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SEARCH MINERALS INC.

TECHNICAL REPORT ON THE DEEP FOX PROJECT, NEWFOUNDLAND AND LABRADOR, CANADA

NI 43-101 Report

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November 12, 2019

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1 SUMMARY

EXECUTIVE SUMMARY

Roscoe Postle Associates Inc. (RPA) was retained by Search Minerals Inc. (Search Minerals) to prepare an initial Mineral Resource estimate and an independent Technical Report on the Deep Fox Rare Earth Element (REE) Project (the Project) near Port Hope Simpson, Newfoundland and Labrador, Canada. The purpose of this report is to disclose the Mineral Resource estimate for the Deep Fox deposit. This Technical Report conforms to National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). RPA visited the Project on August 26, 2015.

Search Minerals is a public company that trades on the TSX Venture Exchange under the symbol SMY. Search Minerals, through its wholly-owned subsidiary Alterra Resources Inc. (Alterra), owns the Deep Fox Project and the nearby Foxtrot Project, as well as a number of mineral prospects on its 100% owned Red Wine and Henley Harbour properties, also located in Labrador.

The initial Mineral Resource estimate for the Deep Fox Project, with an effective date of September 26, 2019, is listed in Table 1-1. The Mineral Resource estimate conforms to Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards for Mineral Resources and Mineral Reserves dated May 10, 2014 (CIM (2014) definitions).

All currency in this report is Canadian dollars (C\$) unless otherwise noted.

TABLE 1-1 MINERAL RESOURCE ESTIMATE AS OF SEPTEMBER 26, 2019 Search Minerals Inc. – Deep Fox Project

				Average Grade					
Classification	NSR Cut-off (C\$/t)	Tonnage (000 t)	NSR (C\$/t)	Pr (ppm)	Nd (ppm)	Dy (ppm)	Pr₀O₁₁ (ppm)	Nd₂O₃ (ppm)	Dy₂O₃ (ppm)
Indicated	140	2,329	303	403	1,486	206	487	1,739	237
Inferred	140	3,902	268	357	1,323	181	432	1,548	208

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.

2. Mineral Resources were reported inside the pit shell at a pit discard net smelter return (NSR) cut-off value of C\$140/t.



- 3. NSR values were assigned to blocks using metal price and metallurgical recovery assumptions for each metal; also accounting for separation and transportation charges and royalties for the mixed REO product.
- 4. A minimum mining width of 2.0 m was used.
- 5. Bulk density is 2.81 t/m³.
- 6. Numbers may not add due to rounding.

RPA is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Deep Fox Mineral Resource estimate.

CONCLUSIONS

The Project is located approximately 47 km east-southeast of Port Hope Simpson, Labrador, and approximately two kilometres northeast of St. Lewis, Labrador. It is located in the Fox Harbour Volcanic Belt which also contains Search Minerals' Foxtrot deposit and numerous other REE prospects and targets.

A significant REE deposit has been delineated at the Project. The majority of the high grade mineralization occurs within steeply dipping packages of pantellerite. The resource wireframes, which were interpreted at a nominal cut-off NSR value of C\$140/t, consist of three steeply dipping zones: Hanging Wall Zone, a higher grade and more extensive Footwall Zone, and a smaller, deeper high grade Deep Zone. Pantellerite is the most common lithology within the resource wireframes. Statistical analysis of the resource assays shows that there is a bimodal distribution of REEs within the Deep Fox deposit, with higher grade generally corresponding to the Footwall Zone and moderate grades corresponding to the Hanging Wall Zone.

The mineralization is steeply dipping (> 80°), with a strike length of approximately 725 m at an azimuth of 275°. The understanding of the Project geology and mineralization, together with the procedures for drilling, sampling, collection of data, assaying, and quality assurance and quality control (QA/QC) carried out by Search Minerals have produced a drill hole database that is acceptable for Mineral Resource estimation, in the opinion of RPA. Results from 54 drill holes and channels to September 26, 2019 have been used by RPA to estimate Mineral Resources.

The Mineral Resource estimate is reported on the basis of a possible open pit mining scenario using an NSR cut-off value of C\$140/t. RPA considers that open pit material with NSR values



greater than C\$140/t meets the requirement of CIM (2014) that Mineral Resources have reasonable prospects for eventual economic extraction.

Open pit Indicated Mineral Resources are estimated to total 2.3 Mt at 403 ppm Pr, 1,486 ppm Nd, and 206 ppm Dy, and open pit Inferred Mineral Resources are estimated to total 3.9 Mt at 357 ppm Pr, 1,323 ppm Nd, and 181 ppm Dy. The level of confidence in the data is not high enough to classify any resource as Measured. Definitions for resource categories used in this report are consistent with those defined by CIM (2014) and adopted by NI 43-101.

There has not been a previous Mineral Resource estimate on the Project.

The Deep Fox deposit is open at depth. Current drilling suggests that the resource shows good grade continuity with depth, with no notable decrease in grade down dip.

RECOMMENDATIONS

RPA has the following recommendations for the Deep Fox Project:

- Continue diamond drilling on the Project to define the physical limits of the deposit. Further drilling should be completed to follow the high grade mineralization at depth down plunge below -100 m, and below the surface channel samples at the western part of the Deep Fox mineralized zones.
- In order to bring the confidence level of the resource to Indicated:
 - o Carry out infill drilling at the periphery of wireframes;
 - Complete a topographical survey over the deposit and survey all surface channels.
- Resume the regular submission of blank material with regular drill core and surface channel samples.
- Include selected half core samples (field duplicates) in the duplicate sampling protocol.
- Work with an assay laboratory to develop certified reference materials (CRM) with REE grades similar to those found at the Project. Alternatively, commercial CRMs can be used.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- Continue exploration of high grade REE prospects in the area.

BUDGET

The proposed budget for Project advancement is shown in Table 1-2.



TABLE 1-2 BUDGET FOR PROJECT ADVANCEMENT Search Minerals Inc. – Deep Fox Project

Item	Cost (C\$000)
Phase I - Delineation Drilling (3,000 m @ C\$200/m)	600
Phase II - Infill Drilling (8,000 m @ C\$200/m)	1,600
Assays 8,000 @ C\$90/sample	720
Mineral Resource Update	50
Salaries and Wages	40
Camp Costs	8
Field Travel	2
Total	3,020

TECHNICAL SUMMARY

PROPERTY LOCATION

The Deep Fox Project is located in southeast Labrador, Canada, centred at 591530E and 5804340N, UTM Grid Zone 21N, NAD83. The Project is located approximately 47 km east-southeast of Port Hope Simpson, Labrador, and approximately two kilometres northeast of St. Lewis, Labrador.

LAND TENURE

The Project comprises one licence (023108M), totalling 63 mineral claims covering an area of 1,575 ha. The licence is registered to Alterra, a wholly-owned subsidiary of Search Minerals. No surface rights for construction or quarrying are known to exist. At the time of writing this report, all licences are held in good standing.

LOCAL RESOURCES AND INFRASTRUCTURE

The nearby communities of Port Hope Simpson, St. Lewis, and Mary's Harbour have port access as well as airstrips that can facilitate transportation of goods required for exploration programs. St. Lewis has an ice-free harbour with deep-water dock facilities and a small gravel airstrip suitable for small aircraft. Port Hope Simpson, St. Lewis, and Mary's Harbour, which have populations of 412, 195, and 340 respectively, have various services including grocery stores, hardware stores, hotels, and heavy equipment for rent and labourers for hire.



There is no electricity available on the Project site. The closest source is diesel-generated electricity in the town of St. Lewis, two kilometres away.

Water sources are plentiful at the Project.

HISTORY

Complete aeromagnetic coverage and lake-sediment geochemical surveys were conducted for the region by Geological Survey of Canada in 1974 and 1984. Geological mapping at 1:100,000 scale, as a five-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 the Newfoundland and Labrador Geological Survey. A detailed lake sediment survey was released by the Newfoundland and Labrador government in 2010 and covered the area of the claims.

In 2014, a master's thesis was completed to determine the geology, mineralogy, age, and origin of the rare earth minerals at the Fox Harbour property.

Search Minerals entered into an option agreement to acquire the Deep Fox (formerly Deepwater Fox) property in 2011. The deposit was discovered in 2014 and the acquisition completed in 2015.

GEOLOGY AND MINERALIZATION

The Deep Fox deposit occurs in the 64 km long Fox Harbour Volcanic Belt (FHVB), which 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 strikes generally trend westerly to northwesterly, parallel to bounding faults to the north and south. The FHVB contains one (in the northwest) to three (in the east) sub-belts of bimodal rocks dominated by REE-bearing felsic peralkaline flows and ash-flow tuffs and mafic to ultramafic volcanic and related subvolcanic units.

The three bimodal sub-belts in the FHVB, from north to south: the Road Belt (RB), the Magnetite (MT) Belt and South Belt (SB), have been the focus of REE exploration. The Deep Fox deposit is hosted in the RB. In the Project area, the RB consists of, from north to south: 1) northern comendite; 2) anorthositic suite rocks consisting of anorthositic gabbro and associated volcanic rocks; 3) non-peralkaline rhyolite; 4) southern comendite; 5) mafic and



ultramafic volcanic rocks; 6) pantellerite with interbedded non-peralkaline rhyolite and mafic volcanic rocks, and 7) a footwall non-peralkaline rhyolitic ash-flow tuff. Minor units of locally derived volcanogenic sediments, mafic volcanic flows, and related subvolcanic units and pegmatites occur throughout this sequence. Most units generally dip 75° to 85° northerly; drill data indicates that the mineralized zone plunges towards the northeast. The anorthositic suite and mineralized units form a prominent east-west trending ridge in the area.

High grade mineralization, characterized by Dy from 100 ppm to 400 ppm, is predominantly hosted by fine grained, layered to massive pantellerite and Zr-enriched equivalents. 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.

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

Lower grade REE mineralization is commonly found in the SB. The SB commonly consists of predominantly comendite, minor mafic and pantellerite units, feldspar-bearing porphyry, and locally abundant volcanogenic sediments. Low grade mineralization (comendite) commonly ranges from 10 m to 50 m in thickness.

EXPLORATION STATUS

A detailed exploration program on the Project started in 2014 with detailed mapping and prospecting that led to the discovery channel (FDC-14-01) late in the season; this discovery was announced in early 2015. An extensive channel sampling program was commenced in 2015 and consisted of 16 channels in 2015, five channels in 2017, four channels in 2018, and three channels in 2019. The Phase I drilling program commenced in 2017 with three holes and was completed in 2018 with an additional 12 holes. The Phase II drilling program, consisting of eight holes, was completed in late 2018. An Unmanned Airborne Vehicle (UAV) or drone detailed magnetic survey was carried out over the property in 2019. Search Minerals anticipates that a UAV Light Detection and Ranging (LIDAR) survey will be completed in late 2019.



MINERAL RESOURCES

RPA estimated Mineral Resources for the Project using all drill hole and channel sample data available as of September 26, 2019 (Table 1-1). The Mineral Resources are reported based on a potential open pit mining scenario as of September 26, 2019 at an NSR cut-off value of C\$140/t. No Mineral Reserves have been estimated at the Project.

Resource wireframes were built to investigate geological and grade continuity and to constrain grade interpolation within the block model. Three-dimensional wireframe models were constructed for three mineralized zones at an NSR cut-off value of C\$140/t. Assays were composited using nominal two metre lengths within discrete mineralized zones. Evaluation of raw assay grades prior to compositing indicated that high grade values do not need capping. Grades for each block within discrete wireframe models were interpolated by ordinary kriging using all composites within the corresponding wireframes.

NSR cut-off values were derived from the estimated operating costs for an open pit mining method. Grades for all assays were combined with estimated metallurgical recoveries and prices to estimate an NSR value for each sample.

To convert volume to tonnes, a simplified lithological model was created with the following rock types: Comendite, Anorthosite, NPR, Pantellerite, and Mafic/Ultramafic. A bulk density factor was assigned for each lithology by determining the mean value of each rock type 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.



2 INTRODUCTION

Roscoe Postle Associates Inc. (RPA) was retained by Search Minerals Inc. (Search Minerals) to prepare an initial Mineral Resource estimate and an independent Technical Report on the Deep Fox Rare Earth Element (REE) Project (the Project) near Port Hope Simpson, Newfoundland and Labrador, Canada. The purpose of this report is to disclose the Mineral Resource estimate for the Deep Fox deposit. This Technical Report conforms to National Instrument 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). RPA visited the Deep Fox Project on August 26, 2015.

Search Minerals is a public company that trades on the TSX Venture Exchange under the symbol SMY. Search Minerals, through its wholly-owned subsidiary Alterra Resources Inc. (Alterra), owns the Deep Fox Project and the nearby Foxtrot Project, as well as a number of mineral prospects on its 100% owned Red Wine and Henley Harbour properties, also located in Labrador.

Mineral Resources have not been previously disclosed on the Deep Fox Project.

SOURCES OF INFORMATION

Katharine M. Masun, M.Sc., MSA, P.Geo., RPA Senior Geologist, visited Search Minerals' Deep Fox Project on August 26, 2015. On site, Ms. Masun observed exploration activities and visited the Project's field house to examine core.

Discussions were held with personnel related to the Project:

- Mr. Greg Andrews, President/CEO, Search Minerals.
- Dr. David B. Dreisinger, Ph.D., Vice President Technology, Director, Search Minerals.
- Dr. Randy Miller, Ph.D., P.Geo, Vice President Exploration, Search Minerals.

Ms. Masun has reviewed all of the data and information gathered during the site visit and is responsible for the overall preparation of this report.

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 27 References.



RARE EARTH ELEMENTS

In this report, the following abbreviations are used:

- Eu Europium
- Gd Gadolinium
- Tb Terbium

Ho - Holmium

- Dy Dysprosium
- Tm Thulium Yb - Ytterbium Lu - Lutetium Y- Yttrium

Er – Erbium

- La Lanthanum Ce – Cerium Pr – Praseodymium Nd – Neodymium Sm - Samarium
- Heavy Rare Earth Elements (HREE) = Eu+Gd+Tb+Dy+Ho+Er+Tm+Yb+Lu+Y
- Light Rare Earth Elements (LREE) = La+Ce+Pr+Nd+Sm
- Total Rare Earth Elements (TREE) = sum of HREE and LREE

LREO and HREO refer to oxides of light and heavy REEs, respectively. In this document, TREO (Total Rare Earth Oxides) refers to LREO and HREO collectively.



LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the metric system. All currency in this report is Canadian dollars (C\$) unless otherwise noted.

а	annum	lb	pound
A	ampere	LREE	light rare earth elements
bbl	barrels	LREO	light rare earth oxides
btu	British thermal units	L/s	litres per second
°C	degree Celsius	m	metre
2	Canadian dollars	M	mega (million): molar
	calorio	m^2	square motro
ofm	cubic fact par minute	m ³	square metre
cini		111°	mioron
		μ	
Cm ²	square centimetre	MASL	metres above sea level
a	day	μg	microgram
dia	diameter	m³/h	cubic metres per hour
dmt	dry metric tonne	mi	mile
dwt	dead-weight ton	min	minute
°F	degree Fahrenheit	μm	micrometre
ft	foot	mm	millimetre
ft ²	square foot	mph	miles per hour
ft ³	cubic foot	MVA	megavolt-amperes
ft/s	foot per second	MW	megawatt
g	gram	MWh	megawatt-hour
Ğ	giga (billion)	ΟZ	Troy ounce (31.1035g)
Gal	Imperial gallon	oz/st, opt	ounce per short ton
a/L	gram per litre	dad	part per billion
Ğpm	Imperial gallons per minute	ppm	part per million
a/t	gram per tonne	psia	pound per square inch absolute
ar/ft ³	grain per cubic foot	psia	pound per square inch gauge
ar/m ³	grain per cubic metre	RFF	rare earth element
ha	hectare	REO	rare earth oxide
hp	horsepower	RI	relative elevation
hr	hour	s	second
HREE	heavy rare earth elements	st	short ton
HREO	heavy rare earth oxides	stna	short ton per year
H ₇	hertz	stpd	short ton per day
in	inch	sipu t	metric tonne
in ²	square inch	tna	metric tonne per vear
1		ipa tod	metric tonne per year
J	joule kilo (thousand)	іра трее	total rara earth elements
K	kilo (litousanu)		total rare earth evides
KCal			
kg	kilogram	055	United States dollar
KIII		USg	United States gallon
KM ²	square kilometre	USgpm	US gallon per minute
km/h	kilometre per hour	V	volt
кра	kilopascal	VV	watt
KVA	kilovolt-amperes	wmt	wet metric tonne
kW	kilowatt	wt%	weight percent
kWh	kilowatt-hour	yd ³	cubic yard
L	litre	yr	year



3 RELIANCE ON OTHER EXPERTS

This report has been prepared by RPA for Search Minerals. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report.

For the purpose of this report, RPA has relied on ownership information provided by Search Minerals. RPA has not researched property title or mineral rights for the Deep Fox Project and expresses no opinion as to the ownership status of the property.

Except for the purposes legislated under provincial securities law, any use of this report by any third party is at that party's sole risk.



4 PROPERTY DESCRIPTION AND LOCATION

PROPERTY DESCRIPTION

The Deep Fox Project is located in southeast Labrador, Canada, centred at 591530E and 5804340N, UTM Grid Zone 21N, NAD83 (Figures 4-1 and 4-2). The Project is located approximately 47 km east-southeast of Port Hope Simpson, Labrador, and approximately two kilometres northeast of St. Lewis, Labrador.

LAND TENURE

The Project comprises one licence (023108M), totalling 63 mineral claims covering an area of 1,575 ha. The licence is registered to Alterra, a wholly-owned subsidiary of Search Minerals. No surface rights for construction or quarrying are known to exist. At the time of writing this report, the licence is held in good standing. Licence details and statistics are summarized in Table 4-1.

TABLE 4-1 SUMMARY OF LICENCE AND CLAIM BLOCK STATISTICS Search Minerals Inc. – Deep Fox Project

Licence Number	Number of Claims	Area (ha)	Issuance Date	Renewal Date	Next Work Due	Expenditures Required (C\$)
023108M	63	1,575	17-Sept-09	17-Sept-24	18-Sept-28	75,600







4-3



ENVIRONMENTAL STATUS AND PERMITTING

Search Minerals was fully permitted to conduct all work performed during the 2014 to 2019 exploration programs and remains fully permitted to conduct all current work being done.

RPA is not aware of any environmental liabilities on the property.

RPA is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.



5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

The Deep Fox Project is located approximately 47 km east-southeast of Port Hope Simpson, and approximately two kilometres northeast of St. Lewis, Labrador. The majority of the property is accessible via Highway 513 to St. Lewis, which is an all season gravel highway, and a two kilometre private woods road from St. Lewis. All parts of Deep Fox are within walking distance of the road and also accessible from Fox Harbour Pond by boat and walking.

Travel to the Deep Fox site from Goose Bay is available via charter airplane, helicopter, and Highway 510, a mostly paved road with some gravel sections. Goose Bay, located 350 km to the northwest, is a preferred hub as it is regularly serviced from eastern Canadian cities including Quebec City and Montreal, Quebec and Halifax, Nova Scotia. 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 is approximately half an hour.

LOCAL RESOURCES AND INFRASTRUCTURE

The nearby communities of Port Hope Simpson, St. Lewis, and Mary's Harbour 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. Port Hope Simpson, St. Lewis, and Mary's Harbour, which have populations of 412, 195, and 340 respectively, have various services including grocery stores, fuel stores, hardware stores, hotels, and heavy equipment for rent and labourers for hire. Core storage and company lodging is located within the town of St. Lewis, in the newly renovated Loran C building (Figure 5-1), formally occupied by the Canadian Coast Guard.



There is no electricity available on the Project site. The closest source is diesel generated electricity in the town of St. Lewis, two kilometres away. Water sources are plentiful at the property.



FIGURE 5-1 CORE STORAGE FACILITY AND COMPANY LODGING

PHYSIOGRAPHY

Elevation ranges from sea level to approximately 120 MASL; drill hole collars mostly range from 60 MASL to 100 MASL. Topography is rugged with generally east-west striking ridges and hills and low lying areas containing rivers, ponds, and brooks that generally drain west and south into St. Lewis Inlet. The property occurs in an eco-region that can be classified as "Coastal Barrens" with the majority of the property being scrubland. Vegetation consists of isolated mixed black spruce, birch, balsam, and tamarack stands in sheltered valleys, mosses, lichens, and Labrador tea in more barren areas and lichen-covered bedrock in higher areas and along ridges.



6 HISTORY

PUBLIC SURVEYS/STUDIES

Early knowledge of the area is based mainly on a 1:500,000 scale reconnaissance mapping (Eade, 1962).

Complete aeromagnetic coverage and lake-sediment geochemical surveys were conducted for the region by Geological Survey of Canada (GSC) in 1974 and 1984. A detailed lake sediment survey was released by the Newfoundland and Labrador government in 2010 and covered the area of the claims.

Geological mapping at 1:100,000 scale, as a five-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).

Meyer and Dean visited the area in 1988 to investigate a lead-cadmium-tungsten-copper lake sediment anomaly (Meyer and Dean, 1988).

In 2014, a master's thesis was completed to determine the geology, mineralogy, age, and origin of the rare earth minerals at the Fox Harbour property (Haley, 2014).

EXPLORATION AND OWNERSHIP HISTORY

In 2008, Search Minerals began actively trading on the TSX Venture Exchange under the symbol SMY. In 2009, it successfully acquired all outstanding shares of Alterra, now a wholly-owned subsidiary of Search Minerals. Search Minerals, through Alterra, currently holds 685 mineral claims in southeast Labrador including 623 claims in the Port Hope Simpson REE district, where the Foxtrot and Deep Fox Projects are located. Search Minerals began extensive exploration in the district in 2009 after it entered into a binding letter of intent to acquire an undivided 100% interest in certain claims in southeast Labrador owned by B and A Minerals Inc. known as the Port Hope Simpson property; these claims have since been transferred to Alterra as per the option agreement. Subsequent staking acquired adjacent



land, including the Foxtrot, Deep Fox, Silver Fox, and Fox Meadow properties in the Fox Harbour Volcanic Belt, and the Ocean View and Henley Harbour properties to the south.

The Deep Fox property (formally named Deepwater Fox) was acquired from the Quinlan brothers via an option agreement signed in 2011 and completed in 2015. At the time, the property consisted of three mineral licences (016480M, 016620M, and 017646M), including 48 claims (1,200 ha) located east and north of the community of St. Lewis and contiguous with Alterra claims north and west of St. Lewis. The Quinlan licences were merged with relevant and adjacent Alterra claims to form the current Licence 023108M. Significant exploration at Deep Fox began in 2014 with a prospecting and mapping program; the discovery channel was completed in 2014. Channelling programs continued in 2015, 2017, 2018, and 2019. Drilling began with Phase I in 2017 and continued with Phase II in 2018.

There are no historical resource or reserve estimates on the Deep Fox Project.

There is no past production on the Deep Fox Project.



7 GEOLOGICAL SETTING AND MINERALIZATION

REGIONAL GEOLOGY

The Deep Fox deposit occurs in the Fox Harbour Volcanic Belt (FHVB), part of the Fox Harbour Domain that is located in a region adjacent to the boundaries of three tectonic terranes within the eastern Grenville Province (Figure 7-1; Gower, 2012). Units of the Lake Melville Terrane occur north of the FHVB, units of the Mealy Mountain Terrane to the west and southwest, and units of the Pinware Terrane to the south. Differing lithologies, structures, ages, and metamorphic signatures distinguish these terranes from one another; they are largely separated and defined by major fault zones (Gower et al., 1987, 1988; Gower, 2010, 2012; Hanmer and Scott, 1990).

The Lake Melville Terrane is located north of the FHVB. This terrane is characterized by the Alexis River anorthosite, biotite-bearing granite, granodiorite, and quartz diorite-to-diorite gneiss (Gower et al., 1987, 1988; Gower 2010; Hanmer and Scott, 1990). The Fox Harbour fault zone (Gower, 2012) separates the Lake Melville Terrane from the FHVB to the south. Near the Foxtrot and Deep Fox deposits, terrane boundary interpretations indicate that a thin sliver (5 km to 6 km wide) of Mealy Mountains Terrane occurs between the Lake Melville Terrane to the north and the Pinware Terrane to the south (Gower, 2012). Detailed mapping indicates that the Fox Harbour Domain, including the FHVB, occurs in the northern half of this sliver and the Deer Harbour Domain in the southern half (Figure 7-1).

The Fox Harbour Domain, near the Foxtrot and Deep Fox deposits, is bordered to the north by the Fox Harbour fault zone and to the south by the Deer Harbour fault zone. This domain has been traced in outcrop for 64 km; it is terminated by a fault zone at the northwest end (west of Port Hope Simpson) and by the Labrador Sea on the eastern end (near St. Lewis). REE mineralization, peralkaline felsic and mafic volcanic rocks of a bimodal suite (Fox Harbour Volcanic Suite), and an associated anorthositic gabbro/volcanic suite distinguish this domain from adjacent domains and terranes. Feldspar porphyries and deformed augen gneisses also occur in this domain. REE deposits and prospects in this domain include: Foxtrot, Deep Fox, Silver Fox, Fox Meadow, Fox Run, Foxy Lady, and Fox Pond. Regional structural data, satellite image interpretation, geology, and unique lithologies suggest that the Fox Harbour and Deer Harbour domains are not part of the Mealy Mountains Terrane as originally suggested by Gower (2012). Similar data suggest that at least two additional domains occur between the Lake Melville and Mealy Mountain terranes in the western portion of the region. The Camp #1 Domain occurs between the Lake Melville Terrane and the Fox Harbour Domain whereas the Bobby's Pond Domain occurs between the Fox Harbour, Camp #1, and Deer Harbour domains and the Mealy Mountains Terrane. The map pattern in the west shows the Mealy Mountains Terrane and the Bobby's Pond Domain as forming a wedge between the Fox Harbour and Deer Harbour domains; the Bobby's Pond Domain may be a subunit of the Mealy Mountain Terrane. In the western portion of the study area, the Deer Harbour fault zone separates the Deer Harbour Domain and the Mealy Mountain Terrane/Bobby's Pond Domain.

The Mealy Mountain Terrane units, west and southwest of the FHVB, consist of mostly biotite granitic gneiss, potassium feldspar megacrystic granite gneiss, quartz diorite to dioritic gneisses, and pelitic to semipelitic sedimentary gneisses (Gower et al., 1987, 1988; Gower, 2010).

The Pinware Terrane, in the St. Lewis Inlet area, consists of metamorphosed felsic to intermediate intrusions and older intercalated quartzo-feldspathic supracrustal rocks. Intrusions consist mainly of granite, k-feldspar megacrystic granite, quartz monzonite and, granodiorite. Supracrustal rocks, occurring between intrusions, consist mainly of felsic volcanic rocks and arenitic sediments (Gower, 2007, 2010). The Long Harbour fault zone is interpreted to separate the Deer Harbour Domain from the Pinware Terrane to the south (Gower, 2012).

Mapping and exploration south of the Long Harbour fault zone (south of the Deer Harbour Domain) indicate that peralkaline volcanic and intrusive rocks and related REE mineralization also occur in an area originally interpreted to be Pinware Terrane (Gower, 2012). These rocks and spatially associated non-peralkaline supracrustal rocks have been grouped into the HighREE Hills Domain. The HighREE Hills Domain is characterized by peralkaline volcanic and subvolcanic rocks and related pegmatite- and vein-hosted REE mineralization. REE prospects in the HighREE Hills Domain include: HighREE Island, Pesky Hill, Toots Cove, and Southern Shore.



The Fox Harbour Domain has many characteristics of a continental rift zone: 1) elongate faultbounded unit (64 km long); 2) bimodal subaerial volcanic/subvolcanic units; and 3) dominated by felsic peralkaline volcanic vents and spatially related non-peralkaline ash flow tuffs. Similar, peralkaline-hosted, REE mineralization has been discovered throughout this domain (e.g., Foxtrot and Deep Fox Projects).

Figure 7-1 illustrates the regional geology of the Deep Fox Project area.





LOCAL GEOLOGY

The 64 km long FHVB ranges in width from less than 50 m in the northwest to three kilometres in the east (Figure 7-1). The units dip steeply in a northerly direction and strikes generally trend westerly to northwesterly, parallel to bounding faults to the north and south. The FHVB contains one (in the northwest) to three (in the east) sub-belts of bimodal rocks dominated by REE-bearing felsic peralkaline flows and ash-flow tuffs and mafic to ultramafic volcanic and related subvolcanic units. Feldspar megacrystic/porphyritic units, including crystal tuffs in the eastern portion of the belt, predominantly occur between the three sub-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 sub-belts in the FHVB, from north to south: the Road Belt (RB), the Magnetite (MT) Belt and South Belt (SB), have been the focus of REE exploration. The RB, which occurs on the northern boundary of the FHVB, can be traced throughout the FHVB. The MT and SB have only been observed in the eastern 30 km of the FHVB. The mineralized units within the belts, predominantly pantellerite and comendite, commonly occur in local topographic lows where ponds, bogs, and scarce outcrop predominate. Exploration for REE mineralization in the region, however, indicates that these units exhibit relatively high radiometric (anomalous U and Th values) and relatively high magnetic (anomalous concentrations of magnetite) signatures that, when combined, are excellent indicators of mineralization. Airborne and ground-based radiometric-magnetic surveys clearly outline the three mineralized belts (Section 9); overburden and treed areas obscure bedrock exposure of the mineralized belts in some areas.

High grade mineralization, characterized by Dy from 100 ppm to 400 ppm, is predominantly hosted by fine grained, layered to massive, pantellerite and Zr-enriched equivalents. 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 (Figure 7-2).

Most of the rare earth mineralization occurs in allanite and fergusonite; minor amounts of REE occur in chevkinite, monazite, bastnaesite, and zircon. The majority of the light REE (i.e., La



to Sm) in the mineralization occurs in allanite, whereas the majority of the heavy REE (i.e., Eu to Lu) occurs in both fergusonite and allanite.

The RB commonly consists of non-peralkaline porphyritic feldspar-bearing units, 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, always occur north (i.e., within 25 m) of the RB felsic volcanic units; all on the southern side of the Fox Harbour fault zone. Individual highly mineralized units commonly range from less than one to five metres in thickness. The RB hosts the Deep Fox deposit and several significant REE prospects with high grade REE mineralization including Fox Pond, Fox Valley, Fox Meadow, and Foxy Lady. Medium to high grade mineralization at some of these prospects range from 10 m to 40 m in thickness (e.g., Deep Fox deposit and Fox Meadow prospect). Low to high grade zones (comendite and pantellerite combined) are up to 100 m wide.

The MT 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 the Foxtrot deposit and additional significant REE prospects in the area (e.g., Silver Fox and Fox Run). Mineralization is up to 100 m in thickness (comendite and pantellerite combined) at the Foxtrot deposit; medium to high grade mineralization is up to 25 m in thickness, but typically averages 10 m to 14 m in thickness.

Lower grade REE mineralization is commonly found in the SB. The SB commonly consists of predominantly comendite, minor mafic and pantellerite units, feldspar-bearing porphyry, and locally abundant volcanogenic sediments. Low grade mineralization (comendite) commonly ranges from 10 m to 50 m in thickness.



7-7



PROPERTY GEOLOGY

MINERALIZATION

The Deep Fox deposit is located approximately 12 km east of the Foxtrot deposit and two kilometres northeast of St. Lewis in the RB of the FHVB (Figures 7-1, 7-2, and 7-3). Near the Deep Fox deposit (Figure 7-2), the RB consists of, from north to south: 1) northern comendite; 2) anorthositic suite rocks consisting of anorthositic gabbro and associated volcanic rocks; 3) non-peralkaline rhyolite; 4) southern comendite; 5) mafic and ultramafic volcanic rocks; 6) pantellerite with interbedded non-peralkaline rhyolite and mafic volcanic rocks, and 7) a footwall non-peralkaline rhyolitic ash-flow tuff. Minor units of locally derived volcanogenic sediments, mafic volcanic flows, and related subvolcanic units and pegmatites occur throughout this sequence. Most units generally dip 75° to 85° northerly; drill data indicates that the mineralized zone plunges towards the northeast. The anorthositic suite and mineralized units form a prominent east-west trending ridge in the area. Table 7-1 lists representative REE data for the major geological units within the Deep Fox deposit.



TABLE 7-1 AVERAGE REE VALUES FOR COMMON ROCK TYPES AT DEEP FOX

	Unit	Unmineralized Units		Comondito	low 7r	Pontollarito
		NPR	Mafic	Comendite		Failteneilte
From	m	16.00	19.70	5.43	0.16	6.87
То	m	16.90	20.85	6.23	0.42	7.88
Length	m	0.90	1.15	0.80	0.26	1.01
Y	ppm	51	17	135	620	1,260
La	ppm	70	6	142	1,150	2,160
Ce	ppm	163	13	299	2,350	4,260
Pr	ppm	18	2	37	269	481
Nd	ppm	62	9	142	1,020	1,810
Sm	ppm	11	3	27	182	329
Eu	ppm	0.5	0.9	4.2	10.2	16.3
Gd	ppm	9	3	24	145	245
Tb	ppm	1.5	0.1	4.3	21.5	38.7
Dy	ppm	9	4	28	116	234
Ho	ppm	1.7	0.1	5.8	22.5	43.3
Er	ppm	5	2	17	62	127
Tm	ppm	0.8	0.3	2.5	9.0	18.4
Yb	ppm	5	2	16	56	113
Lu	ppm	0.9	0.3	2.4	8.2	17.1
LREE	%	0.03	0.00	0.06	0.50	0.90
HREE	%	0.01	0.00	0.02	0.11	0.21
TREE	%	0.04	0.00	0.08	0.61	1.11

Search Minerals Inc. – Deep Fox Project

Notes:

1. REE assay from surface channel samples

2. NPR Non-peralkaline Rhyolite

3. Mafic = Mafic to Ultramafic Volcanic Unit

4. Low Zr = Low Zr Pantellerite (5,000 ppm to 10,000 ppm Zr)

5. Pantellerite = 10,000 ppm to 15,000 ppm Zr

The comendite mineralization, which is approximately 15 m to 30 m in thickness, consists of individual units of fine grained, commonly less than one metre to two metres in thickness, massive to poorly layered comendite. Pantellerite is the most common lithology within the resource wireframes, exhibiting the highest grades (Section 14). Medium grained to pegmatitic comendite fragments, commonly up to 10 cm, occur in localized areas. Comendite commonly contains trace to minor magnetite, exhibits radioactivity three to five times higher than background levels, and contains lower amounts of REE (i.e., 20 ppm to 60 ppm Dy) and other incompatible elements relative to other mineralized units (Table 7-1).



The pantellerite mineralization (low-Zr pantellerite, pantellerite, and high-Zr pantellerite) is up to 42 m in thickness, consists of individual units of fine grained, commonly less than one metre to five metres in thickness, poorly to well layered pantellerite. In the western portion of the deposit the pantellerite mineralization is up to 42 m thick but rapidly diminishes to 14 m thick to the western edge of the deposit; medium to higher grade mineralization thicknesses (pantellerite and high-Zr pantellerite) are reduced from 25 m thick to six metres thick over this same interval. In the eastern portion of the deposit, the pantellerite mineralization occurs as three main units, separated by non-mineralized units (mafic volcanic flows, non-peralkaline rhyolite, and pegmatite) that are up to 31 m thick in aggregate. The upper unit is up to nine metres thick but dominated by low-Zr pantellerite. The middle and lower units are respectively up to 14 m and 11 m thick and dominated by more highly mineralized pantellerite and high-Zr pantellerite.

Pantellerite contains up to 10% magnetite and localized amphibole and pyroxene. Magnetite is usually fine grained but may occur as porphyritic grains up to 4.0 mm across. Pantellerite exhibits radioactivity from five to 40 times background. Layering within the pantellerite units, observed as darker and lighter bands, is commonly defined by varying contents of magnetite. Medium grained to pegmatitic comendite and non-peralkaline rhyolite fragments, commonly up to 10 cm wide, occur in localized areas. Pantellerite units are generally well mineralized, containing potentially economic concentrations of REE (i.e., 60 ppm to 400 ppm Dy) and other incompatible elements (Table 7-1). Differences in average Zr values subdivide the pantellerite (10,000 ppm to 15,000 ppm Zr), and Zr-enriched pantellerite (>15,000 ppm Zr). The Deep Fox deposit comprises predominantly pantellerite units; comendite units are generally poorly mineralized.

Mafic volcanic units and locally derived sediments, commonly less than 0.5 m in thickness, occur between some individual mineralized units. Thicker mafic units, up to 10 m in thickness, occur within the comendite unit and near the contact between the comendite and pantellerite units. Mafic units commonly contain less than 300 ppm Zr and less than 10 ppm Dy.

Locally derived sediments consist of thin quartzite (<20 cm) interbedded with thinly layered (<30 cm) mafic and felsic bands. Felsic bands consist of non-peralkaline rhyolite, comendite, low Zr pantellerite, or a mix of mafic and felsic volcanic units.



Ultramafic units, up to 25 m thick, occur within all non-peralkaline units and comendite at Deep Fox. An ultramafic, mafic volcanic and non-peralkaline rhyolite flow mixed unit is commonly found in the hanging wall of the mineralized pantellerite zone. The ultramafic units occur as fine to very fine grained flows with a distinctive texture. Zr values commonly are less than 100 ppm and Dy values less than 4 ppm.

A major non-peralkaline rhyolite unit, up to 60 m thick, occurs in the hanging wall of the deposit. Several units of non-peralkaline rhyolite, one to five metres in thickness, occur within the mineralized zones, particularly in the eastern part of the deposit where they commonly separate mineralized units (Figures 7-2 and 7-3). They are commonly associated with low Zr-pantellerite, pegmatite, mafic rocks, and locally derived sediments. Non-peralkaline rhyolite is characterized by low Zr values (300 ppm to 600 ppm Zr), low Dy values (<12 ppm Dy), and low mafic mineral concentrations (commonly less than five percent).

Faults, defined by the geology, magnetic anomaly offsets and topographic lineaments, divide the deposit into four major blocks, Deep Fox West Block, Deep Fox Central Block, Deep Fox East Block, and Deep Fox East Extension Block. The observed faults are northerly to northeasterly striking, steeply dipping, faults with up to 20 m observed horizontal movement and 10 m to 100 m vertical movement observed in drill sections.

The vertical movement on the faults appears to have been partly responsible for changes along strike in the thickness of units, including the mineralization and the presence or absence of specific units. Change in the thickness of mineralization is observed across all block boundaries (Figure 7-2). The western boundary of the Deep Fox West Block is interpreted to be the western edge of the Deep Fox Caldera; mineralized units diminish in size and wedge out at this boundary. The eastern edge of the Deep Fox Caldera is marked by the eastern edge of the Deep Fox East Extension Block, where the mineralization lenses out.

The peralkaline mineralized units and spatially associated mafic-ultramafic, non-peralkaline rhyolite, and locally derived sedimentary units of the Deep Fox deposit are interpreted to represent a subaerial bimodal sequence of volcanic and related volcanogenic sediments and subvolcanic intrusions. The probable mantle derivation of the peralkaline and mafic to ultramafic rocks, the subaerial setting, and the occurrence of these units as a series of calderas in a narrow belt (the FHVB) over at least a 64 km strike-length suggest that these rocks occur


in a continental rift setting. Modern analogues include Pantelleria Island, in the Mediterranean Sea, and the East African Rift.

GENETIC MODEL

REE mineralized peralkaline volcanic rocks, mainly pantellerite (Nuiklavik Volcanic Suite; Miller, 1993), and REE mineralized peralkaline intrusive rocks, granites-syenites (Strange Lake; Miller 1996, Miller et al., 1996; Two Tom Lake syenite; Miller 1987, 1988), and undersaturated syenites (Red Wine Suite; Miller 1987 and 1988) occur elsewhere in Labrador and are of similar age (Miller et al., 1996). U-Pb Zircon age determination at Foxtrot indicates the FHVB rocks are contemporaneous (Haley, 2014). In all examples, peralkaline rocks, hosting the REE mineralization, represent low volume late differentiates of high-level (crustal) magma chambers. For intrusions, the mineralization occurs in late pegmatites, vein systems, or small volume intrusions at or near the top of the source magma chamber. In the volcanic settings, the mineralization occurs as vent filling or near vent magma flows and/or ash flow tuffs.

The exploration program at the Foxtrot and Deep Fox deposits reveals the relationship between peralkaline volcanic rocks, vent, or near-vent locations, and significant REE mineralization. The Foxtrot deposit is being used as a model (Foxtrot-like mineralization) for further exploration throughout the FHVB. Data and field observations indicate that the Deep Fox, Fox Meadow, and Fox Pond prospects also occur in vent or near vent settings in the Road Belt of the FHVB (Figure 7-1). The Fox Run prospect and Silver Fox prospect (Figure 7-1) likely occupy a similar site of REE mineralization in the MT Belt of the FHVB.



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8 DEPOSIT TYPES

REE and rare earth metal deposits can be divided into two main classifications: primary magmatic REE deposits and secondary REE deposits. The vast majority of deposits are primary magmatic and many of the secondary ones are proximal to REE-enriched primary magmatic sources. Most magmatic deposits are related to mantle-derived magmas and/or magmatism associated with crustal rifting. Metamorphic equivalents of these main categories are also known but not distinguished in this classification.

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 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 closely related.

These REE deposits are formed by concentration of REE and other incompatible elements (e.g., Zr, Nb, F, U, Th, 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, and Brockman deposits). 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 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 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). Other examples include: Bokan Mountain vein systems in Alaska, HighREE Hills mineralized pegmatites and veins systems (e.g., Pesky Hill, HighREE Island) in the Port Hope Simpson district, and Round-Top Mountain disseminated low-grade mineralization in Texas. Volcanic-hosted equivalents include deposits in the Fox Harbour Volcanic Belt (e.g., Foxtrot, Deep Fox), Brockman Volcanic rocks in Australia, and mineralization in the Nuiklavik volcanic rocks of the Flowers River Igneous Suite (Labrador). Volcanic hosted mineralization occurs as felsic vent filling or near vent ash-flow tuffs/flows and spatially related subvolcanic pegmatitic equivalents.

PERALKALINE UNDERSATURATED DEPOSITS

Peralkaline undersaturated deposits are commonly characterized by HREE-enrichment and eudialyte (e.g., Norra Karr, Sweden; Kipawa Complex, Quebec; Red Wine Complex, Labrador), alteration products of eudialyte (Nechalacho – allanite, fergusonite, zircon; NWT, 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 of this kind of REE mineralization have not been identified. Mineralization occurs as pegmatite vein systems and related rocks (Red Wine Complex, Kipawa) and medium-grained zones within the upper portions of layered syenite intrusions (Norra Karr, Ilimaussaq, Red Wine Complex, Kipawa).

CARBONATITE DEPOSITS

Carbonatite hosted deposits contain a combination of REE-bearing carbonates (e.g., bastnaesite at Mountain Pass; California, Bear Lodge; Wyoming), monazite, xenotime, apatite, and other rare minerals. The high level vein systems sometimes associated with carbonates 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 La, Ce, 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.

SECONDARY REE DEPOSITS

Three types of secondary REE deposits have been recognized: 1) beach sands and related sedimentary deposits, 2) ionic clay deposits, and 3) in situ laterites. These deposits are derived from weathering of REE mineral-bearing rocks.

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).

IONIC CLAY DEPOSITS

lonic-clay REE deposits are derived by surficial weathering of REE minerals. Breakdown of REE minerals releases REE-bearing liquid species into the environment where clay particles absorb them. Several regions in southern China (e.g., Jiangxi Province) and Myanmar (Burma) contain HREE-enriched ionic-clay deposits. These are mostly derived from REE-bearing granites.

IN SITU LATERITES

Surface exposed rocks with REE-bearing mineralization can be upgraded by weathering processes. Two carbonatite-hosted REE deposits have been upgraded by surface weathering



processes. One is the Bear Lodge Carbonatite (Wyoming) and the other the Araxa Carbonatite (Brazil). Carbonatites weather easily in surface conditions.

FOXTROT AND DEEP FOX DEPOSITS

The Foxtrot and Deep Fox deposits are examples of primary magmatic REE deposits; the mineralization being hosted in peralkaline oversaturated volcanic rocks. Mineralization occurs mainly in zircon, allanite, and fergusonite.



9 EXPLORATION

SUMMARY

Search Minerals began exploration in the Port Hope Simpson area in 2009, after acquiring 11 mineral licences via an option agreement with B and A Minerals Inc. In the winter of 2009, Search Minerals conducted an Aeroquest airborne radiometric and magnetic survey. Following this survey, anomalous areas of interest were outlined, prioritized, and ground checked during the start of the 2010 field season. An additional 47 mineral licences were staked, covering 864 km².

Since the discovery of the Foxtrot deposit in 2010, extensive exploration has been completed in the Port Hope Simpson area for similar styles of mineralization ("Foxtrot-like"). Exploration in 2010-2015 consisted of ground magnetometer surveys, prospecting, mapping, lithogeochemical grab sampling, clearing, hand trenching, channel sampling with a portable circular saw, and diamond drilling. The exploration program was conducted across the entire Fox Harbour Volcanic Belt, with the main area of focus being the Foxtrot and Deep Fox projects, and the Fox Meadow prospect. Search Minerals has also identified and carried out exploration work on numerous other prospects within the Port Hope Simpson REE district. The work on Foxtrot-like mineral prospects is summarized in Table 9-1. Figure 9-1 shows the location of the Foxtrot deposit, the Deep Fox deposit, and other exploration prospects within the Port Hope Simpson REE district.

The detailed exploration program on the Deep Fox property started in 2014 with detailed mapping and prospecting that led to the discovery channel (FDC-14-01) late in the season; this discovery was announced in early 2015. An extensive channel sampling program was commenced in 2015 and consisted of 16 channels in 2015, five channels in 2017, four channels in 2018, and three channels in 2019. The Phase I drilling program commenced in 2017 with three holes and was completed in 2018 with and additional 12 holes. The Phase II drill program, consisting of eight holes, was completed in late 2018. An Unmanned Airborne Vehicle (UAV) or drone detailed magnetic survey was carried out over the property in 2019. Search Minerals anticipates that a UAV Light Detection and Ranging (LIDAR) survey will be completed in late 2019.



TABLE 9-1 EXPLORATION SUMMARY ON THE PORT HOPE SIMPSON REE DISTRICT Search Minerals Inc. – Deep Fox Project

Deposit/Prospect	Mineral Licence	Type of Work Completed	Date	No. of Channel Samples	Total Channel Length (m)	No. of Drill Holes	No. of Core Samples	Total Drilling (m)
Foxtrot	022088M	Prospecting, ground mag, lithogeochemical sampling, channel sampling, drilling	2010- 2015	644	511	72	14,322	18,837
Deep Fox	023108M	Prospecting, ground mag, lithogeochemical sampling, channel sampling, drilling	2014- 2019	1,463	889	23	3,632	4,901
Other Foxtrot-Like	Prospects							
Fox Run	022088M	Prospecting, ground mag, lithogeochemical sampling, channel sampling	2011, 2014	53	46	-	-	-
Foxy Lady	022088M	Prospecting, ground mag, lithogeochemical sampling, channel sampling	2011	55	39	-	-	-
Fox Pond West	023108M	Prospecting, ground mag, lithogeochemical sampling, channel sampling	2012	115	59	-	-	-





2011 GROUND MAGNETOMETER SURVEYS

To better understand and characterize Foxtrot-like REE mineralization at surface, two detailed ground based magnetometer surveys were conducted in the area of Foxtrot and Deep Fox during the 2011 field season. The survey completed over the main mineralized zone at Foxtrot was highly detailed, and a less detailed survey was completed outside the main zone to trace the location of the mineralized units beyond the Foxtrot deposit. These surveys were used to plan diamond drilling and surface channel sampling programs. The combined ground magnetometer surveys are shown in Figure 9-2.







UAV (DRONE) MAGNETIC SURVEY

A UAV magnetic survey was carried out over the Deep Fox property in 2019. Although the survey is complete, results have not been received. This survey will add more detail to the ground survey carried out in 2011 and will aid in directing subsequent drilling and channelling programs at Deep Fox.

DEEP FOX CHANNEL SAMPLING

Search Minerals began surface channel sampling in the area in 2010 and continued through 2019. Channel sampling focused on mineralized outcrops found using visual inspection as well as hand-held spectrometers in the area of the Foxtrot deposit, the Deep Fox deposit, and several other Foxtrot-like prospects in the district.

At the Deep Fox deposit, Search Minerals collected samples from 31 surface channels, totalling 889 m, in mineralized outcrops from 2014 to 2019 (Figure 9-3). Channel sampling procedures are discussed in Section 11. Table 9-2 summarizes several significant surface channel REE assay intervals taken at Deep Fox.

TABLE 9-2 DEEP FOX CHANNEL SAMPLE WEIGHTED AVERAGE ASSAY DATA Search Minerals Inc. – Deep Fox Project

Channel	Length (m)	From (m)	To (m)	Nd (ppm)	Pr (ppm)	Dy (ppm)
FDC-14-01	17.5	0.0	17.5	1,884	504	240
FDC-15-06	10.2	11.5	21.7	2,049	525	260
FDC-15-07	9.3	18.7	28.0	1,911	504	270
FDC-15-08	6.9	20.5	27.4	1,993	540	262
FDC-15-09	7.1	20.2	27.3	1,682	443	247
FDC-15-11	11.4	25.5	36.9	1,732	461	253

In RPA's opinion, the surface channel sampling conducted by Search Minerals has been an effective exploration technique in those areas where outcrop is exposed in Fox Harbour Mineralized Belt.



RPA

9-7



10 DRILLING

Search Minerals commenced a Phase I exploration drill program at the Deep Fox Project in Q4 2017. The Phase I drill program, begun in 2017 (Cabo Drilling), consisted of three diamond drill holes (DDH) totalling 473 m to a vertical mineralization depth of 50 m and 100 m; this program was postponed due to weather and equipment breakdowns. This Phase I program was completed in Q2/Q3 2018 by drilling contractor Springdale Forest Resources and consisted of 12 additional DDH totalling 1,948 m to a vertical mineralization depth of 50 m and 100 m. The Phase II exploration drill program commenced in Q3/Q4 2018 and consisted of eight drill holes totalling 2,480 m to a vertical mineralization depth of 50 m to 200 m along a 500 m strike length. The drilling area focused on the down dip extent of the surface mineralization outlined by the channel programs.

Drill hole collar positions were determined by Search Minerals' senior geological personnel and were located in the field by a Search Minerals geologist. Drill holes were initially plotted using ArcGIS, and collar positions were staked using a hand-held global positioning system (GPS) unit. All drill holes in the Deep Fox Project were surveyed after drilling had been completed to within ±0.60 m GPS positional accuracy, and 0.2° to 1.0° azimuth accuracy. Coordinates were recorded in UTM format according to the NAD83 datum, and elevations were recorded in metres above sea level (MASL).

All holes were drilled at an angle of 45° from the horizontal; the collar azimuth and dip were planned and checked by a Search Minerals geologist. The drill hole was set with an extended foresight from the drill head, and the azimuth of this line direction was measured with a Brunton or Silva type compass. The drill hole collar dip was set and measured with an inclinometer on the drill rods at the drill head.

Drill hole azimuth and dip measurements at varying depths in each drill hole were checked using a Reflex Gyro down-the-hole probe that uses a digital surface referenced microelectromechanical system (MEMS) gyroscope designed for magnetite bearing rocks. Drill hole collar azimuths, GPS coordinates and elevations were obtained using the Reflex Azimuth Pointing System (APS).



No significant deviation problems occurred during the drill programs at Deep Fox, most holes deviated less than five to ten degrees per 100 m from both azimuth and dip. This did not affect true thickness calculations of the steeply dipping mineralized domains.

Sample length ranges from <0.05 m to 2.50 m, with the majority being approximately 1.0 m. The true thickness of the mineralization is up to a 45 m wide package of felsic and mafic bands.

Table 10-1 summarizes the two phases of drilling on the Project.

Table 10-2 summarizes representative significant intervals from drilling Phases I and II for key rare earth metals.

Figure 10-1 displays the diamond drill hole locations from all phases of drilling.

Hole ID	Easting	Northing	RL (m)	Depth (m)	Dip (°)	Azimuth (°)	No. of Samples	Assay Range	Work Order Numbers
FD-17-01	591368.44	5804422.5	70.8	135	-45	200.6	104	566251-566354	A18-00590
FD-17-02	591414.31	5804407.5	75.2	128	-45	195.7	107	566355-566461	A18- 00596/00602
FD-17-03	591426.88	5804460	74.2	210	-45	185.3	160	566462-566621	A18- 00601/00602/ 10271
FD-18-01	591517.31	5804406	91.9	133	-46	189.3	108	566622-566729	A18- 10269/10272
FD-18-02	591527.56	5804459	92.8	217	-45	190	144	566730-566873	A18- 10270/10272
FD-18-03	591624.75	5804401.5	99.5	139	-46	189.5	118	566874-566991	A18-10682
FD-18-04	591637.38	5804461	100.9	229	-45	190.7	165	566992-567156	A18- 10539/10552
FD-18-05	591724.69	5804397.5	98.6	124	-47	192.4	122	567157-567278	A18-10547
FD-18-06	591737.5	5804455	94.3	232	-45	189.8	172	567279-567450	A18-11064
FD-18-07	591773.12	5804394	97.6	130	-47	199.6	93	567451-567543	A18-11068
FD-18-08	591824.69	5804388	96.3	130	-46	199.4	99	567544-567642	A18-11455
FD-18-09	591834.19	5804440.5	91.8	227	-45	196.3	147	567643-567789	A18-11457
FD-18-10	591463.5	5804409.5	84.5	127	-47	189.4	153	567790-567942	A18-12143
FD-18-11	591568.75	5804410	96.8	139	-46	190.1	120	567943-568062	A18-12146
FD-18-12	591673.06	5804399.5	100.4	121	-45	186	77	568063-568139	A18-12148
FD-18-13	591564.06	5804448.5	97.5	196	-45	188	151	568140-568290	A18-16902
FD-18-14	591570.31	5804504.5	85.5	295	-45	196.8	201	568291-568491	A18-16909
FD-18-15	591667.81	5804446	99.9	226	-45	197.3	181	568491-568671	A18-16912

TABLE 10-1DRILL HOLE SUMMARYSearch Minerals Inc. – Deep Fox Project



Hole ID	Easting	Northing	RL (m)	Depth (m)	Dip (°)	Azimuth (°)	No. of Samples	Assay Range	Work Order Numbers
FD-18-16	591774.19	5804438	96.3	217	-46	196.8	168	568672-568839	A18-16914
FD-18-17	591744.38	5804506	80.6	319	-45	162.7	229	568840-569068	A18-18362
FD-18-18	591744.12	5804540	79.2	403	-46	185.5	260	569069-569328	A18-18376
FD-18-19	591655.81	5804560.5	68.6	430	-47	198.2	315	569329-569643	A18-18382
FD-18-20	591808.69	5804533	83.4	394	-46	196.1	241	569644-569885	A18-18393

TABLE 10-2 SIGNIFICANT INTERVALS, AVERAGES FOR KEY METALS Search Minerals Inc. – Deep Fox Project

	Core Length	From	То	Nd	Pr	Dy
Hole	(m)	(m)	(m)	(ppm)	(ppm)	(ppm)
FD-17-02	17.2	79.8	97.0	1,852	512	241
FD-17-02	11.8	83.1	94.9	1,983	545	259
FD-17-03	9.8	140.7	150.5	1,911	530	241
FD-18-01	10.3	89.6	99.9	2,264	608	306
FD-18-02	15.3	177.0	192.3	2,067	576	267
FD-18-03	9.5	107.7	117.2	1,919	519	268
FD-18-04	23	175.0	198.0	1,961	531	274
FD-18-05	17	100.0	117.0	1,896	500	283
FD-18-06	28	185.3	213.3	1,757	478	247
FD-18-07	7.5	113.3	120.8	1,666	434	251
FD-18-08	8.4	114.5	122.9	1,622	431	247
FD-18-09	6.9	197.1	204.0	1,266	326	204
FD-18-10	27.1	82.4	109.5	1,940	532	257
FD-18-11	15	117.3	132.3	1,565	422	220
FD-18-12	6.7	99.9	106.6	1,713	449	262
FD-18-13	12.2	145.9	158.1	1,983	543	250
FD-18-15	7.6	162.0	169.6	1,822	498	270
FT-18-15	26.9	173.7	200.6	1,784	478	251
FD-18-16	15.5	182.9	198.4	1,762	461	252
FD-18-17	9.1	286.3	295.4	1,694	433	238
FD-18-17	5.6	297.0	302.6	2,030	505	293
FD-18-20	5.6	362.3	375.0	1,574	429	216
FD-18-20	17.2	378.0	383.6	2,132	553	277





11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

SAMPLING AND SAMPLE PREPARATION

Two sampling methods have been used at the Deep Fox Project: diamond drilling and surface channel sampling. Drilling on the Project occurred in 2017 and 2018 and channel sampling in 2014 and 2015 and in 2017 and 2018.

All sample preparation and core logging were carried out at the Search Minerals field house, which is located in St. Lewis, approximately 10 minutes by truck from the Deep Fox Project field area. Drilling, core logging, and sampling operations were supervised by Dr. Randy Miller, P.Geo., VP of Exploration for Search Minerals.

The drilling, logging, and sampling procedures at the Deep Fox Project are similar to those used at Search Minerals' Foxtrot Project. They were previously reviewed by RPA and RPA's contractor Benchmark Six Inc. (Benchmark Six) during their site visit to the Foxtrot deposit in 2011 (RPA, 2013 and 2016) and are summarized below. The quality assurance/quality control (QA/QC) protocols, procedures for ensuring the security of drill core and channel samples, integrity of chain-of-custody for samples, and accuracy of laboratory analyses all met acceptable industry practices.

DIAMOND DRILL CORE

Diamond drill core was placed into standard wooden core boxes and stacked at the drill site. Core boxes were transported by pick-up truck from the field area to the field house at least once a day where they were organized onto racks in the core shed. Geologists log the core and mark assay sample intervals with wax crayon. Intervals averaged one metre but were longer or shorter, at the discretion of the geologist, depending on the structural and lithological features present. Drill core was logged manually, and the logs were subsequently entered into a digital database by Search Minerals staff. All original paper drill logs are kept on file.

The drill core was split using the marked assay intervals; all splitting was done using a circular saw with a diamond tip blade. One half of the core was placed in a sample bag and sent to the laboratory for chemical analyses and the other half remains in the core box for future



reference. For each interval, one sample tag was placed in the sample bag and another sample tag was stapled to the bottom of the core box, under the core. After the core had been split and sampled, the remaining core was placed back into core boxes and kept in the core shed. All stored core boxes are affixed with an aluminum plate indicating the hole ID and the Interval contained within. A list was made of all sample numbers and their corresponding hole ID, and from-to (interval) depths.

A selected piece from each mineralized and selected non-mineralized sample interval from the Deep Fox core was tested for magnetic susceptibility and density. The magnetic susceptibility measurements were taken with a portable instrument. Density measurements were determined with the standard gravimetric procedure that involves measuring samples on a scale in air and immersed in water.

The drill rig used during the 2017 and 2018 sampling programs was a Dura-lite 500 mounted on a tracked carrier and was operated by Springdale Forest Resources. All core drilled during the Deep Fox sampling programs was NQ (47.6 mm) size.

CHANNEL SAMPLES

Channel samples were taken from mineralized surface outcrop found using visual inspection as well as hand-held spectrometers. The location of channel sampling was partly dictated by the location of surface outcrop. A hand-held GPS unit was used for precise location control. Channel samples, 10 cm deep and 8 cm wide, were cut by gas-powered diamond saw from cleaned outcrops (surface weathering is removed) and placed into channel boxes to be logged and sampled by Search Minerals personnel (Figure 11-1). Six centimetre thick sections were sent to the assay laboratory and a two centimetre thick section was stored in channel boxes for reference (Figure 11-2). The channels were cut perpendicular to strike, pieced together, logged, and photographed to produce geological and geochemical sections.

Channel samples were logged, cut, and sampled according to the same procedure as the diamond drill core, described above.



FIGURE 11-1 FIELD CHANNEL SAMPLE

FIGURE 11-2 CHANNEL SAMPLE REFERENCE BOX





SAMPLE ANALYSES

Deep Fox sample bags were collected in large plastic bags, placed on a pallet, and wrapped with plastic film for transport by Search Minerals staff to Morneau trucking company in Goose Bay. This trucking company transported these sample pallets to Actlabs in Ancaster, Ontario for sample preparation and analysis. Samples were analyzed using a lithium metaborate/tetraborate fusion with subsequent analysis by inductively coupled plasma (ICP) and ICP mass spectroscopy (ICP-MS).

Actlabs is an independent laboratory accredited according to both the ISO 17025 standard for testing and calibration laboratories, and the CAN-P-1579 standard, specific to mineral analysis laboratories. In 2007, Actlabs became accredited to NELAP, an American laboratory accreditation program specifically for the environmental sector.

SAMPLE SECURITY

Search Minerals employs strict security protocols with the handling of its samples. Core is transported by truck only, both from the drill site to the field house and from the field house to the trucking company in Goose Bay. The core is stored in the core shack, a detached structure with doors and locks, and is organized carefully, facilitating accessibility to all reference core. During logging, cutting, and sampling, drill core is always under the supervision of full-time Search Minerals staff.

In RPA's opinion, the sample preparation, analysis, and security procedures at the Deep Fox Project are adequate for use in the estimation of Mineral Resources.

QUALITY ASSURANCE AND QUALITY CONTROL

RPA reviewed the results of Nd, Pr, and Dy and provides the following discussion on the QA/QC results for the Deep Fox Project.

ACTLABS INTERNAL QA/QC

The resource estimate included in this report incorporates analytical results from 55 batches that were submitted to Actlabs from January 2015 to September 2015; in October 2017, and



from February 2018 to January 2019. With each batch, Actlabs used three types of samples to monitor the accuracy and precision of their results: standards, blanks, and duplicates.

Blank control samples allow the laboratory to monitor cross contamination between the samples. While contamination can occur during the sample preparation and analysis stages, these blank control samples were limited to monitoring only the analysis stage. It is normal industry practice to reject any batch whose results are more than five times the detection limit. Of the 64 blanks tested, no blank control sample had more than twice the detection limit for Nd, Pr, and Dy.

The standards allow the laboratory to monitor the accuracy of their results. Eight or more different standards were used to test the accuracy of the REE data in each batch and no one standard alone covered the complete set of potentially economic elements. At least six of these standards monitored Nd, Pr, or Dy, the most important REEs within the Deep Fox Project. RPA reviewed the Nd, Pr, and Dy results of the various CRMs and found that nearly 100% of the results were within ±10% of their certified value. This is generally accepted as a good result.

Duplicates allow the laboratory to monitor precision of its analytical results. As with standards, it is normal industry practice to accept batches if 95% of duplicate samples fall within $\pm 10\%$ of their average. RPA reviewed the internal duplicate results and found them acceptable.

In RPA's opinion, the internal QA/QC results demonstrate that the assay data have acceptable accuracy and precision.

RPA recommends that Search Minerals review the laboratory's internal QA/QC results and that batches that do not meet pre-set protocols be re-assayed.

SEARCH MINERALS EXTERNAL QA/QC

In addition to Actlabs' internal QA/QC, the reliability of the analytical data was also monitored by Search Minerals' own external QA/QC program, using blanks, reference standards, coarse reject and pulp duplicates. Rather than using CRMs, Search Minerals used material sourced locally for which no certified value had been established by round-robin analyses from multiple laboratories. In this case, the average of all available results (where appropriate) was used as the reference value and percent error was calculated.



All Search Minerals external QA/QC samples were inserted by Actlabs, using the following protocol:

• Blanks and standards were inserted in each batch after the 15th or 35th sample, and every 40th sample thereafter.

- Coarse duplicates were taken every 20th sample per batch.
- Pulp duplicates were taken at a rate of approximately 10%.

Table 11-1 summarizes the insertion rate of QA/QC samples for all work completed on the Deep Fox Project to date.

	- Deep I OX I TOJect
QA/QC Sample Type	Insertion Rate
Blanks	2.5% ¹

TABLE 11-1 INSERTION RATES OF QA/QC SAMPLES

Blanks	2.5% ¹
Standards	2.5%
Coarse Duplicates	5%
Pulp Duplicates	10%

Note:

1. Includes only batches with blanks.

BLANKS

Blank samples comprised of crushed, pulverized, and homogenized dolomite were inserted into the sample stream by Actlabs throughout the diamond drilling program, and in the last two batches of channel samples. External blank material was not inserted into the sample stream of the first 26 batches of the channel sampling programs: Search Minerals had no material available. A total of 101 blank samples were included in 31 batches, with an insertion rate of approximately 2.5%. RPA reviewed the results for Pr, Ad, and Dy: A single Nd value plotted 10% above the threshold limit of blank samples, and all Pr and Dy values plotted below the established threshold limit. In RPA's opinion, cross contamination was not an issue for analyses at the Deep Fox Project. RPA strongly recommends that Search Minerals include external blank sample in each batch sent to the laboratory

REFERENCE STANDARDS

Search Minerals inserted two standards in each batch: one high grade and one very low grade. The 120 low grade standards effectively acted as a blank sample and were not a useful indicator of analytical accuracy. The standard is sourced from an anorthosite unit found in Port



Hope Simpson area. The high grade standard was sourced from another Search Minerals' REE project in the Fox Harbour area. Details of reference standards used by Search Minerals are summarized in Table 11-2.

TABLE 11-2	SEARCH MINERALS REE REFERENCE STANDARDS
	Search Minerals Inc. – Deep Fox Project

Standard	Standard	Standard	tandard		Average Analytical Value			
ID	Туре	Count	Rate	Nd (ppm)	Pr (ppm)	Dy (ppm)		
STND 423926	High Grade	134	2.6%	2,080	555	275/323 ¹		
STND 415351	Low Grade	120	2.4%	5.88	1.67	0.57		

Note:

1. See discussion below

The material for each standard was crushed, pulverized, and homogenized by Actlabs, which inserted these reference standards with every batch.

For Nd and Pr (LREEs), the vast majority of the standards plot within ± 2 standard deviations (SD) (Figures 11-4 and 11-5), with the exception of batches A14-08632 and A17-09711, which show clear high biases. The control chart for Dy is also characterized by a high biased result in batch A17-09711. Additionally, after a two month pause in sample submittals in late 2018, there is a clear high bias in the Dy results for the remainder of the program.

RPA reviewed the laboratory's internal QA/QC results and the control charts of the low grade standard and found no failures, biases, or other dubious results. In RPA's opinion, the Dy results for the high grade standard is due to either poor reference sample preparation (i.e., lack of homogenization) or poor standard sample collection when preparing for insertion. Poor sample handling protocol is also the likely source of the high biases in batches A14-08632 and A17-09711. The Dy control chart is shown in Figure 11-6, and RPA modified the control limits to account for the bias observed.

In RPA's opinion, preparation and insertion protocol for reference standards used by Search Minerals at the Deep Fox Project is highly suspect and should be thoroughly reviewed. It is impossible to detect real trends or failures given the low confidence in the expected values for reference standards. RPA recommends that Search Minerals either use commercial CRMs or



review the reference standard preparation procedures and implement procedures to monitor the results of the control samples, including threshold limits and trends to identify failures.



FIGURE 11-3 STANDARD CONTROL CHART FOR PRASEODYMIUM



1,400

1,200



FIGURE 11-4 STANDARD CONTROL CHART FOR NEODYMIUM

FIGURE 11-5 ADJUSTED STANDARD CONTROL CHART FOR DYSPROSIUM

CRM Value

Samples Ordered By Date

- - - +- 2SD

— — +- 3SD



STND 423926



Figure 11-6 illustrates that a vast majority of results for the high grade standard plot within the $\pm 10\%$ range. The results of the very low grade standard were not within $\pm 10\%$ of the average value but rather ranged from -50% to 150%, which is an acceptable range for a blank control sample, where the values for each of the elements are very close to detection limit.

Although there was no pre-established reference value for these external reference materials, they do document that the laboratory was able to stay within $\pm 10\%$ of the average grade. RPA notes that the external reference material had Pr, Nd, and Dy grades that are similar to high grade mineralization at Deep Fox. RPA recommends that a lower grade reference standard be obtained with grades typical of mineralization at or near the cut-off grade of the deposit and a reference standard that has a similar grade to typical Deep Fox mineralization.

FIGURE 11-6 RELATIVE PERCENTAGE DIFFERENCES FOR HIGH GRADE REFERENCE STANDARD



Samples Ordered By Date

DUPLICATES

Search Minerals inserted both reject coarse duplicates (coarse duplicates), which were taken immediately after the first crushing and splitting step, and pulp duplicates, which are second splits of final prepared pulverized samples. The coarse and pulp duplicate samples were taken by the laboratory at the request of Search Minerals at a rate of approximately 5% and 10%,



respectively. Tables 11-3 and 11-4 summarize the basic statistics of the Pr, Nd, and Dy duplicate pairs.

TABLE 11-3 SUMMARY OF COARSE DUPLICATE RESULTS Search Minerals Inc. – Deep Fox Project

Pr

	Original	Duplicate	
Count	246	246	
Mean (ppm)	110	110	
Maximum (ppm)	653	666	
Minimum (ppm)	1.3	1.1	
Median (ppm)	35	36	
Correlation Coefficient	0.999		
% Difference Between Means	0.1%		

Nd

	Original	Duplicate	
Count	246	246	
Mean (ppm)	408	408	
Maximum (ppm)	2,390	2,440	
Minimum (ppm)	0.9	1.0	
Median (ppm)	128	124	
Correlation Coefficient	0.999		
% Difference Between Means	0.0%		

Dy

	Original	Duplicate
Count	246	246
Mean (ppm)	58	58
Maximum (ppm)	321	327
Minimum (ppm)	1.1	1.0
Median (ppm)	23	22
Correlation Coefficient	0.	999
% Difference Between Means	0.	6%



TABLE 11-4 SUMMARY OF PULP DUPLICATE RESULTS Search Minerals Inc. – Deep Fox Project

Pr

	Original	Duplicate
Count	517	517
Mean (ppm)	150	150
Maximum (ppm)	699	695
Minimum (ppm)	1.0	1.0
Median (ppm)	46	46
Correlation Coefficient	0.999	
% Difference Between Means	0.1%	

Nd

	Original	Duplicate	
Count	521	521	
Mean (ppm)	563	562	
Maximum (ppm)	2,690	2,740	
Minimum (ppm)	0.5	0.4	
Median (ppm)	181	178	
Correlation Coefficient	0.999		
% Difference Between Means	0.0%		

Dy

	Original	Duplicate	
Count	521	521	
Mean (ppm)	83	83	
Maximum (ppm)	601	612	
Minimum (ppm)	0.3	0.2	
Median (ppm)	27	27	
Correlation Coefficient	0.999		
% Difference Between Means	0.6%		

Overall, there were 246 coarse duplicates and 521 pulp duplicates were taken in the 55 batches that comprise the drill hole and channel sampling programs at Deep Fox. Of these, approximately 3% of pulp duplicates and 10% of coarse duplicates, did not fall within a $\pm 10\%$ band. The samples that fell outside of the $\pm 10\%$ band were low grade: duplicate sample results with Pr, Nd, and Dy grades typical of those found at Deep Fox all had results well within $\pm 10\%$.

In RPA's opinion, the duplicates confirm the precision of the laboratory's analytical results. RPA recommends including selected half core samples (field duplicates) in the duplicate sampling protocol.



QA/QC SUMMARY

It is RPA's opinion that Search Minerals' QA/QC data for the drilling and channel sampling programs at Deep Fox are acceptable and demonstrate that the assay data have the accuracy and precision adequate for Mineral Resource estimation.

RPA recommends the following:

- QA/QC samples should be inserted into the sample stream by Search Minerals rather than the analytical laboratory. RPA notes that Search Minerals does not blind the analytical laboratory to blanks, reference standards, or pulp duplicate samples submitted for analysis. Instead of identifying a QA/QC sample with a description or reference standard number, the sample should be inserted into the sample number sequence.
- Current reference standards used on the Project are ineffective for detecting analytical bias or failures. For future sampling programs at Deep Fox, Search Minerals should use commercial CRMs or work with the analytical laboratory to develop CRMs through round robin testing for which the grade has been established prior to its use. Although three difference CRMs are recommended, at least one should have grades similar to typical REE mineralization at Foxtrot and another should have approximately the same grade as high grade mineralization. RPA also recommends a third standard with grades typical of mineralization at or near the cut-off grade. This would help identify any systematic bias or uncertainty in the laboratory results.
- Resume the regular submission of blank material with regular drill core and surface channel samples.
- Include selected half core samples (field duplicates) in a check assay sampling protocol.
- The analytical laboratory's internal and Search Minerals' field QC results should be reviewed for each sample batch submitted.
- Establish what constitutes a QC failure and document appropriate follow-up actions.



12 DATA VERIFICATION

RPA reviewed the resource database that formed the basis for the Mineral Resource estimate presented in this Technical Report. This includes results from the QA/QC program and assay certificates for drill hole and channel samples to a cut-off date of September 26, 2019. In the opinion of RPA, the database is acceptable for Mineral Resource estimation.

SITE VISIT

Katharine M. Masun, P.Geo., Senior Geologist, RPA, visited the site on August 27, 2015. The site visit consisted of a complete tour of the premises, including the field office, the core logging shack, the core cutting shack, and the core storage facilities. No logging, cutting, or sampling was occurring on the Project at the time, so the procedures could not be observed first hand.

The property visit, which focused on the Foxtrot Project, included a tour of the Deep Fox Project. RPA inspected surface mineralization along most of the strike length, including the location of the 2014 and 2015 channel sampling at Deep Fox.

Field sampling procedures were verified by RPA and Rick Breger of Benchmark Six during a site visit to both the field house and Foxtrot Project site in October 2011. Field sampling procedures have not been modified for the Deep Fox Project. During the visit, logging, cutting of core, and sampling procedures were observed first hand and the site visit included observations of surface mineralization, including the location of the trenching and old drill hole collars. Both RPA and Benchmark Six concluded that Search Minerals staff conducted their exploration and drilling activities to a standard that met or exceeded normal industry practices (RPA, 2013 and 2016).

MANUAL DATABASE VERIFICATION

RPA received the Deep Fox resource database as Microsoft Excel files. Collar, survey, lithology, assay, and density data were reviewed. Database verification was performed using tools provided within the Leapfrog Geo 4.5.2 software program and Microsoft Excel to check for potential issues including:



- Sample length and overlap issues
- Maximum and minimum lengths and assay grades
- Negative assay values
- Drill hole deviations
- Gaps in assays/unsampled intervals
- Assay and density outliers

RPA verified that the drill hole database matched the original Actlabs assay certificates. This included a comparison of over 5,600 results in the resource database to 53 digital laboratory certificates of analysis, which were received directly from Actlabs. A very small number of inconsistencies were identified.

As part of database validation, a visual check of the drill hole collar elevations and drill hole traces was completed with respect to a topographic surface. A surveyed topographic surface was not (thus far) available for the Project; instead, RPA downloaded the Canadian Digital Surface Model (CDSM) with a 30 m resolution for the region from the Government of Canada website. RPA observed that the drill hole collars were generally one to five metres above the topographic surface. Although the drill hole collars and traces have been surveyed, channel samples have not. Channel "collar" locations have been recorded with a hand-held GPS without elevation information. RPA adjusted the collar elevations to the CDSM surface and notes the uncertainty of the channel sample locations: source data had a targeted vertical accuracy of 16 m absolute error at 90% confidence (Mukul et al., 2017). RPA recommends that Search Minerals obtain a topographic survey over the Project area so that drill hole collar elevations can be validated, and the channel sample elevations can be determined. RPA further recommends that Search Minerals survey the channel sample locations.

INDEPENDENT ASSAYS OF DRILL CORE

RPA did not collect samples from channels for independent assay during the 2015 Deep Fox site visit. Since mineralization at Deep Fox is Foxtrot-like, in RPA's opinion the following discussion is relevant.

In 2011, Rick Breger, Director of Operations for Benchmark Six, on behalf of RPA, collected 28 samples (22 drill core and 6 channel samples) at the Foxtrot Project for independent analyses at SGS Minerals Services (SGS), Toronto. REE analyses were performed using



lithium metaborate fusion and analyzed via ICP-MS. SGS uses a quality management system that meets, at a minimum, the requirements for both ISO 9001 and ISO 17025. Analyses were performed on the 22 drill core samples to check the accuracy of the REE analyses performed by Actlabs, and all 28 samples were used to determine density. The REE check samples included were chosen according to the distribution of Dy seen on the Project across the three main lithological units and ranged in Dy grade from 2.3 ppm to 360 ppm. Quality control samples were also collected on two Search Minerals' pulp reference standards.

The agreement between analyses for Dy and Nd was shown to be acceptable and confirmed the presence of significant REE mineralization in the samples. Samples were collected from the three major lithological units on the Foxtrot Project, and the average bulk density measurements were used for resource estimation (RPA, 2013 and 2016).

RPA is of the opinion that database verification procedures for the Deep Fox Project comply with industry standards and are adequate for the purposes of Mineral Resource estimation



13 MINERAL PROCESSING AND METALLURGICAL TESTING

This section is not applicable.



14 MINERAL RESOURCE ESTIMATE

SUMMARY

RPA estimated Mineral Resources for the Deep Fox Project using all drill hole and channel sample data available as of September 26, 2019. Table 14-1 summarizes the estimated Mineral Resources based on a potential open pit mining scenario as of September 26, 2019. The cut-off value has been expressed as Net Smelter Return (NSR). No Mineral Reserves have been estimated at the Project.

TABLE 14-1 MINERAL RESOURCE ESTIMATE AS OF SEPTEMBER 26, 2019 Search Minerals Inc. – Deep Fox Project

				Average Grade					
Classification	NSR Cut-off (C\$/t)	Tonnage (000 t)	NSR (C\$/t)	Pr (ppm)	Nd (ppm)	Dy (ppm)	Pr₀O₁₁ (ppm)	Nd₂O₃ (ppm)	Dy₂O₃ (ppm)
Indicated	140	2,329	303	403	1,486	206	487	1,739	237
Inferred	140	3,902	268	357	1,323	181	432	1,548	208

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.

2. Mineral Resources were reported inside the pit shell at a pit discard NSR cut-off value of C\$140/t.

3. NSR values were assigned to blocks using metal price and metallurgical recovery assumptions for each metal; also accounting for separation and transportation charges and royalties for the mixed REO product.

4. A minimum mining width of 2.0 m was used.

5. Bulk density is 2.81 t/m³.

6. Numbers may not add due to rounding.

RPA is not aware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimate.

RESOURCE DATABASE

RPA was provided with a drill hole database consisting of 23 drill holes and 31 surface channels, totalling 4,507 m of drilling and 889 m of channel sampling. All 54 holes/channels (5,396 m) were located within the estimated Mineral Resources. Figure 14-1 shows the drill hole and channel traces in plan.



RPA received data from Search Minerals in Microsoft Excel format. Data were amalgamated and parsed as required and imported in Leapfrog Geo for modelling. Listed in Table 14-2 is a summary of records directly related to the resource estimate.

TABLE 14-2	RESOURCE DATABASE RECORDS
Search	Minerals Inc. – Deep Fox Project

Description	Record Count
Drill holes/Channels	54
Surveys	938
Assays	5,095 ¹
Composites	673
Lithology	5,699
Full zone width composites	203
Density measurements	4,154
Note:	
1. Does not include 800 unass	ayed intervals

RPA notes that channels have not been surveyed. Easting and northing coordinates were taken with a hand-held GPS for the channel "collar" locations, but elevation data is not available (see Section 12, Manual Database Verification).


14-3



GEOLOGICAL INTERPRETATION AND 3D SOLIDS

Resource wireframes were built to investigate geological and grade continuity and to constrain grade interpolation within the block model. A Leapfrog Geo 4.5 vein system modelling tool was used to generate an interpretation of the mineralization at a nominal cut-off NSR value of C\$140/t.

The Deep Fox deposit comprises three wireframes: Hanging Wall (HW) Zone, Footwall (FW) Zone, and Deep Zone (Figures 14-2 and 14-3, Table 14-3). A minimum thickness of two metres was applied. The zones of interpreted mineralization were contiguous, with rare exceptions where narrow intercepts were expanded to achieve a minimum thickness where required, and assays below the minimum NSR modelling value were included to maintain continuity. At model extremities, the wireframes were extrapolated approximately 25 m beyond the last channel or drill hole intersection. Continuity was checked using the level plans and in vertical cross sections. All three wireframes are steeply dipping (80° to 85°), at an azimuth of approximately 275°. The strike length of the HW and FW zones are approximately 620 m and 725 m and have been modelled to a depth of -60 MASL and -150 MASL, respectively. The wireframes have been extended no more than 25 m below the deepest drill hole intercept and the upper surfaces have been clipped to the topography. A description of each modelled wireframe follows:

- Footwall Zone: A steeply dipping (80° to 85°) single wireframe solid comprised predominantly of mineralized pantellerite, with a strike length of 725 m at an azimuth of approximately 275°. The unit has been modelled to a depth of -150 m, with an average thickness of 25 m, but ranges from 5 m to 40 m. The central portion of the FW Zone reaches a thickness of nearly 30 m, at a depth of approximately -40 m. The wireframe model narrows to approximately 5 m to the east and 13 m to the west. Small lenses of mainly non-peralkaline rhyolite (NPR), mafic and ultra mafic rock, and weakly mineralized comendite and pegmatite intermingle with the pantellerite. Drill hole intersections range from less than one metre to approximately five metres in thickness. Comendite is lower grade than pantellerite. The top of the FW Zone wireframe solid has been clipped to topography. The FW Zone is the main zone of mineralization.
- Hanging Wall Zone: A narrower zone of mineralization located on the hanging wall side of the FW Zone, the HW Zone parallels the steep dip of the FW Zone. The HW Zone comprises a single wireframe of predominantly mineralized pantellerite and low Zr-pantellerite, with a strike length of 765 m at an azimuth of approximately 285°. Similar to the FW Zone, small lenses of NPR, mafic and ultramafic rock, and weakly mineralized comendite and pegmatite intermingle with the pantellerite. Approximately two to ten metres of mafic and non-peralkaline rhyolitic rocks separate the FW Zone from the HW Zone.
- **Deep Zone:** A small zone of high grade pantellerite has been intersected on the footwall side of the FW Zone. A single wireframe constrains the mineralization, which is limited to two drill hole intersections, has been extended approximately 65 m along



strike, and the modelling is restricted from elevations -110 m to -200 m. It has a near vertical dip at an azimuth of approximately 275° and thickness ranges from approximately seven metres to 15 m.

TABLE 14-3 RESOURCE DOMAIN PROPERTIES Search Minerals Inc. – Deep Fox Project

Domain	Evaluation Name	Volume (m³)	Average Density (t/m ³)
Footwall Zone	mineralization/HW	1,766,100	2.81
Hanging Wall Zone	mineralization/FW	402,220	2.80
Deep Zone	mineralization/deep	71,276	2.79

Preliminary open pit Mineral Resources estimated at Deep Fox are located within the FW and HW Zone wireframes only. Blocks estimated within the Deep Zone are located outside the preliminary shell.





RPA

14-7



STATISTICAL ANALYSIS

There are 15 elements that normally are classified as REEs:

- La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu all of the lanthanoids with the exception of promethium (Pm), which does not occur in nature.
- Yttrium (Y), which is usually classified as a REE.

HREE include Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, and Y. LREE include La, Ce, Pr, Nd, and Sm. TREE is the sum of HREE and LREE. At Deep Fox, only seven payable REEs have been estimated into the block model: LREEs Nd and Pr, and HREEs Eu, Dy, Er, Lu, and Tb. The eight excluded REEs (Ce, La, Sm, Gd, Yb, Ho, Tm, and Y) do not contribute to the NSR value of the resource.

Some of the following discussion of statistical analysis focuses on three of these elements: Nd, Pr, and Dy. The elements chosen have the greatest in situ value (grade × metal price) at Deep Fox. Dy is the HREE with the greatest in situ value, and Nd is the LREE with the greatest in situ value.

Assay values located inside the wireframes, or resource assays, were tagged with mineralized zone domain identifiers and exported for statistical analysis. Results assisted in verifying the modelling process. RPA compiled and reviewed the basic statistics for Nd, Pr, and Dy, which are summarized in Table 14-4.

	Length	Nd	Pr	Dy
	(m)	(ppm)	(ppm)	(ppm)
Footwall Zone				
No. of Cases	1,419	1,419	1,419	1,419
Minimum	0.030	0.05	0.03	0.05
Maximum	2.87	3,040	813	433
Median	0.74	1,560	419	220
Length Weighted Mean	0.68	1,475	397	201
Standard Deviation	0.35	695	188	95
Coefficient of Variation	0.51	0.47	0.47	0.47

TABLE 14-4 DESCRIPTIVE STATISTICS OF RESOURCE ASSAY VALUES Search Minerals Inc. – Deep Fox Project



	Length	Nd	Pr	Dy
	(m)	(ppm)	(ppm)	(ppm)
Hanging Wall Zone				
No. of Cases	491	491	491	491
Minimum	0.001	0.05	0.03	0.05
Maximum	3.54	7,570	2,300	815
Median	0.58	1,080	287	163
Length Weighted Mean	0.60	1,036	275	151
Standard Deviation	0.35	627	171	85
Coefficient of Variation	0.59	0.60	0.62	0.56
Deep Zone				
No. of Cases	33	33	33	33
Minimum	0.001	0.05	0.03	0.05
Maximum	1.40	2,650	703	294
Median	0.99	1,764	467	228
Length Weighted Mean	0.91	1,648	437	217
Standard Deviation	0.27	597	158	67
Coefficient of Variation	0.29	0.36	0.36	0.31
Total				
No. of Cases	1,943	1,943	1,943	1,943
Minimum	0.001	0.05	0.03	0.05
Maximum	3.54	7,570	2,300	815
Median	0.70	1,380	372	200
Length Weighted Mean	0.66	1,379	370	190
Standard Deviation	0.35	703	190	95
Coefficient of Variation	0.53	0.51	0.51	0.50

Figures 14-4 to 14-6 show histograms of Nd, Pr, and Dy for all assays used in the resource estimate. The distributions show three prominent modes that correspond to two main rock types. The lowest mode belongs to samples from the mafic volcanic units. The two high grade modes belong to low-Zr pantellerite, and pantellerite-mafic mixed intervals (lower grade) and pantellerite (higher grade).



FIGURE 14-4 NEODYMIUM RESOURCE ASSAY SAMPLE HISTOGRAM



FIGURE 14-5 PRASEODYMIUM RESOURCE ASSAY SAMPLE HISTOGRAM





FIGURE 14-6 DYSPROSIUM RESOURCE ASSAY SAMPLE HISTOGRAM



Table 14-5 summarizes the basic assay statistics for the seven payable metals within the resource wireframe domains.

	No. of Cases	Minimum (ppm)	Maximum (ppm)	Median (ppm)	Length Weighted Mean (ppm)	Standard Deviation (ppm)	Coefficient of Variation
LREE							
Nd	1,943	0.05	7,570	1,379	703	0.51	1,380
Pr	1,943	0.03	2,300	370	190	0.51	372
HREE							
Eu	1,943	0.03	50	13	6	0.48	13
Dy	1,943	0.05	815	190	95	0.50	200
Er	1,943	0.05	432	103	51	0.49	110
Lu	1,943	0.02	48	13	6	0.48	14
Tb	1,943	0.05	129	32	16	0.50	34

TABLE 14-5 PAYABLE REE DESCRIPTIVE STATISTICS OF RESOURCE ASSAYS Search Minerals Inc. - Deep Fox Project



CAPPING HIGH GRADE VALUES

RPA investigated the necessity for capping of high grade resource assays. A review of the resource assay histograms, and top decile analysis performed for Nd, Pr, Eu, Dy, Er, Lu, and Tb showed that capping was not necessary. This is confirmed by low coefficients of variation (Table 14-5).

COMPOSITING

Assayed sample lengths range from 0.01 m to 1.69 m within the resource wireframe models. Only two samples have lengths greater than 2.0 m (Figure 14-7). Given these distributions and considering the width of mineralization, RPA chose to composite to 2.0 m lengths. The resource assays were composited starting at the first mineralized wireframe boundary from the collar and resetting at each new wireframe boundary. Composites less than 0.25 m were removed from the database for resource estimation but used for variography.

FIGURE 14-7 HISTOGRAM OF RESOURCE ASSAY SAMPLE LENGTHS





Table 14-6 summarizes the Pr, Dy, and Nd statistics of the composite resource assay values. When compared to Table 14-4, the average grades are nearly the same and the coefficient of variation values have been reduced.

	bN (maa)	Pr (ppm)	Dy (mag)
Footwall Zone			<u>W_F</u> /
No. of Cases	497	497	497
Minimum	0.05	0.03	0.05
Maximum	2,742	735	389
Median	1,511	407	208
Length Weighted Mean	1,471	396	201
Standard Deviation	521	141	71
Coefficient of Variation	0.35	0.36	0.36
Hanging Wall Zone			
No. of Cases	160	160	160
Minimum	0.05	0.03	0.05
Maximum	2,597	677	303
Median	1,068	284	153
Length Weighted Mean	1,051	279	153
Standard Deviation	416	112	55
Coefficient of Variation	0.40	0.40	0.36
Deep Zone			
No. of Cases	16	16	16
Minimum	982	262	125
Maximum	2,359	624	288
Median	1,744	444	231
Length Weighted Mean	1,657	438	220
Standard Deviation	408	103	48
Coefficient of Variation	0.25	0.24	0.22
Total			
No. of Cases	673	673	673
Minimum	0.05	0.03	0.05
Maximum	2,742	735	389
Median	1,366	367	192
Length Weighted Mean	1,375	369	190
Standard Deviation	528	143	71
Coefficient of Variation	0.38	0.39	0.37

TABLE 14-6 DESCRIPTIVE STATISTICS OF COMPOSITED RESOURCE ASSAY VALUES Search Minerals Inc. – Deep Fox Project



VARIOGRAPHY AND INTERPOLATION PARAMETERS

There is a very strong correlation among all elements (Table 14-7), and RPA used a single variogram model for the LREEs and a single variogram model for the HREEs for grade interpolation.

	Dy	Er	Eu	Lu	Tb	Nd	Pr
Dy	1.00	1.00	0.98	0.98	1.00	0.95	0.93
Er	1.00	1.00	0.96	0.99	0.99	0.92	0.90
Eu	0.98	0.96	1.00	0.94	0.99	0.99	0.98
Lu	0.98	0.99	0.94	1.00	0.98	0.90	0.88
Tb	1.00	0.99	0.99	0.98	1.00	0.96	0.94
Nd	0.95	0.92	0.99	0.90	0.96	1.00	1.00
Pr	0.93	0.90	0.98	0.88	0.94	1.00	1.00

TABLE 14-7 CORRELATION MATRIX OF PAYABLE REES Search Minerals Inc. – Deep Fox Project

RPA evaluated variography and prepared variograms using all available composited assays located within the resource domains with the Edge module in Leapfrog. The nugget effect was established with the downhole variogram. For both the LREEs and HREEs, the variogram was consistent with trends used for the resource wireframes and was oriented with the longest range in the down plunge directions, the semi-major parallel to the strike of the mineralization, and the shortest range was observed normal to the plane of the deposit. Variography confirmed that the direction of maximum continuity is the down plunge direction (X) at an azimuth of 285°, with a range of 170 m for LREEs and 125 m for HREEs. The semi-major range (Y) is 120 m for LREEs and 85 m for HREEs, and perpendicular to the strike direction (Z), the range is approximately 8.0 m for LREEs and 12 m for HREEs. Variograms are shown in Figures 14-8 and 14-9, and variogram model results are summarized in Table 14-8.



Minor Semi Major Major 0.8 0.6 (Semi-)Variogram 0.4 0.0 + 25 200 50 75 125 150 100 175 Distance (m)

FIGURE 14-8 LREE VARIOGRAM MODEL



FIGURE 14-9 HREE VARIOGRAM MODEL



TABLE 14-8VARIOGRAPHY PARAMETERSSearch Minerals Inc. – Deep Fox Project

	LREEs	HREEs
Nugget (C ₀)	0.20	0.40
Trend		
Dip (°)	85	85
Dip Azimuth (°)	185	185
Pitch (°)	40	60
C ₁	0.49	0.31
Model	Spherical	Spherical
Range X (m)	48	55
Range Y (m)	75	38
Range Z (m)	5	10
C ₂	0.31	0.29
Model	Spherical	Spherical
Range X (m)	170	125
Range Y (m)	120	85
Range Z (m)	8	12
Total Sill	1.0	1.0



REE grades were interpolated using ordinary kriging (OK). Variography was used to determine the search ellipsoid dimensions and global plunge, and variable orientation was applied using the resource domain wireframe (Figure 14-10). The interpolation and search parameters are summarized in Table 14-9.

Parameter		LREEs	HREEs
Method		OK	OK
Boundary Type		Hard	Hard
Min. No. Comps	.	1	1
Max. Comps. Per Drill Hole		8	8
Max. Comps. Per Drill Hole		2	2
	Dip (°)	85	85
Search Anisotropy1	Dip Azimuth (°)	185	185
Anisotropy	Pitch (°)	40	60
	Range X (m)	170	125
Search Ellipse	Range Y (m)	120	85
	Range Z (m)	8	12

TABLE 14-9 BLOCK ESTIMATE ESTIMATION PARAMETERS Search Minerals Inc. – Deep Fox Project

Note:

1. Global plunge with a variable orientation applied to follow the structure of each resource domain (see Figure 14-10).

A single pass was used to interpolate LREE and HREE block grades for all resource domains. Interpolation was restricted by the mineralized wireframe models, which were used as hard boundaries to prevent the use of composite samples outside of the zones to interpolate block grades. The single pass used 100% of the variogram ranges and was limited to a minimum of one and a maximum of eight composites per block, with a maximum limit of two composites used per drill hole. Identical search ellipses were used for all LREEs and HREEs in all three resource domains.



14-18

NSR CUT-OFF VALUE AND PRELIMINARY OPEN PIT SHELL

The depth and geometry of the interpreted mineralized domains at the Deep Fox deposit make it amenable to open pit methods near surface. To fulfill the CIM requirement of "reasonable prospects for eventual economic extraction", RPA prepared a preliminary open pit shell to constrain the block model for resource reporting purposes. The preliminary pit shell was generated in Whittle software using a pit slope angle of 50°.

NSR factors were developed by RPA for the purposes of resource reporting. NSR is the estimated value per tonne of mineralized material after allowance for metallurgical recovery and consideration of terms for third-party separation and refining, including payability and charges. The assumptions for metallurgical recoveries are based on metallurgical testwork carried out on Deep Fox samples (Search Minerals, 2017).

The net revenue of seven payable REEs was calculated and then divided by grade to generate an NSR factor for resource reporting. These NSR factors represent revenue per oxide grade unit (US\$/kg Dy_2O_3 , for example), and are independent of grade. Key assumptions are summarized in Tables 14-10 and 14-11.

	Metal Price	Recovery	Separation Charges
REO	(US\$/kg)	(%)	(US\$/kg)
Nd ₂ O ₃	80.00	89.0	10.00
Pr_6O_{11}	90.00	88.7	10.00
Eu ₂ O ₃	60.00	86.0	20.00
Dy ₂ O ₃	300.00	79.7	20.00
Er ₂ O ₃	30.00	77.1	20.00
Tb ₄ O ₇	650.00	80.9	20.00
Lu ₂ O ₃	750.00	60.2	20.00

TABLE 14-10 CUT-OFF VALUE ASSUMPTIONS Search Minerals Inc. – Deep Fox Project

Notes:

1. Exchange rate of 1.30:1.00 (C\$:US\$)

2. Transportation charges of C\$50.00/t of REO product



TABLE 14-11 NSR CUT-OFF GRADE CALCULATION ASSUMPTIONS Search Minerals Inc. – Deep Fox Project

Area	Unit	Cost C\$
Open Pit Mining - ore	C\$/t moved	5.50
Open Pit Mining – waste	C\$/t moved	4.50
Crushing	C\$/t processed	5.00
Processing - Concentration	C\$/t processed	125.00
G&A	C\$/t processed	11.45
Total Operating Costs	C\$/t processed	175.08
Reporting Cut-off ¹		141.45
Rounded Reporting Cut-off		140.00

Note:

1. Open pit mining is reported at pit discard cut-off, which excludes mining costs

These NSR factors were applied to assay grades to help interpret the mineralized zone outlines on drill sections, which were used to generate the mineralized zone wireframes. A minimum NSR of C\$140/t was used to select drill hole assay intercepts. These intercepts were then interpreted on drill sections.

The NSR factors were used to calculate an NSR value (C\$/t) for each block in the block model, which was compared directly to unit operating costs required to mine that block (Table 14-11). All classified resource blocks located within the mineralized wireframe domains and above the resource pit shell with NSR values greater than C\$140/t were included in the open pit resource estimate. All classified resource blocks located within the mineralized wireframe domains and outside of the resource pit shell were not included in the resource estimate. Resource blocks within the pit shell exhibited good continuity within the wireframes.

In RPA's opinion, an NSR cut-off value of C\$140/t (rounded) is suitable for an open pit mining scenario.

BULK DENSITY

To convert volume to tonnes, a simplified lithological model, with the identical footprint as the block model, was created in Leapfrog with the following rock types: Comendite, Anorthosite, NPR, Pantellerite, and Mafic/Ultramafic (Figure 14-11). A bulk density factor was assigned for each lithology by determining the mean value of each rock type from bulk density testing



carried out on the drill core and channel samples by Search Minerals from 2014 to 2018. Each block in the model was coded with the lithology rock type by majority rules. Overburden was not modelled as the deposit is exposed at surface. Resource bulk density statistics are summarized in Table 14-12.

TABLE 14-12 RESOURCE BULK DENSITY STATISTICS IN T/M³ Search Minerals Inc. – Deep Fox Project

	All	Anorthosite	Comendite	Mafic/UM	NPR	Pantellerite
No. of Cases	4,223	239	1,400	362	758	1,464
Minimum	2.22	2.50	2.22	2.43	2.22	2.44
Maximum	3.55	3.33	3.45	3.55	3.36	3.44
Median	2.75	2.88	2.71	2.86	2.69	2.81
Mean	2.78	2.87	2.73	2.85	2.73	2.81
Standard Deviation	0.15	0.16	0.13	0.18	0.15	0.13
Coefficient of Variation	0.05	0.05	0.05	0.06	0.06	0.05





BLOCK MODEL

The Leapfrog block model is made up of 200 columns, 220 rows, and 80 levels for 3,520,000 blocks. The model origin (lower-left corner at highest elevation) is at UTM Grid Zone 21N, NAD83 591,000 m E, 5,804050 m N and 135 m elevation. The block model is not rotated, and each block is 5 m (x) by 2.5 m (y) by 5 m (z). A whole block model is used, and resource domains and other geology codes are assigned by majority rules. The block model contains the following information:

- domain identifiers with mineralized zone and lithology;
- estimated grades of seven payable REEs inside the resource domain wireframes;
- NSR estimates calculated from block grades and related economic and metallurgical assumptions;
- the percentage volume of each block within the mineralization wireframes;
- tonnage factors, in tonnes per cubic metre, specific to each rock type;
- the distance to the closest composite used to interpolate the block grade;
- the number of composites used to interpolate the block grade;
- the average distance to composite used to interpolate the block grade; and
- the resource classification of each block.

CLASSIFICATION

Definitions for resource categories used in this report are consistent with those defined by CIM (2014) and adopted by NI 43-101. In the CIM classification, a Mineral Resource is defined as "a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction." Mineral Resources are classified into Measured, Indicated, and Inferred categories, according to the confidence level in the estimated blocks.

RPA classified the Deep Fox Mineral Resource as Indicated and Inferred based on drill hole and surface channel spacing, the reliability of data, and geological confidence in the continuity of grade (Figure 14-12). The overall geological continuity of the Deep Fox deposit is consistent in the plane of the mineralization. The grade continuity is also consistent, with high grades confined to the pantellerite units, moderate grades in comendite and pegmatite, and low grade within mafic/ultramafic rocks. The consistent nature of the mineralization, for both the grade



and geological continuity, would normally provide sufficient confidence to allow classification of most of the Mineral Resources as Indicated.

Composites located within the wireframes were plotted on an inclined south-looking section in the dip plane of the mineralized wireframes and reviewed for their spatial distribution and spacing. Where RPA deemed that the spacing was insufficient to establish grade and geological continuity with confidence (generally >50 m), the Mineral Resource was classified as Inferred. In addition, only the start or "collar" of the surface channel samples had a location coordinate taken by a hand-held field GPS. No elevation data has been collected, or any additional location information for the channel samples, and confidence in the accuracy and precision of the location of channel samples is not high. For this reason, RPA classified shallow blocks within approximately 50 m of the surface as Inferred.







SUMMARY OF MINERAL RESOURCE ESTIMATE

RPA estimated Mineral Resources for the Deep Fox Project using drill hole and channel sample data available as of September 26, 2019. Table 14-13 summarizes estimated grades of all payable REEs and REOs in the Deep Fox Mineral Resource for a potential open pit mining scenario as of September 26, 2019. Mineral Resources are reported at an NSR cut-off value of C\$140/t. No Mineral Reserves have been estimated at the Project.

TABLE 14-13MINERAL RESOURCE ESTIMATE BY ZONE AS OF
SEPTEMBER 26, 2019

		Indicated			Inferred		
		Footwall Zone	Hanging Wall Zone	Total	Footwall Zone	Hanging Wall Zone	Total
Tonnage	(000 t)	1,958	371	2,329	3,178	725	3,902
Element	Unit			Average			Average
NSR	C\$/t	319	217	303	280	217	268
Pr	ppm	426	276	403	376	278	357
Nd	ppm	1,570	1,041	1,486	1,387	1,045	1,323
Dy	ppm	216	155	206	187	153	181
Eu	ppm	15	10	14	13	10	13
Er	ppm	116	91	112	100	87	98
Lu	ppm	14	11	14	13	11	12
Tb	ppm	36	26	35	32	26	31
Oxide							
Pr_6O_{11}	ppm	516	335	487	454	336	432
Nd ₂ O ₃	ppm	1,837	1,218	1,739	1,623	1,223	1,548
Dy_2O_3	ppm	248	178	237	215	176	208
Eu ₂ O ₃	ppm	18	12	17	15	12	15
Er ₂ O ₃	ppm	132	103	128	114	99	111
Lu_2O_3	ppm	16	12	16	14	12	14
Tb ₄ O ₇	ppm	43	31	41	37	30	36

Search Minerals Inc. – Deep Fox Project

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.

2. Mineral Resources were reported inside the pit shell at a pit discard NSR cut-off value of C\$140/t.

 NSR values were assigned to blocks using metal price and metallurgical recovery assumptions for each metal; also accounting for separation and transportation charges and royalties for the mixed REO product.

4. A minimum mining width of 2.0 m was used.

5. Bulk density is 2.81 t/m³.

6. Numbers may not add due to rounding.



BLOCK MODEL VALIDATION

RPA carried out a number of block model validation procedures including:

- 1. Visual comparisons of block NSR, Nd, Pr, Eu, Dy, Er, Lu, and versus composite grades.
- 2. Statistical comparisons of Nd, Pr, and Dy.
- 3. Comparison of the volumes of the wireframe models to the block model volume results.
- 4. Trend plots of block and composite NSR, Nd, Pr, and Dy
- 5. Comparison of Nd, Pr, and Dy block and composite grades in blocks containing composites.

Block model grades were visually examined and compared with composite grades in cross section and in elevation plans. RPA found grade continuity to be reasonable and confirmed that the block grades were reasonably consistent with local drill hole and channel sample assay and composite grades.

Grade statistics for Nd, Pr, and Dy assays, composites, and resource blocks were examined and compared for the resource wireframe models as shown in Table 14-14 and Figures 14-13, 14-14, and 14-15. The comparisons of average grades of length weighted assays, composites, and blocks are reasonable in RPA's opinion.



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TABLE 14-14COMPARISON OF NEODYNIUM, PRAESODYMIUM, AND DYSPROSIUM AND
GRADE STATISTICS FOR ASSAYS, COMPOSITES, AND RESOURCE BLOCKS

Zone	Assays			2.0 m Composites			Block Model Grades		
	Nd	Pr	Dy	Nd	Pr	Dy	Nd	Pr	Dy
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Footwall Zone									
Number of Cases	1,419	1,419	1,419	497	497	497	30,708	30,708	30,708
Minimum	0.05	0.03	0.05	0.05	0.03	0.05	189	48	43
Maximum	3,040	813	433	2,742	735	389	2,268	600	307
Median	1,560	419	220	1,511	407	208	1,463	396	202
Length Weighted Mean ¹	1,475	397	201	1,471	396	201	1,446	391	197
Standard Deviation	695	188	95	521	141	71	307	83	42
Coefficient of Variation	0.47	0.47	0.47	0.35	0.36	0.36	0.21	0.21	0.21
Hanging Wall Zone									
Number of Cases	491	491	491	160	160	160	7,112	7,112	7,112
Minimum	0.05	0.03	0.05	0.05	0.03	0.05	176	47	39
Maximum	7,570	2,300	815	2,597	677	303	2,206	577	242
Median	1,080	287	163	1,068	284	153	1,030	270	154
Length Weighted Mean ¹	1,036	275	151	1,051	279	153	1,009	268	149
Standard Deviation	627	171	85	416	112	55	232	64	28
Coefficient of Variation	0.60	0.62	0.56	0.40	0.40	0.36	0.23	0.24	0.18
Deep Zone									
Number of Cases	33	33	33	16	16	16	1,166	1,166	1,166
Minimum	0.05	0.03	0.05	982	262	125	1,240	330	181
Maximum	2,650	703	294	2,359	624	288	1,989	517	257
Median	1,764	467	228	1,744	444	231	1,633	435	218
Length Weighted Mean ¹	1,648	437	217	1,657	438	220	1,633	433	219
Standard Deviation	597	158	67	408	103	48	146	36	12
Coefficient of Variation	0.36	0.36	0.31	0.25	0.24	0.22	0.09	0.08	0.05
All									
Number of Cases	1,943	1,943	1,943	673	673	673	38,986	38,986	38,986
Minimum	0.05	0.03	0.05	0.05	0.03	0.05	176	47	39
Maximum	7,570	2,300	815	2,742	735	389	2,268	600	307
Median	1,380	372	200	1,366	367	192	1,389	376	191
Length Weighted Mean ¹	1,379	370	190	1,375	369	190	1,372	370	189
Standard Deviation	703	190	95	528	143	71	339	93	44
Coefficient of Variation	0.51	0.51	0.50	0.38	0.39	0.37	0.25	0.25	0.23

Note.

1. Block mean is tonnage weighted

SENSITIVITY ANALYSIS

The open pit resources were reported using a C\$140/t NSR cut-off value based on the metal prices in Table 14-10 and costs in Table 14-11.

Open Pit Mineral Resources at Deep Fox are not highly sensitive to the NSR cut-off value. Table 14-15 presents the grade and tonnage at various NSR cut-off values and Figure 14-16 illustrates the grade-tonnage curve for the Deep Fox

	NSR Cut-off	Tonnage (000 t)	Average Grade						
Classification			Pr	Nd	Dy	Pr ₆ O ₁₁	Nd_2O_3	Dy_2O_3	
	(04/1)		(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
Indicated	≥200	2,191	414	1,529	211	501	1,789	243	
	≥180	2,245	410	1,513	209	496	1,771	241	
	≥160	2,293	406	1,498	207	491	1,753	239	
	≥140	2,329	403	1,486	206	487	1,739	237	
Inferred	≥200	3,422	375	1,388	188	454	1,624	217	
	≥180	3,681	366	1,356	184	443	1,586	212	
	≥160	3,830	360	1,335	182	436	1,562	209	
	≥140	3,902	357	1,323	181	432	1,548	208	

TABLE 14-15 GRADE AND TONNAGE AT VARIOUS NSR CUT-OFF VALUES Search Minerals Inc. – Deep Fox Project

Notes:

- 1. Base case highlighted with bold text.
- 2. CIM (2014) definitions were followed for Mineral Resources.
- 3. Mineral Resources were reported inside the pit shell at a pit discard NSR cut-off value of C\$140/t.
- NSR values were assigned to blocks using metal price and metallurgical recovery assumptions for each metal; also accounting for separation and transportation charges and royalties for the mixed REO product.
- 5. A minimum mining width of 2.0 m was used.
- 6. Bulk density is 2.81 t/m³.
- 7. Numbers may not add due to rounding.



FIGURE 14-16 GRADE-TONNAGE CURVE FOR THE IN PIT MINERAL RESOURCES AT THE DEEP FOX PROJECT





15 MINERAL RESERVE ESTIMATE

No Mineral Reserves have been estimated at the Project.



16 MINING METHODS



17 RECOVERY METHODS



18 PROJECT INFRASTRUCTURE



19 MARKET STUDIES AND CONTRACTS


20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable.



21 CAPITAL AND OPERATING COSTS

This section is not applicable.



22 ECONOMIC ANALYSIS

This section is not applicable.



23 ADJACENT PROPERTIES

There are no adjacent properties to report.



24 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.



25 INTERPRETATION AND CONCLUSIONS

The Project is located approximately 47 km east-southeast of Port Hope Simpson, Labrador, and approximately two kilometres northeast of St. Lewis, Labrador. It is located in the Fox Harbour Volcanic Belt which also contains Search Minerals' Foxtrot deposit and numerous other REE prospects and targets.

A significant REE deposit has been delineated at the Project. The majority of the high grade mineralization occurs within steeply dipping packages of pantellerite. The resource wireframes, which were interpreted at a nominal cut-off NSR value of C\$140/t, consist of three steeply dipping zones: Hanging Wall Zone, a higher grade and more extensive Footwall Zone, and a smaller, deeper high grade Deep Zone. Pantellerite is the most common lithology within the resource wireframes. Statistical analysis of the resource assays shows that there is a bimodal distribution of REEs within the Deep Fox deposit, with higher grade generally corresponding to the Footwall Zone and moderate grades corresponding to the Hanging Wall Zone.

The mineralization is steeply dipping (> 80°), with a strike length of approximately 725 m at an azimuth of 275°. The understanding of the Project geology and mineralization, together with the procedures for drilling, sampling, collection of data, assaying, and QA/QC carried out by Search Minerals have produced a drill hole database that is acceptable for Mineral Resource estimation, in the opinion of RPA. Results from 54 drill holes and channels to September 26, 2019 have been used by RPA to estimate Mineral Resources.

The Mineral Resource estimate is reported on the basis of a possible open pit mining scenario using an NSR cut-off value of C\$140/t. RPA considers that open pit material with NSR values greater than C\$140/t meets the requirement of CIM (2014) that Mineral Resources have reasonable prospects for eventual economic extraction.

Open pit Indicated Mineral Resources are estimated to total 2.3 Mt at 403 ppm Pr, 1,486 ppm Nd, and 206 ppm Dy, and open pit Inferred Mineral Resources are estimated to total 3.9 Mt at 357 ppm Pr, 1,323 ppm Nd, and 181 ppm Dy. The level of confidence in the data is not high enough to classify any resource as Measured. Definitions for resource categories used in this report are consistent with those defined by CIM (2014) and adopted by NI 43-101.

There has not been a previous Mineral Resource estimate on the Project.

The Deep Fox deposit is open at depth. Current drilling suggests that the resource shows good grade continuity with depth, with no notable decrease in grade down dip.



26 RECOMMENDATIONS

RPA has the following recommendations for the Deep Fox Project:

- Continue diamond drilling on the Project to define the physical limits of the deposit. Further drilling should be completed to follow the high grade mineralization at depth down plunge below -100 m, and below the surface channel samples at the western part of the Deep Fox mineralized zones.
- In order to bring the confidence level of the resource to Indicated:
 - o Carry out infill drilling at the periphery of wireframes;
 - Complete a topographical survey over the deposit and survey all surface channels.
- Resume the regular submission of blank material with regular drill core and surface channel samples.
- Include selected half core samples (field duplicates) in the duplicate sampling protocol.
- Work with an assay laboratory to develop CRMs with REE grades similar to those found at the Project. Alternatively, commercial CRMs can be used.
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- Continue exploration of high grade REE prospects in the area.

BUDGET

The proposed budget for Project advancement is shown in Table 26-1.

Item	Cost (C\$000)
Phase I - Delineation Drilling (3,000 m @ C\$200/m)	600
Phase II - Infill Drilling (8,000 m @ C\$200/m)	1,600
Assays 8,000 @ C\$90/sample	720
Mineral Resource Update	50
Salaries and Wages	40
Camp Costs	8
Field Travel	2
Total	3,020

TABLE 26-1 BUDGET FOR PROJECT ADVANCEMENT Search Minerals Inc. – Deep Fox Project



27 REFERENCES

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28 DATE AND SIGNATURE PAGE

This report titled "Technical Report on the Deep Fox Project, Newfoundland and Labrador, Canada" and dated November 12, 2019, was prepared and signed by the following author:

(Signed & Sealed) Katharine M. Masun

Dated at Toronto, ON November 12, 2019

Katharine M. Masun, M.Sc., MSA, P.Geo. Senior Geologist



29 CERTIFICATE OF QUALIFIED PERSON

KATHARINE M. MASUN

I, Katharine M. Masun, M.Sc., MSA, P.Geo., as an author of this report entitled "Technical Report on the Deep Fox Project, Newfoundland and Labrador, Canada" prepared for Search Minerals Inc. and dated November 12, 2019, do hereby certify that:

- 1. I am a Senior Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
- 2. I am a graduate of Lakehead University, Thunder Bay, Ontario, Canada, in 1997 with an Honours Bachelor of Science degree in Geology and in 1999 with a Master of Science degree in Geology. I am also a graduate Ryerson University in Toronto, Ontario, Canada, in 2010 with a Master of Spatial Analysis.
- 3. I am registered as a Professional Geologist in the Province of Ontario (Reg. #1583) and in the province of Newfoundland and Labrador (Reg. #08261). I have worked as a geologist for a total of 22 years since my graduation. My relevant experience for the purpose of the Technical Report is:
 - Review and report as a professional geologist on many mining and exploration projects around the world for due diligence and regulatory requirements
 - Project Geologist on numerous field and drilling programs in North America, South America, Asia, and Australia
 - Experience with Leapfrog geological and resource modelling.
- 4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 5. I visited the Deep Fox Project on August 26, 2015.
- 6. I am responsible for all sections of the Technical Report.
- 7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
- 8. I have prepared a previous Technical Report dated April 28, 2016, on the Foxtrot Project, which included information on the property that is the subject of the Technical Report.
- 9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.



10. At the effective date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated 12th day of November, 2019

(Signed & Sealed) Katharine M. Masun

Katharine M. Masun, M.Sc., MSA, P.Geo.