INDEPENDENT TECHNICAL REPORT ON THE ROBINSONS RIVER SALT PROPERTY

SOUTHWESTERN NEWFOUNDLAND, CANADA

NI 43-101

REPORT RSI-3369

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EFFECTIVE DATE JULY 31, 2023

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1.0 SUMMARY

1.1 INTRODUCTION

This technical report titled *NI 43-101 Independent Technical Report on the Robinsons River Salt Property for Vortex Energy Corp., Stephenville, Newfoundland* (Report) was prepared by RESPEC Consulting Inc. (RESPEC) at the request of Vortex Energy Corp. (Vortex Energy), a public company formed under the Laws of British Columbia, Canada.

This Report is specific to the standards of the National Instrument (NI) 43-101 Standards of Disclosure for Mineral Projects, NI 43-101 Companion Policy, and NI 43-101F1 Technical Report of the Canadian Securities Administrators, effective June 30, 2011. While preparing this Report, RESPEC relied on historical reports, opinions, and statements provided by Vortex Energy; however, this Report was not prepared under Vortex Energy's supervision. A technical report by Michael Kilbourne, P.Geo, dated May 1, 2023, titled *NI 43-101 Independent Technical Report on the Robinsons River Salt Property for Vortex Energy Corp. Stephensville, Newfoundland* [Kilbourne, 2023] is cited.

Before the issuer filed this technical report, Qualified Person (QP) Tabetha Stirrett, P. Geo, who is responsible for preparing and supervising all of this Report, completed a current inspection of the Robinsons River Salt Property (the Property) from July 5 to July 7, 2023.

1.2 PROJECT DESCRIPTION

The Property consists of five continuous mineral licenses comprising 943 claim units. The mineral licenses were formerly held by Blue Ocean Salt Corp. and Galloper Gold Corp. but have since been acquired by Vortex Energy in April 2023 and July 2023, respectively. The Property's northern extent (License 034975M) of 256 claims were acquired by Vortex Energy from Galloper Gold Corp., and the Property's southern extent (Licenses 035017M, 035018M, 035062M, 035063M) of 687 claims were acquired by Vortex Energy as part of its acquisition of Blue Ocean Salt Corp.

1.3 LOCATION, ACCESS, AND OWNERSHIP

The Property is approximately centered at 48.21 north latitude and –58.61 west longitude (UTM 380404E, 5341505N, Zone 21U, NAD27) occurring on National Topographic Sheets (NTS) 12B01, 12B02, 12B07, and 12B08. The Property covers an area of approximately 23,575 hectares and is located roughly 35 km south of Stephenville, Newfoundland.

Despite the major Trans-Canadian Highway 1, accessing portions of the Property can be difficult because of harsh weather, unmaintained bridges, and boggy grounds. In most cases, access by truck or four-wheeler using current trails and forest roads provides efficient access during late spring to early fall.

Any future exploration work would require the appropriate permits, licenses, and approvals from the Newfoundland government.

1.4 HISTORY, EXPLORATION, AND DRILLING

Numerous geological, geochemical, and geophysical studies have been conducted by the Newfoundland Geological Services Division and the Geological Survey of Canada in southwestern Newfoundland that covered all or parts of the Robinsons River Salt Property. These include mapping, geochemical, and geophysical surveys spanning the last 100 years.

Exploration conducted on the Robinsons River Salt Property before 1997, however, is poorly documented, and no NFLD assessment reports describe this work. Initial work was focused on the mineral potential, mainly Pb-Zn deposits, along with salt exploration. Work since has involved surface geochemical sampling, trenching, drilling and geophysical surveying.

The presence of salt associated with the Carboniferous Codroy Group was first identified in 1938 in the northern extent of the Bay St. Georges Subbasin (BSGSB) area. The discovery encouraged geophysical surveys and located several geophysical anomalies over the western extent of the province. By 1967, follow-up gravity surveys were conducted, identifying targets in the Robinsons River and St. Fintan area and soon after tested with diamond drilling. The first salt dome was proven in 1968 in Fischells Brook with a 390-meter (m) sequence of salt. Encouraged by the results, an expanded gravity study outlined additional geophysical anomalies, and by 2002, the first noteworthy potash was encountered within a massive halite within the same basin area.

While drilling has been limited on the Property, in 2009, Vulcan Minerals Inc. (Vulcan) drilled a deep exploratory hole (Robinsons #1) within the current Property outline. Robinsons #1 was drilled to 3,560 m to delineate evaporite stratigraphy. The hole encountered a thinner Codroy evaporite sequence than anticipated, with no halite or potash, and this is credited this unsuccessful hole to drilling an anomalous interpreted geophysical high.

As of 2023, Vortex completed a Falcon airborne gravity gradiometer (AGG) and magnetic survey and three-dimensional (3D) inversion modeling over the Property between December 21, 2022, and January 22, 2023. The purpose of the AGG and magnetic survey was to complete a reconnaissance of the years of geophysics and interpretations completed concerning the Property. The new geophysical data collected served to prospect economic salt mineral deposits characterized by anomalous gravity and magnetic responses historically documented on the Property. These surveys outlined two remarkable low-density anomalies from the preliminary inversion models of gravity and were noted as prospective targets for further exploration.

1.5 GEOLOGY AND MINERALIZATION

The geological formations that host the evaporite sequences in Newfoundland are a northeastern extension of the Carboniferous-aged Maritime Basin. The Maritime Basin stretches across the Gulf of St. Lawrence, covering Prince Edward Island, parts of eastern Nova Scotia, and an eastern section of New Brunswick. In New Brunswick, the Windsor Group hosts salt and potash evaporite deposits. The geology of the BSGSB of Newfoundland is broadly analogous to the geology in New Brunswick, which has been an economical source for salt and potash mining in the recent past.

There are two large Carboniferous basins in western Newfoundland: the Deer Lake Basin in the north and the BSGSB in the south that hosts the Property. There is currently no significant marine deposition in the Deer Lake Basin; therefore, it is un-prospective for evaporite sequences. There is significant marine deposition in the BSGSB presently, making the BSGSB a prospective for evaporite sequences; its maximum width during the time of the deposition of the Codroy Group is estimated to be approximately 60 kilometers (km). Deformation caused the sedimentary rocks' local and regional compression and tilting, resulting in broad, open folds, reverse and normal faulting, and salt tectonism.

In the BSGSB, an approximately 10,000 m-thick sequence of sediments is divided into three groups: the lower Anguille Group, the middle Codroy Group, and the upper Barachois Group. Marine sediments are only present in the Codroy Group.

Mineralization of the BSGSB across the three sediment groups includes:

- Sediment-hosted polymetallic veining hosting copper (Cu), lead (Pb) and zinc (Zn)
- Sediment vein hosted barite ($BaSO_4$) and celestite ($SrSO_4$)
- Potash-rich sediments as sylvite (KCl) and carnallite ($KClMgCl_2(H_20)_6$)
- Formational coal beds
- Formational evaporites of gypsum/anhydrite
- Formational evaporites of halite (salt)
- Sandstone hosted uranium and copper.

1.6 EXPLORATION

RESPEC evaluated the potential to find suitable NaCl for mining and the prefeasibility of developing hydrogen storage caverns on the Property. RESPEC reviewed the available geologic data and provided recommendations on: (1) extent and thickness of salt, (2) cavern placement and sizing based on regulations and industry standards, (3) cavern layout and number of caverns possible in the salt structure, (4) hydrogen storage capacity in the salt structure, and (5) future design studies to advance the project.

Publicly available 2D seismic data and ground gravity survey data were used to interpret the evaporite geology within the Property. The 2D seismic data have a strong reflector interpreted as salt and show two major salt structures with a maximum thickness exceeding 1,800 m. Based on the seismic data interpretation, RESPEC generated a 3D geology model to represent the extent and thickness of the salt structures. The East Salt Structure spans an area of 7,000 m by 3,400 m, whereas the West Salt Structure spans an area of 7,100 m by 3,600 m.

The salt occurrences represent subsurface mineralization and the only data available for evaluation are existing drillhole results from geological reports, chemical assay of drill core, and interpreted geophysics maps recovered from the public record. More importantly, salt mineralization documentation is from wells collared outside of the Vortex Property. To advance the Property, these proposed salt structures have merit to be drilled. Knowledge from drill core, at this time, is imperative to provide proof of concept and confirmation.

1.7 MINERAL RESOURCE/RESERVE ESTIMATE

Vortex Energy has not performed any mineral resource or reserve estimates on the Property.

1.8 CONCLUSIONS

The Property has been among various broad-scale exploration campaigns and is presently situated in a prospective salt region of Newfoundland. Based on past and updated interpretations, the Property warrants further exploration, and merit for the following activities:

- **Potential for additional deposits.** The Property lies within the BSGSB, the host of economic-evaporite deposits and additional rare-earth metals: Copper, Zinc, Uranium.
- **Proven to be in favorable stratigraphy.** The Robinsons #1 drillhole confirmed the favorable stratigraphy to host evaporite deposits within the BSGSB.
- **Prospective salt structures within gravity lows.** The updated geophysical interpretations on the Property have identified two major salt structures by their anomalous density lows, which are primary exploration targets.
- **Mine development and production of salt for direct commercial use.** The mining of the deposits, depending on the quality of the salt, has the potential for direct commercial use and sale, including road salt or consumption as table salt with minimal mining processing.
- **Additional benefit for caverns and hydrogen storage.** The potential for cavern placement and hydrogen storage refining requires understanding the host rock formation's quality, thickness, and deformation properties.

Most recently, Robinsons #1 drillhole, managed by Vulcan, drilled the central portion of the Property in 2009. The interpreted presence of the Codroy Road Formation, the main evaporite bed within the Codroy Group, was intersected at a vertical depth of 815 m. However, the drillhole was an unsuccessful attempt to intersect salt or potash. This unexpected outcome was the result of the target being drilled on a geophysical density high versus a density low, which is considered the best prospective target for salt deposits.

In Vortex Energy's case, pre- and post-Property acquisition follow-up has relied heavily on new geophysical studies. AGG and magnetic survey and 3D inversion modeling, in combination with publicly available two-dimensional (2D) seismic data and ground gravity survey data, identified two major salt structures suitable for salt extraction or cavern placement with hydrogen storage potential.

Categorized as an early greenfield project, the Property would benefit from additional geological data. Therefore, the merit for further exploration and the potential host of evaporites are based on the following recommendations outlined in Section 1.8.

1.9 RECOMMENDATIONS

Given the above conclusions, the author recommends the following phases to confirm a salt mineral resource is present on the Vortex Energy mineral exploration licenses.

Phase I would involve the following activities:

1. **Drilling two modern and full-length core wells.** Understanding of these two prospective salt structures, in terms of depth, the Western Salt Structure should be drilled to 1,000–1,200 m and the Eastern Salt Structure should be drilled to 1,400–1,600 m, for a total of 2,400–2,800 m.
2. **Conducting two wireline logs in the core wells along with a comprehensive sampling program.** These activities would provide a better understanding of the quality, thickness, and deformation properties of the host rock formation and the lithological stratigraphy to understand the rock types present in the evaporate sequence of the two identified anomalous "low" features on Robinsons River Salt South Property (South Property).

As Phase I, a field program to execute this drilling of two wells on the South Property is estimated to cost approximately $1,300,000–$1,500,000, representing an approximate all-in cost of $600 per m. A subsequent Phase II field program would depend on the success and results of Phase I.

Phase II would involve delineating any gravity "low" features on the newly acquired Robinsons River Salt Property's northern claims if appropriate stratigraphy is intersected in the southern claims. If successful in delineating gravity "low" features, a drill testing program of these features may be warranted to confirm the presence of additional evaporite mineralization. These recommendations intend to explore the potential for mining and hydrogen storage.

2.0 INTRODUCTION

2.1 TERMS OF REFERENCE

RESPEC was retained by Vortex Energy to prepare this Independent Technical Report on their wholly (100 percent) owned claims within the District of St. George's–Grand Lake, located in southwestern Newfoundland, Canada.

RESPEC prepared this technical report and followed the format of the NI 43-101 Standards of Disclosure for Mineral Projects, NI 43-101 Companion Policy, and NI 43-101F1 Technical Report of the Canadian Securities Administrators, effective June 30, 2011, in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Mineral Exploration Best Practice Guidelines [CIM, Mineral Resource and Mineral Reserve Committee, 2018] and CIM Definition Standards for Mineral Resources and Reserves [CIM, 2014].

RESPEC will receive a fee for preparing this technical report in accordance with normal professional consulting practices. This fee is not contingent on the conclusions of this Report, and RESPEC will receive no other benefit for preparing this Report. RESPEC does not have any pecuniary or other interests that could reasonably be regarded as capable of affecting its ability to provide an unbiased opinion in relation to the Property. RESPEC is a 100 percent employee-owned global leader in integrated technology solutions for mining, energy, water, natural resources, infrastructure, and services.

The units of measure used in this Report are as per the International System of Units (SI) or metric. Unless otherwise noted, all dollar figures quoted in this Report refer to Canadian dollars ($).

Frequently used abbreviations and acronyms can be found in Table 2-1.

2.2 QUALIFIED PERSON

The QP, as defined in NI 43-101, responsible for preparing this Report is Tabetha Stirrett, P.Geo, Vice President of Mining & Energy at RESPEC. Tabetha Stirrett has over 25 years of industry experience as a geoscientist and leads RESPEC's Mining and Energy team in Canada. Tabetha has a broad background in geoscience, including gold, oil-and-gas, potash, and coal experience, focusing on project management, exploration targeting, mineral resource estimations, and due diligence reviews. She has authored numerous technical reports and has been part of early-stage greenfield exploration to advanced engineering studies. Tabetha is responsible for all chapters in this Report.

Table 2-1. List of Frequently Used Abbreviations and Acronyms

BSGSB	Bay St. George Subbasin
DDH	diamond drill hole
DFO	Department of Fisheries and Oceans
GPS	global positioning system
ISO	International Standards Organization
Ma	million years ago
MODS	Mineral Occurrence Database System
NAD83	North American Datum of 1983
NI 43-101	National Instrument 43-101
NL	Newfoundland and Labrador
NTS	National Topographic System
QA	quality assurance
QC	quality control
UTM	Universal Transverse Mercator
Measurement Units	
C	Celsius
$	Canadian dollar
ha	Hectare
km	Kilometer
m	Meter
Mineral and Rock Name Definitions	
Anhydrite	$CaSO_4$
Carnallite	$(KClMgCl_2(H_2O)_6)$
Celestite	$SrSO_4$
Cl	Chloride
Gypsum	$CaSO_4 \times 2\ H_2Os$
Halite (salt)	NaCl
K	Potassium
Na	Salt
Pb	Lead
Sylvite	KCl
Evaporite	Any variety of individual minerals found in the sedimentary deposit of soluble salts that results from the evaporation of water
Potash	Generic term for the mineral sylvite and the rock sylvinite commonly inferring the fertilizer value of the rock's mineralogy
Sylvinite	Rock comprised of sylvite, halite, and minor amounts of carnallite, clay, dolomite, and anhydrite
Zn	Zinc

2.3 SITE VISIT AND SCOPE OF PERSONAL INSPECTION

Before the issuer filed this technical report, QP Tabetha Stirrett, who is responsible for preparing and supervising all of this Report, completed a current inspection of the Property from July 5 to 7, 2023. Tabetha was accompanied by Paul Sparkes, Chief Executive Officer of Vortex Energy, and Jason Latkowcer, a consultant of Vortex Energy. The primary objective during the site visit was to inspect the access roads in the area for future drillhole locations in the East and West Salt Structures.

During the site visit, the group also met with a local contractor to secure a centrally located building for logging and storing core in the nearby town of St. George's, Newfoundland. Accommodations during the stay were in Corner Brook; however, securing accommodations closer to the location for any future exploration project is recommended.

Access in the area is very good, with several gravel trails that appear well-traveled. Old, overgrown logging roads are also visible but are overgrown with alder trees that would be very easy to level with heavy equipment. Going to the proposed drillhole locations was not possible with a pickup truck, but an ATV may be able to get closer to the target locations.

Verification focused on what is material to the Property, with the site visit information summarized in Figures 2-1 and Figure 2-2. During the visit, no attempt was made to physically determine the presence of salt other than to visit the ground location of the licenses and potential future program planning.

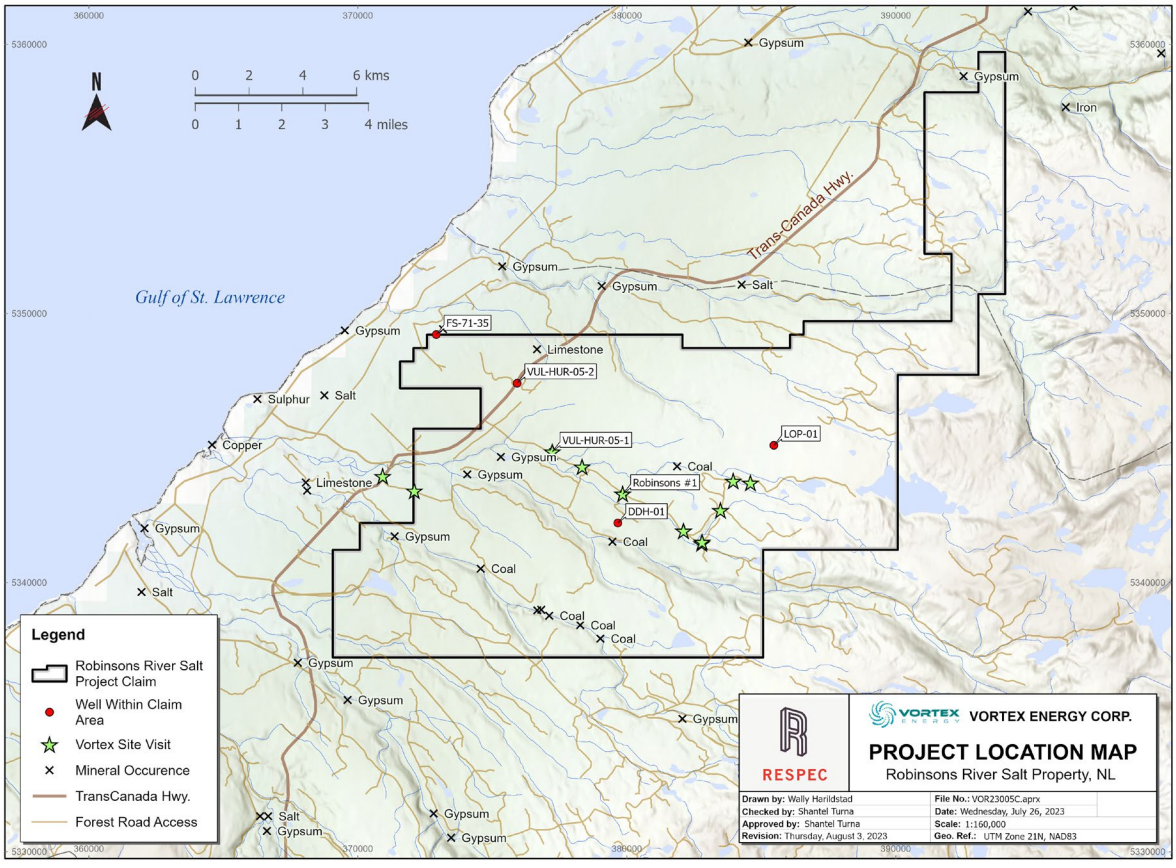

Figure 2-1. Key Stops During the Site Visit to the Vortex Energy Licenses.

Bridge on Pasture Resource Road at 48° 14'25N, 58° 38'18"W

Robinsons #1 Well Drill Pad at 48° 13'54"N, 58° 37'05"W

Intersection on Otter Pond Road with Overgrown Alders, and a Former Line of Clearing Visible at 48° 13'36"N, 58° 34'08"W

Bridge Off Otter Pond Road at 48° 14'11"N, 58° 33'46"W

Figure 2-2. Photographs Captured in 2023 During the Site Visit to the Vortex Energy Licenses.

2.4 EFFECTIVE DATE

The effective date of this Report is July 31, 2023.

2.5 INFORMATION SOURCES AND REFERENCES

The principal source of information on the Property is from independent consultant Michael Kilbourne's report titled *NI-43-101 Independent Technical Report on the Robinsons River Salt Property for Vortex Energy Corp., Stephenville, Newfound land (May 1, 2023)* [Kilbourne, 2023]. Mineral Assessment Reports from the Government of Newfoundland and Labrador's Department of Industry, Energy, and Technology generated the updated tables and figures cited in this Report's text as of July 1, 2023.

The author has relied upon information available to the general public in preparing this Report and, which the author has not undertaken any work to validate such information, the author of this Report has reviewed these sources and consider them to contain relevant information regarding the Property and suitable for use in this Report. A complete list of references is provided in Chapter 19.0.

3.0 RELIANCE ON OTHER EXPERTS

The description of the agreements related to Vortex Energy and the Property (in Section 4.3 of this Report), along with the legal descriptions of the mineral licenses comprising the Property (in Section 4.2 of this Report), were obtained from Vortex Energy and RESPEC assumes no responsibility for the accuracy of these descriptions.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The Robinsons River Salt Property location is in southwestern Newfoundland and Labrador, Canada (NFLD), approximately centered at 48.21 north latitude and -58.61 west longitude (UTM 380404E, 5341505N, Zone 21U, NAD27) occurring on National Topographic Sheets 12B01, 12B02, 12B07, and 12B08. The Property's western extent is along the coastal plan or Trans-Canada Highway 1, connecting Channel-Port aux Basques in the south with Corner Brook in the north, with several small communities located adjacent to the license area, including St. George's, Flat Bay, McKay's, Jeffery's and St. David's, all within the St. George's–Humber Provincial District. The Property location is shown in Figure 4-1.

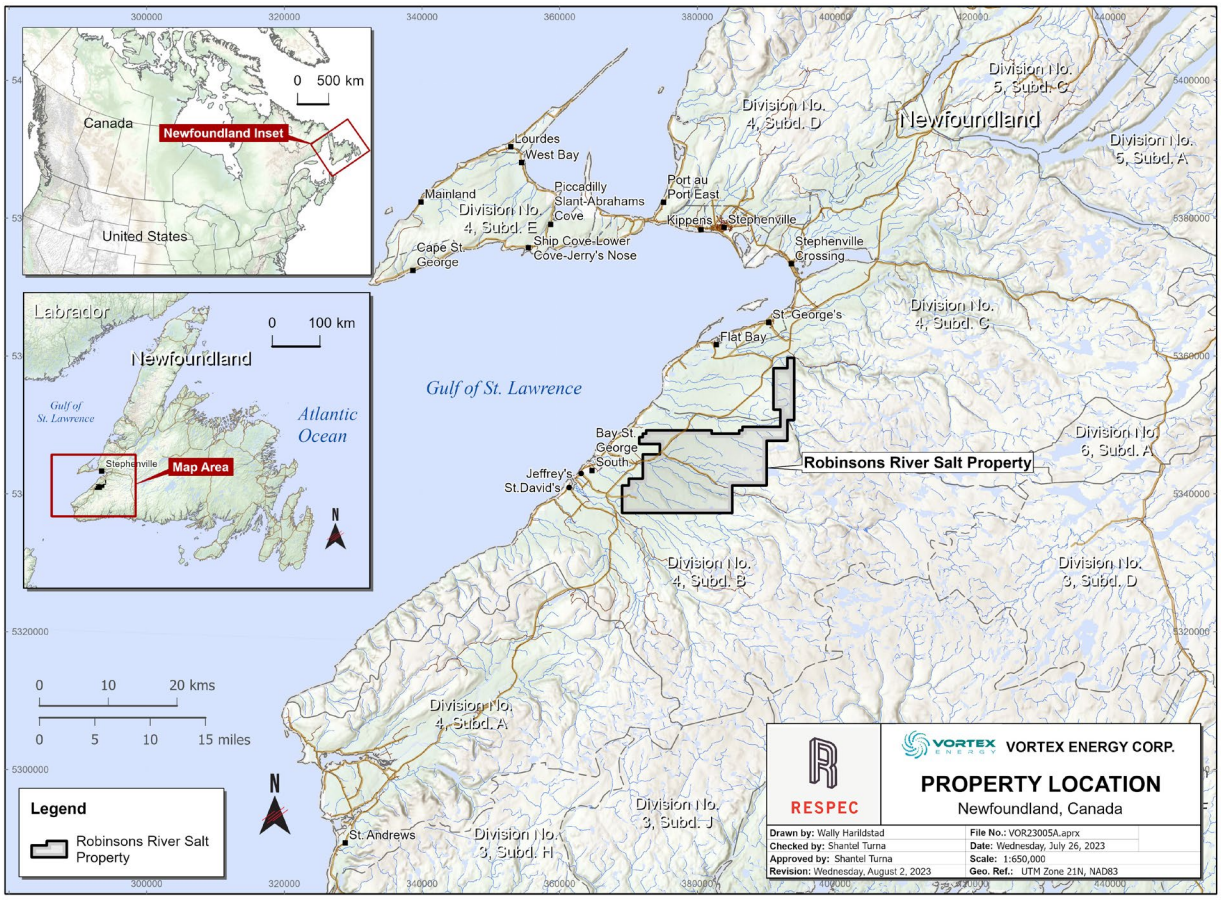

Figure 4-1. Location Map of the Robinsons River Salt Property, in Southwestern Newfoundland.

4.2 MINING TENURE AND OWNERSHIP

The Property location consists of five contiguous mineral licenses (035017M, 035018M, 035062M, 035063M, 034975M), comprising 943 map-staked claims, covering a total area of 235.75 square kilometers (km^2). All licenses are owned 100 percent (directly or indirectly) by Vortex Energy, which entitles Vortex Energy to the exclusive right to explore for minerals within their boundaries. A summary of the Property's licenses and their status as of July 31, 2023, is depicted in Figure 4-2 and presented in Table 4-1.

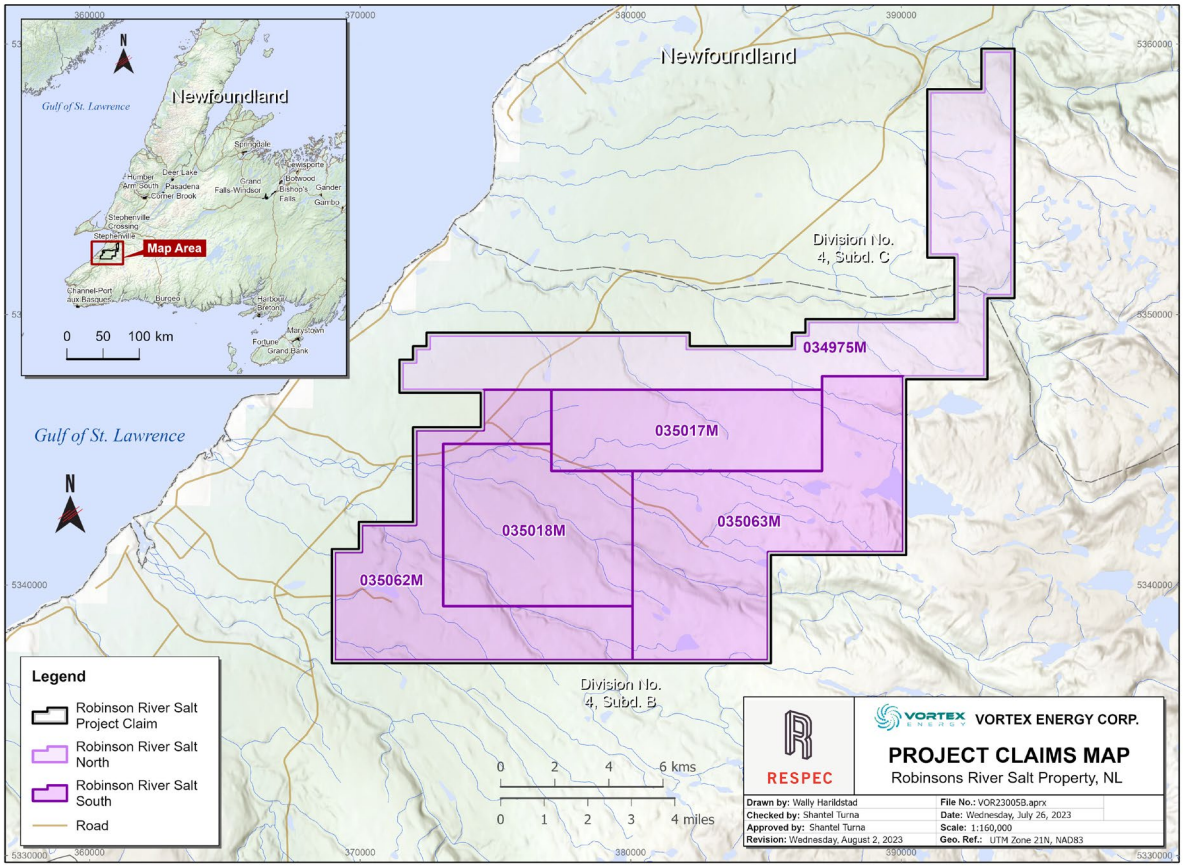

Figure 4-2. Robinsons River Salt North and South Claims and Licenses in Southwestern Newfoundland.

Table 4-1. Vortex Energy Mineral Tenure Licenses in Newfoundland, Canada, as of July 3, 2023

License Number	Date			NTS	No. of Claims	Area (km^2)
	Recorded	Renewal	Report Due			
035017M	2022/08/19	2027/09/18	2023/11/17	12B02, 12B07	120	30
035018M	2022/08/19	2027/09/18	2023/11/17	12B02	156	39
035062M	2022/08/30	2027/09/29	2023/11/28	12B02, 12B07	169	42.25
035063M	2022/08/30	2027/09/29	2023/11/28	12B01, 12B02, 12B07, 12B08	242	60.5
034975M	2022/08/06	2027/09/05	2023/11/06	12B07, 12B08	256	64
Total					943	235.75

Mineral exploration licenses are issued by the Newfoundland and Labrador Department of Natural Resources and must be registered with the Mineral Claims Recorders Office, with processing available online via the Mineral Lands Administration Portal (MinLAP). Map-staked mineral licenses comprise up to 256 coterminous claims, where claims are 500- by 500-m (25-hectare) blocks, defined as one-quarter of a UTM (NAD27) grid square. The fees for staking consist of a $15 recording fee and a $50 security deposit per claim that is refunded upon completion of the year-one assessment requirements. Each license is issued for a 5-year term and may be held for a maximum 30-year term, with renewable fees due on the anniversary date in assessment years 5, 10, 15, 20, and 30. For claims

to remain in good standing, assessment expenditures must be met for each year, with a report summarizing the work completed required annually. Table 4-2 summarizes the renewal fee and expenditure requirements. The Property location is not subject to any Aboriginal Land Claims.

Table 4-2. Renewal Fee and Expenditure Requirements [Mineral Claims Recorders Office, 2015]

Assessment Year	Minimum Annual Assessment Work Required ($ per claim)	Mandatory Renewal Fees ($ per claim)
1	200	0
2	250	
3	300	
4	350	
5	400	25 (only year 5)
6–10	600	50 (only year 10)
11–15	900	100 (only year 15)
16–20	1,200	200 (years 20 to 30)
21–25	2,000	
26–30	2,500	

4.3 SHARE PURCHASE AND UNDERLYING AGREEMENTS

Vortex Energy obtained a 100 percent interest in Licenses 035017M, 035018M, 035062M, and 035063M pursuant to its acquisition of Blue Ocean Salt Corp. (BOSC), formally Clean Light Acquisition Corp., on April 3, 2023. BOSC held these licenses at the time of its acquisition by Vortex, having acquired them from 1318229 B.C. Ltd on December 15, 2022. Pursuant to the agreement by which BOSC acquired Licenses 035017M, 035018M, 035062M, and 035063M from 1318229 B.C. Ltd., these licenses remain subject to a back-in right, allowing 1318229 B.C. Ltd. to reacquire these Licenses for nominal consideration if $1,250,000 of exploration expenditures are not incurred on these licenses within 3 years of the acquisition of these licenses by BOSC (December 15, 2025).

Vortex Energy obtained License 034975M from Galloper Gold Corp. (Galloper) on July 31, 2023, pursuant to a property purchase agreement in consideration for a $162,800 cash payment made on the closing date and the issuance of 750,000 common shares of Vortex Energy to Galloper on the closing date. In addition, subject to the terms of the property purchase agreement, Vortex Energy has agreed to (i) issue 1,000,000 additional Vortex Energy common shares to Galloper if Vortex Energy completes a drillhole on License 034975M, which intersects a core length of at least 300 m with an average grade of at least 90 percent sodium chloride and (ii) issue 3,000,000 additional Vortex Energy common shares and pay an additional $1,000,000 in cash to Galloper if Vortex Energy uses, on a commercial basis, any salt caverns on License 034975M for underground energy storage.

4.4 ENVIRONMENTAL LIABILITIES AND PERMITTING

To the best of the author's knowledge, no environmental liabilities applicable to the Property location would affect the ability to perform exploration work. Ownership of the Crown grants and licenses entitle

Vortex Energy to the subsurface mineral rights only, with any exploration work requiring the appropriate permits, licenses, and approvals.

The following text lists the legislative authorities and the approvals that may need to be obtained before performing exploration work via the Department of Industry, Energy and Technology, and Department of Environment and Climate Change within the Newfoundland government:

- **Planned Exploration Work–General**
  This permit is required to perform line cutting, ground geophysics (seismic, or that has the potential to impact wildlife or cause ground disturbance), test pitting (excavation that is excavated and backfilled), trenching (excavation made to expose bedrock, soil or till) and channel sampling (collect small chips of rock over a specified linear interval), bulk sampling, drilling (including diamond, reserve circulation, percussion, RAB, and GT Probe), water use and activities within a body of water, preparation of access trails, airborne survey and to establish fuel storage/caches, camps and/or laydown areas.
- **Planned Exploration Work–Surface**
  This permit is required to perform prospecting, geochemical surveying (including soils, rocks, streams, till, lake bottom, water, and biogeochemical), and ground-based geophysics (including EM16, VLF-EM, magnetics, gravity, and IP).
- **Water Operating License–General**
  This permit is necessary if operating on and/or near identified freshwater bodies; otherwise, it is unnecessary because a water use license is not required for mineral exploration drilling. In circumstances where there is potential to affect fish or fish habitat, the federal Department of Fisheries and Oceans (DFO) must be contacted.
- **License to Occupy**
  This license would be required if a camp location was to be used for a period longer than the Exploration Approval Permit of 90 days and is obtained from the Provincial Department of Crown Lands.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The Property is situated approximately 8 km inland along the southwestern shore of the Gulf of St. Lawrence. The area is developed and relatively sparsely populated with numerous small communities and passenger and air freight services into Deer Lake (approximately 160 km from the Property), Stephenville (Port Harmon) (approximately 55 km from the Property), and St. George's (Turf Point Port) (approximately 37.5 km from the Property). Year-round ferry services from Nova Scotia dock at Channel-Port aux Basques. Marine terminal facilities are also located at Stephenville, less than 55 km from the Property and St. George's; these ice-free ports are capable of loading Handymax (30,000–40,000 tonnes) and Handysize (less than 30,000 tonnes) bulk ship carriers.

The Property's western extent is along the coastal plain or Trans-Canada Highway 1, connecting Channel-Port aux Basques in the south with Corner Brook in the north. Road access to most of the Property is reasonable year-round via a network of secondary forest roads and trails. Winter operations can be subject to high snowfall events and extreme cold conditions. Summer operations can be subject to weight and travel restrictions because of the unmaintained bridges and boggy grounds.

5.2 CLIMATE

The Property is within the northern boreal climatic zone, with strong seasonal variations influenced by its near-ocean location. Winter conditions are long, extremely cold, and dry, with thick snow cover expected from November through March. Spring and fall are cool, with frequent precipitation. Summer is relatively short, with moderately warm and moist conditions expected from June through September. For Stephenville (1981 through 2000), the average annual temperature was 4.6 degrees Celsius (°C), and the annual precipitation was 1,334 millimeters [Government of Canada, 2023]. Temperatures average 16.7°C with a maximum of 29.9°C in August. Similarly, the mean daily February temperature is –6.7°C with a minimum temperature of –29.5°C.

5.3 LOCAL RESOURCES AND INFRASTRUCTURE

Stephenville is the closest community of substantial size and is 58 km south by road from the Property. Stephenville (population 6,600) is a full-service community with an airport, fuel, government services, lodging accommodations, medical facilities, restaurants, shopping, and a year-round ice-free port.

A northeast-trending, 138-km hydro-transmission line following Trans-Canada Highway 1 lies along the western boundary of the Property.

The Property location is sufficient space for surface rights for mining operations, potential tailings storage areas, potential waste disposal areas, and potential processing plant sites. Existing access is in varying condition, with mature medium-sized alders (less than 40 m tall), wood-bridge structures crossing shallow streams, and overgrown vegetation. However, an advantage for future geological fieldwork activities exists because minimal brushing and/or line cutting is required.

5.4 PHYSIOGRAPHY

Three distinct topographical areas occur in the BSGSB: the St. George's Bay Lowlands, the uplands of the Anguille and Bald Mountains, and the Codroy Lowlands. The Property is located in the St. George's Bay Lowlands, which consist of gently rolling coastal plains with an elevation of approximately 175 m, gradually rising to 400 m inland toward the Long Range Mountains. The Property's local relief varies from 60 m above sea level (asl) to over 300 m asl. Surficial deposits consisting of glacial drift, outwash, and marine deposits blanket much of the area (Figure 5-1). Water for drilling is readily available from small ponds, creeks, and rivers within the claim block.

6.0 HISTORY

The earliest documented exploration in the area dates from at least 1873 when James Patrick Howley, a government geologist of Newfoundland, led studies in the area in search of commercially viable seams and located coal seams on the Robinsons River and is credited with documenting the Howley Seam mineral occurrence [Hatch, 1919]. This work initiated studies and exploration for other commodities, including coal, gypsum, gold, base metals, uranium, limestone, salt, and potash, which returned only subeconomic occurrences.

The scope of this Report does not include reviewing the historical exploration of the region or Property for several different commodities but rather reviewing, commenting, and discussing past exploration efforts regarding evaporites, namely salt, with Sections 6.1 and 6.2 briefly commenting on the work completed in southwestern Newfoundland.

6.1 SUMMARY OF REGIONAL EXPLORATION DRILLING

A review of the history of salt exploration, including previous operators in the BSGSB, is included in a report prepared by Altius Resources Inc. (Altius) titled *Covering Compilation & Reconnaissance Geological Investigations in Newfoundland & Labrador, NTS 12B* [Driscoll et al., 2009], and summarized in Table 6-1.

6.2 SUMMARY OF REGIONAL SALT EXPLORATION SURVEYING

Numerous geological, geochemical, and geophysical studies have been conducted by the Newfoundland Geological Services Division and the Geological Survey of Canada in southwestern Newfoundland that covered all or parts of the Property. This section provides a brief overview of those surveys and is cited from Eccles and Clarke [2022].

6.2.1 MAPPING SURVEYS

Modern mapping was completed in the Bay St. George's area by Fong [1974, 1977] and Fong and Douglas [1976], who mapped various portions of the BSGSB, followed later by Knight [1983] who synthesized all previous research related to the Carboniferous BSGSB. Regional mapping was conducted in the southwestern Long Range Mountains, which form the basement to the east of the Carboniferous strata and are thought to locally underlie the basinal rocks in the Property area [van Berkel et al., 1987; Currie and van Berkel; 1992].

6.2.2 GEOCHEMICAL SURVEYS

Between 1975 and 1996, the Newfoundland and Labrador Geological Services Division conducted numerous surficial geochemical surveys, from lake sediments, stream sediments, and tills, to marine sediments in Bay St. George and more regionally (e.g., MacDonald [1974]; Davenport [1988]; Swinden and Forbes [1989]). In 1994, the government began to integrate and publish these data for the public with the release of the online digital geochemical atlas of Newfoundland and Labrador [Davenport et al., 1994]. These data were commonly cited during base metal, uranium, and gold exploration in western Newfoundland as a driver for exploration activities.

Table 6-1. Drillhole Collar Database for the St. George's Bay Area Indicating Salt Intercepts, and Where Available, Assay Data

Year	Area	Hole ID	Company	Notes
1981	Harrys River	PR-HR-81-1	Pronto/Noranda	No Salt
1982	Harrys River	PR-HR-81-1A	Pronto/Noranda	No Salt; the Hole Encountered Minor Coaly Material at 588.2 m
1981	Barachois Brook	PR-BB-81-1	Pronto/Noranda	No Salt
1982	Barachois Brook	PR-BB-81-2	Pronto/Noranda	No Salt
2005	Flat Bay	VUL-STORM-05-1	Vulcan Minerals Inc	No Salt, No Coring
2001	**Flat Bay**	**VUL-CC-01-1**	**Vulcan**	**Wispy Laminations and Isolated Crystals of "Potassic Salt"**
1997	Flat Bay	LON-FB-97-1	London Resources	
2000	Flat Bay	VUL-FB-00-1	Vulcan	No Salt, No Coring
2001	Flat Bay	AREC-FB-01-1	AREC	
1987	**Fischells**	**INCO-FB-87-1**	**PRONTO-INCO**	**Potash Bearing Member 640–860 m**
1976	Flat Bay	AMAX-ST-76-1	AMAX EXPL INC	No Salt
1981	Flat Bay St Teresas	PR-ST-81-1	Pronto/Noranda	No Salt
1980	**Fischells**	**PR-FB-80-1**	**Pronto Exploration Ltd.**	**92 m of Potash Beds Within 354 m**
				Numerous Samples With 6–10% K_2O
1980	**Fischells**	**PR-FB-80-2**	**Pronto Exploration Ltd.**	**55 m of Potash Within 328 m, Numerous Samples With 5–17% K_2O**
1998	**Fischells**	**LR-FB-98-1**	**Leeson Resources Inc.**	**Up to 4 m Minor Or**
				Disseminated Carnallite, and 46 cm 50–60% sylvite
1998	**Fischells**	**LR-FB-98-2**	**Leeson Resources Inc.**	**Drilled to Top of Salt Were Minor Carnallite Was Found in Halite**
1976	Fischells	AMAX-FB-76-2	Amax Exploration Inc.	No Salt
1968	**Fischells**	**HC-FB-68-1**	**Hooker Chemical Ltd.**	
2005	Flat Bay	VUL-HUR-05-1	Vulcan	No Salt, No Coring
2006	Flat Bay	VUL-HUR-05-2	Vulcan	No Salt, No Coring
1972	**Robinson's**	**HC-ROB-72-1**	**Hooker Chemical Ltd.**	**Location Very Poor, Log Does Not Identify K Minerals**
2009	**Robinson's**	**Robinsons #1**	**Vulcan**	**No Salt**
1973	**St. Fintan's**	**HC-SF-73-1**	**Hooker Chemical Ltd.**	**<1.5m Sylvite Zones Average 6–8% K_2O**
1953	St. Fintan's	NLGS-SF-53-1	NFLD Geol Survey	No Salt
1953	St. Fintan's	NLGS-SF-53-2	NFLD Geol Survey	No Salt
1953	St. Fintan's	NLGS-SF-53-3	NFLD Geol Survey	No Salt
1953	St. Fintan's	NLGS-SF-53-4	NFLD Geol Survey	No Salt
1984	Tompkins	RAE-CT-84-1	Rio Algolm Exploration Inc.	No Salt; Drilled to Test Flank of Negative Gravity Anomaly for Presence of Salt/Potash
1952	O'Regans	NLGS-OR-52-1A	NFLD Geol Survey	No Salt
1953	O'Regans	NLGS-OR-53-2A	NFLD Geol Survey	No Salt

6.2.3 GEOPHYSICAL SURVEYS

Geophysical surveys were conducted by a combination of public companies and the Geological Survey of Canada. Beginning in 1951, on behalf of the Newfoundland and Labrador Geological Services Division, the Photographic Survey Corporation Ltd. conducted an airborne total field magnetics and gamma-ray survey (e.g., Blanchard [1953]). In 1954, a regional gravity and mapping survey of the Bay St. George area was completed by Peter Verrall for the Geological Survey of Canada. In 1971, GA1-GMX conducted a land gravity survey in the Stephenville to Highlands area [Anderle, 1980]. In 1975, the Geological Survey of Canada flew an airborne radiometric survey over the Bay St. George area and, in 1984, conducted a large aeromagnetic and gamma radiometric survey that covered all southwestern Newfoundland. The geophysical survey data have been described by several authors (e.g., Newfoundland and Labrador Geological Services Division [1984], Peavy [1985], Kilfoil [1988], Broome et al. [1987], and Geological Survey of Canada [1991]).

6.3 SUMMARY OF ROBINSONS RIVER SALT PROPERTY SOUTH EXPLORATION

Exploration conducted on the Property before 1997 is poorly documented, and no Newfoundland Assessment Reports describe this work. Initial work focused on the mineral potential, mainly Pb-Zn deposits and salt exploration. Since then, work has involved surface geochemical sampling, trenching, drilling, and geophysical surveying. For this Report, the major drilling pertaining to salt exploration on or in close proximity to the Property is briefly summarized in Table 6-1, whereas Figure 2-1 summarizes the drilling completed strictly within the Vortex Energy claims boundary.

6.3.1 VULCAN MINERALS INC. 1997–2010

In 1997, Vulcan optioned the Robinsons Salt Property claims and carried out multiple phases of regional surveys until 2008 in the Bay St. George area, over the land surrounding Fischells Brook. Regional gravity, airborne magnetic, and seismic geophysical surveys successfully identified geological contacts and structural features throughout the region and were useful in mapping the distribution of evaporitic rocks in the BSGSB [Stuckless, 2012].

In 2009, Vulcan drilled a deep exploratory hole (Robinsons #1) within the current Vortex Energy's property outline. Robinsons #1 was drilled to 3,560 m to delineate evaporite stratigraphy and to gain stratigraphic control to explore the basin. Minor coals were penetrated in the Barachois sequence. The hole encountered a thinner Codroy evaporite sequence than anticipated at 815 m with no halite or potash, just a basal anhydrite. The Ship Cove Limestone was encountered near the proposed depth but was thin and poorly developed. The remainder of the Anguille section consisted primarily of monotonous sandstone and siltstone [Laracy, 2011].

In 2011, Vulcan conducted additional AGG and aeromagnetic surveys to expand on the 341 km of 2D land-based seismic data from 1998 to 2010.

6.3.2 RED MOON POTASH INC. 2012–2015

By late 2012, Vulcan had spun out Red Moon Potash Inc. (Red Moon) and began aggressively exploring the Property for economic potash and salt deposits. The first phase of evaporite-focused drilling began with two diamond drillholes (Captain Cook #2 and Captain Cook #3), with the purpose of expanding on the discovery hole, Captain Cook #1, from 2002.

In 2014, Red Moon drilled Captain Cook #4 and Captain Cook #5 using several sizes of drill rods and casing to prevent overburden cave-ins. The program was successful intersecting salt and potash, noting evaporites to range in thickness from 69 m to 347 m, within a 2.3-km-long, 600-m-wide area. However, interpreted seismic data used for target selection suggests that an evaporite package of considerable thickness continues beyond the Captain Cook drillholes, particularly to the east, by the assumed base of the depositional environment.

No additional assessment reports were available on the GeoFiles Search, a database of documents for projects in Newfoundland and Labrador, managed by the Department of Industry, Energy and Technology to comment on work conducted between 2016–2022.

6.3.3 BLUE OCEAN SALT CORPORATION 2022–2023

In 2022, Xcalibur MPH (Canada) Ltd. (Xcalibur) was hired to conduct a Falcon AGG and a high-sensitivity aeromagnetic survey using fixed-wing aircraft on the Property between December 21, 2022, to January 22, 2023. The survey covered License Numbers 035017M, 035018M, 035062M, and 035063M. The purpose of the AGG and magnetic survey was to collect geophysical data to prospect for economic salt mineral deposits characterized by anomalous gravity and magnetic responses. A total of 84 lines with flight line spacing of 250 m were flown in a south–north (northeast 0°) azimuthal direction. Survey coverage within the Property boundaries consisted of 717 km.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

The regional- and property-scale geological and mineralization information in the following subsections is primarily taken from previous reports by Knight [1983], Anderle [1985], Phipps et al. [1988], and Eccles and Clarke [2022] and references therein. The author reviewed these sources and considers them to contain all the relevant geological information regarding the Property.

7.1 REGIONAL GEOLOGY AND TECTONIC SETTING

The geological formations that host the evaporite sequences in Newfoundland are a northeastern extension of the Carboniferous-aged Maritime Basin. This intracontinental basin system covered much of Atlantic Canada about 360 to 300 million years ago, after the closing of the Proto-Atlantic Ocean. This basin's early and late infilling was by non-marine, continental clastic sediments. During the middle of this interval (the Viséan Epoch, estimated to be approximately 17 million years in length), there was significant deposition of marine sediments. In the Maritimes, this saline basin was called the Windsor Sea, and the marine sediments are assigned to the Windsor Group. The geology of the BSGSB of Newfoundland is considered to be broadly analogous to the geology in New Brunswick.

There are two large Carboniferous basins in western Newfoundland: the Deer Lake Basin in the north and the BSGSB in the south that hosts the Property. No significant marine deposition exists in the Deer Lake Basin, making the Deer Lake Basin not prospective for evaporite sequences.

The BSGSB exists within the regional scale Fundy Epieugeo syncline and lies along the southwest coast of Newfoundland. It is bounded on the northwest by the folded Cambrian Platform and on the southeast by the Newfoundland Platform [Anderle 1982]. These two positive areas stood topographically above deposition sites throughout Carboniferous time. The Long Range Mountains, comprised of Precambrian igneous and metamorphic rocks, were thrust westward onto the younger Carboniferous Lowlands and subsequently dissected the BSGSB to its present surface [Rogers, 1981].

The BSGSB formed as a pull-apart basin on the western side of the Long Range Mountains. Its maximum width during the time of the deposition of the Codroy Group was approximately 60 km. Deformation caused the sedimentary rocks' local and regional compression and tilting, resulting in broad, open folds, reverse and normal faulting, and salt tectonism.

Carboniferous rocks in the BSGSB area were folded into two northeast-trending folds. An open anticline involving Mississippian rocks is called the Anguille Anticline and occupies most of the western central portion of the area. The other fold is an open syncline, called the Codroy Syncline, that involves mainly Pennsylvanian rocks and occupies the eastern portion of the Fischells area. A northeast-trending fault extending through the center of the area separates the two open folds. This latter fault passes between the previous Amax and Hooker drillholes at Fischells Brook. Other small reverse and normal faults trend northeastwards and northwestwards [Rogers, 1981].

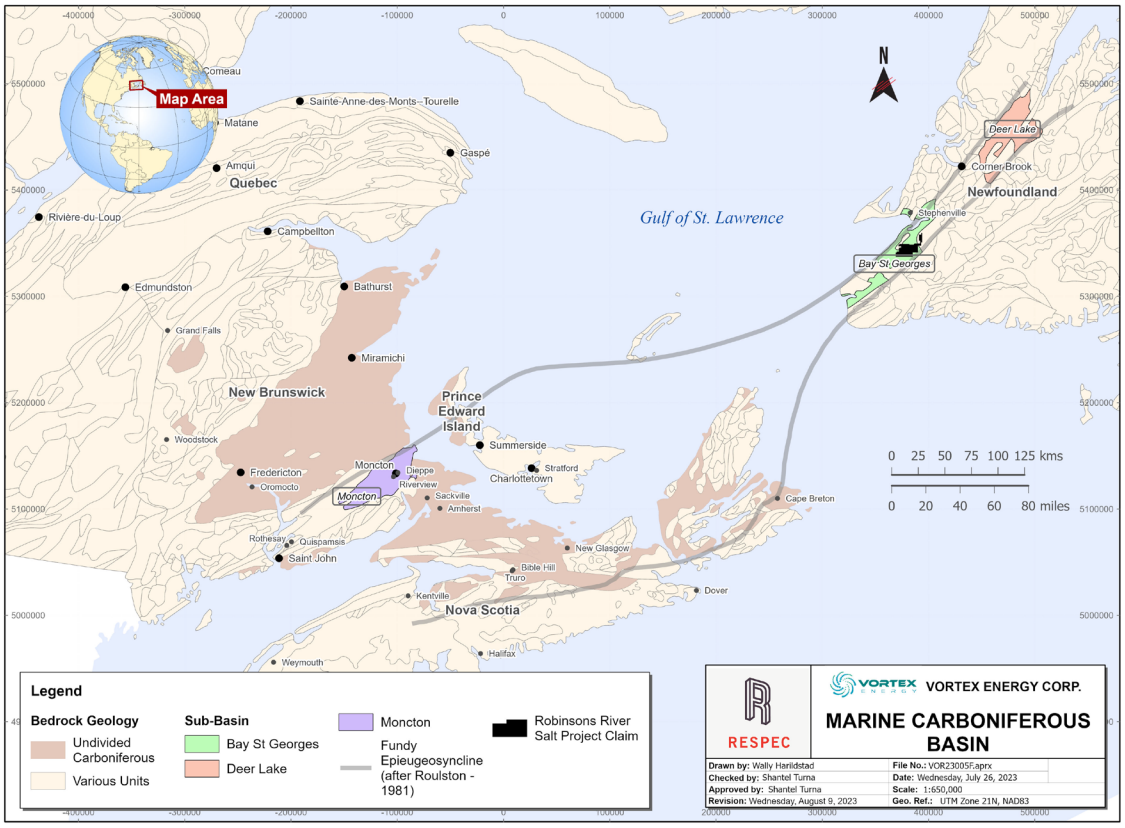

Figure 7-1. Regional Geological Location of the Robinsons River Salt Property Within the Maritimes Basin.

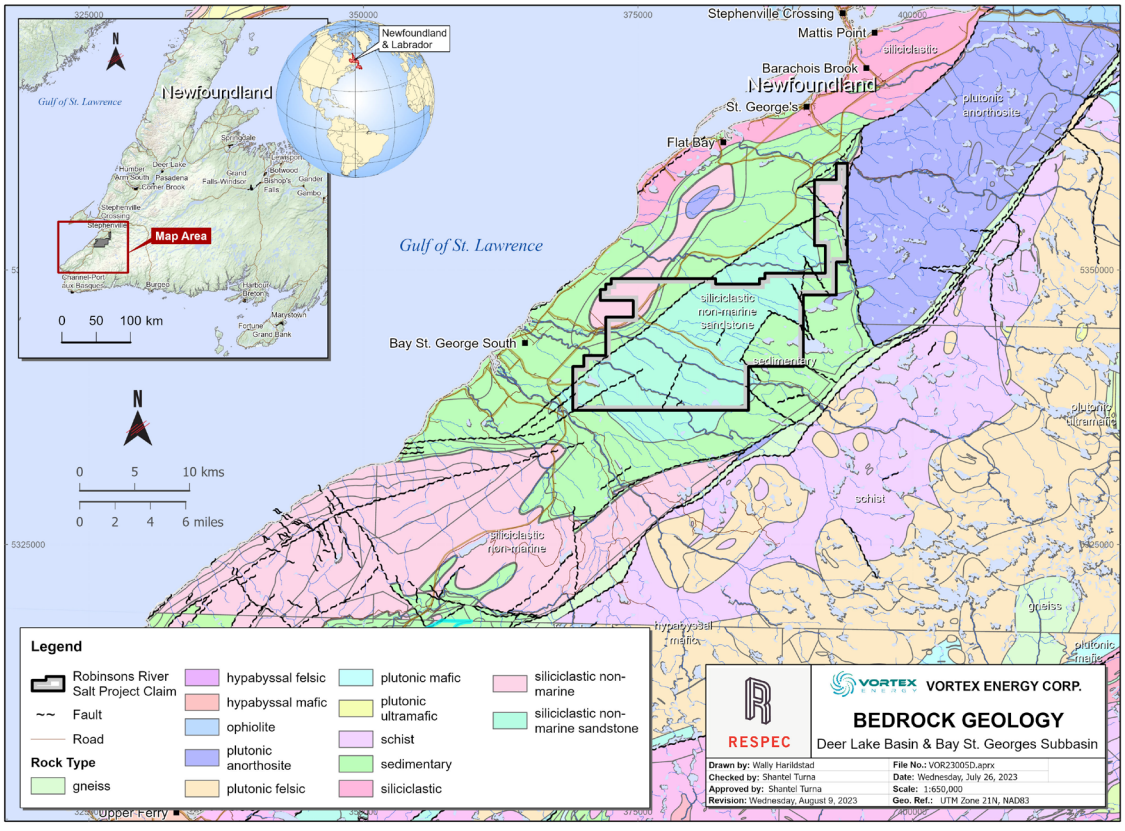

Figure 7-2. Property and Surrounding Bedrock Geology.

7.2 STRATIGRAPHY OF THE BAY ST. GEORGE SUBBASIN

This section is a summary based on a stratigraphic study by Worth [1981] and included in Dimmell [1981] and a report on the potash resources of Newfoundland by Anderle [1982] that also cites Knight [1981]. These references reflect the regional stratigraphic setting in two large Carboniferous basins in western Newfoundland: the Deer Lake Basin in the north and the BSGSB in the south that hosts the Property.

Variations of the geology on the Robinsons Salt Property claims may include areas where some units were not deposited or preserved, or different units may be present and only determined by on-site core drilling.

In the BSGSB, there is an approximately 10,000-m-thick sequence of sediments divided into three groups: the lower Anguille Group, the middle Codroy Group, and the upper Barachois Group. Marine sediments are only present in the Codroy Group.

7.2.1 ANGUILLE GROUP

The Anguille Group is the oldest and lowermost sedimentary rocks deposited after the basin was formed. The Anguille Group comprises mainly fluvial conglomerates and sandstones with minor marine shales of late Devonian/early Mississippian age.

7.2.2 CODROY GROUP

The Codroy Group contains up to 2,700 m of red shales, siltstones, limestones, gypsum, and sandstones that disconformably overly the Anguille Group rocks. The Codroy Group consists of the Ship Cove Formation, Journois Pond Formation, Woodville Formation, Jefferys Village Formation, and the Highlands Formation as documented by Hayes and Johnson [1938], Bell [1948], Fong and Douglas [1975] and Knight [1975]. The most comprehensive assessment of the stratigraphy in this area is the work by Bell [1948].

- The Ship Cove Formation forms the base of the Codroy Group and is characterized by dark grey, finely laminated, oolitic, algal limestone, and argillaceous sandstone beds [Anderle, 1985].
- The Journois Pond Formation overlies the Ship Cove Formation. The basal unit of the Journois Pond Formation measures approximately 45 m thick and is characterized by red and grey gypsiferous shale, overlain by a 10-m-thick grey marine mudstone. This unit is overlain by a dark grey reefal limestone known as Cormorant/Black Point and grades upward into a thick gypsum unit that measures up to 40 m thick [Anderle, 1985].
- The Woodville Formation overlies the Journois Pond Formation and contains a thick sequence of halite mineralization in four members. The following members are summarized by Anderle [1985] and Phipps et al. [1988]:
  - **Basal Halite Member:** coarse-grained grey halite with anhydrite occurring as clots, blebs, and solution rims around clear halite crystals with distinct laminae. Fine internal lacey lamination and syn-sedimentary structures are observed within the large anhydrite breccia fragments.
  - **Middle Halite Member:** ranges from fine to very coarse-grained, predominately orange multicoloured, banded to massive halite unit. The grain size and colour are highly variable

and change rapidly over 1 to 10 m. Minor grey-brown to olive-grey clay beds occur throughout, with minor thin anhydrite laminae and light orange acicular halite veinlets. The Middle Halite Member includes the main potash unit.

- **Upper Halite Member:** consists of thinly interbedded halite and grey clay beds and minor potash units that overlie the main potash unit. The halite beds are thin and alternate in colour (clear through to dark brown) and range from fine to coarse-grained halite. The number of clay beds decreases with depth.
- **Grey Shale Member:** predominately light olive-grey/dark grey to reddish-brown marine shale with gypsum veinlets and blebs, clear, cubic crystals of halite measuring 1 to 2 mm in size, and light orange acicular halite veinlets.

- The evaporites of the Woodville Formation are overlain by the clastic rocks of Jeffrey's Village Formation. The base of Jeffrey's Village Formation comprises marine red and green siltstones with sedimentary structures, including cross-bedding, mud cracks, and ripple marks, as well as thin red sandstone and red to grey fossiliferous conglomerate. This lower portion measures 200 m in thickness [Knight, 1976]. The interpreted depositional environment of the basal unit of Jeffrey's Village Formation is a delta channel with minor evaporitic mudflats and hypersaline ponds or lagoons [Anderle, 1985].
- The upper portion of Jeffrey's Village Formation is characterized by grey to black, marine limestone and dolomite beds intercalated with red to grey-green calcareous sandstone and siltstone beds, black marl mud (possibly bearing halite), mudstone and siltstone. The limestone transitions gradationally from ooidal and fossiliferous at the base to algal toward the top of the sequence. The lowest unit of the upper middle part of the formation is represented by a thick gypsum bed marked by a chain of sinkholes and scattered outcrops [Anderle, 1985].
- The Highlands Formation overlies the Jeffrey's Village Formation and comprises thick, continental transition, well-bedded, calcareous arkosic sandstone, and intercalated thick, red siltstone with interbedded thin red sandstone. Green bull's eye reduction spots are observed in the red sandstone. The estimated thickness of this unit is at least 850 m, and the interpreted depositional environment is a meandering river alluvial plain environment [Anderle, 1985; Phipps et al., 1988].

7.2.3 BARACHOIS GROUP

The Upper Carboniferous-aged sediments of the Barachois Group overlie the Codroy Group. The depositional contact relationships between the Barachois Group and the Highlands Formation of the Codroy Group are unknown, as most known contacts are faulted (Anderle, 1985). The sediments of the Barachois Group include grey to green micaceous, terrestrial sandstone with lesser grey and buff conglomerate with carbonized plant fragments, arkosic sandstone, grey to purple sandstone, green to red shale, pebbly arkose, and thin coal seams [Anderle, 1985].

7.3 STRUCTURAL FEATURES OF THE BAY ST. GEORGE SUBBASIN

Carboniferous subbasins in southwestern and western Newfoundland are typically distributed along the traces of major north-easterly fault systems. Differences between subbasins in stratigraphic architecture and in the position and duration of hiatuses reflect regional variations in the timing, nature, and scale of movement on these subbasin-bounding faults. To the northwest of the Property, the core

of the Anguille Anticline exposes the Long Range Complex, and this is flanked to the southeast by the Codroy Syncline, which is host to thick sequences of evaporate. In addition, a fault structure (Crabbes Brook Fault) is interpreted between the Hooker and Amax drillholes [Phipps et al., 1988]

7.4 MINERALIZATION OF THE BAY ST. GEORGES SUBBASIN

Mineralization of the BSGSB includes sediment hosted polymetallic veining hosting Cu, Pb and Zn; sediment vein hosted barite (BaSO4) and celestite (SrSO4); potash-rich sediments as sylvite (KCl) and carnallite (KClMgCl2(H20)6); formational coal beds; formational evaporites of gypsum/anhydrite; formational evaporites of halite (salt); and sandstone hosted uranium and copper. The evaporite deposits of the Codroy Group, namely halite, are of economic interest and the subject of this Report.

8.0 DEPOSIT TYPES

The deposit model for the Property is largely from Eccles and Clarke [2022].

The Property resides within the larger BSGSB, the northeastern extension of the Maritime Basin. The Maritime Basin is a post-orogenic, successor-type basin understood to be a series of subbasin and highland structures. The basin accumulated dominantly non-marine clastic rocks during the late Devonian through early Permian time. The only demonstrable marine incursion into the basin occurred during the Carboniferous time, during which a complex cyclic succession of carbonate, evaporate, and clastic sediments were deposited. The present distribution of these rock units represents the erosional remnants of these subbasin and arch or uplift structures.

The salt deposits in the BSGSB are found within the Codroy Group, which is equivalent to the economically significant Carboniferous Windsor Group mapped in New Brunswick and Nova Scotia, and are understood better than the BSGSB prospective salt deposits. In the Early to Middle Viséan, the Windsor seaway flooded the Maritime Basin, which became partially landlocked. The combination of basin restriction, semiarid climate, and a low clastic input because of temporary crustal stability led to increasingly restricted conditions that accumulated thick Windsor Group evaporite deposits [Howie, 1988] and hosted several mines. Significant operating mines include the Pugwash Salt Mine, Nappan Salt Mine, and Picadilly Salt/Potash Mine. Significant non-operating mines include the former Malagash Salt Mine, Penobsquis Salt-Potash Mine, and Cassidy Lake Potash Mine.

The condition of deposition of the Windsor Group deposits applies to the Codroy Group and has a similar geological age and lithological characteristics as the extensive evaporite deposits within the Windsor Group [Swinden, 1984]. Authors have suggested that the BSGSB represents the northeastern extension of the larger Maritime Basin [Eccles and Clarke, 2022].

Considering the Property remains underexplored, the deposit model is broadly characterized as an evaporite salt model, and the Codroy Group could potentially host other evaporite deposits, such as potash and gypsum.

9.0 EXPLORATION

In 2023, Vortex Energy Corporation hired RESPEC to evaluate the potential to find suitable NaCl for mining and the prefeasibility of developing hydrogen storage caverns on the Property. The Property may be suitable for salt mining based on the geographical location and proximity to existing infrastructure, but this required evaluating the probable salt structures.

RESPEC reviewed the available geologic data and provided recommendations on the following topics: (1) extent and thickness of salt, (2) cavern placement and sizing based on regulations and industry standards, (3) cavern layout and number of caverns possible in the salt structure, (4) hydrogen storage capacity in the salt structure, and (5) future design studies to advance the project.

9.1 SALT STRUCTURES IDENTIFICATION FROM SEISMIC DATA

Publicly available 2D seismic data and ground gravity survey data were used to interpret the evaporite geology within the Property. Figure 9-1 shows the location and thickness of the salt strata; overall, two major salt structures are identified from the seismic data.

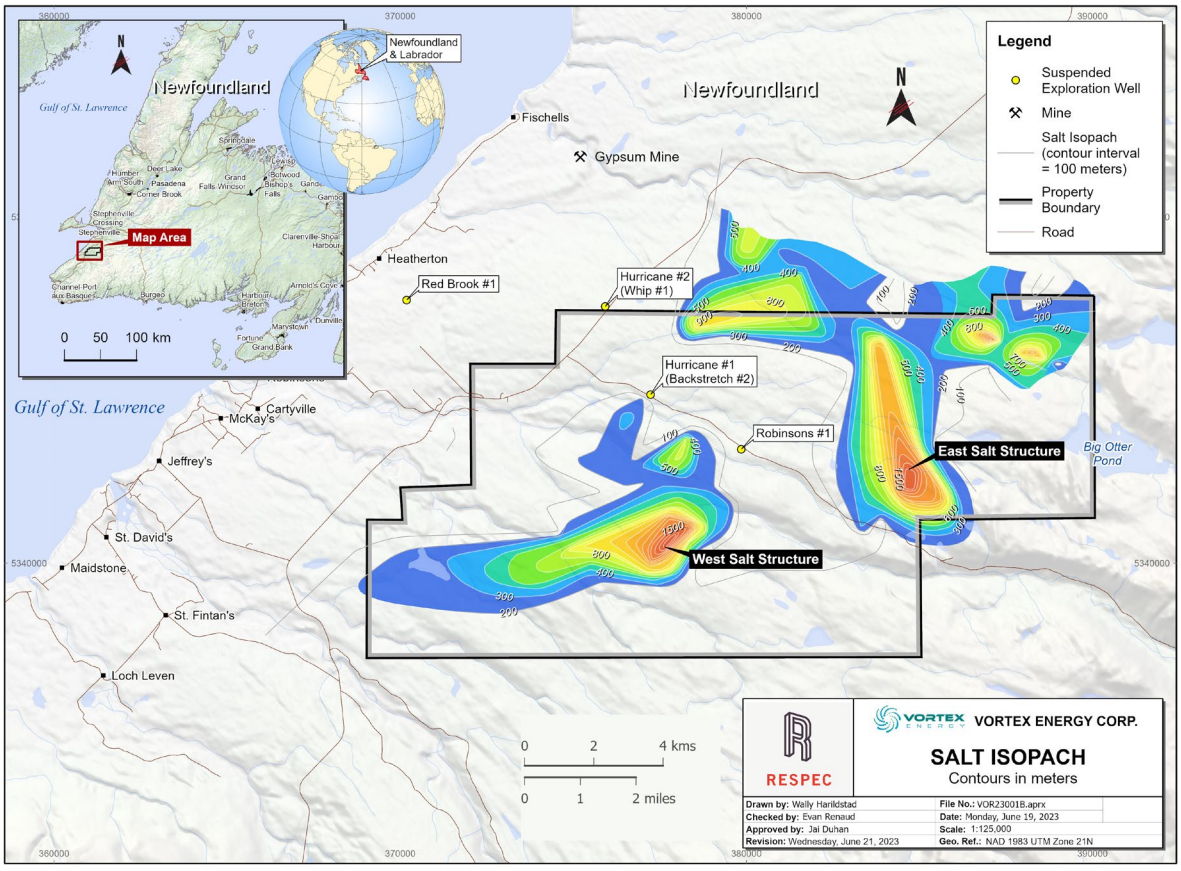

Figure 9-1. Isopach Map Showing the Thickness of the East and West Salt Structures in Robinsons River Salt South.

Although both structures have similar maximum thicknesses, salt is encountered at shallower depth in the West Salt Structure compared to the East Salt Structure.

9.2 INTERPRETATION OF THE TWO-DIMENSIONAL SEISMIC DATA

Seismic and ground gravity data were used to interpret the evaporite geology at the Property. The 2D seismic data have a strong reflector interpreted as salt, and show two major salt structures with a maximum thickness exceeding 1,800 m. Based on the seismic data interpretation, RESPEC generated a 3D geology model to represent the extent and thickness of the salt structures. The East Salt Structure spans an area of 7,000 m by 3,400 m, whereas the West Salt Structure spans an area of 7,100 m by 3,600 m. Figures 9-1 and 9-2 show the 2D and 3D maps of the thickness of the East and West Salt Structures. Figure 9-3 shows the dimensions of the East and West Salt Structures.

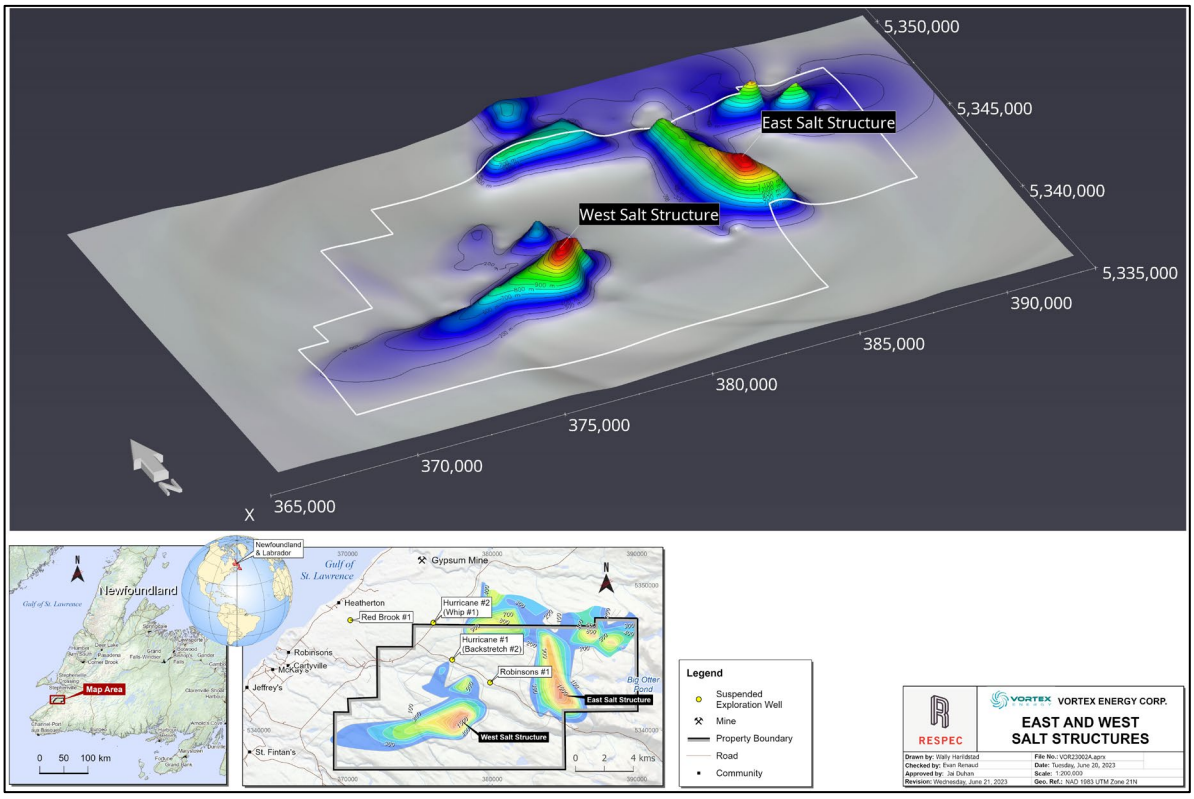

Figure 9-2. Three-Dimensional Isopach Map Showing the Thickness of the East and West Salt Structures in Robinsons River Salt South Property.

Given that the salt occurrences described for the BSGSB represent subsurface mineralization, nowhere in the license area does the salt mineralization outcrop at surface; therefore, the only data available for evaluation are existing drillhole results consisting of geological reports, chemical assay of drill core, and interpreted geophysics maps recovered from the public record. More importantly, salt mineralization documentation is from wells collared outside of the Vortex Property.

To advance the Property, the author has reason to believe that these proposed salt structures have merit to be drilled. Knowledge from drill core, at this time, is imperative to provide proof of concept and confirmation.

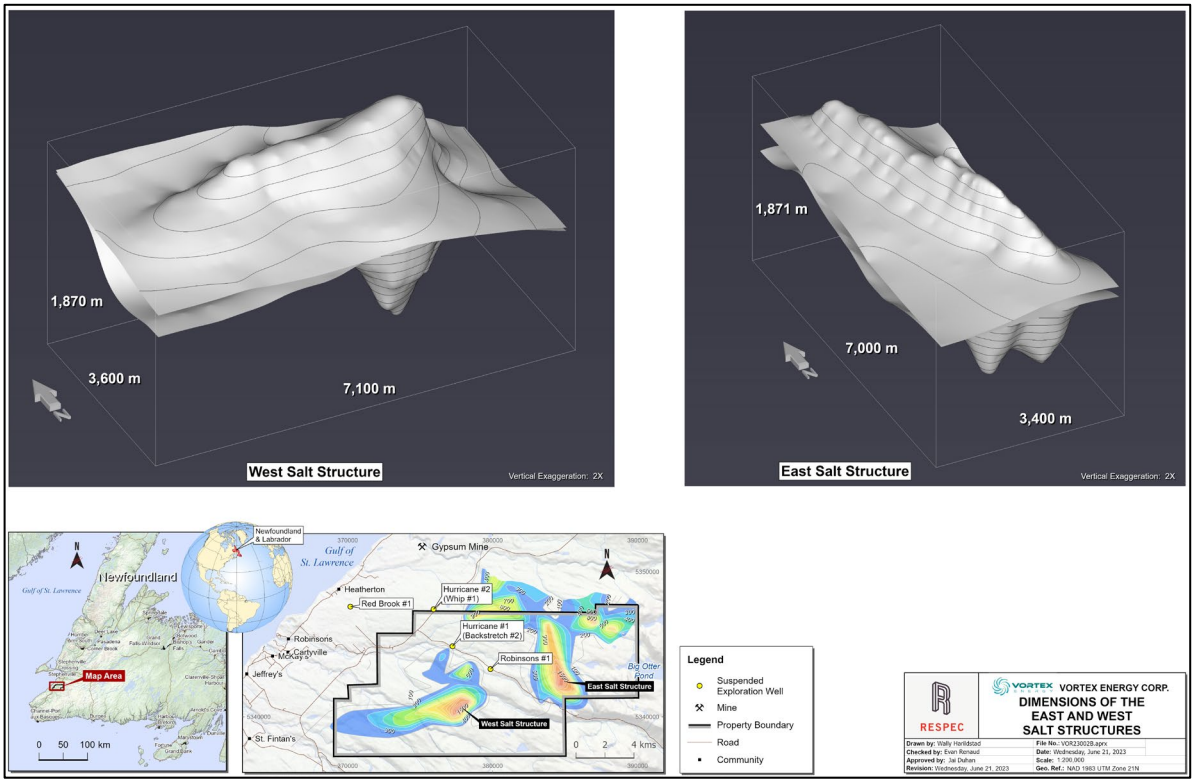

Figure 9-3. Dimensions of the East and West Salt Structures in Robinsons River Salt South Property.

10.0 DRILLING

Vortex Energy has not performed drilling on the Property.

11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

The author cannot comment on the sampling protocols from the various historical sampling programs. Quality Control and Assurance protocols were not set forth in National Instrument 43-101 until June 2001, and the author can only assume that the various geologists would have followed protocols under the ethical guidance and standard procedures of their professional designation. No reason exists to doubt the validity of these results in the express opinion of the author.

Some of the exploration summary reports and technical reports for projects on the Robinsons River Salt Property were prepared before the implementation of National Instrument 43-101. The authors of such reports appear to have been qualified and the information prepared according to standards that were acceptable to the exploration community at the time. The author has no known reason to believe that any of the information used to prepare the Robinsons River Technical Report is invalid or contains misrepresentations.

12.0 DATA VERIFICATION

Some of the exploration summary reports and technical reports for projects on the Property were prepared before NI 43-101 and Regulation 43-101 were implemented in 2001 and 2005, respectively. The authors of such reports appear to have been qualified, and the information was prepared according to standards acceptable to the exploration community at the time. The author has no reason to believe any information used to prepare this Report is invalid or contains misrepresentations.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Vortex Energy has not performed any mineral processing or metallurgical testing within the Property.

14.0 MINERAL RESOURCE ESTIMATES

Vortex Energy has not performed any resource estimates on the Property.

15.0 MINERAL RESERVE ESTIMATES

Vortex Energy has not performed any reserve estimates on the Property.

16.0 MINING METHODS

This section is not applicable as no samples of salt have been collected from the Property.

17.0 RECOVERY METHODS

This section is not applicable as no samples have been collected from the Property.

18.0 PROJECT INFRASTRUCTURE

This section is not applicable because the Property is currently in a greenfield exploration stage.

19.0 MARKET STUDIES AND CONTRACTS

This section is not applicable at this time.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

This section is not applicable at this time.

21.0 CAPITAL AND OPERATING COSTS

This section is not applicable at this time.

22.0 ECONOMIC ANALYSIS

This section is not applicable at this time.

23.0 ADJACENT PROPERTIES

The Property is currently in a greenfield exploration stage and situated among 70 active claims within an approximately 20-km radius. No adjacent properties within this radius have advanced beyond the grassroots development stage in search of salt. Noteworthy mineral occurrences and development stages are listed in Table 23-1 sourced from the Newfoundland and Labrador Department of Industry, Energy, and Technology and illustrated in Figure 23-1.

Table 23-1. Adjacent Properties and Mineral Occurrences in or Near the Property Location as of July 31, 2023

Name	Commodity	Operational Status	Owner
Butter Brook	Gypsum, Anhydrite	Mineral Occurrence	Atco Mining Inc.
French Brook	Gypsum, Anhydrite	Mineral Occurrence	
Flat Bay Mine	Gypsum	Care and Maintenance/Mothballed	Atlas Salt Inc.
Plaster Pond	Gypsum	Development/Construction	
Fischells Brook	Salt, Potash, Gypsum	Development/Construction	
Crabbes River North	Gypsum	Mineral Occurrence	
Barachois Brook (lower)	Gypsum	Mineral Occurrence	
Heatherton	Gypsum, Strontium	Mineral Occurrence	
Stinking Cove	Sulphur, Salt	Mineral Occurrence	
St. Fintans	Salt, Potash, Gypsum	Mineral Occurrence	
Sheep Brook	Gypsum, Anhydrite	Development/Construction	Atlantic Minerals Ltd.
Coal Brook	Gypsum, Anhydrite	Operating–Uncertain	
Lower Fischells Brook	Gypsum, Anhydrite	Operating–Uncertain	Edward W. Stockley
Highlands River	Gypsum	Mineral Occurrence	Gary E. Lewis
Highlands River (s St. Fintans)	Salt, Potash	Mineral Occurrence	
Southwest Barachois Brook	Gypsum	Mineral Occurrence	Neil McCallum
Crabbes River No. 3	Gypsum, Salt	Mineral Occurrence	
Crabbes River No. 2	Gypsum, Salt	Mineral Occurrence	
Crabbes River No. 4	Gypsum, Salt	Mineral Occurrence	
Robinsons	Salt, Potash, Gypsum	Prospect	Newfoundland Discovery Corporation
Crabbes River No. 1	Gypsum	Mineral Occurrence	Shane Stares
Upper Fischells Brook	Gypsum	Mineral Occurrence	Shawn Ryan
Northern Feeder	Gypsum	Mineral Occurrence	Vortex Energy Corporation
Robinsons River	Gypsum	Mineral Occurrence	
Barachois Brook (upper)	Gypsum	Mineral Occurrence	

The Great Atlantic salt deposit (Great Atlantic), located 15 km north of the Property, is important to the area and owned by Atlas Salt (TSXV:SALT) (Figure 23-1). The salt deposit contains an inferred resource of 908 million tonnes grading 96.9 percent NaCl using a nominal bulk density of 2.16 grams per cubic

centimeters (g/cm^3) (nominal deicing market standard). This resource was independently prepared by APEX Geoscience Ltd. in accordance with NI 43-101 standards [Apex Geoscience Ltd., 2016].

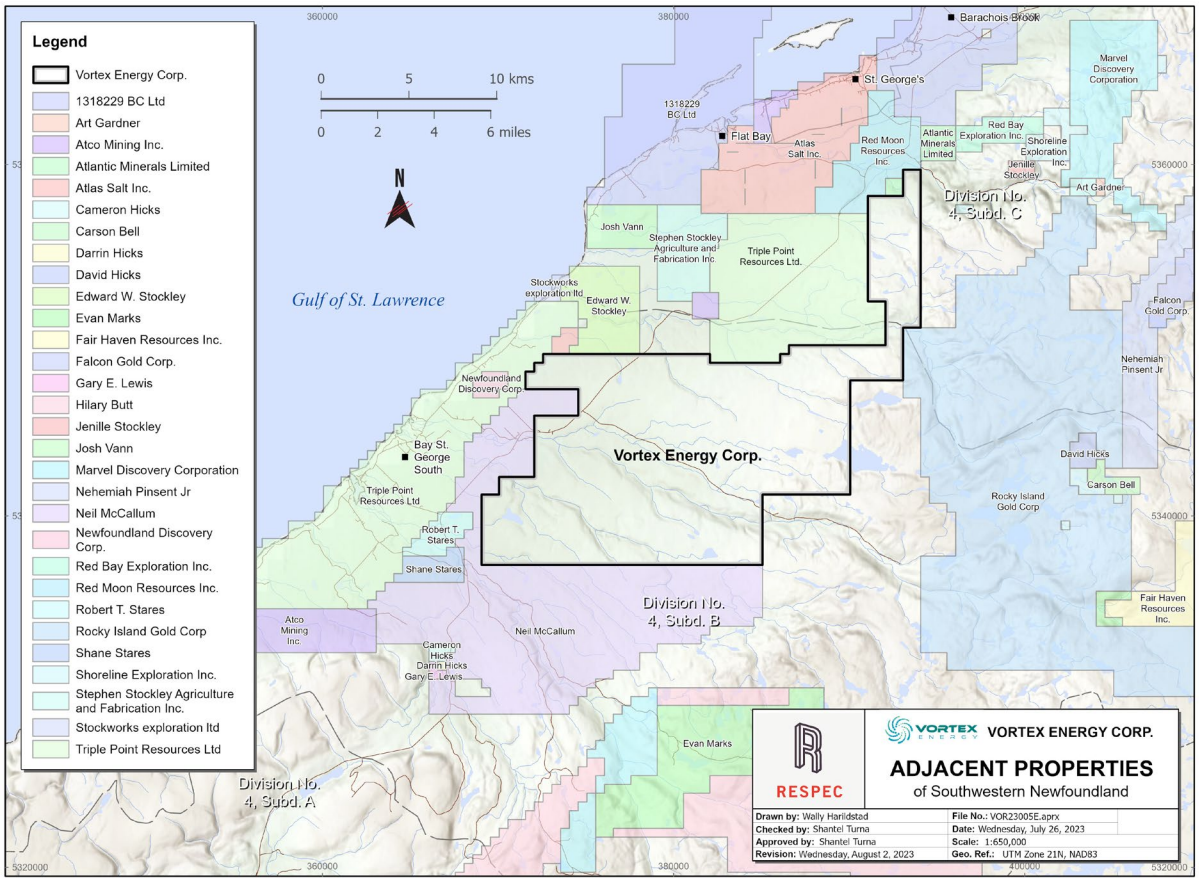

Figure 23-1. Map of Mineral Occurrences and Active Adjacent Properties.

The author has been unable to verify the information provided in this section. This information is not necessarily indicative of the mineralization on the Property.

24.0 OTHER RELEVANT DATA AND INFORMATION

No additional data or information exists that the author is aware of that would change their findings, interpretation, conclusions, and recommendations for the Property's potential, or that is necessary to make this Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

The geology and mineralization controls in southwestern Newfoundland are reasonably understood, based on the various former broad-scale exploration campaigns. Salt mineralization is closely associated with the broader geological context of the area, which includes the BSGSB and its Codroy Road Formation, the main evaporite bed within the Codroy Group. Despite this well-established understanding, ongoing research and exploration efforts continue to deepen the understanding of salt deposits' extent, composition, and economic potential. The identification of additional mineralization, as well as the assessment of factors such as deposit thickness, grade, and accessibility, contributes to a comprehensive picture of the salt mineralization in this region. Such insights hold implications for geological studies and potential industrial applications, including resource extraction and storage, as demonstrated by companies such as Vortex Energy in evaluating salt structures for cavern placement and hydrogen storage.

Most recently, the Robinsons #1 drillhole, managed by Vulcan, drilled the central portion of the Property in 2009. No salt was intersected during this single drillhole campaign, but the Codroy Road Formation was intersected at a vertical depth of 815 m, confirming its presence within the Property. This finding remains encouraging, as the same formation hosts evaporite sequences elsewhere in Newfoundland and is the northeastern extension of the Carboniferous-aged Maritime Basin. The Maritime Basin, which has experienced extensive drilling, stretches across the Gulf of St. Lawrence, covering Prince Edward Island, parts of eastern Nova Scotia, and an eastern section of New Brunswick. In New Brunswick, its Windsor Group contains economic-evaporite deposits of potash and salt that have been successfully mined. Since production began in 1983, over 47 million tonnes of potash ore and over 13 million tonnes of salt have been mined from the Penobsquis-Plumweseep deposit [Webb, 2009]. The ore zone, situated between 400 and 760 m below the surface, varies in thickness from 7 to 61 m and has an average in situ grade of 25.84 % K20. Recoverable reserves of 71 million tonnes with an average grade of 25.6 % K2O are reported and considered sufficient to support production at current rates for 30 years [New Brunswick Department of Natural Resources, 2023].

The Robinsons #1 drillhole, being an unsuccessful attempt to intersect salt or potash, is the result of drilling on a geophysical density high versus a density low and is considered the best prospective target for a salt deposit. The potential for salt on the Property remains underexplored, especially with Captain Cook #1 through #5 serving as recent examples from 2002–2015, where potash and salt were intersected through drill targets originally chosen from geophysical low anomalies.

In the Company's case, pre- and post-Property-acquisition follow-up has relied heavily on new geophysical studies. AGG and magnetic survey and 3D inversion modeling, in combination with publicly available 2D seismic data and ground gravity survey data, have identified two major anomalous lows, and thus, two major salt structures potentially suitable for cavern placement and hydrogen storage.

The Property, categorized as an early greenfield project, would benefit from additional geological data. Merit for further exploration and the potential host of evaporites is, therefore, based on the following:

1. **Potential for additional deposits**. Evaporite minerals, including sylvinite and carnallite mineralization and potential for other economic mineralization has been reported from drill

holes in the general BSGSB of western NFLD, and it is therefore reasonable to expect the discovery of additional evaporite mineralization, given the right geological (sedimentological and structural) conditions within the St. George's Subbasin.

2. **Proven favourable stratigraphy**. The Robinsons #1 well drilled previously on the Property confirmed the favorable stratigraphy, the Codroy Group, which is known to host evaporite deposits within the BSGSB, This Group is equivalent to the economically significant Carboniferous Windsor Group mapped in New Brunswick and Nova Scotia, of which hosts several operating and non-operating mines.
3. **Prospective salt structures within gravity lows.** Furthermore, it is the opinion of the author that salt mineralization may be associated with the thickest intersections of evaporites, which also coincide with the geophysical "lows." These lows were not previously drilled within the Property boundaries, including Robinsons #1. Recent examples from 2002–2015, Captain Cook #1 through #5 were all drill targets originally chosen from geophysical low anomalies that intersected potash and salt.
4. **Mine development and production of salt for direct commercial use.** Depending on the quality and quantity of salt that the Robinsons River Salt Property hosts, the mining of salt could potentially translate to commercial use and sale, independently or prior to the development of caverns and hydrogen storage (if Vortex Energy proceeds to develop caverns on the Property). The economic feasibility of this will need to be determined in future studies.
5. **Caverns and hydrogen storage benefits**. The potential for cavern placement and hydrogen storage refining requires understanding the host rock formation's quality, thickness, and deformation properties. By advancing exploration efforts to include drilling the identified potential salt structures, the capacity for hydrogen storage can be better defined.

In summary, the author believes the Property should continue to be explored and drilled for halite salt deposits because indications are favorable for success.

26.0 RECOMMENDATIONS

The author believes that the Property is an underexplored asset that represents an early-stage exploration opportunity for a halite-bearing horizon. By using contemporary exploration and current geological modeling techniques, Vortex Energy can investigate the Property for potential halite deposits. These efforts should focus on identifying similar characteristics that are common in evaporite deposits, which may provide valuable insights and clues into the geology of the Property.

The initial ground gravity survey provided an approximate extent of the salt structure at the Property, and a comprehensive seismic survey investigation defined the salt body at the Property with increased confidence. Additional geological data is required for the future success of the Property and for further understanding of the mining, designing and developing of a potential halite salt mine and/or salt caverns and hydrogen storage capacity.

Given the above conclusions, the author recommends the following phases of exploration to confirm a salt mineral resource is present on the Vortex Energy mineral exploration licenses.

Phase One would involve the following:

1. **Drilling two modern and full-length core wells at the identified salt structures on the Property.** To better understand these two prospective salt structures, in terms of depth, the western salt structure should be drilled to a depth between 1,000 to 1,200 meters and the eastern salt structure should be drilled to a depth between 1,400 to 1,600 meters. The total estimated drilling meterage would be between 2,400 to 2,800 meters. Considering the Robinsons #1 drillhole intercepted the Codroy Road Formation at a vertical depth of 815 meters, diamond drilling is recommended at these depths to both meet and exceed the targeted evaporite sequence to ensure the well does not stop within salt.
2. **Conducting two wireline logs in the core wells with a comprehensive sampling program.** The wireline geophysical data and detailed logging and sampling will provide a better understanding of the quality, thickness and deformation properties of the host rock formation. This information will assist in understanding the lithological stratigraphy to understand the rock types present in the evaporate sequence of the two identified anomalous "low" features on the south of the Robinsons River Salt Property.

The Phase One field program is estimated to cost approximately $1,300,000–1,500,000, representing an approximate "all-in" cost of $600 per m. "All-in" costs include permitting costs, crew and equipment mobilization and demobilization, drilling costs, drilling management and supervision, geophysical logging and sampling by a geologist, travel, room and board, equipment rentals, assaying, and reporting.

A subsequent Phase Two field program would depend on the success and results of Phase I and may, depending on the results of Phase One, involve the following:

1. Delineating any gravity "low" features on the Property's northern claims if appropriate stratigraphy is intersected in the southern claims.
2. Drill testing these features, if suitable gravity features are identified, to confirm the presence of additional evaporite mineralization.

27.0 REFERENCES

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28.0 CERTIFICATE OF QUALIFIED PERSON

I, Tabetha Stirrett, Professional Geologist (P.Geo), as author of the Technical Report titled *Independent Technical Report on the Robinsons River Salt Property for Vortex Energy Corp.* (the Report) with an effective date of July 31, 2023, do hereby certify that:

I am a consulting geologist of RESPEC Consulting, Inc. (RESPEC), with an office located at 290A–2600 8th Street East, Saskatoon, Saskatchewan, Canada S7H 0V7.

I am a professional geologist and have been practicing in this capacity since May 1997.

I am a graduate of the University of Saskatchewan and earned a degree in geology in 1997.

I am a member in good standing with the following associations: The Association of Professional Engineers and Geoscientists Newfoundland and Labrador (PEGNL) (Member #11236), The Associations of Professional Engineers and Geoscientists of Saskatchewan (APEGS) (Member #10699) and the American Institute of Professional Geologists (AIPG) (Member # CPG-11581).

As a consulting geologist, I have been involved with salt, potash, coal, oil-and-gas, and mineral exploration since 1997. These tasks have included the following:

a. Since 2008, I have been involved with assessing numerous salt and potash projects for exploration companies throughout North and South Americas. The most relevant projects are related to the geology and exploration planning for salt and potash deposits in New Brunswick, Nova Scotia, Ontario and Michigan. These deposits are of similar depths and depositional environments. I was responsible for geology, exploration and drill planning, seismic exploration, and data collection. I was also responsible for resource modeling on all of these projects.
b. I have extensive experience in the salt and potash deposits of Saskatchewan and have worked with junior companies to develop exploration plans, estimate resources, and produce technical reports for listing on stock exchanges. I have also performed similar work for junior companies internationally.
c. I have extensive experience working with the potash producers of Saskatchewan and New Brunswick in developing exploration and drilling programs to further delineate their mining footprint. I have also completed regional and local geological desktop studies that examine the potential of inflow into conventional mines.
d. I have logged and interpreted potash cores in all of the basins where I have worked. I developed the quality assurance/quality control (QA/QC) procedures for potash core sampling for my company.
e. I have supervised the preparation of technical reports.
f. I have conducted due diligence reviews on potash properties in Australia, the United States (Arizona and North Dakota), Spain, Thailand, and Canada.
g. I worked with a geophysical wireline company for nearly 10 years and was responsible for the acquisition, quality control, and interpretation of geophysical wireline logs, which are used extensively for interpreting the geological setting of potash deposits.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument (NI) 43-101.

I am responsible for all items of this Report.

I have not had previous involvement with the exploration conducted on the Property that is the subject of this Report.

I am independent of Vortex Energy Corp. applying all tests in Section 1.5 of NI 43-101.

I am responsible for the sections of this technical report.

My most recent personal inspection of the Property was on July 5–7, 2023.

I have read NI 43-101, NI 43-101 F1, and the Report for which I am responsible, and the Report has been prepared in compliance with NI 43-101 and NI 43-101F1.

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

Signed in Saskatoon, October 6, 2023.

ORIGINALLY SIGNED AND SEALED

Tabetha Stirrett, P.Geo
RESPEC Consulting Inc.