The high-grade veins are associated with lower grade granitic pegmatites and anomalous REE-bearing granite. Small pegmatitic vein stockworks are observed. Additional untested HREE showings with similar geological settings also occur in the Pesky Hill area. Dy, in sample channels, ranges from 621 to 2751 ppm, Tb from 91 to 365 ppm, and Y from 2963 to 12,522 ppm. Nb ranges from 3,667 to 21,693 and Zr ranges from 5,512 to 16,557. Nd, a target light rare earth element, ranges from 1,502 to 3,474 ppm. The best channel sample returned 621 ppm Dy, 1,534 ppm Nd, 91 ppm Tb and 2,963 ppm Y over 14.69m. This mineralization is characterized as HREE mineralization with HREE/Total REE ranging up to 53.5% and HREE+Y/Total REE+Y ranging up to 74%.

The BB Shot showing uranium mineralization was located in both pegmatitic and non-pegmatitic units and these areas were covered by geological mapping and prospecting. Uranium values in soils were up to 117 ppm in soil samples taken near the center of the property. Other anomalous values of Th, Cu and Pb were returned– GM476 returned 2,720 ppm Cu (median 4 ppm) and GM403 returned >5,000 ppm Pb (median 37 ppm). The high thorium values were typically in samples that gave low uranium values. The uranium/thorium ratio was favorable, averaging 5:1 in samples having uranium values >250 ppm. The "Bingo" showing which is hosted in orthogneiss with strong uranophane staining and is located in the central portion of the property returned "off scale" (> 10,000 cps) scintillometer readings and assay values of up to 5,887 ppm U3O8. The highest U3O8 values of up to 67,439 ppm U3O8 (6.74 wt %) were located at the "BB Shot" showing.

Nuclear Fuels Corp. of Vancouver conducted an exploration program on the Project from Sept 17th to October 9th, 2022. The exploration work was undertaken on mineral licences 31376 and 26798. A total of 369 soil samples were taken on the property during the 2022 programme. A total of 24 rock samples were collected from various sites within the property boundaries which contained visual indications of alteration and/or mineralization.

The recommended work program includes two phase work program. Phase one is data compilation, including airborne geophysics, all mineral showings, and assessment report data, and perform regional interpretation airborne geophysics of structures focusing on pegmatites, undertake an exploration program which would include geological mapping, prospecting, investigating areas of interest identified by historical geophysical surveys, ground geophysics, and a soil sampling program over areas of interest. The estimated cost of the program is $673,970

Phase two is contingent on phase one results and would include road building, trenching, helicopter support, and drilling of an developed targets. The expected costs isapproximately $2,650,000 CDN

2 INTRODUCTION

This report was commissioned by Nuclear Fuels Corp. (the "Company" or "Nuclear") and prepared by, Derrick Strickland P.Geo. As an independent professional geologist, the author was asked to undertake a review of the available data and recommend, if warranted, specific areas for further work on the LAB Critical Metals District Project ("Project"). This technical report was prepared to support a This technical report was prepared to support a business combination of private company Nuclear Fuels Inc. and TSX-V publicly traded Uravan Minerals Inc (Uravan).

The author was retained to complete this report in accordance with National Instrument 43-101 of the Canadian Securities Administrators ("NI 43-101") and Form 43-101F1. The author is a "Qualified Person" within the meaning of NI 43-101.

In the preparation of this report, the author utilized information provided by the Company as well as technical reports that have been previously published on www.sedar.com. Results for the historic exploration on the Property are discussed in detail in Section 6 of this report. A list of reports, maps, and other information examined by the author is provided in Section 27 of this report.

The author visited the Property on October 6, 2022 with Mike Collins, the President of Nuclear Fuels. During the site visit, the author reviewed the geological setting. Unless otherwise stated, maps in this report were created by the author.

The author reserves the right, but will not be obliged; to revise the report and conclusions if additional information becomes known subsequent to the effective date of this report.

The information, opinions, and conclusions contained herein are based on:

- Information available to the author at the time of preparation of this report;
- Assumptions, conditions, and qualifications as set forth in this report;
- And discussions with Nuclear Fuels Corp. personnel
- Geoscience Online
- Geoscience Atlas
- GeoFiles

This evaluation of the Nuclear Fuels Corp. Project is partially based on historical data derived from Newfoundland and Labrador Mineral Assessment Files and other regional reports. Rock sampling and assay results are critical elements of this review. The description of sampling techniques utilized by previous workers is poorly described in the assessment reports and, therefore, the historical assay results must be considered with prudence.

As of the date of this report, the author is not aware of any material fact or material change with respect to the subject matter of this technical report that is not presented herein, or which the omission to disclose could make this report misleading.

2.1 UNITS AND MEASUREMENTS

Table 1: Definitions, Abbreviations, and Conversions

Units of Measure	Abbreviation	Units of Measure	Abbreviation
Above mean sea level	amsl	Micrometre (micron)	µm
Billion years ago	Ga	Milligram	mg
Centimetre	cm	Milligrams per litre	mg/L
Cubic centimetre	cm3	Millilitre	mL
Cubic metre	m3	Millimetre	mm
Days per week	d/wk	Million tonnes	Mt
Days per year (annum)	d/a	Minute (plane angle)	'
Degree	°	Month	mo
Degrees Celsius	°C	Ounce	oz.
Degrees Fahrenheit	°F	Parts per billion	ppb
Diameter	ø	Parts per million	ppm
Gram	g	Percent	%
Grams per litre	g/L	Pound(s)	lb.
Grams per tonne	g/t	Power factor	pF
Greater than	>	Specific gravity	SG
Hectare (10,000 m^2)	ha	Square centimetre	cm^2
Gram	g	Square inch	in^2
Grams per litre	g/L	Square kilometre	km^2
Grams per tonne	g/t	Square metre	m^2
Greater than	>	Thousand tonnes	kt
Kilo (thousand)	k	Tonne (1,000kg)	t
Kilogram	kg	Tonnes per day	t/d
Kilograms per cubic metre	kg/m^3	Tonnes per hour	t/h
Kilograms per hour	kg/h	Tonnes per year	t/a
Kilometre	km	Total dissolved solids	TDS
Less than	<	Week	wk
Litre	L	Weight/weight	w/w
Litres per minute	L/m	Wet metric tonne	wmt
Metre	m	Yard	yd.
Metres above sea level	masl	Year (annum)	a

Most of the rare earth mineralization occurs in allanite and fergusonite; minor amounts of REE occur in chevkinite, monazite, bastnaesite, britholite and zircon. The majority of the light REE (i.e., La to Sm) in the mineralization occurs in allanite, whereas the majority of the HREE (i.e., Eu to Lu) occurs in both fergusonite and allanite.

Medium to high grade REE mineralization, characterized by dysprosium (Dy) from 100 ppm to 400 ppm, is predominantly hosted by fine-grained, layered to massive pantellerite and Zr-enriched pantellerite. Lower grade mineralization, characterized by Dy from 20 ppm to 100 ppm, is predominantly hosted by fine-grained, mostly massive comendite and Zr-poor pantellerite. Mineralized units are commonly interbedded with mafic to ultramafic volcanic units, quartzite, and locally derived volcanogenic sediments

Table 2: Light Rare Earth Elements (LREE)

Element	Symbol REE	Molecular Wt	REO	Molecular Wt	Ratio REE/REO
Lanthanum	La	138.905	La_2O_3	325.8082	0.8527
Cerium	Ce	140.116	Ce_2O_3	328.2302	0.8538
Cerium	Ce	140.116	CeO_2	172.1148	0.8141
Praseodymium	Pr	140.908	Pr_2O_3	329.8142	0.8545
Neodymium	Nd	144.242	Nd_2O_3	336.4822	0.8574
Samarium	Sm	150.360	Sm_2O_3	348.7182	0.8624

Table 3: Heavy Rare Earth Elements (HREE)

Element	Symbol REE	Molecular Wt	REO	Molecular Wt	Ratio REE/REO
Gadolinium	Gd	157.250	Gd_2O_3	362.4982	0.8676
Yttrium**	Y	88.906	Y_2O_3	225.8102	0.7874
Europium**	Eu	151.964	Eu_2O_3	351.9262	0.8636
Dysprosium**	Dy	162.500	Dy_2O_3	372.9982	0.8713
Terbium**	Tb	158.925	Tb_2O_3	365.8482	0.8688
Erbium	Er	167.259	Er_2O_3	382.5162	0.8745
Holmium	Ho	164.930	Ho_2O_3	377.8582	0.8730
Ytterbium	Yb	173.054	Yb_2O_3	394.1062	0.8782
Thulium	Tm	168.934	Tm_2O_3	385.8662	0.8756
Lutetium	Lu	174.967	Lu_2O_3	397.9322	0.8794

REE= Rare earth elements = La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu (the lanthanide series)

TREE= Total rare earth elements = total ppm of the lanthanide series elements
LREE= Light rare earth elements = La, Ce, Pr, Nd, Sm
HREE= Heavy rare earth elements = Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu Y

HREE+Y= (HREE+Y)/(TREE+Y)

3 RELIANCE ON OTHER EXPERTS

For the purpose of the report, the author has reviewed and relied on ownership information provided by Mike Collins President of Nuclear Fuels Corp. on January 21, 2023. To the author's knowledge, this data is correct. A limited search of tenure data conducted buy the author on January 22, 2023 on the Geoscience Atlas web site confirms the geospatial location of the mineral claims the data supplied. The author has no reason to doubt the reliability of the information provided by Nuclear Fuels Corp.

According to the Company the is work report due dates are not accuracy reflected on the government website. There is a large back log of assessment reports and paying in lieu.

4 PROPERTY DESCRIPTION AND LOCATION

The LAB Critical Metals District Project is located in south eastern Labrador, and is centered at -56.21° Longitude and 52.28°Latitude on NTS Map Sheets 13A/01,08,09,10,11,14,03D/05,04, 12P/16 and 2M/13. The LAB Critical Metals District Project comprised of 53 non-contiguous mineral licences, which are made up of 1508 minerals claims totaling 37,700 ha in size.

An Option Agreement provided to the author dated October 1 2022 between Nuclear Fuels Inc. and Gary Lewis and additional Claim Holders allows Nuclear Fuels Inc. to acquire 100% of the Project for the issuance of 5 million of Nuclear Fuels Inc shares and make $200,000 in cash payments under the following schedule:

- issue 1,500,000 Shares on or before June 18, 2022;
- issue a further 750,000 Shares on or before June 18, 2023;
- issue a further 750,000 Shares on or before June 18, 2024;
- pay $50,000 cash and issue a further 1,000,000 Shares on or before June 18, 2025; and
- pay a further $150,000 cash and issue a further 1,000,000 Shares before June 18, 2026.

The Project has a 3% net smelter royalty wherein 1.5% of the net smelter royalty can be purchased anytime by making a payment of $3,000,000 to Gary Lewis or to such person(s) as Lewis may direct.

The "additional Claim Holders" are Aubrey Budgell, Brian Penney, Evan Budgell, April Budgell, Unity Resources Inc., Leonard Lewis, and Nigel Lewis.

The proposed business combination contemplates a share consolidation of the Uravan Shares on the basis of 0.8 pre-consolidation Uravan Share for every one post-consolidation Uravan Share. Uravan will complete the share consolidation immediately prior to closing the transaction with Nuclear. On closing shareholders of Nuclear will exchange their Nuclear Shares for post-consolidation Uravan Shares based on an exchange ratio of one to one of post-consolidation Uravan Share for each Nuclear Share.

Table 4: Mineral Claims September 15

Licence No	Onwer	No Claims	Staked	Expiry	Work Report Due
026437M	Gary E. Lewis	9	2018-08-14	2023-09-13	2023-11-14
026440M	Aubrey Budgell	6	2018-08-14	2023-09-13	2023-11-14
026441M	Aubrey Budgell	4	2018-08-14	2023-09-13	2023-11-13
026442M	Aubrey Budgell	4	2018-08-14	2023-09-13	2023-11-13
026443M	Aubrey Budgell	4	2018-08-14	2023-09-13	2023-11-13
026797M	Brian Penney	18	2018-12-30	2024-01-29	2023-03-30
026798M	Brian Penney	4	2018-12-30	2024-01-29	2023-03-30
027319M	Aubrey Budgell	8	2019-08-08	2024-09-09	2023-11-08
027431M	Aubrey Budgell	1	2019-09-29	2024-10-29	2023-12-28
027433M	Aubrey Budgell	2	2019-09-29	2024-10-29	2023-12-28
027434M	Aubrey Budgell	1	2019-09-29	2024-10-29	2023-12-28
027442M	Evan Budgell	30	2019-10-03	2024-11-04	2023-03-04
027443M	Aubrey Budgell	5	2019-10-03	2024-11-04	2023-03-04
027444M	Aubrey Budgell	10	2019-10-03	2024-11-04	2023-03-04
027445M	Aubrey Budgell	2	2019-10-03	2024-11-04	2023-03-04
027450M	Gary E. Lewis	2	2019-10-06	2024-11-05	2024-01-04
027451M	Gary E. Lewis	4	2019-10-06	2024-11-05	2024-01-04
027489M	Aubrey Budgell	4	2019-10-27	2024-11-26	2024-01-04
027573M	April Budgell	7	2019-12-17	2025-01-16	2023-03-17
031357M	Unity Resources Inc.	61	2020-10-09	2025-11-08	2024-09-01
031361M	Unity Resources Inc.	13	2020-10-09	2025-11-08	2024-09-01
031367M	Aubrey Budgell	17	2020-10-09	2025-11-08	2024-01-09
031369M	Unity Resources Inc.	6	2020-10-09	2025-11-08	2024-01-09
031376M	Brian Penney	10	2020-10-09	2025-11-08	2024-01-09
031379M	Brian Penney	12	2020-10-09	2025-11-08	2024-01-09
032534M	April Budgell	6	2021-05-04	2026-06-03	2023-08-02
032535M	April Budgell	16	2021-05-04	2026-06-03	2023-08-02
032536M	April Budgell	14	2021-05-04	2026-06-03	2023-08-02
032537M	Aubrey Budgell	4	2021-05-04	2026-06-03	2023-08-02
032538M	Aubrey Budgell	3	2021-05-04	2026-06-03	2023-08-02
032823M	Leonard Lewis	21	2021-05-22	2026-06-21	2023-08-21
032830M	Leonard Lewis	41	2021-05-22	2026-06-21	2023-08-21
032833M	Leonard Lewis	31	2021-05-22	2026-06-21	2023-08-21
032835M	Leonard Lewis	99	2021-05-23	2026-06-22	2023-08-21
032836M	Leonard Lewis	87	2021-05-23	2026-06-22	2023-08-21
032837M	Leonard Lewis	132	2021-05-23	2026-06-22	2023-08-21
032838M	Leonard Lewis	69	2021-05-23	2026-06-22	2023-08-21
032839M	Leonard Lewis	66	2021-05-23	2026-06-22	2023-08-21
032841M	Leonard Lewis	29	2021-05-23	2026-06-22	2023-08-21
032842M	Leonard Lewis	45	2021-05-23	2026-06-22	2023-08-21
032844M	Leonard Lewis	96	2021-05-23	2026-06-22	2023-08-21
032846M	Nigel Lewis	68	2021-05-23	2026-06-22	2023-08-21
032847M	Nigel Lewis	31	2021-05-23	2026-06-22	2023-08-21
032848M	Nigel Lewis	26	2021-05-23	2026-06-22	2023-08-21
032849M	Nigel Lewis	17	2021-05-23	2026-06-22	2023-08-21
032850M	Nigel Lewis	33	2021-05-23	2026-06-22	2023-08-21
032851M	Nigel Lewis	37	2021-05-23	2026-06-22	2023-08-21
032852M	Nigel Lewis	36	2021-05-23	2026-06-22	2023-08-21
032853M	Leonard Lewis	98	2021-05-23	2026-06-22	2023-08-21
032855M	Leonard Lewis	50	2021-05-23	2026-06-22	2023-08-21
032856M	Nigel Lewis	84	2021-05-23	2026-06-22	2023-08-21
032858M	Leonard Lewis	20	2021-05-23	2026-06-22	2023-08-21

Figure 1: Regional Location Map

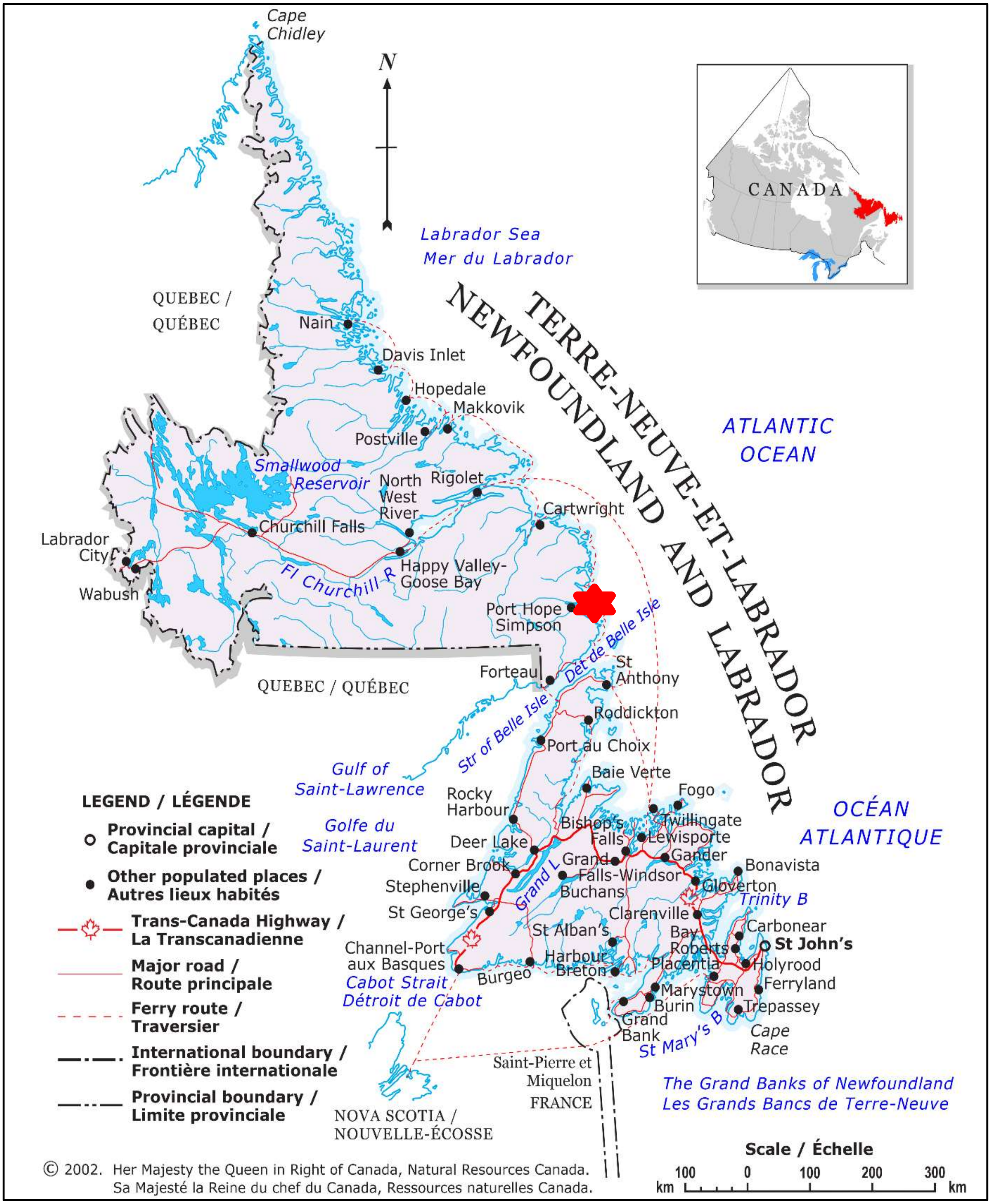
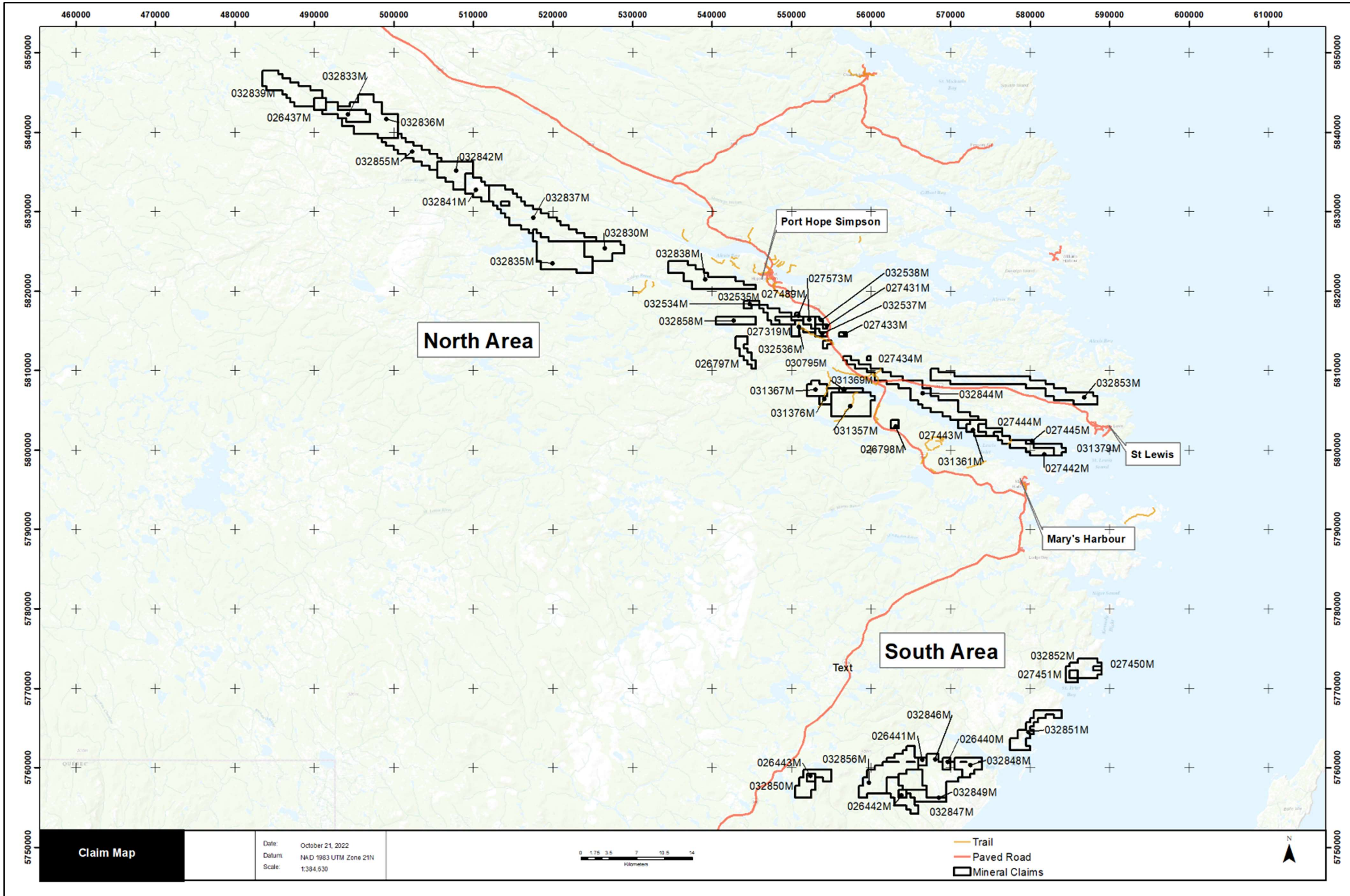


Figure 2: Claim Map



4.1 MINERAL RIGHTS

The Property's lands are map staked crown mineral licenses issued by the Department of Natural Resources Newfoundland Mines Branch. Mineral licences are acquired by online staking in the province of Newfoundland. Licences can consist of 1 to 256 claims per licence. Assessment work is required in order to keep them in good standing – the first five years require $200, $250, $300, $350 and $400/year/claim respectively. Assessment requirements continue for up to 30 years with increasing costs as time passes as follows: $600/claim for years 6 through 10, $900/claim for years 11 through 15, $1200/claim for years 16 through 20, $2000/claim for years 21 through 30. Renewal fees paid directly to the government, which also increase as time goes by, are also required every 5 years (at year 5, 10, 15, 20 etc.) and annually for years 21 through 30.

All exploration activities, including reclamation, must comply with all pertinent federal and provincial laws and regulations, the fundamental requirement of which, is that exploration on crown land must prevent unnecessary or undue degradation or impact on fish and wildlife and requires reclamation if any degradation or impacts that occur. All exploration activities in Newfoundland and Labrador require an Exploration Approval from the Department of Natural Resources prior to the start of work. In this approval requirements for the exploration are listed with contacts for the various entities given.

Generally, the mineral licenses are available for exploration activities year-round and only subject to the conditions of the exploration approvals and water use license; other activities such as construction, road building, camps and water crossings may require additional permits from outside of the mines department.

Nuclear Fuels Corp. and Vendors do not own any surface rights on the Property.

The author is unaware of any significant factors or risks that may affect access, title, or right or ability to perform work on the Property. There are currently no permits in place for the recommended work programs.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The local topography is characterized by gently rolling hills to locally rugged rocky outcrops vegetated by thick spruce. Ridges are typically dome-like in shape and achieve a maximum elevation of 380 m. Relief varies from 250 m to 380 m giving maximum relief changes of ~130 m. Several small lakes are located in the central part of the property at elevations ranging from 256 m to 282 m. Two stream systems drain the central part of the Property to the southeast and southwest. Small isolated bogs and marshes are found throughout the area of the Property.

The area is dominated by several steep, northwest trending river valleys, which in some cases are interpreted as fault zones. The elevation is variable ranging from sea level up to approximately 360 meters. The river valleys are generally heavily wooded with till covered to sparsely exposed regions underlying the higher elevations.

Travel to Port Hope Simpson and St. Lewis from Goose Bay, Labrador is available via charter airplane, helicopter, and Highway 510, part of the fully paved 1,149 km Trans Labrador Highway system that stretches from western Labrador to the Strait of Belle Isle. Goose Bay, located approximately 350 km by air to the northwest of the Project, is a preferred hub as it is regularly serviced from eastern Canadian cities including Quebec City and Montreal, Quebec, Halifax, Nova Scotia, and St. John's, NL. Flight time from the exploration site to Goose Bay by helicopter is approximately two hours and by fixed wing aircraft approximately one hour. Road travel from Goose Bay, a distance of approximately 460 km, to the site is approximately six hours. The site is also accessible via Highway 510 from the Strait of Belle Isle and via a short ferry trip from insular Newfoundland. The flight time to St. Anthony, Newfoundland and Labrador is approximately half an hour.

The climate in Labrador generally dictates the duration of the field season. Considering the amount of snowfall Labrador receives, snow can be present in certain areas for up to eight months of the year. The field season generally lasts from May to October. The weather during late June to September is warm with daytime temperatures on the average of mid to high 20ºC. During the early period in June there may still be some snow on the ground, which can interfere with geophysical surveys. The weather can have an effect on the ability of such surveys to be flown. For instance, airborne geophysical surveys can be affected by medium to high rainfall, storms, high winds, or when there is significant cloud cover or a low ceiling. Standby time can be relatively high, particularly later in the season. Radiometric surveys mayl be hampered by excessive ground moisture as well as vegetation cover.

As of 2021, the nearby communities of Port Hope Simpson, St. Lewis, and Mary's Harbour, which have populations of approximately 403, 181, and 312, respectively, have various services including grocery stores, fuel stores, hotels, heavy equipment rentals, and labour resources. All three communities have port access as well as airstrips that can facilitate transportation of goods required for exploration programs. St. Lewis has deep water dock facilities and a small gravel airstrip suitable for small aircraft.

6 HISTORY

Early knowledge of the area is based mainly on descriptions of coastal localities (Lieber, 1860; Packard, 1891; Daly, 1902; Kranck, 1939; Christie, 1951; Douglas, 1953) and 1:500,000 scale reconnaissance mapping (Eade, 1962).

Complete aeromagnetic coverage and lake-sediment geochemical surveys have been conducted for the region (Geological Survey of Canada, 1974a, 1974b, 1984). A detailed lake sediment survey was released by the NL Government in 2010 and covers the area of the claims.

Geological mapping at a 1:100,000 scale as a 5-year Canada - Newfoundland joint project aimed at mapping an 80 km coastal fringe of the Grenville Province in southern Labrador was carried out from 1984 to 1987 by Charles F. Gower of the Newfoundland and Labrador Geological Survey (Gower et al., 1987-2009).

The Geological Survey Branch of Newfoundland has undertaken significant amounts of mapping and geological interpretation in the southeastern Grenville Province of Labrador. Most notably, Gower et al. have identified the Pinware Terrane of southeastern Labrador which includes the Alexis River area. Some of his findings will be discussed in a later section. GSC lake sediment surveys (1984), airborne magnetics (1974), and airborne radiometric surveys (1988), cover this area as well.

McCuiag, (2002,) undertook Quaternary geological mapping of the Alexis River region in 2001 and collected till samples to obtain till-geochemistry data

The following History section illustrates the name and year of the company that has performed exploration work on the property. In addition, there is a list of historical mineral licences numbers which reflect the area that are covered or partially covered by the current mineral licences.

6.1 North Area History

Greenshield Resources Inc. 1995-97

004161M, 004166M, 004367M, 004460M, 004555M, 004664M, 004767M, 004370M, 004371M, 004372M, 004373M, 004374M

In 1995 an airborne geophysical survey was flown for Greenshield Resources Inc. by Aerodat Inc. (Aerodat). (Figure 3 has the area of survey). The survey covers a long, narrow strip of land totalling about 620 square kilometres located in the Port Hope Simpson area about 300 km east-southeast of Happy Valley -Goose Bay. Total survey coverage is approximately 2,987-line kilometres including 147 kilometres of tie lines.

The survey block is about 9 km wide and 70 km long extending 45 km west-northwest from Port Hope Simpson and 25 km to the east-southeast. Topography is shown on 1:50,000 scale NTS map sheet 93 F/K. Local relief is rugged with elevations ranging from sea level to over 300 metres above mean sea level. The survey area is shown on the attached index map that includes local topography and latitude - longitude coordinates. This index map also appears on all black line map products. The flight line direction is north 30° east. Line spacing is 200 metres.

An airborne combined magnetic, electromagnetic, and VLF-EM survey totaling approximately 2,987-line kilometers and covering all but the non-contiguous coastal license areas on the property was flown by Aerodat Inc. for Greenshield Resources Inc. in September and October of 1995 (Woolham, 1995).

The survey covers a long narrow strip of land totalling about 620 square kilometres located in the Port Rope Simpson area about 300 km east-southeast of Happy Valley -Goose Bay. Total survey coverage is approximately 2,987-line kilometres including 147 kilometres of tie lines. The Aerodat Job Number is J9555. This report describes the survey and the data processing and data presentation. Identified electromagnetic anomalies appear on selected map products as EM anomaly symbols with interpreted source characteristics.

Altius Minerals 2005-2008

010493M

Please note that Search Minerals Inc has been disclosed as 100 % subsidiary of Altius Minerals in assessment reports. If the assessment report was filed under the name of Altius Minerals, it is placed in the Altius Minerals section. If the assessment report was filed under Search Minerals name it is placed in the Search Minerals section.

From July 16 to July 27, 2007, a detailed high-resolution helicopter-borne magnetic and gamma ray spectrometric survey was carried out on behalf of Altius Minerals by McPhar GeoSurveys Ltd. (Winter et al, 2008). The purpose of the survey was to map the geophysical characteristics of the geology and structure of the property to aid in the location of potentially economic uranium mineralization (Figure 3 shows the survey area).

On August 18 and September 6, 2007 Altius conducted prospecting and geological examinations in the vicinity of Anomaly Lake (Winter et al, 2008). Additionally, during September 2007, 15 lake sediment samples were collected to verify the high uranium value recorded by the previous government sampling. The assays showed anomalous results for uranium, molybdenum, and gold with results ranging from: 414 to 2,370 ppm uranium, 175 to 1,070 ppm molybdenum, and <5 to 58 ppb gold. The data defined an elevated zone of uranium in lake sediments subparallel to the northwest-trending long axis of Anomaly Lake.

Trippel Uranium Resources Inc 2006-2011

012231M, 012570M, 012582M, 012595M, 012715M, 012725M, 012498M, 012570M, 012571M, 012579M, 012593M, 012620M, 012645M, 012646M,

Work on these licences for this assessment report consisted of magnetic and radiometric airborne geophysical surveys undertaken by Fugro Airborne Services of Toronto. A magnetic and radiometric survey was flown for Trippel Uranium Resources Inc. from August 2 to September 18, 2007 over two survey blocks located near Port Hope Simpson, Labrador. The survey areas can be located on NTS map sheets 13A/7, 9, 10, 11, 14 and 15 (Figure 3 displays the survey area).

Survey coverage of the two blocks consisted of approximately 5941.4 line-km, including 610.6 line-km of tie lines. Flight lines were flown at an azimuth of 000°/180° with a line separation of 150 meters.

Search Minerals Inc 2009-2015

016926M, 016928M, 016930M, 016933M, 016934M, 016932M, 019464M, 019465M, 019467M, 019468M, 16732M.

Exploration work conducted on the properties during the report period consisted of an Airborne Radiometric and Magnetometer survey by Aeroquest and prospecting and lithogeochemical sampling (Figure 3 displays the area of the survey). The 2010 exploration program commenced with a program of anomaly assessment which initially consisted of prospecting and sampling with teams of geologists and prospectors utilizing both truck and helicopter support. The focus of exploration activity was Rare Earth Elements (REE), along with associated Zr, Y, and Nb.

A low level (50 m above ground level) airborne geophysical survey was conducted by Aeroquest Surveys from November 8th to November 24th of 2009. The survey was performed with the use of a fixed wing plane to collect detailed magnetic and radiometric data. The flight direction was at 25º /205º, with a line spacing of 250m.

License 016928M had two samples that returned slightly elevated Y values. Sample 321603 returned Y (1242ppm) while sample 321610 returned Y (1925ppm).

A total of six lithogeochemisty samples were collected and from of these six samples, five showed elevated REE values of Dy ranging from 15.7-1,480 ppm. Assay 415426 was the most anomalous, containing 20,199 ppm total REE, including 1,480 ppm Dy, 3,120 ppm La, and 6,690 ppm Ce. This sample also contained 10,520 ppm Y.

In 2010, Search Minerals began preliminary exploration work. A program involving prospecting, rock sampling, and airborne radiometric and magnetic surveys was undertaken. Results from this program yielded several anomalous REE and incompatible element values up to 3,653 ppm Y and 411 ppm Dy, therefore follow up work was recommended.

Surface prospecting was mainly conducted using hand-held spectrometers. Lithogeochemical samples, all from bedrock, were collected by company personnel, bagged, and described. These samples were transported and delivered by Alterra Resources personnel to Activation Laboratories Ltd., located in Goose Bay, Labrador.

License 016940M: Twenty lithogeochemical samples were taken on this license. Rock types included granite pyroxenite, felsic gneiss, pelite, and mafic rocks. None of these samples resulted in elevated Zr, Y, Nb, or REE (100-500 ppm Zr, 10-50ppm Y, 10-40ppm Nb). Sample locations are shown in Figure 4.

License 016943M: One helicopter supported traverse was completed and six lithogeochemical samples were collected (511893-511898) on license 016943M. These samples consisted of granitic gneiss, undeformed granite, and a pegmatite, and none of them resulted in elevated values of Y, Zr, Nb, or REE (511896: 30ppm Y, 233ppm Zr, 14ppm Nb, 245ppm LREE, 22ppm HREE, and 268ppm TREE).

License 016940M: Three boat-supported traverses using a company boat were conducted on this license. A total of 18 lithogeochemical samples were taken on this license (512264 – 512273, and 512284 – 512291). Rock types sampled consist of felsic gneiss, mafic gneiss, metasediments, pegmatite, and gabbro. The samples resulted in Zr values ranging from 29-644 ppm, and Dy values ranging from 1.4-15.1 ppm. A total of 2 channel samples (FHC-13-01 and FCH-13-02) were cut on this license, totaling 6.38 m. These channel samples accounted for 29 lithogeochemical samples (505230 – 505239, and 505240 – 505248, respectively). Rock types described in these channel samplesconsist of magnetite bearing felsic gneiss, muscovite bearing pegmatites, and pelites. FHC-13-01 resulted in Zr ranging from 295- 677 ppm, and Dy ranging from 6.5-13.6 ppm across the entire channel. FHC-13-02 resulted in Zr ranging from 34-342 ppm, and 2.4-42.5 ppm Dy, across the entire channel.

License 19576M: Sixteen channel samples totaling 15.48 m, and containing 52 samples (507210-507237, 507244- 507260, and 507262-507268), were collected from license 19576M in the 2014 field season. Of these sixteen channel samples, several were mineralized. LPC-14-01 contained a 0.64 m (507211- 507212) section that resulted in 2.6% Zr, and 2,854 ppm Dy, LPC-14-07 contained a 0.48 m (507244) section that contained 7.9% Zr, and 5,000 ppm Dy, and LPC-14-09 contained a 1.30 m section that contained 1,890 ppm Zr, and 308 ppm Dy.

License 17332M: Two channel samples totaling 1.26 m, and containing seven samples (507238-507243, and 507261), were collected on license 17332M in the 2014 field season. Of these channels, one was mineralized. LPC-14-06 contained a 0.67 m (507238-507240) section that returned 1,960 ppm Zr, and 75.1 ppm Dy.

License 22073M: Seven channel samples totaling 8.53 m, and containing 35 samples (507269-507303), were collected on license 22073M in the 2014 field season. Of these channels, two were mineralized. LPC-14- 22A contained a 0.65 m (507286-507289) section that returned in 1.2% Zr, and 295 ppm Dy, and LPC-14-22B contained a 0.43 m (507296-507298) section that returned 5,785 ppm Zr, and 943 ppm Dy, and LPC-14-23 contained a 0.36 m (507302) section that returned 1.7 % Zr, and 991 ppm Dy. The two channel samples were cut to lengths of 2.25 and 1.88 m (totaling 4.13 m). These channels cut through mineralized pegmatites. Channel LPC-12-01 contained a 0.73 section that contained anomalous values of Zr (1,270-3,936 ppm), Dy (93-401 ppm), and TREE (1,062-2,315 ppm). LPC-12-01 also contained a 0.13 section resulting in 8,189 ppm Zr, 1,630 ppm Dy, and 1.48% TREE. LPC-12-02 contained a 0.26 m section that resulted in 2,002 ppm Zr, 331 ppm Dy, and 2,971 ppm TREE to 1.48% TREE.

License 022073M: Three channel samples (LPC-15-01A-C, LPC-15-02, and LPC-15-03A-B), totaling 7.36 m and containing 24 samples (472902-472925), were collected on license 022073M in the 2015 field season. LPC-15-01A resulted in a 0.93 m section (0.38-1.31 m) containing a weighted average of 2,916 ppm Zr, and 529 ppm Dy. One channel sample (LPC-15-04), measuring 1.5 m in length, and containing 4 samples resulted in a weighted average of 37.1 ppm Zr, and 37.7 ppm Dy.

Elgeridge International Limited 2011

16813, 19373 019761M 019763M

Geotech Ltd. of Aurora, Ontario was engaged to fly 7158.8 kilometers of VTEM (Versatile Time Domain Electro Magnetic) over part of Property. A magnetometer was also used to collect vertical and horizontal gradient magnetic data over the surveyed area. (Figure 3 displays the survey area).

Cartaway Resources Corporation 1995-1999
005016M, 005020M

Cartaway Resources Corporation in 1995 undertook a helicopter-borne geophysical survey performed by Sial Geosciences Inc. (Sial). One survey block is about 10 km south of Port Hope Simpson and the other, largest block, stretches from 30 to 80 km west of Port Hope Simpson covering a zone just north of the St. Lewis River. The 5010-line km survey line spacing was 200 metres and the line direction is north 25 degrees west.

The survey area is of Port Hope Simpson. Magnetic amplitude levels are much lower than the main survey area with maximum amplitudes ranging from about 325 nT below to 900 nT above background. In the blocks to the west, amplitudes are from three to nine times these levels. There are at least two periods of intrusive activity indicated by the intersecting linear horizons in the eastern part of the block. In the west part of the area, structures are generally north-south, with some folding, while the eastern two thirds of the block contain east-northeast to east-southeast striking horizons. The magnetic amplitudes of these horizons range between 50 nT and 400 nT above background. In a few locations amplitudes exceed 400 nT above background and these zones are indicated with thicker trend lines. (Figure 3 displays the survey area).

Altera Resources Inc 2010 to 2012
014955M, 015113M, 015131M, 015132M, 015150M, 015153M, 015374M, 015375M, 017333M

Exploration work consisted of: Airborne Radiometric and Magnetometer surveys by Aeroquest, hand-held scintillometer surveys, prospecting, mapping, and lithogeochemical sampling, as well as backpack drilling, clearing and hand trenching, and channel sampling using a portable chop saw (Figure 4).

During November, 2009, Alterra Resources had an airborne radiometric and magnetic survey flown over a large area of the Property. The survey was conducted by Aeroquest International Ltd. and it outlined numerous radiometric anomalies.

The 2010 exploration program commenced with a program of anomaly assessment which initially consisted of prospecting and sampling with teams of geologists and prospectors utilizing both truck and helicopter support. The focus of exploration activity was Rare Earth Elements (REE), along with associated Zr, Y, and Nb.

Licenses 15375M and 15374M had similarly hosted mineralization. REE, Zr, Nb, and Y mineralization was discovered in extensive areas of granitic pegmatite. The mineralization is notable in that samples are enriched in the HREE along with variable Nb, Y and Zr, and LREE

During the 2010 exploration season, several traverses were executed on license 017333M with a total of 121 lithogechemical hand samples collected for analysis. Concurrent with the collection of samples, prospecting was undertaken with handheld scintilometers and spectrometers to delineate any correlation between mineralization and radiometrics.

Results from 017333M were successful in discovering mineralization in several areas throughout the license. A total of 121 lithogeochemical samples were collected in the course of the prospecting program. The assays returned favorable chemistries, with total rare earths of (TREE) 12,604.3ppm. License 017333M had three samples in particular that returned potentially significant TREE and Y (Table 5).

The result of these significant values lead to a trenching program that collected a total of thirteen channels. The 154 samples collected from the thirteen channels similarly, returned significantly promising REE values as high as Y (2,968ppm) on HRHC-#10 and Nd (1,701ppm) on HRHC-#12 (Table 7 and Figure 4).

License 18082M: Numerous traverses using helicopter support were completed on this license and six samples (459075- 459080) were collected for geochemical assay. Assay 459080 was the most anomalous, containing 6,239 ppm total REE, including 167 ppm Dy, 1,160 ppm La and 2,620 ppm Ce. This sample also contained 1,653 ppm Zr, 901 ppm Y, and 688 ppm Nb.

License 18111M: None of the hand samples (419501-419503, 419505) taken on this license contain significant incompatibles or REE's. There is a very minor enrichment in Zr in some samples. A total of 16 lithogeochemical samples were taken on this license (511911-511926). Rock types sampled on this license range from syenite, felsic volcanic rocks, pelite, granitic gneiss, and mafic volcanic rocks. None of the samples taken on this license are particularly anomalous, with the values of Zr (100-500ppm), Y (10-30ppm), Nb (10-50ppm), TREE (50-600ppm) obtained.

During the 2011-2012 field season, fifty-two channels were cut. Five hundred sixty- eight samples were taken from these channels. A channel sample summary for the four most mineralized channel intervals from three different channels can be found in Table 6.

Table 5: 17333M Mineral Claim

PPM	MH-250	MH-252	MH-285	MH-152
	Toots	Toots	Pesky	Piperstock
	Cove	Cove	Hill	Hill
Y	7,188	8,443	10,450	13,270
Zr	10,500	19,260	40,460	24,330
Nb	N/A(i)	N/A(i)	17,197	2,027
La	975	231	187	10,900
Ce	2,690	765	738	22,600
Pr	371	157	182	2,580
Nd	2,060	1,180	1,350	9,170
Sm	903	731	852	2,220
Eu	70.7	61.1	69.9	117
Gd	1,210	1,030	1,220	2,170
Tb	251	217	273	402
Dy	1,770	1,570	2,020	2,370
Ho	386	366	461	426
Er	1,120	1,070.00	1,300	1,070
Tm	136	132	169	122
Yb	595	595	777	599
Lu	65.7	65.1	82.2	70.1
TREE	12,603.40	8,170.20	9,681.10	54,816.10
TREE+Y	19,791.40	16,613.20	20,131.10	68,086.10
HREE	5,604.40	5,106.20	6,372.10	7,346.10
HREE+Y	12,792.40	13,549.20	16,822.10	20,616.10
%HREE	44.47%	62.50%	65.82%	13.40%
%HREE	64.64%	81.56%	83.56%	30.28%

All values above are in ppm.

A total of ten lithogeochemical grab samples were collected at the Pesky Hill Showing in the 2012 field season. All of these samples contained mineralization with Dy, Nd, and Zr values ranging from 50-2,120 ppm, 63-3,800 ppm, and 404 ppm-4.44%, respectively.

Table 6: Select Channel Results

	PHC-11-10c		**PHC11-01**	**PHC-11-11**	
Interval (m)	0.48-15.17	9.47-11.24	0.37-3.4	0.14-1.06	1.23-2.62
Length (m)	14.69	1.77	3.03	0.92	1.39
Y	2963	6175	5168	12522	5312
Zr	5512	9404	7862	16557	15421
Nb	3667	7812	8099	21693	7189
La	1181	2790	870	899	1232
Ce	2914	7113	2177	2511	2694
Pr	351.7	798.6	288.3	421.6	342.2
Nd	1534	3474	1328	2384	1502
Sm	428	888.7	472.3	1149	481.1
Eu	29.3	60	37.5	96.6	37.1
Gd	440.2	888.1	579	1612	590
Tb	91.2	185.4	134.3	365.3	136.4
Dy	621	1267	927.7	2751	962.9
Ho	133.6	270.6	218.7	585.5	220.8
Er	389.4	801.7	668.6	1710	664.4
Tm	49.9	103.3	89.9	219.3	84.7
Yb	237.5	489.8	428.8	1021	433.7
Lu	26.6	54.6	42.6	104.5	51.5
LREE	6409	15064	5135	7363	6251
HREE	2019	4120	3127	8465	3181
TREE	8428	19185	8262	15828	9433

All values above are in ppm

A ground-based magnetometer survey was conducted over parts of licenses 17333M. The survey was completed with 25m-line spacings, was globally positioned by GPS, and consisted of 19 lines. Each line was approximately 300-450m in length.

This survey was conducted to try to delineate and characterize the mineralization at surface. Unfortunately, due to the vein style nature of the mineralization, at the current spacing the survey did not provide the desired results. The results obtained from the magnetometer were more characteristic of the surrounding rock types than of the mineralization.

Table 7: Channel Samples Locations

Channel No.	Easting (NAD 83)	Northing (NAD 83)	Length (m)	# Samples
PHC-11-35	556376	5806680	4.9	12
PHC-11-36	556375	5806680	4.11	17
PHC-12-01	556396	5806689	11.66	31
PHC-12-02	556388	5806692	4.25	16
PHC-12-03	556366	5806681	17.46	51
PHC-12-04	556441	5806651	2.4	10
PHC-12-05	556436	5806656	3.78	15
PHC-12-06	556439	5806660	1.92	7
PHC-12-07	556435	5806660	2.76	10
PHC-12-08	556354	5806709	8.75	30
PHC-12-09	556357	5806697	4	12
PHC-12-10	556488	5806779	10.33	23
PHC-12-11	556492	5806809	15.2	38
PHC-12-12	556500	5806821	6.3	13
PHC-12-13	556495	5806821	8.14	30
PHC-12-14	556495	5806821	9.25	18
PHC-12-15	556453	5806790	3.71	9
PHC-12-16	556449	5806794	3.62	7
PHC-12-17	556485	5806818	6.58	13
PHC-12-18	556440	5806820	2.09	6

Using a portable back pack drill, 44 holes ranging from 5.10-7.57 m depth and totaling 295.65 m were drilled (Figure 4 and Table 8) Although these drill holes were not chemically analyzed, they were logged and described by geologists and were very useful for determining the best locations to drill for the NQ diamond drill program.

Of the 38 DDHs, many intersected mineralization (Figure 4 and Table 9) with PHD-12-16 resulting in a 2.56 m intersection (0.00- 2.56 m) of 1,194 ppm Dy, 1.02% Nb, and 1.05% Zr, and PHD-12-33 resulting in a 2.25 m intersection (1.55- 3.80 m) of 1,285 ppm Dy, 9,582 ppm Nb, and 1.27% Zr.

Table 8: Backpack Drilling

Backpack Drill Hole	Easting (NAD 83)	Northing (NAD 83)	Depth (m)	Dip
PHBP-12-01-01	556434	5806653	6.77	-90
PHBP-12-01-02	556434	5806653	6.99	-90
PHBP-12-01-03	556434	5806653	7.06	-90
PHBP-12-01-04	556434	5806653	6.74	-90
PHBP-12-01-05	556434	5806653	7.03	-90
PHBP-12-01-06	556434	5806653	7.21	-90
PHBP-12-01-07	556434	5806653	6.74	-90
PHBP-12-01-08	556434	5806653	6.97	-90
PHBP-12-01-09	556434	5806653	7.1	-90
PHBP-12-02-01	556436	5806653	6.58	-90
PHBP-12-02-02	556436	5806653	6.58	-90
PHBP-12-02-03	556436	5806653	6.98	-90
PHBP-12-02-04	556436	5806653	6.85	-90
PHBP-12-03-01	556360	5806687	6.92	-90
PHBP-12-03-02	556360	5806687	6.77	-90
PHBP-12-03-03	556360	5806687	6.77	-90
PHBP-12-03-04	556360	5806687	6.59	-90
PHBP-12-03-05	556360	5806687	6.45	-90
PHBP-12-03-06	556360	5806687	7.57	-90
PHBP-12-04-01	556358	5806693	6.74	-90
PHBP-12-04-02	556358	5806693	6.73	-90
PHBP-12-04-03	556358	5806693	6.21	-90
PHBP-12-04-04	556358	5806693	6.52	-90
PHBP-12-04-05	556358	5806693	6.52	-90
PHBP-12-04-06	556358	5806693	6.35	-90
PHBP-12-04-07	556358	5806693	6.51	-90
PHBP-12-10A	556488	5806779	7.05	-90
PHBP-12-10B	556488	5806779	7.14	-90
PHBP-12-10C	556488	5806779	7.32	-90
PHBP-12-10D	556488	5806779	5.9	-90
PHBP-12-10E	556488	5806779	5.83	-90
PHBP-12-11A	556492	5806809	6.73	-90
PHBP-12-11B	556492	5806809	6.85	-90
PHBP-12-12	556500	5806821	6.58	-90
PHBP-12-12A	556500	5806821	6.76	-90
PHBP-12-12B	556500	5806821	6.98	-90
PHBP-12-12C	556500	5806821	6.83	-90
PHBP-12-13	556495	5806821	6.92	-90
PHBP-12-14A	556495	5806821	7.52	-90
PHBP-12-14B	556495	5806821	7.02	-90
PHBP-12-15 & 16	556449	5806794	5.1	-90
PHBP-12-17A	556485	5806818	6.48	-90
PHBP-12-17B	556485	5806818	6.77	-90
PHBP-12-18	556440	5806820	5.62	-90

Table 9: Diamond Drilling

Hole No.	Easting (NAD 83)	Northing (NAD 83)	Azimuth (°)	Dip (°)	Depth (m)	# Samples
PHD-12-01	556360	5806689	299.2	89.1	50	61
PHD-12-02	556365	5806694	304	88	50	71
PHD-12-03	556372	5806701	33.7	87.6	50	60
PHD-12-04	556355	5806684	279.3	88.6	29	44
PHD-12-05	556371	5806689	154	87.6	26	43
PHD-12-06	556376	5806683	26.3	88	29	36
PHD-12-07	556378	5806694	325.4	87.1	26	10
PHD-12-08	556360	5806701	250.8	87.7	26	27
PHD-12-09	556365	5806683	122	87.5	26	27
PHD-12-10	556354	5806706	2.1	87.7	29	17
PHD-12-11	556355	5806695	162.3	87.4	26	27
PHD-12-12	556365	5806708	133.9	86.8	26	11
PHD-12-13	556349	5806688	205.6	87.3	26	20
PHD-12-14	556350	5806678	286.5	87.1	29	32
PHD-12-15	556361	5806676	194.2	86.6	26	24
PHD-12-16	556437	5806656	310	84.9	50	50
PHD-12-17	556444	5806662	257.2	87.2	26	19
PHD-12-18	556439	5806670	208.6	87.2	35	30
PHD-12-19	556442	5806650	221.1	84.7	26	11
PHD-12-20	556449	5806656	279.3	85.8	29	30
PHD-12-21	556451	5806668	195.6	84.8	26	23
PHD-12-22	556428	5806670	123.9	87	26	25
PHD-12-23	556423	5806676	263.7	86.3	29	23
PHD-12-24	556432	5806664	48.5	85.4	29	17
PHD-12-25	556487	5806781	268.4	82.1	50	45
PHD-12-26	556494	5806786	140.3	84.5	35	45
PHD-12-27	556500	5806790	105.9	84.4	35	52
PHD-12-28	556507	5806795	40.8	84.9	44	25
PHD-12-29	556503	5806800	346.5	84.9	44	32
PHD-12-30	556503	5806812	281.6	85.5	35	15
PHD-12-31	556508	5806805	261.7	84.2	26	13
PHD-12-32	556510	5806818	295.4	84.1	26	19
PHD-12-33	556499	5806833	48.2	84.1	26	17
PHD-12-34	556491	5806814	38.2	82.4	26	19
PHD-12-35	556492	5806775	18.3	85.5	26	14
PHD-12-36	556482	5806787	269.8	83	26	18
PHD-12-37	556499	5806778	280.9	83	26	15
PHD-12-38	556480	5806776	358.9	84.7	29	16

Search Minerals 2013-2016

15374M, 15375M, 21295M 24079, 24080

License 21295M: a total of 14 lithogeochemical samples (459527 to 459534, 459536 to 459538, 512244 to 512245, and 59551) were collected on this license in the 2013 field season. Several of these samples were mineralized, with Dy values ranging from 3.4-269 ppm, and Zr values ranging from 260-21,920 ppm.

Twenty-four channel samples totaling 81.69 m and containing 217 lithogeochemical samples were collected from license 21295M in the 2013 field season. Several channels were mineralized, with SLNSC- 13-13 resulting in a 2.93 m section (at 0.00-2.93 m) containing a weighted average of 18,413 ppm Zr, and 248 ppm Dy.

Eight channel samples: totaling 55.59 m and containing 132 lithogeochemical samples were collected from license 15375M in the 2013 field season. Several channels were mineralized, with SLNS-13-27 resulting in a 3.14 m section (at 0.66-3.80 m) containing a weighted average of 14,305 ppm Zr, and 267 ppm Dy.

13 channels, totaling 24 m, and containing 119 samples (519905-519999 and 519867- 519890), were collected on license 024079M in the 2016 field season. LPC-16-04 resulted in a 0.54 m section (0.00-0.54 m) containing a weighted average of 3.05% Zr, and 816 ppm Dy. LPC-16-08A resulted in a 0.66 m section (0.00-0.66 m) containing a weighted average of 6,154 ppm Zr, and 573 ppm Dy.

Table 10: Channel Samples

Channel ID	Nad83E	Nad83N	Az	length (m)
LPC-16-01	580980	5799386	190	1.11
LPC-1602	575016	5801252	210	0.75
LPC-16-03	573001	5802731	190	0.84
LPC-16-5	572889	5802803	206	0.54
LPC-16-05	572878	5802781	194	0.43
LPC-16-06A	572757	5802919	20	4.8
LPC-16-06B	572751	5802925	20	3.49
LPC-16-07	572749	5802922	24	1.72
LPC-16-08A	572690	5802945	200	0.66
LPC16-08B	572687	5802947	200	0.71
LPC-16-08C	572689	5802946	200	1.84
LPC-16-09	572673	5802949	210	0.48
LPC-16-10	572413	5802986	200	6.6
LPC-16-11	572415	5802983	190	0.27
LPC-16-12	572382	5802991	176	0.23
LPC16-13	572382	5802989	200	0.29
LPC-16-14A	572418	5802972	190	0.28
LPC-16-14B	572418	5802968	186	0.33
LPC-16-15	572481	5803009	190	0.46

Figure 3: Airbourne Geophysical Foot Prints

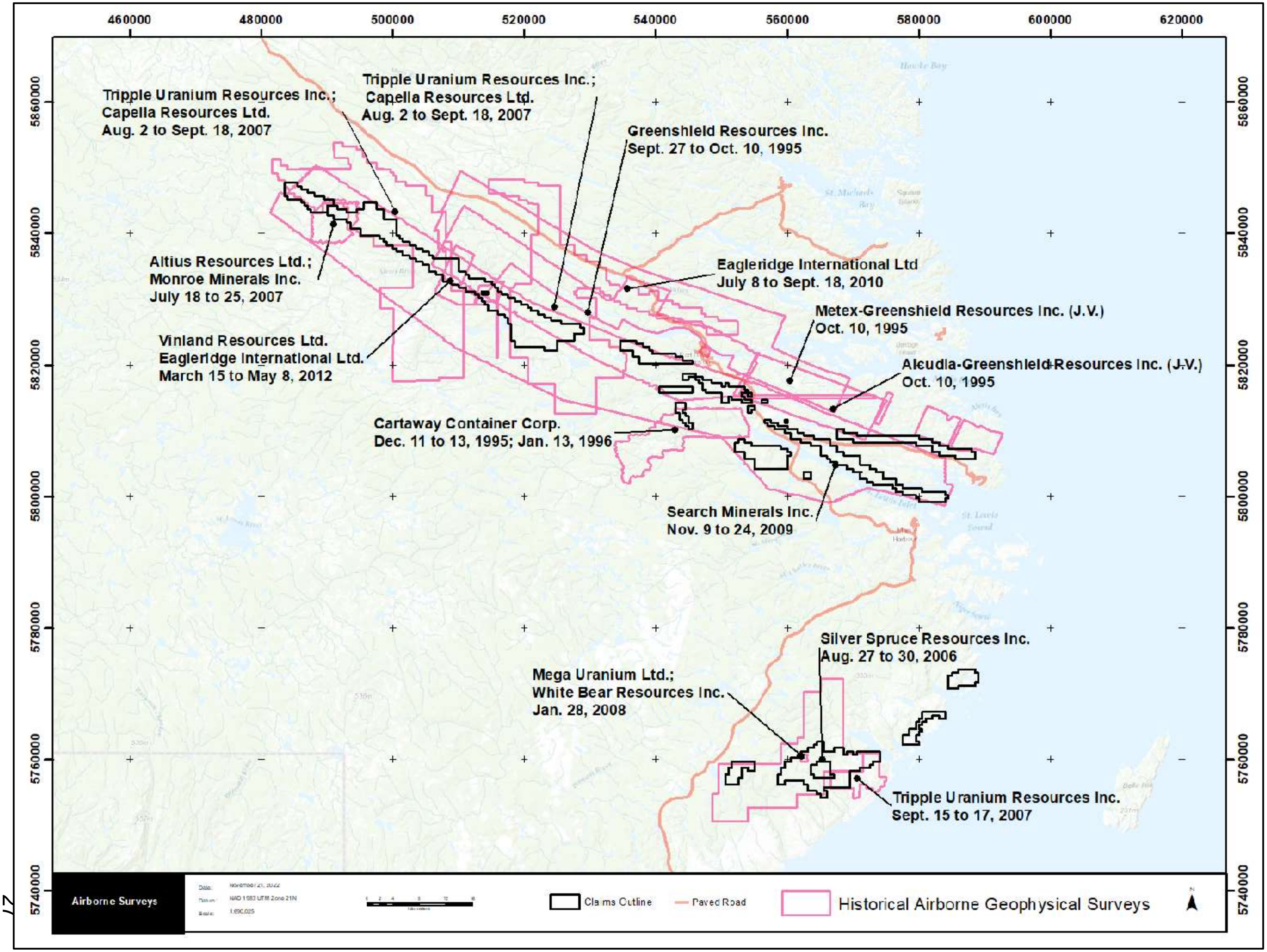
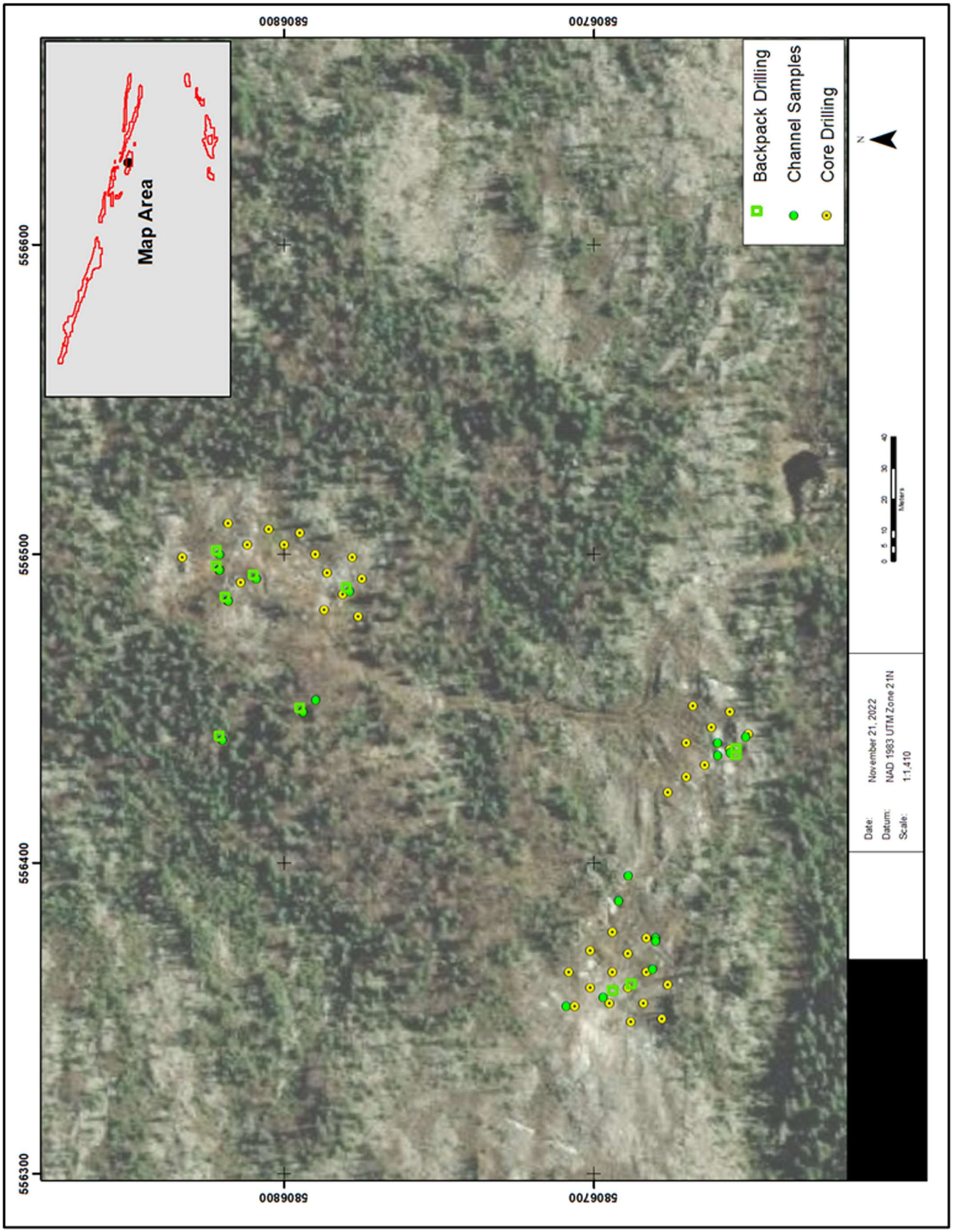


Figure 4: Channel-Backpack-Drill Hole Locations



6.2 South Area History

Geophysics: In 1968, Weaver produced 1: 500,000 scale Bouguer gravity anomaly maps for the area and in 1968 and 1969, the GSC published aeromagnetic maps at 1:250 000 and 1: 63,360 scales (Barge Bay, Newfoundland, Geophysical Series Map 5550G). This data is analog data and is flown at a wide spacing therefore only gross magnetic features and structures are shown. In 1985, the GSC compiled the aeromagnetic data into a colored magnetic anomaly map (Map NM-21-22-M) at a 1:1,000,000 scale.

Geochemistry: In 1984 the area was included in the National Geochemical Reconnaissance Lake Sediment and Water Survey conducted by the GSC. The survey, which analyzed for 17 elements plus LOI in sediments, as well as U, pH, and fluoride values in waters, was published in 1985 as OF 1102. In 1994, OF Lab 1029 gave new data for gold and 25 other elements obtained by re-evaluating the lake sediments from the 1984 survey.

Geology: Chubbs (1988), carried out a study concentrated on the gneissic rocks of the southeastern Grenville Province, which included the area of the claims. In 1993 Gower mapped the Pinware region. In 1994, Gower and McConnell reported on the mineral potential of the Pinware region and also in 1994, Gower and van Nostrand carried out a geological overview and a study of the mineral potential of the area and Tucker and Gower provided a U-Pb framework for the Pinware Terrane. The most recent work in the area was carried out by Gower et al in 1995 when a report on the regional geology and mineral potential of the region was prepared.

The most comprehensive geological investigation in the area is by Bostock (1983). Prior to this, the coastal geography / geology had been briefly described by Kranck (1939) and Christie (1951), with specific coastal localities described by Douglas (1953). Magnetite-bearing pegmatites were studied by Hawley (1944); these and additional mineral localities were also described by Penstone and Schwellnus (1953). A more recent study, mainly concerned with the gneissic units, was carried out by Chubbs (1988). Numerous reports have been published on the Neoproterozoic-Lower Cambrian supracrustal rocks of the Lighthouse Cove, Bradore, and Forteau formations. The geology of the Pinware River region, southeast Labrador, by Dr. Gower of the NL Dept of Mines and Energy (now DNR), was published in 1994. Aeromagnetic maps at 1:250,000 and 1:63,360 scale was published in 1968 and 1969 by the Geological Survey of Canada. Regional lake sediment survey results were published in 1984. The data available is described in the References Section.

Aeromagnetic maps at 1:250,000 and 1:63,360 scales were published in 1968 and 1969 by the Geological Survey of Canada. Regional lake sediment survey results were published in 1984. A geochemical release (OF Lab 1538) by the NL government on June 30, 2010 on the results of a high-density lake sediment and water survey in southeastern Labrador showed anomalous values in rare earth elements with TREE values in the 400 to 650 ppm range on the Straits property, some of the highest located in the survey. Background for this survey is less than 100 ppm TREE, including Y.

In 2006 and 2007, a lake sediment survey with a sample density of one per four square kilometres was conducted by the Government of Newfoundland and Labrador, Department of Natural Resources. The report provides summary statistics of the geochemical data, correlation analyses of selected sediment and water data, histograms, cumulative frequency plots, sample location maps, and symbol maps showing the distribution of most elements and variables in sediment and water (McConnell and Ricketts, 2010).

Silver Spruce Resources Incorporated 2006 to 2011
11765M, 11768M, 16307M

Silver Spruce Resources in 2006 carried out a Fugro airborne radiometric/magnetic survey at 100m line spacing with twenty-six high priority targets selected for follow up in 2007 by remote sensing, lake sediment sampling, and prospecting over selected areas (Figure 3 displays the survey area). Exploration was uranium oriented, however anomalous copper, molybdenum, and gold values are noted in the lake sediment geochemistry. Exploration in 2008 followed up on regional surveys carried out in 2006 and 2007 airborne magnetic/radiometric survey in 2006, remote sensing, lake sediment geochemistry, and prospecting anomalous areas in 2007, with a focus on regional soil sampling and prospecting surveys. Surveys included soil geochemistry, prospecting, both regional and grid based stream sediment sampling, and geological mapping. Stream sediment samples were taken in the probable source areas of lake sediment anomalies and in areas with anomalous rock samples.

Uranium mineralization was located in both pegmatitic and non-pegmatitic units and these areas were covered by geological mapping and prospecting. Significant uranium mineralization associated with uranium in soils, lake bottom samples, and airborne radiometric anomalies was defined with stream sediment samples returning values up to 1,240 ppm uranium in the northern portion of the property. Uranium values in soils were up to 117 ppm on samples located on the soil grid near the center of the property. Other anomalous values were found in Th, Cu ,and Pb. GM476: returned 2,720 ppm Cu (median 4 ppm) and GM403 returned >5,000 ppm Pb (median 37 ppm). The high thorium values were typically in samples that gave low uranium values. The uranium/thorium ratio was favorable, averaging 5:1 in samples giving uranium values >250 ppm. The “Bingo” showing, hosted in orthogneiss with strong uranophane staining, located in the central portion of the property, returned “off scale” (> 10,000 cps) scintillometer readings and assay values up to 5,887 ppm U_3O_8. The highest U3O8 values, up to **67,439 ppm U3O8 (6.74 wt %),** were located at the “BB Shot” showing.

In 2007, thirty-three lake sediment returned values of > 200 ppm La including seven returning > 300 ppm. No Th values > 20 ppm (bg) were noted. Of the 2008 stream sediment samples, 19 returned values of >100 ppm La including four samples of >200 ppm La. A cluster of anomalous values, includes seven (7) first order values of up to 342 ppm La. Two of the higher values, 392 and 242 ppm, are located to the south. Th stream sediment values are generally non-anomalous with only one anomalous value – 50 ppm (bg 20 ppm). The highest value for La in the soil geochemistry on the three soil grids was 327 ppm (bg 20 ppm) where twelve values >100 ppm La were noted with a cluster of values on the east side of the grid and others as single point anomalies.

Exploration in 2010 / early 2011 was aimed at evaluation of the REE potential of the property. Twenty-six rock sample rejects which were anomalous in either La or Th, were re-analyzed for the full suite of REE, yttrium (Y) and other indicator elements such as zirconium (Zr) and niobium (Nb). A re-evaluation of the airborne survey using Th as a guide for REE mineralization was also carried out by a geophysical consultant.

On License 16307M: 1 sample returned 643 ppm La, with other >100 ppm values occurring in the area proximal to a high value of 3,908 ppm La. A strong correlation is noted between La and Th with four samples returning the highest La values also returning some of the highest Th values. Nine samples returned Th values >1000 ppm including four >2000 ppm with a high value of 6,810. The three highest 2007 values were 901, 533, and 471 ppm La. Twelve samples returned Th values > 200 ppm with a high value of 2,880 ppm Th. The re-analysis of the rock samples returned values of up to 2.48% total rare earth elements plus yttrium (TREE), 2.2% zirconium, and 636 ppm niobium. Thirteen samples returned values >0.1% TREE, including five (5) >0.4%. Samples were generally light rare earth elements (LREE) with percentages in the 85-90% range. The minerals carrying the REE are unknown at this time. Most of the high values were located in outcrop in the north central and north-eastern ends of the area, however one sample in the southwest returned a value of 0.5 % TREE.

A total of 1140 “B” horizon samples were taken. Result values range from <10 to 117 ppm, with a total of 14 anomalous samples >10 ppm uranium. No trend can be defined in the sample results. Grab samples of float boulders from the area returned values up to 250 ppm U3O8.

Trippel Uranium Resources Inc. 2007-2008
012003M, 012023M

A magnetic and radiometric survey was flown for Trippel Uranium Resources Inc. from September 15 to September 17, 2007 over a survey block located southeast of Port Hope Simpson on the coast of Labrador (Figure 3 displays the survey area). The survey area can be located on NTS map sheets 2M/13, 12P/16 Survey coverage on the block consisted of approximately 209.0 line-km, including 21.0 line-km of tie lines. Flight lines were flown at an azimuth of 000°/180° with a line separation of 150 metres. Tie lines were flown orthogonal to the traverse lines with a line separation of 1500 meters.

Search Minerals 2010 2011- 2014
022103M, 022104M, 17691M, 17693

Four traverses were completed and 17 lithogeochemical samples (423751-423754, 423759-423761, 323851-323857, and 423803-423805) were taken on license 17691M. Access to the license was obtained via helicopter. None of these samples came back with anomalous REE or any other compatibles.

One traverse was completed and seven lithogeochemical samples (423876-423882) were taken on license 17693M. Access to this license was obtained by helicopter. One of these samples (423881) showed slightly elevated values of LREE (1,552ppm) and elevated Dy (184ppm) with HREE (719ppm).

License 017691M: Numerous traverses were conducted across the license with 21 lithogeochemical samples collected (517840-517844, 517083-517085, 517901-517903, 517913, 517092-517100). Two samples (517100, 517099) were mineralized with values of 2.10% TREE+Y (58.81% HREE+Y, 1,290ppm Dy, 1,940ppm Nd) and 1.08% TREE+Y (84.87% HREE+Y, 1,080ppm Dy, 571ppm Nd). Four samples were anomalous with values of 0.15-0.40% TREE+Y.

The highest grades of REEs are found within granitic pegmatites with varying amounts magnetite and pyroxene. Zirconium values up to 10.05% are associated with both pyroxene and magnetite rich granitic dykes.

Two traverses were completed and three grab samples (415406-415408) were collected on license 022103M in the 2014 field season. All three of these samples resulted in anomalous values, with Dy ranging from 272 to 2,340 ppm, and Zr ranging from 2,789 ppm to 2.18%.

7 GEOLOGICAL SETTING AND MINERALIZATION

The Canadian Shield in Labrador is composed of five structural provinces with a geological record spanning 3.85 Ga to 0.6 Ga and an area of 250,000 square kilometers. The Archean, Nain, and Superior Provinces are bounded by Early Proterozoic (Southeastern) Churchill and Makkovik Provinces. (Beesley 1997).

The Nain Province can be spatially subdivided into two blocks: the northern Saglek Block is 3.85-3.1 Ga and contains tonalite-gneisses, granulite facies rocks; the southern Hopedale Block is composed of 3.2- 2.8 Ga amphibolite-facies, tonalite-gneisses and greenstone. These blocks are separated by the rocks of the Nain Plutonic Suite, some of which host the Voiseys Bay discovery zone. Superior Province rocks consist of granulite facies, tonalitic and metasedimentary gneisses ranging in age from 2.8 to 2.65 Ga. Low grade metasedimentary and mafic volcanic rocks of the Labrador Trough separate the Nain and Superior Provinces and make up the New Quebec Orogen, re worked Archean gneisses, and early Proterozoic plutons of the Rae Province and granulites of the Torngat Orogen. Rocks of the Makkovik Province are similar in age to the Southeastern Churchill Province but are composed of reworked Nain Province rocks in the northwest and early Proterozoic volcanic and intrusive rocks in the southeast (Beesley, 1997).

The Nain and Superior Province Archean cratons coalesced in the Early to Middle Proterozoic to form the Laurentian continent at about 1.8 Ga. Broad episodic crustal extension, rifting and anorogenic magmatism characterize the Elsonian event (1.6-1.0 Ga). Accretionary episodes in the Middle Proterozoic were accompanied by intrusion of anorthosite-mangerite-charnockite-rapakivi granite suites AMCG (1.46-1.29 Ga); Nain Plutonic Suites (1.35-1.29 Ga); dykes (Harp, Nain and Nutak dykes) and peralkaline/alkaline bodies along the Nain-Southeastern Churchill Province boundary zone. Accretion to the southern margin of the continent occurred from 1.7 Ga until the Grenvillian Orogeny and terminal continental collision at 1.0 Ga which can be traced north by the presence of east-west trending structures (Beesley, 1997).

The Superior, Southeastern Churchill and Makkovik Provinces are truncated to the south by the Grenville Province. Within the Grenville Province a remnant Early Proterozoic mobile belt of the Labrador Orogen arches east-west. The northernmost Grenville portion consists of metamorphosed tonalite gneisses high grade metasedimentary gneisses and gabbroic to granitic plutons which were, as a group, originally accreted to North America during the Labradorian Orogeny between 1.68 and 1.62 Ga. Middle Proterozoic sedimentation and volcanism are marked by the Seal Lake Group. Evidence of Late Proterozoic tectonism is found in graben-filling arkose and conglomerate sequences of the Lake Melville and Sandwich Bay areas (Beesley, 1997).

The Phanerozoic is represented by the occurrence of Cambro Ordovician clastics, basalt and limestone of the Labrador Group on the southeast coast of Labrador. Carboniferous to Cretaceous mafic dykes and development of laterites, enriched by Proterozoic iron during the Cretaceous, were later events in the evolution of Labrador. In the late Cenozoic, glaciation fanned out from the center of Labrador along major drainage systems which left fluvioglacial outwash sands (Beesley, 1997).

The Lake Melville terrane, named by Gower and Owen (1984), is an arcuate belt up to about 60 km wide, but tapering to a much narrower, more highly deformed region toward the southeast, where the name Gilbert River belt has also been applied (Gower et al., 1987).

The main rock types in the Lake Melville terrane are granitoid orthogneisses grading into less migmatized equivalents (1677 +16/-15 Ma), and K-feldspar megacrystic granitoid rocks (1678 +/- 6 Ma) (Scharer et al., 1986). Metasedimentary gneiss forms a high proportion of the Lake Melville terrane, with pelitic and psammitic gneisses most common, but with minor quartzite and calc-silicate units present. The pelitic-psammitic gneisses commonly grade into metasedimentary diatexite. Gower et al. (1987) emphasized a close spatial association between K-feldspar megacrystic granitoid rocks and pelitic metasedimentary gneiss, advocating derivation of the granitoid rock from a pelitic protolith (Beesley, 1997).

Layered mafic intrusions are a key feature of the Lake Melville terrane and mostly concentrated close to the leading (north) edge of the terrane. The rocks include anorthosite, norite, gabbro, and monzonite. A unit unique to the Lake Melville terrane is the Alexis River anorthosite. This severely deformed, distinctive layered intrusive body of anorthosite and leucogabbro norite forms an excellent marker unit, which, despite being less than 5 km wide is traceable along strike for over 150 km (Gower et al., 1985, 1987; van Nostrand, 1992; van Nostrand et al., 1992).

Two post-Labradorian events are next to occur, both involving the emplacement of granitoid plutons. The first event was the intrusion of the Upper North River pluton in 1296 +13/-12 Ma (Scharer et al., 1986). This pyroxene-bearing syenite to granite is strongly deformed, presumably during Grenvillian deformation. The second event was the emplacement of the Gilbert Bay pluton, although its age of 1132 +7/-6 Ma is equivocal (Gower et al., 1991). The Gilbert Bay pluton is surrounded by an envelop of minor granitic dykes, very similar to the main body; a zircon age of 1113 +6/-5 Ma from a granitic vein 2 km west of the pluton (Scott et al., 1993) may provide confirmatory evidence that the date obtained from the Gilbert Bay pluton age is approximately correct. The Gilbert Bay pluton contains enclaves of mylonite (Gower et al., 1987), from which it may be inferred that the major movement of the Hawke River terrane relative to the Lake Melville terrane occurred prior to c. 1132 Ma. A greenschist-facies fabric in the nearby 1113 Ma granitic vein dated by Scott et al. (1993) shows that there was also later deformation, however, the enclave is on-strike with mylonite intruded by the 1664 Ma granitic vein alluded to earlier, thus mylonitization in the enclave may be Labradorian (Beesley, 1997).

The northern part of the Mealy Mountains terrane is dominated by the Mealy Mountains Intrusive Suite, which consists of an older group of anorthositic, leucogabbroic and leucotroctolitic rocks and a younger assemblage of rocks of variable compositions, dominated by pyroxene quartz monzonite (Emslie, 1976). The rocks have genetic links with monzonite, granite and alkali-feldspar granite of the Dome Mountain intrusive suite to the west (Wardle et al. 1990).

The northeast flank of the Mealy Mountains Intrusive Suite is faulted against the Lake Melville terrane, but the southeast side intrudes sillimanite-bearing pelitic gneisses in which cordierite has formed as a contact metamorphic mineral (Gower et al. 1983).

Much of the Mealy Mountain's terrane remains unmapped, but some areas have been studied in the southeast part, where the terrane consists of tracts of sillimanite-bearing pelitic gneiss, with which granitoid and mafic plutonic rocks and orthogneiss are associated. The granitoid rocks include quartz diorite, quartz monzonite, granodiorite, granite and K-feldspar megacrystic variants. K-feldspar megacrystic granodiorite is the most common, forming ovoid plutons intruding metasedimentary gneiss (C. F. Gower; from Brewer 1996).

On the coast, the terrane is attenuated to a very narrow belt consisting of strips of granitoid orthogneiss, lenses of K-feldspar megacrystic rocks, remnants of layered mafic intrusions and slivers of metasedimentary gneiss. This attenuation coincides with a major structural break that separates the Mealy Mountain and Lake Melville terranes. Along much of its length, kinematic indicators demonstrate sub-horizontal, dextral movement. Extensive mylonite (Gower et al. 1988; Hanmer and Scott 1990) at Fox Harbour is taken as defining the Lake Melville - Mealy Mountains boundary on the southeast Labrador coast (C. F. Gower; from Brewer 1996).

The Pinware terrane, defined by Gower et al. (1988), is the most southerly terrane in eastern Labrador and forms part of the Interior Magmatic Belt of Gower et al. (1991). Rocks in the terrane are subdivided into 6 major groups as follows:

Supracrustal units

Units interpreted to be of supracrustal origin are dominated by fine-grained, recrystallized, commonly banded quartzofeldspathic rocks, locally showing inhomogeneous texture in detail. These rocks are suspected to be of felsic volcanic origin, where as associated banded mafic rocks are interpreted as having a mafic volcanic protolith. It is important to note that features to support these suspicions are only rarely seen in outcrop (Gower et al., 1994). The assertion that either is supracrustal rests upon its association with rocks of obvious supracrustal parentage, such as quartzite, calc-silicate units, and sillimanite- or muscovite-bearing pelitic schists and gneisses. U-Pb geochronological data (Royal Ontario Museum) indicate that at least some of the supracrustal rocks are Labradorian (Tucker and Gower, 1994; Wasteneys et al., 1997). The current hypothesis is that all are coeval and pre-1500 Ma (Gower et al., 1994).

Recrystalized, foliated to gneissic alkali-rich granitoid rocks

Alkali-rich granitoid rocks dominate (granite, alkali-feldspar granite, syenite, alkali-feldspar syenite), grading into monzonite locally. Aegerine- and nepheline-bearing alkali-feldspar syenite also occur. Amphibolite, thought to represent remnants of extremely deformed mafic dykes, is common throughout the unit. U-Pb dating of recrystallized granitoid rocks in the Pinware terrane initially provided ages of 1490 +/-5 Ma, 1479 +/-2 Ma, and 1472 +/-3 Ma from three coastal localities (Tucker and Gower, 1994). Not all strongly deformed granitoid rocks in the Pinware terrane have this age range. More recent U-Pb geochronological data indicates that Labradorian orthogneisses are also present (Wasteneys et al., 1997).

Mafic rocks, including both layered mafic intrusions and mafic dykes

Mafic rocks of the Pinware terrane fall broadly into two groups, namely layered mafic intrusions and mafic dykes. The largest mafic plutonic body (110 km long and up to 12 km wide) is located at the boundary between the Mealy Mountains and Pinware terranes and is termed the Kyfanan Lake layered mafic intrusion. The intrusion comprises ultramafic rocks (websterite and clinopyroxenite), gabbronorite, gabbro, leucogabbronorite, anorthositic gabbro, and anorthosite. Layering is evident in several places and coronitic textures around olivine are common. There are several other smaller mafic bodies in other parts of the Pinware terrane and a wide range of discordant mafic dykes are also present (Gower et al., 1994). The mafic dykes clearly postdate deformation and metamorphism that affected the foliated to gneissic granitoid rocks. The rocks are inferred to have been emplaced between ca. 1450 and 1150 Ma (Gower et al., 1995).

Syn- to late-Grenvillian granitoid rocks

A separate group of strongly to weakly foliated granitoid rocks are assumed younger because they apparently lack mafic dykes (inadequate outcrop to be sure that the lack-of-mafic-dykes criterion is valid). Granitoid rock types include monzonite, syenite, alkali-feldspar syenite, and granites. These have undergone some deformation, but escaped the high-grade metamorphic event responsible for the recrystalization, migmatization and strong fabric development in the alkali-rich granitoid rocks. Collectivelly, the plutons are relatively weakly deformed, but there are differences in fabric between adjacent plutons, which suggest that they were not all emplaced at the same time (Gower et al., 1995). A preliminary date of 1145 Ma from one body (Tucker and Gower, 1994) was reinterpreted as Labradorian with a Grenvillian overprint by Wasteneys et al. (1997), who also demonstrated that some strongly deformed Granitoid rocks have ages between 990 and 975 Ma.

Late- to post-Grenvillian granitoid rocks

Late- to post-tectonic granitoid rocks from discrete monzonite, syenite and granite plutons that are generally circular in plan, are homogeneous and are undeformed. Some show mantled feldspar tectures. Their dated emplacement age is between 966 and 956 Ma (Gower and Loveridge, 1987; Wasteneys et al., 1997).

Neoproterozoic to Early Cambrian rocks

The Bateau Formation outcrops in several small areas on the coast near Table Head, 90 to 100 km to the northeast of Forteau. Here, it comprises 20 m of well-lithified, salmon-red conglomeratic and feldspathic arenites rich in red K-feldspars, pink granite and red shale interclasts. Driecanter-shaped pebbles occur in the Bateau Formation which is conformably overlain by the Lighthouse Cove volcanic rocks (Gower et al., 1997).

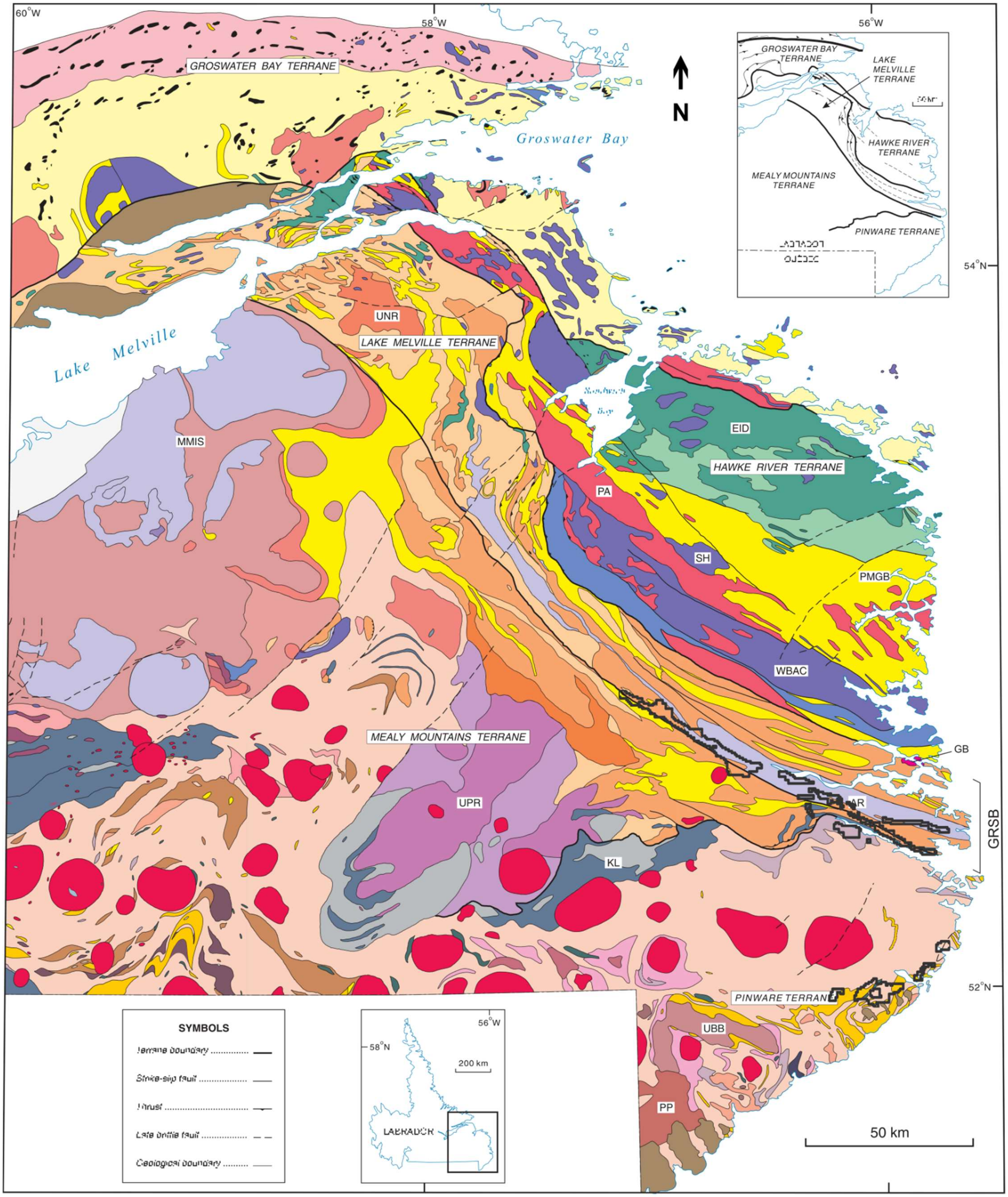
The northern part of the Mealy Mountains terrane is dominated by the Mealy Mountains Intrusive Suite, which consists of an older group of anorthositic, leucogabbroic and leucotroctolitic rocks and a younger assemblage of rocks of variable compositions, dominated by pyroxene quartz monzonite. The rocks have genetic links with monzonite, granite and alkali-feldspar granite of the

Dome Mountain intrusive suite to the west. Emslie & Hunt (1990) have reported ages of 1646 +/- 2 Ma and 1635 +22/-8 Ma from pyroxene monzonite and pyroxene granite, respectively.

The northeast flank of the Mealy Mountains Intrusive Suite is faulted against the Lake Melville terrane, but the southeast side intrudes sillimanite bearing pelitic gneisses in which cordierite has formed as a contact metamorphic mineral.

Although much of the Mealy Mountain's terrane remains unmapped, some areas have been studied in the southeast part, where the terrane consists of tracts of sillimanite-bearing pelitic gneiss, with which granitoid and mafic plutonic rocks and orthogneiss are associated. The granitoid rocks include quartz diorite, quartz monzonite, granodiorite, granite and K-feldspar megacrystic variants. K-feldspar megacrystic granodiorite is the most common, forming ovoid plutons intruding metasedimentary gneiss. One hornblende granodiorite has a monazite age of 1631 +/- 1 Ma, plus two discordant zircon fractions having minimum ages of 1735 and 1718 Ma. The 1631 Ma monazite age was interpreted to be the time of emplacement and the zircons to indicate older source components.

Figure 5: Regional Geology



Modified After Gower, 2003

Figure 6: Regional Geology Legend

NEOPROTEROZOIC

Bradore, Lighthouse Cove, Forteau and Double Mer formations (ca. 600 Ma and younger)

MESOPROTEROZOIC
LATE- TO POST-GRENVILLIAN

Granite, syenite, monzonite (975-955 Ma)
Gabbro-gabbronorite (985-975 Ma)
Picton Pond monzonite to granite (990-980 Ma)
Upper Beaver Brook monzonite (990-980 Ma)

GRENVILLIAN

Aegerine- or nepheline-bearing syenite (1020-985 Ma)
Kfs megacrystic granitoid rocks (1050-1020 Ma)

ELSONIAN, ADIRONDIAN

Quartz alkali-feldspar syenite to granite (1130 Ma)
Quartz syenite to granite (1300 Ma)
Mafic intrusions (pre- and post-Pinwarian)
Mafic intrusions (Michael Gabbro - 1426 Ma)

PINWARIAN

Syenite to granite (1500 Ma?)
Monzonite (1500 Ma)
Anorthosite to leucogabbronorite (1500 Ma?)
Gabbronorite to ultramafite (1500 Ma?)

MESO- OR PALEOPROTEROZOIC
PINWARIAN OR LABRADORIAN

Granite, alkali-feldspar granite (ca. 1650 and 1500 Ma?)
Kfs megacrystic granitoid rocks (ca. 1650 and 1500 Ma?)
Syenite to quartz syenite (1650 and 1500 Ma?)
Diorite to quartz monzonite (1650 and 1500 Ma?)
Felsic volcanic and sedimentary rocks (1650-1500 Ma)
Granodioritic/tonalitic gneiss; metasedimentary, in part (1650-1500 Ma?)

PALEOPROTEROZOIC
LATE- AND POST-LABRADORIAN

Granite (1630-1610 Ma?)
Granite and Kfs megacrystic granite (1645-1635 Ma)
Monzonite, Kfs megacrystic monzonite (1645-1635 Ma)
Gabbronorite, anorthosite (1650-1630 Ma)
Amphibolitized gabbronorite (1650-1630 Ma)
Anorthosite, leuconorite (ca. 1650-1630 Ma?)
Trans-Labrador batholith (1654-1646 Ma)

PRE- AND EARLY LABRADORIAN

Quartz diorite to granodiorite (1675-1665 Ma)
Diorite to quartz diorite (1675-1665 Ma)
Kfs megacrystic granitoid rocks (1680-1670 Ma)
Granodiorite to quartz diorite (1680-1670 Ma?)
Granite and granitic gneiss (1680-1670 Ma?)
Granodioritic gneiss (pre-1665 Ma)
Metasedimentary gneiss (pre-1665 Ma)

PRE-LABRADORIAN

Granitic and granodioritic gneiss (including1780, 1670 and 1500 Ma ages)

AR - Alexis River anorthosite; EID - Earl Island domain; GB - Gilbert Bay pluton; GRSB - Gilbert River shear belt; KL - Kyfanan Lake layered mafic intrusion; MMIS - Mealy Mountains Intrusive Suite; PA - Paradise Arm pluton; PMGB - Paradise metasedimentary gneiss belt; PP - Picton Pond pluton; SH - Sand Hill Big Pond gabbronorite; UBB - Upper Beaver Brook pluton; UNR - Upper North River pluton; UPR - Upper Paradise River pluton; WBAC - White Bear Arm complex.

7.1 North Geology

The 64 km long Fox Harbour Volcanic Belt which is known to host other REE prospects, ranges in width from less than 50 m in the northwest to three kilometres in the east. Units dip steeply in a northerly direction and generally strike westerly to northwesterly, parallel to bounding faults to the north and south. The Fox Harbour Volcanic Belt contains one peralkaline belt in the northwest and three peralkaline belts in the east, these belts of bimodal rocks are dominated by REE-bearing felsic peralkaline flows and ash-flow tuffs and unmineralized mafic to ultramafic volcanic and related subvolcanic units. Feldspar megacrystic/porphyritic units (non-peralkaline volcanic and subvolcanic), including crystal tuffs in the eastern portion of the Fox Harbour Volcanic Belt predominantly occur between the three mineralized belts. Supracrustal units of sedimentary origin, including quartzite and locally derived volcanogenic sediments formed by erosion of felsic (commonly peralkaline) and mafic units, are locally abundant.

The three bimodal peralkaline-bearing mineralized belts in the Fox Harbour Volcanic Belt, from north to south: the Road Belt, the Magnetite Belt, and South Belt, have been the focus of REE exploration. The Road Belt which occurs on the northern boundary of the Fox Harbour Volcanic Belt can be traced for 64 km throughout the Fox Harbour Volcanic Belt the Magnetite Belt, and South Belt have only been observed in the eastern 30 km of the Fox Harbour Volcanic Belt, east of the Curl's Pond deep crustal fault. The mineralized units within the belts, predominantly pantellerite and comendite and trachytic equivalents commonly occur in local topographic lows where ponds, bogs, and scarce outcrop predominate or on the sides of hills topped by extensive, less weathered, mafic, ultramafic or anorthositic units. Exploration for REE mineralization in the region indicates that the mineralized units exhibit relatively high radiometric (anomalous uranium (U) and thorium (Th) values) and relatively high magnetic (anomalous concentrations of magnetite) signatures that, when combined, are excellent indicators of mineralization.

Most of the rare earth mineralization occurs in allanite and fergusonite; minor amounts of REE occur in chevkinite, monazite, bastnaesite, britholite and zircon. The majority of the light REE (i.e., La to Sm) in the mineralization occurs in allanite, whereas the majority of the HREE (i.e., Eu to Lu) occurs in both fergusonite and allanite.

The Road Belt commonly consists of non-peralkaline porphyritic feldspar-bearing units (mostly volcanic), mafic and ultramafic volcanic rocks, non-peralkaline felsic volcanic units, comendite (peralkaline), and pantellerite (peralkaline). Anorthosite suite units, including anorthositic gabbro and ultramafic volcanic rocks.

The Magnetite Belt commonly consists of pantellerite, comendite, non-peralkaline rhyolite, and mafic to ultramafic volcanic and related subvolcanic units. Individual highly mineralized units commonly range up to one metre in thickness. This belt hosts Foxtrot and additional significant REE prospects in the area.

7.2 South Geology

There is little documented exploration work for this region of Labrador. There was some prospecting of magnetite-bearing pegmatites along the coast during the 1940's, and Brinex carried out limited reconnaissance prospecting in the 1950's.

The property covers portions of the pregrenvillian suprecrustal rocks including banded quartzo-feldspathic units (arkose and felsic volcanic), quartzite and pelitic units and recrystallized granitoids units (granite and alkali-feldspar granite), which are younger then the supracrustal rocks. It lies in the Pineware River map region, the southerly extension of the Pineware Terrane of the Interior Magmatic Belt of the Grenville Province. This belt differentiates from the Exterior thrust Belt by the presence of Grenvillian grantoide magmatism and is distinct since is suspected that the rocks are of felsic volcanic origin, not common in Labradorian terranes. Also, pelitic rocks are lacking in comparison to further north and an abundance of alkali rich granitoids rocks, including nepheline and aegerine-bearing alkali feldspar syenite, rock types not identified elsewhere in Labrador are noted. Weakly deformed plutons are also noted however differences in fabrics between the different plutons suggest they were not emplaced simultaneously.

The Bateau Formation outcrops in several small areas on the coast near it comprises 20 m of well-lithified, salmon-red conglomeratic and feldspathic arenites rich in red K-feldspars, pink granite and red shale interclasts. Driecanter-shaped pebbles occur in the Bateau Formation which is conformably overlain by the Lighthouse Cove volcanic rocks (Gower et al., 1997).

The Lighthouse Cove Formation consists of a succession of predominantly columnar and massive, tholeiitic basalts and locally pillowed flows and pyroclastic rocks that vary from a few meters up to 300 m in thickness (Williams and Stevens, 1969). A single columnar basaltic flow overlies Proterozoic basement at Henley Harbour and arkosic Bateau Formation at Table Head in southeastern Labrador (Williams and Stevens, 1969; Gower et al., 1997).

The Lighthouse Cove Formation is exposed at Henley Harbour, where it forms a flat-topped hill known locally as the Devil's Dining Table. The rock is fine grained and dark blue-grey having patches of hematitic stain. The mineral assemblage is labradorite, augite, and Fe (Ti) oxides, having minor quartz, white mica, chlorite, and amphibole. The age of the rock is late Neoproterozoic to early Cambrian (Gower et al., 1997).

Figure 7: Geology North

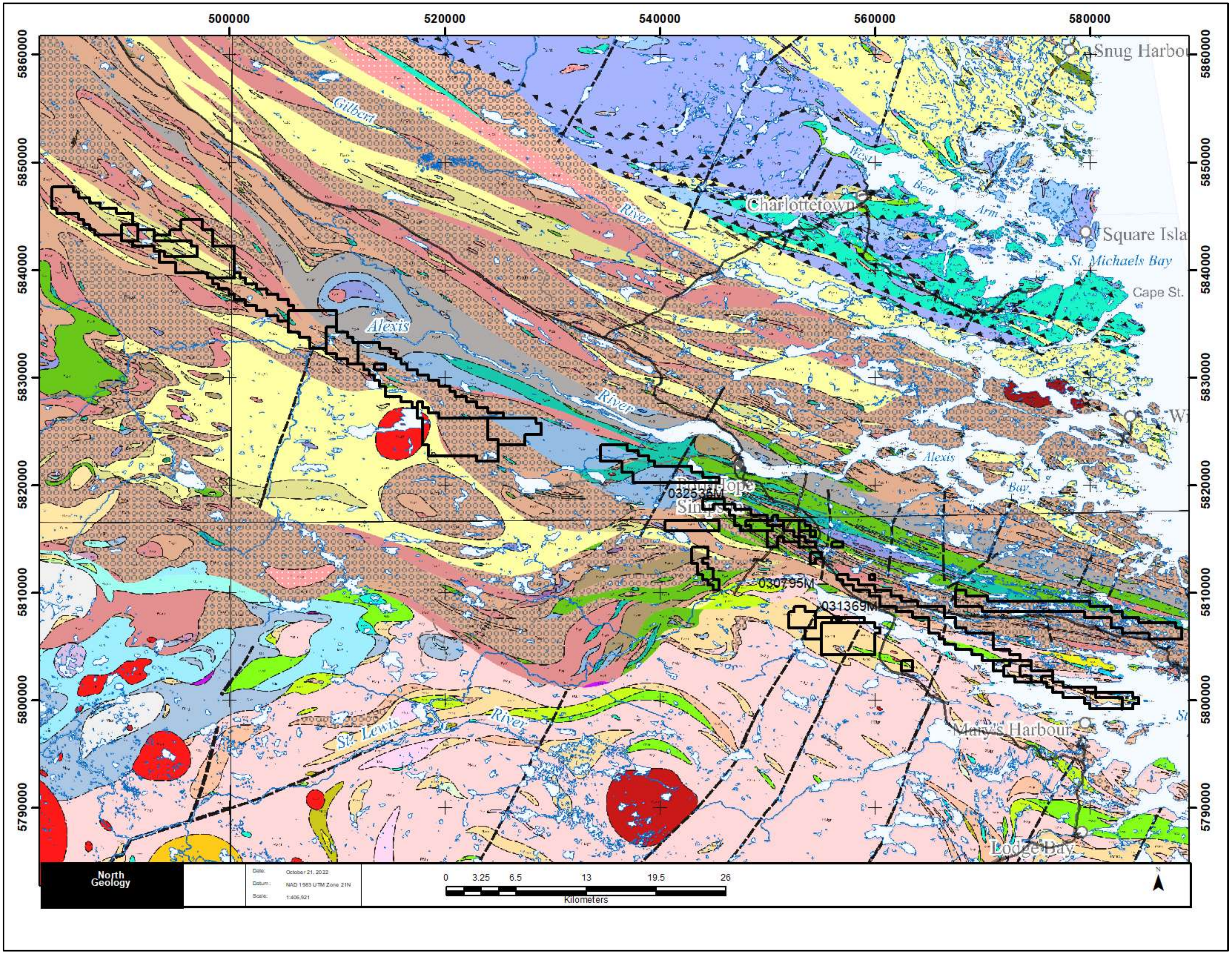


Figure 8: Geology South

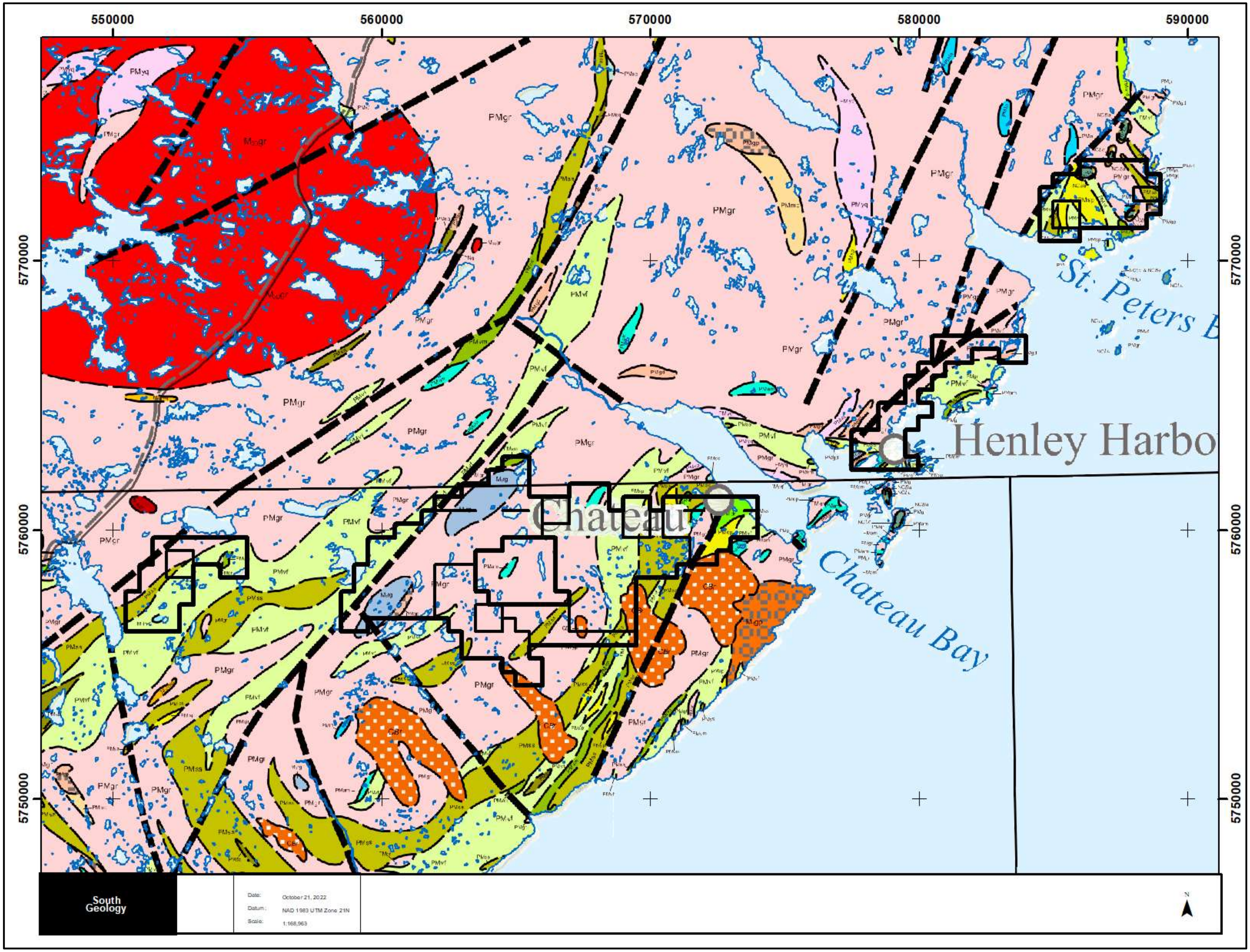


Figure 9: Geology Legend

DEVONIAN (?)

Dd — Sandwich Bay and Battle Harbour dykes

EARLY CAMBRIAN

CFo — Forteau Formation

CBr — Bradore Formation (subdivided into L'Anse-au-Clair, Crow Head and Blanc-Sablon members)

NEOPROTEROZOIC – EARLY CAMBRIAN

NCLc — Lighthouse Cove Formation

NCBa — Bateau Formation

NEOPROTEROZOIC

NDm | NGi | NSb

NDm — Double Mer Formation

NGi — Gilbert arkose

NSb — Sandwich Bay conglomerate

Nc | Nd | Nq

Nc — Clastic dykes

Nd — Long Range dykes

Nq — Quartz veins

LATE MESOPROTEROZOIC (M_3 1200 – 900 Ma)

LATE POST-GRENVILLIAN INTRUSIONS (M_{3D} ca. 975 – 955 Ma)
e.g., Chateau Pond granite

M_{3D}gp | M_{3D}gr | M_{3D}ln | M_{3D}mn | M_{3D}mq | M_{3D}mz | M_{3D}yq | M_{3D}d

M_{3D}gp — Massive to weakly foliated megacrystic/porphyritic granite to quartz monzonite

M_{3D}gr — Massive to weakly foliated granite to alkali-feldspar granite

M_{3D}ln — Massive to weakly foliated leucogabbro to leuconorite

M_{3D}mn — Massive to weakly foliated monzogabbro and monzonorite

M_{3D}mq — Massive to weakly foliated quartz monzonite; mantled feldspar textures

M_{3D}mz — Massive to weakly foliated monzonite to monzodiorite

M_{3D}yq — Massive to weakly foliated syenite, quartz syenite and alkali-feldspar quartz syenite

M_{3D}d — Unnamed mafic dykes

EARLY POST-GRENVILLIAN INTRUSIONS (M_{3C} ca. 985 – 975 Ma)
e.g., Beaver Brook and Picton Pond plutons

M_{3C}gr | M_{3C}ln | M_{3C}mn | M_{3C}mq | M_{3C}rg | M_{3C}yq | M_{3C}d

M_{3C}gr — Weakly to moderately foliated granite to alkali-feldspar granite

M_{3C}ln — Weakly to moderately foliated leucogabbro to leuconorite

M_{3C}mn — Weakly to moderately foliated monzogabbro to monzonorite

M_{3C}mq — Weakly to moderately foliated monzonite to quartz monzonite

M_{3C}rg — Weakly to moderately foliated gabbro, norite and troctolite

M_{3C}yq — Weakly to moderately foliated syenite, quartz syenite and alkali-feldspar syenite

M_{3C}d — L'Anse-au-Diable, York Point, Gilbert Bay mafic dykes

SYN-GRENVILLIAN INTRUSIONS (M_{3B} ca. 1085 – 985 Ma)

M_{3B}gd | M_{3B}gp | M_{3B}gr | M_{3B}yn | M_{3B}d

M_{3B}gd — Moderately to strongly foliated granodiorite to quartz diorite

M_{3B}gp — Moderately to strongly foliated megacrystic/porphyritic granodiorite to quartz diorite

M_{3B}gr — Moderately to strongly foliated granite to alkali-feldspar granite

M_{3B}yn — Moderately to strongly foliated aegerine- or nepheline-bearing syenite

M_{3B}d — Unnamed mafic dykes (Makkovik Province and adjacent Grenville Province)

PRE-GRENVILLIAN INTRUSIONS (M_{3A} ca. 1200 – 1085 Ma)
e.g., Gilbert Bay pluton

M_{3A}gr | M_{3A}mn

M_{3A}gr — Weakly to strongly foliated granite

M_{3A}mn — Weakly to strongly foliated monzonite to monzonorite

MIDDLE MESOPROTEROZOIC (M_2 1350 – 1200 Ma)
e.g., Upper North River intrusion

M_2gr | M_2rg | M_2yq | M_2d

M_2gr — Weakly to strongly foliated granite and alkali-feldspar granite

M_2rg — Weakly to strongly foliated gabbronorite (in database only - Lourdes-de-Blanc-Sablon intrusion, Quebec)

M_2yq — Weakly to strongly foliated syenite, quartz syenite and alkali-feldspar syenite

M_2d

EARLY MESOPROTEROZOIC (M_1 1600 – 1350 Ma)
e.g., Upper Paradise River, Kyfanan Lake and 13B/12 intrusions, and Michael Gabbro

M_1an | M_1am | M_1dr | M_1gp | M_1gr | M_1ln | M_1mn | M_1mq | M_1mz | M_1rg | M_1um | M_1yq | M_1d

M_1an — Massive or weakly foliated anorthosite to leucogabbronorite, indistinctly layered in places

M_1am — Weakly to markedly foliated amphibolite, plus leucocratic and melanocratic variants; granulite facies equivalents

M_1dr — Massive, weakly or strongly foliated diorite to amphibolite, may be metamorphic derivative of monzodiorite or leucogabbronorite

M_1gp — Moderately to strongly foliated megacrystic/porphyritic granitoid rocks

M_1gr — Massive, weakly or strongly foliated granite to quartz monzonite

M_1ln — Massive, weakly or strongly foliated leucogabbronorite and anorthositic gabbro, locally grading into gabbronorite, locally coronitic

M_1mn — Moderately to strongly foliated monzonorite

M_1mq — Moderately to strongly foliated monzonite to quartz monzonite

M_1mz — Moderately to strongly foliated monzonite to monzodiorite

M_1rg — Massive to strongly foliated gabbro, norite and troctolite, commonly layered; subophitic and locally coronitic; includes recrystallized derivatives retaining igneous textures

M_1um — Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures

M_1yq — Moderately to strongly foliated syenite and quartz syenite

M_1d — Mafic dykes; includes Michael Gabbro

LATE PALEOPROTEROZOIC AND EARLY MESOPROTEROZOIC (PM 1800 – 1350 Ma)
(Ages generally unknown, but ca. 1650 Ma and 1500 – 1470 Ma rocks identified)
RECRYSTALLIZED IGNEOUS ROCKS

PMdr | PMgd | PMgp | PMgr | PMln | PMmd | PMmq | PMrg | PMtn | PMyq | PMam

PMdr — Medium-grained, equigranular, recrystallized weakly to strongly foliated diorite, quartz diorite and to leucoamphibolite

PMgd — Weakly to strongly foliated granite to granodiorite

PMgp — Megacrystic/porphyritic recrystallized granite to quartz monzonite

PMgr — Medium- to coarse-grained, recrystallized weakly to strongly foliated granite and alkali-feldspar granite

PMln — Medium- to coarse-grained, recrystallized leuconorite, leucogabbro

PMmd — Medium- to coarse-grained, recrystallized, weakly to strongly foliated, monzodiorite to monzonite

PMmq — Medium- to coarse-grained, recrystallized, weakly to strongly foliated quartz monzonite

PMrg — Medium- to coarse-grained, gabbro, norite and troctolite

PMtn — Medium- to coarse-grained, recrystallized, weakly to strongly foliated tonalite to granodiorite

PMyq — Medium- to coarse-grained, recrystallized, weakly to strongly foliated syenite, alkali-feldspar syenite and quartz syenite

PMam — Amphibolite; generally thought to be derived from mafic dykes

SUPRACRUSTAL ROCKS PROVISIONALLY ASSIGNED AS PITTS HARBOUR GROUP

PMsc | PMsp | PMsq | PMss | PMsx | PMvf | PMvm

Sedimentary protolith

PMsc — Calc-silicate rocks, compositionally layered, medium grained

PMsp — Pelitic schist and gneiss

PMsq — Quartzite, meta-arkose, thin to thick bedded

PMss — Quartz-feldspar psammitic schist and gneiss; medium grained

PMsx — Coarse-grained to pegmatitic-granitic material (diatexite), characteristically associated with psammitic gneiss and quartzite

Volcanic protolith

PMvf — Fine- to medium-grained, banded quartzofeldspathic rocks; locally having lensoid shapes, possibly indicating felsic volcaniclastic protolith

PMvm — Fine- to medium-grained, banded amphibolite containing quartz-feldspar layers and calc-silicate pods; interpreted as mafic volcanic rocks

LATE PALEOPROTEROZOIC (P_3 1800 – 1600 Ma)
LATE LABRADORIAN GRANITOID INTRUSIONS (P_{3C} 1660 – 1600 Ma)
e.g., Paradise Arm intrusion and Hawke Bay intrusive suite

P_{3C}dr | P_{3C}ga | P_{3C}gd | P_{3C}gp | P_{3C}gr | P_{3C}mn | P_{3C}mq | P_{3C}mz | P_{3C}yq | P_{3C}d

P_{3C}dr — Diorite, quartz diorite and tonalite; locally grading into leucogabbronorite

P_{3C}ga — Alkali-feldspar granite, granite and quartz syenite forming discrete plutons

P_{3C}gd — Granite to granodiorite forming discrete unmigmatized plutons

P_{3C}gp — Megacrystic/porphyritic granite to granodiorite

P_{3C}gr — Granite and minor alkali-feldspar granite

P_{3C}mn — Monzonorite and monzogabbro

P_{3C}mq — Quartz monzonite, including rare quartz syenite

P_{3C}mz — Monzonite, including minor syenite

P_{3C}yq — Syenite to quartz syenite forming discrete plutons

P_{3C}d — Unnamed mafic dykes

LATE LABRADORIAN ANORTHOSITIC AND MAFIC INTRUSIONS (P_{3C} 1660 – 1600 Ma)
e.g., White Bear Arm complex and Sand Hill Big Pond intrusion

P_{3C}ag | P_{3C}am | P_{3C}an | P_{3C}rg | P_{3C}ln | P_{3C}lt | P_{3C}um

P_{3C}ag — Weakly to markedly foliated mafic granulite, plus leucocratic and melanocratic variants

P_{3C}am — Weakly to markedly foliated amphibolite, plus leucocratic and melanocratic variants

P_{3C}an — Massive to strongly foliated anorthosite and leucogabbronorite

P_{3C}rg — Massive to strongly foliated gabbro and norite, commonly layered; subophitic and locally coronitic

P_{3C}ln — Primary textured to recrystallized leucogabbronorite and leucogabbro; coronitic locally

P_{3C}lt — Primary textured to recrystallized leucotroctolite

P_{3C}um — Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures

EARLY LABRADORIAN MAFIC AND ASSOCIATED ROCKS (P_{3B} 1710 – 1660 Ma)
e.g., Alexis River anorthosite (assigned here although age is uncertain)

P_{3B}ag | P_{3B}an | P_{3B}ln | P_{3B}mn | P_{3B}rg | P_{3B}um

P_{3B}ag — Weakly foliated to gneissic amphibolite and mafic granulite, plus leucocratic and melanocratic variants

P_{3B}an — Weakly foliated to gneissic anorthosite and leucogabbronorite

P_{3B}ln — Weakly foliated to gneissic leucogabbronorite and leucogabbro; coronitic locally

P_{3B}mn — Weakly foliated to gneissic monzonorite and monzogabbro

P_{3B}rg — Weakly foliated to gneissic gabbro and norite

P_{3B}um — Massive, weakly or strongly foliated ultramafic rocks, commonly layered and locally showing cumulate textures

EARLY LABRADORIAN GRANITOID AND ASSOCIATED ROCKS (ca. 1678 and 1671 Ma)
e.g., Neveisik Island and Red Island events

P_{3B}dr | P_{3B}gd | P_{3B}gp | P_{3B}gr | P_{3B}mq | P_{3B}mz | P_{3B}ya | P_{3B}am

P_{3B}dr — Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss in part derived from leucogabbronorite

P_{3B}gd — Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss

P_{3B}gp — Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss

P_{3B}gr — Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss

P_{3B}mq — Foliated to gneissic quartz monzonite, grading into diorite or syenite, and compositionally equivalent well-banded gneiss

P_{3B}mz — Foliated to gneissic monzonite and monzodiorite, and compositionally equivalent well-banded gneiss

P_{3B}ya — Foliated to gneissic syenite, alkali-feldspar syenite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss

P_{3B}am — Amphibolite skialiths, lenses and layers (mainly remnants of former dykes)

PRE-LABRADORIAN GRANITOID ROCKS (P_{3A} 1800 – 1710 Ma)

P_{3A}ag | P_{3A}dr | P_{3A}gd | P_{3A}gp | P_{3A}gr | P_{3A}ln | P_{3A}am

P_{3A}ag — Mafic granulite skialiths, lenses and layers

P_{3A}dr — Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss

P_{3A}gd — Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss

P_{3A}gp — Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss

P_{3A}gr — Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss

P_{3A}ln — Foliated to gneissic leucogabbronorite, and compositionally equivalent well-banded gneiss

P_{3A}am — Amphibolite skialiths, lenses and layers (mainly remnants of former dykes)

PRE-LABRADORIAN SUPRACRUSTAL ROCKS (P_{3A} 1800 – 1710 Ma)
(Age uncertain; certainly pre-1670 Ma, probably 1800 – 1770 Ma)

P_{3A}sc | P_{3A}sp | P_{3A}sq | P_{3A}ss | P_{3A}sx | P_{3A}vf | P_{3A}vm

Sedimentary protolith

P_{3A}sc — Calc-silicate rocks, compositionally layered, medium grained

P_{3A}sp — Fine- to medium-grained pelitic schist and gneiss

P_{3A}sq — Quartzite, meta-arkose, thin to thick bedded

P_{3A}ss — Quartz-feldspar psammitic schist and gneiss; medium grained and commonly rusty-weathering

P_{3A}sx — Metasedimentary diatexite; coarse grained to pegmatitic and characteristically white-weathering

Volcanic protolith

P_{3A}vf — Fine- to medium-grained, banded quartzofeldspathic rocks; locally have lensoid shapes, possibly indicating felsic volcanoclastic protolith

P_{3A}vm — Fine- to medium-grained, banded amphibolite containing quartz-feldspar layers and calc-silicate pods; interpreted as mafic volcanic rocks

MID PALEOPROTEROZOIC (P_2 2100 – 1800 Ma)
LATE MID PALEOPROTEROZOIC (P_{2C} 1900 – 1800 Ma)
Granitoid and related intrusive rocks

P_{2C}dr | P_{2C}ga | P_{2C}gd | P_{2C}gp | P_{2C}gr | P_{2C}mq | P_{2C}mz | P_{2C}ya | P_{2C}yq

P_{2C}dr — Foliated to gneissic diorite to quartz diorite, and compositionally equivalent well-banded gneiss

P_{2C}ga — Alkali-feldspar granite, granite and quartz syenite

P_{2C}gd — Foliated to gneissic granodiorite and compositionally equivalent well-banded gneiss

P_{2C}gp — Foliated to gneissic megacrystic/porphyritic granitoid rocks, augen gneiss

P_{2C}gr — Foliated to gneissic granite and alkali-feldspar granite, and compositionally equivalent well-banded gneiss

P_{2C}mq — Foliated to gneissic quartz monzonite, grading into diorite or syenite, and compositionally equivalent well-banded gneiss

P_{2C}mz — Foliated to gneissic monzonite to monzodiorite, and compositionally equivalent well-banded gneiss

P_{2C}ya — Foliated to gneissic syenite to alkali-feldspar syenite, and compositionally equivalent well-banded gneiss

P_{2C}yq — Syenite to quartz syenite

P_{2C}d — Unnamed mafic dykes

Sedimentary protolith

P_{2C}sc | P_{2C}so | P_{2C}sp | P_{2C}sq | P_{2C}ss

P_{2C}sc — Calc-silicate rocks, compositionally layered, medium grained

P_{2C}so — Conglomerate and agglomerate, partially of volcanic origin

P_{2C}sp — Fine- to medium-grained pelitic schist and gneiss

P_{2C}sq — Quartzite, meta-arkose, thin to thick bedded

P_{2C}ss — Quartz-feldspar psammitic schist and gneiss; medium grained and commonly rusty-weathering

Volcanic protolith

P_{2C}vb | P_{2C}vf | P_{2C}vi | P_{2C}vm | P_{2C}vp

P_{2C}vb — Volcanic breccia, angular clasts, grading into agglomerate

P_{2C}vf — Fine- to medium-grained, banded quartzofeldspathic rocks; locally have lensoid shapes, possibly indicating felsic volcanoclastic protolith

P_{2C}vi — Intermediate volcanic rocks

P_{2C}vm — Fine- to medium-grained, banded amphibolite containing quartz-feldspar layers and calc-silicate pods; interpreted as mafic volcanic rocks

P_{2C}vp — Felsic volcanic porphyry interpreted to be hypabyssal

7.3 Mineralization

There are 29 (twenty-nine) minerals occurrences on the Project (
Figure 10 and Table 11). The information was originally obtained from the Government of Newfoundland and Labrador, Natural Resources Divisions Mineral Occurrence Data System (MODS). The MODS provides a custodial inventory of mineral deposits/occurrences in Newfoundland and Labrador).

Figure 10: Mineral Showings

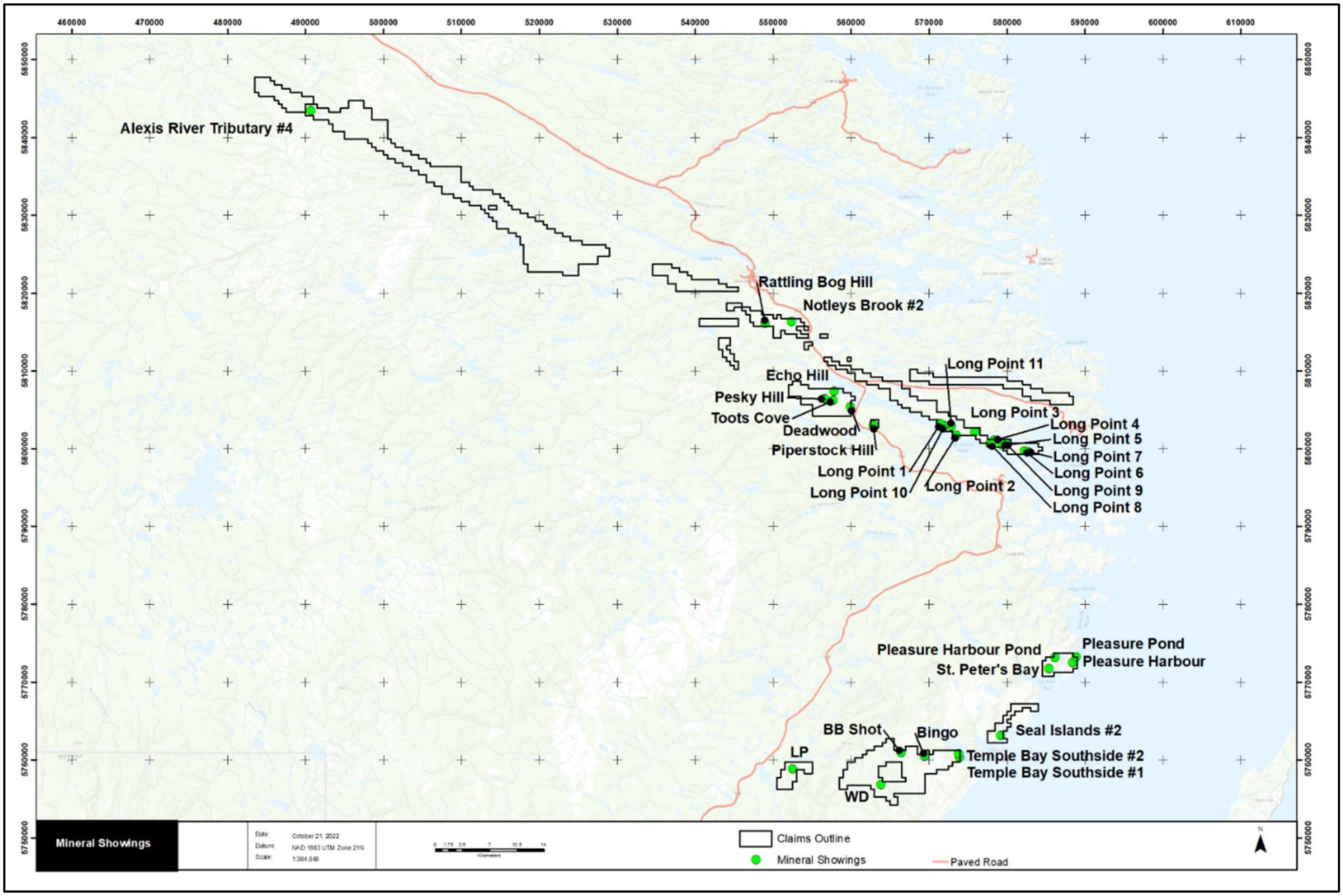


Table 11: Mineral Showings

Name	EAST	NORTH	Commodity	Description
Long Point 7	582622	5799409	Rare Earth Elements	LPC-14-07 is described as very mineralized. In middle of woods - 20000+CPS. 40% yellow/beige minerals. Weathered & hematized. LPC-14-08 is described as 300-400 cps peralkaline felsic volcanics containing euhedral magnetite. (Butler, S. 2015) Channel samples LPC-14-07/08 (pegmatite/fine grained mafic) returned values of 7.9% Zr and 5000 ppm Dy over 0.48 m
Long Point 6	582232	5799499	Rare Earth Elements	Channel Sample Number LPC-14-06 (fine grained mafic containing Ilmenite, Hematite and high counts per second), returned values of 1960 ppm Zr and 75.1 ppm Dy over 0.67m.
Long Point 5	579354	5800200	Rare Earth Elements	Channel sample LPC-14-01 (pegmatite) returned values of 2.6% Zr and 2854 ppm Dy over 0.64m.
Long Point 8	577797	5800380	Rare Earth Elements	Channel sample (LPC-15-04), measuring 1.5 m in length. This channel resulted in a weighted average of 37.1 ppm Zr, and 37.7 ppm Dy.
Long Point 9	579830	5800485	Rare Earth Elements	Channel sample LPC-14-09 (pegmatite/sediment) containing 1% illmenite returned values of 1890 ppm Zr and 308 ppm Dy.
Long Point 4	578362	5800847	Rare Earth Elements	Reported by Mason K. et. Al. 2016 in a 43-101 Technical Report on Search Mineral's Foxtrot Project;. No other information could be located.
Long Point 2	573520	5801518	Rare Earth Elements	Channel samples LPC-15-03A-B and LPC-15-02 were taken from this occurrence. Y ppm/142, Zr ppm/223, Nb ppm/227, Ce ppm/8.3 , Y ppm/37, Zr ppm/211, Nb ppm/29, Ce ppm/84.9, Y ppm/31, Zr ppm/207, Nb ppm/15, Ce ppm/65.6, Y ppm/41, Zr ppm/193, Nb ppm/29, Ce ppm/101
Long Point 3	575893	5801947	Rare Earth Elements	Reported by Mason K. et. Al. 2016 in a 43-101 Technical Report on Search Mineral's Foxtrot Project; (Figure 9-1). No other information could be located.
Long Point 11	572848	5802654	Rare Earth Elements	Channel sample LPC-14-22A/B (Pegmatite containing quartz/magnetite mineralization and hematized fractures and mafic rich bands) returned values of 1.2% Zr and 295 ppm Dy over 0.65 m and 5785 ppm Zr and 943 ppm Dy over 0.43 m.
Long Point 10	571981	5802756	Rare Earth Elements	Channel sample LPC-14-23 (Pegmatite/felsic containing quartz and euhedral magnetite mineralization returned values of 1.7% Zr and 991 ppm Dy over 0.36 m.
Piperstock Hill	562850	5802800	Rare Earth Elements	The Piperstock Hill occurrence is located in a 13 km trend within the High REE Hills in the Port Hope Simpson REE district of SE Labrador , The mineralization occurs in magnetite-quartz-amphibole veins and associated magnetite-amphibole pegmatites similar to those found on High REE Island
Long Point 1	571444	5803000	Rare Earth Elements	LPC-15-01A resulted in a 0.93 m section (0.38-1.31 m) containing a weighted average of 2,916 ppm Zr, and 529 ppm Dy.
Deadwood	559897	5805122	Rare Earth Elements	Sample with Zr (ppm) and type rock , 1300ppm /Pegmatite, 649 ppm/Pegmatite, 50 ppm/Mafic Dyke, 1059 ppm/Pegmatite, 1246 ppm Pegmatite/Quartz Vein, 3103 ppm/Pegmatite
Toots Cove	557700	5806000	Rare Earth Elements	Y ppm (7,188/8,443), Zr ppm (10,500/19,260), La ppm (975/231), Ce ppm (2,690/765), Pr ppm (371/157), Nd ppm (2,060/1,180), Sm ppm (903 /731), Eu ppm (70.7/ 61.1), Gd ppm (1,210/1,030), Tb ppm (251/217.0), Dy ppm (1,770/1,570), Ho ppm (386/366.0), Er ppm (1,120/1,070.0), Tm ppm (136/132.0), Yb ppm (595/595.0), Lu ppm (65.7/ 65.1) TREE ppm (12,603.4/8,170.2), TREE ppm + Y (19,791.4/16,613.2), HREE ppm (5,604.4/5,106.2), HREE ppm + Y (12,792.4/13,549.2), %HREE (44.47%/ 62.50%), %HREE + Y (64.64% 81.56%)

Table 12: Mineral Showings Continued

Name	EAST	NORTH	Commodity	Description
Pesky Hill	556600	5806200	Rare Earth Elements	Mineralized pegmatite veins vary in size up to 15 m in width and form a discontinuous zone, in outcrop, over 200 m. Mineralized veins appear to have a string-like geometry, with intersection thicknesses of the high-grade HREE zones ranging up to 2.56 m. The high-grade veins are associated with lower grade granitic pegmatites and anomalous REE-bearing granite. Small pegmatitic vein stockworks are observed. Additional untested HREE showings, with similar geological settings, also occur in the Pesky Hill area. Dy, in sample channels, ranges from 621 to 2751 ppm, Tb from 91 to 365 ppm and Y from 2963 to 12522 ppm. Nb ranges from 3667 to 21693 and Zr ranges from 5512 to 16557. Nd, a target light rare earth element, ranges from 1502 to 3474 ppm. The best channel sample returned 621 ppm Dy, 1534 ppm Nd, 91 ppm Tb and 2963 ppm Y over 14.69m. This mineralization is characterized as HREE mineralization with HREE/Total REE ranging up to 53.5% and HREE+Y/Total REE+Y ranging up to 74%.
Echo Hill	557837	5807144	Rare Earth Elements	Channel sample ECH-11-10 returned values as high as 58800 ppm Zr and 146 ppm Dy over 0.16 metres (Moran, 2012). Channel Sample ECH-11-10
Rattling Bog Hill	549000	5815900	Rare Earth Elements	HREE in granitic pegmatite swarms. HREE/Total REE ranges from 30.58% to 91.67%, and HREE+Y/Total REE+Y ranges from 51.94% to 96.63%; Nb values range from 2373 to 7623 ppm and Y values range from 1420 to 4792 ppm; and Three HREE showings and a highly prospective Zr-Nb-Y LREE peralkaline volcanic zone now reported in the Port Hope Simpson REE district.
Alexis River Tributary #4	490700	5843200	Uranium	A lake sediment sample from a GSC survey returned a value of 926 ppm U (DNC analysis) and 1030 ppm (INAA analysis) - the highest lake-sediment sample in Labrador (Gower, 2010).
WD	563849	5756584	Uranium	A total of 10 rock samples were collected from float and boulders at the WD indication and returned assays ranging from 92 to 1,391 ppm U308, with four sample returning > 400 ppm U308
LP	552520	5758600	Uranium	coarse grained pegmatitic dyke which can be traced for 200 meters A total of 10 rock samples returned values ranging 38 ppm U up to 2650 ppm U (0.26 % U308).
Temple Bay Southside #1	573900	5760080	Pyrite	Rusty weathering pyritic quartzite interbedded with banded amphibolite and associated with thinly laminated compositionally heterogenous quartzofeldspathic (greywacke or fine grained volcanoclastic) rocks
Bingo	569450	5760250	Uranium	The area of the Bingo showing was mapped/prostected with 17 anomalous values >10ppm U3o8 identified. Values up to 5,887ppm U308 with uranophane staining were noted (Alexander at all, 2009), Exploration has maninly been for uranium, however anomalous copper, molybdenum, and gold values are noted in the lake sediment geochemistry. Uranium was identifed in both pegmatitic and non-pegmatitic units.
Temple Bay Southside #2	573790	5760560	Titanium	A non-magnetic opaque mineral together with magnetite, garnet, possibly pyroxene and minor feldspar in a rounded enclave within pegmatite. The host rock to the pegmatite is migmatitic quartz diorite to hornblende granodiorite with some amphibolite layers.
BB Shot	566450	5760700	Uranium	This area was targeted on bedrock/float samples with values up to 67,439 ppm U308. Five of the 10 rock samples taken gave >1000 ppm U308. The samples were collected in pegmatite hosted by granite/gneiss with extensice uranophane, A total of 2065 regional soil samples were collected by Silver Spruce (Alexander et al, 2009/LAB1505) on their Straits Property of which the Bingo showing is apart. Uranium in soil values range from <10 to 117ppm, with a mean of 5.38ppm. staining.
Seal Islands #2	579181	5762864	Amazonite	GSB Map No. 2010-25
St. Peter's Bay	585396	5771518	Rare Earth Elements	REE-Y-Nb-Zr Assays for four Selected Grab and Channel Samples St. Peter's Bay No1 No 2 No3 No 4 Y ppm 1199 1820 7056 6378 Zr ppm 1733 3779 18090 18660 Nb ppm 1339 2384 14862 13324
Pleasure Pond	588416	5772295	Rare Earth Elements	Local malachite staining was noted in Bateau Formation volcanic sediment/tuff associated with arkosic sediment and conglomerate. Meyer and Dean (1988) noted disseminated chalcopyrite in several chip samples of the overlying Lighthouse Cove Formation.
Pleasure Harbour Pond	586159	5772891	Copper	Local malachite staining was noted in Bateau Formation volcanic sediment/tuff associated with arkosic sediment and conglomerate. Meyer and Dean (1988) noted disseminated chalcopyrite in several chip samples of the overlying Lighthouse Cove Formation (Personal communication with Charles Gower, Newfoundland Geological Survey, Dec. 2, 1999).
Pleasure Harbour	588903	5772992	Pyrite	Pyrite muscovite schists associated with quartzite, some psammitic rocks and an ultramafic layer

8 DEPOSIT TYPES

Primary Magmatic REE Deposits

Primary magmatic deposits can be subdivided into peralkaline oversaturated, peralkaline undersaturated, and carbonatite deposits. Peralkaline deposits, both oversaturated (quartz-bearing or quartz normative) and undersaturated (nepheline-bearing or nepheline normative) are mainly HREE-enriched, while carbonatite deposits are commonly LREE-enriched; some carbonatite high-level vein systems are also HREE-enriched. Peralkaline rocks and carbonatites are known to occur in similar geological settings and can be spatially related.

Primary magmatic REE deposits are formed by concentration of REE and other incompatible elements (e.g., Zr, Nb, fluorine (F), U, Th, hafnium (Hf)) in the upper portions of magma chambers. These incompatible element-enriched magmas are either crystallized in place, are transported to locations proximal to the magma chamber, or are transported to surface and deposited as volcanic products.

Peralkaline oversaturated volcanic-hosted deposits are rare but known to occur (e.g., Foxtrot, Deep Fox; Brockman, Australia). No undersaturated volcanic-hosted deposits have been recognized to date.

Peralkaline Oversaturated Deposits

Peralkaline oversaturated deposits are commonly characterized by HREE-enrichment and complex REE- bearing minerals such as fergusonite, allanite, zircon, monazite, and xenotime, and unusual silicates such as gadolinite, kainosite, and gerinite. REE-bearing carbonates (e.g., bastnaesite) are less common in peralkaline-oversaturated deposits.

Peralkaline granites and syenites are the most common host rocks to REE-enriched peralkaline oversaturated deposits. Mineralization is concentrated in the top of magma chambers and is either crystallized in place in cupolas, or as enriched pegmatitic vein systems and related auto-metasomatically-enriched rocks (e.g., part of Strange Lake Main Zone, Quebec/Labrador) or as proximal pegmatites/deposits (e.g., Strange Lake B-Zone and part of Main Zone, Quebec/Labrador).

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Peralkaline Undersaturated Deposits

Peralkaline undersaturated deposits are commonly characterized by HREE-enrichment, eudialyte and other complex zirconium-silicates (e.g., Norra Karr, Sweden; Ilimaussaq Complex, Greenland; Red Wine Complex, Labrador), alteration products of eudialyte (e.g., allanite, fergusonite and zircon at Nechalacho, Northwest Territories, Canada) and other unknown complex Ca-Y silicates (e.g., Red Wine Complex, Labrador).

Nepheline- and eudialyte-bearing syenites are common host rocks for this kind of REE mineral deposit; volcanic equivalents have not been identified. Mineralization occurs as pegmatite vein systems and related rocks (e.g., Red Wine Complex; Kipawa, Quebec) and medium-grained zones within the upper portions of large layered nepheline syenite intrusions (e.g., Norra Karr, Sweden; Ilimaussaq, Greenland; Red Wine Complex).

Carbonatite Deposits

Carbonatite hosted deposits contain a combination of REE-bearing carbonates (e.g., bastnaesite at Mountain Pass, California, and Bear Lodge, Wyoming), monazite, xenotime, apatite, and other REE- bearing minerals. The high-level vein systems sometimes associated with carbonatites contain higher concentrations of HREE and mostly contain predominantly phosphates like xenotime and monazite. Vein system mineralization occurs at Lofdal (Namibia), Bear Lodge, Steenkampskraal (South Africa), and Brown's Range (Australia).

The majority of LREE, particularly lanthanum (La), cerium (Ce), praseodymium (Pr), and Nd, are mined from carbonatites in China (Bayan Obo Deposit) and Australia (Mt. Weld Deposit). This mineralization occurs mostly disseminated in low volume magmatic phases of commonly large carbonatite plutons (e.g., Bear Lodge, Ashram).

Carbonatite high-level vein mineralization is commonly associated with large carbonatite plutons (e.g., Loftdal, Bear Lodge). High-grade mineralization, with similar characteristics but with no known associated plutons, is found at Brown's Range and Steenkampskraal. All represent small volume magmas probably originating from carbonatite magma chambers.

Beach Sand Deposits

REE-enriched heavy minerals, commonly zircon and monazite, are often concentrated in heavy mineral beach deposits. These minerals are separated from the sands and sold as a by-product from beach sand deposits in India and elsewhere. Consolidated beach sands and other clastic sedimentary units such as conglomerates can also contain significant quantities of REE-bearing heavy minerals (e.g., conglomerate in the Pele Mountain deposit, Ontario).

9 EXPLORATION

Nuclear Fuels Corp. of Vancouver conducted an exploration program on the Project from Sept 17th to October 9th, 2022. The exploration work was undertaken on mineral licences 31376 and 26798.

A total of 8,750 meters of GPS surveyed grid was located on three separate grids named the PH Grid, Deadwood North Grid, and the Deadwood Grid. The PH Grid consists of 4,000 meters of east-west grid lines centered on the Pesky Hill Showing area, the Deadwood North Grid consists of 3,000 meters of east-west grid lines centered on an area of previously unsampled pegmatite outcrops, and the Deadwood Grid consists of 1,750 meters of north-south grid lines centered on the Deadwood Showing area. All grids were accessed using a six-by-six Argo off road vehicle.

The three grids were established to identify possible buried mineralization in areas of possible anomalous rare earth and other minerals. Grid lines on the PH Grid are 500 meters in length and are spaced 50 meters apart with samples taken on 25-meter centers. On the Deadwood North Grid, lines are 500 meters in length, are spaced 50 meters apart, and samples were taken on 25-meter centers. On the Deadwood Grid, lines are 350 meters in length, are spaced 50 meters apart, and samples were taken on 25-meter centers.

The grid lines were located by compass and GPS. All stations are marked in the field in blue flagging with their respective UTM locations marked on the blue flag with permanent marker (06800N 56250E).

A total of 369 soil samples were taken on the property during the 2022 programme. Soil samples were taken along the grid lines every 25 meters on all three grids. Soil samples were taken from the “B” Horizon from a consistent depth of 30 to 35 cm using a shovel and spoon. The soil was placed in standard Kraft soil sample bags and labeled with the last five digits of their relative NAD 83 grid location, example – 06800N 56250E. Sample characteristics such as location, altitude, depth, and colour were recorded and are listed on an excel spreadsheet which is included in this report.

The samples were dried and placed in marked poly bags which were then zap-strapped, placed in marked rice bags, double zap-strapped, and couriered to Activation Laboratories located in Fredericton, New Brunswick.

A total of 24 rock samples were collected from various sites within the property boundaries which contained visual indications of alteration and/or mineralization. Several samples were taken from areas that were hand-trenched. Four samples were taken from a pegmatite outcrop located in the area of the Piperstock Showing.

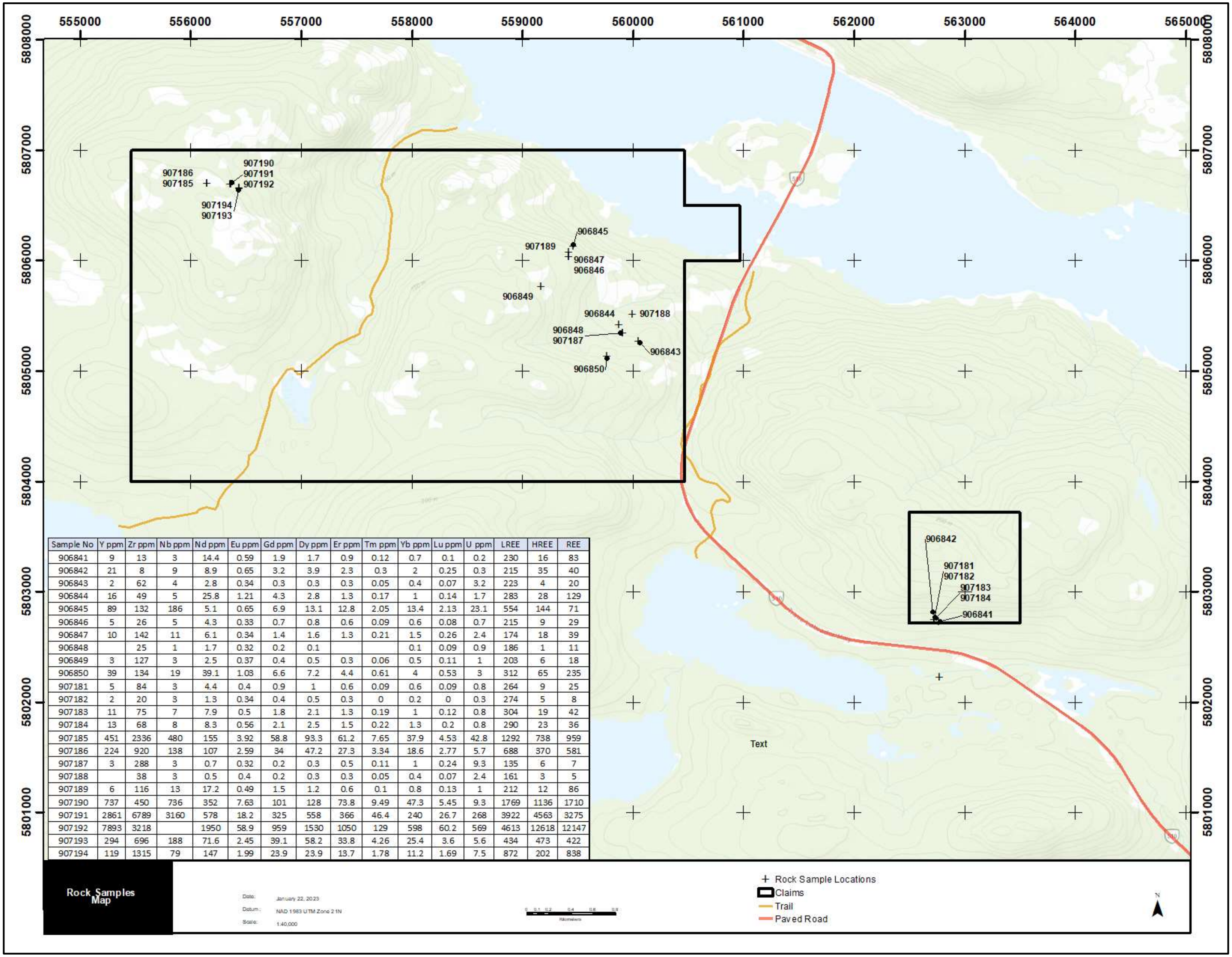
The rock samples consisted of grab and chip samples up to 100 cm in length. Data such as UTM location and the characteristics of the sample site and material collected such as alteration, lithology, mineralization, strike and dip, and width of sample were noted. All stations are marked in the field with blue and orange flagging and a metal tag with their respective sample identifier (L-22 907190) marked on the blue flag with permanent marker. Metal tags with the same identifier were also hung at each sample site. Photographs were taken of each sample and a witness sample for each individual sample has been retained and is available for viewing.

The sample material was placed in marked poly bags, zap strapped, placed in large rice bags, zap strapped, and couriered to Activation Laboratories an ISO/IEC 17025 Accredited by the Standards Council of Canada located in Ancastor, Ontario. Activation Laboratories is independent of the Company.

Numerous rock samples returned elevated LREE, HREE, and REE (Figure 11). Sample 907192 returned Nb_2O_5 1.862%. Samples 907191 to 907193 all returned elevated (over 1000 ppm) LREE, HREE, and REE.

Figure 12 to 14 illustrate the three soils grids (PH, Deadwood North, and Deadwood). These figures illustrate the REE, LREE and HREE on each Property respectively. The REE in Figure 12 illustrates that there are 6 values of over 300 ppm REE. Figure 13. illustrates seven values over 869 ppm LREE. Figure 14, illustrates sixteen values over 78 ppm HREE.

Figure 11: Rock Samples



Sample No	Y ppm	Zr ppm	Nb ppm	Nd ppm	Eu ppm	Gd ppm	Dy ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm	U ppm	LREE	HREE	REE
906841	9	13	3	14.4	0.59	1.9	1.7	0.9	0.12	0.7	0.1	0.2	230	16	83
906842	21	8	9	8.9	0.65	3.2	3.9	2.3	0.3	2	0.25	0.3	215	35	40
906843	2	62	4	2.8	0.34	0.3	0.3	0.3	0.05	0.4	0.07	3.2	223	4	20
906844	16	49	5	25.8	1.21	4.3	2.8	1.3	0.17	1	0.14	1.7	283	28	129
906845	89	132	186	5.1	0.65	6.9	13.1	12.8	2.05	13.4	2.13	23.1	554	144	71
906846	5	26	5	4.3	0.33	0.7	0.8	0.6	0.09	0.6	0.08	0.7	215	9	29
906847	10	142	11	6.1	0.34	1.4	1.6	1.3	0.21	1.5	0.26	2.4	174	18	39
906848		25	1	1.7	0.32	0.2	0.1			0.1	0.09	0.9	186	1	11
906849	3	127	3	2.5	0.37	0.4	0.5	0.3	0.06	0.5	0.11	1	203	6	18
906850	39	134	19	39.1	1.03	6.6	7.2	4.4	0.61	4	0.53	3	312	65	235
907181	5	84	3	4.4	0.4	0.9	1	0.6	0.09	0.6	0.09	0.8	264	9	25
907182	2	20	3	1.3	0.34	0.4	0.5	0.3	0	0.2	0	0.3	274	5	8
907183	11	75	7	7.9	0.5	1.8	2.1	1.3	0.19	1	0.12	0.8	304	19	42
907184	13	68	8	8.3	0.56	2.1	2.5	1.5	0.22	1.3	0.2	0.8	290	23	36
907185	451	2336	480	155	3.92	58.8	93.3	61.2	7.65	37.9	4.53	42.8	1292	738	959
907186	224	920	138	107	2.59	34	47.2	27.3	3.34	18.6	2.77	5.7	688	370	581
907187	3	288	3	0.7	0.32	0.2	0.3	0.5	0.11	1	0.24	9.3	135	6	7
907188		38	3	0.5	0.4	0.2	0.3	0.3	0.05	0.4	0.07	2.4	161	3	5
907189	6	116	13	17.2	0.49	1.5	1.2	0.6	0.1	0.8	0.13	1	212	12	86
907190	737	450	736	352	7.63	101	128	73.8	9.49	47.3	5.45	9.3	1769	1136	1710
907191	2861	6789	3160	578	18.2	325	558	366	46.4	240	26.7	268	3922	4563	3275
907192	7893	3218		1950	58.9	959	1530	1050	129	598	60.2	569	4613	12618	12147
907193	294	696	188	71.6	2.45	39.1	58.2	33.8	4.26	25.4	3.6	5.6	434	473	422
907194	119	1315	79	147	1.99	23.9	23.9	13.7	1.78	11.2	1.69	7.5	872	202	838

Figure 12: REE Soils

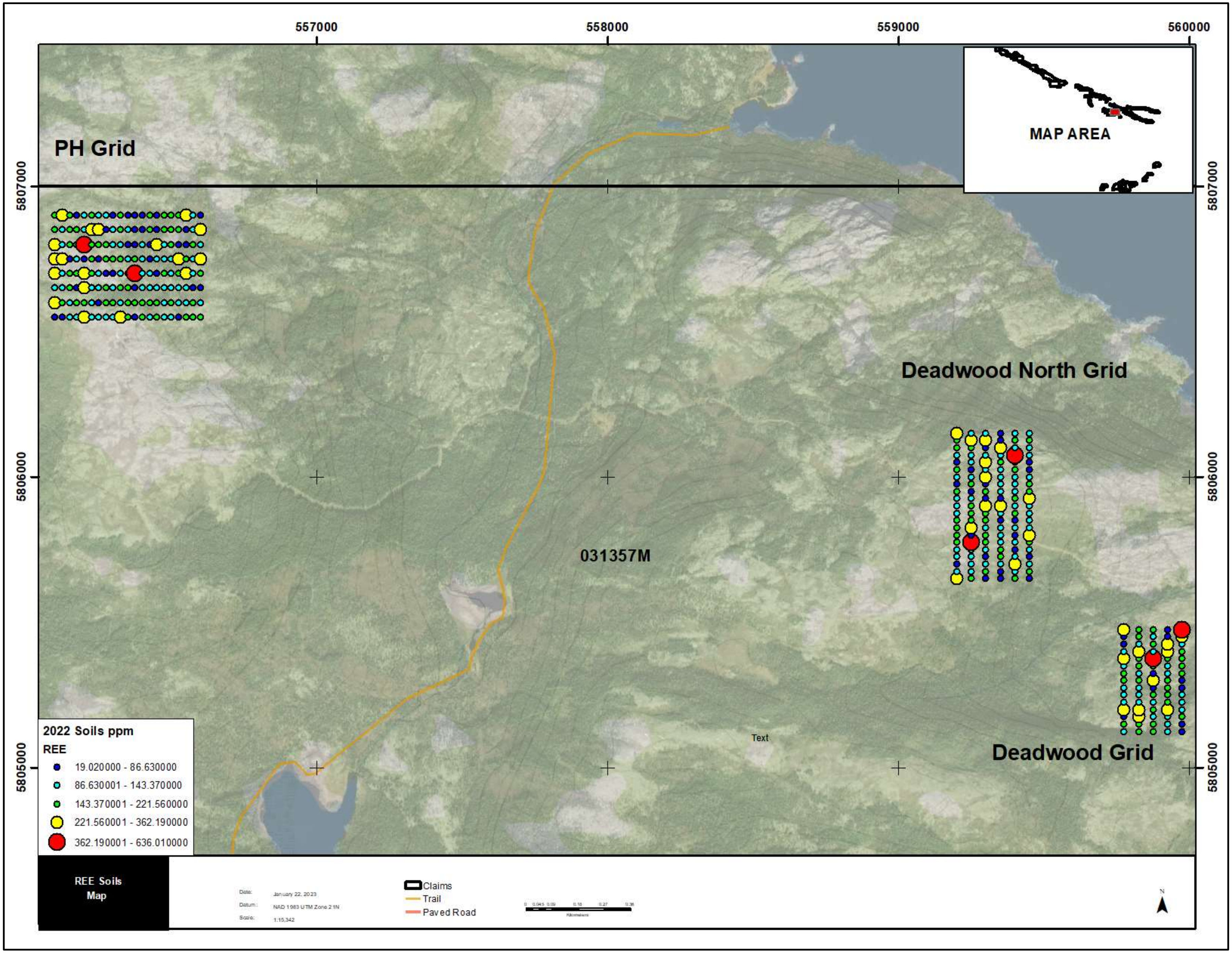


Figure 13: LREE Soils

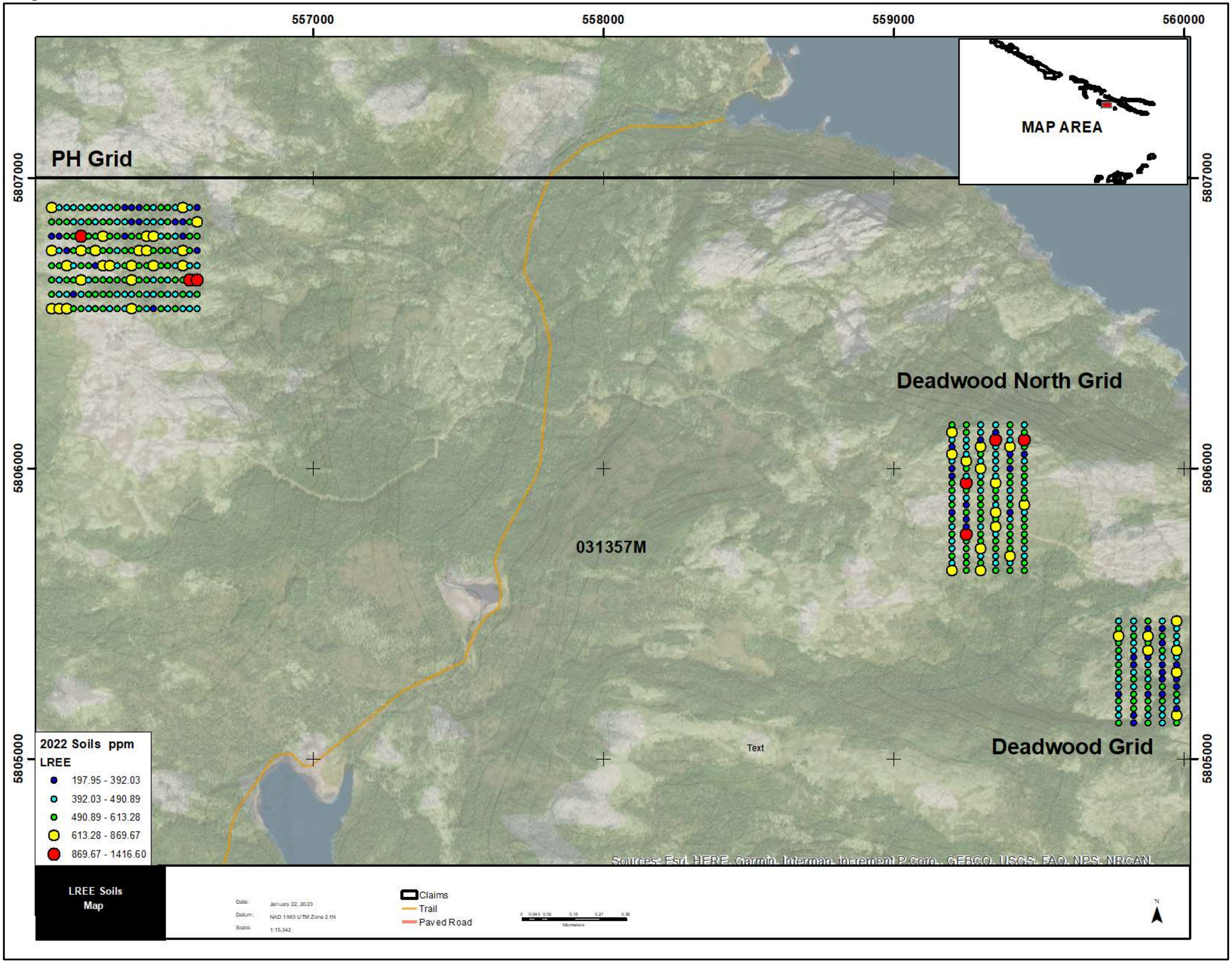
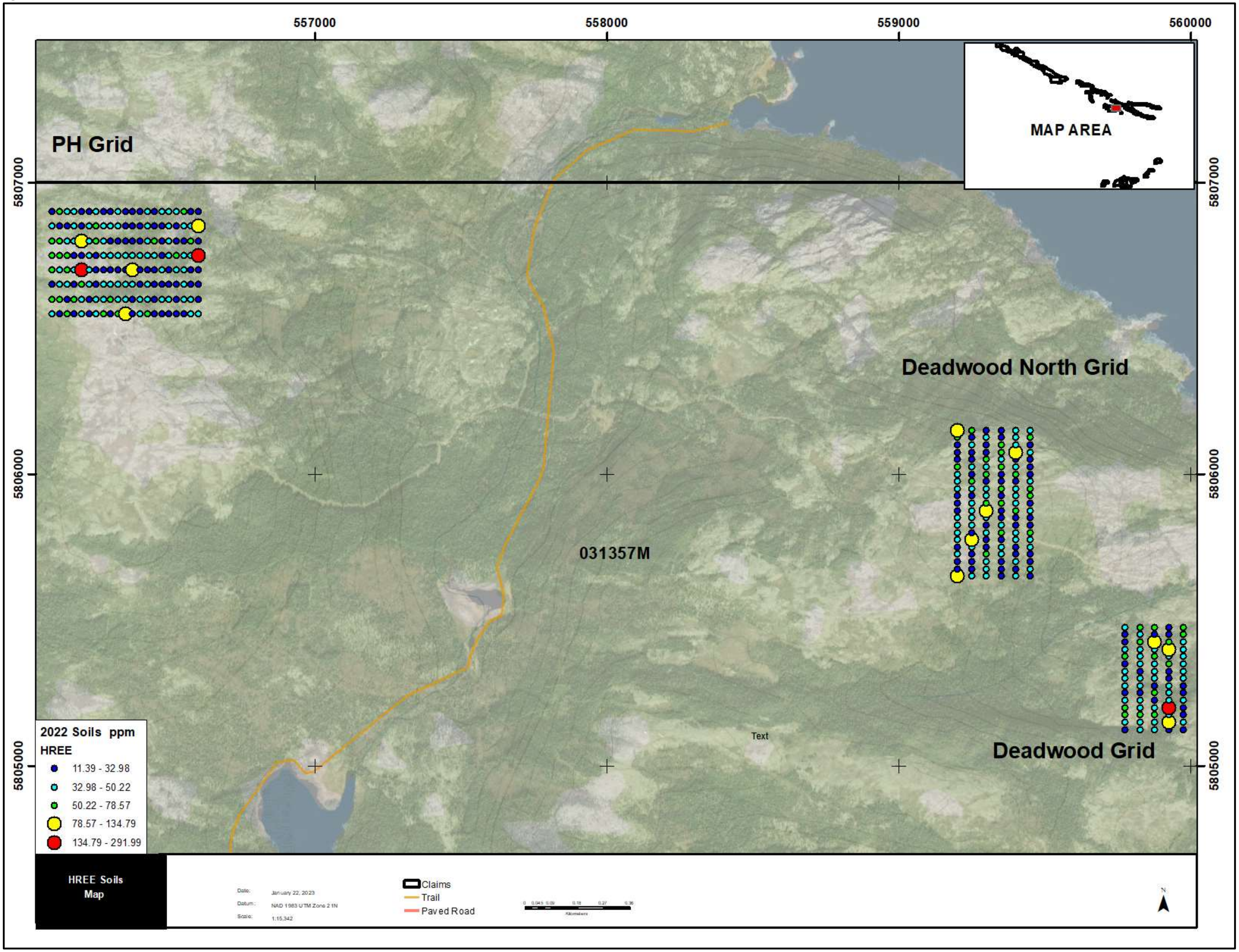


Figure 14:HREE Soils



10 DRILLING

Nuclear Fuels Corp. has not performed any drilling on the Property. All historical drilling by other companies is detailed in Section 6 - History.

11 SAMPLING PREPARATION, ANALYSIS, AND SECURITY

Nuclear Fuels Corp of Vancouver conducted an exploration program on the Project from September 17th to October 9th, 2022.

A total of 369 soil samples were taken on the property during the 2022 programme. Soil samples were taken along the grid lines every 25 meters on all three grids. Soil samples were taken from the "B" Horizon from a consistent depth of 30 to 35 cm using a shovel and spoon. The soil was placed in standard Kraft soil sample bags and labeled with the last five digits of their relative NAD 83 grid location, example – 06800N 56250E. Sample characteristics such as location, altitude, depth, and colour were recorded and are listed on an excel spreadsheet which is included in this report.

The samples were dried and placed in marked poly bags which were then zap-strapped, placed in marked rice bags, double zap-strapped, and couriered to Activation Laboratories located in Fredericton, New Brunswick.

A total of 24 rock samples were collected from various sites within the property boundaries which contained visual indications of alteration and/or mineralization. Several samples were taken from areas that were hand-trenched. Four samples were taken from a pegmatite outcrop located in the area of the Piperstock Showing.

The rock samples consisted of grab and chip samples up to 100 cm in length. Data such as UTM location and the characteristics of the sample site and material collected such as alteration, lithology, mineralization, strike and dip, and width of sample were noted. All stations are marked in the field with blue and orange flagging and a metal tag with their respective sample identifier (L-22 907190) marked on the blue flag with permanent marker. Metal tags with the same identifier were also hung at each sample site. Photographs were taken of each sample and a witness sample for each individual sample has been retained and is available for viewing.

The sample material was placed in marked poly bags, zap strapped, placed in large rice bags, zap strapped, and couriered to Activation Laboratories an ISO/IEC 17025 Accredited by the Standards Council of Canada. located in Fredericton, New Brunswick. Activation Laboratories in independent of the Company and the Author. The samples underwent 8-REE Assay Package QOP WRA/ QOP WRA 4B2 (Major/Trace Elements Fusion ICPOES/ICPMS).

All samples underwent Code 8 REE Assays analyzes for Niobium-Zirconium-Yttrium-TantalumUranium-Thorium-Beryllium-Phosphate-Tin Assay ICP-OES and ICP-MS Package.

Rare earths and rare elements are among the most difficult to analyze properly. The samples are ground to 95%-200 mesh to ensure complete fusion of resistate minerals. The analysis uses a lithium metaborate/tetraborate fusion with subsequent analysis by ICP-OES and ICP-MS. Mass balance is required as an additional quality control technique and elemental totals of the oxides should be between 98 to 101%. The presence of small amounts of phosphate will have very severe consequences to Nb2O5 assays by this method with results being very low for Nb2O5. Reanalysis is required for Nb2O5 by fusion XRF.

For the present study, the sample preparation, security, and analytical procedures used by the laboratories are considered adequate. No officers, directors, employees or associates of Nuclear Fuels Corp. were involved in sample preparation.

12 DATA VERIFICATION

On October 2, 2022, the author visited the Property and examined several locations. The author collected eight (8) verification rock samples from current the historical channels samples. Present with the author on the site visit was President of Nuclear Fuels Corp., Mike Collins.

The Author observed evidence of the recent 2022 sample program which included rock samples and soil sample locations (Figure 11). In addition, the author observed evidence of historical channel, backpack drilling, and core drilling on the property (Figure 15 to Figure 19)

While on site, the author took note of property access and general site conditions, a review of geological setting, and evaluation select outcrops, as well as the relocation of select 2012 backpack and core drill locations (Figure 15 to Figure 19).

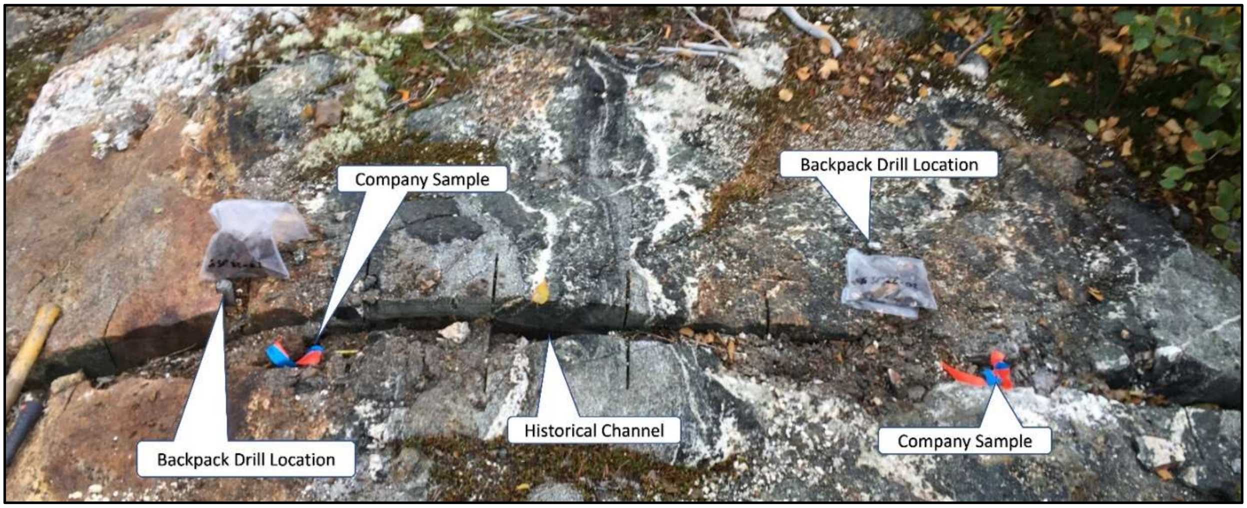
The author took samples from eight (8) different locations and the author delivered these to Activation Laboratories Ltd. in Kamloops, British Columbia; ISO/IEC 17025 Accredited by the Standards Council of Canada. All samples underwent assay package samples underwent 8-REE Assay Package QOP WRA/ QOP WRA 4B2 (Major/Trace Elements Fusion ICPOES/ICPMS). Activation Laboratories Ltd. is independent of Nuclear Fuels Corp.

The author collected approximately 2 kg of material for each sample. Samples bags were ticketed and closed in the field. All samples were sent directly to Activation Laboratories Ltd via Canada Post. .

Given the results of the check-sampling and a review of all geochemical data presented, the author believes that industry best-practice standards were used by the Company in conducting the surface geochemical sampling program on the Property and is of the opinion that the data verification program completed on the data collected from the Property appropriately supports the database quality and the geologic interpretations derived therefrom.

The author is of the opinion that the historical data descriptions of sampling methods and details of location, number, type, nature, and spacing or density of samples collected, and the size of the area covered are all adequate for the current stage of exploration for the Property.

Figure 15: Evaluation of Pesky Hill Zone



Historical Backpack drill and channel sample locations, Author two samples GSP22-03 and GSP22-02

Figure 16: Drill Collar Locations

Figure 17: Current Soil Location

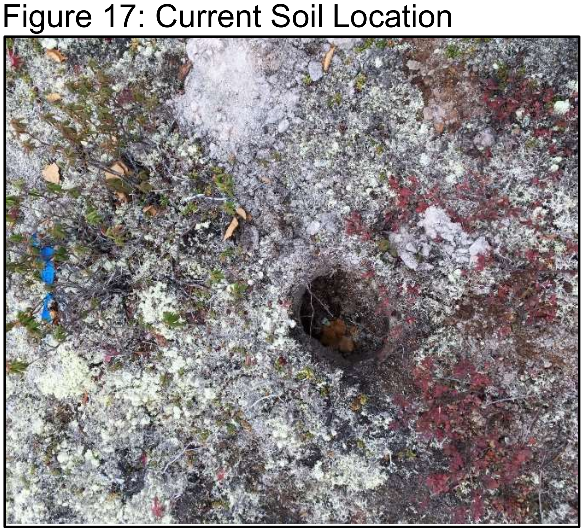


Figure 18: Historical Drill Collar

Figure 19: Drill Collar and Channel Sample

Table 13: Author Collected Sample

Author Samples	Company Samples	Y ppm	Zr ppm	Nb ppm	Nd ppm	Eu ppm	Gd ppm	Dy ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm	U ppm
GSP22-08	906845	89	132	186	5.1	0.65	6.9	13.1	12.8	2.05	13.4	2.13	23.1
GSP22-06	906846	5	26	5	4.3	0.33	0.7	0.8	0.6	0.09	0.6	0.08	0.7
GSP22-07	906847	10	142	11	6.1	0.34	1.4	1.6	1.3	0.21	1.5	0.26	2.4
GSP22-01	907190	737	450	736	352	7.63	101	128	73.8	9.49	47.3	5.45	9.3
GSP22-02	907191	2861	6789	3160	578	18.2	325	558	366	46.4	240	26.7	268
GSP22-03	907192	7893	3218	*1.862%	1950	58.9	959	1530	1050	129	598	60.2	569
GSP22-04	907193	294	696	188	71.6	2.45	39.1	58.2	33.8	4.26	25.4	3.6	5.6
GSP22-05	907194	119	1315	79	147	1.99	23.9	23.9	13.7	1.78	11.2	1.69	7.5

Company Samples *1.86%-is Nb2O5

Author Samples	Company Samples	Y ppm	Zr ppm	Nb ppm	Nd ppm	Eu ppm	Gd ppm	Dy ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm	U ppm
GSP22-08	906845	45	109	157	3.5	0.58	4.8	9.1	8.1	1.34	9.1	1.41	16.6
GSP22-06	906846	2	22	5	2.5	0.24	0.4	0.4	0.3	<0.05	0.3	0.05	0.8
GSP22-07	906847	11	413	10	11.8	0.42	1.7	1.5	1.3	0.24	2.2	0.46	7.4
GSP22-01	907190	806	490	849	369	8.62	113	153	89.1	10.9	55.1	6.2	10.2
GSP22-02	907191	3030	5961	3500	448	18.7	342	597	409	52.8	267	30.1	307
GSP22-03	907192	2824	1941	4140	422	19	325	562	387	47	221	23.2	213
GSP22-04	907193	366	1433	285	78.1	2.86	47.2	73.2	42.1	5.47	31.1	4.41	8.5
GSP22-05	907194	134	2221	117	150	2.21	26.4	29.2	16.5	2.32	14.3	2.14	11.1

Author Samples

The assay results for the samples collected by the author are generally concordant for rare earth mineralization with the samples collected by Nuclear Fuels Corp. The author collected sample GSP22-03 and the Company collected sample 907192 gave different assays for Nb. The Company as 1.86% Nb_2O_5 and the authors gave 4140 ppm Nb. This likely due the natural variability of sample collection and the minerals that were in the collected sample.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

This is an early-stage exploration project and to date no metallurgical testing has been undertaken.

14 MINERAL RESOURCE ESTIMATE

This is an early-stage exploration project; there are currently no mineral resources estimated for the Property.

15 THROUGH 22 ARE NOT APPLICABLE TO THIS REPORT

Items 15 through 22 of Form 43-101F1 do not apply to the Property that is the subject of this technical report as this is not an advanced property.

23 ADJACENT PROPERTY

In 2022 Search Minerals Inc. published a Preliminary Economic Assessment (PEA) (Ciuculescu et al 2022) technical report on Deep Fox and Foxtrot Rare Earth Element (REE) Project. The Deep Fox and Foxtrot Rare Earth Element (REE) Project is located directly north of the current Property.

Search Minerals Inc. Mineral Resource estimate for the Deep Fox and Foxtrot Rare Earth Element (REE) Project is illustrated in Table 14. The estimated Mineral Resources using drill hole and channel sample data was available as of December 31, 2021. The Mineral Resources are reported based on a potential open pit and underground mining scenario as of December 31, 2021, at Net Value cut-off values of $260/t for open pit resources and $335/t for underground resources. No Mineral Reserves have been estimated for the Project. The Mineral Resources were constrained by mineralized wireframes that took into consideration geological and Net Value continuity. A nominal Net Value of $260/t was used as cut-off for wireframing. Samples were composited to two metre lengths. Evaluation of raw assay grades prior to compositing Search Minerals Inc. Composites were used to estimate block grades within discrete mineralized wireframes. Ordinary kriging (OK) methodology was used for block grade estimation at Deep Fox, while inverse distance cubed (ID 3) was used for Foxtrot. Net Value was derived from the estimated operating costs for open pit and underground mining methods.

To convert volume to tonnes, simplified lithological models were created and bulk density factors were assigned for each lithology by determining the mean value of each rock type or interpreted lithological unit from bulk density testing carried out on the drill core and channel samples by Search Minerals. Classification into the Indicated and Inferred categories was guided by drill hole and surface channel spacing, the reliability of data, and geological confidence in the continuity of grade.

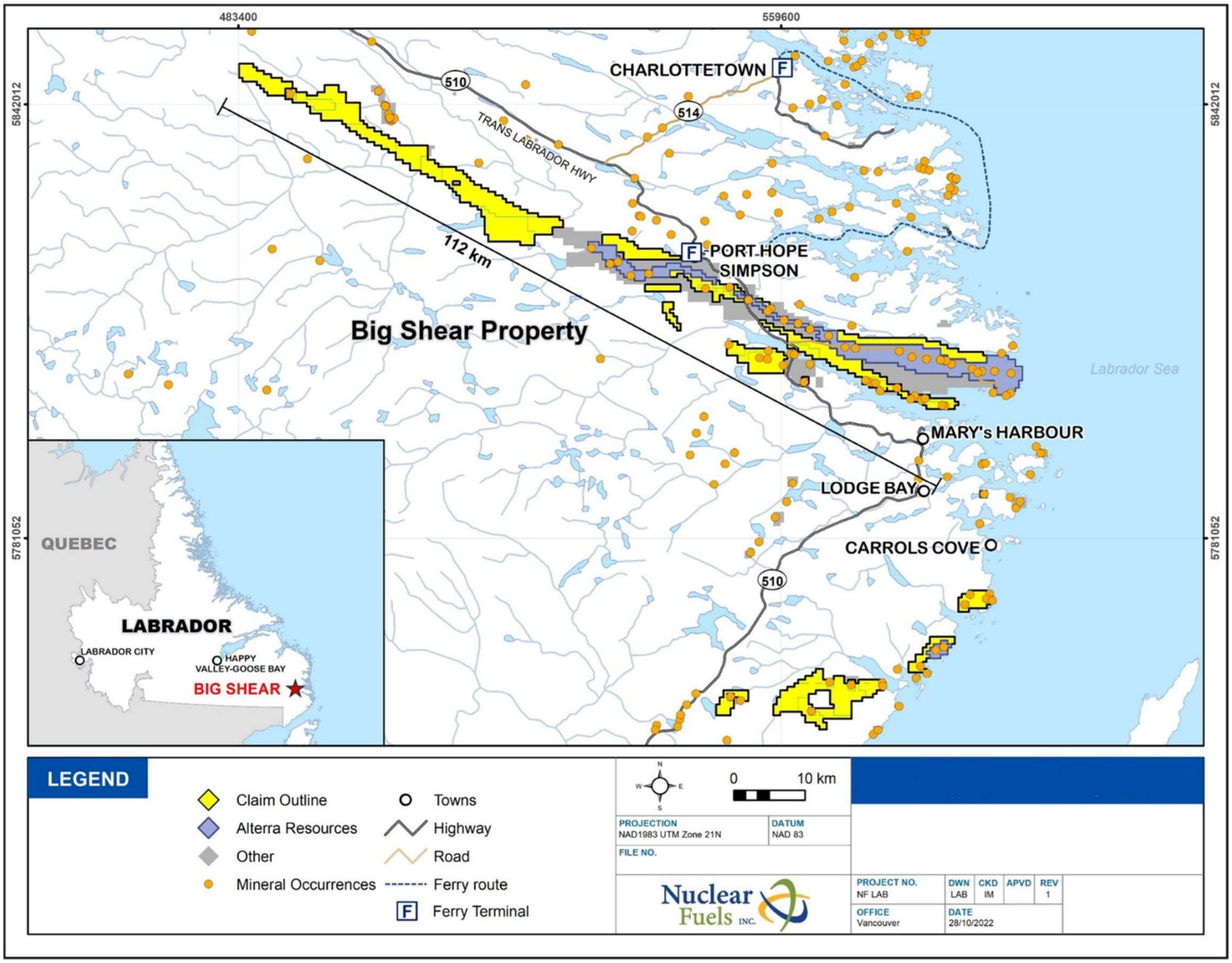
Table 14: Search Minerals Inc. – Deep Fox and Foxtrot Project

Classification	Tonnage (000 t)	Grade			
		(ppm Pr)	(ppm Nd)	(ppm Dy)	(ppm Tb)
Open Pit					
Indicated	8,483	381	1,422	187	32
Inferred	1,441	329	1,231	179	30
Underground					
Indicated	6,611	368	1,376	182	31
Inferred	4,862	380	1,427	191	33
Totals					
Total Indicated	15,094	375	1,402	185	32
Total Inferred	6,303	369	1,382	188	32

1. Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (CIM (2014) definitions) were followed for Mineral Resources.
2. . Open Pit Mineral Resources were reported inside a resource shell at pit discard Net Value cut-off value of $260/t. Underground Mineral Resources were constrained with mineralization wireframes below the resource shell and validated using underground mining solids based on a Net Value cut-off value of $335/t. Both cut-off values account for all processing, G&A, refining, and transportation charges. Mining costs were assumed at $6.50/t ore mined and $5.00/t waste mined for open pit and $75.00/t for underground
3. Net Value was assigned to blocks using metal prices, metallurgical recoveries, payables (as shown in their respective sections of this Technical Report) for each individual element.
4. A minimum mining width of two metres was used for both open pit and underground.
5. Bulk density varies from 2.71 t/m3 to 2.92 t/m3.
6. Revenue attributable to Pr, Nd, Dy, and Tb represents 92% of the total revenue.
7. The estimate is of Mineral Resources only and because these do not constitute Mineral Reserves, they do not have demonstrated economic viability.
8. Totals may not add or multiply accurately due to rounding.

The qualified person has not verified the information on the adjacent properties and the information disclosed is not necessarily indicative of mineralization on the Property that is the subject of the technical report.

Figure 20: Search Minerals Inc.



24 OTHER RELEVANT DATA AND INFORMATION

The author is unaware of any other data that would be relevant to this report.

25 INTERPRETATION AND CONCLUSIONS

The LAB Critical Metals District Project is in the Port Hope Simpson Critical Rare Earth Element District which is transected by the Trans Labrador Highway and is in close proximity to the coastal communities of Port Hope Simpson and St. Lewis, the latter which has a deep-water port accessible year-round.

Nuclear Fuels Corp. of Vancouver conducted an exploration program on the Project from Sept 17th to October 9th, 2022. The exploration work undertaken on mineral licences 31376 and 26798. Several, RRR, LREE, and HREE anomalies were identified. A total of 369 soil samples were taken on the property during the 2022 programme. A total of 24 rock samples were collected from various sites within the property boundaries.

There has been a significant amount of exploration undertaken over the years on the Project area. The are twenty-nine identified mineral occurrences. Many of these are of pegmatites, REE anomalies, and uranium anomalies. In addition, thirteen airborne geophysical surveys have been performed over the project area. It appears there has not been an integrated approach to fully investigate the rare earth elements on the current property configuration.

The author is unaware of any other significant factors or risks that may affect access, title, the right or ability to perform work on the properties, or foreseeable impacts of these risks and uncertainties to the project's potential economic viability or continued viability.

26 RECOMMENDATIONS

Based on the historical work and the 2022 exploration work performed on the Project, the Author recommend a two-phase work program:

Phase one
Compile all data, including airborne geophysics, mineral showings, and assessment report data.

Undertake regional interpretation of the airborne geophysical structures focusing pegmatites.

Undertake an exploration program which would include geological mapping, prospecting, investigating areas of interest identified by historical geophysical surveys, ground geophysics, and a soil sampling program over areas of interest.

Table 15: Proposed Budget

Item	Unit	Rate	Number of Units	Total ($)
Data Compilation	flat	$50,000	1	$ 50,000
Geophysical interpretation	days	$1,500	15	$ 22,500
Geologist Mapping	days	$1,120	60	$ 67,200
Helicopter	hours	$2,500	35	$ 87,500
Skidoo/ATV/Boat Rentals	days	$250	60	$ 15,000
Sampling Crew of 5	days	$3,000	60	$180,000
Assays	sample	$98	500	$ 49,000
Vehicle 2 trucks	days	$325	120	$ 39,000
Food and Accomodation	days	$225	360	$ 81,000
Supplies and Rentals	Lump Sum	$11,500	1	$ 11,500
Reports	Lump Sum	$10,000	1	$ 10,000
Contingency 10%				61,270.0
TOTAL (CANADIAN DOLLARS)				$673,970

Phase Two
Phase two is contingent on phase one results and would include road building, trenching, helicopter support, and drilling of an developed targets. The expected costs is approximately $2,650,000 CDN

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28 CERTIFICATE OF AUTHOR

I, Derrick Strickland, do hereby certify as follows:

I am a consulting geologist at 1251 Cardero Street, Vancouver, B.C.

This certificate applies to the technical report entitled "NI 43-101 Technical Report on the LAB Critical Metals District Project, Newfoundland and Labrador, NTS Map Sheets. 13A/01,08,09,10,11,14, 03D/05 ,04, 12P/16 and 2M/13 Centered at -56.21º Longitude, and 52.28ºLatitude", with a signature and effective date March 1, 2023.

I am a graduate of Concordia University of Montreal, Quebec, with a B.Sc. in Geology, 1993. I am a Practicing Member in good standing of the Association of Professional Engineers and Geoscientists, British Columbia, license number 1000315, since 2003. I have been practicing my profession continuously since 1993 and have been working in mineral exploration since 1986 in gold, precious, base metals, coal minerals, and diamond exploration, during which time I have used applied geophysics and geochemistry across multiple deposit types. I have worked throughout Canada, United States, Jamaica, China, Mongolia, South America, South East Asia, Europe, West Africa, Papua New Guinea, and Pakistan.

I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional organization (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

The author visited the LAB Critical Metals District Project on October 6, 2022, during which time the author reviewed the geological setting. I have no prior involvement with the LAB Critical Metals District Project Property that is the subject of this Technical Report.

I am responsible for, and have read all sections of the report entitled "NI 43-101 Technical Report on the LAB Critical Metals District Project Newfoundland and Labrador, NTS Map Sheets. 13A/01,08,09,10,11,14, 03D/05 ,04, 12P/16 and 2M/13 Centered at -56.21º Longitude, and 52.28ºLatitude" with a signature and effective date March 1, 2023.

I am independent of Nuclear Fuels Corp., and the Vendors in applying the tests in section 1.5 of National Instrument 43-101. For greater clarity, I do not hold, nor do I expect to receive, any securities of any other interest in any corporate entity, private or public, with interests in the LAB Critical Metals District Project., nor do I have any business relationship with any such entity apart from a professional consulting relationship with of Nuclear Fuels Corp Inc. or the Vendors. I do not hold any securities in any corporate entity that is any part of the subject LAB Critical Metals District Project.

I have read National Instrument 43-101, Form 43-101F1, and this technical report and this report has been prepared in compliance with the Instrument.

As of the effective date of this Technical Report, I am not aware of any information or omission of such information that would make this Technical Report misleading. This Technical Report contains all the scientific and technical information that is required to be disclosed to make the technical report not misleading.

The NI 43-101 Technical Report on the LAB Critical Metals District Project Newfoundland and Labrador, NTS Map Sheets. 13A/01,08,09,10,11,14, 03D/05 ,04, 12P/16 and 2M/13 Centered at -56.21º Longitude, and 52.28ºLatitude with a signature and effective date March 1, 2023.

"Original Signed and sealed"

On this day March 1, 2023.
Derrick Strickland P. Geo. (1000315)