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Environmental Impact Assessment Registration Document Development of a Supplementary Irrigation System for Wild Blueberries

Val-Doucet, New Brunswick

GEMTEC Project: 100725.001-R01

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Submitted to:

Environment and Local Government
Marysville Place, P.O. Box 6000
Fredericton, New Brunswick
E3B 5H1

Environmental Impact Assessment Registration Document Development of a Supplementary Irrigation System for Wild Blueberries

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July 29, 2021
GEMTEC Project: 100725.001-R01

experience • knowledge • integrity

GEMTEC Consulting Engineers and Scientists Limited
191 Doak Road
Fredericton, NB, Canada
E3C 2E6

July 29, 2021

GEMTEC File: 100725.001-R01
NBDELG File 1566

New Brunswick Department of Environment and Local Government
Environmental Impact Assessment Branch
Marysville Place, P.O. Box 6000
Fredericton, New Brunswick
E3B 5H1

Attention: Mr. Pierre Doucet, Project Manager

Re: Environmental Impact Assessment Registration Document
Development of a Supplementary Irrigation System, Val-Doucet, New Brunswick

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) is pleased to submit this electronic copy of the Environmental Impact Assessment (EIA) Registration and Water Supply Source Assessment (WSSA) Initial Application (Appendix E) on behalf of Bragg Lumber Company Limited (BLC). The proposed Project involves the development of a supplementary water supply for irrigation purposes in support of BLC's existing wild blueberry operation located in Val-Doucet, New Brunswick.

If you have any questions or concerns about the report or the information presented herein, please do not hesitate to contact the undersigned.

Paul Vanderlaan, P.Eng.
Environmental Regulatory Specialist

April Barnet, B.A., PTech, EP
Environmental Professional

PV/ab

Enclosures

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cc: Bill Malay, Director of Planning and Development, Bragg Lumber Company Limited (via email: bmalay@cherryfieldfoods.com)

Statement of Limitations

This report has been prepared for the sole benefit of Bragg Lumber Company Ltd. Any other person or entity without the express written consent of GEMTEC Consulting Engineers and Scientists Limited and Bragg Lumber Company Ltd. may not rely upon this report.

Any use that a third party makes of this report, or any reliance or decisions made based on it, is the responsibility of such third parties. GEMTEC Consulting Engineers and Scientists Limited accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Some of the information presented in this report was provided through existing documents and interviews. Although attempts were made, whenever possible, to obtain a minimum of two confirmatory sources of information, in certain instances, GEMTEC Consulting Engineers and Scientists Limited has been required to assume that the information provided is accurate.

This report was prepared by April Barnet, B.A., PTech, EP; Christine Chase, P.Eng.; and, Jenna O'Donnell, B.Sc., and reviewed by Paul Vanderlaan, P.Eng., of GEMTEC Consulting Engineers and Scientists Limited. Should additional information become available, GEMTEC Consulting Engineers and Scientists Limited requests that this information be brought to our attention so that we may re-assess the information presented herein.

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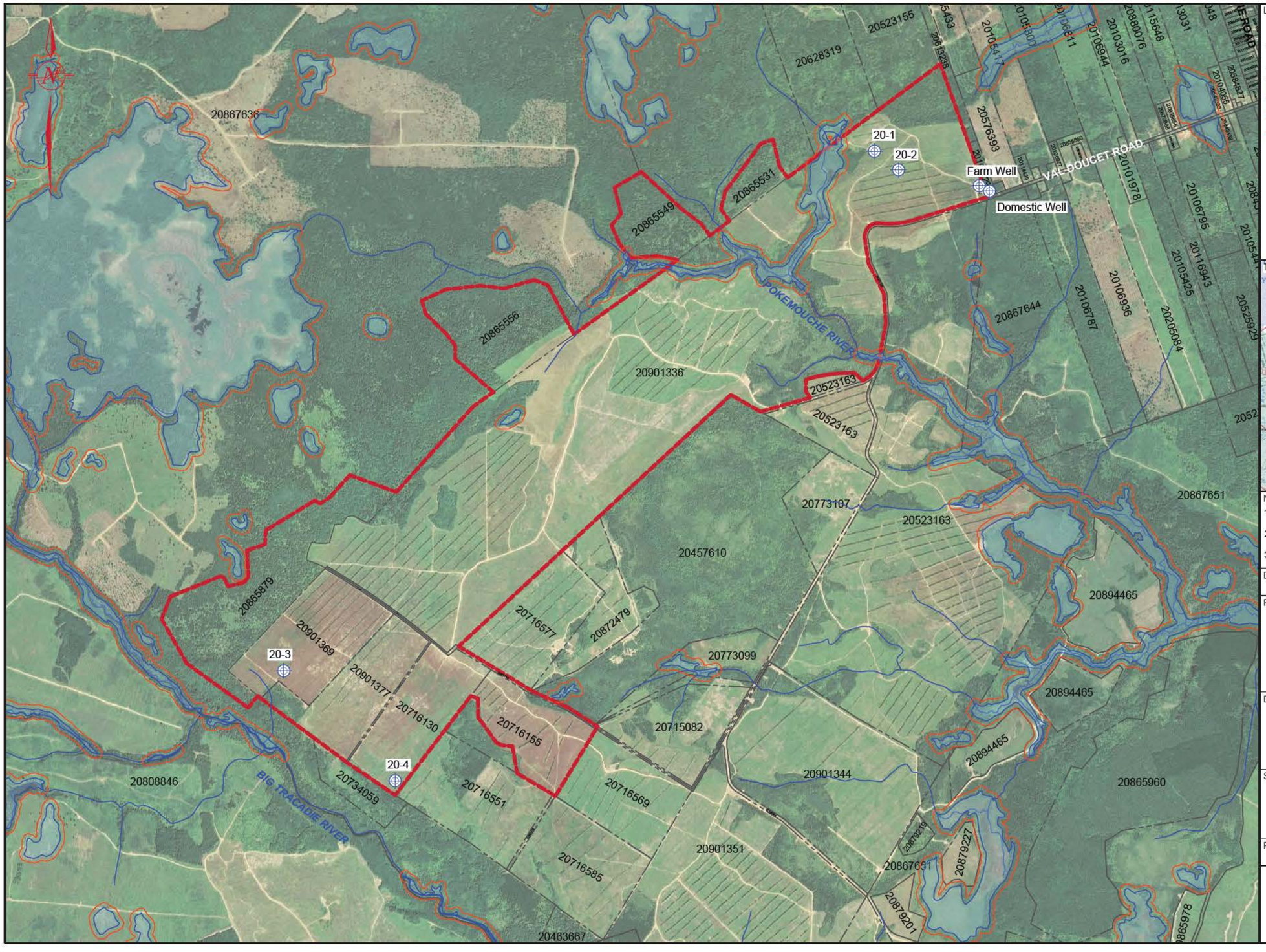
1.0 INTRODUCTION

Bragg Lumber Company retained GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) to prepare an Environmental Impact Assessment (EIA) registration document and a Water Supply Source Assessment (WSSA) Initial Application for the Development of a Supplementary Irrigation System for Existing Wild Blueberry Crops (herein referred to as "the Project"). The Project is located on multiple parcels, located off of chemin Val-Doucet and chemin Forestier in Val-Doucet, New Brunswick. The general location of the proposed Project presented in Figure 1 (herein referred to as "the Project Site").

In the fall of 2020, our client inadvertently initiated the Project without having obtained the required authorizations from the New Brunswick Department of Environment and Local Government (NBDELG). Specifically, four wells were drilled towards the development of a water supply for a supplementary irrigation system in support of their blueberry growing operation located in Val-Doucet, New Brunswick. While it is acknowledged that the environmental review and approval process for this initiative was inadvertently contravened, our client is now aware of the regulatory requirements applicable to their proposal and will comply with those going forward as they advance their project proposal through the environmental review and approval process. GEMTEC submitted a letter to NBDELG on April 29, 2021 to obtain confirmation of the environment review and approval process for the Project. NBDELG issued a response letter dated May 5, 2021, stating that the proposed Project will require an EIA registration and review. The NBDELG correspondence is presented in Appendix A.

This document serves as the Registration Form pursuant to Section 5(2) of the "Environmental Impact Assessment Regulation 87-83" of the New Brunswick *Clean Environment Act*. A provincial EIA is required for the project due to the presence of the following triggering condition as outlined in Schedule A of the Regulation:

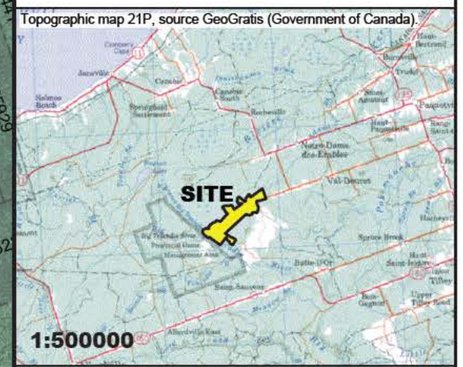
- •Condition (s) all waterworks with a capacity greater than fifty cubic metres of water daily.



Legend

- WELL
- PROPERTY LINE
- WATERCOURSE
- REGULATED WETLAND
- 30m BUFFER
- SITE BOUNDARY

Topographic map 21P, source GeoGratis (Government of Canada).



Note

1. This drawing is a schematic representation. Sizes, locations and dimensions are approximate.
2. Coordinate system: New Brunswick; Stereographic projection, NAD83 (CSRS) Datum.
3. Aerial photograph from 2019. Source Google Earth.

Date	Drawn By	Checked By
July 2021	CHG	AB

Project

ENVIRONMENTAL IMPACT ASSESSMENT
AND WATER SOURCE SUPPLY ASSESSMENT,
VAL-DOUCET, NB

Drawing

SITE LOCATION PLAN

Scale

1:25000

0 0.5 1.0 1.5km

Project No.	Drawing	Revision No.
100725.001	FIGURE 1	0

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CONSULTING ENGINEERS AND SCIENTISTS

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1.1 Name of the Undertaking and Project Proponent

1.1.1 Name of the Undertaking

Development of a Supplementary Irrigation System for Existing Wild Blueberry Crops, Val-Doucet, New Brunswick (the "Project").

1.1.2 Project Proponent

The name and contact information of the Proponent is presented in Table 1.

Table 1 Proponent Information

Name of Proponent	Bragg Lumber Company Limited
Address of Proponent	1536 Wyvern Road Collingwood Corner, NS B0M 1E0
Mailing Address of Proponent	Same as above.
Proponent Contact	Bill Malay, Director of Planning and Development Telephone: (207) 546-1747 Email: bmalay@cherryfieldfoods.com
Principal Contact Person for EIA	Paul Vanderlaan, P.Eng., Environmental Regulatory Specialist GEMTEC Consulting Engineers and Scientists Limited 191 Doak Road, Fredericton, New Brunswick, E3C 2E6 Telephone: (506) 453-1025 Email: paul.vanderlaan@gemtec.ca
Property Ownership	Her Majesty The Queen in Right of New Brunswick (Owner); Oxford Frozen Foods Limited & Tidnish Holdings Limited (Acadian Farms Development Partnership) (Owner); Peninsula Foods Limited (Lessee); Bragg Lumber Company Limited (Lessee)

1.2 Property Ownership

The Project Site is mostly Crown Land which is currently being leased to Bragg Lumber Company Limited/ Bragg Lumber Company Ltd. or its sister company, Peninsula Foods Limited/ Aliments Péninsule Limitée by the New Brunswick Department of Agriculture, Aquaculture, and Fisheries (NBAAF) for wild blueberry production. Both Bragg Lumber Company Limited and Peninsula Foods Limited are subsidiaries of Oxford Frozen Foods Limited. The file and lease numbers are presented in Table 2 and a copy of the lease agreements are attached as Appendix B.

Table 2 Crown Land Lease Information

PID(s)	Lessee	File Number	Lease Number
20901377	Bragg Lumber Company Limited	3405-50-0103	98
20901369 20400263	Peninsula Foods Limited	3405-50-0002	210
20901336 20726477	Peninsula Foods Limited	3405-50-0003	211
20716155	Bragg Lumber Company Limited	3405-50-0183	572
20716130	Bragg Lumber Company Limited	3405-50-0145	573

2.0 PROJECT OVERVIEW

The Proponent manages over 790 hectares (ha) of wild blueberry fields on the Project Site. To provide supplemental irrigation during dry spells in the summer, the Proponent plans to develop groundwater wells located on the Project Site to provide water for a mobile center pivot irrigation system. Four wells were drilled on the Project Site in the fall of 2020; however, the wells have not been developed and are not currently in-use. The wells are identified as 20-1 (formerly Val-Doucet 1-2); 20-2 (formerly Val-Doucet 1-3); 20-3 (formerly Val-Doucet 3-2); and, 20-4 (formerly Val-Doucet 3-1) and their locations are presented on Figure 1.

The implementation of the Project is planned over several phases. Phase 1 includes the development of supply wells 20-3 and 20-4 and the installation of two center pivots capable of providing one inch of water per week over an area of approximately 140 acres (57 ha) each for a total irrigated area of 280 ha (114 ha). In order to meet the necessary supplemental irrigation requirements, these two wells must be capable of supplying a combined total of 785 Imperial gallons per minute (igpm) or 3578 Litres per minute (L/min). Given the volume of water need for the Project, a WSSA is required.

There is no access to the electric power grid on the Site; therefore, the pumps in the supply wells and the center pivots will be powered by diesel generators installed nearby. The location of the Phase 1 wells, proposed pivot locations, underground piping, and area to be irrigated is shown on Figure 2.

The Project will not involve an increase in the lateral footprint of the existing agricultural operation and no new roadways or clearing is anticipated as part of the Project. Some ground disturbance will be necessary to install the irrigation system and generators. This will consist of trenching for installation of the underground piping connecting the center pivots to each of the wells. Some of the existing trees in the windbreaks may have to be trimmed or cut down to accommodate the installation and operation of the irrigation system; however, no habitat disturbance and/or destruction or removal of natural vegetation is required.

Depending on the success of Phase 1, Phase 2 will see the addition of center pivots in the northeast portion of the Site to be serviced by supply wells 20-1 and 20-2. Future phases will include additional center pivots and groundwater wells. Hydrogeological assessments will be completed prior to each planned expansion of the irrigation system.

Pivot 2

20-3

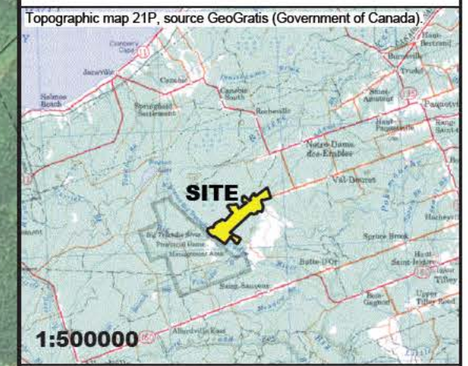
Pivot 1

20-4

Legend

- CENTRE PIVOT
- WELL
- PROPERTY LINE
- UNDERGROUND WATER PIPE
- WATERCOURSE
- IRRIGATED AREA
- REGULATED WETLAND
- 30m BUFFER
- SITE BOUNDARY

Topographic map 21P, source GeoGratis (Government of Canada).



Note

1. This drawing is a schematic representation. Sizes, locations and dimensions are approximate.
2. Coordinate system: New Brunswick; Stereographic projection, NAD83 (CSRS) Datum.
3. Aerial photograph from 2019. Source Google Earth.

Date	Drawn By	Checked By
July 2021	CHG	AB

Project

ENVIRONMENTAL IMPACT ASSESSMENT
AND WATER SOURCE SUPPLY ASSESSMENT,
VAL-DOUCET, NB

Drawing

PHASE 1 OF THE PROJECT

Scale

1:15000

0 300 600 900m

Project No.	Drawing	Revision No.
100725.001	FIGURE 2	0

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Consulting Engineers and Scientists

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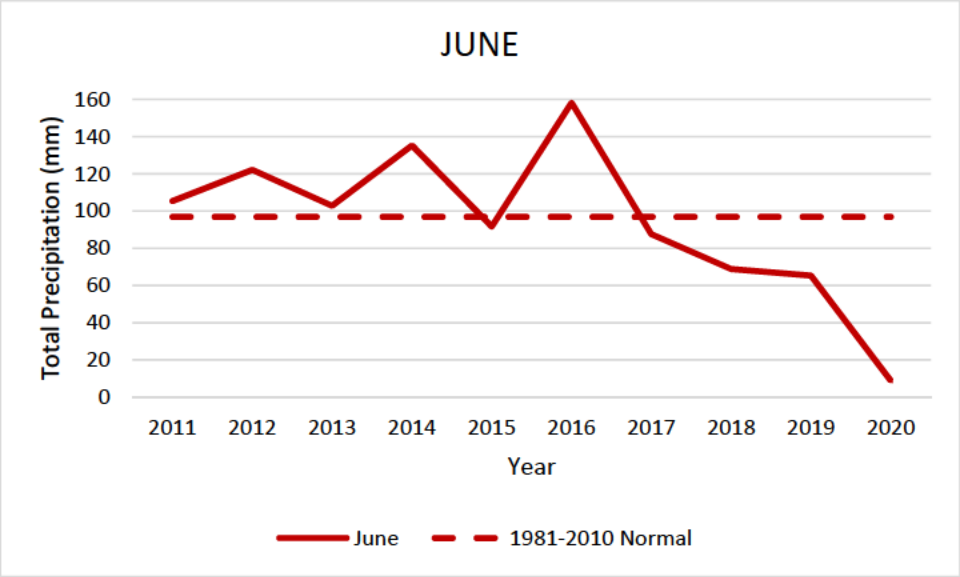
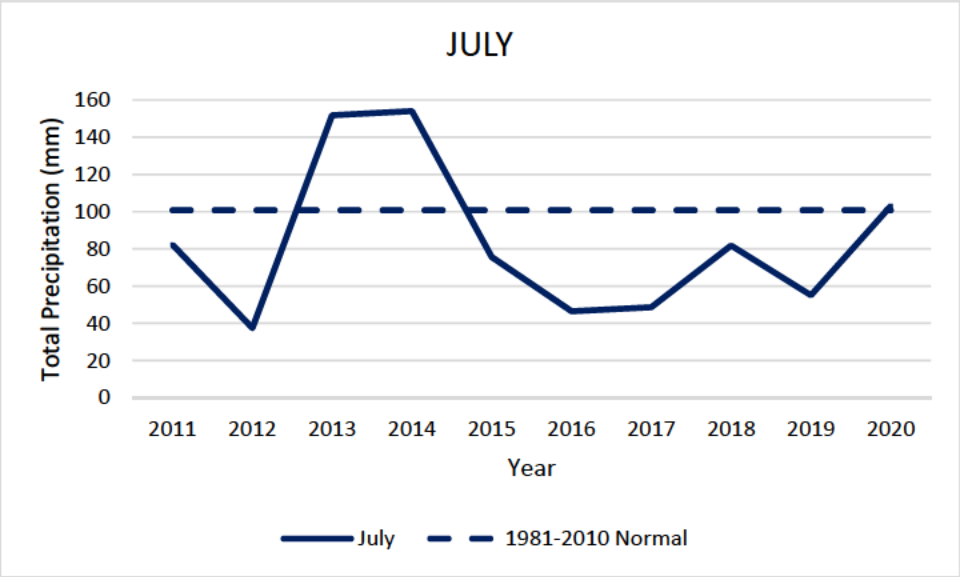
2.1 Purpose / Rationale / Need for the Undertaking

New Brunswick is responsible for 25% of Canada's total wild blueberry production, which represents 12% of the industry's total production and has a farm gate value in the vicinity of two million dollars. Wild blueberries produced in New Brunswick have a global market, with end users in the industrial, hospitality, and institutional sectors. The continued production of blueberries in New Brunswick provides economic opportunities for growers, processors, beekeepers, machinery operators and field workers, agricultural technicians, marketing and promotion agents, and farm machinery agents, among others. Furthermore, the conversion of woodlands to wild blueberry fields allows for the diversification of rural coastal economies traditionally based on fishing (NBAAF, 2010a).

For optimal wild blueberry production, at least 2.5 cm (1 inch) of water per week is required. Less than this can reduce plant growth and flower bud development in the vegetative year and reduce overall crop yield and berry size in the harvest year (NBAAF, 2010b). To date, the proponent has relied solely on rainfall to meet their water needs; however, rainfall is unpredictable and wild blueberry yields in 2020 were 40% less than average due to drought conditions. Historical precipitation data for for the months of June and July between 2011 and 2020 is presented in Figure 3. The data was collected for the Bathurst A weather station (47.63°, -65.75°), located approximately 20 kilometres (km) northwest of the Project Site (Environment Canada, 2021b). The Environment Canada 1981 – 2010 Climate Normal for the Bathurst A station is shown for comparison (Environment Canada, 2021a). As can be seen, June precipitation has been substantially lower than the Normal since 2017 and July precipitation was lower than the Normal between 2015 and 2019. Global warming and climate change is expected to increase precipitation unpredictability in the near future. Farms capable of supplementary irrigation of crops in June and July will be able to maintain their average yield and berry quality in drought years.

Figure 3 Historical and Normal June and July Precipitation Data for the Site





2.2 Project Location

The Project Site is contained within twelve land parcels, three of which are roadways. Eight of the twelve parcels are Crown Land, which is being leased to Bragg Lumber or Peninsula Foods for wild blueberry production. In total, the Project Site covers approximately 795 hectares (ha). Phase 1 of the Project involves three parcels (PIDs 20901369, 20901377, and 20716130) and covers approximately 125 ha. The pertinent SNB information is provided in Table 3 (Service New Brunswick, 2021).

Table 3 SNB Information

PID	Area (ha)	Owner	Lessee	Property Type
20901336	486.76	Crown	Peninsula Foods Limited	Blueberry Land
20901369	46.4	Crown	Peninsula Foods Limited	Blueberry Land
20901377	38.15	Crown	Bragg Lumber Company Limited	Blueberry Land
20716130	40.47	Crown	Bragg Lumber Company Limited	Blueberry Land
20716155	39.1	Crown	Bragg Lumber Company Limited	Blueberry Land
20865879	66.48	Oxford Frozen Foods Limited & Tidnish Holdings Limited (Acadian Farms Development Partnership	N/A	Timberland
20865556	42.67			Blueberry Land
20865549	22.02			Blueberry Land/ Timberland
20865531	10.41			Blueberry Land
20726477	1.13	Crown	Peninsula Foods Limited	No property type (Roadway)
20400263	1	Crown	Peninsula Foods Limited	No property type (Roadway)
20716015	1.25	Crown	N/A	No property type (Roadway)

Based on SNB information, there are two addresses for the Project Site: chemin Val-Doucet and chemin Forestier, both of which are located in the community of Val-Doucet, in the county of Gloucester; none of the addresses have associated civic numbers. For the purposes of this EIA, the street address of the Project Site is:

- ***chemin Forestier, Val-Doucet, New Bandon Parish, Gloucester County, New Brunswick*.**

The geographic location of the centre of the Project Site is provided in Table 4, below.

Table 4 Geographic Location

Location	Latitude	Longitude
Project Site	47.584	-65.310
Project Site, Phase 1	47.571	-65.330

The majority of the Project Site is situated in New Bandon Parish, located in the Local Service District of New Bandon-Salmon River and is serviced by the Chaleur Regional Service Commission (Region 3). However, a portion of PID 20901336 is located in Paquetville Parish, located in the Local Service District of Notre-Dame-des-Érables, which is serviced by the Acadian Peninsula Regional Service Commission (Region 4).

2.3 Siting Considerations / Restrictions

Both the Chaleur Regional Service Commission (Region 3) and Acadian Peninsula Regional Service Commission (Region 4) reported that there is no zoning for the Project Site. The SNB Property Assessment Number (PAN) Information Report (included in Appendix C) indicates that the Project Site is currently recognized as blueberry land or timberland (see Table 3).

The Project area is not located within a Wellfield Protected Area (GeoNB, 2021d), a Watershed Protected Area (GeoNB, 2021d), nor is it located within a New Brunswick Coastal Zone. The Pokemouche River transects the northern portion of the Site and the Big Tracadie River is located between 100 m and 340 m to the southwest of the Project Site. Tributaries to these watercourses, regulated wetlands contiguous to these watercourses, and mapped regulated wetlands are present on or in the vicinity of the Project Site (GeoNB, 2021a). No work/modifications are currently proposed within 30 m of any of the watercourses or wetland areas. The available GeoNB mapping is attached in Appendix D.

The Site consists of former agricultural fields and forested lands that have transitioned to wild blueberry fields. The Project will occur within the existing operational area and will not cause the

developed footprint of the existing agricultural operation to be increased and no new roadways or clearing is anticipated as part of the Project.

The well locations were selected based on their proximity to the existing blueberry fields that require supplementary irrigation during times of the year when the weekly water requirement of 2.5 cm is not provided by natural rainfall. No alternative well locations were considered given the water will be utilized for supplemental irrigation purposes within the existing agricultural operation.

It is proposed that discharge water generated during the pump test be released to the forested area to the south of supply wells 20-3 (PID 20901369) and 20-4 (PID 20734059), both of which are Crown Land currently leased to Peninsula Foods Limited. A Watercourse and Wetland Alteration (WAWA) permit will be sought prior to the pump test, if required.

2.4 Potential Sources of Pollutants

A review of Service New Brunswick (SNB) Land Gazette information for the properties within 500 metres of the Project site indicates that no existing pollution or contamination hazards have been identified. No federal contaminated sites are present in the vicinity (*i.e.* > 5 km) of the Project site (Treasury Board of Canada, N.D.).

The potential sources of pollutants during the implementation of the Project (pumping tests and operation of the irrigation system) are outlined below:

- Accidental releases of hazardous materials such as petroleum products from operational equipment or on-site vehicles;
- Disturbed soil could result in runoff to the nearby watercourse/wetland located to the south of the Project Site during the pump tests and subsequent rain events.
- Bragg Lumber Company uses Integrated Pest Management (IPM) to minimize pesticide use and target specific problems. When pesticides are used, they are chosen based on minimizing environmental impact beyond the target, handler/applicator safety, and customer requirements. Depending on the timing of the pumping tests and operation of the irrigation system, surface water runoff may contain traces of pesticides; however, this is not considered to be significant.

Mitigation measures to address these potential sources of pollutants are discussed in Section 5.0.

2.5 Project Related Documents

There are no known prior EIAs or environmental studies for the Project.

3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

3.1 Physical and Natural Features

3.1.1 Topography and Drainage

A review of the digital elevation model (DEM) derived from LiDAR data available from GeoNB indicates that the overall slope is to the east-southeast toward the Gulf of Saint Lawrence, which is located approximately 35 km east-southeast of the Site.

Locally, the Site is relatively flat with approximate slopes of less than 5%. The northeastern portion of the Site slopes to the northeast toward the Pokemouche River, which transects the Site and flows northwest to southeast toward the Gulf of Saint Lawrence. The southwestern portion of the Site slopes to the southwest toward the Big Tracadie River, which is located between approximately 100 m and 340 m to the southwest of the Site. The Big Tracadie River also flows northwest to southeast toward the Gulf of Saint Lawrence.

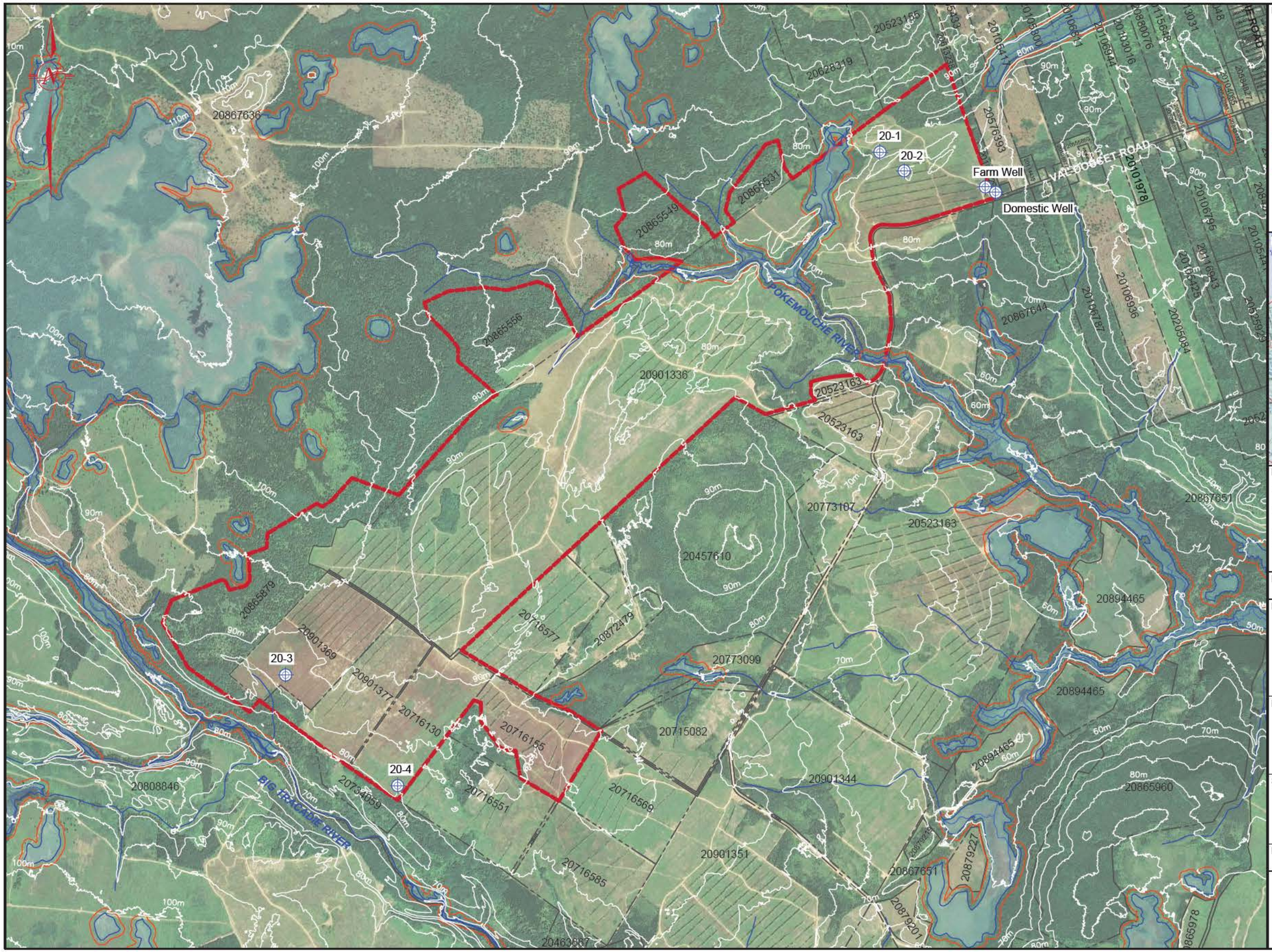
Two local highs are present on the Site: one in the southwest corner of the Site and another on the eastern side of the Site. The maximum elevation of these highs are 100 m and 96 m, respectively (Canadian Geodetic Vertical Datum of 2013 (CGVD2013)). The minimum elevation on the Site is 65 m (CGVD2013), which is located where the Pokemouche River flows off the Site. A depression with an elevation of 84 m (CGVD2013) is located approximately 2.3 km to the northeast of well 3-2. Overall, surface water is expected to flow overland based on the local topography, pool in local low-lying areas, and infiltrate the ground surface. Figure 4 shows the topography for the Project area.

3.1.2 Site Geology

Surficial mapping indicates that the Project Site is covered with loamy lodgement till, minor ablation till, silt, sand, gravel, and rubble that was deposited directly by Wisconsinan ice or with minor reworking by water. In general, these morainal deposits are 0.5 to 3 metres thick (Rampton, 1984).

The Site is located within the Maritimes Basin tectonostratigraphic zone. Bedrock mapping indicates that the area is underlain by fluvial conglomerate and sandstone sequences (Pictou Group) deposited as terrestrial sediments during the Late Carboniferous (NBDNR, 2008).

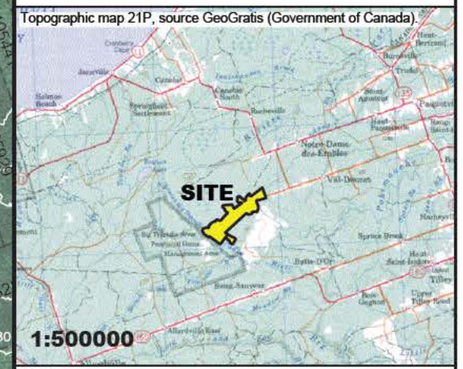
Unofficial borehole logs from the four wells drilled on the Project Site (20-1, 20-2, 20-3, and 20-4) indicate that bedrock is shallow, having been encountered between 0 and 1.2 metres below ground surface (mbgs). Based on the unofficial borehole logs for the supply wells, the bedrock lithology is fine- to coarse-grained sandstone interlayered with minor limestone and shale at depth.



Legend

- WELL
- CONTOUR 5m
  GeoNB DEM, 2018. Vertical Datum CGVD2013
- PROPERTY LINE
- WATERCOURSE
- REGULATED WETLAND
- 30m BUFFER
- SITE BOUNDARY

Topographic map 21P, source GeoGratis (Government of Canada).



Note

1. This drawing is a schematic representation. Sizes, locations and dimensions are approximate.
2. Coordinate system: New Brunswick; Stereographic projection, NAD83 (CSRS) Datum.
3. Aerial photograph from 2019. Source Google Earth.
4. Contour base on GeoNB DEM from 2018. Vertical Datum CGVD2013.

Date	Drawn By	Checked By
July 2021	CHG	AB

Project

ENVIRONMENTAL IMPACT ASSESSMENT
AND WATER SOURCE SUPPLY ASSESSMENT,
VAL-DOUCET, NB

Drawing

TOPOGRAPHY OF THE PROJECT AREA

Scale

1:25000

0 0.5 1.0 1.5km

Project No.	Drawing	Revision No.
100725.001	FIGURE 4	0

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3.1.3 Hydrogeology

Phase 1 of the Project will involve completing pump tests (step tests and 72-hour constant rate tests) on supply wells 20-3 and 20-4 that were drilled on the southwestern portion of the Site. The pump test data will be used to determine the transmissivity and storativity of the aquifer in the Project area and to determine the sustainable pumping rates of the supply wells. While concurrent pumping tests would most accurately represent real-world operational conditions, the management of the discharge water (on the order of 18 million litres for a 72-hour test) would present a significant logistical challenge. Therefore, separate 72-hour constant rate tests are proposed for supply wells 20-3 and 20-4. The WSSA Initial Application is attached as Appendix E.

3.1.4 Flood Risk

GeoNB flood risk mapping (GeoNB, 2021b) was reviewed for the area. The Project area is not located within a mapped flood zone. A copy of the map is attached in Appendix D.

3.1.5 Water Extraction

Municipal potable water infrastructure is not available in the Project area. Potable water is provided by private drilled wells. In addition to the wells drilled on the Site in the fall of 2020 to supply the irrigation system (20-1, 20-2, 20-3, and 20-4), a well is located at the equipment storage building located on the northeast portion of the Site (“Farm Well” on Figures 1 and 2). Specific well information is provided in the WSSA Initial Application (Appendix E). Private domestic wells are located on residential properties along chemin Val-Doucet, which adjoins the Project Site to the northeast. The nearest private well is identified as “Domestic Well” on Figures 1 and 2.

The NBDELG Online Well Log System (OWLS) (NBDELG, 2021b) was accessed on June 16, 2021 to identify groundwater extraction wells located within a 4.85 km radius around a central point on the Project Site (47.584044, -65.308903); this radius was selected as it was the smallest radius that generated both well construction information and water quality analytical results. Eighteen (18) results were returned for this radius; however, three of these results appeared to be a set of triplicate records. Therefore, there are considered to be 16 recorded wells within 4.85 km of the Project site. Of the 16 groundwater wells, 11 are for domestic use, 4 are for “other” non-drinking use, and 1 is for industrial non-drinking use. Well construction details for these wells are summarized in Table 5 and the well driller logs available from OWLS are attached as Appendix F.

Table 5 Construction Details for Wells Reported within 4 km of the Project Site

Well Construction Component	Minimum	Maximum	Median
Total Well Depth (m)	13.41	79.25	39.01
Casing Depth (m)	5.79	48.77	17.22
Casing Diameter (centimetres)	0.10	0.20	0.15
Estimated Safe Yield (L/min (igpm))	9 (1.98)	500 (109.98)	95.5 (21.01)
Water Bearing Fracture Zones (m)	9.14	77.72	30.63
Depth to Bedrock (m)	0	21.95	5.49
Bedrock Type	Fine- to coarse-grained sandstone; minor shale and limestone		

Notes:
m = Metres
L/min = Litres per minute
igpm = Imperial gallons per minute

Available water chemistry data were compared to the Guidelines for Canadian Drinking Water Quality (GCDWQ) (Health Canada, 2020). Based on the available data (six groundwater chemistry records), exceedances of the following GCDWQs were noted in one or more wells: aluminum, manganese, turbidity, and total coliform (Table G1 in Appendix G).

Since the groundwater will be used for irrigation and may flow overland into nearby wetlands and watercourses, the available geochemical data from the OWLS search was also compared to the Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines (WQG) for the Protection of Agriculture and the WQG for the Protection of Aquatic Life (CCME, 2021). Exceedances of the WQG for the Protection of Aquatic Life were noted in one or more wells for the following: aluminium, copper, fluoride, and lead. Coliform bacteria were present in half of the samples but were not quantified.

The OWLS database is maintained by NBDELG and contains information on water wells constructed since 1994. The NBDELG takes no responsibility and makes no guarantee as to the completeness, accuracy or timeliness of the data provided in this database.

3.1.6 Climate

The closest weather station to the Project with available historical data is the Bathurst A station (47.63°, -65.75°), which is located approximately 20 kilometres (km) northwest of the Project site. The Canadian Climate Normals (1981 to 2010) recorded from the Bathurst A climate station indicate an annual daily mean temperature of 4.8°C, with a daily maximum of 10.2°C and minimum of -0.7°C. An extreme maximum temperature was recorded in June 2003 (37.4°C) and an extreme minimum temperature was recorded in January 1994 (-35.6°C). According to the 1981 to 2010 Climate Normals, January is typically the coldest month with a daily average temperature of –10.8°C and July is the warmest month with a daily average temperature of 19.1°C (Environment Canada, 2021a).

Annual precipitation in the area is 1110.1 millimetres (mm), with 795.4 mm of rainfall and 333.5 centimetres (cm) of snowfall. An extreme daily rainfall event was recorded in October 2008 (96.3 mm) and an extreme daily snowfall event was recorded in March 1999 (56.0 cm). According to the 1981 to 2010 Climate Normals, October is the rainiest month and January is the snowiest (Environment Canada, 2021a).

Prevailing wind direction was not provided in the 1981 to 2010 Climate Normals. The maximum hourly wind speed and gust speed are in December, with a maximum speed of 65 km/hr to the southwest and a maximum gust of 87 km/h to the west. The minimum hourly wind speed is in September, with a minimum speed of 41 km/h to the northeast. Average wind speeds were not recorded (Environment Canada, 2021a).

3.1.7 Air Quality

Air quality and the level of pollutants in an area at any point are dependent on emission sources, source emission rates, dispersion, and removal rates. Air quality in New Brunswick is good and continues to improve. The Province of New Brunswick has set maximum permissible ground level concentrations for Air Quality Objectives (Table 6) for specific air contaminants as outlined in Schedule B of the Air Quality Regulation (97-133) under the *Clean Air Act* (NBDELG, 2018a).

Table 6 Maximum Permissible Ground Level Concentrations at Standard Conditions*

Pollutant	Averaging Period			
	1 Hour	8 Hours	24 Hours	1 Year
Carbon Monoxide	35000 µg/m^3	15000 µg/m^3	--	--
Hydrogen Sulphide	15 µg/m^3	--	5 µg/m^3	--
Nitrogen Dioxide	400 µg/m^3	--	200 µg/m^3	100 µg/m^3
Sulphur Dioxide	900 µg/m^3	--	300 µg/m^3	60 µg/m^3
Total Suspended Particulate	--	--	120 µg/m^3	70 [1] µg/m^3

Notes:
1. Geometric Mean
* Standard conditions defined as a temperature of 21ºC and pressure of 101.3 kPa.

There are no major industrial sources of emissions located in the Project area. Carbon dioxide, nitrous oxides, and particulate emissions from vehicles and farm equipment are the predominant contributors to ambient air contaminant concentrations on the Project Site.

The closest air quality monitoring station to the Project area is operated by the Government of New Brunswick and is located on Rough Waters Drive in Bathurst, approximately 20 km to the northwest of the Site. This station monitors ozone, nitrogen dioxide, and fine particulate matter. No exceedances of nitrogen dioxide or fine particulate matter have been logged at these stations between July 20, 2018 and July 19, 2021; ozone ranged from 4 to 31 parts per billion (ppb) during that same time period (NBDELG, 2021a). Due to the more rural setting of the Project area compared to the location of the monitoring station, air quality at the Project site is likely equal to or better than at the monitoring station.

Pending development of the irrigation system, the intermittent operation of diesel generators at the wells and center pivots will contribute to air emissions; however, these are not expected to have a substantial impact on the ambient air quality in the Project area.

3.1.8 Ambient Noise

Existing ambient noise levels in the Project area are not available. The surrounding area is forested or blueberry land and there are no significant noise sources in the vicinity of the Project area. Noise sensitive areas in the vicinity of the Project area would consist of developed residential properties located on chemin Val-Doucet. No changes to ambient noise levels are expected for the Project with the exception of the intermittent operation of the irrigation system and diesel generators; however, these are not expected to be significant.

3.1.9 Regulated Watercourses and Wetlands

Mapping indicates that the northeastern portion of the Project Site is transected by the Pokemouche River, which flows in a southeasterly direction, and contiguous Provincially Regulated Wetlands (PRW; non-Provincially Significant). In addition to the main river channel, GeoNB shows four tributaries to the Pokemouche River on the Project site. Several more downstream tributaries are present to the southeast of the Project site.

Mapping shows a tributary of the Big Tracadie River situated approximately 130 m to the southwest of well 20-3 on the Project site, which flows in a southerly direction toward the river. The Big Tracadie River itself flows in a southeasterly direction past the southwestern end of the Project site. A PRW (non-Provincially Significant) is present at the mouth of the aforementioned tributary, off-site; additional PRWs associated with the Big Tracadie River are present upstream of the Project Site (within approximately 300 m), and downstream (within approximately 850 m). The GeoNB map is attached in Appendix D.

A general overview of the surface water drainage patterns was determined by a GEMTEC Environmental Biologist during the Site visit on July 12, 2021. The assessed tributary to the south of the Pokemouche River flows north towards the river. Only the upper reaches of this tributary were observed during the Site visit. The tributary contained several forested channels that were dry at the time of the Site visit (Photos 21 and 22, Appendix H). The channels are characterized as seasonal drainage channels that do not support fish or fish habitat.

The assessed tributary to the north of the Big Tracadie River drains south towards the river. The tributary contains several wetland channels that were dry in the upper reaches at the time of the Site visit (Photo 23, Appendix H). Flowing water and small fish were observed in one channel at its inlet to the river (Photo 24, Appendix H). The upper reaches of the wetland channels are characterized as seasonal drainage channels that do not support fish or fish habitat.

Mapping indicates the presence of a small (i.e., less than 1 ha) regulated wetland located on the northwestern portion of the Site; however, this area was not investigated during the site visit. No work is currently planned for this area of the Site.

3.1.10 Rare Plants

A data request was submitted to the Atlantic Canada Conservation Data Centre (ACCDC) (ACCDC, 2021) for a 100 km radius of the center of the Project Site (lat.: 47.584, long.: -65.311). The ACCDC report provides the location of known flora and fauna protected under the Canadian Species at Risk Act (SARA) and the New Brunswick Species at Risk Act (NBSARA); and identified by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC); in addition to any location sensitive species. The ACCDC report in presented in Appendix I.

The ACCDC had no reports of rare, endangered, or location sensitive flora species (vascular or non-vascular plants) in the study area.

A rare plant survey was not conducted as all ground disturbance will occur within the footprint of the existing managed wild blueberry fields and vegetation clearing is not required for the Project.

3.1.11 Migratory Birds

The ACCDC (ACCDC, 2021) had no reports of location sensitive fauna species in the study area. The following endangered or rare species were identified within the vicinity of the Project Area:

- Olive-sided Flycatcher (*Contopus cooperi);*
- Eastern Wood-Pewee (*Contopus virens);*
- Cliff Swallow (*Petrochelidon pyrrhonota*);
- Wilson's Snipe (*Gallinago delicate);*

There was one report each of Olive-Sided Flycatcher, Eastern Wood-Peewee, Cliff Swallow, and Wilson’s Snipe; however, all sightings were greater than 2.5 km from the Project Site. Two of the identified species (Olive-sided Flycatcher and Eastern Wood-Pewee) have habitat requirements similar, but not limited to, the habitats identified in the Project area (open areas with tall, live trees; forest clearings); however, the Project operation is not expected to cause significant negative impact to bird species as abundant suitable habitat is present in adjoining and nearby areas. Additionally, the Project area has been cleared since at least 1944 and is actively managed cropland.

A bird survey was not conducted as all ground disturbance will occur within the footprint of the existing managed wild blueberry fields and vegetation clearing is not required for the Project.

3.1.12 Other Species of Conservation Concern

In addition to the bird species of conservation concern, ACCDC range maps listed one report of Yellow-banded bumblebee (S3?, *Bombus terricola*) as a fauna species that may be found in the vicinity of the Project area. The reported observation was at a distance of 1.8 km from the Project Site (ACCDC, 2021). Furthermore, the Project will not result in any habitat loss as all ground

disturbance will occur within the footprint of the existing managed wild blueberry fields and vegetation clearing is not required.

3.1.13 Sensitive Areas

According to the ACCDC report (ACCDC, 2021), one Environmentally Significant Area (ESA) is located within a 100 km radius of the Project Site (Caraquet River Porcupine Den). The Project is not expected to influence this ESA.

No National Wildlife Areas (Government of Canada, 2021), Migratory Bird Sanctuaries (IBA Canada, 2021), Ramsar Sites (Ramsar Sites Information Services, 2021), or New Brunswick Protected Natural Areas (NBNRED, 2021b) are located within the Project Site. Maps are attached in Appendix D.

3.1.14 Wildlife Observations

No wildlife observations were made during the site visit; however, this area is likely frequented by wildlife typical of New Brunswick (*e.g.*, deer, moose, chipmunks, rabbits, raccoons, foxes).

3.1.15 Fish Habitat

As discussed in Section 2.1.9, tributaries to the Pokemouche River are located on the northern portion of the Site and a tributary to the Big Tracadie River is located on the southern portion of the Site near well 20-3. During the site visit, the upper reaches of the Pokemouche River tributary was observed to be dry, seasonal drainage channels and the tributary to the Big Tracadie River was observed to be wetland channels characterized as seasonal drainage channels; the upper reaches of either tributary does not support fish or fish habitat. Flowing water and small fish were observed in one channel at its inlet to the Big Tracadie River. Both the Big Tracadie River and Pokemouche River are known fish habitat.

3.2 Archaeological Resources

An archeological assessment (i.e., pedestrian survey) of the Project area was not completed as the Project will take place only within the current footprint of existing managed wild blueberry fields with minimal ground disturbance and no vegetation clearing.

3.3 Cultural Features

The nearest Aboriginal communities include Oinpegitjoig L'Noeigati (Pabineau) First Nation located approximately 25 kilometres west of the Project and Esgenoôpetitj (Burnt Church) First Nation located approximately 41.5 kilometres southeast of the Project. Other nearby First Nations include Natoaganeg (Eel Ground), and Metepenagiag (Red Bank) First Nations.

A Project information letter will be mailed to all Mi'kmaq First Nations in New Brunswick and the Aboriginal Affairs Secretariat.

3.4 Existing and Historic Land Use – Project Area and Adjoining Properties

The Project Site is currently utilized as commercially managed wild blueberry fields. The fields are accessed by Crown roads extending from chemin Val-Doucet. Current site conditions are presented in Figure 1. The closest residential properties are located to the northeast of the Site, along chemin Val-Doucet. Historically, the Project Site and adjoining properties were Crown-owned agricultural or wooded land with residential farms located along chemin Val-Doucet.

A review of New Brunswick Energy and Resource Development (NBDERD) historic aerial photography for the Project area was conducted. Aerials from 1944, 1955, 1963, 1974, 1985, 2002, 2012, and 2020 were reviewed (NBDERD, 2021). Sparse residential dwellings are present on chemin Val-Doucet in 1944. A roadway extends from chemin Val-Doucet, first westward and then to the south through the Project Site. The Project Site is mostly cleared, possibly agricultural land with some treed areas, such as along the shores of the Pokemouche and Big Tracadie Rivers. Adjoining properties are wooded or cleared, possibly agricultural, land. No significant changes are observed within the Project area nor the adjoining properties between 1944 and 2012. By 1955, there are additional roadways present on the Site and by 1974, a small sand pit is present. The residential dwelling on the adjacent property to the northeast is present by 1985 and the footprint of the cleared agricultural lands is similar to the existing footprint. The farm storage building located on the northeast portion of the Site is present by 2002. The NBDERD historic aerial photographs are presented in Appendix J.

4.0 SUMMARY OF ENVIRONMENTAL IMPACTS

This assessment has identified the following environment features that could be affected by the Project:

- Wetland and fish habitat;
- Soil and water quality,
- Archaeological Sites, and
- Drinking water.

5.0 SUMMARY OF PROPOSED MITIGATION

Highlighted below is an overview for those components identified in the previous section as having potential interaction with the Project.

5.1 Wetland Habitat and Fish Habitat

Phase 1 of the Project will take place on the southern portion of Site in the vicinity of supply wells 20-3 and 20-4. Discharge water generated during the pump tests will be released to the forested area to the south of the supply wells, toward the Big Tracadie River and a mapped contiguous wetland (PRW, non-Significant). It is not anticipated that work will be conducted within 30 m of watercourses and/or wetlands; however Watercourse and Wetland Alteration (WAWA) permits will be procured as necessary.

No clearing of the Site or forested area to the south of the supply wells is planned for the Project; however, erosion could occur if the diffusers fail to sufficiently minimize the flow of discharge water. In the event that erosion is observed, disturbed areas will be stabilized using standard construction measures. These measures may include, but are not limited to: straw bales, check dams, silt fencing, and sand bagging. Erosion control measures will be inspected regularly during the pump tests to ensure that they are functioning properly and are maintained and/or replaced as required. Erosion control measures will be left in place until all disturbed areas have been stabilized. If revegetation is necessary, plant species used in revegetation will be verified to ensure that they are not invasive. Ideally, a mix of plant species native to the area will be used.

The following mitigation measures are proposed to minimize soil erosion and direct discharge to the watercourse and wetland and promote infiltration:

- Discharge water will be piped from the supply wells to downgradient locations approximately 200 m to the southwest of the wells;
- Discharge water will be de-energized/diffused at the point of discharge to the natural environment;
- Erosion control and sedimentation control structures will be installed around the watercourse/wetland;
- Spill kits for petroleum will be kept on-site at all times; and,
- Pumping of the supply well will cease immediately if soil erosion is observed and/or sedimentation control structures are breached.

5.2 Soil and Water Quality

There are no fuel storage tanks currently present on-site. However, contaminants may be released into water and soil through spills of fuels and lubricants from the drilling rig and vehicles during the pump test and from the diesel generators once the irrigation system has been installed. To minimize potential impacts, all equipment will be kept in good working condition and inspected regularly for leaks. Vehicles and equipment found to be leaking will be removed from the Site until they are properly repaired.

A spill contingency plan will be put in place to respond to an emergency situation and will be detailed in an Environmental Protection Plan (EPP) to be prepared by the Proponent. It will include at a minimum:

- Information related to refueling and maintenance activities. That is, these activities will take place on level terrain and at least 30 meters from environmentally sensitive areas (i.e., wetland areas and watercourses).
- Identification of the material involved and reference to the Safety Data Sheet (SDS).
- Stoppage of the flow of the product being spilled, if safe to do so, taking precautions to avoid personal injury.
- Control and containment of the spilled product promptly using a spill kit. Contaminated materials and soils shall be disposed of at an approved facility. Spill kits will be placed under the leaking machinery or vehicle to mitigate potential petroleum hydrocarbon spills.
- Documentation of the details of the spill in a designated spill form including: (a) name and contact information of the person reporting the spill; (b) date and time of spill; (c) type and approximate amount of product spilled; (d) location of spill or leak; (e) source of spill or leak; (f) type of accident; (g) weather conditions; and (h) status of the spill (ongoing or contained, cleanup efforts).
- Reporting of the spill to the NBDELG at the 24-hour environmental emergencies reporting system and/or the Coast Guard Environmental Emergency number.
- The requirement for Watercourse and Wetland Alteration permits (WAWA) for work conducted within 30-metres of watercourses and mapped regulated wetlands (it is important to note, no mapped regulated wetlands are currently present on the Phase 1 portion of the Site).

For the pumping test, mobile diesel tanks will be used on the Project Site. No fuelling will occur on-site and spill kits will be kept nearby. Once the irrigation system is installed, fuel for the generators will be stored in a permanent spill containment vessel to capture and prevent the leakage of fluids into the environment. All spills will be cleaned up at the time of the spill and will not be left unattended. Emergency response plans will be put into place and implemented in the event of a chemical release to the environment. Remediation will be carried out to meet provincial

and federal clean-up requirements. All necessary precautions will be undertaken to prevent leaks from equipment at all times.

Water quality of the Big Tracadie River located south of the site could also be impacted by erosion and / or sedimentation. See section 5.1 for a discussion of erosion mitigation measures.

5.3 Archaeological Sites

Earthwork has the potential to disturb archaeological resources; however, the Project involves only minimal ground disturbance (trenching to a depth of approximately 1 m below ground surface). Nonetheless, if the discovery of remains of archaeological significance are suspected, all activities in the area will cease and Archaeological Services (New Brunswick Department of Tourism, Heritage, and Culture) will be contacted at (506) 453-2738.

5.4 Drinking Water

Municipal potable water infrastructure is not present in the Project area. One groundwater well is located on the Site at the equipment storage building located on the northeastern portion of the Site. Private domestic wells are situated at residences located along chemin Val-Doucet. Four groundwater supply wells have been drilled on the Project site for the irrigation system; however, these are not currently in use. Phase 1 of the Project includes conducting a Hydrogeological Assessment on supply wells 20-3 and 20-4 (WSSA Initial Application, Appendix E) and Hydrogeological Assessments will be conducted prior to each subsequent phase of the Project. The results of the Hydrogeological Assessments will be submitted to the NBDELG.

See Section 5.2 for a detailed description of mitigation measures to be in place during the pump tests and following installation of the irrigation system.

6.0 FIRST NATIONS AND PUBLIC INVOLVEMENT

6.1 First Nations Involvement

The Province of New Brunswick has a constitutional Duty to Consult, and accommodate where required, Aboriginal Peoples whenever a decision or activity is being contemplated that could adversely impact Aboriginal or Treaty rights (Aboriginal Affairs Secretariat, 2011). As per the Interim Proponent Guide published by the Province of New Brunswick (NB Department of Aboriginal Affairs, 2019), Project Proponents play a valuable role in the consultation process by engaging Aboriginal Peoples in the development of any Project or proposal.

In keeping with the above guidance, a notification containing a high level project description has been sent to all Mi'kmaq First Nations in New Brunswick (see Table 7 for a complete list).

Table 7 Mi'kmaq First Nations in New Brunswick

Buctouche First Nation
Ann Mary Steele, Chief
9 Reserve Road
Buctouche Reserve, NB
E4S 4G2
Phone: (506) 743-2520

Ugpi'ganjig First Nation
Sacha LaBillois, Chief
11 Main Street, Unit 201
Eel River Bar First Nation, NB
E8C 1A1
Phone: (506) 684-6277

Esgenoôpetitj First Nation
Alvery Paul, Chief
620 Bayview Dr.
Burnt Church First Nation, NB
E9G 2A8
Phone: (506) 776-1200

Indian Island
Kenneth Barlow, Chief
61 Indian Island Drive
Indian Island, NB
E4W 1S9
Phone: (06) 523-4875

Pabineau First Nation
Terry Richardson, Chief
1290 Pabineau Falls Road
Pabineau First Nation, NB
E2A 7M3
Phone: (506) 548-9211

Eel Ground First Nation
George Ginnish, Chief
47 Church Road
Eel Ground, NB
E1V 4E6
Phone: (506) 627-4600

Elsipogtog First Nation
Arren Sock, Chief
373 Big Cove Road
Elsipogtog First Nation, NB
E4W 2S3
Phone: (506) 523-8200

Fort Folly First Nation
Rebecca Knockwood, Chief
PO Box 1007
Dorchester, NB
E4K 3V5
Phone: (506) 379-3400

Metepenagiag Mi'kmaq Nation
Bill Ward, Chief
PO Box 293
Red Bank, NB
E9E 2P2
Phone: (506) 836-6111

Any comments and/or questions will be addressed and incorporated in the EIA review as appropriate as well as responded to and summarized in the First Nation Involvement/Public Consultation Summary report to be submitted to NBDELG.

6.2 Public and Stakeholder Involvement

The public involvement standards for registered projects is outlined in the Guide to Environmental Impact Assessment in New Brunswick (NBDELG, 2018b).

A detailed public consultation report will be prepared and submitted by GEMTEC under separate cover once the EIA is registered. It is expected that public involvement will include, at a minimum:

- A published notice of registration in local newspapers (L'Étoile Édition Chaleur; Northern Light);
- A Project information letter mailed to Members of the Legislative Assembly (MLAs) for the Chaleur Regional Service Commission (Region 3) catchment area;
- A Project information letter mailed to the Chaleur Regional Service Commission to the attention of the LSD Representatives;
- A notice of registration will be distributed (via registered mail) to nearby landowners of the Project Site;
- The registration and supporting documents will be made available at the NBDELG Regions 1 and 2 Regional Offices in Bathurst and Miramichi and online at the DELG "Projects Under Review" registry found at (https://www2.gnb.ca/content/gnb/en/departments/elg/environment/content/environmental_impactassessment.html).

7.0 APPROVAL OF THE UNDERTAKING

The following permits / approvals are required for the operation of the Project:

- Certificate of Approval by NBDELG when water usage exceeds fifty cubic metres a day;
- A WAWA permit, if required;
- All other required permits, approvals and licences.

8.0 FUNDING

The project will be funded internally by Bragg Lumber Company Limited.

9.0 REFERENCES

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APPENDIX A

Correspondence with NBDELG

New Nouveau Brunswick
CANADA

May 5, 2021

Bragg Lumber Company
c/o: Paul Vanderlaan, P.Eng.
Environmental Regulatory Specialist
Gemtec Consulting Engineers and Scientists
191 Doak Road
Fredericton, NB E3C 2E6

RE: Bragg Lumber Company, New Water Supply—EIA Registration Required.

Mr. Vanderlaan:

In response to your April 29 letter to Environmental Impact Assessment (EIA) Branch of the Department of Environment and Local Government (ELG), I am writing to confirm the EIA requirement for above mentioned water supply. Based on the information provided, I understand that this new water supply at a Bragg Lumber Company facility in Saint-Sauveur includes four (4) new supply wells that were drilled in the fall of 2020 without first going undergoing an EIA and Water Supply Source Assessment (WSSA).

This water supply requires EIA Registration and review as per Schedule A item 'S' of the *New Brunswick Environmental Impact Assessment Regulation – Clean Environment Act*. Please note the new wells must not be used until an EIA review has been completed and a *Certificate of Determination* (CoD) signed by the Minister of Environment and Climate Change has been issued. If you require further information, please do not hesitate to contact me at 506-444-5382 or crystale.harty@gnb.ca.

Sincerely,

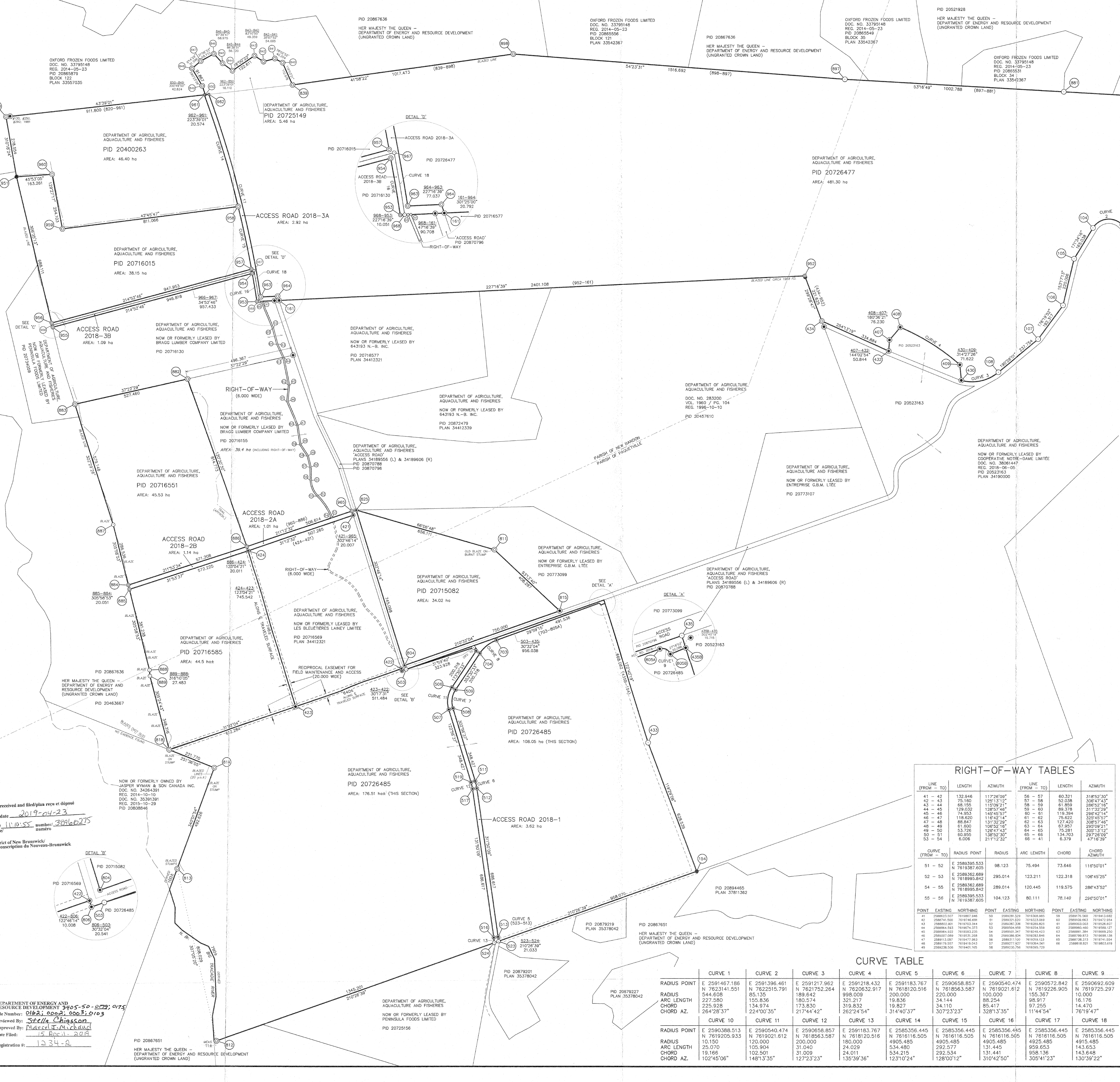
Crystale Harty, B.Sc.
Acting Director, Environmental Impact Assessment Branch, ELG

c. Justin Chase—EIA Follow-up & Compliance Coordinator, ELG

APPENDIX B

Copy of Crown Land Lease Agreement

38957727 38960275 FILE NAME: 6490.dwg DATE PLOTTED: February 15, 2019



NOTES

1. DISTANCES SHOWN ON THIS PLAN ARE ADJUSTED GRID HORIZONTAL DISTANCES. GROUND DISTANCES CAN BE COMPUTED BY DIVIDING THE GRID DISTANCES BY A COMBINED SCALED FACTOR OF 1.00003
2. DISTANCES ARE EXPRESSED IN METRES UNLESS OTHERWISE NOTED.
3. DISTANCES AND DIRECTIONS ARE CALCULATED UNLESS OTHERWISE NOTED.
4. ADJACENT PROPERTY INFORMATION IS DERIVED FROM SERVICE NEW BRUNSWICK.
5. ADJACENT PROPERTY INFORMATION SHOWN FOR IDENTIFICATION PURPOSES ONLY AND SHOULD NOT BE USED FOR LEGAL DESCRIPTION.
6. CERTIFICATION IS NOT MADE AS TO LEGAL TITLE, NOR TO THE CONFORMITY OF THE ZONING BY-LAWS OR REGULATIONS.
7. ALL DOCUMENTS AND PLANS REFERENCED ARE FILED IN THE GLOUCESTER COUNTY REGISTRY OFFICE.
8. DIRECTIONS AND COORDINATES SHOWN ON THIS PLAN ARE BASED ON THE NEW BRUNSWICK STEREOGRAPHIC DOUBLE PROJECTION OF THE NAD 83 (CSRS) REFERENCE SYSTEM, DERIVED FROM GLOBAL POSITIONING SYSTEM OBSERVATIONS REFERENCED TO SERVICE NEW BRUNSWICK'S ACTIVE CONTROL STATION NUMBER 28158 (MIRAMICHI).
9. FIELD SURVEYS WERE CONDUCTED ON THE FOLLOWING DATES (ALL IN 2018): MAY 18, JUNE 20, AUGUST 10 & 22, AND OCTOBER 23 & 31.

DEPARTMENT OF AGRICULTURE, AQUACULTURE AND FISHERIES PLAN APPROVAL

THIS AGRICULTURE SURVEY PLAN SATISFIES THE REQUIREMENTS OF THE NEW BRUNSWICK DEPARTMENT OF AGRICULTURE, AQUACULTURE AND FISHERIES.

DATED: March 20, 2019

LAND DEVELOPMENT OFFICER

COMMUNITY PLANNING CERTIFICATE

REGISTRATION CERTIFICATE

I certify that this instrument is registered or filed in the Gloucester County Registry Office, New Brunswick

J'atteste que cet instrument est enregistré ou déposé au bureau de l'enregistrement du comté de Gloucester Nouveau-Brunswick

2019-04-18 13:24:54 38957727
date/date time/heure number/numéro

Registrar-Conservateur

Plan received and filed/plan reçu et déposé
date/date 2019-04-23
time/heure 11:10:55 number/numéro 38960275
District of New Brunswick/ Circonscription du Nouveau-Brunswick

PLAN VALIDATION SEAL

A.N.B.L.S. No. 212746 A.A-G N-B

LAND SURVEYOR'S SEAL

NEW BRUNSWICK LAND SURVEYOR #377 Christopher M. Kane SIGNATURE 19/02/15 DATE ARPENTEUR-GÉOMÈTRE DU NOUVEAU-BRUNSWICK

DEPARTMENT OF ENERGY AND RESOURCE DEVELOPMENT 3405-50-0179; 0175;
File Number: 0162; 0002; 0003; 0103
Reviewed By: Stella Chiasson
Approved By: Marcel J. Michaud
Date Filed: 15 April 2019
Registration #: 1234-2

RIGHT-OF-WAY TABLES

LINE (FROM – TO)	LENGTH	AZIMUTH	LINE (FROM – TO)	LENGTH	AZIMUTH
41 – 42	132.946	117°26'09"	56 – 57	60.321	318°52'30"
42 – 43	75.160	125°13'12"	57 – 58	52.038	306°47'43"
43 – 44	68.155	115°09'21"	58 – 59	61.859	286°52'16"
44 – 45	129.032	128°57'46"	59 – 60	89.378	311°32'29"
45 – 46	74.953	145°45'57"	60 – 61	119.394	296°42'14"
46 – 47	118.620	116°42'14"	61 – 62	75.622	325°45'57"
47 – 48	88.847	131°32'29"	62 – 63	127.420	308°57'46"
48 – 49	61.600	106°52'16"	63 – 64	67.957	295°09'21"
49 – 50	53.726	126°47'43"	64 – 65	75.281	305°13'12"
50 – 51	60.955	138°52'30"	65 – 66	134.703	297°26'09"
53 – 54	6.006	211°12'32"	66 – 41	6.379	47°16'39"

CURVE (FROM – TO)	RADIUS POINT	RADIUS	ARC LENGTH	CHORD	CHORD AZIMUTH
51 – 52	E 2589395.533 N 7619387.605	98.123	75.494	73.646	116°50'01"
52 – 53	E 2589362.689 N 7618995.842	295.014	123.211	122.318	106°45'25"
54 – 55	E 2589362.689 N 7618995.842	289.014	120.445	119.575	286°43'52"
55 – 56	E 2589395.533 N 7619387.605	104.123	80.111	78.149	296°50'01"

POINT	EASTING	NORTHING	POINT	EASTING	NORTHING	POINT	EASTING	NORTHING
41	2588623.507	7619807.946	50	2589281.529	7619368.985	59	2589176.560	7619413.682
42	2588741.500	7619746.691	51	2589321.620	7619323.069	60	2589109.663	7619472.954
43	2588802.901	7619703.344	52	2589387.336	7619289.825	61	2589003.003	7619526.607
44	2588864.593	7619674.373	53	2589504.459	7619254.559	62	2588960.460	7619589.127
45	2588964.922	7619593.235	54	2589501.347	7619249.423	63	2588861.384	7619669.250
46	2589007.089	7619531.268	55	2589386.834	7619283.846	64	2588799.873	7619698.138
47	2589113.057	7619477.963	56	2589317.100	7619319.123	65	2588738.373	7619741.554
48	2589179.557	7619419.043	57	2589277.427	7619364.561	66	2588618.821	7619803.619
49	2589238.506	7619401.165	58	2589235.756	7619395.729			

CURVE TABLE

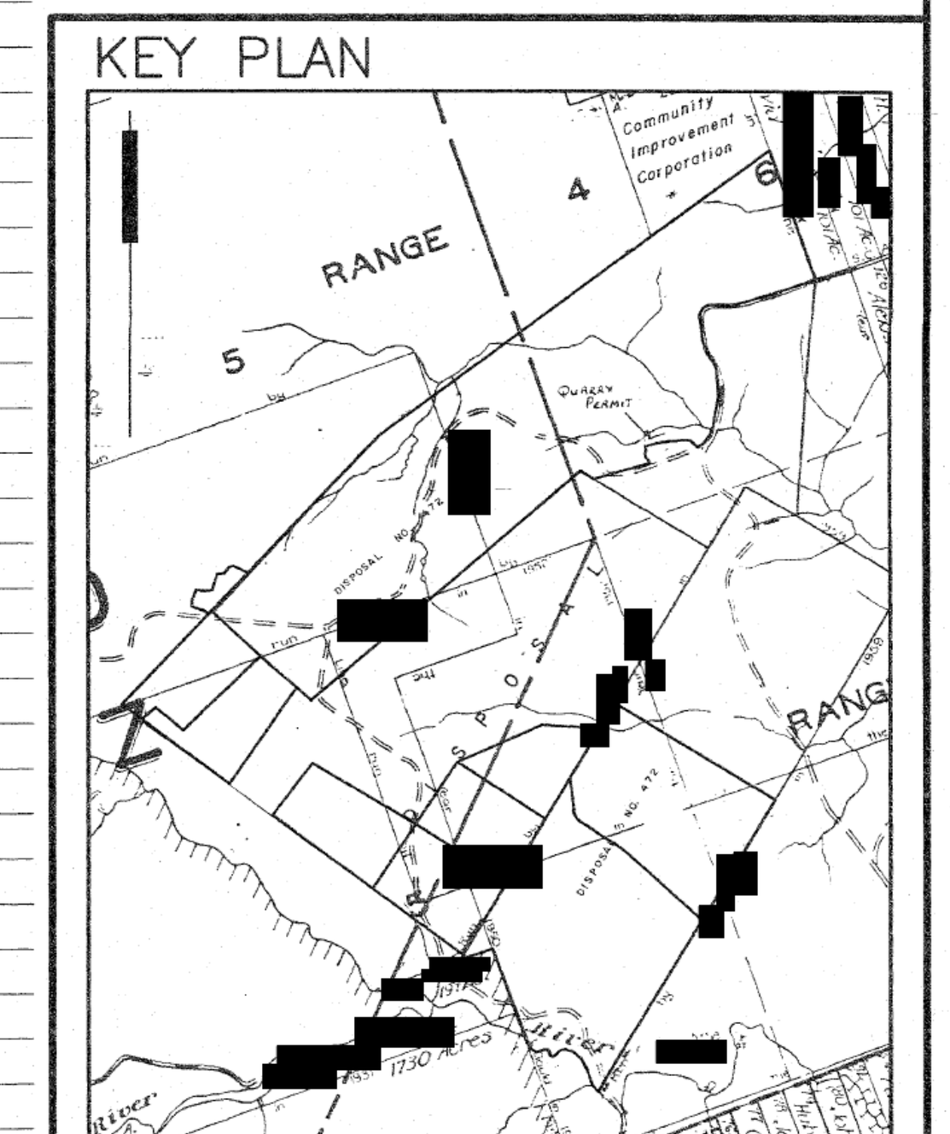
	CURVE 1	CURVE 2	CURVE 3	CURVE 4	CURVE 5	CURVE 6	CURVE 7	CURVE 8	CURVE 9
RADIUS POINT	E 2591467.186 N 7623141.551	E 2591396.461 N 7622515.791	E 2591217.962 N 7621752.264	E 2591218.432 N 7620632.917	E 2591183.767 N 7618120.516	E 2590658.857 N 7618563.587	E 2590540.474 N 7619021.612	E 2590572.842 N 7619226.905	E 2590692.609 N 7619725.297
RADIUS	544.608	85.135	189.642	998.009	200.000	220.000	100.000	155.367	10.000
ARC LENGTH	227.580	155.836	180.574	321.217	19.836	34.144	88.254	98.917	16.176
CHORD	225.928	134.974	173.830	319.832	19.827	34.110	85.417	97.255	14.470
CHORD AZ.	264°28'37"	224°00'35"	217°44'42"	262°24'54"	314°40'37"	307°23'23"	328°13'35"	11°44'54"	76°19'47"

	CURVE 10	CURVE 11	CURVE 12	CURVE 13	CURVE 14	CURVE 15	CURVE 16	CURVE 17	CURVE 18
RADIUS POINT	E 2590388.513 N 7619205.933	E 2590540.474 N 7619021.612	E 2590658.857 N 7618563.587	E 2591183.767 N 7618120.516	E 2585356.445 N 7616116.505	E 2585356.445 N 7616116.505	E 2585356.445 N 7616116.505	E 2585356.445 N 7616116.505	E 2585356.445 N 7616116.505
RADIUS	10.150	120.000	200.000	180.000	4905.485	4905.485	4905.485	4925.485	4915.485
ARC LENGTH	25.070	105.904	31.040	24.029	534.480	292.577	131.445	959.653	143.653
CHORD	19.166	102.501	31.009	24.011	534.215	292.534	131.441	958.136	143.648
CHORD AZ.	102°45'06"	148°13'35"	127°23'23"	135°39'36"	123°10'24"	128°00'12"	310°42'50"	305°41'23"	130°39'22"

COORDINATE TABLE

POINT	EASTING	NORTHING
100	2591801.087	7623633.124
101	2592107.211	7622772.260
102	2591630.901	7622622.132
103	2591406.022	7622600.388
104	2591312.245	7622503.312
105	2591336.437	7622340.057
106	2591435.334	7622143.533
107	2591447.641	7621951.610
108	2591404.449	7621717.812
154	2591816.718	7619081.561
407	2590929.078	7621512.078
408	2590929.884	7621588.303
409	2591246.917	7621630.520
421	2589569.525	7619323.359
422	2590189.425	7618924.311
423	2589931.430	7618482.662
424	2589306.680	7618889.504
430	2591298.039	7621580.358
432	2590958.928	7621470.919
433	2591269.584	7619390.925
434	2590636.662	7621379.860
435	2590693.997	7619760.046
435B	2590707.225	7619751.563
503	2590208.276	7618936.587
506	2590421.243	7619008.046
507	2590475.217	7618920.907
508	2590486.093	7618937.691
509	2590441.115	7619010.307
511	2590778.495	7618748.212
512	2590805.596	7618727.500
513	2591317.166	7618269.528
516	2591303.826	7618254.627
517	2590792.256	7618712.599
519	2590767.619	7618731.428
523	2591331.265	7618255.587
524	2591320.608	7618237.454
703	2590438.273	7619304.559
704	2590418.470	7619209.341
804	2590191.179	7618946.968
805A	2590683.947	7619730.295
805B	2590698.007	7619733.715
806	2590197.840	7618918.894
811	2590164.581	7619615.950
812	2590638.997	7617077.725
813	2589994.431	7617565.009
814	2589826.198	7618028.019
815	2590572.221	7619592.961
818	2589615.764	7617958.022
820	2587183.662	7619702.806
825	2589564.667	7619350.272
839	2588094.282	7620657.734
840	2587994.585	7620706.480
841	2587955.253	7620698.154
842	2587924.176	7620653.987
843	2587875.166	7620648.126
844	2587841.357	7620530.268
845	2587784.734	7620526.951
846	2587726.286	7620534.815
847	2587701.518	7620470.658
848	2587693.232	7620419.732
849	2587779.345	7620387.731
850	2587816.116	7620365.785
881	2590811.651	7622896.827
882	2588587.939	7619314.053
883	2588267.758	7618894.890
884	2588988.124	7618415.447
885	2589004.350	7618403.666
886	2589289.912	7618900.423
887	2588756.258	7618583.793
888	2589312.850	7618179.680
889	2589331.884	7618159.854
897	2590007.845	7622297.261
898	2588774.746	7621414.187
951	2587396.085	7619522.615
952	2590443.731	7621488.925
953	2588605.739	7619791.537
954	2588506.110	7619877.274
955	2587964.672	7619100.545
956	2587948.606	7619112.471
957	2588490.693	7619890.132
958	2588260.183	7620070.247
959	2587709.497	7619474.788
960	2587513.297	7619636.262
961	2587813.035	7620362.555
962	2587827.236	7620377.442
963	2588605.422	7619818.469
964	2588662.018	7619870.735
965	2589552.701	7619334.189
966	2587956.639	7619106.508
967	2588504.147	7619891.946
968	2588613.123	7619798.357
28158	2570930.111	7555066.931

KEY PLAN



GRANT REFERENCE MAP No. 29

AGRICULTURE SURVEY PLAN
SHOWING
DEPARTMENT OF AGRICULTURE, AQUACULTURE AND FISHERIES; BLUEBERRY PRODUCTION BLOCKS
AND
ACCESS ROADS & RIGHT-OF-WAY

VAL-DOUCET
PARISHES OF NEW BANDON & PAQUETVILLE
COUNTY OF GLOUCESTER
PROVINCE OF NEW BRUNSWICK

LEGEND

STANDARD SURVEY MARKER PLACED	◎
STANDARD SURVEY MARKER FOUND	◉
IRON BAR FOUND (ROUND)	●
IRON BAR FOUND (SQUARE)	■
IRON PIPE FOUND	○
WOODEN SURVEYORS POST FOUND	□
SCRIBED WOODEN SURVEYOR'S POST	⊠
SURVEY SYSTEM COORDINATE MONUMENT	▲
TRAVERSE CONTROL POINT	△
CALCULATED COORDINATE POINT	⊙
COORDINATE POINT REFERENCE	(999)—
SURVEYED LAND BOUNDED THUS	━━
APPROXIMATE PROPERTY LINE	——
UTILITY LINES	—··—··—
FENCE	—x—x—
EASEMENT	- - - -
CENTRELINE	—— - ——
HYDRO POLE	
ORDINARY HIGH WATER MARK	O-H-W-M
N.B.L.S. REGISTRATION NUMBER	#377
VALUE CALLED FOR IN DEED	(DEED)
CHECK MEASURED	(Chk)
SQUARE METRE	m^2
HECTARE	ha
GLOUCESTER COUNTY REGISTRY OFFICE	G.C.R.O.
S.N.B. PROPERTY IDENTIFIER	PID 12345678

SCALE 1:6000
120 0 120 240 360
metres

EAST COAST SURVEYS
LAND SURVEYORS & CONSULTING ENGINEERS
CAMPBELLTON, NB TEL: (506)759-8080
BERESFORD, NB TEL: (506)480-0216

SURVEYED BY: CHRISTOPHER M. KANE	REF. FILE NO: 6490	FIELD BOOK NO: C58-28
SURVEY DATE: (SEE NOTE No. 9)	PLAN DATE: FEBRUARY 15, 2019	DRAWN BY: C.M. KANE

39189783
2019-07-08
11:18:04

FORM 20

NOTICE OF LEASE (AND OPTION)
***Land Titles Act*, S.N.B. 1981, c.L.-1.1, s.27**

Parcel Identifier:	See Schedule "A" **PIDs:** ~~**20726485; 20726477 & 20725149**~~
Lessor:	**HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3B 5H1
Lessee:	**PENINSULA FOODS LIMITED** 1536 Wyvern Road Collingwood, Nova Scotia B0M 1E0
Date of Lease:	June 24, 2019
Civic Address of Leased Premises:	Route 160, Dunn Pond, Parish of New Bandon, Gloucester County
Term of Lease:	Twenty (20) years
Commencement Date of Lease:	April 1, 2018

The lessor and the lessee have entered into a lease dated as specified, of premises at the civic address specified, being the specified parcel for the specified term commencing on the specified date.

This lease contains an option to renew for a further term as specified.

Date: June 24, 2019

WITNESS:

Witness

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

LESSEE:

PENINSULA FOODS LIMITED

David Hoffman, CEO

SNB

PID 20901336 (1st description)
PID 20901344 (2nd description)
PID 20901351 (3rd description)

SCHEDULE "A"

All and singular that certain lot, piece or parcel of land situate, lying and being in Val-Doucet, Parishes of Paquetville and New Bandon, County of Gloucester, Province of New Brunswick, and being more particularly bounded and described as follows:

Beginning at a survey marker at the northerly bounds of Val-Doucet Road and/or an Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries, and the westerly bounds of property now or formerly owned by [redacted] by document registered on October 2, 2012 as number 32015811, said point having N.B. Grid Coordinates of Easting: 2592107.211 metres and Northing: 7622772.260 metres.

Thence on an azimuth of 252 degrees 30 minutes 21 seconds and following the northerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 499.409 metres to a point;

Thence in a westerly direction and following the northerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 227.580 metres along the arc of a curve to the right having a radius of 544.608 metres, a chord azimuth of 264 degrees 28 minutes 37 seconds and a chord distance of 225.928 metres to a point;

Thence in a southerly direction and following the westerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 155.836 metres along the arc of a curve to the left having a radius of 85.135 metres, a chord azimuth of 224 degrees 00 minutes 35 seconds and a chord distance of 134.974 metres to a point;

Thence on an azimuth of 171 degrees 34 minutes 16 seconds and following the westerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 165.038 metres to a point;

Thence on an azimuth of 153 degrees 17 minutes 13 seconds and following the westerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 220.006 metres to a point;

Thence on an azimuth of 176 degrees 19 minutes 52 seconds and following the westerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 192.317 metres to a point;

Thence on an azimuth of 190 degrees 28 minutes 01 seconds and following the westerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 237.754 metres to a point;

Thence in a southerly direction and following the westerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 180.574 metres along the arc of a curve to the right having a radius of 189.642 metres, a chord azimuth of 217 degrees 44 minutes 42 seconds and a chord distance of 173.830 metres to a survey marker at a boundary of property now or formerly leased by Coopérative Notre-Dame Limitée by document registered on June 5, 2018 as number 38061447;

Thence on an azimuth of 314 degrees 27 minutes 26 seconds and following a boundary of the aforementioned property now or formerly leased by Coopérative Notre-Dame Limitée for a distance of 71.622 metres to a survey marker;

Thence in a westerly direction and following a boundary of the aforementioned property now or formerly leased by Coopérative Notre-Dame Limitée for a distance of 321.217 metres along the arc of a curve to the left having a radius of 998.009 metres, a chord azimuth of 262 degrees 24 minutes 54 seconds and a chord distance of 319.832 metres to a survey marker;

SCHEDULE "A"
(Continued...)

Thence on an azimuth of 180 degrees 36 minutes 21 seconds and following a boundary of the aforementioned property now or formerly leased by Coopérative Notre-Dame Limitée for a distance of 76.230 metres to a survey marker;

Thence on an azimuth of 144 degrees 02 minutes 54 seconds and following a boundary of the aforementioned property now or formerly leased by Coopérative Notre-Dame Limitée for a distance of 50.844 metres to a survey marker at the northerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries;

Thence on an azimuth of 254 degrees 13 minutes 19 seconds and following the northerly bounds of the aforementioned Access Road owned by the Minister of Agriculture, Aquaculture and Fisheries for a distance of 334.884 metres to a survey marker at the northerly bounds of property owned by the Department of Agriculture, Aquaculture and Fisheries by document registered on October 10, 1996 as number 283200 in volume 1960 on page 104;

Thence on an azimuth of 299 degrees 28 minutes 47 seconds and following the northerly bounds of the aforementioned property owned by the Department of Agriculture, Aquaculture and Fisheries for a distance of 221.625 metres to a survey marker;

Thence on an azimuth of 227 degrees 16 minutes 39 seconds and following the westerly bounds of the aforementioned property owned by the Department of Agriculture, Aquaculture and Fisheries, and also the westerly bounds of the property shown as "Block Val-Doucet 18" on plan registered on November 26, 2014 as number 34412339, and also the westerly bounds of the property shown as "Block Val-Doucet 16" on plan registered on November 26, 2014 as number 34412321 for a total distance of 2401.108 metres to a survey marker at the northerly bounds of an Access Road;

Thence on an azimuth of 301 degrees 25 minutes 00 seconds and following the northerly bounds of the aforementioned Access Road for a distance of 20.792 metres to a survey marker;

Thence on an azimuth of 227 degrees 16 minutes 39 seconds and following the westerly bounds of the aforementioned Access Road for a distance of 77.037 metres to a survey marker;

Thence in a westerly direction and following the northerly bounds of the aforementioned Access Road for a distance of 959.653 metres along the arc of a curve to the left having a radius of 4925.485 metres, a chord azimuth of 305 degrees 41 minutes 23 seconds and a chord distance of 958.136 metres to a survey marker;

Thence on an azimuth of 223 degrees 39 minutes 01 seconds and following the westerly bounds of the aforementioned Access Road for a distance of 16.110 metres to a survey marker on a boundary of the property shown as "Block 122" on plan registered on February 18, 2014 as number 33557035, now or formerly owned by Oxford Frozen Foods Limited by document registered on May 23, 2014 as number 33795148;

Thence on an azimuth of 300 degrees 49 minutes 50 seconds and following a boundary of the aforementioned "Block 122" for a distance of 42.824 metres to a survey marker;

Thence on an azimuth of 290 degrees 23 minutes 09 seconds and following a boundary of the aforementioned "Block 122" for a distance of 91.867 metres to a survey marker;

Thence on an azimuth of 09 degrees 14 minutes 29 seconds and following a boundary of the aforementioned "Block 122" for a distance of 51.596 metres to a survey marker;

Thence on an azimuth of 21 degrees 06 minutes 33 seconds and following a boundary of the aforementioned "Block 122" for a distance of 68.772 metres to a survey marker;

SCHEDULE "A"
(Continued...)

Thence on an azimuth of 97 degrees 39 minutes 47 seconds and following a boundary of the aforementioned "Block 122" for a distance of 58.975 metres to a survey marker;

Thence on an azimuth of 86 degrees 38 minutes 51 seconds and following a boundary of the aforementioned "Block 122" for a distance of 56.720 metres to a survey marker;

Thence on an azimuth of 16 degrees 00 minutes 22 seconds and following a boundary of the aforementioned "Block 122" for a distance of 122.611 metres to a survey marker;

Thence on an azimuth of 83 degrees 10 minutes 50 seconds and following a boundary of the aforementioned "Block 122" for a distance of 49.359 metres to a survey marker;

Thence on an azimuth of 35 degrees 07 minutes 52 seconds and following a boundary of the aforementioned "Block 122" for a distance of 54.005 metres to a survey marker;

Thence on an azimuth of 78 degrees 02 minutes 52 seconds and following a boundary of the aforementioned "Block 122" for a distance of 40.204 metres to a survey marker;

Thence on an azimuth of 116 degrees 03 minutes 21 seconds and following a boundary of the aforementioned "Block 122" for a distance of 110.976 metres to a survey marker;

Thence on an azimuth of 41 degrees 58 minutes 22 seconds and following an easterly boundary of the aforementioned "Block 122," and also the easterly bounds of ungranted Crown Land for a total distance of 1017.473 metres to a survey marker;

Thence on an azimuth of 54 degrees 23 minutes 31 seconds and following the southerly bounds of ungranted Crown Land, and also the southerly bounds of the property shown as "Block 121" on plan registered on February 11, 2014 as number 33542367, now or formerly owned by Oxford Frozen Foods Limited by document registered on May 23, 2014 as number 33795148, and also the southerly bounds of ungranted Crown Land for a total distance of 1516.692 metres to a point;

Thence on an azimuth of 53 degrees 16 minutes 49 seconds and following the southerly bounds of ungranted Crown Land, and also the southerly bounds of the property shown as "Block 35" on plan registered on February 11, 2014 as number 33542367, now or formerly owned by Oxford Frozen Foods Limited by document registered on May 23, 2014 as number 33795148, and also the southerly bounds of ungranted Crown Land, and also the southerly bounds of the property shown as "Block 34" on plan registered on February 11, 2014 as number 33542367 for a total distance of 1002.788 metres to a point;

Thence on an azimuth of 53 degrees 20 minutes 42 seconds and following the southerly bounds of ungranted Crown Land, and also the southerly bounds of property now or formerly owned by [redacted] by document registered on March 15, 1990 as number 214282 in volume 1373 on page 495, and also the southerly bounds of property now or formerly owned by [redacted] and [redacted] by document registered September 13, 2006 as number 22745112 for a total distance of 1233.335 metres to a survey marker at the westerly bounds of property now or formerly owned by [redacted] by document registered on January 26, 1989 as number 200079 in volume 1243 on page 43;

Thence on an azimuth of 160 degrees 25 minutes 28 seconds and following the westerly bounds of the aforementioned property now or formerly owned by [redacted] and also the westerly bounds of the aforementioned property now or formerly owned by [redacted] for a total distance of 913.673 metres to the point and place of beginning.

Said property containing 486.76 hectares, more or less.

SCHEDULE "A"
(Continued...)

All as shown as **parts of "PID 20726477"** and as **"PID 20725149"** on "Agriculture Survey Plan Showing Department of Agriculture, Aquaculture and Fisheries; Blueberry Production Blocks and Access Roads & Right-of-Way" prepared by Christopher M. Kane, NBLS, for East Coast Surveys as file number 6490 and dated February 15, 2019.

In the preceding description, all azimuths and coordinate values are based on the New Brunswick NAD 83 (CSRS) grid coordinate system. Registered documents and plans referenced hereto are filed in the Gloucester County Registry Office or the Land Titles District of New Brunswick.

Saving and excepting Access Road 2018-3A

AND ALSO

All those certain lots, pieces or parcels of land situate, lying and being in Val-Doucet, Parish of Paquetville, County of Gloucester, Province of New Brunswick, and being more particularly bounded and described as follows:

North Section

Beginning at a survey marker at the easterly bounds of an Access Road and the southerly bounds of property now or formerly leased by Coopérative Notre-Dame Limitée by document registered on June 5, 2018 as number 38061447, said point having N.B. Grid Coordinates of Easting: 2590707.225 metres and Northing: 7619751.563 metres.

Thence on an azimuth of 122 degrees 40 minutes 19 seconds and following the southerly bounds of the aforementioned property now or formerly leased by Coopérative Notre-Dame Limitée for a distance of 668.062 metres to a point;

Thence on an azimuth of 119 degrees 29 minutes 06 seconds and following the southerly bounds of the aforementioned property now or formerly leased by Coopérative Notre-Dame Limitée for a distance of 628.539 metres to an iron bar at the westerly bounds of ungranted Crown Land;

Thence on an azimuth of 210 degrees 26 minutes 39 seconds and following the westerly bounds of ungranted Crown Land for a distance of 958.070 metres to a point at the northerly bounds of the aforementioned Access Road;

Thence following the northerly bounds of the aforementioned Access Road in a westerly direction for a distance of 19.836 metres along the arc of a curve to the left having a radius of 200.000 metres, a chord azimuth of 314 degrees 40 minutes 37 seconds and a chord distance of 19.827 metres to a survey marker;

Thence on an azimuth of 311 degrees 50 minutes 09 seconds and following the northerly bounds of the aforementioned Access Road for a distance of 686.617 metres to a survey marker;

Thence in a westerly direction and following the northerly bounds of the aforementioned Access Road for a distance of 34.144 metres along the arc of a curve to the left having a radius of 220.000 metres, a chord azimuth of 307 degrees 23 minutes 23 seconds and a chord distance of 34.110 metres to a survey marker;

Thence on an azimuth of 302 degrees 56 minutes 37 seconds and following the northerly bounds of the aforementioned Access Road for a distance of 348.427 metres to a survey marker;

Thence in a northerly direction and following the easterly bounds of the aforementioned Access Road for a distance of 88.254 metres along the arc of a curve to the right having a radius of 100.000 metres, a chord azimuth of 328 degrees 13 minutes 35 seconds and a chord distance of 85.417 metres to a survey marker;

SCHEDULE "A"
(Continued...)

Thence on an azimuth of 353 degrees 30 minutes 33 seconds and following the easterly bounds of the aforementioned Access Road for a distance of 200.318 metres to a survey marker;

Thence in a northerly direction and following the easterly bounds of the aforementioned Access Road for a distance of 98.917 metres along the arc of a curve to the right having a radius of 155.367 metres, a chord azimuth of 11 degrees 44 minutes 54 seconds and a chord distance of 97.255 metres to a survey marker;

Thence on an azimuth of 29 degrees 59 minutes 15 seconds and following the easterly bounds of the aforementioned Access Road for a distance of 491.536 metres to a survey marker;

Thence in an easterly direction and following the southerly bounds of the aforementioned Access Road for a distance of 16.176 metres along the arc of a curve to the right having a radius of 10.000 metres, a chord azimuth of 76 degrees 19 minutes 47 seconds and a chord distance of 14.470 metres to a survey marker;

Thence on an azimuth of 27 degrees 18 minutes 53 seconds and following the easterly bounds of the aforementioned Access Road for a distance of 20.088 metres to the point and place of beginning.

Said property containing 108.05 hectares, more or less.

South Section

Beginning at a survey marker at the southerly bounds of an Access Road as shown on plan registered on September 19, 2014 as number 34189556 and the easterly bounds of property now or formerly leased by Les Bleuétières Lainey Limitée by document registered on August 24, 2018 as number 38321833, said point having N.B. Grid Coordinates of Easting: 2590189.425 metres and Northing: 7618924.311 metres.

Thence on an azimuth of 122 degrees 46 minutes 14 seconds and following the southerly bounds of the aforementioned Access Road as shown on plan registered on September 19, 2014 as number 34189556 for a distance of 10.008 metres to a survey marker;

Thence on an azimuth of 30 degrees 32 minutes 04 seconds and following the easterly bounds of the aforementioned Access Road as shown on plan registered on September 19, 2014 as number 34189556 for a distance of 20.541 metres to a point;

Thence on an azimuth of 31 degrees 59 minutes 40 seconds and following the easterly bounds of an Access Road for a distance of 323.928 metres to a point;

Thence in an easterly direction and following the southerly bounds of the aforementioned Access Road for a distance of 25.070 metres along the arc of a curve to the right having a radius of 10.150 metres, a chord azimuth of 102 degrees 45 minutes 06 seconds and a chord distance of 19.166 metres to a survey marker;

Thence on an azimuth of 173 degrees 30 minutes 33 seconds and following the westerly bounds of the aforementioned Access Road for a distance of 200.318 metres to a survey marker;

Thence in a southerly direction and following the westerly bounds of the aforementioned Access Road for a distance of 105.904 metres along the arc of a curve to the left having a radius of 120.000 metres, a chord azimuth of 148 degrees 13 minutes 35 seconds and a chord distance of 102.501 metres to a survey marker;

Thence on an azimuth of 122 degrees 56 minutes 37 seconds and following the southerly bounds of the aforementioned Access Road for a distance of 348.427 metres to a survey marker;

SCHEDULE "A"
(Continued...)

Thence in an easterly direction and following the southerly bounds of the aforementioned Access Road for a distance of 31.040 metres along the arc of a curve to the right having a radius of 200.000 metres, a chord azimuth of 127 degrees 23 minutes 23 seconds and a chord distance of 31.009 metres to a survey marker;

Thence on an azimuth of 131 degrees 50 minutes 09 seconds and following the southerly bounds of the aforementioned Access Road for a distance of 686.617 metres to a survey marker;

Thence in a southerly direction for a distance of 24.029 metres and following the westerly bounds of the aforementioned Access Road along the arc of a curve to the right having a radius of 180.000 metres, a chord azimuth of 135 degrees 39 minutes 36 seconds and a chord distance of 24.011 metres to a point at the westerly bounds of property now or formerly leased by Peninsula Foods Limited by document registered on April 13, 2012 as number 31346563;

Thence on an azimuth of 210 degrees 26 minutes 39 seconds and following the westerly bounds of the aforementioned property now or formerly leased by Peninsula Foods Limited and also the westerly bounds of ungranted Crown Land for a total distance of 1345.201 metres to a survey marker;

Thence continuing on an azimuth of 210 degrees 26 minutes 39 seconds and following the westerly bounds of ungranted Crown Land for a distance of 11 metres more or less to the northerly limits of North Branch Big Tracadie River;

Thence in a westerly direction and following the northerly limits of North Branch Big Tracadie River for a distance of 790 metres more or less to a point at the easterly bounds of property now or formerly owned by Jasper Wyman & Son Canada Inc. by document registered on October 10, 2014 as number 34264391 and by document registered on October 29, 2015 as number 35391391;

Thence on an azimuth of 340 degrees 01 minutes 54 seconds and following the easterly bounds of the aforementioned property now or formerly owned by Jasper Wyman & Son Canada Inc. for a distance of 100 metres more or less to a survey marker, said point having N.B. Grid Coordinates of Easting: 2589994.431 metres and Northing: 7617565.009 metres;

Thence on an azimuth of 340 degrees 01 minutes 54 seconds and following the easterly bounds of the aforementioned property now or formerly owned by Jasper Wyman & Son Canada Inc. for a distance of 492.626 metres to a survey marker;

Thence on an azimuth of 251 degrees 36 minutes 05 seconds and following the northerly bounds of the aforementioned property now or formerly owned by Jasper Wyman & Son Canada Inc. for a distance of 221.770 metres to a survey marker;

Thence on an azimuth of 31 degrees 02 minutes 04 seconds for a distance of 612.284 metres to a survey marker at the centreline of an existing traveled surface at the southerly bounds of the aforementioned property now or formerly leased by Les Bleuétières Lainey Limitée;

Thence in a northerly direction and following the centreline of an existing traveled surface at the easterly bounds of the aforementioned property now or formerly leased by Les Bleuétières Lainey Limitée for a distance of 640 metres more or less to the point and place of beginning.

Said property containing 176.51 hectares, more or less.

SCHEDULE "A"
(Continued)

Subject to and benefitting from a Reciprocal Easement for Field Maintenance and Access along the westerly boundary being the last two courses of the herein described property, said Reciprocal Easement having a width of 20.000 metres.

All as shown **as parts of "PID 20726485"** on "Agriculture Survey Plan Showing Department of Agriculture, Aquaculture and Fisheries; Blueberry Production Blocks and Access Roads & Right-of-Way" prepared by Christopher M. Kane, NBLS, for East Coast Surveys as file number 6490 and dated February 15, 2019.

In the preceding description, all azimuths and coordinate values are based on the New Brunswick NAD 83 (CSRS) grid coordinate system. Registered documents and plans referenced hereto are filed in the Gloucester County Registry Office or the Land Titles District of New Brunswick.

Saving and excepting Access Road 2018-1.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory:	ANDREW SULLIVAN 1350 Regent Street Fredericton, New Brunswick E3B 5H1
Position held by Signatory:	Minister's Designate
Organization:	**HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK**, as represented by the Minister of Agriculture, Aquaculture and Fisheries
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	June 24, 2019

I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton,
in the County of York and
Province of New Brunswick,
on the 24 day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:

JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 20 20

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 . 20

Andrew Sullivan
ANDREW SULLIVAN

Form 45

AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Deponent: DAVID HOFFMAN

Office Held by Deponent: Chief Executive Officer

Corporation: BRAGG LUMBER COMPANY LIMITED

Place of Execution: Oxford, Nova Scotia

Date of Execution: June 3rd 2019

I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)
)
)
BEFORE ME:)
)
)
)
Commission of Oaths)
Being a Solicitor)

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

DAVID HOFFMAN

Form 19

LEASE AND OPTION

Land Titles Act, S.N.B. 1981, c.L.-1.1, s. 27
Standard Forms of Conveyances Act, S.N.B. 1980, c.S-12.2, s. 2

Parcel Identifier: See Schedule "A" ~~20726485; 20726477 & 20725149~~

Lessor: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3C 2G6

Lessee: **PENINSULA FOODS LIMITED**
1536 Wyvern Road
Collingwood, Nova Scotia B0M 1E0

Duration:	Twenty (20) years
Date of Commencement:	April 1, 2018
Date of Termination:	March 31, 2038
Rent:	In accordance with Schedule "D"
Payments:	Annually
Payment Dates:	October 1st of each year
Place of Payment:	at the Lessor's address
Statutory Covenants and Conditions Excluded:	21, 24, 29, 30, 31, 34, 35, 37, 40
Optional Covenants and Conditions Included:	NONE

The recitals, affidavits, statutory declarations or other documents attached hereto as Schedule "D" form part of this lease.

The lessor leases to the lessee the premises being the specified parcel on the specified conditions.

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to a distinguishing number or by virtue of subsection 27(2) of the *Land Titles Act*, and agrees to be bound by them to the same extent as if set out at length herein.

Dated this 24 of June, **2019.**

WITNESS:

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

Witness

PENINSULA FOODS LIMITED:

David Hoffman, CEO

SCHEDULE "D"

IT IS COVENANTED AND AGREED THAT

1. The lessee shall use the premises only for the purposes required in conjunction with the growth and production of blueberries and the lessor grants to the lessee all the rights of use and access to the premises required in conjunction therewith.

2. The lessee covenants with the lessor to cultivate and manage the premises using commercially reasonable practices to the satisfaction of the lessor acting reasonably.

3. The lessee shall carry out such improvements on the premises as are in the lessor's opinion necessary for proper agricultural production.

4. The lessor does not warrant the fitness of the leased lands for the lessee's purpose.

5. The lessor is not responsible for providing or maintaining access to the leased lands.

6. The Site Development Plan submitted by the lessee and approved by the lessor is incorporated by reference and forms a part of this lease. Any breach by the lessee of the requirements of the approved plan shall be a breach of this lease. The lessee shall not carry out any developments, improvements or other activities that are not prescribed in the approved Site Development Plan. The lessor reserves the right to request periodic updates from the lessee during the term of the lease to evaluate compliance with the approved Site Development Plan.

7. If the lessee, due to unforeseen circumstances, wishes to deviate from the approved Site Development Plan, a written request must be submitted to the Director of the Leasing and Licencing Branch explaining the basis for the request to revise the existing plan.

   Based on the reasons for the request, the Director may allow the lessee to submit an amended Site Development Plan for approval.

8. The lessee shall establish and maintain five (5) metre wide windbreaks separated by a distance of seventy-five (75) metres.

9. No harvesting of trees or forest products of any kind is permitted within the boundaries of the mandatory windbreaks without prior written approval of the lessor.

10. The lessee shall not cut or remove or permit to be cut or removed from the land hereby leased and demised any trees, lumber or forest products of any nature whatsoever, stone, gravel or other materials without obtaining written permission for so doing from the lessor.

11. Boundary lines shall be cleared and maintained by the lessee sufficiently and without destroying survey evidence, to delineate the extent of the lease.

12. This lease may be terminated by the lessor upon any of the following events:

    i) the rent becomes thirty-one (31) days past due;

    ii) the lessee is in breach of any covenant of this lease including for the payment of rent, which has not been corrected after thirty (30) days' notice of such breach has been given in writing to the lessee;

    iii) the leased lands have been vacant or uncultivated for one (1) year;

SCHEDULE "D"
(Continued)

iv) the lessee assigns, sublets or otherwise conveys the beneficial use of the leased lands without the lessor's prior consent;

v) the lessee's rights under this lease are seized or taken in execution or attachment by any creditor of the lessee; and

vi) the lessee makes an assignment for the benefit of creditors, becomes bankrupt or insolvent, or takes the benefit of any Act that may be in force for bankrupt or insolvent debtors.

13. The lessee may surrender this lease at any time by giving sixty (60) days' written notice to the lessor.

14. Notices and changes pursuant to this lease shall be in writing. **The lessee shall immediately notify the lessor of any change in its corporate name and business name, if any.** The lessee shall give notice of a **change in address** within sixty (60) days of an actual change of address. Unless otherwise prescribed by the lessor, notices and correspondence to the lessor may be delivered personally to any office of the lessor, or may be sent by prepaid registered mail to the lessor at:

Department of Agriculture, Aquaculture and Fisheries
Leasing and Licencing Branch
P. O. Box 6000
Fredericton NB E3B 5H1

15. Notices to the lessee may be delivered personally to the lessee or may be sent by prepaid registered mail to the lessee at the lessee's address identified on this lease.

Peninsula Foods Limited
P.O. Box 60
Collingwood NS B0M 1E0

16. Notices and correspondence sent by prepaid registered mail to the prescribed address of the lessor or the lessee shall be deemed received on the fifth (5) day following the day of mailing.

17. The Rent fee shall be fixed for five (5) years after the Date of Commencement of the Lease. After this initial five (5) year period, the Lessor shall have the right to amend the Rent fees for the remainder of the Lease by providing the Lessee with written notification outlining the amended fees at least six months prior to the date for which the Rent fee increase would take effect.

    The current fee is set at $28.75 per hectare per year and non-productive land is fixed at $2.88 per hectare per year.

18. The lessee shall put in place and maintain throughout the term of this lease third-party liability insurance for injury, death or property damage covering all applicable perils and risks in an amount of not less than One Million Dollars ($1,000,000.00) per occurrence and shall promptly provide a copy of such insurance coverage to the lessor upon the execution of this lease, as well as of all subsequent renewals thereof or substitutions therefore. Furthermore, the lessee shall name Her Majesty the Queen in Right of the Province of New Brunswick as an additional insured in order to indemnify Her Majesty the Queen in Right of the Province of New Brunswick against any claims by users and the public. Proof of insurance must be submitted annually.

19. The lessee shall have an option to renew this lease for a similar term, with the consent of the lessor, which consent shall not be unreasonably withheld.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory:	ANDREW SULLIVAN 1350 Regent Street Fredericton, New Brunswick E3B 5H1
Position held by Signatory:	Minister's Designate
Organization:	**HER** This page is photocopied **IGHT OF THE** **WICK**, as repres ulture, Aquac
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	June 24, 2019

I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton,
in the County of York and
Province of New Brunswick,
on the 24 day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:
JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 2020

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 20

Andrew Sullivan
ANDREW SULLIVAN

Form 45

AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

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Deponent: DAVID HOFFMA

Office Held by Deponent: Chief Executive C

Corporation: PENINSULA FOC

Place of Execution: Oxford, Nova Scotia

Date of Execution: June 3rd 2019

I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)
)
)
BEFORE ME:)
)
)
)
)
Commission of Oaths)
Being a Solicitor)
)

DAVID HOFFMAN

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

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FORM 20

NOTICE OF LEASE (AND OPTION)
***Land Titles Act*, S.N.B. 1981, c.L.-1.1, s.27**

Parcel Identifier: See Schedule "A"
PID ~~20400263~~

Lessor: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3B 5H1

Lessee: **PENINSULA FOODS LIMITED**
1536 Wyvern Road
Collingwood, Nova Scotia B0M 1E0

Date of Lease: June 24, 2019

Civic Address of Leased Premises: Route 160, Dunn Pond,
Parish of New Bandon, Gloucester County

Term of Lease: Twenty (20) years

Commencement Date of Lease: April 1, 2018

The lessor and the lessee have entered into a lease dated as specified, of premises at the civic address specified, being the specified parcel for the specified term commencing on the specified date.

This lease contains an option to renew for a further term as specified.

Date: June 24, 2019

WITNESS:

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

LESSEE:

PENINSULA FOODS LIMITED

Witness

David Hoffman, CEO

SNB

PID 20901369

Schedule "A"

All and singular that certain lot, piece or parcel of land situate, lying and being in Val-Doucet, Parish of New Bandon, County of Gloucester, Province of New Brunswick, and being more particularly bounded and described as follows:

Beginning at a survey marker at an easterly boundary of property shown as "Block 122" on plan registered on February 18, 2014 as number 33557035, now or formerly owned by Oxford Frozen Foods Limited by document registered on May 23, 2014 as number 33795148, and the southerly bounds of an Access Road, said point having N.B. Grid Coordinates of Easting: 2587813.035 metres and Northing: 7620362.555 metres.

Thence in an easterly direction and following the southerly bounds of the aforementioned Access Road for a distance of 534.480 metres along the arc of a curve to the right having a radius of 4905.485 metres, a chord azimuth of 123 degrees 10 minutes 24 seconds and a chord distance of 534.215 metres to a survey marker;

Thence on an azimuth of 222 degrees 45 minutes 47 seconds for a distance of 811.066 metres to a survey marker;

Thence on an azimuth of 309 degrees 27 minutes 17 seconds for a distance of 254.103 metres to a survey marker;

Thence on an azimuth of 225 degrees 53 minutes 05 seconds for a distance of 163.261 metres to an iron bar at the northerly bounds of ungranted Crown Land;

Thence on an azimuth of 310 degrees 18 minutes 24 seconds and following the northerly bounds of ungranted Crown Land and also a boundary of the aforementioned "Block 122" now or formerly owned by Oxford Frozen Foods Limited for a total distance of 278.554 metres to a survey marker;

Thence on an azimuth of 43 degrees 39 minutes 01 seconds and following an easterly boundary of the aforementioned "Block 122" now or formerly owned by Oxford Frozen Foods Limited for a distance of 911.800 metres to the point and place of beginning.

Said property containing 46.40 hectares.

All as shown as part of "**PID 20400263**" on "Agriculture Survey Plan Showing Department of Agriculture, Aquaculture and Fisheries; Blueberry Production Blocks and Access Roads & Right-of-Way" prepared by Christopher M. Kane, NBLS, for East Coast Surveys as file number 6490 and dated February 15, 2019.

In the preceding description, all azimuths and coordinate values are based on the New Brunswick NAD 83 (CSRS) grid coordinate system. Registered documents and plans referenced hereto are filed in the Gloucester County Registry Office or the Land Titles District of New Brunswick.

Saving and excepting Access Road 2018 3-A.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory: ANDREW SULLIVAN
1350 Regent Street
Fredericton, New Brunsw
E3B 5H1

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Position held by Signatory: Minister's Designate

Organization: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK**, as represented by the Minister of Agriculture, Aquaculture and Fisheries

Place of Execution: Fredericton, New Brunswick

Date of Execution: June 24, 2019

I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton,
in the County of York and
Province of New Brunswick,
on the 24th day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:
JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 20 20

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 20

Andrew Sullivan
ANDREW SULLIVAN

Form 45

AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Deponent: DAVID HOFFMAN

Office Held by Deponent: Chief Executive Offic

Corporation: PENINSULA FOODS

Place of Execution: Oxford

Date of Execution: June 3rd 2019

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I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)

BEFORE ME:

Commission of Oaths
Being a Solicitor

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

DAVID HOFFMAN

Form 19

LEASE AND OPTION

Land Titles Act, S.N.B. 1981, c.L.-1.1, s. 27
Standard Forms of Conveyances Act, S.N.B. 1980, c.S-12.2, s. 2

Parcel Identifier: See Schedule "A" ~~20400263~~

Lessor: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3C 2G6

Lessee: **PENINSULA FOODS LIMITED**
1536 Wyvern Road
Collingwood, Nova Scotia B0M 1E0

Duration:	Twenty (20) years
Date of Commencement:	April 1, 2018
Date of Termination:	March 31, 2038
Rent:	In accordance with Schedule "D"
Payments:	Annually
Payment Dates:	October 1st of each year
Place of Payment:	at the Lessor's address
Statutory Covenants and Conditions Excluded:	21, 24, 29, 30, 31, 34, 35, 37, 40
Optional Covenants and Conditions Included:	NONE

The recitals, affidavits, statutory declarations or other documents attached hereto as Schedule "D" form part of this lease.

The lessor leases to the lessee the premises being the specified parcel on the specified conditions.

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to a distinguishing number or by virtue of subsection 27(2) of the *Land Titles Act*, and agrees to be bound by them to the same extent as if set out at length herein.

Dated this 26 of June, **2019.**

WITNESS:

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

PENINSULA FOODS LIMITED:

Witness

David Hoffman, CEO

SCHEDULE "D"

IT IS COVENANTED AND AGREED THAT

1. The lessee shall use the premises only for the purposes required in conjunction with the growth and production of blueberries and the lessor grants to the lessee all the rights of use and access to the premises required in conjunction therewith.

2. The lessee covenants with the lessor to cultivate and manage the premises using commercially reasonable practices to the satisfaction of the lessor acting reasonably.

3. The lessee shall carry out such improvements on the premises as are in the lessor's opinion necessary for proper agricultural production.

4. The lessor does not warrant the fitness of the leased lands for the lessee's purpose.

5. The lessor is not responsible for providing or maintaining access to the leased lands.

6. The Site Development Plan submitted by the lessee and approved by the lessor is incorporated by reference and forms a part of this lease. Any breach by the lessee of the requirements of the approved plan shall be a breach of this lease. The lessee shall not carry out any developments, improvements or other activities that are not prescribed in the approved Site Development Plan. The lessor reserves the right to request periodic updates from the lessee during the term of the lease to evaluate compliance with the approved Site Development Plan.

7. If the lessee, due to unforeseen circumstances, wishes to deviate from the approved Site Development Plan, a written request must be submitted to the Director of the Leasing and Licencing Branch explaining the basis for the request to revise the existing plan.

   Based on the reasons for the request, the Director may allow the lessee to submit an amended Site Development Plan for approval.

8. The lessee shall establish and maintain five (5) metre wide windbreaks separated by a distance of seventy-five (75) metres.

9. No harvesting of trees or forest products of any kind is permitted within the boundaries of the mandatory windbreaks without prior written approval of the lessor.

10. The lessee shall not cut or remove or permit to be cut or removed from the land hereby leased and demised any trees, lumber or forest products of any nature whatsoever, stone, gravel or other materials without obtaining written permission for so doing from the lessor.

11. Boundary lines shall be cleared and maintained by the lessee sufficiently and without destroying survey evidence, to delineate the extent of the lease.

12. This lease may be terminated by the lessor upon any of the following events:

    i) the rent becomes thirty-one (31) days past due;

    ii) the lessee is in breach of any covenant of this lease including for the payment of rent, which has not been corrected after thirty (30) days' notice of such breach has been given in writing to the lessee;

    iii) the leased lands have been vacant or uncultivated for one (1) year;

SCHEDULE "D"
(Continued)

iv) the lessee assigns, sublets or otherwise conveys the beneficial use of the leased lands without the lessor's prior consent;

v) the lessee's rights under this lease are seized or taken in execution or attachment by any creditor of the lessee; and

vi) the lessee makes an assignment for the benefit of creditors, becomes bankrupt or insolvent, or takes the benefit of any Act that may be in force for bankrupt or insolvent debtors.

13. The lessee may surrender this lease at any time by giving sixty (60) days' written notice to the lessor.

14. Notices and changes pursuant to this lease shall be in writing. **The lessee shall immediately notify the lessor of any change in its corporate name and business name, if any.** The lessee shall give notice of a **change in address** within sixty (60) days of an actual change of address. Unless otherwise prescribed by the lessor, notices and correspondence to the lessor may be delivered personally to any office of the lessor, or may be sent by prepaid registered mail to the lessor at:

Department of Agriculture, Aquaculture and Fisheries
Leasing and Licencing Branch
P. O. Box 6000
Fredericton NB E3B 5H1

15. Notices to the lessee may be delivered personally to the lessee or may be sent by prepaid registered mail to the lessee at the lessee's address identified on this lease.

Peninsula Foods Limited
P.O. Box 60
Collingwood NS B0M 1E0

16. Notices and correspondence sent by prepaid registered mail to the prescribed address of the lessor or the lessee shall be deemed received on the fifth (5) day following the day of mailing.

17. The Rent fee shall be fixed for five (5) years after the Date of Commencement of the Lease. After this initial five (5) year period, the Lessor shall have the right to amend the Rent fees for the remainder of the Lease by providing the Lessee with written notification outlining the amended fees at least six months prior to the date for which the Rent fee increase would take effect.

    The current fee is set at $28.75 per hectare per year and non-productive land is fixed at $2.88 per hectare per year.

18. The lessee shall put in place and maintain throughout the term of this lease third-party liability insurance for injury, death or property damage covering all applicable perils and risks in an amount of not less than One Million Dollars ($1,000,000.00) per occurrence and shall promptly provide a copy of such insurance coverage to the lessor upon the execution of this lease, as well as of all subsequent renewals thereof or substitutions therefore. Furthermore, the lessee shall name Her Majesty the Queen in Right of the Province of New Brunswick as an additional insured in order to indemnify Her Majesty the Queen in Right of the Province of New Brunswick against any claims by users and the public. Proof of insurance must be submitted annually.

19. The lessee shall have an option to renew this lease for a similar term, with the consent of the lessor, which consent shall not be unreasonably withheld.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory:	ANDREW SULLIVAN 1350 Regent Street Fredericton, New Brunswick E3B 5H1
Position held by Signatory:	Minister's Designate
Organization:	**HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK**, as represented by the Minister of Agriculture, Aquaculture and Fisheries
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	June 24, 2019

I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton, in the County of York and Province of New Brunswick, on the 24 day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:

JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 20 20

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 20

Andrew Sullivan
ANDREW SULLIVAN

Form 45

AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Deponent: DAVID HOFFMAN

Office Held by Deponent: Chief Executive Officer

Corporation: PENINSULA FOODS LIMITED

Place of Execution: Oxford, Nova Scotia

Date of Execution: June 3rd 2019.

I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)
)
)
BEFORE ME:)
)
)
)
)
)
)

Commission of Oaths
Being a Solicitor

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

DAVID HOFFMAN

I certify that this instrument is registered or filed in the Gloucester County Registry Office, New Brunswick

J'atteste que cet instrument est enregistré ou déposé au bureau de l'enregistrement du comté de Gloucester Nouveau-Brunswick

2019-07-10 09:45:30 39198636
date/date time/heure number/numéro

K. Platt
Registrar-Conservateur

39189817
2019-07-08
11:21:13

FORM 20

NOTICE OF LEASE (AND OPTION)
***Land Titles Act*, S.N.B. 1981, c.L.-1.1, s.27**

Parcel Identifier: See Schedule "A"
PID ~~20716015~~

Lessor: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3B 5H1

Lessee: **BRAGG LUMBER COMPANY LIMITED**
1536 Wyvern Road
Collingwood, Nova Scotia B0M 1E0

Date of Lease: June 24, 2019

Civic Address of Leased Premises: Route 160, Dunn Pond,
Parish of New Bandon, Gloucester County

Term of Lease: Twenty (20) years

Commencement Date of Lease: October 1, 2017

The lessor and the lessee have entered into a lease dated as specified, of premises at the civic address specified, being the specified parcel for the specified term commencing on the specified date.

This lease contains an option to renew for a further term as specified.

Date: June 24, 2019

WITNESS:

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

LESSEE:

BRAGG LUMBER COMPANY LIMITED

Witness

David Hoffman, CEO

PID 20901377

Schedule "A"

All and singular that certain lot, piece or parcel of land situate, lying and being in Val-Doucet, Parish of New Bandon, County of Gloucester, Province of New Brunswick, and being more particularly bounded and described as follows:

Beginning at a survey marker at the southerly bounds of an Access Road running in a generally east-west direction, and the westerly bounds of an Access Road running in a generally north-south direction, said point having N.B. Grid Coordinates of Easting: 2588490.693 metres and Northing: 7619890.132 metres.

Thence on an azimuth of 214 degrees 52 minutes 46 seconds and following the westerly bounds of the aforementioned Access Road running in a generally north-south direction for a distance of 947.953 metres to a survey marker at the northerly bounds of property now or formerly leased by Peninsula Foods Limited and having Service New Brunswick Parcel Identifier Number (PID) 20734059;

Thence on an azimuth of 306 degrees 35 minutes 13 seconds and following the northerly bounds of the aforementioned property now or formerly leased by Peninsula Foods Limited and having Service New Brunswick Parcel Identifier Number (PID) 20734059 and also the northerly bounds of ungranted Crown Land for a total distance of 688.111 metres to an iron bar;

Thence on an azimuth of 45 degrees 53 minutes 05 seconds for a distance of 163.261 metres to a survey marker;

Thence on an azimuth of 129 degrees 27 minutes 17 seconds for a distance of 254.103 metres to a survey marker;

Thence on an azimuth of 42 degrees 45 minutes 47 seconds for a distance of 811.066 metres to a survey marker at the southerly bounds of the aforementioned Access Road running in a generally east-west direction;

Thence in an easterly direction and following the southerly bounds of the aforementioned Access Road running in a generally east-west direction for a distance of 292.577 metres along the arc of a curve to the right having a radius of 4905.485 metres, a chord azimuth of 128 degrees 00 minutes 12 seconds and a chord distance of 292.534 metres to the point and place of beginning.

Said property containing 38.15 hectares.

All as shown as part of "**PID 20716015**" on "Agriculture Survey Plan Showing Department of Agriculture, Aquaculture and Fisheries; Blueberry Production Blocks and Access Roads & Right-of-Way" prepared by Christopher M. Kane, NBLS, for East Coast Surveys as file number 6490 and dated February 15, 2019.

In the preceding description, all azimuths and coordinate values are based on the New Brunswick NAD 83 (CSRS) grid coordinate system. Registered documents and plans referenced hereto are filed in the Gloucester County Registry Office or the Land Titles District of New Brunswick.

Saving and excepting Access Roads 2018-3A and 2018-3B.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory:	ANDREW SULLIVAN 1350 Regent Street Fredericton, New Brunswick E3B 5H1
Position held by Signatory:	Minister's Designate
Organization:	**HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK**, as represented by the Minister of Agriculture, Aquaculture and Fisheries
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	June 24, 2019

I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton,
in the County of York and
Province of New Brunswick,
on the 24 day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:

JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 20 20

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 . 20

Andrew Sullivan
ANDREW SULLIVAN

Form 45

AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Deponent:	DAVID HOFFMAN
Office Held by Deponent:	Chief Executive Officer
Corporation:	BRAGG LUMBER COMPANY LIMITED
Place of Execution:	Oxford, Nova Scotia
Date of Execution:	June 3rd 2019

I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)
)
)
BEFORE ME:)
)
)
)
Commission of Oaths)
Being a Solicitor)

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

DAVID HOFFMAN

Form 19

LEASE AND OPTION

Land Titles Act, S.N.B. 1981, c.L.-1.1, s. 27
Standard Forms of Conveyances Act, S.N.B. 1980, c.S-12.2, s. 2

Parcel Identifier: See Schedule "A" ~~20716015~~

Lessor: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3C 2G6

Lessee: **BRAGG LUMBER COMPANY LIMITED**
1536 Wyvern Road
Collingwood, Nova Scotia B0M 1E0

Duration:	Twenty (20) years
Date of Commencement:	October 1, 2017
Date of Termination:	September 30, 2037
Rent:	In accordance with Schedule "D"
Payments:	Annually
Payment Dates:	October 1st of each year
Place of Payment:	at the Lessor's address
Statutory Covenants and Conditions Excluded:	21, 24, 29, 30, 31, 34, 35, 37, 40
Optional Covenants and Conditions Included:	NONE

The recitals, affidavits, statutory declarations or other documents attached hereto as Schedule "D" form part of this lease.

The lessor leases to the lessee the premises being the specified parcel on the specified conditions.

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to a distinguishing number or by virtue of subsection 27(2) of the *Land Titles Act*, and agrees to be bound by them to the same extent as if set out at length herein.

Dated this 24 of June, **2019.**

WITNESS:

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

BRAGG LUMBER COMPANY LIMITED:

Witness

David Hoffman, CEO

SCHEDULE "D"

IT IS COVENANTED AND AGREED THAT

1. The lessee shall use the premises only for the purposes required in conjunction with the growth and production of blueberries and the lessor grants to the lessee all the rights of use and access to the premises required in conjunction therewith.

2. The lessee covenants with the lessor to cultivate and manage the premises using commercially reasonable practices to the satisfaction of the lessor acting reasonably.

3. The lessee shall carry out such improvements on the premises as are in the lessor's opinion necessary for proper agricultural production.

4. The lessor does not warrant the fitness of the leased lands for the lessee's purpose.

5. The lessor is not responsible for providing or maintaining access to the leased lands.

6. The Site Development Plan submitted by the lessee and approved by the lessor is incorporated by reference and forms a part of this lease. Any breach by the lessee of the requirements of the approved plan shall be a breach of this lease. The lessee shall not carry out any developments, improvements or other activities that are not prescribed in the approved Site Development Plan. The lessor reserves the right to request periodic updates from the lessee during the term of the lease to evaluate compliance with the approved Site Development Plan.

7. If the lessee, due to unforeseen circumstances, wishes to deviate from the approved Site Development Plan, a written request must be submitted to the Director of the Leasing and Licencing Branch explaining the basis for the request to revise the existing plan.

   Based on the reasons for the request, the Director may allow the lessee to submit an amended Site Development Plan for approval.

8. The lessee shall establish and maintain five (5) metre wide windbreaks separated by a distance of seventy-five (75) metres.

9. No harvesting of trees or forest products of any kind is permitted within the boundaries of the mandatory windbreaks without prior written approval of the lessor.

10. The lessee shall not cut or remove or permit to be cut or removed from the land hereby leased and demised any trees, lumber or forest products of any nature whatsoever, stone, gravel or other materials without obtaining written permission for so doing from the lessor.

11. Boundary lines shall be cleared and maintained by the lessee sufficiently and without destroying survey evidence, to delineate the extent of the lease.

12. This lease may be terminated by the lessor upon any of the following events:

    i) the rent becomes thirty-one (31) days past due;

    ii) the lessee is in breach of any covenant of this lease including for the payment of rent, which has not been corrected after thirty (30) days' notice of such breach has been given in writing to the lessee;

    iii) the leased lands have been vacant or uncultivated for one (1) year;

SCHEDULE "D"
(Continued)

iv) the lessee assigns, sublets or otherwise conveys the beneficial use of the leased lands without the lessor's prior consent;

v) the lessee's rights under this lease are seized or taken in execution or attachment by any creditor of the lessee; and

vi) the lessee makes an assignment for the benefit of creditors, becomes bankrupt or insolvent, or takes the benefit of any Act that may be in force for bankrupt or insolvent debtors.

13. The lessee may surrender this lease at any time by giving sixty (60) days' written notice to the lessor.

14. Notices and changes pursuant to this lease shall be in writing. **The lessee shall immediately notify the lessor of any change in its corporate name and business name, if any.** The lessee shall give notice of a **change in address** within sixty (60) days of an actual change of address. Unless otherwise prescribed by the lessor, notices and correspondence to the lessor may be delivered personally to any office of the lessor, or may be sent by prepaid registered mail to the lessor at:

Department of Agriculture, Aquaculture and Fisheries
Leasing and Licencing Branch
P. O. Box 6000
Fredericton NB E3B 5H1

15. Notices to the lessee may be delivered personally to the lessee or may be sent by prepaid registered mail to the lessee at the lessee's address identified on this lease.

Bragg Lumber Company Limited
P.O. Box 60
Collingwood NS B0M 1E0

16. Notices and correspondence sent by prepaid registered mail to the prescribed address of the lessor or the lessee shall be deemed received on the fifth (5) day following the day of mailing.

17. The Rent fee shall be fixed for five (5) years after the Date of Commencement of the Lease. After this initial five (5) year period, the Lessor shall have the right to amend the Rent fees for the remainder of the Lease by providing the Lessee with written notification outlining the amended fees at least six months prior to the date for which the Rent fee increase would take effect.

    The current fee is set at $28.75 per hectare per year and non-productive land is fixed at $2.88 per hectare per year.

18. The lessee shall put in place and maintain throughout the term of this lease third-party liability insurance for injury, death or property damage covering all applicable perils and risks in an amount of not less than One Million Dollars ($1,000,000.00) per occurrence and shall promptly provide a copy of such insurance coverage to the lessor upon the execution of this lease, as well as of all subsequent renewals thereof or substitutions therefore. Furthermore, the lessee shall name Her Majesty the Queen in Right of the Province of New Brunswick as an additional insured in order to indemnify Her Majesty the Queen in Right of the Province of New Brunswick against any claims by users and the public. Proof of insurance must be submitted annually.

19. The lessee shall have an option to renew this lease for a similar term, with the consent of the lessor, which consent shall not be unreasonably withheld.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory:	ANDREW SULLIVAN 1350 Regent Street Fredericton, New Bru E3B 5H1
Position held by Signatory:	Minister's Designate
Organization:	**HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK**, as represented by the Minister of Agriculture, Aquaculture and Fisheries
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	June 24, 2019

this page is photocopied &

I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton, in the County of York and Province of New Brunswick, on the 24 day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:

JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 20 20

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 20

Andrew Sullivan
ANDREW SULLIVAN

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Form 45

AFFIDAVIT OF CORPORATE EXECU
***Land Titles Act*, S.N.B. 1981, c.L-1.1,**

Deponent: DAVID HOFFMAN

Office Held by Deponent: Chief Executive Officer

Corporation: BRAGG LUMBER COMPANY LIMITED

Place of Execution: Oxford, Nova Scotia

Date of Execution: June 3rd 2019

I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)
)
)
BEFORE ME:)
)
)
)
)
)

Commission of Oaths
Being a Solicitor

DAVID HOFFMAN

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

I certify that this instrument is registered or filed in the Gloucester County Registry Office, New Brunswick

J'atteste que cet instrument est enregistré ou déposé au bureau de l'enregistrement du comté de Gloucester Nouveau-Brunswick

2019-07-10 09:45:30 39198636
date/date time/heure number/numéro

K. Platt
Registrar-Conservateur

39189817
2019-07-08
11:21:13

FORM 20

NOTICE OF LEASE (AND OPTION)
***Land Titles Act*, S.N.B. 1981, c.L.-1.1, s.27**

Parcel Identifier: See Schedule "A"
PID ~~20716015~~

Lessor: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3B 5H1

Lessee: **BRAGG LUMBER COMPANY LIMITED**
1536 Wyvern Road
Collingwood, Nova Scotia B0M 1E0

Date of Lease: June 24, 2019

Civic Address of Leased Premises: Route 160, Dunn Pond,
Parish of New Bandon, Gloucester County

Term of Lease: Twenty (20) years

Commencement Date of Lease: October 1, 2017

The lessor and the lessee have entered into a lease dated as specified, of premises at the civic address specified, being the specified parcel for the specified term commencing on the specified date.

This lease contains an option to renew for a further term as specified.

Date: June 24, 2019

WITNESS:

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

LESSEE:

BRAGG LUMBER COMPANY LIMITED

Witness

David Hoffman, CEO

PID 20901377

Schedule "A"

All and singular that certain lot, piece or parcel of land situate, lying and being in Val-Doucet, Parish of New Bandon, County of Gloucester, Province of New Brunswick, and being more particularly bounded and described as follows:

Beginning at a survey marker at the southerly bounds of an Access Road running in a generally east-west direction, and the westerly bounds of an Access Road running in a generally north-south direction, said point having N.B. Grid Coordinates of Easting: 2588490.693 metres and Northing: 7619890.132 metres.

Thence on an azimuth of 214 degrees 52 minutes 46 seconds and following the westerly bounds of the aforementioned Access Road running in a generally north-south direction for a distance of 947.953 metres to a survey marker at the northerly bounds of property now or formerly leased by Peninsula Foods Limited and having Service New Brunswick Parcel Identifier Number (PID) 20734059;

Thence on an azimuth of 306 degrees 35 minutes 13 seconds and following the northerly bounds of the aforementioned property now or formerly leased by Peninsula Foods Limited and having Service New Brunswick Parcel Identifier Number (PID) 20734059 and also the northerly bounds of ungranted Crown Land for a total distance of 688.111 metres to an iron bar;

Thence on an azimuth of 45 degrees 53 minutes 05 seconds for a distance of 163.261 metres to a survey marker;

Thence on an azimuth of 129 degrees 27 minutes 17 seconds for a distance of 254.103 metres to a survey marker;

Thence on an azimuth of 42 degrees 45 minutes 47 seconds for a distance of 811.066 metres to a survey marker at the southerly bounds of the aforementioned Access Road running in a generally east-west direction;

Thence in an easterly direction and following the southerly bounds of the aforementioned Access Road running in a generally east-west direction for a distance of 292.577 metres along the arc of a curve to the right having a radius of 4905.485 metres, a chord azimuth of 128 degrees 00 minutes 12 seconds and a chord distance of 292.534 metres to the point and place of beginning.

Said property containing 38.15 hectares.

All as shown as part of "**PID 20716015**" on "Agriculture Survey Plan Showing Department of Agriculture, Aquaculture and Fisheries; Blueberry Production Blocks and Access Roads & Right-of-Way" prepared by Christopher M. Kane, NBLS, for East Coast Surveys as file number 6490 and dated February 15, 2019.

In the preceding description, all azimuths and coordinate values are based on the New Brunswick NAD 83 (CSRS) grid coordinate system. Registered documents and plans referenced hereto are filed in the Gloucester County Registry Office or the Land Titles District of New Brunswick.

Saving and excepting Access Roads 2018-3A and 2018-3B.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory:	ANDREW SULLIVAN 1350 Regent Street Fredericton, New Brunswick E3B 5H1
Position held by Signatory:	Minister's Designate
Organization:	**HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK**, as represented by the Minister of Agriculture, Aquaculture and Fisheries
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	June 24, 2019

I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton,
in the County of York and
Province of New Brunswick,
on the 24 day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:

JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 20 20

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 . 20

Andrew Sullivan
ANDREW SULLIVAN

Form 45

AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Deponent:	DAVID HOFFMAN
Office Held by Deponent:	Chief Executive Officer
Corporation:	BRAGG LUMBER COMPANY LIMITED
Place of Execution:	Oxford, Nova Scotia
Date of Execution:	June 3rd 2019

I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)
)
)
BEFORE ME:)
)
)
)
Commission of Oaths)
Being a Solicitor)

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

DAVID HOFFMAN

Form 19

LEASE AND OPTION

Land Titles Act, S.N.B. 1981, c.L.-1.1, s. 27
Standard Forms of Conveyances Act, S.N.B. 1980, c.S-12.2, s. 2

Parcel Identifier: See Schedule "A" ~~20716015~~

Lessor: **HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK,** as represented by the Minister of Agriculture, Aquaculture and Fisheries, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick E3C 2G6

Lessee: **BRAGG LUMBER COMPANY LIMITED**
1536 Wyvern Road
Collingwood, Nova Scotia B0M 1E0

Duration:	Twenty (20) years
Date of Commencement:	October 1, 2017
Date of Termination:	September 30, 2037
Rent:	In accordance with Schedule "D"
Payments:	Annually
Payment Dates:	October 1st of each year
Place of Payment:	at the Lessor's address
Statutory Covenants and Conditions Excluded:	21, 24, 29, 30, 31, 34, 35, 37, 40
Optional Covenants and Conditions Included:	NONE

The recitals, affidavits, statutory declarations or other documents attached hereto as Schedule "D" form part of this lease.

The lessor leases to the lessee the premises being the specified parcel on the specified conditions.

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to a distinguishing number or by virtue of subsection 27(2) of the *Land Titles Act*, and agrees to be bound by them to the same extent as if set out at length herein.

Dated this 24 of June, **2019.**

WITNESS:

Witness

LESSOR:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK

Andrew Sullivan
Minister's Designate

BRAGG LUMBER COMPANY LIMITED:

Witness

David Hoffman, CEO

SCHEDULE "D"

IT IS COVENANTED AND AGREED THAT

1. The lessee shall use the premises only for the purposes required in conjunction with the growth and production of blueberries and the lessor grants to the lessee all the rights of use and access to the premises required in conjunction therewith.

2. The lessee covenants with the lessor to cultivate and manage the premises using commercially reasonable practices to the satisfaction of the lessor acting reasonably.

3. The lessee shall carry out such improvements on the premises as are in the lessor's opinion necessary for proper agricultural production.

4. The lessor does not warrant the fitness of the leased lands for the lessee's purpose.

5. The lessor is not responsible for providing or maintaining access to the leased lands.

6. The Site Development Plan submitted by the lessee and approved by the lessor is incorporated by reference and forms a part of this lease. Any breach by the lessee of the requirements of the approved plan shall be a breach of this lease. The lessee shall not carry out any developments, improvements or other activities that are not prescribed in the approved Site Development Plan. The lessor reserves the right to request periodic updates from the lessee during the term of the lease to evaluate compliance with the approved Site Development Plan.

7. If the lessee, due to unforeseen circumstances, wishes to deviate from the approved Site Development Plan, a written request must be submitted to the Director of the Leasing and Licencing Branch explaining the basis for the request to revise the existing plan.

   Based on the reasons for the request, the Director may allow the lessee to submit an amended Site Development Plan for approval.

8. The lessee shall establish and maintain five (5) metre wide windbreaks separated by a distance of seventy-five (75) metres.

9. No harvesting of trees or forest products of any kind is permitted within the boundaries of the mandatory windbreaks without prior written approval of the lessor.

10. The lessee shall not cut or remove or permit to be cut or removed from the land hereby leased and demised any trees, lumber or forest products of any nature whatsoever, stone, gravel or other materials without obtaining written permission for so doing from the lessor.

11. Boundary lines shall be cleared and maintained by the lessee sufficiently and without destroying survey evidence, to delineate the extent of the lease.

12. This lease may be terminated by the lessor upon any of the following events:

    i) the rent becomes thirty-one (31) days past due;

    ii) the lessee is in breach of any covenant of this lease including for the payment of rent, which has not been corrected after thirty (30) days' notice of such breach has been given in writing to the lessee;

    iii) the leased lands have been vacant or uncultivated for one (1) year;

SCHEDULE "D"
(Continued)

iv) the lessee assigns, sublets or otherwise conveys the beneficial use of the leased lands without the lessor's prior consent;

v) the lessee's rights under this lease are seized or taken in execution or attachment by any creditor of the lessee; and

vi) the lessee makes an assignment for the benefit of creditors, becomes bankrupt or insolvent, or takes the benefit of any Act that may be in force for bankrupt or insolvent debtors.

13. The lessee may surrender this lease at any time by giving sixty (60) days' written notice to the lessor.

14. Notices and changes pursuant to this lease shall be in writing. **The lessee shall immediately notify the lessor of any change in its corporate name and business name, if any.** The lessee shall give notice of a **change in address** within sixty (60) days of an actual change of address. Unless otherwise prescribed by the lessor, notices and correspondence to the lessor may be delivered personally to any office of the lessor, or may be sent by prepaid registered mail to the lessor at:

Department of Agriculture, Aquaculture and Fisheries
Leasing and Licencing Branch
P. O. Box 6000
Fredericton NB E3B 5H1

15. Notices to the lessee may be delivered personally to the lessee or may be sent by prepaid registered mail to the lessee at the lessee's address identified on this lease.

Bragg Lumber Company Limited
P.O. Box 60
Collingwood NS B0M 1E0

16. Notices and correspondence sent by prepaid registered mail to the prescribed address of the lessor or the lessee shall be deemed received on the fifth (5) day following the day of mailing.

17. The Rent fee shall be fixed for five (5) years after the Date of Commencement of the Lease. After this initial five (5) year period, the Lessor shall have the right to amend the Rent fees for the remainder of the Lease by providing the Lessee with written notification outlining the amended fees at least six months prior to the date for which the Rent fee increase would take effect.

    The current fee is set at $28.75 per hectare per year and non-productive land is fixed at $2.88 per hectare per year.

18. The lessee shall put in place and maintain throughout the term of this lease third-party liability insurance for injury, death or property damage covering all applicable perils and risks in an amount of not less than One Million Dollars ($1,000,000.00) per occurrence and shall promptly provide a copy of such insurance coverage to the lessor upon the execution of this lease, as well as of all subsequent renewals thereof or substitutions therefore. Furthermore, the lessee shall name Her Majesty the Queen in Right of the Province of New Brunswick as an additional insured in order to indemnify Her Majesty the Queen in Right of the Province of New Brunswick against any claims by users and the public. Proof of insurance must be submitted annually.

19. The lessee shall have an option to renew this lease for a similar term, with the consent of the lessor, which consent shall not be unreasonably withheld.

Form 43.1

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L.1-1, s.55**

Signatory:	ANDREW SULLIVAN 1350 Regent Street Fredericton, New Bru E3B 5H1
Position held by Signatory:	Minister's Designate
Organization:	**HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK**, as represented by the Minister of Agriculture, Aquaculture and Fisheries
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	June 24, 2019

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I, ANDREW SULLIVAN, the signatory, make oath and say:

1. That I hold the position specified above in the organization specified above and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the person duly authorized to execute the instrument on behalf of the organization specified above;

3. That the instrument was executed at the place and on the date specified above.

SWORN TO at the City of Fredericton, in the County of York and Province of New Brunswick, on the 24 day of June, 2019.

BEFORE ME:

Jo-Anne Sullivan
Commissioner of Oaths
My commission expires:

JO-ANNE SULLIVAN
COMMISSIONER OF OATHS
MY APPOINTMENT EXPIRES ON
DECEMBER 31, 20 20

COMMISSAIRE AUX SERMENTS
MA NOMINATION EXPIRE LE
31 DÉCEMBRE 20 20

Andrew Sullivan
ANDREW SULLIVAN

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Form 45

AFFIDAVIT OF CORPORATE EXECU
***Land Titles Act*, S.N.B. 1981, c.L-1.1,**

Deponent: DAVID HOFFMAN

Office Held by Deponent: Chief Executive Officer

Corporation: BRAGG LUMBER COMPANY LIMITED

Place of Execution: Oxford, Nova Scotia

Date of Execution: June 3rd 2019

I, DAVID HOFFMAN, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the instrument was executed at the place and on the date specified above; and

5. That the ownership of a share of the corporation does not entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN to at the Town of Oxford)
in the County of Cumberland and)
Province of Nova Scotia)
on June 3, 2019.)
)
)
BEFORE ME:)
)
)
)
)
)

Commission of Oaths
Being a Solicitor

DAVID HOFFMAN

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

Form 19

LEASE(AND OPTION)

Land Titles Act, S.N.B. 1981, c.L-1.1, s.27
Standard Forms of Conveyances Act, S.N.B. 1980, c.S-12.2, s.2

Parcel Identifier:	20716130
Lessor:	**Crown, New Brunswick, Agriculture and Aquaculture** 850 Lincoln Rd., Fredericton, New Brunswick
Lessee:	**Bragg Lumber Company Ltd.** 4881 Main Street. Oxford, N.S. B0M 1P0
Encumbrance Holder:	Farm Credit Canada 1133 St. George Blvd., Suite 200 Moncton, NB E1E 4E1 Mortgagee Collateral Mortgage 17691818 2003-12-24 Non-Disturbance Agreement 21519922 2005-12-23
Duration:	20 years
Date of Commencement:	October 1, 2007
Date of Termination:	September 30, 2027
Rent:	$25.00 per hectare
Payments:	Annually
Payment Date:	October 1st of each year
Place of Payment:	Department of Agriculture and Aquaculture P.O. Box 6000 Fredericton, N.B. E3B 5H1

Statutory Covenants and Conditions Excluded:	16, 19, 20, 21, 22, 23, 24, 25, 27, 29, 30, 31, 32, 33, 34, 35, 37, 42
Optional Covenants and Conditions Included:	L-HMQ-71, 47.4

The lessor leases to the lessee the premises being the specified parcel on the specified conditions.

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to a distinquishing number or by virtue of subsection 27(2) of the Land Titles Act, and agrees to be bound to the same extent as if set out at length.

Date: Dec 11, 2007

Witness:

Lessor:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK, as represented by the Minister of Agriculture and Aquaculture

Ronald Ouellette

Witness:

Lessee:

Bragg Lumber Company Ltd.

per:
DAVID HOFFMAN.
VICE PRESIDENT.

Form 43

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Subscribing Witness:	T. Byron James 150 Linden Cresent Fredericton, N.B. E2A 4Z9
Person Who Executed the Instrument:	RONALD OUELLETTE
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	Dec 11, 2007

I, T. Byron James, make oath and say:

1. That I was personally present and saw the attached instrument duly executed by the party specified and that I am the subscribing witness;

2. That the person who executed the instrument is known to me or the person's identity has been proved to my satisfaction;

3. That the instrument was executed at the place and on the date specified above;

4. That at the time of execution of the instrument I was of the full age of sixteen years; and

5. That the person who executed the instrument is, in my belief, of the age of majority.

SWORN TO at Fredericton, County of York, Province of New Brunswick on the 11th day of December, 2007, before me:

Commissioner of Oaths

T. Byron James

PETER BOURNE
COMMISSIONER OF OATHS
MY COMMISSION EXPIRES DECEMBER 31, 2011
COMMISSAIRE AUX SERMENTS
MA COMMISSION EXPIRE LE
31 DECEMBRE 2011

Form 45
AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Deponent:	David Hoffman
Address of the Deponent :	Collingwood, Nova Scotia
Office Held by Deponent:	Vice President
Corporation:	Bragg Lumber Company Limited
Place of Execution:	Collingwood, Nova Scotia
Date of Execution:	22nd November 2007.

I, David Hoffman, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the ownership of a share of the corporation does (not) entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN TO BEFORE ME, at the Collingwood, in the Province of Nova Scotia, this 22nd day of November 2007.

Milton Wood
Commissioner of Oaths
Being a Solicitor

MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

David Hoffman.
David Hoffman

OPTIONAL COVENANT L-HMQ-71

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to the above distinguishing number and which covenant is outlined in full hereunder.

DATED this _____ day of _____, 2007

_____ _____

Witness Lessee

IT IS COVENANTED AND AGREED THAT:

1. The lessee shall use the premises only for purposes required in conjunction with the growth and production of blueberries and the lessor grants to the lessee all rights of use and access to the premises required in conjunction therewith.

2. The lessee shall carry out such improvements on the premises as are in the lessor's opinion necessary for proper agricultural production.

3. The lessee will not cut or remove or permit to be cut or removed from the land hereby leased and demised any trees, lumber or forest products of any nature whatsoever, stone, gravel or other materials without obtaining written permission for so doing from the lessor.

4. Boundary lines shall be cleared and maintained sufficiently and without destroying survey evidence, to delineate the extent of the lease.

5. The lessee covenants with the lessor to cultivate and manage the premises using best management practices to the satisfaction of the lessor acting reasonably.

6. The approved site development plan, in the possession of the parties and signed by the lessee, is a part of this lease, and a material breach by the lessee of any requirements of the approved plan shall be a breach of this lease.

7. The lessee shall materially adhere to the approved site development plan, and shall do so according to the schedule prescribed in that plan.

8. The lessee shall not carry out any material developments that are not prescribed in the approved site development plan.

9. The approved site development plan may be altered only by mutual consent.

10. The lessee shall permit the lessor or his agents at all reasonable times to enter the demised lands for the purpose of inspecting the state of repair of the demised lands or any buildings or structures thereon, and to ensure that the provisions of this lease are being complied with.

11. The lessor does not warrant the fitness of the demised lands for the lessee's purpose.

12. The lessee shall materially comply with all laws respecting the use and occupation of the demised lands whether federal, municipal or provincial.

13. The lessee shall permit the lessor to show the demised lands to prospective tenants at all reasonable times.

14. The lessee shall not assign or sublet the demised lands without the lessor's consent, and consent may be withheld for any reason.

15. This lease may be terminated by the lessor upon any of the following events:

    i) the lessee is in breach of any covenant of this lease including for the payment of rent, which has not been corrected after thirty (30) days notice of such breach has been given in writing to the lessee;

    ii) the demised lands have been vacant or uncultivated for two (2) years;

    iii) the lessee assigns, sublets or otherwise conveys the beneficial use of the demised lands without the lessor's prior consent;

    iv) the lessee's rights under this lease are seized or taken in execution or attachment by any creditor of the lessee;

    v) the lessee makes an assignment for the benefit of creditors, becomes bankrupt or insolvent, or takes the benefit of any Act that may be in force for bankrupt or insolvent debtors.

16. The lessee may cancel this lease at any time by giving written notice to the lessor.

17. The lessor is not responsible for providing or maintaining access to the demised lands.

18. Notices and changes pursuant to this lease shall be in writing.

19. The lessee shall give notice of a change in address to the lessor and to the Registrar as defined in the *Land Titles Act* within sixty (60) days of an actual change of address.

20. Unless otherwise prescribed by the lessor, notices and correspondence to the lessor may be delivered personally to any office of the lessor, or may be sent by prepaid registered mail to the lessor at:

    N.B. Department of Agriculture, Fisheries and Aquaculture
    Land Development Branch
    P. O. Box 6,000
    Fredericton, New Brunswick
    E3B 5H1

21. Notices to the lessee may be delivered personally to the lessee or may be sent by prepaid registered mail to the lessee at the lessee's address identified on this lease or at the last address of the lessee on file with the Registrar as defined in the *Land Titles Act.*

22. Notices and correspondence sent by prepaid registered mail to the prescribed address of the lessor or the lessee shall be deemed received on the seventh day following the day of mailing.

23. The rental fee is fixed for two years. The rental fee for subsequent years may be changed by the lessor following written notification to the lessee should it be shown that some part of the lease is not suitable for blueberry production.

24. If any part of the premises is judged by the lessor as not being suitable for blueberry production that area will carry a rental fee of $2.50

OPTIONAL COVENANT #47.4

The Lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to the above distinguishing number and which covenant is outlined in full hereunder.

DATED this _____ day of _____, 2007

_____ _____

Witness Lessee

1. The Lessor hereby gives to the Lessee an option to renew this lease at the expiration thereof for a further term of equal duration upon the same terms and conditions as are contained herein except this provision for the renewal and the amount of rent reserved which shall be agreed upon at the time of renewal or, failing agreement, shall be settled by arbitration; the lessee may exercise his option to renew by giving notice of acceptance to the Lessor not later than three months prior to the date of termination of this lease.

Form 19

LEASE(AND OPTION)

Land Titles Act, S.N.B. 1981, c.L-1.1, s.27
Standard Forms of Conveyances Act, S.N.B. 1980, c.S-12.2, s.2

Parcel Identifier:	20716155
Lessor:	**Crown, New Brunswick, Agriculture and Aquaculture** 850 Lincoln Rd., Fredericton, New Brunswick
Lessee:	**Bragg Lumber Company Ltd.** 4881 Main Street. Oxford, N.S. B0M 1P0
Encumbrance Holder:	Farm Credit Canada 1133 St. George Blvd., Suite 200 Moncton, NB E1E 4E1 Mortgagee Collateral Mortgage 17691818 2003-12-24 Non-Disturbance Agreement 21519922 2005-12-23
Duration:	20 years
Date of Commencement:	October 1, 2007
Date of Termination:	September 30, 2027
Rent:	$25.00 per hectare
Payments:	Annually
Payment Date:	October 1st of each year
Place of Payment:	Department of Agriculture and Aquaculture P.O. Box 6000 Fredericton, N.B. E3B 5H1

Statutory Covenants and Conditions Excluded:	16, 19, 20, 21, 22, 23, 24, 25, 27, 29, 30, 31, 32, 33, 34, 35, 37, 42
Optional Covenants and Conditions Included:	L-HMQ-71, 47.4

The lessor leases to the lessee the premises being the specified parcel on the specified conditions.

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to a distinguishing number or by virtue of subsection 27(2) of the Land Titles Act, and agrees to be bound to the same extent as if set out at length.

Date: Dec 11, 2007

Witness:

Lessor:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF NEW BRUNSWICK, as represented by the Minister of Agriculture and Aquaculture

Ronald Ouellette

Witness:

Lessee:

Bragg Lumber Company Ltd.

per: DAVID HOFFMAN
VICE PRESIDENT.

Form 43

AFFIDAVIT OF EXECUTION

***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Subscribing Witness:	T. Byron James 150 Linden Cresent Fredericton, N.B. E2A 4Z9
Person Who Executed the Instrument:	RONALD OUELLETTE
Place of Execution:	Fredericton, New Brunswick
Date of Execution:	Dec 11, 2007

I, T. Byron James, make oath and say:

1. That I was personally present and saw the attached instrument duly executed by the party specified and that I am the subscribing witness;

2. That the person who executed the instrument is known to me or the person's identity has been proved to my satisfaction;

3. That the instrument was executed at the place and on the date specified above;

4. That at the time of execution of the instrument I was of the full age of sixteen years; and

5. That the person who executed the instrument is, in my belief, of the age of majority.

SWORN TO at Fredericton, County of York, Province of New Brunswick on the 11th day of December, 2007, before me:

Commissioner of Oaths

T. Byron James

PETER BOURNE
COMMISSIONER OF OATHS
MY COMMISSION EXPIRES DECEMBER 31, 2011
COMMISSAIRE AUX SERMENTS
MA COMMISSION EXPIRE LE
31 DECEMBRE 2011

Form 45
AFFIDAVIT OF CORPORATE EXECUTION
***Land Titles Act*, S.N.B. 1981, c.L-1.1, s.55**

Deponent:	David Hoffman
Address of the Deponent :	Collingwood, Nova Scotia
Office Held by Deponent:	Vice President
Corporation:	Bragg Lumber Company Limited
Place of Execution:	Collingwood, Nova Scotia
Date of Execution:	22nd November 2007.

I, David Hoffman, the deponent, make oath and say:

1. That I hold the office specified above in the corporation specified above, and am authorized to make this affidavit and have personal knowledge of the matters hereinafter deposed to;

2. That the attached instrument was executed by me as the officer duly authorized to execute the instrument on behalf of the corporation;

3. That the seal of the corporation was affixed to the instrument by order of the Board of Directors of the corporation;

4. That the ownership of a share of the corporation does (not) entitle the owner thereof to occupy the parcel described in the attached instrument as a marital home.

SWORN TO BEFORE ME, at the Collingwood, in the Province of Nova Scotia, this 22nd day of November 2007.

Milton Wood
Commissioner of Oaths
Being a Solicitor
MILTON S. WOOD
A COMMISSIONER OF THE SUPREME
COURT OF NOVA SCOTIA

David Hoffman
David Hoffman

OPTIONAL COVENANT L-HMQ-71

The lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to the above distinguishing number and which covenant is outlined in full hereunder.

DATED this _____ day of _____, 2007

_____ _____

Witness Lessee

IT IS COVENANTED AND AGREED THAT:

1. The lessee shall use the premises only for purposes required in conjunction with the growth and production of blueberries and the lessor grants to the lessee all rights of use and access to the premises required in conjunction therewith.

2. The lessee shall carry out such improvements on the premises as are in the lessor's opinion necessary for proper agricultural production.

3. The lessee will not cut or remove or permit to be cut or removed from the land hereby leased and demised any trees, lumber or forest products of any nature whatsoever, stone, gravel or other materials without obtaining written permission for so doing from the lessor.

4. Boundary lines shall be cleared and maintained sufficiently and without destroying survey evidence, to delineate the extent of the lease.

5. The lessee covenants with the lessor to cultivate and manage the premises using best management practices to the satisfaction of the lessor acting reasonably.

6. The approved site development plan, in the possession of the parties and signed by the lessee, is a part of this lease, and a material breach by the lessee of any requirements of the approved plan shall be a breach of this lease.

7. The lessee shall materially adhere to the approved site development plan, and shall do so according to the schedule prescribed in that plan.

8. The lessee shall not carry out any material developments that are not prescribed in the approved site development plan.

9. The approved site development plan may be altered only by mutual consent.

10. The lessee shall permit the lessor or his agents at all reasonable times to enter the demised lands for the purpose of inspecting the state of repair of the demised lands or any buildings or structures thereon, and to ensure that the provisions of this lease are being complied with.

11. The lessor does not warrant the fitness of the demised lands for the lessee's purpose.

12. The lessee shall materially comply with all laws respecting the use and occupation of the demised lands whether federal, municipal or provincial.

13. The lessee shall permit the lessor to show the demised lands to prospective tenants at all reasonable times.

14. The lessee shall not assign or sublet the demised lands without the lessor's consent, and consent may be withheld for any reason.

15. This lease may be terminated by the lessor upon any of the following events:

    i) the lessee is in breach of any covenant of this lease including for the payment of rent, which has not been corrected after thirty (30) days notice of such breach has been given in writing to the lessee;

    ii) the demised lands have been vacant or uncultivated for two (2) years;

    iii) the lessee assigns, sublets or otherwise conveys the beneficial use of the demised lands without the lessor's prior consent;

    iv) the lessee's rights under this lease are seized or taken in execution or attachment by any creditor of the lessee;

    v) the lessee makes an assignment for the benefit of creditors, becomes bankrupt or insolvent, or takes the benefit of any Act that may be in force for bankrupt or insolvent debtors.

16. The lessee may cancel this lease at any time by giving written notice to the lessor.

17. The lessor is not responsible for providing or maintaining access to the demised lands.

18. Notices and changes pursuant to this lease shall be in writing.

19. The lessee shall give notice of a change in address to the lessor and to the Registrar as defined in the *Land Titles Act* within sixty (60) days of an actual change of address.

20. Unless otherwise prescribed by the lessor, notices and correspondence to the lessor may be delivered personally to any office of the lessor, or may be sent by prepaid registered mail to the lessor at:

    N.B. Department of Agriculture, Fisheries and Aquaculture
    Land Development Branch
    P. O. Box 6,000
    Fredericton, New Brunswick
    E3B 5H1

21. Notices to the lessee may be delivered personally to the lessee or may be sent by prepaid registered mail to the lessee at the lessee's address identified on this lease or at the last address of the lessee on file with the Registrar as defined in the *Land Titles Act.*

22. Notices and correspondence sent by prepaid registered mail to the prescribed address of the lessor or the lessee shall be deemed received on the seventh day following the day of mailing.

23. The rental fee is fixed for two years. The rental fee for subsequent years may be changed by the lessor following written notification to the lessee should it be shown that some part of the lease is not suitable for blueberry production.

24. If any part of the premises is judged by the lessor as not being suitable for blueberry production that area will carry a rental fee of $2.50

OPTIONAL COVENANT #47.4

The Lessee acknowledges receipt of the text of the covenants and conditions which are contained in this lease by reference to the above distinguishing number and which covenant is outlined in full hereunder.

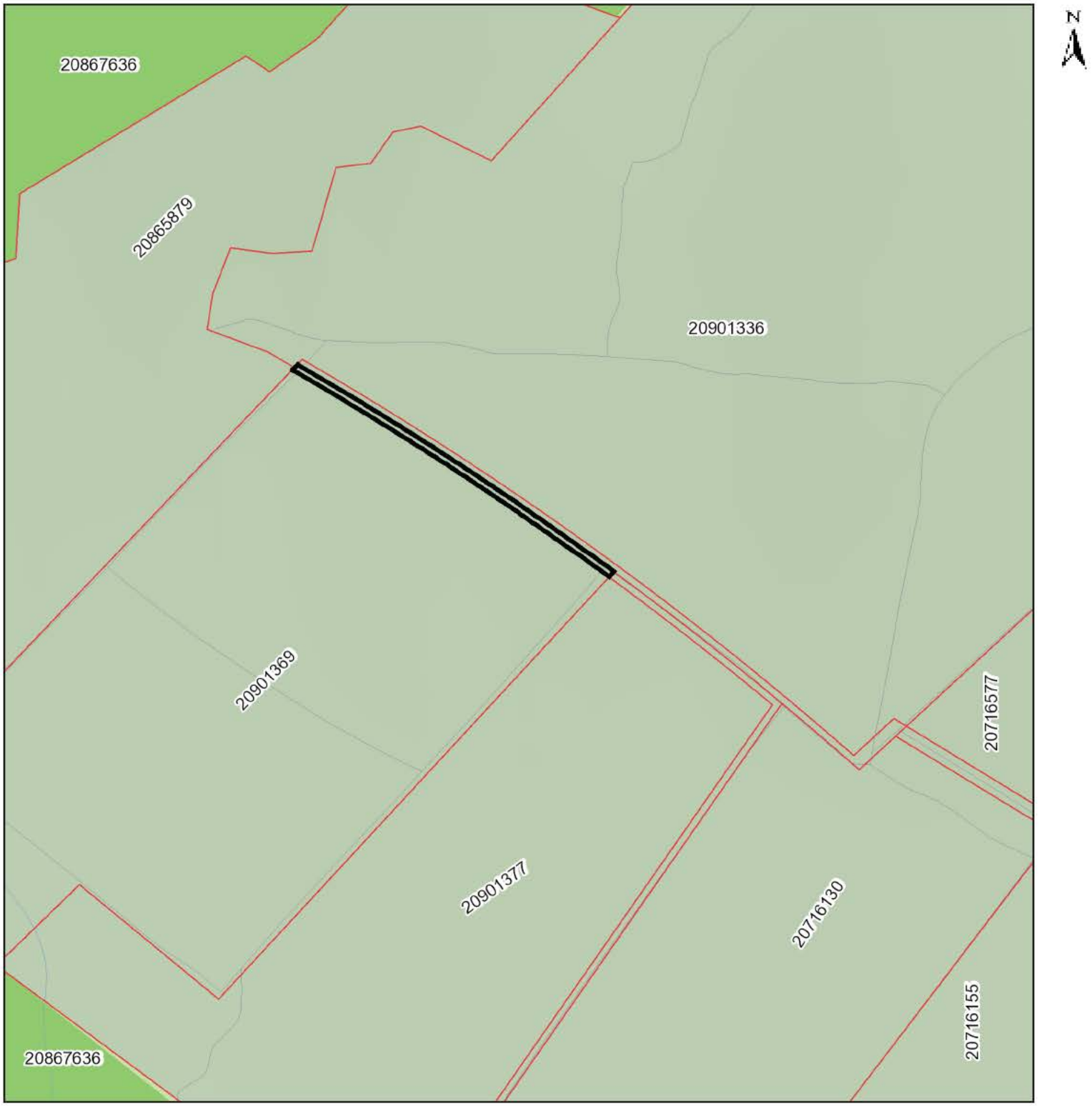
DATED this _____ day of _____, 2007

_____ _____

Witness Lessee

1. The Lessor hereby gives to the Lessee an option to renew this lease at the expiration thereof for a further term of equal duration upon the same terms and conditions as are contained herein except this provision for the renewal and the amount of rent reserved which shall be agreed upon at the time of renewal or, failing agreement, shall be settled by arbitration; the lessee may exercise his option to renew by giving notice of acceptance to the Lessor not later than three months prior to the date of termination of this lease.

Service New Brunswick **Service Nouveau-Brunswick**



Scale/Échelle 1:7620

Date: 2021/07/22 15:01:21

0 100.0 200.0 300.0 métres metres

While this map may not be free from error or omission, care has been taken to ensure the best possible quality. This map is a graphical representation of property boundaries which approximates the size, configuration and location of properties. It is not a survey and is not intended to be used for legal description or to calculate exact dimensions or area.

Même si cette carte n'est peut-être pas libre de toute erreur ou omission, toutes les précautions ont été prises pour en assurer la meilleure qualité possible. Cette carte est une représentation graphique approximative des terrains (limites, dimensions, configuration et emplacement). Elle n'a aucun caractère officiel et ne doit donc pas servir à la rédaction de la description officielle d'un terrain ni au calcul de ses dimensions exactes ou de sa superficie.

APPENDIX C

Service New Brunswick Property Information

Parcel Information

PID:	20400263	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	1996-12-17 00:00:00
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	5445	**Area Unit:**	Hectares
Date Last Updated:	2019-07-12 14:48:37	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2001-06-05 11:51:03
Date of Last CRO:	2019-04-23 13:24:21	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			

Public Comments:

MAP / CARTE 21P11R4, 21P11S3, 21P11V1

Parcel Interest Holders

Owner	Qualifier	Interest Type
Ministère de l'Agriculture, des Pêches et de l'Aquaculture		Owner
N.B.Agriculture		Owner
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
	Excluded	887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
16904154	2003-08-26			7800	Other Agreements
16904113	2003-08-26			3200	Change of Name or Amalgamation

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
16310303	2003-05-27			5100	Mortgage
16310212	2003-05-27			2810	Assignment of Lease
13634820	2002-02-01			6110	Discharge of Mortgage
13121695	2001-10-29			7800	Other Agreements
12895695	2001-09-24			6600	Change of Terms
12814886	2001-09-11			6110	Discharge of Mortgage
12560075	2001-07-31			5110	Collateral Mortgage
12559846	2001-07-31			5110	Collateral Mortgage
12559796	2001-07-31			5100	Mortgage
12506292	2001-07-24			5100	Mortgage
12195757	2001-06-05	2335	246	3800	Land Titles First Notice
12195740	2001-06-05			3720	Land Titles First Order
12192515	2001-06-05			3900	Land Titles First Application
12041787	2001-05-04	2332	409	2100	Lease, Notice of Lease or Sub-Lease
10867365	2000-03-01	2256	636	6600	Change of Terms
290592	1997-06-19	2023	255	104	Mortgage
286629	1997-02-05	1990	278	114	Agreement
285068	1996-12-11	1977	49	104	Mortgage
283395	1996-10-17	1961	633	109	Assignment
283382	1996-10-17	1961	556	102	Lease
238123	1992-06-30	1586	30	103	Debenture, Voluntary Charge

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
38960275		2019-04-23	9040	Retracement & Plan or Return of Survey		Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20457610	Parent	
20463667	Parent	

Parcel Relations

Related PID	Type Of Relation	Lot Information
20901369	Infant	

Parcel Information

PID:	20716015	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	1997-12-22 00:00:00
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	1.25	**Area Unit:**	Hectares
Date Last Updated:	2019-07-12 15:31:28	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2002-06-06 11:22:36
Date of Last CRO:	2019-04-23 13:24:21	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			

Public Comments:

MAP / CARTE 21P11V1, 21P11S3

Parcel Interest Holders

Owner	Qualifier	Interest Type
Agriculture and Rural Development		Owner

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
	Excluded	887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
21519922	2005-12-23			7800	Other Agreements
19892208	2005-02-23			6100	Discharge, Release or Satisfaction
18895830	2004-08-11			5200	Debenture or Other Voluntary Charge
17703803	2003-12-30			6110	Discharge of Mortgage
17691818	2003-12-24			5110	Collateral Mortgage

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
17160764	2003-10-01			7300	Agreement Re: Use of Land
17160616	2003-10-01			2810	Assignment of Lease
15956734	2003-03-17			6110	Discharge of Mortgage
14383476	2002-06-14			5100	Mortgage
14320312	2002-06-06			3800	Land Titles First Notice
14320304	2002-06-06			3720	Land Titles First Order
14318514	2002-06-06			3900	Land Titles First Application
10548874	1999-10-14	2228	203	2100	Lease, Notice of Lease or Sub-Lease
295762	1997-12-05	2070	75	104	Mortgage
295761	1997-12-05	2070	65	102	Lease
283200	1996-10-10	1960	104	113	Order

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
38960275		2019-04-23	9040	Retracement & Plan or Return of Survey		Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20457610	Parent	
20901377	Infant	

Parcel Information

PID:	20726477	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	1999-09-16 00:00:00
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	1.13	**Area Unit:**	Hectares
Date Last Updated:	2019-07-12 14:50:47	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2001-06-06 11:09:00
Date of Last CRO:	2019-07-09 16:03:20	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Ministère de l'Agriculture, des Pêches et de l'Aquaculture		Owner
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
	Excluded	887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Val-Doucet	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
16904154	2003-08-26			7800	Other Agreements
16904113	2003-08-26			3200	Change of Name or Amalgamation
16310303	2003-05-27			5100	Mortgage

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
16310212	2003-05-27			2810	Assignment of Lease
13121695	2001-10-29			7800	Other Agreements
12895695	2001-09-24			6600	Change of Terms
12814886	2001-09-11			6110	Discharge of Mortgage
12560075	2001-07-31			5110	Collateral Mortgage
12559846	2001-07-31			5110	Collateral Mortgage
12559796	2001-07-31			5100	Mortgage
12506292	2001-07-24			5100	Mortgage
12203270	2001-06-06	2335	388	3800	Land Titles First Notice
12203262	2001-06-06			3720	Land Titles First Order
12201662	2001-06-06			3900	Land Titles First Application
12041852	2001-05-04	2332	420	2100	Lease, Notice of Lease or Sub-Lease
10867365	2000-03-01	2256	636	6600	Change of Terms
290592	1997-06-19	2023	255	104	Mortgage
286629	1997-02-05	1990	278	114	Agreement
285068	1996-12-11	1977	49	104	Mortgage
283394	1996-10-17	1961	625	109	Assignment
283381	1996-10-17	1961	547	102	Lease
238123	1992-06-30	1586	30	103	Debenture, Voluntary Charge

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
38960275		2019-04-23	9040	Retracement & Plan or Return of Survey		Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20901336	Infant	

PAN Information

PAN:	5006132	**Status:**	Open
Assessed Owner(s):	BRAGG LUMBER COMPANY LIMITED *	**Mailing Address:**	1536 WYVERN RD P.O. BOX 60 COLLINGWOOD NS
Assessment Year:	2021	**Postal Code:**	B0M 1E0
Current Assessment:	$ 85,000	**Current Levy:**	$ 302.09
Location:	DUNN POND	**County:**	Gloucester
Property Description:	BLUEBERRY LAND	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P041J	**Sub Unit:**	2
Harmonization:	COMPLETED (PAN created by land lease or occupation)	**Farm Land Identifiation Program:**	Yes
PID:	20716130	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

No Records Returned

Parcel Information

PID:	20716130	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	1998-01-29 00:00:00
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	40.47	**Area Unit:**	Hectares
Date Last Updated:	2019-04-25 10:00:33	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2003-12-01 15:48:04
Date of Last CRO:	2019-04-23 13:24:21	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Couronne, Nouveau Brunswick, Agriculture, Pêches et Aquaculture		Owner
Bragg Lumber Company Limited		Lessee
Bragg Lumber Company Ltd.		Lessee

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
5006132		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
25000697	2007-12-20			2100	Lease, Notice of Lease or Sub-Lease
21519922	2005-12-23			7800	Other Agreements
20000668	2005-03-18			6110	Discharge of Mortgage

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
19892208	2005-02-23			6100	Discharge, Release or Satisfaction
18964487	2004-08-23			6600	Change of Terms
18895830	2004-08-11			5200	Debenture or Other Voluntary Charge
17772865	2004-01-16			2800	Other Assignment
17691818	2003-12-24			5110	Collateral Mortgage
17550220	2003-12-01			3800	Land Titles First Notice
17550212	2003-12-01			3720	Land Titles First Order
17549768	2003-12-01			3900	Land Titles First Application
17509994	2003-11-26			6700	Partial Discharge or Release
296425	1997-12-23	2075	352	104	Mortgage
296423	1997-12-23	2075	332	102	Lease
283200	1996-10-10	1960	104	113	Order

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
38960275		2019-04-23	9040	Retracement & Plan or Return of Survey		Provincial Grid
34189556		2014-09-19	9040	Retracement & Plan or Return of Survey		Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20457610	Parent	
20870796	Infant	Public Street Access Rc

PAN Information

PAN:	5006140	**Status:**	Open
Assessed Owner(s):	BRAGG LUMBER COMPANY LIMITED *	**Mailing Address:**	1536 WYVERN RD P.O. BOX 60 COLLINGWOOD NS
Assessment Year:	2021	**Postal Code:**	B0M 1E0
Current Assessment:	$ 73,900	**Current Levy:**	$ 307.42
Location:	DUNN POND	**County:**	Gloucester
Property Description:	BLUEBERRY / WOODED	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P041O	**Sub Unit:**	2
Harmonization:	COMPLETED (PAN created by land lease or occupation)	**Farm Land Identifiation Program:**	Yes
PID:	20716155	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

No Records Returned

Parcel Information

PID:	20716155	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	1998-01-29 00:00:00
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	39.1	**Area Unit:**	Hectares
Date Last Updated:	2019-04-25 09:59:55	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2003-12-01 15:43:26
Date of Last CRO:	2019-04-23 13:24:21	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Couronne, Nouveau Brunswick, Agriculture, Pêches et Aquaculture		Owner
Bragg Lumber Company Limited		Lessee
Bragg Lumber Company Ltd.		Lessee

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
5006140		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
25000713	2007-12-20			2100	Lease, Notice of Lease or Sub-Lease
21519922	2005-12-23			7800	Other Agreements
20000668	2005-03-18			6110	Discharge of Mortgage

Date/Time: 2021-06-22 09:12:49

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
19892208	2005-02-23			6100	Discharge, Release or Satisfaction
18964487	2004-08-23			6600	Change of Terms
18895830	2004-08-11			5200	Debenture or Other Voluntary Charge
17772683	2004-01-16			2800	Other Assignment
17691818	2003-12-24			5110	Collateral Mortgage
17550089	2003-12-01			3800	Land Titles First Notice
17550071	2003-12-01			3720	Land Titles First Order
17549594	2003-12-01			3900	Land Titles First Application
17509994	2003-11-26			6700	Partial Discharge or Release
303925	1998-09-21	2140	321	109	Assignment
296425	1997-12-23	2075	352	104	Mortgage
296424	1997-12-23	2075	342	102	Lease
283200	1996-10-10	1960	104	113	Order

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
38960275		2019-04-23	9040	Retracement & Plan or Return of Survey		Provincial Grid
34189556		2014-09-19	9040	Retracement & Plan or Return of Survey		Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20457610	Parent	
20870796	Infant	Public Street Access Rc

PAN Information

PAN:	6410863	**Status:**	Open
Assessed Owner(s):	OXFORD FROZEN FOODS LIMITED &T IDNISH HOLDINGS LIMITED *	**Mailing Address:**	4881 MAIN STREET P.O. BOX 220 OXFORD NS
Assessment Year:	2021	**Postal Code:**	B0M 1P0
Current Assessment:	$ 1,000	**Current Levy:**	$ 23.44
Location:	PARISH OF PAQUETVILLE	**County:**	Gloucester
Property Description:	Block 34	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	859	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de Notre-Dame-Des-Erables	**Neighbourhood Description:**	PAR.N.D.DES ERABLES LSD(FR.818-02 FOR 86
Sequence Number:	A116B	**Sub Unit:**	0
Harmonization:	COMPLETED (One to one match of parcels)	**Farm Land Identifiation Program:**	No
PID:	20865531	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2014-05-03

Parcel Information

PID:	20865531	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	2014-02-11 15:41:14
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	10.41	**Area Unit:**	Hectares
Date Last Updated:	2021-04-20 16:10:41	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2014-06-02 14:52:33
Date of Last CRO:	2021-04-20 16:50:03	**Manner of Tenure:**	Tenants in Common
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Oxford Frozen Foods Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner
Tidnish Holdings Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
6410863		859	L.S.D. of/D.S.L. de Notre-Dame-Des-Erables

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet
	Forest	Road		Val-Doucet

County Parish

County	Parish
Gloucester	Paquetville

Documents

Number	Registration Date	Book	Page	Code	Description
41183121	2021-04-19			2800	Other Assignment
35026229	2015-07-13			5110	Collateral Mortgage

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
33795148	2014-05-23			1700	Crown Grant

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
33542367		2014-02-11	9050	Subdivision & Amalgamations	Lot Block 34	Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20463709	Parent	

PAN Information

PAN:	6410871	**Status:**	Open
Assessed Owner(s):	OXFORD FROZEN FOODS LIMITED &T IDNISH HOLDINGS LIMITED *	**Mailing Address:**	4881 MAIN STREET P.O. BOX 220 OXFORD NS
Assessment Year:	2021	**Postal Code:**	B0M 1P0
Current Assessment:	$ 1,000	**Current Levy:**	$ 23.44
Location:	PARISH OF PAQUETVILLE	**County:**	Gloucester
Property Description:	Part of Block 35	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	859	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de Notre-Dame-Des-Erables	**Neighbourhood Description:**	PAR.N.D.DES ERABLES LSD(FR.818-02 FOR 86
Sequence Number:	A116C	**Sub Unit:**	0
Harmonization:	COMPLETED (PAN created due to administrative boundary or has different Tax Class from linked PAN)	**Farm Land Identifiation Program:**	No
PID:	20865549	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2014-05-23

PAN Information

PAN:	6410994	**Status:**	Open
Assessed Owner(s):	OXFORD FROZEN FOODS LIMITED &T IDNISH HOLDINGS LIMITED *	**Mailing Address:**	4881 MAIN STREET P.O. BOX 220 OXFORD NS
Assessment Year:	2021	**Postal Code:**	B0M 1P0
Current Assessment:	$ 1,200	**Current Levy:**	$ 24.17
Location:	TEAGUES LAKE	**County:**	Gloucester
Property Description:	Timberland	**Tax Class:**	Fully Taxable
Property Type Code:	701	**Property Type Name:**	Timberland
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P041Z	**Sub Unit:**	2
Harmonization:	COMPLETED (PAN created due to administrative boundary or has different Tax Class from linked PAN)	**Farm Land Identifiation Program:**	No
PID:	20865549	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2014-05-23

Parcel Information

PID:	20865549	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	2014-02-11 15:41:14
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	22.02	**Area Unit:**	Hectares
Date Last Updated:	2021-04-20 16:10:57	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2014-06-02 14:52:52
Date of Last CRO:	2021-04-20 16:50:03	**Manner of Tenure:**	Tenants in Common
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Oxford Frozen Foods Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner
Tidnish Holdings Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
6410871		859	L.S.D. of/D.S.L. de Notre-Dame-Des-Erables
6410994		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet
	Forest	Road		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon
Gloucester	Paquetville

Documents

Number	Registration Date	Book	Page	Code	Description

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
41183121	2021-04-19			2800	Other Assignment
35026229	2015-07-13			5110	Collateral Mortgage
33795148	2014-05-23			1700	Crown Grant

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
33542367		2014-02-11	9050	Subdivision & Amalgamations	Lot Block 35	Provincial Grid
33542367		2014-02-11	9050	Subdivision & Amalgamations	Lot Block 35	Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20463709	Parent	

PAN Information

PAN:	6410986	**Status:**	Open
Assessed Owner(s):	OXFORD FROZEN FOODS LIMITED &T IDNISH HOLDINGS LIMITED *	**Mailing Address:**	4881 MAIN STREET P.O. BOX 220 OXFORD NS
Assessment Year:	2021	**Postal Code:**	B0M 1P0
Current Assessment:	$ 14,300	**Current Levy:**	$ 288.01
Location:	VAL DOUCET NORD	**County:**	Gloucester
Property Description:	BLUEBERRY LAND	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P041A	**Sub Unit:**	2
Harmonization:	COMPLETED (One to one match of parcels)	**Farm Land Identifiation Program:**	No
PID:	20865556	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2014-05-23

Parcel Information

PID:	20865556	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	2014-02-11 15:41:14
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	42.67	**Area Unit:**	Hectares
Date Last Updated:	2021-04-20 16:11:14	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2014-06-02 14:53:20
Date of Last CRO:	2021-04-20 16:50:03	**Manner of Tenure:**	Tenants in Common
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Oxford Frozen Foods Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner
Tidnish Holdings Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
6410986		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet
	Forest	Road		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
41183121	2021-04-19			2800	Other Assignment
35026229	2015-07-13			5110	Collateral Mortgage

Date/Time: 2021-06-22 09:16:39

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
33795148	2014-05-23			1700	Crown Grant

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
33542367		2014-02-11	9050	Subdivision & Amalgamations	Lot Block 121	Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20463709	Parent	

PAN Information

PAN:	6410978	**Status:**	Open
Assessed Owner(s):	OXFORD FROZEN FOODS LIMITED &T IDNISH HOLDINGS LIMITED *	**Mailing Address:**	4881 MAIN STREET P.O. BOX 220 OXFORD NS
Assessment Year:	2021	**Postal Code:**	B0M 1P0
Current Assessment:	$ 6,600	**Current Levy:**	$ 132.93
Location:	TEAGUES LAKE	**County:**	Gloucester
Property Description:	Timberland	**Tax Class:**	Fully Taxable
Property Type Code:	701	**Property Type Name:**	Timberland
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P041E	**Sub Unit:**	2
Harmonization:	COMPLETED (One to one match of parcels)	**Farm Land Identifiation Program:**	No
PID:	20865879	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2014-05-23

Parcel Information

PID:	20865879	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	2014-02-19 12:00:21
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	66.48	**Area Unit:**	Hectares
Date Last Updated:	2021-04-20 16:19:38	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2014-06-02 16:20:37
Date of Last CRO:	2021-04-20 16:50:03	**Manner of Tenure:**	Tenants in Common
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Oxford Frozen Foods Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner
Tidnish Holdings Limited, in its capacity as a partner of Acadian Farms Development Partnership		Owner

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
6410978		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forest	Road		Val-Doucet
	Forestier	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
41183121	2021-04-19			2800	Other Assignment
35026229	2015-07-13			5110	Collateral Mortgage

Date/Time: 2021-06-22 09:15:56

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
33795148	2014-05-23			1700	Crown Grant

Plans

Number	Suffix	Registation Date	Code	Description	Lot Information	Orientation
33557035		2014-02-18	9050	Subdivision & Amalgamations	Lot Block 122	Provincial Grid

Parcel Relations

Related PID	Type Of Relation	Lot Information
20463667	Parent	

PAN Information

PAN:	5171945	**Status:**	Open
Assessed Owner(s):	PENINSULA FOODS LIMITED/ALIMEN TS PÉNINSULE LIMITÉE *	**Mailing Address:**	1536 WYVERN RD P.O. BOX 60 COLLINGWOOD NS
Assessment Year:	2021	**Postal Code:**	B0M 1E0
Current Assessment:	$ 334,100	**Current Levy:**	$ 1,607.14
Location:	PARISH OF PAQUETVILLE	**County:**	Gloucester
Property Description:	BLUE BERRIES & BUILDING	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	859	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de Notre-Dame-Des-Erables	**Neighbourhood Description:**	PAR.N.D.DES ERABLES LSD(FR.818-02 FOR 86
Sequence Number:	Z022	**Sub Unit:**	0
Harmonization:	COMPLETED (PAN created due to administrative boundary or has different Tax Class from linked PAN)	**Farm Land Identifiation Program:**	Yes
PID:	20901336	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2019-07-08

PAN Information

PAN:	6666951	**Status:**	Open
Assessed Owner(s):	PENINSULA FOODS LIMITED/ALIMENTS PÉNINSULE LIMITÉE *	**Mailing Address:**	1536 WYVERN RD P.O. BOX 60 COLLINGWOOD NS
Assessment Year:	2021	**Postal Code:**	B0M 1E0
Current Assessment:	$ 370,100	**Current Levy:**	$ 1,484.53
Location:	PARISH OF PAQUETVILLE	**County:**	Gloucester
Property Description:	FARMLAND & BLUEBERRIES	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P41G	**Sub Unit:**	2
Harmonization:	COMPLETED (PAN created due to administrative boundary or has different Tax Class from linked PAN)	**Farm Land Identifiation Program:**	Yes
PID:	20901336	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2019-07-08

Parcel Information

PID:	20901336	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	2019-07-09 14:30:34
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	486.76	**Area Unit:**	Hectares
Date Last Updated:	2019-07-17 09:30:22	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2019-07-08 11:18:04
Date of Last CRO:	2019-07-09 16:02:04	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Ministère de l'Agriculture, Pêches et de l'Aquaculture		Owner
Peninsula Foods Limited		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
5171945		859	L.S.D. of/D.S.L. de Notre-Dame-Des-Erables
6666951		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Val-Doucet	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon
Gloucester	Paquetville

Date/Time: 2021-06-16 12:17:32

Documents

Number	Registration Date	Book	Page	Code	Description
39189783	2019-07-08			2100	Lease, Notice of Lease or Sub-Lease
31346563	2012-04-13			2100	Lease, Notice of Lease or Sub-Lease
16904154	2003-08-26			7800	Other Agreements
16904113	2003-08-26			3200	Change of Name or Amalgamation
16310303	2003-05-27			5100	Mortgage
16310212	2003-05-27			2810	Assignment of Lease
12041852	2001-05-04	2332	420	2100	Lease, Notice of Lease or Sub-Lease
11687382	2001-01-19	2324	169	2100	Lease, Notice of Lease or Sub-Lease

Plans

No Records Returned

Parcel Relations

Related PID	Type Of Relation	Lot Information
20725149	Parent	
20726477	Parent	

PAN Information

PAN:	5006085	**Status:**	Open
Assessed Owner(s):	PENINSULA FOODS LIMITED/ALIMENTS PÉNINSULE LIMITÉE *	**Mailing Address:**	1536 WYVERN RD P.O. BOX 60 COLLINGWOOD NS
Assessment Year:	2021	**Postal Code:**	B0M 1E0
Current Assessment:	$ 97,500	**Current Levy:**	$ 691.54
Location:	VAL-DOUCET	**County:**	Gloucester
Property Description:	FARM LAND (BLUE BERRIES)	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P041H	**Sub Unit:**	2
Harmonization:	COMPLETED (PAN created by land lease or occupation)	**Farm Land Identifiation Program:**	Yes
PID:	20901369	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2019-07-08

Parcel Information

PID:	20901369	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	2019-07-10 09:03:28
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	46.4	**Area Unit:**	Hectares
Date Last Updated:	2019-07-12 14:46:14	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2019-07-08 11:19:57
Date of Last CRO:	2019-07-10 09:12:25	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Ministère de l'Agriculture, des Pêches et de l'Aquaculture		Owner
N.B.Agriculture		Owner
Peninsula Foods Limited		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee
Peninsula Foods Limited / Aliments Péninsule Limitée		Lessee

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
5006085		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
39189809	2019-07-08			2100	Lease, Notice of Lease or Sub-Lease

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
16904154	2003-08-26			7800	Other Agreements
16904113	2003-08-26			3200	Change of Name or Amalgamation
16310303	2003-05-27			5100	Mortgage
16310212	2003-05-27			2810	Assignment of Lease
12041787	2001-05-04	2332	409	2100	Lease, Notice of Lease or Sub-Lease

Plans

No Records Returned

Parcel Relations

Related PID	Type Of Relation	Lot Information
20400263	Parent	

PAN Information

PAN:	5006116	**Status:**	Open
Assessed Owner(s):	BRAGG LUMBER COMPANY LIMITED *	**Mailing Address:**	1536 WYVERN RD P.O. BOX 60 COLLINGWOOD NS
Assessment Year:	2021	**Postal Code:**	B0M 1E0
Current Assessment:	$ 75,100	**Current Levy:**	$ 275.20
Location:	VAL-DOUCET	**County:**	Gloucester
Property Description:	BLUEBERRY	**Tax Class:**	Fully Taxable
Property Type Code:	604	**Property Type Name:**	Blueberry Land
Taxing Authority Code:	887	**Neighbourhood Code:**	01
Taxing Authority Description:	L.S.D. of/D.S.L. de New Bandon-Salmon Beach	**Neighbourhood Description:**	NEW BANDON-SALMON BEACH
Sequence Number:	P041I	**Sub Unit:**	2
Harmonization:	COMPLETED (PAN created by land lease or occupation)	**Farm Land Identifiation Program:**	Yes
PID:	20901377	**PID (2nd):**	-
More PID(s):	No		

Sale Price Information

Price: $1 **Date:** 2019-07-08

Parcel Information

PID:	20901377	**County:**	Gloucester
Status:	Active	**Active Date/Time:**	2019-07-10 09:20:29
Land Related Description:	Land	**Management Unit:**	NB0418
Area:	38.15	**Area Unit:**	Hectares
Date Last Updated:	2019-07-12 15:29:47	**Harmonization Status:**	Harmonized
Land Titles Status:	Land Titles	**Land Titles Date/Time:**	2019-07-08 11:21:13
Date of Last CRO:	2019-07-10 09:32:15	**Manner of Tenure:**	Not Applicable
Land Gazette Information:	NO		
Description of Tenure:			
Public Comments:			

Parcel Interest Holders

Owner	Qualifier	Interest Type
Agriculture and Rural Development		Owner
Bragg Lumber Company Limited		Lessee

Assessment Reference

PAN	PAN Type	Taxing Authority Code	Taxing Authority
5006116		887	L.S.D. of/D.S.L. de New Bandon-Salmon Beach

Parcel Locations

Civic Number	Street Name	Street Type	Street Direction	Place Name
	Forestier	Chemin		Val-Doucet

County Parish

County	Parish
Gloucester	New Bandon

Documents

Number	Registration Date	Book	Page	Code	Description
39189817	2019-07-08			2100	Lease, Notice of Lease or Sub-Lease
21519922	2005-12-23			7800	Other Agreements
17691818	2003-12-24			5110	Collateral Mortgage
17160764	2003-10-01			7300	Agreement Re: Use of Land

Documents (cont.)

Number	Registration Date	Book	Page	Code	Description
17160616	2003-10-01			2810	Assignment of Lease
283200	1996-10-10	1960	104	113	Order

Plans

No Records Returned

Parcel Relations

Related PID	Type Of Relation	Lot Information
20716015	Parent	

APPENDIX D

Maps

GeoNB Map Viewer

7/20/2021, 10:18:19 AM

1:64,000

0 0.5 1 2 mi

0 0.75 1.5 3 km

Override 1

2

Water Bodies

Water Courses

Named Features - lines

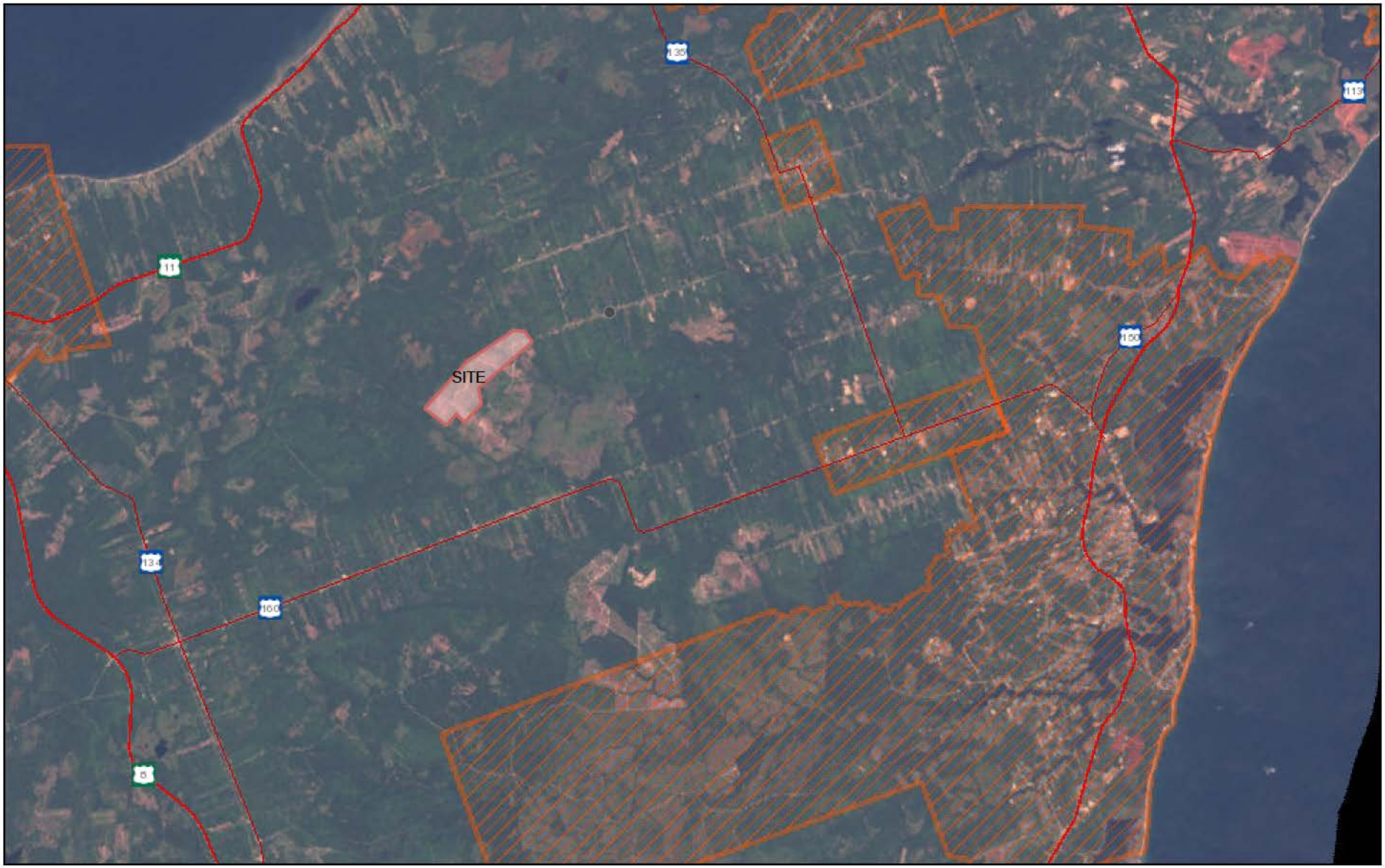
Named Features - points

Medium Scale / Moyenne échelle

Department of Environment & Local Government/Ministère de

GeoNB

Flood Information



7/19/2021, 2:46:31 PM

Override 1

NBRN medium scale

Arterial

Collector

Expressway/highway

Freeway

Ramp

NBRN Ferry Routes

Medium Scale / Moyenne échelle

1:250,000

0 2 4 8 mi

0 3.25 6.5 13 km

Government of New Brunswick / Gouvernement du Nouveau-Brunswick, GeoNB

This map is a graphical representation which approximates the size, configuration and location of features. This map is not intended to be used for legal descriptions or to calculate exact dimensions or area.

Protected Wellfields

7/16/2021, 3:13:16 PM

Override 1

Property Assessment

Protected Wellfields

Preliminary - Wellfield area not defined

Zone A - Preliminary

Zone B - Preliminary

Zone C - Preliminary

Zone A - Designated

1:64,000

0 0.5 1 2 mi

0 0.75 1.5 3 km

Department of Environment & Local Government/Ministère de

GeoNB

Protected Watersheds

7/16/2021, 3:15:52 PM

Override 1

2

Zone C

Medium Scale / Moyenne échelle

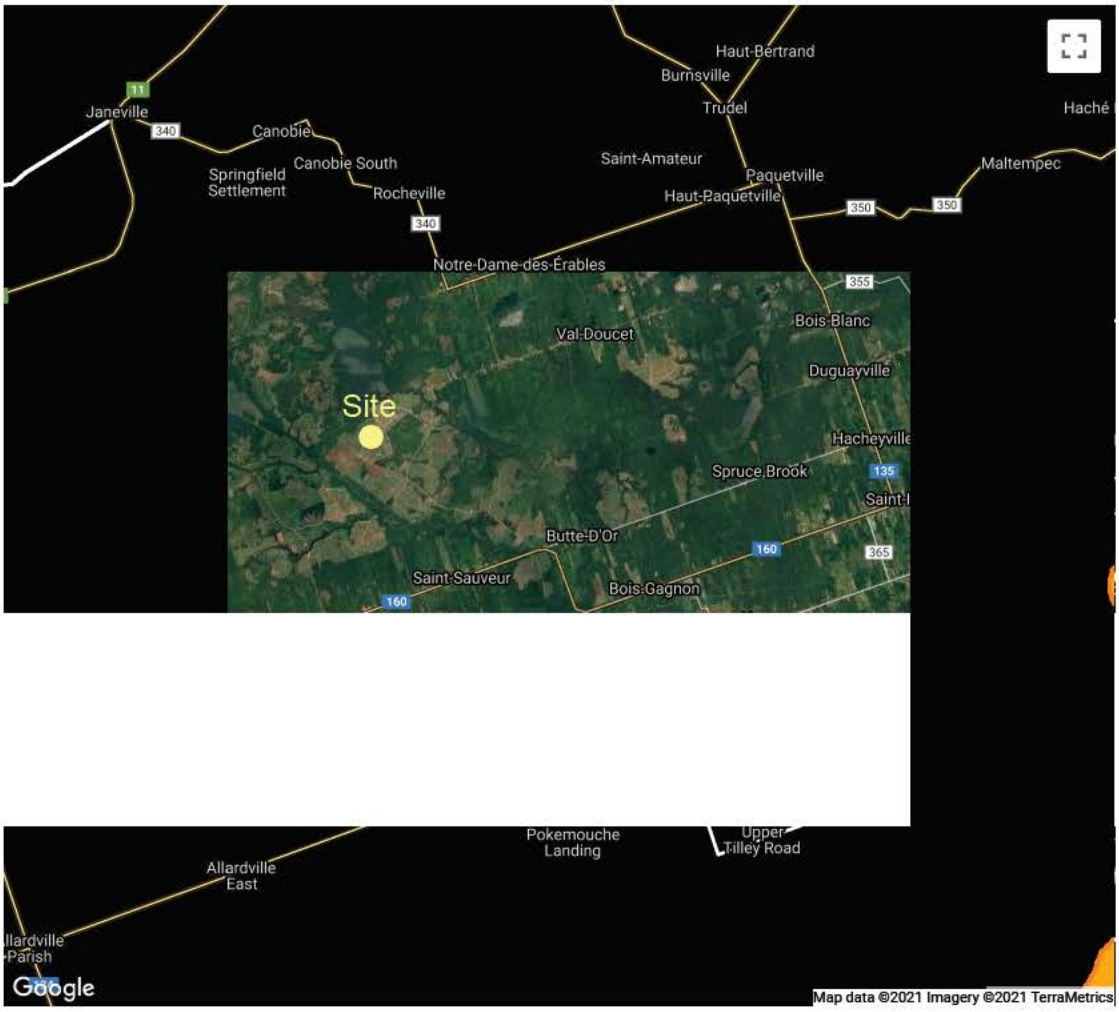
1:125,000

0 1 2 4 mi

0 1.75 3.5 7 km

Department of Environment & Local Government/Ministère de

GeoNB



Disclaimer: IBA boundaries are generalized approximations reflecting dynamic popula ions of birds and their habitats. Boundaries are frequen ly reviewed and may change at any time. These data have been released for public interest and to encourage effective conserva ion.

The IBA Program is an international conservation initiative coordinated by BirdLife International. The Canadian co-partners for the IBA Program are Birds Canada and Nature Canada.

Ramsar Sites Information Service

2,424 Sites covering 254,601,601 ha

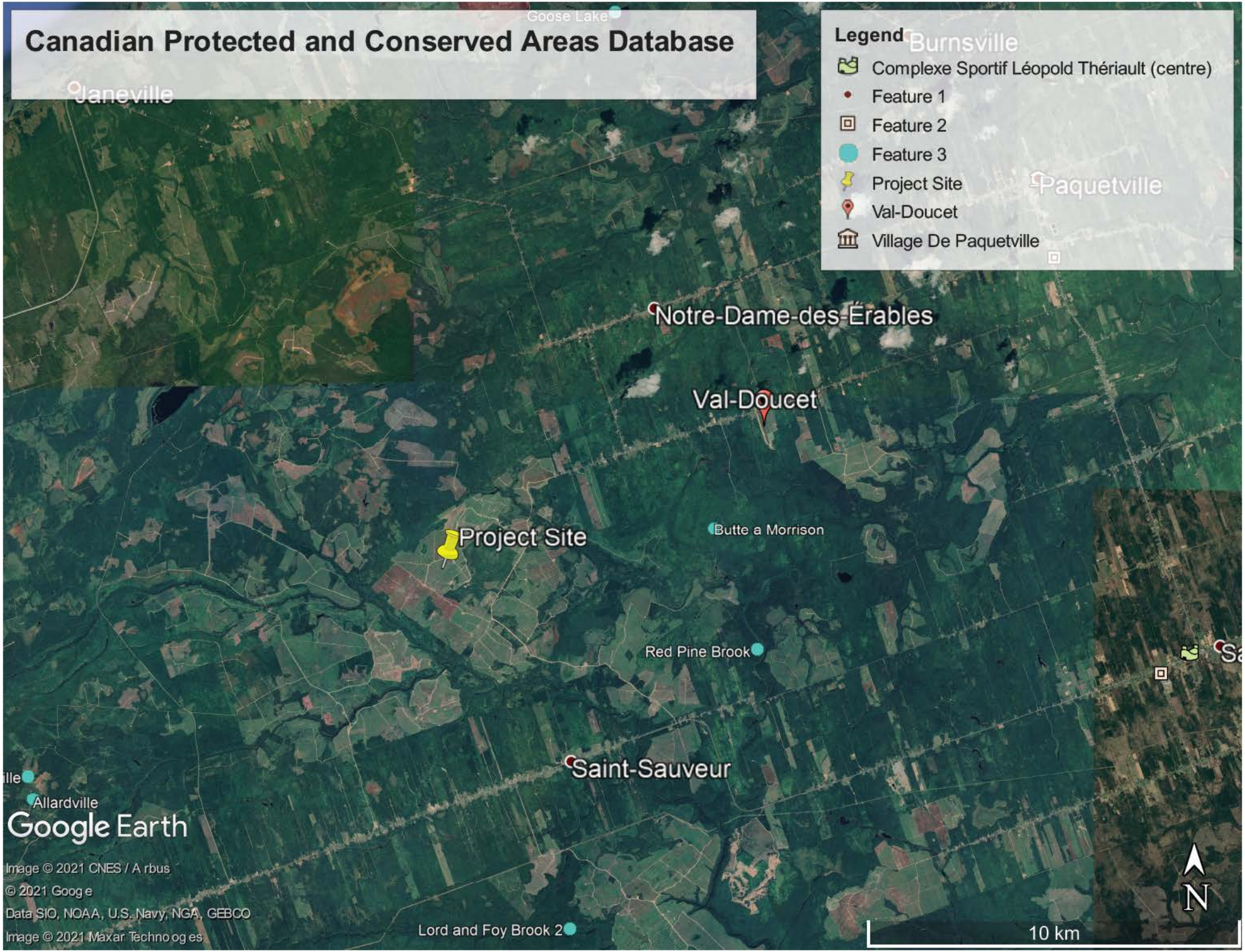
EN FR ES

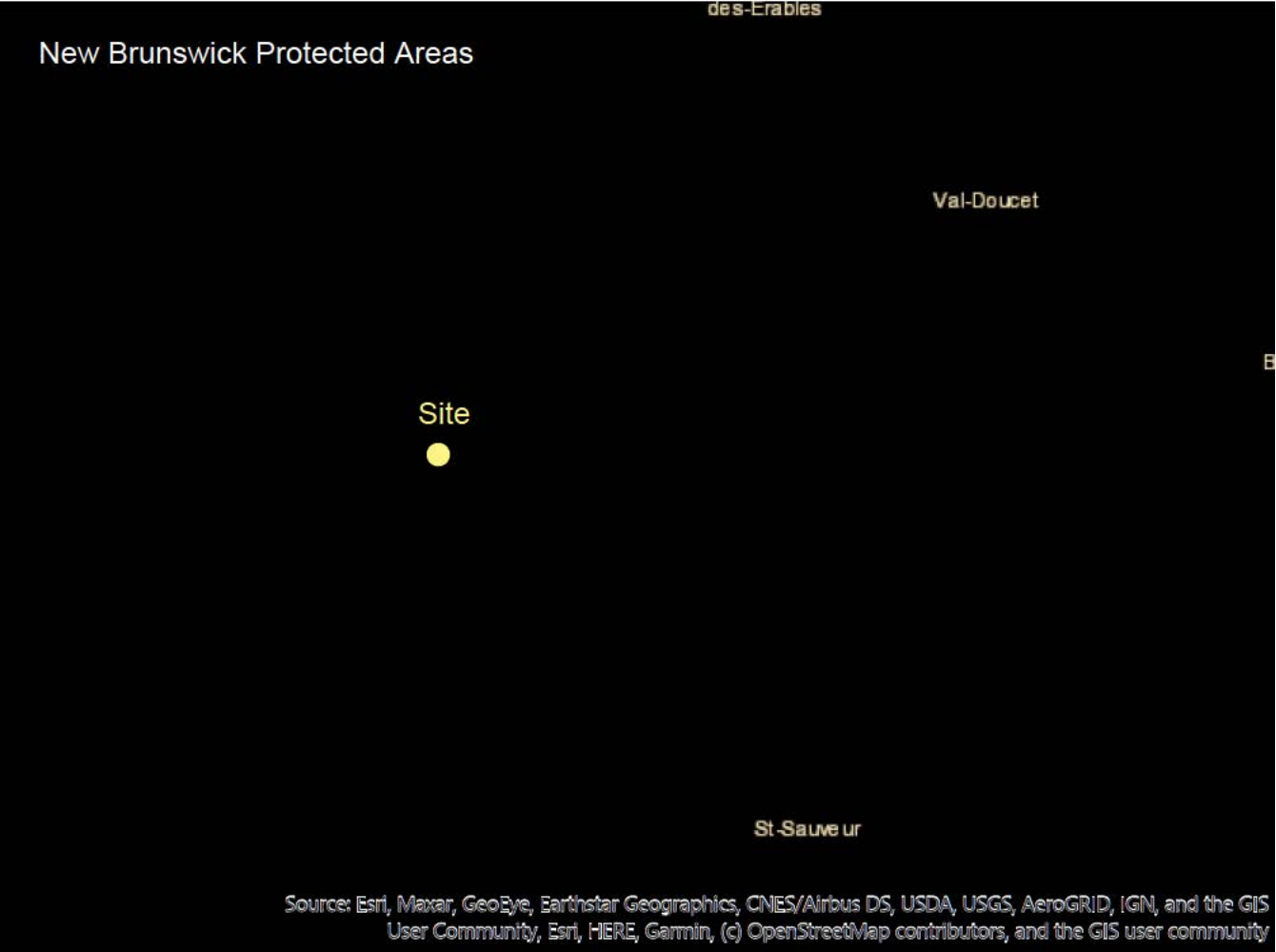
Search found **37 Ramsar Sites** covering **13,086,767 ha** | Region/country: Canada Reset (/ris-search?pagetab=0)

Map List Stats Exports

Choose map: Natural Earth | Val-Doucet | Download Centroids (https://rsis.ramsar.org/geoserver/wfs?request=GetFeature&service=wfs&version=1.0.0&typename=ramsar_sdi:features_centroid_published&outputformat=SHAPE-ZIP) / Boundaries (https://rsis.ramsar.org/geoserver/wfs?request=GetFeature&service=wfs&version=1.0.0&typename=ramsar_sdi:features_published&outputformat=SHAPE-ZIP) / Map (pdf)

RSS 2.0


Canadian Protected and Conserved Areas Database
Legend
Complexe Sportif Léopold Thériault (centre)
Feature 1
Feature 2
Feature 3
Project Site
Val-Doucet
Village De Paquetville
Goose Lake
Janeville
Burnsville
Paquetville
Notre-Dame-des-Érables
Val-Doucet
Project Site
Butte a Morrison
Red Pine Brook
Saint-Sauveur
Allardville
Google Earth
Image © 2021 CNES / A rbus
© 2021 Goog e
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2021 Maxar Techno og es
Lord and Foy Brook 2
N
10 km


des-Erables
New Brunswick Protected Areas
Val-Doucet
Site
St-Sauveur
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

APPENDIX E

WSSA Initial Application

GEMTEC Consulting Engineers and Scientists Limited
191 Doak Road
Fredericton, NB, Canada
E3C 2E6
tel: 506.453.1025
fax: 506.453.9470
fredericton@gemtec.ca
www.gemtec.ca

July 29, 2021

File: 100725.001 – LTR02
DELG File 1566

New Brunswick Department of Environment and Local Government
Environmental Impact Assessment Branch
Marysville Place, PO Box 6000
Fredericton, NB
E3B 5H1

Attention: Pierre Doucet, Project Manager

Re: Water Supply Source Assessment Initial Application
Development of a Supplementary Irrigation System, Val-Doucet, New Brunswick

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Bragg Lumber Company Limited to prepare a New Brunswick Environmental Impact Assessment (EIA) registration document and to manage the associated EIA process for the following project:

- Development of a Supplementary Irrigation System for Existing Wild Blueberry Crops, Val-Doucet, New Brunswick (the "Project").

This document serves as the Water Source Supply Assessment (WSSA) Initial Application as required by the "Environmental Impact Assessment Regulation (87-83)" of the New Brunswick *Clean Environment Act*. A provincial EIA and WSSA Initial Application is required for the Project due to the presence of the following triggering condition as outlined in Schedule A of the Regulation:

- Condition (s) all waterworks with a capacity greater than fifty cubic metres of water daily.

1.0 NAME OF PROPONENT

Proponent: Bragg Lumber Company Limited
1536 Wyvern Road
Collingwood Corner, NS
B0M 1E0

Contact Person: Bill Malay, Director of Planning and Development
Phone: 207-546-1747
Email: bmalay@cherryfieldfoods.com

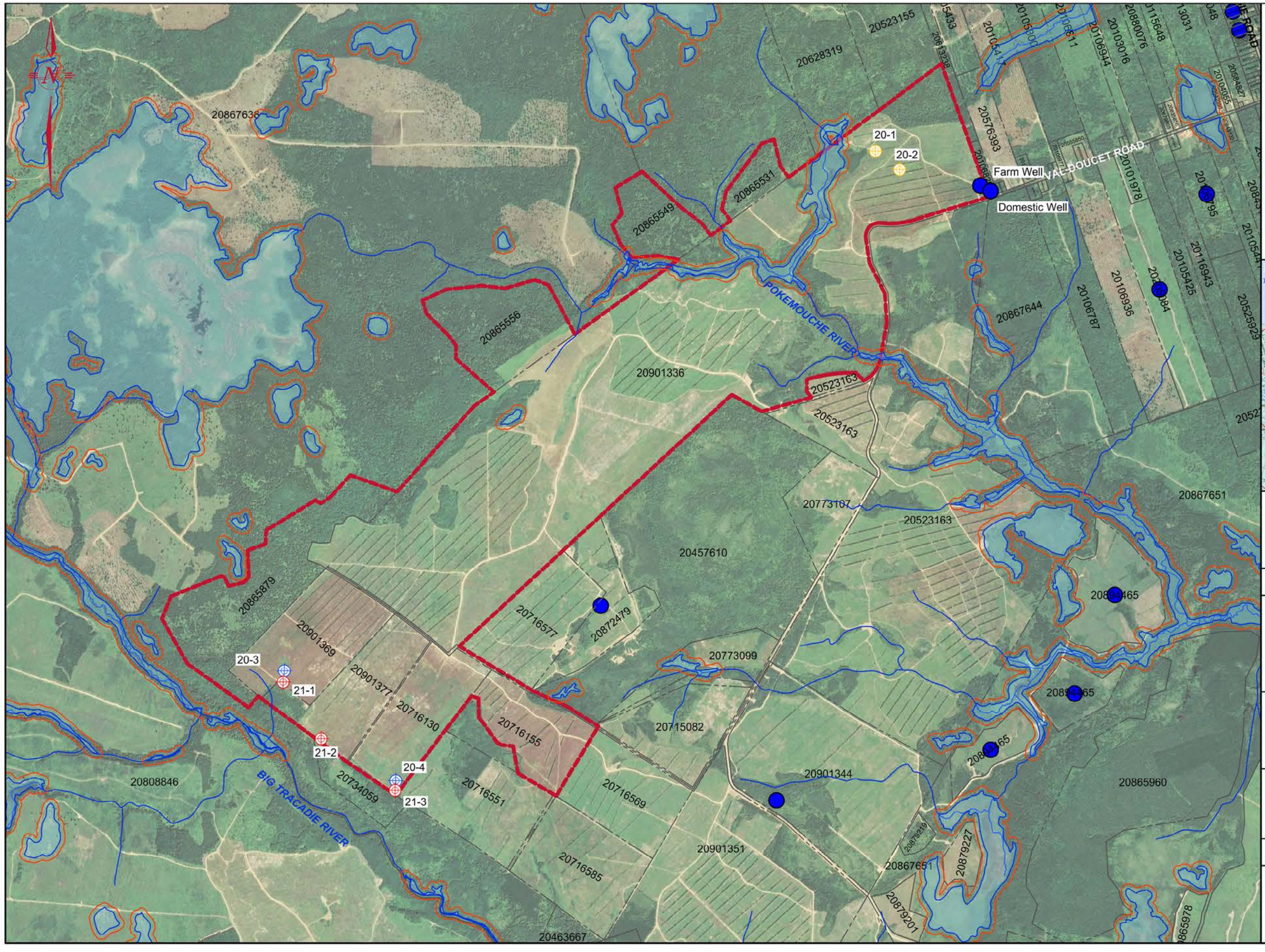
2.0 LOCATION OF GROUNDWATER WELLS

In the fall of 2020, the Proponent inadvertently initiated the Project without having obtained the required authorizations from the New Brunswick Department of Environment and Local Government (NBDELG). Specifically, four wells were drilled towards the development of a water supply for supplementary irrigation purposes in support of their blueberry growing operation located in Val-Doucet, New Brunswick. One other known well, drilled in 2007, is also located on the Project site, which currently services the equipment storage building located in the northeastern corner of the Site. The locations of all on-site wells are given in Table 1, and are shown on Figure E1.

Table 1 Names and Locations of on-site Groundwater Wells

Well ID	Former Name	Well Tag	PID[1]	Coordinates (NBSD[2])	Coordinates (GPS[3])
Farm Well [a]	-	0034442	20901336	7622890.613 N, 2591865.770 E	47.59902638 N, 65.27838611 W
20-1 [b]	Val Doucet 1-3	-	20901336	7623059.868 N, 2591371.681 E	47.60061759 N, 65.28492019 W
20-2 [b]	Val Doucet 1-2	-	20901336	7622917.650 N, 2591484.302 E	47.59932294 N, 65.28345221 W
20-3 [b]	Val Doucet 3-2	0062484	20901369	7619675.302 N, 2587560.068 E	47.57070191 N, 65.33626755 W
20-4 [b]	Val Doucet 3-1	0062481	20716130	7618949.113 N, 2588276.042 E	47.56407531 N, 65.32689809 W

Notes:
[1] Property Identifier
[2] New Brunswick Stereographic Double Projection, NAD83 CSRS
[3] Geographic Projection, NAD83 CSRS
[a] Coordinates are approximate
[b] Coordinates obtained on July 12, 2021 by GEMTEC using a Leica high-precision global positioning system (GPS)



Note

1. This drawing is a schematic representation. Sizes, locations and dimensions are approximate.
2. Coordinate system: New Brunswick; Stereographic projection, NAD83 (CSRS) Datum.
3. Aerial photograph from 2019. Source Google Earth.

Date	Drawn By	Checked By
July 2021	CHG	AB

Project

ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB

Drawing

SITE PLAN FOR WATER SUPPLY SOURCE ASSESSMENT INITIAL APPLICATION

Scale

1:25000

0 0.5 1.0 1.5km

Project No.	Drawing	Revision No.
100725.001	FIGURE E1	0

GEMTEC
Consulting Engineers and Scientists

N:\Projects\100700\100725.001\06_Drafting\100725.001_DWG\02_Rev0_SITE_2021-07-09.dwg

Phase 1 of the Project will involve the development of wells 20-3 and 20-4, to supply a center pivot irrigation system to provide supplemental irrigation for existing wild blueberry fields. The proposed system includes two center pivots and one irrigation span. The irrigation span is capable of watering approximately 140 acres (57 hectares). The irrigation span will be moved between each pivot such that a total of 280 acres (114 ha) can be watered per week. The irrigation system will only operate as necessary when natural rainfall is insufficient to meet the required watering demand for optimal plant growth. Depending on the success of Phase 1, Phase 2 will see the addition of center pivots in the northeast portion of the Site to be serviced by supply wells 20-1 and 20-2 and possible interconnection of the water supply piping. Future phases will include additional center pivots and groundwater supply wells.

The current WSSA will only assess supply wells 20-3 and 20-4. Construction details for these wells are presented in Table 2. The Water Well Driller's Reports are attached to this application.

Table 2 Summary of Construction Details for Wells to be Assessed

Well ID	Well Depth	Depth to Bedrock	Casing Information	Water Bearing Zone	Driller's Estimated Safe Yield
20-3	Originally drilled: 15 cm *(6")* to 204.2 m *(670')* Reamed out to: 25 cm *(10")* to 56.4 m *(185')*	12.5 m *(41')*	25 cm dia. steel to 13.1 m *10" dia. steel to 43'*	Four fractures in grey sandstone between 13.9 and 27.1 m (*45.5' to 89'*)	2273 L/min *(500 igpm)*
20-4	Originally drilled: 15 cm *(6")* to 181.7 m *(596')* Reamed out to: 25 cm *(10")* to 88.4 m *(290')*	0.91 m *(3')*	25 cm dia. steel to 12.2 m *10" dia. steel to 40'*	Five fractures in grey sandstone between 17.1 and 29.0 m (*56' and 95'*)	2273 L/min *(500 igpm)*
Notes: Both wells are equipped with drive shoes, and were not grouted.					

3.0 REQUIRED WATER QUANTITY

The Proponent's experience dictates that for maximum blueberry yield, the plants require approximately one inch (0.0254 m) of water each week. Specifications for the proposed center pivot system indicate a coverage area of approximately 280 acres (1,133, 120 square metres (m^2) per week. In very dry years, the system may be required to run for several consecutive weeks (apart from the time required for maintenance and relocation of the system components). Therefore, assuming that the system is actually operational approximately 80% of the time, and it will be required to provide 100% of the blueberries' weekly water, the estimated water requirement is approximately 3570 litres per minute (L/min), or 5141 m^3/day. This is equivalent to 785 Imperial (British) gallons per minute (igpm), or 943 United States gallons per minute (US gpm). It should be noted that this quantity of water is not required year-round; supplemental irrigation will only be required during a portion of the blueberry growing season (June to August).

4.0 ALTERNATE WATER SUPPLY SOURCES IN AREA

Alternate potential water sources in the area include: the Pokemouche River, which transects the northeastern portion of the Project site; the Big Tracadie River, located approximately 190 m to the southwest of the Site; and several other nearby surface water features. However, the amount of underground pipe installation (and therefore ground disturbance) is minimized with a water supply as close as possible to the center pivot locations. Furthermore, accessing groundwater rather than surface water is likely preferable in a hypothetical drought scenario, as surface water levels would likely already be low and there are several wetlands in the area. Although groundwater extraction may have a measurable impact on water levels in nearby surface water bodies and wetlands, the impact can be expected to be more subdued (and somewhat delayed) compared to the impact of extracting directly from the surface water body.

5.0 PROJECT HYDROLOGY AND HYDROGEOLOGY

A detailed map of the Project site is presented in Figure E1. The northeastern portion of the Project site is transected by the Pokemouche River, and associated Provincially Regulated Wetlands (non-Provincially Significant), which flows in a southeasterly direction. In addition to the main river channel, GeoNB shows four tributaries of the Pokemouche River on the Project site. Several more downstream tributaries are present to the southeast of the Project site.

A tributary of the Big Tracadie River is situated approximately 130 m to the southwest of well 20-3, on the Project site, which flows in a southerly direction. The Big Tracadie River itself flows in a southeasterly direction past the southwestern end of the Project site. A (non-Provincially Significant) wetland is present at the mouth of the aforementioned tributary, off-site; additional wetlands associated with the Big Tracadie River are present upstream of the Project Site (within approximately 300 m), and downstream (within approximately 850 m).

The surface elevation of the Project Site varies from approximately 65 m (where the Pokemouche River flows off of the Project site) to 90 m (in the southwestern portion of the Project site). The direction of shallow groundwater flow is expected to be influenced by the local topography, which generally slopes to the southeast (Government of Canada, N.D.). It is anticipated that precipitation will infiltrate pervious surfaces, or flow overland as runoff, to the south towards the Big Tracadie River (for the southwestern portion of the Project site), or to the north and east towards the Pokemouche River (for the remainder of the Project site). Based on regional topographical mapping, intermediate to deep groundwater is expected to flow in a northwesterly direction towards Chaleur Bay.

According to surficial geology mapping, the majority of the Project site is covered with a layer of Wisconsinan-aged glaciofluvial sediments. These ice-contact deposits (*i.e.* eskers, kames, and kame and kettle complexes) are generally more than 2 m thick and consist of sand, gravel, and minor silt (Rampton, 1984). To the northeast and southeast, the area is covered with a blanket (generally 0.5 to 3 m thick) of Wisconsinan-aged morainal sediments deposited directly by

Wisconsinan ice or with minor reworking by water, which consists of loamy lodgment till, minor ablation till, silt, sand, gravel, and rubble. It should be noted that the well driller's lithological log for well 20-4 reported sandstone at ground surface.

Bedrock geology mapping indicates that the area is underlain with Late Carboniferous-aged terrestrial sedimentary rocks of the Pictou Group (DNR, 2008). The New Brunswick Bedrock Lexicon states that the Pictou Group "…comprises coarse- to fine-grained, dark red, reddish brown and grey, commonly micaceous sandstones, red siltstones and mudstones, and minor grey argillaceous shales. Limestone pebble conglomerate and grey and minor red mud-chip conglomerates are distinctive constituents, as are rare lacustrine limestone beds".

Wells 20-3 and 20-4 were originally drilled to depths of 204.2 m *(670')* and 181.7 m *(596')*, respectively, and the stratigraphy was unofficially logged in spreadsheet format by the driller for the entire depth of the wells. A copy of these unofficial stratigraphical logs is attached to this application. Fine to coarse sandstone bedrock was present to depths of over 30 metres below ground surface (mbgs) in both wells; at greater depths, the sandstone was interbedded with shale and limestone. In Wells 20-1 and 20-2 and the Farm Well, which were all drilled in sandstone on the northeastern portion of the Project site to depths of 153.3 m *(503')*, 204.2 m *(670')*, and 54.3 m *(178')*, respectively, thicker beds of clay or shale were present at depths as shallow as 3.0 m *(10')*. The Water Well Driller's Record for the Farm Well is also attached to this application.

A search of the New Brunswick Online Well Log System (OWLS) was conducted on June 16, 2021 for a radius of 4850 m around a central point on the Project site (47.584044, -65.308903); this radius was selected as it was the smallest radius that generated both well construction information and water quality analytical results. Copies of the OWLS logs are included as Appendix F of the EIA Registration Document for this Project, of which this WSSA Initial Application constitutes Appendix E. Eighteen (18) results were returned for this radius; however, three of these results appeared to be a set of triplicate records. Therefore, there are considered to be 16 results within 4850 m of the Project site. Only seven of these were within 3000 m; the area consists of agricultural land that is sparsely populated.

The well drillers' stratigraphical logs for these 16 wells indicate that the bedrock consists mainly of fine- to coarse-grained sandstone with some shale, and occasional seams of sand, clay, or limestone. Bedrock was encountered at depths ranging from 0 to 22 m, with an average of 7.4 m. Initial water levels recorded by the well drillers ranged from 4.6 to 42.7 mbgs, with an average of 16.1 mbgs. (It should be noted that one zero-value initial water level entry was omitted in the calculation of these statistics; it was assumed that the zero indicated a blank entry as the well was not labelled as a flowing well.)

In the 16 OWLS records, the total well depths ranged from 13.4 to 79.3 m, with an average depth of 39.0 m. The casing diameters were 15 cm in diameter with two exceptions: 10 cm and 20 cm. The estimated safe yields ranged from 9 to 500 L/min, with an average of 162 L/min. The majority

of these wells were for domestic drinking water. It should be noted that the two of the on-site wells (20-3 and 20-4) have larger casing diameters (25 cm) and were deeper than the average OWLS well; therefore, they have substantially higher estimated safe yields than other nearby wells.

6.0 PROPOSED HYDROGEOLICAL TESTING AND WORK SCHEDULE

The WSSA will include step tests and 72-hour constant-rate pumping tests. Phase 1 of the Project will involves pumping supply wells 20-3 and 20-4 to irrigate one 140-acre circle, moving the equipment, and then irrigating a second 140-acre circle. While a dual pumping test would most accurately represent real-world operational conditions, the management of the discharge water (in the order of 18 million litres for a 72-hour test) presents a significant logistical challenge. Therefore, it is proposed that supply wells 20-3 and 20-4 be subjected to separate 72-hour constant-rate pumping tests.

Three proposed observation well locations are shown on Figure E1, including a well in close proximity to each of the two wells to be assessed (21-1 and 21-3), and one well (21-2) situated at a central point between 20-3 and 20-4 to determine whether the cones of influence for the two wells are likely to overlap during normal operation of the wells. Observation wells 21-1 and 21-3 have both been positioned on the downgradient side of the pumping wells, which is expected to produce slightly more conservative results and more directly measure the impact in the direction of the nearby Big Tracadie River.

Pending permission from landowners (as required), GEMTEC proposes that the discharge water be released into the forested area to the south of wells 20-3 and 20-4, towards the Big Tracadie River. To protect both test integrity and the environment, the following approach is proposed:

- Piping the discharge water past the observation wells and past local topographical highs (identified using LiDAR data available from GeoNB) to downgradient locations approximately 200 m to the southwest of the wells; and
- De-energizing/diffusing the discharge water to minimize soil erosion, promote infiltration, and minimize direct runoff to the Big Tracadie River.

The Proponent wishes to complete the field work for the WSSA in Summer 2021. Pending various landowner permission letters, drilling of observation wells is expected to be completed by Modern Well Drilling Ltd. approximately 1 week after NBDELG has granted approval to proceed. Concurrently, the Proponent will be finalizing a plan for discharge water de-energization/diffusion and sourcing the required materials. The discharge water infrastructure is expected to be in place 4-6 weeks after approval. Next, a step-drawdown test will be undertaken, followed by a 72-hour constant-rate pumping test. The second step-drawdown test and 72-hour constant-rate pumping test will be undertaken as soon as conditions permit (likely a minimum of 2 days later). Once the discharge infrastructure is in place, the exact scheduling of the aquifer tests (*i.e.* step-drawdown

and pumping tests) is still dependent on weather conditions, laboratory-dictated sample drop-off windows and hold times, and the rate of aquifer recovery after each individual test.

Aquifer testing will be carried out by Modern Well Drilling Ltd., and will be observed and monitored by GEMTEC personnel. During aquifer testing, water levels will be monitored in the pumped well, and the two closest observation wells (at minimum) to determine aquifer characteristics. Water samples will be collected from the pumped wells after 24 hours, 48 hours, and 72 hours of constant-rate pumping for general chemistry, trace metals, and microbiology (total coliforms and *E. coli)*, and then submitted to an accredited laboratory for analysis.

7.0 EXISTING POLLUTION/CONTAMINATION HAZARDS

The Project Site is currently utilized as commercially managed wild blueberry fields (Figure E1). The fields are accessed by Crown roads extending from chemin Val-Doucet. The closest residential properties are located to the northeast of the Site, along chemin Val-Doucet. Historically, the Project Site and adjoining properties were Crown-owned agricultural or wooded land with residential farms located along chemin Val-Doucet.

A review of Service New Brunswick (SNB) Land Gazette information for the properties within 500 metres of the Project site indicates that no existing pollution or contamination hazards have been identified. No federal contaminated sites are present in the vicinity (*i.e.* within 5 km) of the Project site (Treasury Board of Canada, N.D.).

8.0 GROUNDWATER USE PROBLEMS

Water quality analytical results for selected OWLS records within 4850 m of the Project site were available; general chemistry and metals results were available for six wells, and microbiological analyses were available for six wells. GEMTEC is not aware of any documented groundwater quality problems in the area of the Site. Given the proposed plan for discharging water near watercourses during the pumping tests and the planned future use of the water, analytical results were compared to:

- Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines for the Protection of Aquatic Life (Freshwater environment);
- CCME Water Quality Guidelines for Agriculture (Irrigation);
- Health Canada's 2020 Guidelines for Canadian Drinking Water Quality (GCDWQ).

The comparison to each set of guidelines are discussed separately in the following sections. The compiled analytical data is presented in Table G1 (included as Appendix G of the EIA Registration Document for this Project, of which this WSSA Initial Application constitutes Appendix E).

8.1 Aquatic Life

It should be noted that although the concern for aquatic life is related to the short-term pumping test (as opposed to long-term operations), short-term guideline criteria do not exist for several parameters due to lack of data. Therefore, the long-term exposure values were referenced.

The following exceedances of the CCME Aquatic Life guidelines were noted:

- Aluminum in one well;
- Copper in three wells;
- Fluoride in three wells; and
- Lead in two wells.

Short-term exposure criteria do not exist for any of these four parameters. The temperature and volume of water to be discharged near watercourses is also of concern, and is not captured by analysis of the OWLS sample results.

In an effort to protect aquatic life, the discharge water will be released as far up in the forested area above the Big Tracadie River as practically possible, while respecting the requirement to release downgradient from the wells. The discharge points are expected to be at least 75 m from the Big Tracadie River, and the discharge water will be de-energized/diffused to maximize infiltration. Infiltrated water will travel more slowly towards the river, and will provide more time for the water temperature to increase to surficial temperatures. Discharging at two different times (*i.e.* performing two separate pumping tests instead of one dual-well test), and discharging at two different locations will reduce the risk of direct runoff reaching the river and any resulting adverse effects thereof.

8.2 Agriculture

No exceedances of the CCME Agriculture guidelines were noted. It should be noted that it was not possible to determine whether total coliforms (detected in three wells) were at acceptable levels (<1000 per 100 mL), as the analytical results only reported presence/absence. Based on the available information, the quality of groundwater on the Project site would likely be suitable for irrigation use.

8.3 Drinking Water

The following exceedances of the Guidelines for Canadian Drinking Water Quality (GCDWQ; Health Canada, 2020) were noted:

- Aluminum (one well exceeds the Operational Guideline (OG);
- Manganese (five wells exceed the Aesthetic Objective (AO); one well also exceeds the health-based Maximum Allowable Concentration (MAC);
- Coliforms (three wells had detections, exceeding the MAC);

- Turbidity (three wells exceed the 1.0 NTU recommended for untreated groundwater for consumption).

It should be noted that the OG for aluminum relates to the removal of aluminum from drinking water after aluminum-based coagulants are used as part of a treatment process; it does not apply to aluminum found naturally in groundwater (Health Canada, 2020).

A new health-based Maximum Allowable Concentration (MAC) was derived for manganese in 2019; prior to 2019, elevated manganese levels were considered to be an aesthetic concern only, as they cause water discoloration and staining of laundry. The MAC is based on effects on neurological development and behavior (Health Canada, 2020). It should be noted that the Government of New Brunswick's Drinking Water Guidelines (Government of New Brunswick, N.D.) have not yet been updated to include the new health-based guideline.

Turbidity is frequently elevated in newly drilled or deepened wells, as it is related to suspended sediment. Turbidity often decreases over time with well use.

8.4 Conclusions

Based on the limited analytical data available for within 4850 metres of the Project site from the OWLS, the groundwater quality in Project site is expected to be suitable for irrigation purposes. Well water may require treatment before use as potable water. Although there are potential concerns regarding the protection of aquatic life from runoff during the pumping tests, considerable efforts will be made to maximize infiltration and prevent direct runoff from reaching the river (Section 5.0 of the Registration Document).

9.0 WATERCOURSES/WETLANDS

The northeastern portion of the Project site is transected by the Pokemouche River, which flows in a southeasterly direction. The Big Tracadie River also flows in a southeasterly direction past the southwestern end of the Project site. Tributaries of both rivers are present on the Project site. None of the various wetlands present on or near the Project site are identified as Provincially Significant on GeoNB. Hydrological features of the Project area are presented on Figure E1; none are within 60 m of wells 20-3 or 20-4.

10.0 PROJECT PERSONNEL

Table 3 outlines the key personnel involved in the EIA and source development.

Table 3 Key Personnel

Role	Company	Contact Information
Principal Contact Person for EIA	GEMTEC Consulting Engineers and Scientists Ltd.	Paul Vanderlaan, P.Eng. *Environmental Regulatory Specialist* paul.vanderlaan@gemtec.ca (506) 453-1025
Hydrogeologist	GEMTEC Consulting Engineers and Scientists Ltd.	Christine Chase, M.Eng., P.Eng. *Environmental Engineer* christine.chase@gemtec.ca (506) 261-2255
Primary Author of EIA Registration Document	GEMTEC Consulting Engineers and Scientists Ltd.	April Barnet, PTech, EP *Project Manager, Environmental Services* april.barnet@gemtec.ca (506) 238-4219
Contracted Driller	Modern Well Drilling Ltd.	Sacha Noel *Owner* modernwell@nb.aibn.com (506) 395-3200

11.0 ATTACH A 1:10,000 MAP AND/OR RECENT AIR PHOTO

Figure E1, attached, shows the five wells currently present on the Project site, the proposed observation wells, and existing neighbouring wells identified in the OWLS overlain on the most recent aerial photograph available on Google Earth. No potential contamination hazards were identified (see Section 7.0).

12.0 ATTACH A LAND USE/ZONING MAP OF THE AREA

Based on conversations with officials from the Chaleur (Region 3) and Acadian Peninsula (Region 4) Regional Service Commissions, there is currently no zoning in place for the Project Site. The Project Site is comprised of twelve land parcels, three of which are roadways. Eight of the twelve parcels are Crown Land, which is being leased to Bragg Lumber Company Limited or its sister company, Peninsula Foods Limited, for wild blueberry production. The closest residential properties are located to the northeast of the Site, along chemin Val-Doucet. Historically, the Project Site and adjoining properties were Crown-owned agricultural or wooded land with residential farms located along chemin Val-Doucet.

13.0 CLOSURE

If you have any comments or questions on the content of this letter, please do not hesitate to contact the undersigned.

Christine Chase

Christine Chase, M.Eng., P.Eng.
Environmental Engineer

Cc: Billy Malay, Director of Planning and Development

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14.0 REFERENCES

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New Brunswick / Nouveau-Brunswick

ENVIRONMENT & LOCAL GOVERNMENT

WATER WELL DRILLER'S REPORT

00040965

VAL-DOUCET 3-2

Well 20-3

OFFICE USE ONLY	HEALTH CODE	LAB NO.	SAMPLE RECEIVED DATE (YR MO DAY)
FIELD NO.	HEALTH OFFICE	EVENT NO.	SAMPLE RECEIVED BY:

TESTING VOUCHER INFORMATION — MANDATORY FOR WATER TEST
SEE BACK FOR DETAILS — PLEASE PRINT
INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF SAMPLING

FIRST NAME / LAST NAME

ADDRESS (MAIL RESULTS TO:)

CITY/TOWN/VILLAGE — PROV. — POSTAL CODE

DAYTIME PHONE — FAX NO.

TEL. NO. — SAMPLE COLLECTED YR MO DAY HR MIN AM PM

DO YOU NEED A SAMPLE FOR YOUR MORTGAGE?
IF YOU WISH THE RESULTS TO BE RELEASED TO A MORTGAGE INSTITUTION PLEASE INCLUDE THE FOLLOWING CONTACT INFORMATION: — SEE BACK FOR DETAILS

ATTENTION OF:

TEL NO. — FAX NO.

SIGNATURE OF WELL OWNER

WAS THE COST OF THIS WELL FINANCED BY NB HOUSING? YES ☐ ☑ NO

WELL / WATER USE:
INDUSTRIAL ☐ ABANDONED ☐ DOMESTIC ☐
EXPLORATORY ☐ MUNICIPAL ☐ MONITORING ☐
HEAT PUMP ☐ OBSERVATION ☐ OTHER ☑ Blue Berry Field

TYPE OF WORK COMPLETED: NEW WELL ☑ DEEPENED ☐
OTHER:

METHOD:
CABLE TOOL ☐ ROTARY ☑ OTHER

CASING INSTALLED:
LENGTH OF CASING ABOVE GROUND: 2 FT. 0 IN.
STEEL: 10 IN DIAM. FROM 0 FT. TO 43 FT.
PVC: ____ IN DIAM. FROM ____ FT. TO ____ FT.
SLOTTED ____ IN DIAM. FROM ____ FT. TO ____ FT.
SCREENS: TYPE: ____ SLOT SIZE ____
____ IN DIAM. FROM ____ FT. TO ____ FT.
DRIVE SHOE: ☑ YES ☐ NO

SETBACKS: SEE BACK FOR DETAILS
SEPTIC TANK (1) ____ FT.
SEPTIC TANK (2) ____ FT. FIELD (2) ____ FT. FIELD (1) ____ FT.
*RIGHT OF WAY OF ANY PUBLIC ROAD ☐ (1) 7 KM ROAD (2) ____
CENTER OF ROAD ☐ (1) ____ (2) ____
SETBACKS MEASURED ____ (NEW CONSTRUCTION)
APPROXIMATE SETBACKS AS INDICATED BY HOMEOWNER ____ (EXISTING CONST.)

FLOWING WELL? YES ☐ NO ☑ IF YES - RATE: ____ igpm (approx.)

AQUIFER TEST: METHOD: AIR ☐ BAILER ☐ PUMP ☑
INITIAL WATER LEVEL: 13.85 FT BELOW TOP OF CASING
PUMPING RATE 550 igpm DURATION: 6 hrs. 00 min.
FINAL WATER LEVEL: 33.0 FT. BELOW TOP OF CASING
ESTIMATED SAFE YIELD: 500 igpm

WELL GROUTED? YES ☐ NO ☑
FROM ____ FT. TO ____ FT. GROUT TYPE: ____
DRILLING FLUIDS USED: YES ☑ NO ☐
TYPE: WATER

P.I.D. NO.	WELL I.D. NO.
20901369	0062484

WELL OWNER INFORMATION
INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF DRILLING

FIRST NAME: BRAGG — LAST NAME: LUMBER
ADDRESS: 514 ROUTE 365
CITY/TOWN/VILLAGE: SAINT-ISIDORE — PROVINCE: N.B. — POSTAL CODE: E8M1P4
WELL LOCATION: SAME AS ABOVE ____ OR
CIVIC NUMBER STREET NAME: Blue Berry Field
CITY/TOWN/VILLAGE: VAL-DOUCET — WELL PAID FOR BY PROVINCIAL DEPT. OF ____
WELL ON RESERVE? YES ☐ NO ☑ — WELL ALREADY TAGGED? YES ☐ NO ☐ — OLD WELL I.D.

DRILLER'S LOG *

FROM (FT.)	TO (FT.)	COLOUR	ROCK TYPE
Ground Level	4	BROWN	SOIL & COARSE SANDSTONE
4	12	gREEN	COARSE SANDSTONE
12	16	gREY	SANDSTONE & CLAY
16	25	gREEN	FINE SANDSTONE
25	26	gREEN	COARSE SANDSTONE
26	39	gREEN	FINE & COARSE " "
39	41	gREEN	COARSE & SHALE MIX
41	45	gREEN	FINE SANDSTONE
45	46	gREY	COARSE " "
46	63	gREY & gREEN	MEDIUM SANDSTONE
63	64	BLACK & gREY	COAL & SANDSTONE
64	106	gREY	MEDIUM " "
106	109	gREY	FINE " "
109	112	gREY	SHALE
112	118	BROWN	SHALE
118	126	gREY	FINE SANDSTONE
126	141	BROWN	SHALE & LIMESTONE
141	145	gREY	FINE SANDSTONE
145	165	BROWN	SHALE & LIMESTONE
165	173	BROWN	MEDIUM SANDSTONE
173	182	BROWN	SHALE
182	185	BROWN & gREY	LIMESTONE

IF INSUFFICIENT SPACE PLEASE USE ADDITIONAL SHEETS

TOTAL WELL DEPTH: 185 FT. DEPTH TO BEDROCK: 41 FT.
WATER BEARING ↑ 50 igpm AT 45.5 FT. 2 20 igpm AT 62 FT.
FRACTURE ZONES: 3 200 igpm AT 62 FT. 4 100 igpm AT 39 FT.

PUMP INSTALLATION: INSTALLED ☐ NOT INSTALLED ☑
PUMP INTAKE SETTING: 75 FT. BELOW TOP OF CASING (Recommended)
PUMP TYPE: SUBMERSIBLE ☑ JET ☐ TURBINE ☐
OTHER
WELL DISINFECTED? YES ☑ NO ☐
TYPE LAVO 12

DRILLER'S COMMENTS

DRILLING COMPANY: Modern Well Drilling LTD
COMPLETION DATE: 20 12 17 (YR MO DAY) — LICENSE NO. 38

G.P.S. (OPTIONAL)

I CERTIFY THAT THE WELL HEREIN DESCRIBED HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE WATER WELL REGULATION UNDER THE NEW BRUNSWICK CLEAN WATER ACT.

Signature of Driller — Signature of Helper

WHITE - NBELG
BLUE - Homeowner / Voucher
YELLOW - Homeowner
PINK - Drilling Company

KEEP THIS REPORT WITH YOUR IMPORTANT DOCUMENTS

New Brunswick / Nouveau-Brunswick

ENVIRONMENT & LOCAL GOVERNMENT

WATER WELL DRILLER'S REPORT

00040964

VAL-Doucet 3-1

Well 20-4

OFFICE USE ONLY	HEALTH CODE	LAB NO.	SAMPLE RECEIVED DATE (YR MO DAY)
FIELD NO.	HEALTH OFFICE	EVENT NO.	SAMPLE RECEIVED BY

TESTING VOUCHER INFORMATION — MANDATORY FOR WATER TEST

SEE BACK FOR DETAILS PLEASE PRINT

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SIGNATURE OF WELL OWNER

WAS THE COST OF THIS WELL FINANCED BY NB HOUSING? YES ☐ NO ☑

WELL / WATER USE:

INDUSTRIAL ☐ ABANDONED ☐ DOMESTIC ☐

EXPLORATORY ☐ MUNICIPAL ☐ MONITORING ☐

HEAT PUMP ☐ OBSERVATION ☐ OTHER ☑ Blue Berry Field

TYPE OF WORK COMPLETED: NEW WELL ☑ DEEPENED ☐

OTHER:

METHOD:

CABLE TOOL ☐ ROTARY ☑ OTHER

CASING INSTALLED:

LENGTH OF CASING ABOVE GROUND: 2 FT 0 IN.

STEEL: 10 IN DIAM. FROM 0 FT. TO 40 FT.

PVC: ____ IN DIAM. FROM ____ FT. TO ____ FT.

SLOTTED ____ IN DIAM. FROM ____ FT. TO ____ FT.

SCREENS: TYPE: ____ SLOT SIZE ____

____ IN DIAM. FROM ____ FT. TO ____ FT.

DRIVE SHOE: YES ☑ NO ☐

SETBACKS: SEE BACK FOR DETAILS

SEPTIC TANK (1) ____ FT.

SEPTIC TANK (2) ____ FT. FIELD (2) ____ FT. FIELD (1) ____ FT.

*RIGHT OF WAY OF ANY PUBLIC ROAD ☐ (1) 7KM ROAD (2) ____

CENTER OF ROAD ☐ (1) ____ (2) ____

SETBACKS MEASURED ____ (NEW CONSTRUCTION)

APPROXIMATE SETBACKS AS INDICATED BY HOMEOWNER ____ (EXISTING CONST.)

FLOWING WELL? YES ☐ NO ☑ IF YES - RATE: ____ igpm (approx.)

AQUIFER TEST: METHOD: AIR ☐ BAILER ☐ PUMP ☑

INITIAL WATER LEVEL: 7.5 FT BELOW TOP OF CASING

PUMPING RATE 550 igpm DURATION: 6 hrs. 00 min.

FINAL WATER LEVEL: 32 FT. BELOW TOP OF CASING

ESTIMATED SAFE YIELD: 500 igpm

WELL GROUTED? YES ☐ NO ☑

FROM ____ FT. TO ____ FT. GROUT TYPE: ____

DRILLING FLUIDS USED: YES ☑ NO ☐

TYPE: WATER

P.I.D. NO.	WELL I.D. NO.
20716130	0062481

WELL OWNER INFORMATION

INFORMATION INCLUDED HEREIN SHOULD BE THE WELL OWNER AT TIME OF DRILLING

FIRST NAME / LAST NAME: BRAGG Lumber

ADDRESS: 514 Route 365

CITY/TOWN/VILLAGE: SAINT-ISIDORE PROVINCE: N.B. POSTAL CODE: E8M1P4

WELL LOCATION: SAME AS ABOVE ..... OR

CIVIC NUMBER STREET NAME: VAL-DOUCET

CITY/TOWN/VILLAGE

WELL PAID FOR BY PROVINCIAL DEPT. OF ____

WELL ON RESERVE? YES ☐ NO ☑ WELL ALREADY TAGGED? YES ☐ NO ☐ OLD WELL I.D.

DRILLER'S LOG

FROM (FT.)	TO (FT.)	COLOUR	ROCK TYPE
Ground Level	3	BROWN	COARSE SANDSTONE
3	22	green	Fine-med. SANDSTONE
22	24	green	COARSE " "
24	28	green	Fine " "
28	31	BROWN	COARSE " "
31	55	grey	Fine " "
55	56	grey	COARSE " "
56	68	grey	Medium " "
68	69	BROWN	COARSE " "
69	80	grey	Medium " "
80	85	grey	Fine " "
85	123	grey	Fine + Medium " "
123	155	BROWN & grey	SHALE & LIMESTONE
155	185	BROWN	SHALE
185	192	BROWN & grey	SHALE & LIMESTONE
192	196	grey	FINE SANDSTONE
196	201	BROWN	SHALE
201	204	grey	FINE SANDSTONE
204	242	BROWN	SHALE ROCK
242	252	grey	FINE SANDSTONE
252	290	BROWN	LIMESTONE & SHALE

IF INSUFFICIENT SPACE PLEASE USE ADDITIONAL SHEETS

TOTAL WELL DEPTH: 290 FT. DEPTH TO BEDROCK: 3 FT.

WATER BEARING 1 200 igpm AT 56 FT. 2 200 igpm AT 68 FT.

FRACTURE ZONES: 3 86 igpm AT 90'-95' FT. 4 100+ igpm AT ____ FT.

PUMP INSTALLATION: INSTALLED ☐ NOT INSTALLED ☑

PUMP INTAKE SETTING: 75 FT. BELOW TOP OF CASING (Recommended)

PUMP TYPE: SUBMERSIBLE ☑ JET ☐ TURBINE ☐

OTHER

WELL DISINFECTED? YES ☑ NO ☐

TYPE CAVO 12

DRILLER'S COMMENTS

DRILLING COMPANY: Modern well DRILLING LTD

COMPLETION DATE: 20 12 09 (YR MO DAY) LICENSE NO. 38

G.P.S. (OPTIONAL)

I CERTIFY THAT THE WELL HEREIN DESCRIBED HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE WATER WELL REGULATION UNDER THE NEW BRUNSWICK CLEAN WATER ACT.

Signature of Driller ____ Signature of Helper ____

WHITE - NBELG
BLUE - Homeowner / Voucher
YELLOW - Homeowner
PINK - Drilling Company

KEEP THIS REPORT WITH YOUR IMPORTANT DOCUMENTS

Brunswick

ENVIRONNEMENT ET GOUVERNEMENT LOCAUX

RAPPORT DE FORAGE DE PUITS

0020040

Farm Well

RÉSERVÉ AU BUREAU Nº DU CHAMP	CODE SANITAIRE	LAB Nº	DATE DE RÉCEPTION DE L'ÉCHANTILLON	ÉCHANTILLONS REÇUS PAR
	BUREAU SANITAIRE	Nº ORG.	AN M JOUR	

INFORMATION SUR LE BORDEREAU D'ANALYSE DE L'EAU

DÉTAILS AU VERSO CARACTÈRES D'IMPRIMERIE

L'INFORMATION INCLUSE DANS CET ESPACE DEVRAIT VISER LE PROPRIÉTAIRE DU PUITS AU MOMENT DE L'ÉCHANTILLONNAGE

PRÉNOM: ALIMENTS NOM DE FAMILLE: PENINSULE

ADRESSE (ENVOYEZ LES RÉSULTATS À:) TILLEY ROAD

VILLE/VILLAGE PROVINCE: NB CODE POSTAL

Nº DE TÉLÉPHONE DE JOUR | NO DE TÉLÉCOPIEUR

Nº DE TÉLÉPHONE | ÉCHANTILLON PRÉLEVÉ AN M JOUR HEURE MIN AM PM

AVEZ-VOUS BESOIN D'UN ÉCHANTILLON POUR VOTRE HYPOTHÈQUE? DÉTAILS AU VERSO

SI VOUS VOULEZ QUE LES RÉSULTATS SOIENT DIVULGUÉS À L'INSTITUTION HYPOTHÉCAIRE, VEUILLEZ INCLURE L'INFORMATION SUIVANTE:

ATTENTION DE:

Nº DE TÉLÉPHONE | NO DE TÉLÉCOPIEUR

SIGNATURE DU PROPRIÉTAIRE DU PUITS

LE COÛT DE CE PUITS A-T-IL ÉTÉ PAYÉ PAR HABITATION NOUVEAU-BRUNSWICK? OUI ☐ NON ☑

UTILISATION DU PUITS OU DE L'EAU:

INDUSTRIELLE ☑ ABANDONNÉ ☐ DOMESTIQUE ☐

EXPLORATION ☐ USAGE MUNICIPAL ☐ SURVEILLANCE ☐

THERMOPOMPE ☐ OBSERVATION ☐ AUTRE ☐

TYPE DE TRAVAUX EFFECTUÉS: NOUVEAU PUITS ☑ PLUS PROFOND ☐

AUTRE: _____

MÉTHODE:

OUTIL AU CÂBLE ☐ ROTATIF ☑ AUTRES _____

INSTALLATION DE TUBAGE:

LONGUEUR DU TUBAGE AU-DESSUS DU SOL 1 PIEDS 0 POUCES

ACIER: 8 PO DIAMÈTRE DE 0 PIEDS À 79 PIEDS

PVC: _____ PO DIAMÈTRE DE _____ PIEDS À _____ PIEDS

OUVERTURE: _____ PO DIAMÈTRE DE _____ PIEDS À _____ PIEDS

CRÉPINES: TYPE: _____ Grosseur des ouvertures _____

_____ EN DIAMÈTRE DE _____ PIEDS À _____ PIEDS

SABOT OUI ☑ GUIDE NON ☐

RETRAITS: DÉTAILS AU VERSO Fosse Septique (1) _____ pieds

Fosse septique (2) _____ pieds Champs (2) _____ pieds Champs (1) _____ pieds

*Emprise d'une route publique (1) 150 ft Route (2) _____

RETRAITS MESURÉS _____ (nouvelle construction)

RETRAITS APPROXIMATIFS INDIQUÉS PAR LE PROPRIÉTAIRE ✓ (construction actuelle)

PUITS JAILLISSANT? OUI ☐ NON ☑ SI OUI - TAUX: _____ gi/min (approx)

ESSAI DE POMPAGE: MÉTHODE: Curette pneumatique ☑ Bailer ☐ Pompe ☐

NIVEAU D'EAU INITIAL: 58 PIEDS/M SOUS LE DESSUS DU TUBAGE

TAUX DE POMPAGE 110 gi/min DURÉE: 1 h. 00 min.

NIVEAU D'EAU FINAL: 58 PIEDS SOUS LE DESSUS DU TUBAGE

DÉBIT DE PRODUCTION ASSURÉ: 110 gi/min

COLMATAGE DU PUITS: ☐ OUI ☑ NON

DE: _____ PIEDS À _____ PIEDS TYPE DE COULIS _____

LIQUIDE DE FORAGE UTILISÉS: ☐ OUI ☑ NON

TYPE: _____

NID: 2072648500344 42 | Nº D'IDENTIFICATION DU PUITS

L'INFORMATION SUR LE PROPRIÉTAIRE DU PUITS

L'INFORMATION INCLUSE DANS CET ESPACE DEVRAIT VISER LE PROPRIÉTAIRE DU PUITS AU MOMENT DU FORAGE

PRÉNOM: ALIMENTS NOM DE FAMILLE: PENINSULE

ADRESSE: TILLEY ROAD

VILLE/VILLAGE PROVINCE: NB CODE POSTAL

EMPLACEMENT DU PUITS: MÊME QUE CI-DESSUS .... OU

Nº DE VOIRIE NOM DE RUE: VAL DOUCET NB

VILLE/VILLAGE | PUITS PAYÉ PAR LE MINISTÈRE PROVINCIAL DU

PUITS SUR RÉSERVE? OUI ☐ NON ☑ | PUITS DÉJÀ ÉTIQUETÉ OUI ☐ NON ☐ | IDENTIFICATION DE L'ANCIEN PUITS

RAPPORT DE FORAGE *

DE (pieds)	À (pieds)	COULEUR	TYPE DE ROCHE
Niveau du sol	1	Brun	Terre Arable
1	3	"	Sable + Grès Fin
3	32	"	Grès Moyen
32	41	Brun	Shale
41	50	Gris	"
50	76	Gris	Grès Fin + Sable
76	178	Gris	Grès Moyen

AJOUTER DES FEUILLES AU BESOIN

Profondeur totale du puits: 178 pieds Profondeur à la roche-mer: 76 pieds

Aquifère 1 15 gi/min à 104 pieds 2 35 gi/min à 110 pieds

Zones de fracture: 3 25 gi/min à 115 pieds 4 15 gi/min à 141 pieds 5 20 gi/min à 168

INSTALLATION DE LA POMPE: INSTALLÉE NON INSTALLÉE ✓

Installation de la prise d'eau de la pompe: _____ pieds sous le dessus du tubage (Recommandé)

TYPE DE POMPE: ☐ SUBMERSIBLE ☐ JET ☐ TURBINE

AUTRES _____

PUITS DÉSINFECTÉS: ☑ OUI ☐ NON

TYPE Jaillissant

COMMENTAIRE DU FOREUR

Puit de 8" Diamètre

ENTREPRISE DE FORAGE Les Forages de Puits atlantiques

DATE D'ACHÈVEMENT 07 05 07 (AN M JOUR) Nº DE PERMIS 6317

J'ATTESTE QUE LE PUITS DÉCRIT AUX PRÉSENTES A ÉTÉ CONSTRUIT CONFORMÉMENT AU RÈGLEMENT SUR LES PUITS D'EAU ÉTABLI EN VERTU DE LA LOI SUR L'ASSAINISSEMENT DU NOUVEAU-BRUNSWICK.

Signature du foreur: Euchariste Bridoux

Signature de son assistant: Mik B

Copie
Blanche - MEGLNB
Bleue - Propriétaire/Bon
Jaune - Propriétaire
Rose - Entreprise de forage

RETENIR UNE COPIE DE CE RAPPORT AVEC VOS DOCUMENTS IMPORTANTS

Well 20-1

Depth (feet)	Discription	Color	Notes
0-2	Sand and soil	Brown	
2-12'	Med Sandstone	Gray	
10-18'	Clay	Gray	
18-24	Shale	Gray	
24-27	Fine sandstone		
27-28	Shale	Gray	
28-40	Fine sandstone		
40-42	Fine sandstone	Brown	
42-45	Fine sandstone	Gray	
45-46	Fine sandstone	Brown	
46-53	Fine sandstone	Gray	
53-57	Fine sandstone		
57-89	Fine sandstone	Gray	
89-98	Med sandstone	Gray	
98-106	Limestone	Gray	
106-163	Fine sandstone	Gray	
163-166	Med Sandstone	Gray	
166-178	Fine sandstone	Gray	
178-179	Med Limestone	Gray	
179-237	Fine sandstone	Gray	
237-239	Limestone	Gray	
239-245	Shale	Brown	
245-253	Limestone	Gray	
253-260	Shale	Brown	
260-262	Fine sandstone	Gray	
262-268	Shale	Brown	
268-277	Fine sandstone	Gray	
277-290	Shale	Brown	
290-295	Limestone	Brown	
295-308	Shale	Brown	
308-319	Fine sandstone	Gray	
319-352	Shale	Brown	
352-359	Fine sandstone	Gray	
359-382	Limestone/shale		
382-404	Fine sandstone		
404-419	Limestone/sha;le	Brown	
419-430	Fine sandstone	Brown	
430-452	Limestone/shale	Brown	
452-454	Fine sandstone	Brown	
454-462	Limestone	Brown	
462-479	Shale	Brown	
479-480	Fine sandstone	Brown	
480-499	Shale	Gray	
499-503	Sandstone	Gray	

Valdoucet 1-3 6" Drilled 9 28 2020 by Modern

	Name	Val Doucet 3-2
	Well ID	0062484
6"	Date S	9/28/2020
6"	Date E	9/29/2021

Fracture Feet	GPM
89	10
163	50
179	30
185	20
240	30
271	50
293	
312	
	150-200

Well 20-2

Start Depth (feet)	End Depth (Feet)	Discription	Color	Notes
0	1	topsoil and sand	brown	
1	25	coarse sand stone	Green	
25	27	medium sandstone	gray	
27	38	medium sandstone	Green	
38	47	fine sandstone	gray	
47	48	shale	gray	
48	52	fine sandstone	gray	
52	68	fine sandstone	gray	
68	104	fine sandstone	gray	
104	106	limestone	gray	
106	119	fine sandstone	gray	
119	120	coarse sand stone	gray	
120	126	fine sandstone	grra	
126	133	medium sandstone	gray	
133	136	coarse sand stone mixed with coal	gray	
136	164	medium sandstone	gray	
164	169	shale	gray	
169	248	fine sandstone	gray	
248	256	limestone	gray	
256	270	shale	brown	
270	275	fine sandstone	gray	
275	282	shale	brown	
282	291	fine sandstone	gray	
291	324	shale	brown	
324	331	limestone	brown	
331	336	shale	brown	
336	337	sandstone	brown	
337	363	shale	brown	
363	370	sandstone	brown	
370	406	limestone	brown	
406	414	fine sandstone	gray	
414	438	shale/limestone	brown	
438	444	sandstone	brown	
444	486	shale	brown	
486	512	limestone	brown	
512	517	sandstone	brown	
517	670	shale/limestone	brown	
670				
0				
0				
0				
0				
0				
0				

Name	**Val Doucet 1-2**
Date S	9/29/2020
Date E	9/30/2020
40' casing	
66' to water	

Fracture	GPM
77	4
88	20
95	10
209-207	15
219-220	15
133-136	10
366	?
526	?
560	?
Sum	74

figures about 150 GPM

Well 20-3

Start Depth (feet	End Depth (Feet)	Discription	Color	Notes
0	4	Soil + coarse sand stone		
4	12	coarse sand stone	green	
12	16	sand and clau	gray	
16	25	fine sand stone	green	
25	26	cosrse sand strone	gray	
26	30	fine sand stone	gray	
30	31	cosrse sand strone	gray	
31	39	fine sand stone	gray	
39	41	cosrse sand strone with shale	gray	
41	45	fine sand stone	gray	
45	46	cosrse sand strone	gray	
46	52	medium sand stone	gray	
52	56	medium sand stone	green	
56	63	fine sand stone	gray	
63	64	coal and sandstone	gray	
64	106	medium sand stone	gray	
106	109	fine sand stone	gray	
109	112	shale	gray	
112	118	fine sand stone	gray	
118	126	shale	brown	
126	135	shale	brown	
135	139	sandstone/limestone	brown	
139	141	shale	brown	
141	145	fine sand stone	gray	
145	163	shale/limestone	brown	
163	165	limestone	brown	
165	173	sandstone	brown	
173	182	shale	brown	
182	195	limestone	brown	
195	199	fine sand stone	gray	
199	205	shale	brown	
205	228	medium sand stone	gray	
228	231	medium sand stone	gray	
231	238	limestone	brown	
238	244	fine sand stone	gray	
244	246	limestone	brown	
246	278	shale/limestone	?	
278	280	sandstone	gray	
280	305	shale	brown	
305	312	limestone	?	
312	331	shale	brown	
331	333	sandstone	brown	
333	347	limestone	brown	

	Name	Val Doucet 3-2
	Well ID	0062484
6"	Date S	9/30/2020
6"	Date E	10/1/2020
	Well was reamed out to 10" 185' deep	
10"	Date S	12/16/2020
10"	Date E	12/17/2020

Fracture	GPM	
45		30
66		40
72		20
109	?	
166	?	
241	?	
360	?	
442	?	
		150-200?

347	349	sandstone	brown
349	359	shale/limestone	brown
359	363	medium sand stone	gray
363	370	fine sand stone	gray
370	377	medium sand stone	brown
377	382	shale	gray
382	400	shale	brown
400	404	medium sand stone	gray
404	420	shale/limestone	brown
420	425	sandstone	brown
425	440	shale, shale rock	brown
440	447	medium sand stone	gray
447	457	shale mix	brown
457	458	sandstone	brown
458	463	limestone	gray
463	476	shale	?
476	479	sandstone	brown
479	485	shale	brown
485	496	medium sand stone	brown
496	590	limestone	brown
590	592	limestone	gold
592	670	limestone	brown
670			
0			
0			
0			
0			
0			
0			
0			
0			
0			

Well 20-4

Start Depth (feet	End Depth (Feet)	Discription	Color	Notes
0	3	coarse sandstone	brown	
3	22	medium sandstone	green	
22	24	coarse sandstone	green	
24	28	fine sandstone	green	
28	31	coarse sandstone	brown	
31	55	medium sandstone	grey	
55	56	coarse sandstone	grey	
56	68	medium sandstone	grey	
68	69	coarse sandstone	brown	
69	80	medium sandstone	grey	
80	85	fine hard sandstone	grey	
85	123	fine + medium sandstone	grey	
123	153	shale	brown and grey	
153	155	limestone	grey	
155	185	shale	brown	
185	192	shale and limestone	brown and grey	
192	196	fine sandstone	grey	
196	201	shale	brown	
201	204	fine sandsone	grey	
204	242	shale rock	brown	
242	252	fine sandstone	grey	
252	299	shale and limestone	brown	
299	316	medium sandstone	brown	
316	362	shale and limestone	brown	
362	370	fine sandstone	brown	
370	386	shale rock	brown	
386	390	fine sandstone	grey	
390	393	limestone	brown	
393	436	fine sandstone	grey	
436	596	shale rock	brown and grey	

	Name	Val Doucet 3-1
	Well ID	62481
6"	Date S	11/4/2020
6"	Date E	11/6/2020
	Well was reamed out to 10" 290' deep	
10"		8-Dec
10"		12/8/2020
	Well was reamed out to 10" 290' deep	

Fracture	GPM
56	200
68	200
86	
90	
95	100
	500

APPENDIX F

OWLS Information

New Nouveau Brunswick

Environment

Report Number **4542**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	12/06/2003

Casing Information	Casing above ground	Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
4542	**Steel**	**15.24cm**	**0m**	**24.99m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	16.76m *(BTC - Below top of casing)*	45.5 lpm	1hr	16.76m	46 lpm	No	0 lpm

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Submersible

Intake Setting (BTC)
0m

Driller's Log

Well Log	From	End	Colour	Rock Type
4542	**0m**	**1.83m**	**Brown**	**Medium Sandstone and Sand**
4542	**1.83m**	**4.57m**	**Brown**	**Medium Sandstone and Shale**
4542	**4.57m**	**24.38m**	**Brown**	**Medium Sandstone and Sand**
4542	**24.38m**	**33.53m**	**Grey**	**Medium Sandstone**

Overall Well Depth
33.53m

Bedrock Level
1.83m

Water Bearing Fracture Zone

Well Log	Depth	Rate
4542	**28.35m**	**4.55 lpm**
4542	**30.78m**	**13.65 lpm**
4542	**32.92m**	**27.3 lpm**

Setbacks

There is no Setback information.

New Nouveau Brunswick

Environment

Report Number **4799**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	07/27/2005

Casing Information — Casing above ground — Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
4799	**Steel**	**15.24cm**	**0m**	**16.15m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Bailer	13.72m *(BTC - Below top of casing)*	13.65 lpm	2hrs 00min	22.86m	18 lpm	No	0 lpm

Well Grouting

There is no Grout information.

Drilling Fluids Used
Other

Disinfectant
N/A

Qty 0L

Pump Installed
N/A

Intake Setting (BTC)
0m

Driller's Log

Well Log	From	End	Colour	Rock Type
4799	**0m**	**15.54m**	**Brown**	**Gravel**
4799	**15.54m**	**16.15m**	**Grey**	**Rock**
4799	**16.15m**	**23.16m**	**Grey**	**Sandstone**
4799	**23.16m**	**27.43m**	**Grey**	**Rock**

Overall Well Depth
27.43m

Bedrock Level
15.54m

Water Bearing Fracture Zone

Well Log	Depth	Rate
4799	**23.16m**	**13.65 lpm**

Setbacks

Well Log	Distance	Setback From
4799	**19.20m**	**Septic Tank**
4799	**60.96m**	**Septic Tank**
4799	**76.20m**	**Leach Field**
4799	**35.05m**	**Leach Field**

New Nouveau Brunswick

Environment

Report Number **5245**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	09/19/2005

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
5245	Steel	15.24cm	0m	48.77m	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	40.84m	54.6 lpm	1hr	40.84m	55 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
Water

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
65.53m

Driller's Log

Well Log	From	End	Colour	Rock Type
5245	0m	2.44m	Brown	Topsoil and Sand
5245	2.44m	7.01m	Brown	Coarse Sandstone
5245	7.01m	21.95m	Yellow	Medium Sandstone
5245	21.95m	34.14m	Grey	Fine Sandstone
5245	34.14m	42.37m	Brown	Shale
5245	42.37m	47.55m	Brown and grey	Other
5245	47.55m	50.60m	Grey	Fine Sandstone
5245	50.60m	51.82m	Grey	Other
5245	51.82m	71.63m	Grey	Fine Sandstone

Overall Well Depth
71.63m

Bedrock Level
21.95m

Water Bearing Fracture Zone

Well Log	Depth	Rate
5245	63.40m	9.1 lpm
5245	68.88m	18.2 lpm
5245	69.49m	36.4 lpm

Setbacks

Well Log	Distance	Setback From
5245	19.81m	Septic Tank
5245	25.91m	Leach Field
5245	50.29m	Right of any Public Way Road

New Nouveau Brunswick

Environment

Report Number **19246**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Non-Drinking Water, Industrial	New Well	Rotary	12/04/2014

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
19246	Steel	15.24cm	0m	9.75m	
19246	PVC Screen 1/8" Slot	10.16cm	9.75m	27.43m	0.3300cm Slots

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	15.24m	318.5 lpm	0hr 30min	15.24m	296 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
Water

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
N/A

Intake Setting (BTC)
24.38m

Driller's Log

Well Log	From	End	Colour	Rock Type
19246	0m	0.61m	Brown	Fill
19246	0.61m	9.14m	Green	Coarse Sandstone
19246	9.14m	27.43m	Green	Medium Sandstone

Overall Well Depth
27.43m

Bedrock Level
0.61m

Water Bearing Fracture Zone

Well Log	Depth	Rate
19246	12.19m	68.25 lpm
19246	19.81m	136.5 lpm
19246	24.38m	136.5 lpm

Setbacks

Well Log	Distance	Setback From
19246	33.53m	Septic Tank
19246	31.09m	Leach Field
19246	70.10m	Center of road

New Nouveau Brunswick

Environment

Report Number **19363**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	09/30/2009

Casing Information — Casing above ground — Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
19363	Steel	15.24cm	0m	24.69m	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	42.67m	18.2 lpm	0hr 30min	24.38m	18 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

Well Log	Grout Type	From	End
19363	Bentonite	0m	4.57m
19363	Bentonite	4.57m	5.49m

Drilling Fluids Used
Water

Disinfectant
Bleach (Javex)
Qty 0L

Pump Installed
N/A
Intake Setting (BTC)
30.48m

Driller's Log

Well Log	From	End	Colour	Rock Type
19363	0m	0.61m	Brown	Topsoil
19363	0.61m	5.79m	Red	Clay
19363	5.79m	13.72m	Brown	Broken Sandstone
19363	13.72m	22.86m	Grey	Shale
19363	22.86m	30.48m	Brown	Sandstone
19363	30.48m	42.67m	Grey	Sandstone

Overall Well Depth
42.67m

Bedrock Level
13.72m

Water Bearing Fracture Zone

Well Log	Depth	Rate
19363	30.48m	18.2 lpm

Setbacks

Well Log	Distance	Setback From
19363	28.96m	Septic Tank
19363	33.53m	Leach Field
19363	60.96m	Right of any Public Way Road

New Nouveau Brunswick

Environment

Report Number **20040**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	05/07/2007

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
20040	**Steel**	**20.32cm**	**0m**	**24.08m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	17.68m	500.5 lpm	1hr	17.68m	500 lpm	No	0 lpm

(BTC - Below top of casing)

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
12% NaOCl

Qty 0L

Pump Installed
N/A

Intake Setting (BTC)
0m

Driller's Log

Well Log	From	End	Colour	Rock Type
20040	**0m**	**0.30m**	**Brown**	**Topsoil**
20040	**0.30m**	**0.91m**	**Brown**	**Fine Sandstone and Sand**
20040	**0.91m**	**9.75m**	**Brown**	**Medium Sandstone**
20040	**9.75m**	**12.50m**	**Brown**	**Shale**
20040	**12.50m**	**15.24m**	**Grey**	**Shale and Clay and Soapstone**
20040	**15.24m**	**23.16m**	**Grey**	**Fine Sandstone and Sand**
20040	**23.16m**	**54.25m**	**Grey**	**Medium Sandstone**

Overall Well Depth
54.25m

Bedrock Level
0.91m

Water Bearing Fracture Zone

Well Log	Depth	Rate
20040	**31.70m**	**68.25 lpm**
20040	**33.53m**	**159.25 lpm**
20040	**35.05m**	**113.75 lpm**
20040	**42.98m**	**68.25 lpm**
20040	**51.21m**	**91 lpm**

Setbacks

Well Log	Distance	Setback From
20040	**45.72m**	**Right of any Public Way Road**

New Nouveau Brunswick

Environment

Report Number **20067**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	08/06/2006

Casing Information — Casing above ground — Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
20067	**Steel**	**15.24cm**	**0m**	**18.29m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	6.10m	45.5 lpm	0hr 30min	6.10m	46 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)
Qty 0L

Pump Installed
N/A
Intake Setting (BTC)
0m

Driller's Log

Well Log	From	End	Colour	Rock Type
20067	**0m**	**1.52m**	**Brown**	**Fill**
20067	**1.52m**	**7.01m**	**Brown**	**Fine Sandstone**
20067	**7.01m**	**7.62m**	**Brown**	**Sand**
20067	**7.62m**	**10.36m**	**Brown**	**Medium Sandstone**
20067	**10.36m**	**17.37m**	**Brown**	**Fine Sandstone and Sand**
20067	**17.37m**	**25.91m**	**Grey**	**Medium Sandstone**

Overall Well Depth
25.91m

Bedrock Level
17.37m

Water Bearing Fracture Zone

Well Log	Depth	Rate
20067	**21.95m**	**18.2 lpm**
20067	**24.69m**	**27.3 lpm**

Setbacks

Well Log	Distance	Setback From
20067	**15.24m**	**Septic Tank**
20067	**24.38m**	**Leach Field**
20067	**45.72m**	**Right of any Public Way Road**

New Nouveau Brunswick

Environment

Report Number **20542**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Non-Drinking Water, Other	New Well	Rotary	05/18/2020

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
20542	**Steel**	**15.24cm**	**0m**	**18.29m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	15.85m	273 lpm	1hr	15.85m	228 lpm	No	0 lpm

(BTC - Below top of casing)

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
39.62m

Driller's Log

Well Log	From	End	Colour	Rock Type
20542	**0m**	**14.63m**	**Grey and green**	**Sandstone**
20542	**14.63m**	**17.07m**	**Grey**	**Clay and Shale**
20542	**17.07m**	**32.92m**	**Grey and green**	**Sandstone**
20542	**32.92m**	**33.22m**	**Grey**	**Limestone**
20542	**33.22m**	**41.45m**	**Grey**	**Sandstone**
20542	**41.45m**	**42.06m**	**Grey**	**Limestone**
20542	**42.06m**	**44.20m**	**Grey**	**Sandstone**

Overall Well Depth
44.20m

Bedrock Level
0m

Water Bearing Fracture Zone

Well Log	Depth	Rate
20542	**20.73m**	**68.25 lpm**
20542	**32.92m**	**68.25 lpm**
20542	**39.32m**	**68.25 lpm**
20542	**40.84m**	**68.25 lpm**

Setbacks

Well Log	Distance	Setback From
20542	**3352.80m**	**Right of any Public Way Road**

New Nouveau Brunswick

Environment

Report Number **23146**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	08/24/2015

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
23146	Steel	15.24cm	0m	5.79m	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Pump	7.62m *(BTC - Below top of casing)*	31.85 lpm	0hr 30min	7.62m	32 lpm	No	0 lpm

Well Grouting

There is no Grout information.

Drilling Fluids Used
Water

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Jet

Intake Setting (BTC)
13.11m

Driller's Log

Well Log	From	End	Colour	Rock Type
23146	0m	0.30m	Brown	Till
23146	0.30m	0.61m	Unknown Rock Colour	Unknown
23146	0.61m	2.13m	Brown	Medium Sandstone
23146	2.13m	14.33m	Grey	Medium Sandstone
23146	14.33m	15.24m	Grey	Clay and Shale

Overall Well Depth
15.24m

Bedrock Level
0.30m

Water Bearing Fracture Zone

Well Log	Depth	Rate
23146	14.33m	31.85 lpm

Setbacks

Well Log	Distance	Setback From
23146	20.73m	Septic Tank
23146	23.16m	Leach Field
23146	457.20m	Right of any Public Way Road

New Nouveau Brunswick

Environment

Report Number **23682**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Other	New Well	Rotary	07/20/2009

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
23682	**Steel**	**15.24cm**	**0m**	**9.75m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	6.10m	341.25 lpm	1hr	6.10m	341 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
N/A

Intake Setting (BTC)
0m

Driller's Log

Well Log	From	End	Colour	Rock Type
23682	**0m**	**4.57m**	**Brown**	**Topsoil**
23682	**4.57m**	**9.75m**	**Brown**	**Gravel**
23682	**9.75m**	**21.34m**	**Grey**	**Sandstone**
23682	**21.34m**	**22.86m**	**Brown**	**Sandstone**
23682	**22.86m**	**24.38m**	**Grey**	**Sandstone**
23682	**24.38m**	**25.91m**	**Brown**	**Soft Rock**
23682	**25.91m**	**40.23m**	**Grey**	**Sandstone**
23682	**40.23m**	**41.15m**	**Brown**	**Sandstone**
23682	**41.15m**	**45.72m**	**Grey**	**Sandstone**

Overall Well Depth
45.72m

Bedrock Level
9.75m

Water Bearing Fracture Zone

Well Log	Depth	Rate
23682	**9.14m**	**614.25 lpm**
23682	**25.91m**	**91 lpm**

Setbacks

Well Log	Distance	Setback From
23682	**38.10m**	**Septic Tank**
23682	**45.72m**	**Leach Field**
23682	**1828.80m**	**Right of any Public Way Road**

New Nouveau Brunswick

Environment

Report Number **35180**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Non-Drinking Water, Other	New Well	Rotary	10/12/2018

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
35180	Steel	15.24cm	0m	11.89m	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	4.57m *(BTC - Below top of casing)*	318.5 lpm	0hr 40min	4.57m	318 lpm	No	0 lpm

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
18.29m

Driller's Log

Well Log	From	End	Colour	Rock Type
35180	0m	0.91m	Brown	Topsoil
35180	0.91m	3.35m	Green	Medium Sandstone
35180	3.35m	7.92m	Green	Fine Sandstone
35180	7.92m	10.67m	Grey	Shale
35180	10.67m	16.46m	Grey	Fine Sandstone
35180	16.46m	17.07m	Green	Medium Sandstone
35180	17.07m	19.51m	Grey	Fine Sandstone
35180	19.51m	20.12m	Grey	Limestone
35180	20.12m	21.34m	Grey	Fine Sandstone

Overall Well Depth
21.34m

Bedrock Level
0.91m

Water Bearing Fracture Zone

Well Log	Depth	Rate
35180	13.72m	45.5 lpm
35180	15.54m	45.5 lpm
35180	16.76m	91 lpm

Setbacks

Well Log	Distance	Setback From
35180	1828.80m	Center of road

New Nouveau Brunswick

Environment

Report Number **35182**

Well Driller's Report

Date printed 6/16/2021

Drilled by			
Well Use	Work Type	Drill Method	Work Completed
Non-Drinking Water, Other	New Well	Rotary	10/15/2018

Casing Information — Casing above ground — Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
35182	**Steel**	**15.24cm**	**0m**	**9.45m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	5.18m	273 lpm	0hr 40min	5.18m	273 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)
Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
12.19m

Driller's Log

Well Log	From	End	Colour	Rock Type
35182	**0m**	**0.91m**	**Brown**	**Earth and Sand**
35182	**0.91m**	**5.49m**	**Brown**	**Clay and Sandstone**
35182	**5.49m**	**9.14m**	**Green**	**Coarse Sandstone**
35182	**9.14m**	**9.75m**	**Brown**	**Medium Sandstone**
35182	**9.75m**	**13.41m**	**Brown**	**Medium Coarse Sandstone**

Overall Well Depth
13.41m

Bedrock Level
5.49m

Water Bearing Fracture Zone

There is no water bearing fracture zone information.

Setbacks

Well Log	Distance	Setback From
35182	**2133.60m**	**Center of road**

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Non-Drinking Water, Other	New Well	Rotary	10/15/2018

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
35182	**Steel**	**15.24cm**	**0m**	**9.45m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	5.18m	273 lpm	0hr 40min	5.18m	273 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
12.19m

Driller's Log

Well Log	From	End	Colour	Rock Type
35182	**0m**	**0.91m**	**Brown**	**Earth and Sand**
35182	**0.91m**	**5.49m**	**Brown**	**Clay and Sandstone**
35182	**5.49m**	**9.14m**	**Green**	**Coarse Sandstone**
35182	**9.14m**	**9.75m**	**Brown**	**Medium Sandstone**
35182	**9.75m**	**13.41m**	**Brown**	**Medium Coarse Sandstone**

Overall Well Depth
13.41m

Bedrock Level
5.49m

Water Bearing Fracture Zone

There is no water bearing fracture zone information.

Setbacks

Well Log	Distance	Setback From
35182	**2133.60m**	**Center of road**

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Non-Drinking Water, Other	New Well	Rotary	10/15/2018

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
35182	**Steel**	**15.24cm**	**0m**	**9.45m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	5.18m	273 lpm	0hr 40min	5.18m	273 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
12.19m

Driller's Log

Well Log	From	End	Colour	Rock Type
35182	**0m**	**0.91m**	**Brown**	**Earth and Sand**
35182	**0.91m**	**5.49m**	**Brown**	**Clay and Sandstone**
35182	**5.49m**	**9.14m**	**Green**	**Coarse Sandstone**
35182	**9.14m**	**9.75m**	**Brown**	**Medium Sandstone**
35182	**9.75m**	**13.41m**	**Brown**	**Medium Coarse Sandstone**

Overall Well Depth
13.41m

Bedrock Level
5.49m

Water Bearing Fracture Zone

There is no water bearing fracture zone information.

Setbacks

Well Log	Distance	Setback From
35182	**2133.60m**	**Center of road**

New Nouveau Brunswick

Environment

Report Number **37197**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	11/08/2018

Casing Information	Casing above ground	Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
37197	**Steel**	**15.24cm**	**0m**	**21.34m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	12.19m	136.5 lpm	1hr	12.19m	136 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
None

Disinfectant
Chlorine pellets
Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
24.38m

Driller's Log

Well Log	From	End	Colour	Rock Type
37197	**0m**	**5.49m**	**Grey**	**Sandstone**
37197	**5.49m**	**19.81m**	**Brown**	**Clay**
37197	**19.81m**	**36.58m**	**Grey**	**Sandstone**
37197	**36.58m**	**42.67m**	**Brown**	**Clay**

Overall Well Depth
42.67m

Bedrock Level
0m

Water Bearing Fracture Zone

Well Log	Depth	Rate
37197	**36.58m**	**136.5 lpm**

Setbacks

Well Log	Distance	Setback From
37197	**18.29m**	**Septic Tank**
37197	**24.38m**	**Leach Field**
37197	**22.86m**	**Right of any Public Way Road**
37197	**24.38m**	**Center of road**

New Nouveau Brunswick

Environment

Report Number **39380**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well	Rotary	07/15/2008

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
39380	Steel	15.24cm	0m	19.05m	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Pump	19.51m *(BTC - Below top of casing)*	204.75 lpm	1hr	19.51m	228 lpm	No	0 lpm

Well Grouting

There is no Grout information.

Drilling Fluids Used
Water

Disinfectant
Bleach (Javex)

Qty 0L

Pump Installed
Submersible
Intake Setting (BTC)
76.20m

Driller's Log

Well Log	From	End	Colour	Rock Type
39380	0m	0.61m	Brown	Fill
39380	0.61m	5.18m	Green	Coarse Sandstone
39380	5.18m	12.19m	Brown	Gravel
39380	12.19m	16.76m	Grey	Clay
39380	16.76m	28.35m	Grey	Fine Sandstone
39380	28.35m	29.87m	Grey	Limestone
39380	29.87m	34.14m	Grey	Medium Sandstone
39380	34.14m	38.71m	Grey	Fine Sandstone
39380	38.71m	42.67m	Grey	Medium Sandstone
39380	42.67m	77.72m	Grey	Fine Sandstone
39380	77.72m	79.25m	Grey	Shale and Limestone

Overall Well Depth
79.25m

Bedrock Level
16.76m

Water Bearing Fracture Zone

Well Log	Depth	Rate
39380	26.21m	27.3 lpm
39380	29.87m	18.2 lpm
39380	59.44m	136.5 lpm
39380	77.72m	91 lpm
39380	33.53m	9.1 lpm
39380	43.28m	22.75 lpm
39380	51.21m	45.5 lpm
39380	57.30m	45.5 lpm

Setbacks

Well Log	Distance	Setback From
39380	24.38m	Septic Tank
39380	30.48m	Leach Field
39380	304.80m	Right of any Public Way Road

New Nouveau Brunswick

Environment

Report Number **91394600**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well (NEW WELL)	Rotary (ROTARY)	06/23/1999

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
91394600	**Steel**	**15.24cm**	**0m**	**8.84m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Air	0m	9.1 lpm	0hr 20min	0m	9 lpm	No	0 lpm

(BTC - Below top of casing)

Well Grouting

There is no Grout information.

Drilling Fluids Used
Water

Disinfectant
Bleach (Javex)
Qty 4.55L

Pump Installed
N/A
Intake Setting (BTC)
42.67m

Driller's Log

Well Log	From	End	Colour	Rock Type
91394600	**0m**	**0.61m**	**Brown**	**Topsoil**
91394600	**0.61m**	**3.66m**	**Brown**	**Till**
91394600	**3.66m**	**6.10m**	**Brown**	**Shale**
91394600	**6.10m**	**8.53m**	**Brown**	**Clay**
91394600	**8.53m**	**22.86m**	**Brown**	**Sandstone**
91394600	**22.86m**	**27.43m**	**Red**	**Shale**
91394600	**27.43m**	**30.48m**	**Grey**	**Sandstone**
91394600	**30.48m**	**41.15m**	**Red**	**Shale**
91394600	**41.15m**	**44.20m**	**Grey**	**Sandstone**

Overall Well Depth
44.20m

Bedrock Level
8.53m

Water Bearing Fracture Zone

Well Log	Depth	Rate
91394600	**24.38m**	**9.1 lpm**

Setbacks

There is no Setback information.

New Nouveau Brunswick

Environment

Report Number **91660400**

Well Driller's Report

Date printed 6/16/2021

Drilled by

Well Use	Work Type	Drill Method	Work Completed
Drinking Water, Domestic	New Well (NEW WELL)	Rotary (ROTARY)	10/16/1999

Casing Information

Casing above ground

Drive Shoe Used?

Well Log	Casing Type	Diameter	From	End	Slotted?
91660400	**Steel**	**15.24cm**	**0m**	**6.71m**	

Aquifer Test/Yield

Method	Initial Water Level (BTC)	Pumping Rate	Duration	Final Water Level (BTC)	Estimated Safe Yield	Flowing Well?	Rate
Pump	16.76m	54.6 lpm	1hr	16.76m	55 lpm	No	0 lpm
	(BTC - Below top of casing)						

Well Grouting

There is no Grout information.

Drilling Fluids Used
Water

Disinfectant
Bleach (Javex)
Qty 4.55L

Pump Installed
Submersible
Intake Setting (BTC)
32.00m

Driller's Log

Well Log	From	End	Colour	Rock Type
91660400	**0m**	**0.91m**	**Brown**	**Topsoil and Sand**
91660400	**0.91m**	**1.83m**	**Brown**	**Clay**
91660400	**1.83m**	**5.49m**	**Brown**	**Coarse Sandstone and Sand**
91660400	**5.49m**	**22.86m**	**Brown**	**Medium Sandstone**
91660400	**22.86m**	**23.77m**	**Grey**	**Shale**
91660400	**23.77m**	**25.30m**	**Grey**	**Fine Sandstone**
91660400	**25.30m**	**27.43m**	**Grey**	**Sandstone**
91660400	**27.43m**	**34.14m**	**Grey**	**Fine Sandstone**
91660400	**34.14m**	**35.36m**	**Brown**	**Shale**

Overall Well Depth
35.36m

Bedrock Level
5.49m

Water Bearing Fracture Zone

Well Log	Depth	Rate
91660400	**22.25m**	**9.1 lpm**
91660400	**26.52m**	**18.2 lpm**
91660400	**29.87m**	**18.2 lpm**
91660400	**32.31m**	**27.3 lpm**

Setbacks

There is no Setback information.

APPENDIX G

Groundwater Chemistry Data

Table G1 - Analytical Results for OWLS records within 4850 m of the Project site (47.584044, -65.308903)

Parameter	WQG - Aquatic Life [1]	WQG - Agriculture [2]	GCDWQ [3]	Well A	Well B	Well C	Well D	Well E	Well F	Well G
Alkalinity (mg/L)	-	-	-	92.9	53.1	162	55.1	76		134
Aluminum (mg/L)	0.1 for pH ≥ 6.5	5	0.1 [OG]	0.056	<0.025	<0.025	<0.025	<0.025		0.387
Arsenic (µg/L)	5	100	10	<1.5	<1.5	<1.5	<1.5	<1.5		<1.5
Boron (mg/L)	1.5	0.5*	5	0.019	<0.01	0.09	<0.01	0.011		<0.2
Barium (mg/L)	no data	no data	2.0	0.104	0.078	0.172	0.097	0.086		0.207
Bromide (mg/L)	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Conductivity (µSIE/cm)	no data	no data	-	202	121	329	136	154		519
Calcium (mg/L)	no data	no data	-	25	13.3	42.2	16.5	21.4		56.1
Cadmium (µg/L)	calculated [4]	5.1	7	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5
Cadmium guideline for WQG - Aquatic Life (calculated) (µg/L)				*0.14*	*0.10*	*0.22*	*0.11*	*0.13*		*0.30*
Chloride (mg/L)	120	100*	250 [AO]	2.48	2.62	4.14	1.69	1.9		64.3
Chromium (µg/L)	no data	no data	50	<10	<10	15	<10	<10		18
Copper (µg/L)	calculated [4]	200*	2000, 1000 [AO]	<10	<10	11	<10	18		28
Copper guideline for WQG - Aquatic Life (calculated) (µg/L)				*2.13*	*2.00*	*3.29*	*2.00*	*2.00*		*4.00*
E.Coli (Presence/Absence)	no data	100 / 100 mL	Absent	Ab	Ab	Ab	Ab	Ab	Ab	
Fluoride (mg/L)	0.12	1	1.5	0.152	0.122	0.193	0.107	<0.1		<0.1
Iron (mg/L)	0.3	5	0.3 [AO]	0.11	0.026	0.271	0.175	0.045		0.15
Hardness (mg/L as CaCO3)	-	-	-	88.3	56.1	147	61	77.6		216
Potassium (mg/L)	-	-	-	1.79	0.4	1.6	0.6	1		2.45
Magnesium (mg/L)	-	-	-	6.29	5.55	10.2	4.8	5.87		18.5
Manganese (mg/L)	calculated [4]	0.2	0.12, 0.02 [AO]	0.051	<0.005	0.092	0.18	0.074		0.038
Manganese guideline for WQG - Aquatic Life (calculated) (mg/L)				*0.24*	*0.32*	*0.26*	*0.43*	*0.49*		*0.43*
Nitrite (mg/L)	0.197	no data	3	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Nitrate (mg/L)	13	no data	45	<0.05	0.07	<0.05	<0.05	<0.05		1.5
Nitrite/Nitrate (mg/L)	no data	no data	-	<0.05	0.12	<0.05	0.07	<0.05		1.5
Sodium (mg/L)	-	-	200 [AO]	2.92	2.37	12.7	2.97	2.75		17.2
Lead (µg/L)	calculated [4]	200	5	1.5	1.1	<1	<1	2.5		1.79
Lead guideline for WQG - Aquatic Life (calculated) (µg/L)				*2.72*	*1.00*	*5.20*	*1.70*	*2.30*		*7.00*
Sulphate (mg/L)	no data	no data	500 [AO]	11.6	5.85	7.08	7.7	7.45		10.6
Antimony (µg/L)	no data	no data	6	<1	<1	<1	<1	<1		1.22
Selenium (µg/L)	1	20*	50	<1.5	<1.5	<1.5	<1.5	<1.5		<1.5
Total Coliforms (Presence/Absence)	no data	1000 / 100 mL	Absent	Ab	Pr	Pr	Pr	Ab	Ab	
Turbidity (NTU)	N/A [5]	no data	1.0	6.38	0.43	4.55	0.85	0.6		4.4
Thallium (µg/L)	0.8	no data	-	<1	<1	<1	<1	<1		<1
Uranium (µg/L)	15	10	20	<0.5	<0.5	<0.5	<0.5	<0.5		
Zinc (µg/L)	calculated [6]	calculated [6]	5000 [AO]	8	20	<5	<5	6		93
pH (units)	6.5 - 9.0	no data	7.0-10.5 [OG]	8.07	7.8	8.11	7.3	7.37		7.95
Total Dissolved Solids (mg/L)	no data	500*	500 [AO]	106.43	62.691	176.04	68.233	86.562		256.993

Notes:

1 Water Quality Guidelines for the Protection of Aquatic Life (Freshwater, long-term). Canadian Council of Ministers of the Environment, referenced online July 5, 2021.

2 Water Quality Guidelines for the Protection of Agriculture (Irrigation). Canadian Council of Ministers of the Environment, referenced online July 5, 2021.

3 Guidelines for Canadian Drinking Water Quality - Summary Table. Health Canada, 2020. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. Reported guidelines are for Maximum Allowable Concentrations (MACs) unless otherwise noted to be Operational Guidelines (OGs) or Aesthetic Objectives (AOs).

4 Guideline value is calculated using the individual sample's water hardness and/or pH. Resulting value is given in next row of table.

5 Not applicable to historical groundwater data - the guidance is related to the allowable increase in the turbidity of a water body due to nearby anthropogenic activity.

6 Information required to calculate the guideline is not available.

* Most conservative value was selected.

Values shaded orange indicate an exceedance of one or more GCDWQs.

Values shaded green indicate an exceedance of the WQG - Aquatic Life.

APPENDIX H

Site Photos

Site Photos

PHOTO 1 — View of a local depression on the center western portion of the Site looking north. July 12, 2021.

PHOTO 2 — View of managed wild blueberry field located on the southwestern portion of the Site near well 20-3 (formerly Val-Doucet 3-2). The lines of trees are windbreaks. July 12, 2021.

Site Photos

PHOTO 3 — View of well 20-3 (formerly Val Doucet 3-2)

PHOTO 4 — View of insert in well 20-3. A similar insert is present in well 20-4.

Site Photos

PHOTO 5 — View of well 20-3 (formerly Val-Doucet 3-2) surroundings, looking north.

PHOTO 6 — View of well 20-3 (formerly Val-Doucet 3-2) surroundings, looking east.

Site Photos

PHOTO 7 — View of well 20-3 (formerly Val-Doucet 3-2) surroundings, looking southwest.

PHOTO 8 — View of well 20-3 (formerly Val-Doucet 3-2) surroundings, looking northwest.

Site Photos

PHOTO 9 — View of wooded area to the south of supply well 20-3 (formerly Val-Doucet 3-2) looking west. July 12, 2021.

PHOTO 10 — View of wooded area to the south of supply well 20-3 (formerly Val-Doucet 3-2) looking south. July 12, 2021

Site Photos

PHOTO 11 — View of well 20-4 (formerly Val-Doucet 3-1).

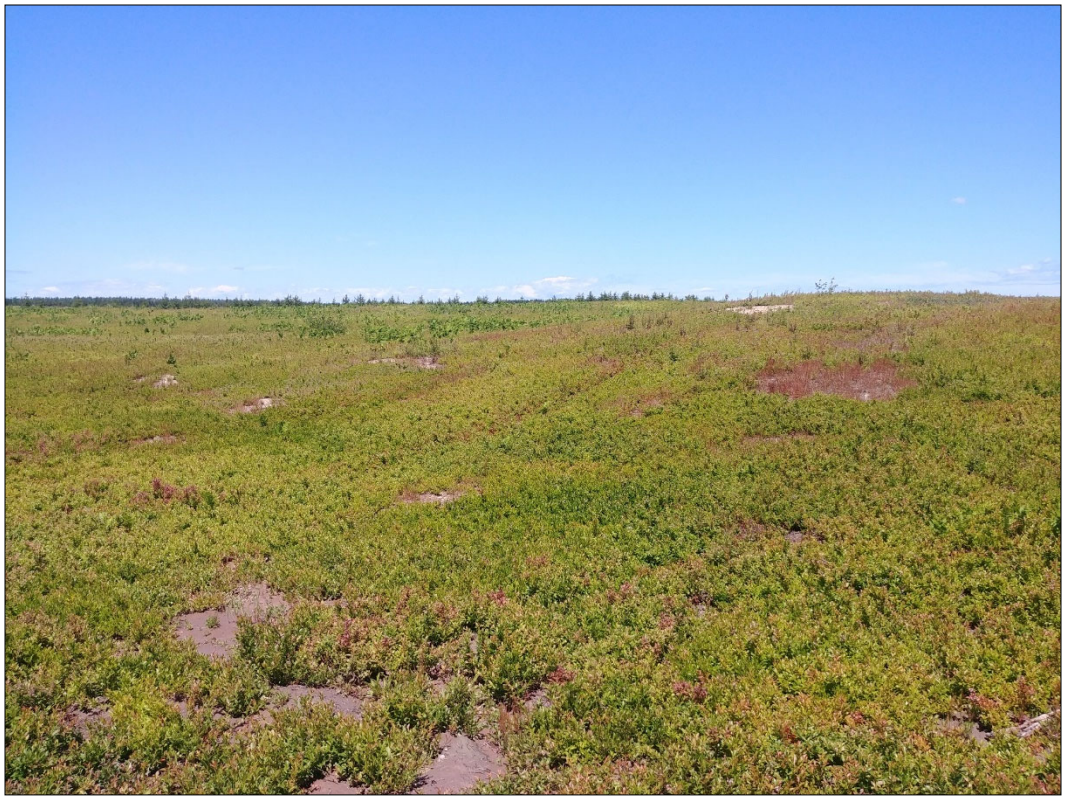

PHOTO 12 — View of well 20-4 (formerly Val-Doucet 3-1) surroundings, looking north.

Site Photos

PHOTO 13 — View of well 20-4 (formerly Val-Doucet 3-1) surroundings, looking east.

PHOTO 14 — View of well 20-4 (formerly Val-Doucet 3-1) surroundings, looking south.

Site Photos

PHOTO 15 — View of well 20-4 (formerly Val-Doucet 3-1) surroundings, looking west.

PHOTO 16 — View of well 20-1 (formerly Val-Doucet 1-3).

PHOTO 17 — View of well 20-2 (formerly Val-Doucet 1-2).

PHOTO 18 — View of Farm Well, located on the northern portion of the Project site.

PHOTO 19 — View of building serviced by the Farm Well.

PHOTO 20 — View of Farm Well location.

PHOTO 21 — View of the forested channels to the south of the Pokemouche River. July 12, 2021.

PHOTO 22 — View of forested channel to the south of the Pokemouche River. July 12, 2021.

PHOTO 23 — View of wetland channel to the north of the Big Tracadie River. July 12, 2021.

PHOTO 24 — View of the inlet to the Big Tracadie River. July 12, 2021.

APPENDIX I

ACCDC Report

Atlantic Canada Conservation Data Centre
Centre de données sur la conservation du Canada atlantique

DATA REPORT 6987: Val-Doucet, NB

Prepared 29 June 2021
by C. Robicheau, Data Manager

CONTENTS OF REPORT

Map 1. A 100 km buffer around the study area

1.0 PREFACE

The Atlantic Canada Conservation Data Centre (AC CDC; www.accdc.com) is part of a network of NatureServe data centres and heritage programs serving 50 states in the U.S.A, 10 provinces and 1 territory in Canada, plus several Central and South American countries. The NatureServe network is more than 30 years old and shares a common conservation data methodology. The AC CDC was founded in 1997, and maintains data for the jurisdictions of New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. Although a non-governmental agency, the AC CDC is supported by 6 federal agencies and 4 provincial governments, as well as through outside grants and data processing fees.

Upon request and for a fee, the AC CDC queries its database and produces customized reports of the rare and endangered flora and fauna known to occur in or near a specified study area. As a supplement to that data, the AC CDC includes locations of managed areas with some level of protection, and known sites of ecological interest or sensitivity.

1.1 DATA LIST

Included datasets:

Filename	Contents
ValDoucetNB_6987ob.xls	Rare or legally-protected Flora and Fauna in your study area
ValDoucetNB_6987ob100km.xls	A list of Rare and legally protected Flora and Fauna within 100 km of your study area
ValDoucetNB_6987msa xls	Managed and Biologically Significant Areas in your study area

1.2 RESTRICTIONS

The AC CDC makes a strong effort to verify the accuracy of all the data that it manages, but it shall not be held responsible for any inaccuracies in data that it provides. By accepting AC CDC data, recipients assent to the following limits of use:

a) Data is restricted to use by trained personnel who are sensitive to landowner interests and to potential threats to rare and/or endangered flora and fauna posed by the information provided.
b) Data is restricted to use by the specified Data User; any third party requiring data must make its own data request.
c) The AC CDC requires Data Users to cease using and delete data 12 months after receipt, and to make a new request for updated data if necessary at that time.
d) AC CDC data responses are restricted to the data in our Data System at the time of the data request.
e) Each record has an estimate of locational uncertainty, which must be referenced in order to understand the record's relevance to a particular location. Please see attached Data Dictionary for details.
f) AC CDC data responses are not to be construed as exhaustive inventories of taxa in an area.
g) The absence of a taxon cannot be inferred by its absence in an AC CDC data response.

1.3 ADDITIONAL INFORMATION

The accompanying Data Dictionary provides metadata for the data provided.

Please direct any additional questions about AC CDC data to the following individuals:

Plants, Lichens, Ranking Methods, All other Inquiries
Sean Blaney, Senior Scientist, Executive Director
Tel: (506) 364-2658
sean.blaney@accdc.ca

Animals (Fauna)
John Klymko, Zoologist
Tel: (506) 364-2660
john.klymko@accdc.ca

Plant Communities
Sarah Robinson, Community Ecologist
Tel: (506) 364-2664
sarah robinson@accdc.ca

Data Management, GIS
James Churchill, Data Manager
Tel: (902) 679-6146
james.churchill@accdc.ca

Billing
Jean Breau
Tel: (506) 364-2657
jean.breau@accdc.ca

Questions on the biology of Federal Species at Risk can be directed to AC CDC: (506) 364-2658, with questions on Species at Risk regulations to: Samara Eaton, Canadian Wildlife Service (NB and PE): (506) 364-5060 or Julie McKnight, Canadian Wildlife Service (NS): (902) 426-4196.

For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in New Brunswick, please contact Hubert Askanas, Energy and Resource Development: (506) 453-5873.

For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in Nova Scotia, please contact Donna Hurlburt, NS DLF: (902) 679-6886. To determine if location-sensitive species (section 4.3) occur near your study site please contact a NS DLF Regional Biologist:

Western: Emma Vost
(902) 670-8187
Emma.Vost@novascotia.ca

Western: Sarah Spencer
(902) 541-0081
Sarah.Spencer@novascotia.ca

Central: Shavonne Meyer
(902) 893-0816
Shavonne.Meyer@novascotia.ca

Central: Kimberly George
(902) 890-1046
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Eastern: Harrison Moore
(902) 497-4119
Harrison.Moore@novascotia.ca

Eastern: Maureen Cameron-MacMillan
(902) 295-2554
Maureen.Cameron-MacMillan@novascotia.ca

Eastern: Elizabeth Walsh
(902) 563-3370
Elizabeth.Walsh@novascotia.ca

For provincial information about rare taxa and protected areas, or information about game animals, fish habitat etc., in Prince Edward Island, please contact Garry Gregory, PEI Dept. of Communities, Land and Environment: (902) 569-7595.

2.0 RARE AND ENDANGERED SPECIES

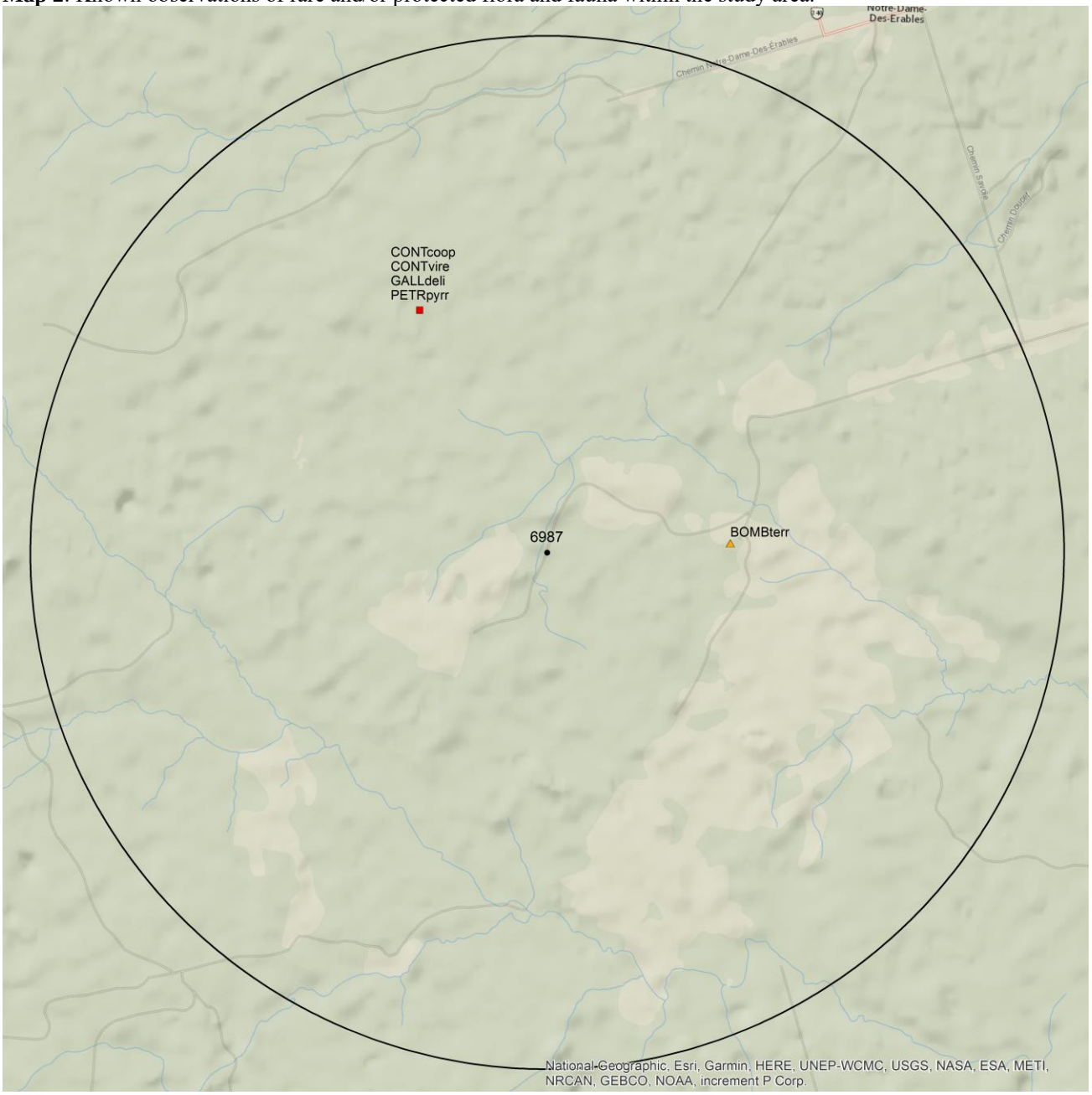
2.1 FLORA

The study area contains no records of vascular or nonvascular flora (Map 2 and attached: *ob.xls).

2.2 FAUNA

The study area contains 4 records of 4 vertebrate, 1 record of 1 invertebrate fauna (Map 2 and attached data files - see 1.1 Data List). Please see section 4.3 to determine if 'location-sensitive' species occur near your study site.

Map 2: Known observations of rare and/or protected flora and fauna within the study area.



RESOLUTION
- 4.7 within 50s of kilometers
- 4.0 within 10s of kilometers
- 3.7 within 5s of kilometers
- 3.0 within kilometers
- 2.7 within 500s of meters
- 2.0 within 100s of meters
- 1.7 within 10s of meters

HIGHER TAXON
- vertebrate fauna
- invertebrate fauna
- vascular flora
- nonvascular flora

3.0 SPECIAL AREAS

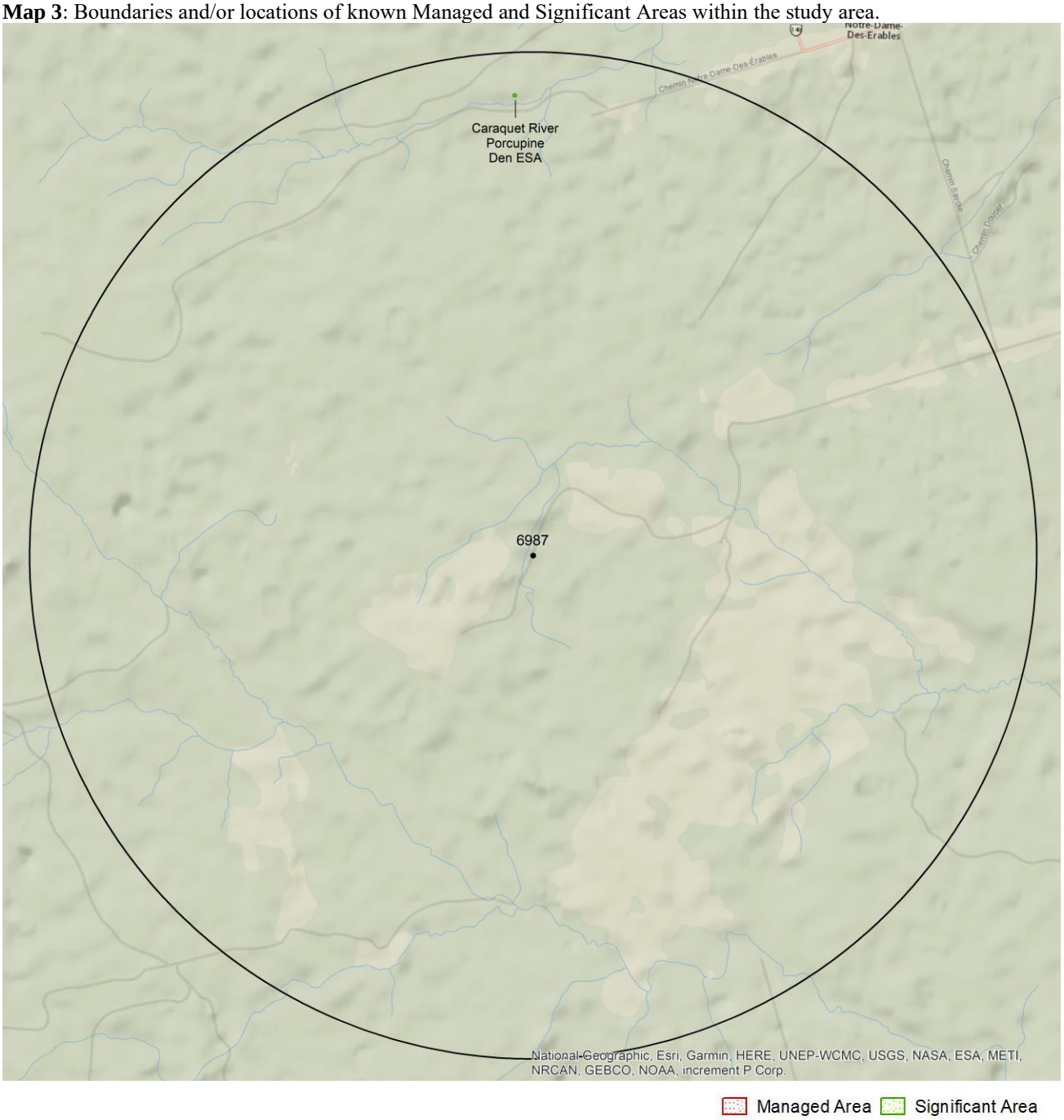
3.1 MANAGED AREAS

The GIS scan identified no managed areas in the vicinity of the study area (Map 3 and attached file: *msa.xls).

3.2 SIGNIFICANT AREAS

The GIS scan identified 1 biologically significant site in the vicinity of the study area (Map 3 and attached file: *msa.xls).

Map 3: Boundaries and/or locations of known Managed and Significant Areas within the study area.



4.0 RARE SPECIES LISTS

Rare and/or endangered taxa (excluding "location-sensitive" species, section 4.3) within the study area listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation (± the precision, in km, of the record). [P] = vascular plant, [N] = nonvascular plant, [A] = vertebrate animal, [I] = invertebrate animal, [C] = community. Note: records are from attached files *ob.xls/*ob.shp only.

4.1 FLORA

Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
N/A	N/A						

4.2 FAUNA

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	*Contopus cooperi*	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B,S3M	1	2.6 ± 7.0
A	*Contopus virens*	Eastern Wood-Pewee	Special Concern	Special Concern	Special Concern	S4B,S4M	1	2.6 ± 7.0
A	*Petrochelidon pyrrhonota*	Cliff Swallow				S2S3B,S2S3M	1	2.7 ± 7.0
A	*Gallinago delicata*	Wilson's Snipe				S3S4B,S5M	1	2.6 ± 7.0
I	*Bombus terricola*	Yellow-banded Bumblebee	Special Concern	Special Concern		S3?	1	1.8 ± 0.0

4.3 LOCATION SENSITIVE SPECIES

The Department of Natural Resources in each Maritimes province considers a number of species "location sensitive". Concern about exploitation of location-sensitive species precludes inclusion of precise coordinates in this report. Those intersecting your study area are indicated below with "YES".

New Brunswick

Scientific *Name*	Common Name	SARA	Prov Legal Prot	Known within the Study Site?
Chrysemys picta picta	Eastern Painted Turtle			No
Chelydra serpentina	Snapping Turtle	Special Concern	Special Concern	No
Glyptemys insculpta	Wood Turtle	Threatened	Threatened	No
Haliaeetus leucocephalus	Bald Eagle		Endangered	No
Falco peregrinus pop. 1	Peregrine Falcon - anatum/tundrius pop.	Special Concern	Endangered	No
Cicindela marginipennis	Cobblestone Tiger Beetle	Endangered	Endangered	No
Coenonympha nipisiquit	Maritime Ringlet	Endangered	Endangered	No
Bat hibernaculum or bat species occurrence		[Endangered][1]	[Endangered][1]	No

1 *Myotis lucifugus* (Little Brown Myotis), *Myotis septentrionalis* (Long-eared Myotis), and *Perimyotis subflavus* (Tri-colored Bat or Eastern Pipistrelle) are all Endangered under the Federal Species at Risk Act and he NB Species at Risk Act.

4.4 SOURCE BIBLIOGRAPHY

The recipient of these data shall acknowledge the AC CDC and the data sources listed below in any documents, reports, publications or presentations, in which this dataset makes a significant contribution.

# recs	CITATION
3	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
1	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
1	Richardson, Leif. 2018. Maritimes Bombus records from various sources. Richardson, Leif.
1	Tims, J. & Craig, N. 1995. Environmentally Significant Areas in New Brunswick (NBESA). NB Dept of Environment & Nature Trust of New Brunswick Inc, 6042 recs. https://doi.org/10.1037/arc0000014.

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 22454 records of 136 vertebrate and 800 records of 56 invertebrate fauna; 6916 records of 278 vascular and 546 records of 110 nonvascular flora (attached: *ob100km.xls).

Taxa within 100 km of the study site that are rare and/or endangered in the province in which the study site occurs (including “location-sensitive” species). All ranks correspond to the province in which the study site falls, even for out-of-province records. Taxa are listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation (± the precision, in km, of the record).

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Myotis lucifugus*	Little Brown Myotis	Endangered	Endangered	Endangered	S1	1	91.3 ± 1.0	NB
A	*Eubalaena glacialis*	North Atlantic Right Whale	Endangered	Endangered	Endangered	S1	2	77.2 ± 0.0	NB
A	*Charadrius melodus melodus*	Piping Plover melodus ssp	Endangered	Endangered	Endangered	S1B,S1M	3316	24.0 ± 0.0	NB
A	*Dermochelys coriacea (Atlantic pop)*	Leatherback Sea Tur le - Atlantic pop.	Endangered	Endangered	Endangered	S1S2N	4	41.5 ± 1.0	NB
A	*Pagophila eburnea*	Ivory Gull	Endangered	Endangered		SNA	1	37.2 ± 0.0	NB
A	*Empidonax virescens*	Acadian Flycatcher	Endangered	Endangered		SNA	1	95.9 ± 0.0	NB
A	*Delphinapterus leucas*	Beluga Whale - St Lawrence Estuary pop.	Endangered	Endangered		SNA	3	63.1 ± 1.0	NB
A	*Rangifer tarandus pop. 2*	Woodland Caribou (Atlantic-Gasp ├⌐sie pop.)	Endangered	Endangered	Extirpated	SX	4	38.2 ± 1.0	NB
A	*Leucoraja ocellata pop. 5*	Winter Skate - Gulf of St Lawrence pop.	Endangered		Endangered		4	34.1 ± 0.0	NB
A	*Sturnella magna*	Eastern Meadowlark	Threatened	Threatened	Threatened	S1B,S1M	4	26.6 ± 0.0	NB
A	*Ixobrychus exilis*	Least Bittern	Threatened	Threatened	Threatened	S1S2B,S1S2M	1	87.1 ± 0.0	NB
A	*Hylocichla mustelina*	Wood Thrush	Threatened	Threatened	Threatened	S1S2B,S1S2M	37	11.8 ± 7.0	NB
A	*Antrostomus vociferus*	Eastern Whip-Poor-Will	Threatened	Threatened	Threatened	S2B,S2M	39	34.9 ± 7.0	NB
A	*Hirundo rustica*	Barn Swallow	Threatened	Threatened	Threatened	S2B,S2M	480	6.8 ± 0.0	NB
A	*Catharus bicknelli*	Bicknell's Thrush	Threatened	Threatened	Threatened	S2B,S2M	113	69.5 ± 7.0	NB
A	*Oceanodroma leucorhoa*	Leach's Storm-Petrel	Threatened			S2B,SUM	1	49.7 ± 0.0	NB
A	*Glyptemys insculpta*	Wood Turtle	Threatened	Threatened	Threatened	S2S3	245	18.2 ± 0.0	NB
A	*Chaetura pelagica*	Chimney Swift	Threatened	Threatened	Threatened	S2S3B,S2M	200	11.1 ± 1.0	NB
A	*Riparia riparia*	Bank Swallow	Threatened	Threatened		S2S3B,S2S3M	633	9.1 ± 7.0	NB
A	*Dolichonyx oryzivorus*	Bobolink	Threatened	Threatened	Threatened	S3B,S3M	498	6.8 ± 0.0	NB
A	*Limosa haemastica*	Hudsonian Godwit	Threatened			S3S4M	384	25.4 ± 1.0	NB
A	*Anguilla rostrata*	American Eel	Threatened		Threatened	S4	9	28.8 ± 0.0	NB
A	*Tringa flavipes*	Lesser Yellowlegs	Threatened			S4M	743	26.9 ± 0.0	NB
A	*Vermivora chrysoptera*	Golden-winged Warbler	Threatened	Threatened		SNA	1	31.8 ± 1.0	NB
A	*Coturnicops noveboracensis*	Yellow Rail	Special Concern	Special Concern	Special Concern	S1?B,SUM	2	94.7 ± 0.0	NB
A	*Histrionicus histrionicus pop. 1*	Harlequin Duck - Eastern pop.	Special Concern	Special Concern	Endangered	S1B,S1S2N,S2M	14	35.7 ± 0.0	NB
A	*Asio flammeus*	Short-eared Owl	Special Concern	Special Concern	Special Concern	S2B,S2M	18	13.5 ± 0.0	NB
A	*Bucephala islandica (Eastern pop)*	Barrow's Goldeneye - Eastern pop.	Special Concern	Special Concern	Special Concern	S2M,S2N	46	25.5 ± 5.0	NB
A	*Salmo salar pop. 12*	Atlantic Salmon - Gaspe - Southern Gulf of St Lawrence pop.	Special Concern		Special Concern	S2S3	394	25.7 ± 1.0	NB
A	*Chelydra serpentina*	Snapping Turtle	Special Concern	Special Concern	Special Concern	S3	2	65.8 ± 0.0	NB
A	*Euphagus carolinus*	Rusty Blackbird	Special Concern	Special Concern	Special Concern	S3B,S3M	98	16.7 ± 7.0	NB
A	*Contopus cooperi*	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B,S3M	278	2.6 ± 7.0	NB
A	*Cardellina canadensis*	Canada Warbler	Special Concern	Threatened	Threatened	S3B,S3M	292	9.1 ± 7.0	NB
A	*Coccothraustes vespertinus*	Evening Grosbeak	Special Concern	Special Concern		S3B,S3S4N,SUM	318	7.8 ± 7.0	NB
A	*Chordeiles minor*	Common Nighthawk	Special Concern	Threatened	Threatened	S3B,S4M	232	11.5 ± 7.0	NB
A	*Phalaropus lobatus*	Red-necked Phalarope	Special Concern	Special Concern		S3M	6	31.8 ± 1.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Phocoena phocoena*	Harbour Porpoise	Special Concern		Spec.Concern	S4	6	38.7 ± 0.0	NB
A	*Chrysemys picta picta*	Eastern Painted Turtle	Special Concern			S4	6	98.8 ± 0.0	NB
A	*Contopus virens*	Eastern Wood-Pewee	Special Concern	Special Concern	Special Concern	S4B,S4M	278	2.6 ± 7.0	NB
A	*Podiceps auritus*	Horned Grebe	Special Concern	Special Concern	Special Concern	S4N,S4M	3	36.1 ± 3.0	NB
A	*Calidris subruficollis*	Buff-breasted Sandpiper	Special Concern	Special Concern		SNA	25	56.2 ± 1.0	NB
A	*Falco peregrinus pop. 1*	Peregrine Falcon - anatum/tundrius	Not At Risk	Special Concern	Endangered	S1B,S3M	11	36.8 ± 2.0	NB
A	*Bubo scandiacus*	Snowy Owl	Not At Risk			S1N,S2S3M	18	24.9 ± 15.0	NB
A	*Accipiter cooperii*	Cooper's Hawk	Not At Risk			S1S2B,S1S2M	1	64.7 ± 3.0	NB
A	*Fulica americana*	American Coot	Not At Risk			S1S2B,S1S2M	7	31.3 ± 7.0	NB
A	*Aegolius funereus*	Boreal Owl	Not At Risk			S1S2B,SUM	13	29.2 ± 7.0	NB
A	*Buteo lineatus*	Red-shouldered Hawk	Not At Risk			S2B,S2M	8	7.9 ± 1.0	NB
A	*Chlidonias niger*	Black Tern	Not At Risk			S2B,S2M	5	88.6 ± 0.0	NB
A	*Globicephala melas*	Long-finned Pilot Whale	Not At Risk			S2S3	2	44.4 ± 1.0	NB
A	*Lynx canadensis*	Canadian Lynx	Not At Risk		Endangered	S3	38	22.1 ± 0.0	NB
A	*Sterna hirundo*	Common Tern	Not At Risk			S3B,SUM	678	21.4 ± 7.0	NB
A	*Podiceps grisegena*	Red-necked Grebe	Not At Risk			S3M,S2N	7	34.8 ± 1.0	NB
A	*Lagenorhynchus acutus*	Atlantic White-sided Dolphin	Not At Risk			S3S4	1	55.4 ± 0.0	NB
A	*Haliaeetus leucocephalus*	Bald Eagle	Not At Risk		Endangered	S4	359	15.1 ± 7.0	NB
A	*Puma concolor pop. 1*	Eastern Cougar	Data Deficient		Endangered	SNA	35	17.8 ± 1.0	NB
A	*Calidris canutus rufa*	Red Knot rufa subspecies	E,SC	Endangered	Endangered	S2M	514	26.9 ± 0.0	NB
A	*Morone saxatilis*	Striped Bass	E,SC			S3	21	23.8 ± 10.0	NB
A	*Odobenus rosmarus pop. 5*	Atlantic Walrus - Nova Scotia-Newfoundland-Gulf of St. Lawrence population (DU3)	X			SX	6	25.9 ± 1.0	NB
A	*Thryothorus ludovicianus*	Carolina Wren				S1	2	63.8 ± 0.0	NB
A	*Salvelinus alpinus*	Arctic Char				S1	8	89.0 ± 1.0	NB
A	*Synaptomys borealis sphagnicola*	Northern Bog Lemming				S1	3	85.8 ± 1.0	NB
A	*Tringa melanoleuca*	Greater Yellowlegs				S1?B,S5M	951	26.9 ± 0.0	NB
A	*Aythya americana*	Redhead				S1B,S1M	2	31.8 ± 1.0	NB
A	*Antigone canadensis*	Sandhill Crane				S1B,S1M	5	61.9 ± 1.0	NB
A	*Bartramia longicauda*	Upland Sandpiper				S1B,S1M	8	19.7 ± 1.0	NB
A	*Phalaropus tricolor*	Wilson's Phalarope				S1B,S1M	19	17.9 ± 1.0	NB
A	*Leucophaeus atricilla*	Laughing Gull				S1B,S1M	2	50.4 ± 0.0	NB
A	*Progne subis*	Purple Martin				S1B,S1M	4	90.3 ± 10.0	NB
A	*Oxyura jamaicensis*	Ruddy Duck				S1B,S2S3M	11	29.8 ± 7.0	NB
A	*Uria aalge*	Common Murre				S1B,S3N,S3M	7	23.4 ± 0.0	NB
A	*Aythya affinis*	Lesser Scaup				S1B,S4M	47	18.9 ± 24.0	NB
A	*Aythya marila*	Greater Scaup				S1B,S4M,S2N	27	31.5 ± 0.0	NB
A	*Eremophila alpestris*	Horned Lark				S1B,S4N,S5M	134	13.1 ± 0.0	NB
A	*Sterna paradisaea*	Arctic Tern				S1B,SUM	36	24.8 ± 0.0	NB
A	*Fratercula arctica*	Atlantic Puffin				S1B,SUN,SUM	1	42.6 ± 0.0	NB
A	*Chroicocephalus ridibundus*	Black-headed Gull				S1N,S2M	6	31.8 ± 1.0	NB
A	*Branta bernicla*	Brant				S1N,S2S3M	84	25.2 ± 10.0	NB
A	*Butorides virescens*	Green Heron				S1S2B,S1S2M	2	27.7 ± 0.0	NB
A	*Nycticorax nycticorax*	Black-crowned Night-heron				S1S2B,S1S2M	300	19.4 ± 0.0	NB
A	*Empidonax traillii*	Willow Flycatcher				S1S2B,S1S2M	15	19.6 ± 0.0	NB
A	*Stelgidopteryx serripennis*	Northern Rough-winged Swallow				S1S2B,S1S2M	5	26.6 ± 0.0	NB
A	*Troglodytes aedon*	House Wren				S1S2B,S1S2M	6	20.3 ± 7.0	NB
A	*Rissa tridactyla*	Black-legged Kittiwake				S1S2B,S4N,S5M	36	19.4 ± 0.0	NB
A	*Calidris bairdii*	Baird's Sandpiper				S1S2M	28	36.7 ± 1.0	NB
A	*Mimus polyglottos*	Northern Mockingbird				S2B,S2M	64	23.1 ± 1.0	NB
A	*Toxostoma rufum*	Brown Thrasher				S2B,S2M	27	11.6 ± 7.0	NB
A	*Pooecetes gramineus*	Vesper Sparrow				S2B,S2M	57	10.9 ± 0.0	NB

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A	*Mareca strepera*	Gadwall				S2B,S3M	61	29.3 ± 7.0	NB
A	*Alca torda*	Razorbill				S2B,S3N,S3M	21	22.7 ± 14.0	NB
A	*Pinicola enucleator*	Pine Grosbeak				S2B,S4S5N,S4S5M	48	8.5 ± 7.0	NB
A	*Tringa solitaria*	Solitary Sandpiper				S2B,S5M	82	11.6 ± 7.0	NB
A	*Anser caerulescens*	Snow Goose				S2M	8	34.8 ± 1.0	NB
A	*Phalacrocorax carbo*	Great Cormorant				S2N,S2M	8	26.4 ± 0.0	NB
A	*Somateria spectabilis*	King Eider				S2N,S2M	2	34.8 ± 1.0	NB
A	*Larus hyperboreus*	Glaucous Gull				S2N,S2M	18	25.5 ± 5.0	NB
A	*Asio otus*	Long-eared Owl				S2S3	13	10.1 ± 1.0	NB
A	*Picoides dorsalis*	American Three-toed Woodpecker				S2S3	35	14.3 ± 7.0	NB
A	*Spatula clypeata*	Northern Shoveler				S2S3B,S2S3M	75	29.8 ± 7.0	NB
A	*Myiarchus crinitus*	Great Crested Flycatcher				S2S3B,S2S3M	18	32.0 ± 1.0	NB
A	*Petrochelidon pyrrhonota*	Cliff Swallow				S2S3B,S2S3M	252	2.7 ± 7.0	NB
A	*Pluvialis dominica*	American Golden-Plover				S2S3M	111	26.9 ± 0.0	NB
A	*Calcarius lapponicus*	Lapland Longspur				S2S3N,SUM	8	34.1 ± 1.0	NB
A	*Cepphus grylle*	Black Guillemot				S3	77	15.9 ± 0.0	NB
A	*Loxia curvirostra*	Red Crossbill				S3	65	11.5 ± 7.0	NB
A	*Spinus pinus*	Pine Siskin				S3	227	11.5 ± 7.0	NB
A	*Sorex maritimensis*	Maritime Shrew				S3	38	67.9 ± 0.0	NB
A	*Cathartes aura*	Turkey Vulture				S3B,S3M	17	20.1 ± 0.0	NB
A	*Rallus limicola*	Virginia Rail				S3B,S3M	13	24.6 ± 7.0	NB
A	*Charadrius vociferus*	Killdeer				S3B,S3M	753	7.8 ± 7.0	NB
A	*Tringa semipalmata*	Willet				S3B,S3M	444	26.9 ± 0.0	NB
A	*Coccyzus erythropthalmus*	Black-billed Cuckoo				S3B,S3M	96	13.6 ± 7.0	NB
A	*Vireo gilvus*	Warbling Vireo				S3B,S3M	53	18.9 ± 7.0	NB
A	*Piranga olivacea*	Scarlet Tanager				S3B,S3M	35	7.5 ± 0.0	NB
A	*Passerina cyanea*	Indigo Bunting				S3B,S3M	20	34.9 ± 1.0	NB
A	*Molothrus ater*	Brown-headed Cowbird				S3B,S3M	133	11.6 ± 7.0	NB
A	*Icterus galbula*	Baltimore Oriole				S3B,S3M	55	18.9 ± 7.0	NB
A	*Somateria mollissima*	Common Eider				S3B,S4M,S3N	230	16.4 ± 0.0	NB
A	*Setophaga tigrina*	Cape May Warbler				S3B,S4S5M	187	9.6 ± 0.0	NB
A	*Anas acuta*	Northern Pintail				S3B,S5M	212	20.3 ± 7.0	NB
A	*Mergus serrator*	Red-breasted Merganser				S3B,S5M,S4S5N	302	11.6 ± 7.0	NB
A	*Arenaria interpres*	Ruddy Turnstone				S3M	858	23.6 ± 0.0	NB
A	*Phalaropus fulicarius*	Red Phalarope				S3M	4	40.5 ± 0.0	NB
A	*Melanitta americana*	Black Scoter				S3M,S1S2N	171	23.2 ± 0.0	NB
A	*Bucephala albeola*	Bufflehead				S3M,S2N	32	25.5 ± 5.0	NB
A	*Calidris maritima*	Purple Sandpiper				S3M,S3N	24	26.9 ± 0.0	NB
A	*Synaptomys cooperi*	Southern Bog Lemming				S3S4	11	71.2 ± 0.0	NB
A	*Tyrannus tyrannus*	Eastern Kingbird				S3S4B,S3S4M	204	7.8 ± 7.0	NB
A	*Actitis macularius*	Spotted Sandpiper				S3S4B,S5M	1157	11.5 ± 7.0	NB
A	*Gallinago delicata*	Wilson's Snipe				S3S4B,S5M	317	2.6 ± 7.0	NB
A	*Larus delawarensis*	Ring-billed Gull				S3S4B,S5M	479	16.4 ± 0.0	NB
A	*Setophaga striata*	Blackpoll Warbler				S3S4B,S5M	173	13.6 ± 7.0	NB
A	*Pluvialis squatarola*	Black-bellied Plover				S3S4M	755	24.1 ± 0.0	NB
A	*Calidris pusilla*	Semipalmated Sandpiper				S3S4M	1063	23.6 ± 0.0	NB
A	*Calidris melanotos*	Pectoral Sandpiper				S3S4M	174	33.5 ± 0.0	NB
A	*Calidris alba*	Sanderling				S3S4M,S1N	663	24.7 ± 0.0	NB
A	*Morus bassanus*	Northern Gannet				SHB,S5M	289	15.8 ± 0.0	NB
I	*Coenonympha nipisiquit*	Maritime Ringlet	Endangered	Endangered	Endangered	S1	103	21.4 ± 7.0	NB
I	*Danaus plexippus*	Monarch	Endangered	Special Concern	Special Concern	S3B,S3M	21	40.5 ± 0.0	NB
I	*Ophiogomphus howei*	Pygmy Snaketail	Special Concern	Special Concern	Special Concern	S2	1	96.5 ± 1.0	NB
I	*Alasmidonta varicosa*	Brook Floater	Special Concern	Special Concern	Special Concern	S2	8	81.1 ± 0.0	NB
I	*Bombus terricola*	Yellow-banded Bumblebee	Special Concern	Special Concern		S3?	42	1.8 ± 0.0	NB
I	*Coccinella transversoguttata*	Transverse Lady Beetle	Special Concern			SH	12	25.6 ± 1.0	NB

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	richardsoni								
I	*Catocala neogama*	The Bride				S1	1	90.7 ± 1.0	NB
I	*Leucorrhinia patricia*	Canada Whiteface				S1	11	16.6 ± 1.0	NB
I	*Plebejus saepiolus*	Greenish Blue				S1S2	26	13.6 ± 7.0	NB
I	*Strymon melinus*	Grey Hairstreak				S2	11	23.8 ± 2.0	NB
I	*Aeshna juncea*	Rush Darner				S2	5	83.0 ± 1.0	NB
I	*Somatochlora tenebrosa*	Clamp-Tipped Emerald				S2	5	59.6 ± 0.0	NB
I	*Coenagrion interrogatum*	Subarctic Bluet				S2	7	29.5 ± 1.0	NB
I	*Chrysops delicatulus*	a Horse Fly				S2S3	1	76.7 ± 1.0	NB
I	*Callophrys henrici*	Henry's Elfin				S2S3	8	28.8 ± 1.0	NB
I	*Desmocerus palliatus*	Elderberry Borer				S3	2	24.8 ± 5.0	NB
I	*Carabus maeander*	a Ground Beetle				S3	1	48.6 ± 1.0	NB
I	*Hippodamia parenthesis*	Parenthesis Lady Beetle				S3	2	88.7 ± 1.0	NB
I	*Xylotrechus quadrimaculatus*	a Longhorned Beetle				S3	1	31.0 ± 1.0	NB
I	*Xylotrechus undulatus*	a Longhorned Beetle				S3	2	28.3 ± 1.0	NB
I	*Calathus gregarius*	a Ground Beetle				S3	1	32.9 ± 1.0	NB
I	*Hyperaspis disconotata*	a Ladybird Beetle				S3	1	45.7 ± 5.0	NB
I	*Hesperia sassacus*	Indian Skipper				S3	7	28.9 ± 0.0	NB
I	*Euphyes bimacula*	Two-spotted Skipper				S3	4	20.1 ± 10.0	NB
I	*Papilio brevicauda*	Short-tailed Swallowtail				S3	2	40.5 ± 0.0	NB
I	*Papilio brevicauda gaspeensis*	Short-tailed Swallowtail				S3	2	58.0 ± 0.0	NB
I	*Papilio brevicauda bretonensis*	Short-tailed Swallowtail				S3	109	21.4 ± 7.0	NB
I	*Lycaena hyllus*	Bronze Copper				S3	8	43.3 ± 1.0	NB
I	*Lycaena dospassosi*	Salt Marsh Copper				S3	158	15.8 ± 0.0	NB
I	*Satyrium acadica*	Acadian Hairstreak				S3	8	21.4 ± 7.0	NB
I	*Callophrys polios*	Hoary Elfin				S3	26	23.0 ± 0.0	NB
I	*Callophrys eryphon*	Western Pine Elfin				S3	10	27.7 ± 1.0	NB
I	*Plebejus idas*	Northern Blue				S3	4	67.4 ± 0.0	NB
I	*Plebejus idas empetri*	Crowberry Blue				S3	41	22.5 ± 7.0	NB
I	*Speyeria aphrodite*	Aphrodite Fritillary				S3	2	18.4 ± 1.0	NB
I	*Boloria eunomia*	Bog Fritillary				S3	8	23.0 ± 0.0	NB
I	*Boloria bellona*	Meadow Fritillary				S3	5	57.9 ± 0.0	NB
I	*Boloria chariclea*	Arctic Fritillary				S3	27	13.6 ± 7.0	NB
I	*Boloria chariclea grandis*	Purple Lesser Fritillary				S3	2	21.3 ± 10.0	NB
I	*Polygonia satyrus*	Satyr Comma				S3	10	29.8 ± 7.0	NB
I	*Polygonia gracilis*	Hoary Comma				S3	27	21.4 ± 7.0	NB
I	*Nymphalis l-album*	Compton Tortoiseshell				S3	1	77.4 ± 10.0	NB
I	*Gomphus abbreviatus*	Spine-crowned Clubtail				S3	3	79.1 ± 0.0	NB
I	*Gomphaeschna furcillata*	Harlequin Darner				S3	3	88.9 ± 0.0	NB
I	*Somatochlora albicincta*	Ringed Emerald				S3	5	56.3 ± 1.0	NB
I	*Somatochlora cingulata*	Lake Emerald				S3	7	22.3 ± 1.0	NB
I	*Somatochlora forcipata*	Forcipate Emerald				S3	9	33.7 ± 1.0	NB
I	*Williamsonia fletcheri*	Ebony Boghaunter				S3	3	88.6 ± 0.0	NB
I	*Lestes eurinus*	Amber-Winged Spreadwing				S3	10	22.3 ± 1.0	NB
I	*Stylurus scudderi*	Zebra Clubtail				S3	1	97.2 ± 0.0	NB
I	*Alasmidonta undulata*	Triangle Floater				S3	1	92.8 ± 1.0	NB
I	*Pantala hymenaea*	Spot-Winged Glider				S3B,S3M	1	89.2 ± 0.0	NB
I	*Satyrium liparops*	Striped Hairstreak				S3S4	19	18.4 ± 2.0	NB
I	*Satyrium liparops strigosum*	Striped Hairstreak				S3S4	1	89.4 ± 15.0	NB
I	*Cupido comyntas*	Eastern Tailed Blue				S3S4	3	62.4 ± 0.0	NB
I	*Sphaerophoria pyrrhina*	a flower fly				SH	1	83.2 ± 5.0	NB
N	*Pannaria lurida*	Wrinkled Shingle Lichen	Threatened	Threatened		S1?	7	57.8 ± 0.0	NB
N	*Fuscopannaria leucosticta*	White-rimmed Shingle Lichen	Threatened			S2	123	57.2 ± 0.0	NB
N	*Arrhenopterum heterostichum*	One-sided Groove Moss				S1	1	87.1 ± 0.0	NB

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N	*Campylostelium saxicola*	a Moss				S1	1	84.7 ± 0.0	NB
N	*Pseudoleskeella tectorum*	Rooftop Leskea Moss				S1	1	86.2 ± 0.0	NB
N	*Syntrichia ruralis*	a Moss				S1	1	68.5 ± 0.0	NB
N	*Zygodon viridissimus var. viridissimus*	a Moss				S1	1	86.0 ± 0.0	NB
N	*Enchylium tenax*	Soil Tarpaper Lichen				S1	1	85.9 ± 0.0	NB
N	*Sticta fuliginosa*	Peppered Moon Lichen				S1	1	76.1 ± 0.0	NB
N	*Leptogium hirsutum*	Jellyskin Lichen				S1	1	68.7 ± 0.0	NB
N	*Lathagrium auriforme*	a tarpaper lichen				S1	1	68.4 ± 0.0	NB
N	*Ephebe hispidula*	Dryside Rockshag Lichen				S1	1	88.3 ± 0.0	NB
N	*Ephebe perspinulosa*	Thread Lichen				S1	2	88.0 ± 0.0	NB
N	*Scytinium intermedium*	Forty-five Jellyskin Lichen				S1	8	85.9 ± 0.0	NB
N	*Scytinium schraderi*	Wrinkled Jellyskin Lichen				S1	1	86.2 ± 0.0	NB
N	*Phaeophyscia decolor*	Lesser Eye Shadow Lichen				S1	2	79.0 ± 0.0	NB
N	*Phaeophyscia hispidula*	Whiskered Shadow Lichen				S1	1	68.6 ± 0.0	NB
N	*Bryum blindii*	a Moss				S1?	1	63.5 ± 1.0	NB
N	*Cinclidium stygium*	Sooty Cupola Moss				S1?	1	39.7 ± 0.0	NB
N	*Tortula cernua*	Narrow-Leafed Chain-Teeth Moss				S1?	1	63.5 ± 1.0	NB
N	*Dicranum bonjeanii*	Bonjean's Broom Moss				S1?	1	68.5 ± 1.0	NB
N	*Homomallium adnatum*	Adnate Hairy-gray Moss				S1?	1	86.2 ± 0.0	NB
N	*Paludella squarrosa*	Tufted Fen Moss				S1?	1	39.7 ± 0.0	NB
N	*Plagiothecium latebricola*	Alder Silk Moss				S1?	1	91.8 ± 0.0	NB
N	*Seligeria recurvata*	a Moss				S1?	5	86.5 ± 0.0	NB
N	*Rhizomnium pseudopunctatum*	Felted Leafy Moss				S1?	1	89.2 ± 0.0	NB
N	*Thermutis velutina*	Rockvelvet Lichen				S1?	1	85.9 ± 0.0	NB
N	*Ephebe solida*	a Rockshag Lichen				S1?	1	79.0 ± 0.0	NB
N	*Peltigera venosa*	Fan Pelt Lichen				S1?	4	70.5 ± 0.0	NB
N	*Odontoschisma sphagni*	Bog-Moss Flapwort				S1S2	1	78.4 ± 0.0	NB
N	*Reboulia hemisphaerica*	Purple-margined Liverwort				S1S2	2	68.2 ± 0.0	NB
N	*Pseudocampylium radicale*	Long-stalked Fine Wet Moss				S1S2	1	79.1 ± 0.0	NB
N	*Distichium inclinatum*	Inclined Iris Moss				S1S2	1	63.5 ± 1.0	NB
N	*Drummondia prorepens*	a Moss				S1S2	1	84.8 ± 0.0	NB
N	*Hygrohypnum bestii*	Best's Brook Moss				S1S2	1	79.2 ± 0.0	NB
N	*Platydictya confervoides*	a Moss				S1S2	1	88.1 ± 0.0	NB
N	*Seligeria brevifolia*	a Moss				S1S2	8	85.9 ± 0.0	NB
N	*Cystocoleus ebeneus*	Rockgossamer Lichen				S1S2	2	75.5 ± 0.0	NB
N	*Scytinium gelatinosum*	Rose-petalled Jellyskin Lichen				S1S2	3	85.9 ± 0.0	NB
N	*Calypogeia neesiana*	Nees' Pouchwort				S1S3	1	26.9 ± 1.0	NB
N	*Fuscocephaloziopsis connivens*	Forcipated Pincerwort				S1S3	1	71.2 ± 10.0	NB
N	*Mesoptychia badensis*	Dwarf Notchwort				S1S3	1	63.5 ± 1.0	NB
N	*Didymodon ferrugineus*	Rusty Beard Moss				S2	1	93.2 ± 0.0	NB
N	*Isopterygiopsis pulchella*	Neat Silk Moss				S2	1	86.4 ± 0.0	NB
N	*Meesia triquetra*	Three-ranked Cold Moss				S2	1	17.5 ± 10.0	NB
N	*Orthotrichum speciosum*	Showy Bristle Moss				S2	7	58.7 ± 9.0	NB
N	*Pohlia elongata*	Long-necked Nodding Moss				S2	4	84.5 ± 0.0	NB
N	*Pohlia sphagnicola*	a moss				S2	1	90.6 ± 0.0	NB
N	*Sphagnum lindbergii*	Lindberg's Peat Moss				S2	1	23.2 ± 0.0	NB
N	*Tetrodontium brownianum*	Little Georgia				S2	5	84.5 ± 0.0	NB
N	*Tortula mucronifolia*	Mucronate Screw Moss				S2	1	63.5 ± 1.0	NB
N	*Anomobryum julaceum*	Slender Silver Moss				S2	1	63.5 ± 1.0	NB
N	*Nephroma laevigatum*	Mustard Kidney Lichen				S2	5	79.2 ± 0.0	NB
N	*Peltigera lepidophora*	Scaly Pelt Lichen				S2	12	69.3 ± 0.0	NB
N	*Anacamptodon splachnoides*	a Moss				S2?	1	74.3 ± 0.0	NB
N	*Sphagnum angermanicum*	a Peatmoss				S2?	1	82.1 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	*Collema leptaleum*	Crumpled Bat's Wing Lichen				S2?	1	87.1 ± 0.0	NB
N	*Nephroma arcticum*	Arctic Kidney Lichen				S2?	6	70.5 ± 0.0	NB
N	*Ptychostomum cernuum*	Swamp Bryum				S2S3	3	58.7 ± 9.0	NB
N	*Hypnum cupressiforme var. filiforme*	a Moss				S2S3	2	79.1 ± 0.0	NB
N	*Pohlia proligera*	Cottony Nodding Moss				S2S3	8	84.5 ± 0.0	NB
N	*Saelania glaucescens*	Blue Dew Moss				S2S3	11	68.0 ± 0.0	NB
N	*Scorpidium scorpioides*	Hooked Scorpion Moss				S2S3	2	39.7 ± 0.0	NB
N	*Sphagnum subfulvum*	a Peatmoss				S2S3	2	90.6 ± 0.0	NB
N	*Zygodon viridissimus*	a Moss				S2S3	1	86.2 ± 0.0	NB
N	*Cyrtomnium hymenophylloides*	Short-pointed Lantern Moss				S2S3	3	85.9 ± 0.0	NB
N	*Cladonia sulphurina*	Greater Sulphur-cup Lichen				S2S3	1	72.0 ± 0.0	NB
N	*Dendriscocaulon umhausense*	a lichen				S2S3	1	84.3 ± 0.0	NB
N	*Schistidium maritimum*	a Moss				S3	1	89.2 ± 0.0	NB
N	*Hymenostylium recurvirostre*	Hymenostylium Moss				S3	3	86.2 ± 0.0	NB
N	*Collema nigrescens*	Blistered Tarpaper Lichen				S3	3	84.3 ± 0.0	NB
N	*Solorina saccata*	Woodland Owl Lichen				S3	54	68.5 ± 0.0	NB
N	*Ahtiana aurescens*	Eastern Candlewax Lichen				S3	1	89.8 ± 0.0	NB
N	*Scytinium lichenoides*	Tattered Jellyskin Lichen				S3	11	68.2 ± 0.0	NB
N	*Nephroma resupinatum*	a lichen				S3	5	71.6 ± 0.0	NB
N	*Peltigera membranacea*	Membranous Pelt Lichen				S3	3	72.0 ± 0.0	NB
N	*Cladonia deformis*	Lesser Sulphur-cup Lichen				S3	1	73.3 ± 0.0	NB
N	*Aulacomnium androgynum*	Little Groove Moss				S3?	4	87.1 ± 0.0	NB
N	*Dicranella rufescens*	Red Forklet Moss				S3?	1	29.4 ± 7.0	NB
N	*Scytinium subtile*	Appressed Jellyskin Lichen				S3?	3	65.2 ± 0.0	NB
N	*Barbula convoluta*	Lesser Bird's-claw Beard Moss				S3S4	1	85.9 ± 0.0	NB
N	*Dicranella varia*	a Moss				S3S4	1	58.7 ± 9.0	NB
N	*Dicranum majus*	Greater Broom Moss				S3S4	4	87.3 ± 0.0	NB
N	*Dicranum leioneuron*	a Dicranum Moss				S3S4	1	67.1 ± 10.0	NB
N	*Encalypta ciliata*	Fringed Extinguisher Moss				S3S4	5	69.6 ± 0.0	NB
N	*Fissidens bryoides*	Lesser Pocket Moss				S3S4	4	58.7 ± 9.0	NB
N	*Heterocladium dimorphum*	Dimorphous Tangle Moss				S3S4	4	69.7 ± 1.0	NB
N	*Isopterygiopsis muelleriana*	a Moss				S3S4	2	68.0 ± 0.0	NB
N	*Myurella julacea*	Small Mouse-tail Moss				S3S4	6	69.6 ± 0.0	NB
N	*Pogonatum dentatum*	Mountain Hair Moss				S3S4	1	84.9 ± 0.0	NB
N	*Sphagnum compactum*	Compact Peat Moss				S3S4	1	84.9 ± 1.0	NB
N	*Tetraphis geniculata*	Geniculate Four-tooth Moss				S3S4	2	91.8 ± 0.0	NB
N	*Tetraplodon angustatus*	Toothed-leaved Nitrogen Moss				S3S4	1	87.1 ± 0.0	NB
N	*Abietinella abietina*	Wiry Fern Moss				S3S4	4	58.7 ± 9.0	NB
N	*Trichostomum tenuirostre*	Acid-Soil Moss				S3S4	1	93.3 ± 0.0	NB
N	*Rauiella scita*	Smaller Fern Moss				S3S4	1	91.7 ± 0.0	NB
N	*Pannaria rubiginosa*	Brown-eyed Shingle Lichen				S3S4	4	58.0 ± 0.0	NB
N	*Pseudocyphellaria holarctica*	Yellow Specklebelly Lichen				S3S4	4	87.0 ± 0.0	NB
N	*Scytinium teretiusculum*	Curly Jellyskin Lichen				S3S4	2	86.5 ± 0.0	NB
N	*Montanelia panniformis*	Shingled Camouflage Lichen				S3S4	1	73.2 ± 0.0	NB
N	*Cladonia terrae-novae*	Newfoundland Reindeer Lichen				S3S4	1	79.0 ± 0.0	NB
N	*Cladonia floerkeana*	Gritty British Soldiers Lichen				S3S4	2	73.2 ± 0.0	NB
N	*Vahliella leucophaea*	Shelter Shingle Lichen				S3S4	27	68.0 ± 0.0	NB
N	*Nephroma parile*	Powdery Kidney Lichen				S3S4	10	68.3 ± 0.0	NB
N	*Protopannaria pezizoides*	Brown-gray Moss-shingle Lichen				S3S4	30	58.8 ± 0.0	NB
N	*Fuscopannaria sorediata*	a Lichen				S3S4	1	70.2 ± 0.0	NB
N	*Stereocaulon paschale*	Easter Foam Lichen				S3S4	1	39.4 ± 1.0	NB

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N	*Pannaria conoplea*	Mealy-rimmed Shingle Lichen				S3S4	5	22.7 ± 0.0	NB
N	*Dermatocarpon luridum*	Brookside Stippleback Lichen				S3S4	40	69.6 ± 0.0	NB
N	*Leucodon brachypus*	a Moss				SH	9	84.3 ± 0.0	NB
P	*Juglans cinerea*	Butternut	Endangered	Endangered	Endangered	S1	4	90.2 ± 0.0	NB
P	*Symphyotrichum laurentianum*	Gulf of St Lawrence Aster	Threatened	Threatened	Endangered	S1	208	32.4 ± 5.0	NB
P	*Fraxinus nigra*	Black Ash	Threatened			S4S5	335	13.8 ± 0.0	NB
P	*Lechea maritima var. subcylindrica*	Beach Pinweed	Special Concern	Special Concern	Special Concern	S2	214	49.2 ± 0.0	NB
P	*Symphyotrichum subulatum (Bathurst pop)*	Bathurst Aster - Bathurst pop.	Not At Risk		Endangered	S2	246	15.8 ± 0.0	NB
P	*Eriocaulon parkeri*	Parker's Pipewort	Not At Risk		Endangered	S2	156	73.9 ± 0.0	NB
P	*Pterospora andromedea*	Woodland Pinedrops			Endangered	S1	3	64.4 ± 0.0	NB
P	*Arnica lonchophylla*	Northern Arnica				S1	3	88.1 ± 0.0	NB
P	*Bidens discoidea*	Swamp Beggarticks				S1	1	79.7 ± 0.0	NB
P	*Bidens eatonii*	Eaton's Beggarticks				S1	9	73.5 ± 0.0	NB
P	*Pseudognaphalium obtusifolium*	Eastern Cudweed				S1	1	52.0 ± 0.0	NB
P	*Betula glandulosa*	Glandular Birch				S1	23	80.9 ± 0.0	NB
P	*Betula michauxii*	Michaux's Dwarf Birch				S1	3	72.3 ± 0.0	NB
P	*Andersonglossum boreale*	Northern Wild Comfrey				S1	3	61.9 ± 0.0	NB
P	*Hackelia deflexa ssp. americana*	American Stickseed				S1	3	95.2 ± 10.0	NB
P	*Cardamine parviflora*	Small-flowered Bittercress				S1	1	47.1 ± 0.0	NB
P	*Draba arabisans*	Rock Whitlow-Grass				S1	2	85.8 ± 0.0	NB
P	*Draba glabella*	Rock Whitlow-Grass				S1	7	52.9 ± 0.0	NB
P	*Draba incana*	Twisted Whitlow-grass				S1	5	29.4 ± 0.0	NB
P	*Boechera grahamii*	Graham's Rockcress				S1	7	93.2 ± 5.0	NB
P	*Moehringia macrophylla*	Large-Leaved Sandwort				S1	8	68.6 ± 0.0	NB
P	*Stellaria crassifolia*	Fleshy Stitchwort				S1	2	61.3 ± 10.0	NB
P	*Stellaria longipes*	Long-stalked Starwort				S1	21	39.7 ± 1.0	NB
P	*Blitum capitatum*	Strawberry-Blite				S1	1	96.0 ± 1.0	NB
P	*Suaeda rolandii*	Roland's Sea-Blite				S1	1	73.5 ± 0.0	NB
P	*Hypericum virginicum*	Virginia St. John's-wort				S1	1	79.0 ± 0.0	NB
P	*Vaccinium boreale*	Northern Blueberry				S1	17	55.1 ± 1.0	NB
P	*Vaccinium uliginosum*	Alpine Bilberry				S1	9	73.6 ± 2.0	NB
P	*Euphorbia polygonifolia*	Seaside Spurge				S1	5	34.1 ± 5.0	NB
P	*Bartonia virginica*	Yellow Bartonia				S1	3	68.9 ± 1.0	NB
P	*Coptidium lapponicum*	Lapland Buttercup				S1	1	44.9 ± 0.0	NB
P	*Ranunculus sceleratus*	Cursed Buttercup				S1	21	30.3 ± 0.0	NB
P	*Rubus flagellaris*	Northern Dewberry				S1	1	89.4 ± 1.0	NB
P	*Salix serissima*	Autumn Willow				S1	4	38.0 ± 0.0	NB
P	*Saxifraga paniculata ssp. laestadii*	Laestadius' Saxifrage				S1	4	69.1 ± 0.0	NB
P	*Agalinis purpurea var. parviflora*	Small-flowered Purple False Foxglove				S1	12	35.1 ± 1.0	NB
P	*Carex backii*	Rocky Mountain Sedge				S1	2	98.1 ± 0.0	NB
P	*Carex glareosa*	Gravel Sedge				S1	6	38.4 ± 1.0	NB
P	*Carex rariflora*	Loose-flowered Alpine Sedge				S1	9	55.9 ± 0.0	NB
P	*Carex viridula var. elatior*	Greenish Sedge				S1	11	37.9 ± 0.0	NB
P	*Carex bigelowii*	Bigelow's Sedge				S1	1	94.5 ± 0.0	NB
P	*Cyperus diandrus*	Low Flatsedge				S1	6	76.4 ± 0.0	NB
P	*Cyperus bipartitus*	Shining Flatsedge				S1	22	52.1 ± 0.0	NB
P	*Eleocharis flavescens var. olivacea*	Bright-green Spikerush				S1	8	78.2 ± 0.0	NB

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P	*Schoenoplectiella smithii var. leviseta*	Smith's Bulrush				S1	17	78.6 ± 0.0	NB
P	*Schoenoplectiella smithii var. leviseta*	Smith's Bulrush				S1	43	73.9 ± 0.0	NB
P	*Sisyrinchium angustifolium*	Narrow-leaved Blue-eyed-grass				S1	1	79.7 ± 0.0	NB
P	*Juncus greenei*	Greene's Rush				S1	1	72.7 ± 1.0	NB
P	*Oreojuncus trifidus*	Highland Rush				S1	9	94.5 ± 0.0	NB
P	*Allium canadense*	Canada Garlic				S1	1	90.8 ± 1.0	NB
P	*Anticlea elegans*	Mountain Death Camas				S1	10	53.0 ± 0.0	NB
P	*Malaxis monophyllos var. brachypoda*	North American White Adder's-mouth				S1	2	37.9 ± 0.0	NB
P	*Bromus pubescens*	Hairy Wood Brome Grass				S1	2	72.0 ± 0.0	NB
P	*Calamagrostis stricta ssp. inexpansa*	Slim-stemmed Reed Grass				S1	1	89.4 ± 0.0	NB
P	*Catabrosa aquatica*	Water Whorl Grass				S1	4	77.5 ± 0.0	NB
P	*Dichanthelium xanthophysum*	Slender Panic Grass				S1	3	28.6 ± 0.0	NB
P	*Zizania aquatica var. brevis*	St. Lawrence Wild Rice				S1	26	52.1 ± 0.0	NB
P	*Potamogeton friesii*	Fries' Pondweed				S1	2	96.1 ± 0.0	NB
P	*Potamogeton nodosus*	Long-leaved Pondweed				S1	4	78.7 ± 0.0	NB
P	*Cystopteris laurentiana*	Laurentian Bladder Fern				S1	1	38.8 ± 0.0	NB
P	*Polystichum lonchitis*	Northern Holly Fern				S1	4	85.8 ± 0.0	NB
P	*Huperzia selago*	Northern Firmoss				S1	1	94.6 ± 0.0	NB
P	*Bidens heterodoxa*	Connecticut Beggar-Ticks				S1?	40	35.4 ± 0.0	NB
P	*Cuscuta campestris*	Field Dodder				S1?	3	91.3 ± 0.0	NB
P	*Polygonum aviculare ssp. neglectum*	Narrow-leaved Knotweed				S1?	5	29.6 ± 1.0	NB
P	*Carex laxiflora*	Loose-Flowered Sedge				S1?	1	94.1 ± 2.0	NB
P	*Poa interior*	Inland Bluegrass				S1?	1	85.7 ± 0.0	NB
P	*Carex crawei*	Crawe's Sedge				S1S2	1	25.4 ± 0.0	NB
P	*Coryphopteris simulata*	Bog Fern				S1S2	1	74.7 ± 1.0	NB
P	*Cuscuta cephalanthi*	Buttonbush Dodder				S1S3	33	26.9 ± 0.0	NB
P	*Eriophorum russeolum ssp. albidum*	Smoo h-fruited Russet Cottongrass				S1S3	1	76.2 ± 0.0	NB
P	*Neottia bifolia*	Southern Twayblade			Endangered	S2	8	89.8 ± 0.0	NB
P	*Osmorhiza depauperata*	Blunt Sweet Cicely				S2	5	38.7 ± 1.0	NB
P	*Osmorhiza longistylis*	Smoo h Sweet Cicely				S2	1	95.2 ± 0.0	NB
P	*Solidago racemosa*	Racemose Goldenrod				S2	2	88.1 ± 0.0	NB
P	*Ionactis linariifolia*	Flax-leaved Aster				S2	44	26.3 ± 0.0	NB
P	*Symphyotrichum subulatum*	Annual Saltmarsh Aster				S2	172	15.7 ± 0.0	NB
P	*Pseudognaphalium macounii*	Macoun's Cudweed				S2	2	79.1 ± 0.0	NB
P	*Betula minor*	Dwarf White Birch				S2	15	94.2 ± 0.0	NB
P	*Boechera stricta*	Drummond's Rockcress				S2	4	28.8 ± 1.0	NB
P	*Sagina nodosa*	Knotted Pearlwort				S2	9	26.1 ± 1.0	NB
P	*Sagina nodosa ssp. borealis*	Knotted Pearlwort				S2	1	34.4 ± 0.0	NB
P	*Stellaria longifolia*	Long-leaved Starwort				S2	1	44.3 ± 0.0	NB
P	*Atriplex glabriuscula var. franktonii*	Frankton's Saltbush				S2	14	37.1 ± 1.0	NB
P	*Oxybasis rubra*	Red Goosefoot				S2	56	35.3 ± 0.0	NB
P	*Shepherdia canadensis*	Soapberry				S2	1	78.0 ± 1.0	NB
P	*Astragalus eucosmus*	Elegant Milk-vetch				S2	1	89.6 ± 0.0	NB
P	*Oxytropis campestris var. johannensis*	Field Locoweed				S2	1	32.3 ± 10.0	NB
P	*Gentiana linearis*	Narrow-Leaved Gentian				S2	2	96.2 ± 0.0	NB
P	*Nuphar x rubrodisca*	Red-disk Yellow Pond-lily				S2	3	72.3 ± 0.0	NB
P	*Aphyllon uniflorum*	One-flowered Broomrape				S2	1	97.1 ± 10.0	NB
P	*Persicaria amphibia var.*	Long-root Smartweed				S2	1	89.6 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
	emersa								
P	*Podostemum ceratophyllum*	Horn-leaved Riverweed				S2	5	90.7 ± 1.0	NB
P	*Anemone multifida*	Cut-leaved Anemone				S2	1	96.6 ± 10.0	NB
P	*Hepatica americana*	Round-lobed Hepatica				S2	3	63.7 ± 0.0	NB
P	*Crataegus scabrida*	Rough Hawthorn				S2	2	28.8 ± 1.0	NB
P	*Rosa acicularis ssp. sayi*	Prickly Rose				S2	102	26.3 ± 0.0	NB
P	*Salix candida*	Sage Willow				S2	55	14.1 ± 0.0	NB
P	*Viola novae-angliae*	New England Violet				S2	7	85.8 ± 0.0	NB
P	*Sagittaria montevidensis ssp. spongiosa*	Spongy Arrowhead				S2	117	52.0 ± 0.0	NB
P	*Carex granularis*	Limestone Meadow Sedge				S2	1	79.0 ± 5.0	NB
P	*Carex gynocrates*	Northern Bog Sedge				S2	14	37.9 ± 0.0	NB
P	*Carex hirtifolia*	Pubescent Sedge				S2	8	80.5 ± 0.0	NB
P	*Carex livida*	Livid Sedge				S2	5	72.6 ± 0.0	NB
P	*Carex prairea*	Prairie Sedge				S2	1	84.7 ± 1.0	NB
P	*Carex rostrata*	Narrow-leaved Beaked Sedge				S2	2	66.3 ± 0.0	NB
P	*Carex salina*	Saltmarsh Sedge				S2	15	15.8 ± 0.0	NB
P	*Carex sprengelii*	Longbeak Sedge				S2	1	33.2 ± 0.0	NB
P	*Carex tenuiflora*	Sparse-Flowered Sedge				S2	2	32.0 ± 10.0	NB
P	*Carex albicans var. emmonsii*	White-tinged Sedge				S2	8	49.2 ± 0.0	NB
P	*Eriophorum gracile*	Slender Cottongrass				S2	9	48.5 ± 0.0	NB
P	*Blysmopsis rufa*	Red Bulrush				S2	69	15.8 ± 0.0	NB
P	*Juncus vaseyi*	Vasey Rush				S2	38	25.5 ± 5.0	NB
P	*Allium tricoccum*	Wild Leek				S2	1	72.9 ± 0.0	NB
P	*Galearis rotundifolia*	Small Round-leaved Orchid				S2	12	14.0 ± 1.0	NB
P	*Calypso bulbosa var. americana*	Calypso				S2	6	36.2 ± 0.0	NB
P	*Coeloglossum viride*	Long-bracted Frog Orchid				S2	2	51.3 ± 1.0	NB
P	*Cypripedium parviflorum var. makasin*	Small Yellow Lady's-Slipper				S2	2	50.9 ± 2.0	NB
P	*Goodyera oblongifolia*	Menzies' Rattlesnake-plantain				S2	31	14.2 ± 0.0	NB
P	*Spiranthes lucida*	Shining Ladies'-Tresses				S2	4	69.2 ± 0.0	NB
P	*Agrostis mertensii*	Northern Bent Grass				S2	114	28.8 ± 0.0	NB
P	*Dichanthelium linearifolium*	Narrow-leaved Panic Grass				S2	2	40.3 ± 0.0	NB
P	*Piptatheropsis canadensis*	Canada Ricegrass				S2	5	28.9 ± 0.0	NB
P	*Puccinellia phryganodes ssp. neoarctica*	Creeping Alkali Grass				S2	2	65.8 ± 0.0	NB
P	*Poa glauca*	Glaucous Blue Grass				S2	6	38.8 ± 0.0	NB
P	*Puccinellia nutkaensis*	Alaska Alkaligrass				S2	34	28.4 ± 1.0	NB
P	*Zizania aquatica var. aquatica*	Eastern Wild Rice				S2	6	71.5 ± 1.0	NB
P	*Piptatheropsis pungens*	Slender Ricegrass				S2	7	25.1 ± 0.0	NB
P	*Asplenium trichomanes*	Maidenhair Spleenwort				S2	11	68.3 ± 0.0	NB
P	*Anchistea virginica*	Virginia chain fern				S2	9	66.5 ± 0.0	NB
P	*Woodsia alpina*	Alpine Cliff Fern				S2	14	74.1 ± 0.0	NB
P	*Diphasiastrum sitchense*	Si ka Ground-cedar				S2	2	94.3 ± 0.0	NB
P	*Selaginella selaginoides*	Low Spikemoss				S2	14	37.9 ± 0.0	NB
P	*Toxicodendron radicans var. radicans*	Eastern Poison Ivy				S2?	1	76.2 ± 0.0	NB
P	*Symphyotrichum novi-belgii var. crenifolium*	New York Aster				S2?	2	76.4 ± 0.0	NB
P	*Humulus lupulus var. lupuloides*	Common Hop				S2?	2	75.8 ± 1.0	NB
P	*Crataegus macrosperma*	Big-Fruit Hawthorn				S2?	1	28.8 ± 0.0	NB
P	*Galium obtusum*	Blunt-leaved Bedstraw				S2?	7	36.5 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Salix myricoides*	Bayberry Willow				S2?	3	28.0 ± 5.0	NB
P	*Carex vacillans*	Estuarine Sedge				S2?	3	65.6 ± 10.0	NB
P	*Platanthera huronensis*	Fragrant Green Orchid				S2?	1	30.2 ± 0.0	NB
P	*Solidago altissima*	Tall Goldenrod				S2S3	1	81.2 ± 0.0	NB
P	*Callitriche hermaphroditica*	Northern Water-starwort				S2S3	7	22.1 ± 0.0	NB
P	*Lonicera oblongifolia*	Swamp Fly Honeysuckle				S2S3	1	73.6 ± 2.0	NB
P	*Elatine americana*	American Waterwort				S2S3	26	29.0 ± 0.0	NB
P	*Bartonia paniculata ssp. iodandra*	Branched Bartonia				S2S3	2	77.0 ± 0.0	NB
P	*Epilobium coloratum*	Purple-veined Willowherb				S2S3	2	90.3 ± 10.0	NB
P	*Rumex persicarioides*	Peach-leaved Dock				S2S3	56	35.4 ± 0.0	NB
P	*Rumex pallidus*	Seabeach Dock				S2S3	8	23.1 ± 0.0	NB
P	*Rumex occidentalis*	Western Dock				S2S3	3	62.3 ± 0.0	NB
P	*Rubus pensilvanicus*	Pennsylvania Blackberry				S2S3	3	17.9 ± 2.0	NB
P	*Galium labradoricum*	Labrador Bedstraw				S2S3	26	14.2 ± 0.0	NB
P	*Valeriana uliginosa*	Swamp Valerian				S2S3	9	37.9 ± 0.0	NB
P	*Carex adusta*	Lesser Brown Sedge				S2S3	7	22.0 ± 10.0	NB
P	*Scirpus atrovirens*	Dark-green Bulrush				S2S3	1	92.5 ± 0.0	NB
P	*Juncus brachycephalus*	Small-Head Rush				S2S3	2	37.9 ± 0.0	NB
P	*Corallorhiza maculata var. occidentalis*	Spotted Coralroot				S2S3	2	82.0 ± 1.0	NB
P	*Corallorhiza maculata var. maculata*	Spotted Coralroot				S2S3	2	53.1 ± 18.0	NB
P	*Neottia auriculata*	Auricled Twayblade				S2S3	19	24.0 ± 0.0	NB
P	*Stuckenia filiformis*	Thread-leaved Pondweed				S2S3	4	31.0 ± 1.0	NB
P	*Potamogeton praelongus*	White-stemmed Pondweed				S2S3	1	21.8 ± 0.0	NB
P	*Ophioglossum pusillum*	Northern Adder's-tongue				S2S3	4	73.6 ± 2.0	NB
P	*Panax trifolius*	Dwarf Ginseng				S3	9	55.1 ± 3.0	NB
P	*Arnica lanceolata*	Lance-leaved Arnica				S3	35	28.7 ± 50.0	NB
P	*Artemisia campestris ssp. caudata*	Tall Wormwood				S3	6	41.6 ± 5.0	NB
P	*Bidens hyperborea*	Estuary Beggarticks				S3	169	21.6 ± 0.0	NB
P	*Erigeron hyssopifolius*	Hyssop-leaved Fleabane				S3	237	37.1 ± 0.0	NB
P	*Symphyotrichum boreale*	Boreal Aster				S3	4	14.0 ± 1.0	NB
P	*Betula pumila*	Bog Birch				S3	159	36.3 ± 0.0	NB
P	*Turritis glabra*	Tower Mustard				S3	8	33.8 ± 0.0	NB
P	*Arabis pycnocarpa*	Cream-flowered Rockcress				S3	17	68.3 ± 0.0	NB
P	*Stellaria humifusa*	Saltmarsh Starwort				S3	15	25.0 ± 0.0	NB
P	*Ceratophyllum echinatum*	Prickly Hornwort				S3	1	74.4 ± 0.0	NB
P	*Hudsonia tomentosa*	Woolly Beach-heath				S3	188	24.7 ± 0.0	NB
P	*Crassula aquatica*	Water Pygmyweed				S3	82	28.4 ± 0.0	NB
P	*Elatine minima*	Small Waterwort				S3	5	55.2 ± 1.0	NB
P	*Hedysarum americanum*	Alpine Hedysarum				S3	5	32.2 ± 0.0	NB
P	*Gentianella amarella ssp. acuta*	Northern Gentian				S3	8	72.9 ± 0.0	NB
P	*Geranium bicknellii*	Bicknell's Crane's-bill				S3	7	23.1 ± 10.0	NB
P	*Myriophyllum farwellii*	Farwell's Water Milfoil				S3	6	72.1 ± 0.0	NB
P	*Myriophyllum verticillatum*	Whorled Water Milfoil				S3	9	64.9 ± 1.0	NB
P	*Teucrium canadense*	Canada Germander				S3	45	44.1 ± 0.0	NB
P	*Nuphar microphylla*	Small Yellow Pond-lily				S3	7	23.5 ± 0.0	NB
P	*Epilobium hornemannii*	Hornemann's Willowherb				S3	19	46.0 ± 0.0	NB
P	*Epilobium strictum*	Downy Willowherb				S3	3	14.0 ± 0.0	NB
P	*Persicaria arifolia*	Halberd-leaved Tearthumb				S3	27	65.8 ± 0.0	NB
P	*Persicaria punctata*	Dotted Smartweed				S3	69	26.9 ± 0.0	NB
P	*Fallopia scandens*	Climbing False Buckwheat				S3	33	56.0 ± 0.0	NB
P	*Littorella americana*	American Shoreweed				S3	1	90.5 ± 1.0	NB
P	*Samolus parviflorus*	Seaside Brookweed				S3	129	27.7 ± 2.0	NB
P	*Pyrola minor*	Lesser Pyrola				S3	13	14.0 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Clematis occidentalis*	Purple Clematis				S3	17	61.9 ± 1.0	NB
P	*Ranunculus gmelinii*	Gmelin's Water Buttercup				S3	17	9.6 ± 3.0	NB
P	*Thalictrum confine*	Northern Meadow-rue				S3	4	65.7 ± 0.0	NB
P	*Amelanchier canadensis*	Canada Serviceberry				S3	4	78.8 ± 0.0	NB
P	*Rosa palustris*	Swamp Rose				S3	3	68.7 ± 1.0	NB
P	*Rubus occidentalis*	Black Raspberry				S3	1	72.0 ± 0.0	NB
P	*Sanguisorba canadensis*	Canada Burnet				S3	84	15.7 ± 0.0	NB
P	*Galium boreale*	Northern Bedstraw				S3	4	36.3 ± 1.0	NB
P	*Salix pedicellaris*	Bog Willow				S3	25	31.1 ± 5.0	NB
P	*Salix interior*	Sandbar Willow				S3	1	78.7 ± 0.0	NB
P	*Comandra umbellata*	Bastard's Toadflax				S3	80	23.8 ± 1.0	NB
P	*Parnassia glauca*	Fen Grass-of-Parnassus				S3	14	37.9 ± 0.0	NB
P	*Limosella australis*	Southern Mudwort				S3	152	25.0 ± 0.0	NB
P	*Boehmeria cylindrica*	Small-spike False-net le				S3	7	78.5 ± 0.0	NB
P	*Pilea pumila*	Dwarf Clearweed				S3	16	74.3 ± 0.0	NB
P	*Viola adunca*	Hooked Violet				S3	5	57.8 ± 0.0	NB
P	*Viola nephrophylla*	Northern Bog Violet				S3	19	37.9 ± 0.0	NB
P	*Carex arcta*	Northern Clustered Sedge				S3	1	93.0 ± 0.0	NB
P	*Carex capillaris*	Hairlike Sedge				S3	64	39.6 ± 0.0	NB
P	*Carex chordorrhiza*	Creeping Sedge				S3	6	67.9 ± 0.0	NB
P	*Carex conoidea*	Field Sedge				S3	1	20.5 ± 10.0	NB
P	*Carex eburnea*	Bristle-leaved Sedge				S3	68	62.2 ± 0.0	NB
P	*Carex garberi*	Garber's Sedge				S3	23	28.8 ± 0.0	NB
P	*Carex haydenii*	Hayden's Sedge				S3	4	29.0 ± 0.0	NB
P	*Carex michauxiana*	Michaux's Sedge				S3	2	88.4 ± 0.0	NB
P	*Carex ormostachya*	Necklace Spike Sedge				S3	10	14.2 ± 0.0	NB
P	*Carex tenera*	Tender Sedge				S3	2	43.8 ± 0.0	NB
P	*Carex tuckermanii*	Tuckerman's Sedge				S3	7	21.9 ± 10.0	NB
P	*Carex vaginata*	Sheathed Sedge				S3	11	37.9 ± 0.0	NB
P	*Carex wiegandii*	Wiegand's Sedge				S3	47	32.7 ± 2.0	NB
P	*Carex recta*	Estuary Sedge				S3	16	24.3 ± 0.0	NB
P	*Carex atratiformis*	Scabrous Black Sedge				S3	53	58.5 ± 0.0	NB
P	*Cyperus dentatus*	Toothed Flatsedge				S3	1	59.5 ± 10.0	NB
P	*Cyperus esculentus var. leptostachyus*	Perennial Yellow Nutsedge				S3	2	92.1 ± 0.0	NB
P	*Eleocharis intermedia*	Matted Spikerush				S3	14	11.2 ± 2.0	NB
P	*Rhynchospora capitellata*	Small-headed Beakrush				S3	55	26.7 ± 0.0	NB
P	*Rhynchospora fusca*	Brown Beakrush				S3	2	98.0 ± 1.0	NB
P	*Trichophorum clintonii*	Clinton's Clubrush				S3	54	26.3 ± 0.0	NB
P	*Schoenoplectus torreyi*	Torrey's Bulrush				S3	7	79.1 ± 0.0	NB
P	*Lemna trisulca*	Star Duckweed				S3	1	28.9 ± 2.0	NB
P	*Triantha glutinosa*	Sticky False-Asphodel				S3	5	74.6 ± 50.0	NB
P	*Cypripedium reginae*	Showy Lady's-Slipper				S3	19	10.2 ± 0.0	NB
P	*Liparis loeselii*	Loesel's Twayblade				S3	6	12.1 ± 3.0	NB
P	*Platanthera blephariglottis*	White Fringed Orchid				S3	229	14.7 ± 1.0	NB
P	*Platanthera grandiflora*	Large Purple Fringed Orchid				S3	12	26.8 ± 0.0	NB
P	*Bromus latiglumis*	Broad-Glumed Brome				S3	2	61.5 ± 0.0	NB
P	*Dichanthelium depauperatum*	Starved Panic Grass				S3	25	28.6 ± 0.0	NB
P	*Potamogeton obtusifolius*	Blunt-leaved Pondweed				S3	10	10.5 ± 0.0	NB
P	*Potamogeton richardsonii*	Richardson's Pondweed				S3	4	25.9 ± 4.0	NB
P	*Xyris montana*	Northern Yellow-Eyed-Grass				S3	134	35.8 ± 1.0	NB
P	*Zannichellia palustris*	Horned Pondweed				S3	69	15.9 ± 0.0	NB
P	*Adiantum pedatum*	Northern Maidenhair Fern				S3	1	95.2 ± 0.0	NB
P	*Cryptogramma stelleri*	Steller's Rockbrake				S3	75	38.9 ± 0.0	NB
P	*Asplenium viride*	Green Spleenwort				S3	183	38.9 ± 0.0	NB
P	*Dryopteris fragrans*	Fragrant Wood Fern				S3	86	68.1 ± 0.0	NB
P	*Woodsia glabella*	Smoo h Cliff Fern				S3	38	62.2 ± 0.0	NB

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Equisetum palustre*	Marsh Horsetail				S3	5	63.4 ± 0.0	NB
P	*Isoetes tuckermanii ssp. tuckermanii*	Tuckerman's Quillwort				S3	2	79.2 ± 0.0	NB
P	*Diphasiastrum x sabinifolium*	Savin-leaved Ground-cedar				S3	13	31.6 ± 0.0	NB
P	*Huperzia appressa*	Mountain Firmoss				S3	19	37.0 ± 1.0	NB
P	*Botrychium lanceolatum ssp. angustisegmentum*	Narrow Triangle Moonwort				S3	4	52.4 ± 0.0	NB
P	*Botrychium simplex*	Least Moonwort				S3	9	45.4 ± 0.0	NB
P	*Crataegus submollis*	Quebec Hawthorn				S3?	1	23.1 ± 1.0	NB
P	*Mertensia maritima*	Sea Lungwort				S3S4	15	41.5 ± 0.0	NB
P	*Lobelia kalmii*	Brook Lobelia				S3S4	9	37.1 ± 1.0	NB
P	*Suaeda calceoliformis*	Horned Sea-blite				S3S4	44	26.7 ± 1.0	NB
P	*Myriophyllum sibiricum*	Siberian Water Milfoil				S3S4	9	24.0 ± 0.0	NB
P	*Stachys pilosa*	Hairy Hedge-Nettle				S3S4	19	39.7 ± 0.0	NB
P	*Utricularia gibba*	Humped Bladderwort				S3S4	1	68.1 ± 1.0	NB
P	*Rumex fueginus*	Tierra del Fuego Dock				S3S4	100	35.1 ± 0.0	NB
P	*Drymocallis arguta*	Tall Wood Beauty				S3S4	7	40.1 ± 0.0	NB
P	*Rubus chamaemorus*	Cloudberry				S3S4	216	14.3 ± 0.0	NB
P	*Geocaulon lividum*	Northern Comandra				S3S4	77	14.2 ± 0.0	NB
P	*Juniperus horizontalis*	Creeping Juniper				S3S4	16	25.5 ± 1.0	NB
P	*Cladium mariscoides*	Smoo h Twigrush				S3S4	2	97.1 ± 0.0	NB
P	*Eriophorum russeolum*	Russet Cottongrass				S3S4	90	14.4 ± 0.0	NB
P	*Eriophorum russeolum ssp. russeolum*	Russet Cottongrass				S3S4	3	77.4 ± 0.0	NB
P	*Triglochin gaspensis*	Gasp ├⌐ Arrowgrass				S3S4	95	24.3 ± 1.0	NB
P	*Corallorhiza maculata*	Spotted Coralroot				S3S4	12	13.9 ± 0.0	NB
P	*Calamagrostis stricta*	Slim-stemmed Reed Grass				S3S4	32	35.6 ± 0.0	NB
P	*Calamagrostis stricta ssp. stricta*	Slim-stemmed Reed Grass				S3S4	1	65.3 ± 0.0	NB
P	*Distichlis spicata*	Salt Grass				S3S4	56	21.9 ± 0.0	NB
P	*Potamogeton oakesianus*	Oakes' Pondweed				S3S4	2	57.6 ± 0.0	NB
P	*Polygonum oxyspermum ssp. raii*	Ray's Knotweed				SH	9	24.1 ± 1.0	NB
P	*Montia fontana*	Water Blinks				SH	1	59.5 ± 1.0	NB
P	*Aquilegia canadensis*	Red Columbine				SH	1	97.5 ± 10.0	NB
P	*Botrychium campestre*	Prairie Moonwort				SH	1	53.1 ± 0.0	NB

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The recipient of these data shall acknowledge the AC CDC and the data sources listed below in any documents, reports, publications or presentations, in which this dataset makes a significant contribution.

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45	Anon. 2017. Export of Maritimes Butterfly records. Global Biodiversity Information Facility (GBIF).

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44	Churchill, J.L.; Walker, J. 2017. Species at Risk Surveys at Correctional Services Canada Properties in Nova Scotia and New Brunswick. Atlantic Canada Conservation Data Centre.
42	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
39	Mazerolle, D.M. 2005. Bouctouche Irving Eco-Centre rare coastal plant fieldwork results 2004-05. Irving Eco-centre, la Dune du Bouctouche, 174 recs.
37	Clayden, S.R. 2007. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, download Mar. 2007, 6914 recs.
37	Sollows, M.C,. 2008. NBM Science Collections databases: mammals. New Brunswick Museum, Saint John NB, download Jan. 2008, 4983 recs.
35	Erskine, A.J. 1999. Maritime Nest Records Scheme (MNRS) 1937-1999. Canadian Wildlife Service, Sackville, 313 recs.
35	Tranquilla, L. 2015. Maritimes Marsh Monitoring Project 2015 data. Bird Studies Canada, Sackville NB, 5062 recs.
33	Blaney, C.S. 2016. Atlan ic Canada Conservation Data Centre Fieldwork 2016. Atlantic Canada Conservation Data Centre, 6719 recs.
31	Blaney, C.S.; Mazerolle, D.M. 2009. Fieldwork 2009. Atlantic Canada Conservation Data Centre. Sackville NB, 13395 recs.
30	Campbell, G., Villamil, L. 2012. Heath Steele Mine Bird Surveys 2012.
29	Robinson, S.L. 2015. 2014 field data.
28	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
28	Plissner, J.H. & Haig, S.M. 1997. 1996 International piping plover census. US Geological Survey, Corvallis OR, 231 pp.
27	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. A lantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
27	Hinds, H.R. 1999. Connell Herbarium Database. University New Brunswick, Fredericton, 131 recs.
27	Nussey, Pat & NCC staff. 2019. AEI tracked species records, 2016-2019. Chapman, C.J. (ed) Atlantic Canada Conservation Data Centre, 333.
27	Scott, Fred W. 1998. Updated Status Report on the Cougar (Puma Concolor couguar) [Eastern population]. Committee on the Status of Endangered Wildlife in Canada, 298 recs.
26	Blaney, C.S. 2000. Fieldwork 2000. A lantic Canada Conservation Data Centre. Sackville NB, 1265 recs.
26	Manthorne, A. 2014. MaritimesSwiftwatch Project database 2013-2014. Bird Studies Canada, Sackville NB, 326 recs.
23	Blaney, C.S.; Mazerolle, D.M. 2008. Fieldwork 2008. Atlantic Canada Conservation Data Centre. Sackville NB, 13343 recs.
20	Kouchibouguac National Park, Natural Resource Conservation Sec. 1988. The Resources of Kouchibouguac National Park. Beach, H. (ed.) , 90 recs.
20	Webster, R.P. & Edsall, J. 2007. 2005 New Brunswick Rare Butterfly Survey. Environmental Trust Fund, unpublished report, 232 recs.
19	Gautreau-Daigle, H. 2007. Rare plant records from peatland surveys. Coastal Zones Research Institute, Shippagan NB. Pers. comm. to D.M. Mazerolle, 39 recs.
19	Mazerolle, M.J., Drolet, B., & Desrochers, A. 2001. Small Mammal Responses to Peat Mining of Southeastern Canadian Bogs. Can. J. Zool., 79:296-302. 21 recs.
18	Boyne, A.W. 2000. Tern Surveys. Canadian Wildlife Service, Sackville, unpublished data. 168 recs.
17	Bagnell, B.A. 2001. New Brunswick Bryophyte Occurrences. B&B Botanical, Sussex, 478 recs.
17	Chiasson, R. & Dietz, S. 1998. Piper Project Report of Common Tern Observations. Corvus Consulting, Tabusintac NB, 20 recs.
17	Klymko, J.J.D. 2016. 2014 field data. Atlantic Canada Conservation Data Centre.
16	Klymko, J.J.D. 2018. 2017 field data. Atlantic Canada Conservation Data Centre.
16	Majka, C. 2009. Université de Moncton Insect Collection: Carabidae, Cerambycidae, Coccinellidae. Université de Moncton, 540 recs.
16	Richardson, Leif. 2018. Maritimes Bombus records from various sources. Richardson, Leif.
15	Belland, R.J. 1992. The Bryophytes of Kouchibouguac National Park. Parks Canada, Kouchibouguac NP, 101 pp. + map.
15	Klymko, J. Henry Hensel's Butterfly Collection Database. Atlantic Canada Conservation Data Centre. 2016.
14	David, M. 2000. CNPA website. Club de naturalistes de la Peninsule acadienne (CNPA), www.francophone.net/cnpa/rares. 16 recs.
14	Morton, L.D. & Savoie, M. 1983. The Mammals of Kouchibouguac National Park. Parks Canada Report prep. by Canadian Wildlife Service, Sackville, NB, Vols 1-4. 14 recs.
14	Wallace, S. 2020. Stewardship Department species occurrence data on NTNB preserves. Nature Trust of New Brunswick.
13	Klymko, J. 2021. Atlantic Canada Conservation Data Centre zoological fieldwork 2020. Atlantic Canada Conserva ion Data Centre.
13	Sabine, M. 2016. Black Ash records from NB DNR permanent forest sampling Plots. New Brunswick Department of Natural Resources, 39 recs.
13	Webster, R.P. Database of R.P. Webster butterfly collection. 2017.
12	NatureServe Canada. 2019. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
12	Toner, M. 2005. Lynx Records 1996-2005. NB Dept of Natural Resources, 48 recs.
11	Canadian Wildlife Service, A lantic Region. 2010. Piping Plover censuses 2006-09. , 35 recs.
11	Klymko, J.J.D.; Robinson, S.L. 2012. 2012 field data. Atlantic Canada Conservation Data Centre, 447 recs.
11	McAlpine, D.F. 1998. NBM Science Collections: Wood Turtle records. New Brunswick Museum, Saint John NB, 329 recs.
11	Patrick, Allison. 2021. Animal and plant records from NCC properties from 2019 and 2020. Nature Conservancy Canada.
11	Shortt, R. Connell Herbarium Black Ash specimens. University New Brunswick, Fredericton. 2019.
11	Wilhelm, S.I. et al. 2019. Colonial Waterbird Database. Canadian Wildlife Service.
10	Churchill, J.L. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlan ic Canada Conservation Data Centre, 2318 recs.
10	Churchill, J.L. 2019. Atlantic Canada Conservation Data Centre Fieldwork 2019. Atlan ic Canada Conservation Data Centre.
10	Doucet, D.A. 2007. Lepidopteran Records, 1988-2006. Doucet, 700 recs.
10	Klymko, J.J.D.; Robinson, S.L. 2014. 2013 field data. Atlantic Canada Conservation Data Centre.
10	Nature Trust of New Brunswick. 2021. Nature Trust of New Brunswick site inventory data submitted in April 2021. Nature Trust of New Brunswick, 2189 records.
10	Tingley, S. (compiler). 2001. Butterflies of New Brunswick. , Web site: www.geocities.com/Yosemite/8425/buttrfly. 142 recs.
10	Webster, R.P. 2001. R.P. Webster Collection. R. P. Webster, 39 recs.
9	Dept of Fisheries & Oceans. 1999. Status of Wild Striped Bass, & Interaction between Wild & Cultured Striped Bass in the Mari ime Provinces. , Science Stock Status Report D3-22. 13 recs.
8	Busby, D.G. 1999. 1997-1999 Bicknell's Thrush data, unpublished files. Canadian Wildlife Service, Sackville, 17 recs.
8	Chiasson, H. 2007. Les Papillons diurnes. NB Naturalist, 34(1): 4-7.
8	Edsall, J. 2001. Lepidopteran records in New Brunswick, 1997-99. , Pers. comm. to K.A. Bredin. 91 recs.
8	Mawhinney, K. & Seutin, G. 2001. Lepidoptera Survey of the Salt Marshes of of Kouchibouguac National Park. Parks Canada Unpublished Report, 5p. 9 recs.

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8	Miramichi River Environmental Assessment Committee. 2017. Wood Turtle (Glyptemys insculpta) Miramichi & Richibucto Watersheds Inventory 2016. Vladimir King Trajkovic (ed.) Miramichi River Environmental Assessment Committee.
8	Sollows, M.C. Export of New Brunswick Museum butterfly records for the Maritimes provinces. New Brunswick Museum. 2016.
7	Doucet, D.A. & Edsall, J.; Brunelle, P.-M. 2007. Miramichi Watershed Rare Odonata Survey. New Brunswick ETF & WTF Report, 1211 recs.
7	Edsall, J. 2007. Personal Butterfly Collection: specimens collected in the Canadian Maritimes, 1961-2007. J. Edsall, unpubl. report, 137 recs.
7	NatureServe Canada. 2018. iNaturalist Butterfly Data Export . iNaturalist.org and iNaturalist.ca.
7	Pike, E., Tingley, S. & Christie, D.S. 2000. Nature NB Listserve. University of New Brunswick, listserv.unb.ca/archives/naturenb. 68 recs.
7	Toner, M. 2005. NB DNR fieldwork on Parker's Pipewort. NB Dept of Natural Resources. Pers. comm to C.S. Blaney, Dec 12, 8 recs.
6	Bateman, M.C. 2000. Waterfowl Brood Surveys Database, 1990-2000 Canadian Wildlife Service, Sackville, unpublished data. 149 recs.
6	Gowan, S. 1980. The Lichens of Kouchibouguac National Park, Parts I (Macrolichens) & II (Microlichens). National Museum of Natural Sciences. Ottawa, ON, 7 recs.
6	Klymko, J. Dataset of butterfly records at the New Brunswick Museum not yet accessioned by the museum. Atlantic Canada Conservation Data Centre. 2016.
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5	Benedict, B. Connell Herbarium Specimens, Digital photos. University New Brunswick, Fredericton. 2005.
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5	Cowie, Faye. 2007. Surveyed Lakes in New Brunswick. Canadian Rivers Institute, 781 recs.
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5	e-Butterfly. 2019. Export of Maritimes records and photos. McFarland, K. (ed.) e-butterfly.org.
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5	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2003-11. Atlantic Canada Conservation Data Centre. Sackville NB, 1337 recs.
5	Mazerolle, D. 2003. Assessment and Rehabilitation of the Gulf of St Lawrence Aster (Symphyotrichum laurentianum) in Southeastern New Brunswick. Irving Eco-centre, la Dune du Bouctouche, 13 recs.
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5	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Sco ia. 2013.
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4	Amirault, D.L. 1997-2000. Unpublished files. Canadian Wildlife Service, Sackville, 470 recs.
4	Benedict, B. Connell Herbarium Specimens. University New Brunswick, Fredericton. 2000.
4	Blaney, C.S. 1999. Fieldwork 1999. A lantic Canada Conservation Data Centre. Sackville NB, 292 recs.
4	Haughian, S. 2019. Pannaria lurida observations in Nova Scotia and New Brunswick. Nova Sco ia Museum.
4	Hoyt, J.S. 2001. Assessment and update status report on the Bathurst Aster (Symphyotrichum subulatum) in Canada. Committee on the Status of Endangered Wildlife in Canada, 4 recs.
4	Manthorne, A. 2019. Incidental aerial insectivore observations. Birds Canada.
4	McLeod, D. & Saunders, J. 2004. Cypripedium reginae. Pers. comm. to C.S. Blaney. 4 recs, 4 recs.
4	Parks Canada. 2010. Specimens in or near National Parks in A lantic Canada. Canadian National Museum, 3925 recs.
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4	Spicer, C.D. 2002. Fieldwork 2002. Atlantic Canada Conservation Data Centre. Sackville NB, 211 recs.
4	Tremblay, E. 2001. Kouchibouguacis River Freshwater Mussel Data. Parks Canada, Kouchibouguac NP, 45 recs.
4	Webster, R.P. 1997. Status Report on Maritime Ringlet (Coenonympha nipisquit) in Canada. Committee on the Status of Endangered Wildlife in Canada, 4 recs.
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3	Godbout, V. 2000. Recherche de l'Aster du St-Laurent (Aster laurentianus) et du Satyre des Maritimes (Coenonympha nepisiquit) au Parc national Kouchibouguac et a Dune du Bouctouche, N-B. Irving Eco-centre, 23 pp.
3	Godbout, Valerié. 2010. Étude de l'Aster du Saint-Laurent dans le parc national Kouchibouguac, 2000-04. Parks Canada, 3 recs.
3	Klymko, J. Univeriste de Moncton insect collection butterfly record dataset. Atlantic Canada Conservation Data Centre. 2017.
3	Madden, A. 1998. Wood Turtle records in northern NB. New Brunswick Dept of Natural Resources & Energy, Campbellton, Pers. comm. to S.H. Gerriets. 16 recs.
3	Mazerolle, D.M. 2021. South Richibucto Dune Beach pinweed observations from 2019. Parks Canada, 387 records.
3	McAlpine, D.F. 1998. NBM Science Collections databases to 1998. New Brunswick Museum, Saint John NB, 241 recs.
3	Nelson Poirier. 2009. Rare plant finds in the Exmoor & Lyt leton areas. Pers. comm. to S. Blaney. 4 recs, 4 recs.
3	Spicer, C.D. 2004. Specimens from CWS Herbarium, Mount Allison Herbarium Database. Mount Allison University, 5939 recs.
3	Trajkovic, V.K. 2017. Wood turtles inventroy miramichi watershed 2017. Miramichi River Environmental Action Committee, 22 records.
2	Anon. Dataset of butterfly records for the Maritime provinces. Museum of Comparative Zoology, Harvard University. 2017.
2	Bouchard, A. Herbier Marie-Victorin. Universite de Montreal, Montreal QC. 1999.
2	Chiasson, H. 2008. Les papillons diurnes. NB Naturalist, 35(1): 10.
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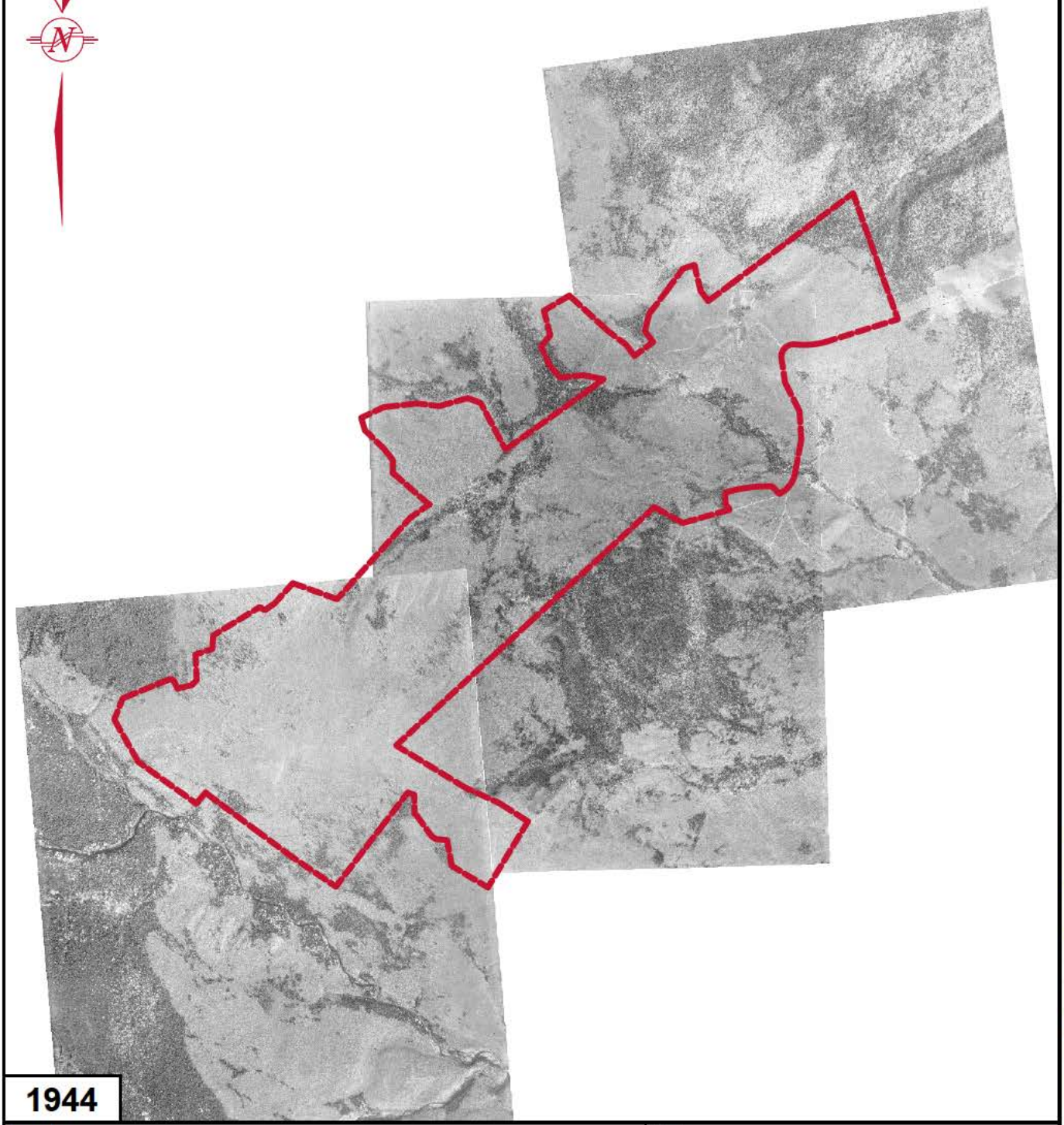
2	Gauvin, J.M. 1979. Etude de la vegetation des marais sales du parc national Kouchibouguac, N-B. M.Sc. Thesis, Universite de Moncton, 248 pp.
2	Goltz, J.P. 2002. Botany Ramblings: 1 July to 30 September, 2002. N.B. Naturalist, 29 (3):84-92. 7 recs.
2	Hicklin, P.W. 1998. The Maritime Shorebird Survey Newsletter. Calidris, No. 6. 4 recs.
2	Holder, M.L.; Kingsley, A.L. 2000. Kinglsey and Holder observations from 2000 field work.
2	NatureServe Canada. 2017. iNaturalist Butterfly Data Export . iNaturalist.org and iNaturalist.ca.
2	NatureServe Canada. 2018. iNaturalist Maritimes Butterfly Records. iNaturalist.org and iNaturalist.ca.
2	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
2	Sollows, M.C,. 2009. NBM Science Collections databases: Coccinellid & Cerambycid Beetles. New Brunswick Museum, Saint John NB, download Feb. 2009, 569 recs.
2	Speers, L. 2001. Butterflies of Canada database. Agriculture & Agri-Food Canada, Biological Resources Program, Ottawa, 190 recs.
2	Toner, M. 2001. Lynx Records 1973-2000. NB Dept of Natural Resources, 29 recs.
1	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
1	Belliveau, A.G. E.C. Smith Herbarium Specimen Database 2019. E.C. Smith Herbarium, Acadia University. 2019.
1	Blaney, C.S. 2003. Fieldwork 2003. A lantic Canada Conservation Data Centre. Sackville NB, 1042 recs.
1	Blaney, C.S. 2018. Atlan ic Canada Conservation Data Centre Fieldwork 2018. Atlantic Canada Conservation Data Centre.
1	Blaney, C.S. Miscellaneous specimens received by ACCDC (botany). Various persons. 2001-08.
1	Boyne, A.W. 2001. Portage Island National Wildlife Area inspection visit. Canadian Wildlife Service, Sackville, 1 rec.
1	Calhoun, J.C. Butterfly records databased at the McGuire Center for Lepidoptera and Biodiversity. Calhoun, J.C. 2020.
1	Chris ie, D.S. 2000. Christmas Bird Count Data, 1997-2000. Nature NB, 54 recs.
1	Clayden, S.R. 2012. NBM Science Collections databases: vascular plants. New Brunswick Museum, Saint John NB, 57 recs.
1	Collins, H. 2014. Email to John Klymko regarding CHELserp record from Miramichi watershed. Miramichi River Environmental Assessment Committee, 1 record.
1	Cormier, R. 2019. Wood Turtle observation. pers. comm. to J.L. Churchill.
1	Daury, R.W. & Bateman, M.C. 1996. The Barrow's Goldeneye (Bucephala islandica) in the Atlantic Provinces and Maine. Canadian Wildlife Service, Sackville, 47pp.
1	Desilets-Starrak, J. 2015. Wood Turtle record. Pers. comm. to E. Tremblay, Parks Canada.
1	Douglas, S.G. & G.C. Chaput & R. Bradford. 2001. Status of Striped Bass (Morone saxatilis) in the southern Gulf of St. Lawrence in 1999 & 2000. DFO Canadian Science Advisory Secretariat Res. Doc. 2001/058, 2001/058. 1 rec.
1	Elderkin, M. 2001. Bog Lemming record for Popple Depot NB. , Pers. comm. to K.A. Bredin. 1 rec.
1	Forster, J. 1999. [Story about Lynx in New Brunswick]. Moncton Times & Transcript, November 5, 1999. 1 rec.
1	Goltz, J.P. 2007. Field Notes: Listera australis at Kouchibouguac National Park. , 7 recs.
1	Grondin, P. & Blouin, J-L., Bouchard, D.; et al. 1981. Description et cartographie de la vegetation du cordon littoral. Parc National de Kouchibouguac. Le Groupe Dryade, 57 pp.
1	Hinds, H.R. 2000. Flora of New Brunswick (2nd Ed.). University New Brunswick, 694 pp.
1	iNaturalist. 2020. iNaturalist butterfly records selected for the Maritimes Butterfly Atlas. iNaturalist.
1	Klymko, J.J.D. 2011. Insect fieldwork & submissions, 2010. Atlantic Canada Conservation Data Centre. Sackville NB, 742 recs.
1	Klymko, J.J.D. 2012. Insect field work & submissions. Atlantic Canada Conservation Data Centre, 852 recs.
1	Klymko, J.J.D. 2012. Insect fieldwork & submissions, 2011. Atlantic Canada Conservation Data Centre. Sackville NB, 760 recs.
1	Klymko, J.J.D. 2012. Odonata specimens & observations, 2010. Atlantic Canada Conservation Data Centre, 425 recs.
1	MacKinnon, C.M. 2000. Inspection visit to Inkerman MBS, June 5, 2000. Canadian Wildlife Service, Sackville, 1 rec.
1	Mazerolle, D.M. Small-flowered Agalinis collection from Quarryville. AC CDC. 2018.
1	Mills, E. Connell Herbarium Specimens, 1957-2009. University New Brunswick, Fredericton. 2012.
1	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
1	New York Botanical Garden. 2006. Virtual Plant Herbarium - Vascular Plant Types Catalog. Sylva, S.; Kallunki, J. (ed.) International Plant Science Centre, Web site: http://sciweb.nybg.org/science2/vii2.asp. 4 recs.
1	Patrick, A.; Horne, D.; Nosewor hy, J. et. al. 2017. Field data for Nova Scotia and New Brunswick, 2015 and 2017. Nature Conservancy of Canada.
1	Saunders, J. 2009. White-Fringe Orchis photo and coordinates. Pers. comm. to S. Blaney, July 17. 1 rec, 1 rec.
1	Simpson, D. Collection sites for Black Ash seed lots preserved at the National Tree Seed Centre in Fredericton NB. National Tree Seed Centre, Canadian Forest Service. 2016.
1	Skevington, Jeffrey H. 2020. Syrphid records used for the Field Guide to the Flower Flies of Northeastern North America. Canadian National Collection of Insects.
1	Stevens, Joshua. 2020. Facebook record of Ophiogomphus howei.
1	Toner, M. 2009. Wood Turtle Sightings. NB Dept of Natural Resources. Pers. comm. to S. Gerriets, Jul 13 & Sep 2, 2 recs.
1	Tremblay, E., Craik, S.R., Titman, R.D., Rousseau, A. & Richardson, M.J. 2006. First Report of Black Terns Breeding on a Coastal Barrier Island. Wilson Journal of Ornithology, 118(1):104-106. 1 rec.
1	Vladimir King Trajkovic. 2018. Brook Floater (Alasmidonta varicosa) records from MREAC surveys 2010-2017. Miramichi River Environmental Assessment Committee.
1	Wisniowski, C. & Dowding, A. 2020. NB species occurrence data for 2020. Nature Trust of New Brunswick.
1	Young, A.D., Titman, R.D. 1986. Costs and benefits to Red-breasted Mergansers nesting in tern and gull colonies. Can. J. Zool., 64: 2339-2343.

APPENDIX J

Historical Aerial Photographs

AERIAL PHOTOGRAPH SOURCE: ERD / DER.



1944

Legend

SITE BOUNDARY

Scale

1:40000

0 0.5 1 2 km

Project	Drawing
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 1944

Drawn By	Date	Project No.	Drawing No.	Revision No.
CHG	July 2021	100523.001	FIGURE J1	0

GEMTEC
CONSULTING ENGINEERS AND SCIENTISTS

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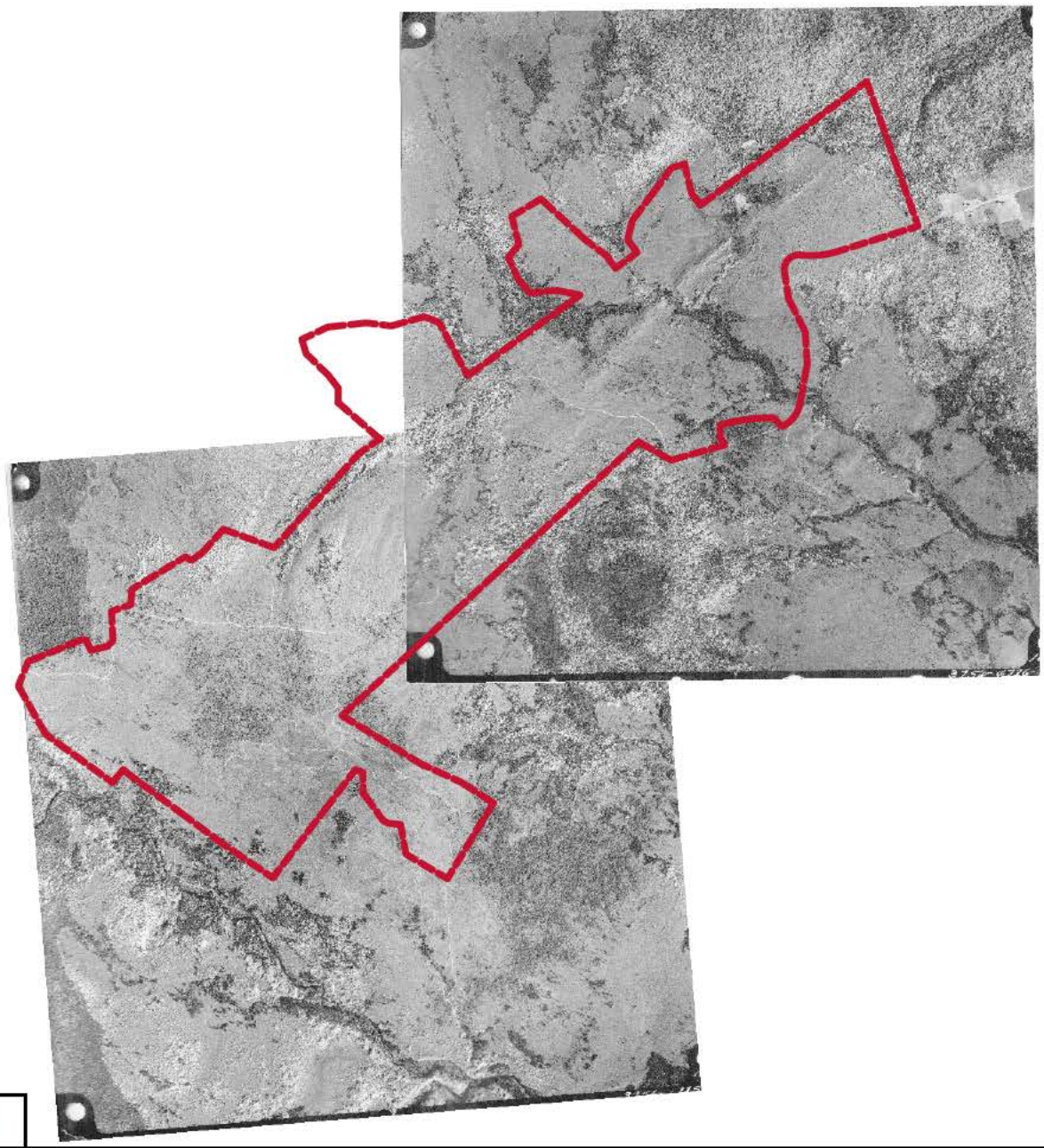

1955

Legend

SITE BOUNDARY

Scale

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Project	Drawing			
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 1955			
Drawn By: CHG	Date: July 2021	Project No.: 100523.001	Drawing No.: FIGURE J2	Revision No.: 0

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CONSULTING ENGINEERS AND SCIENTISTS

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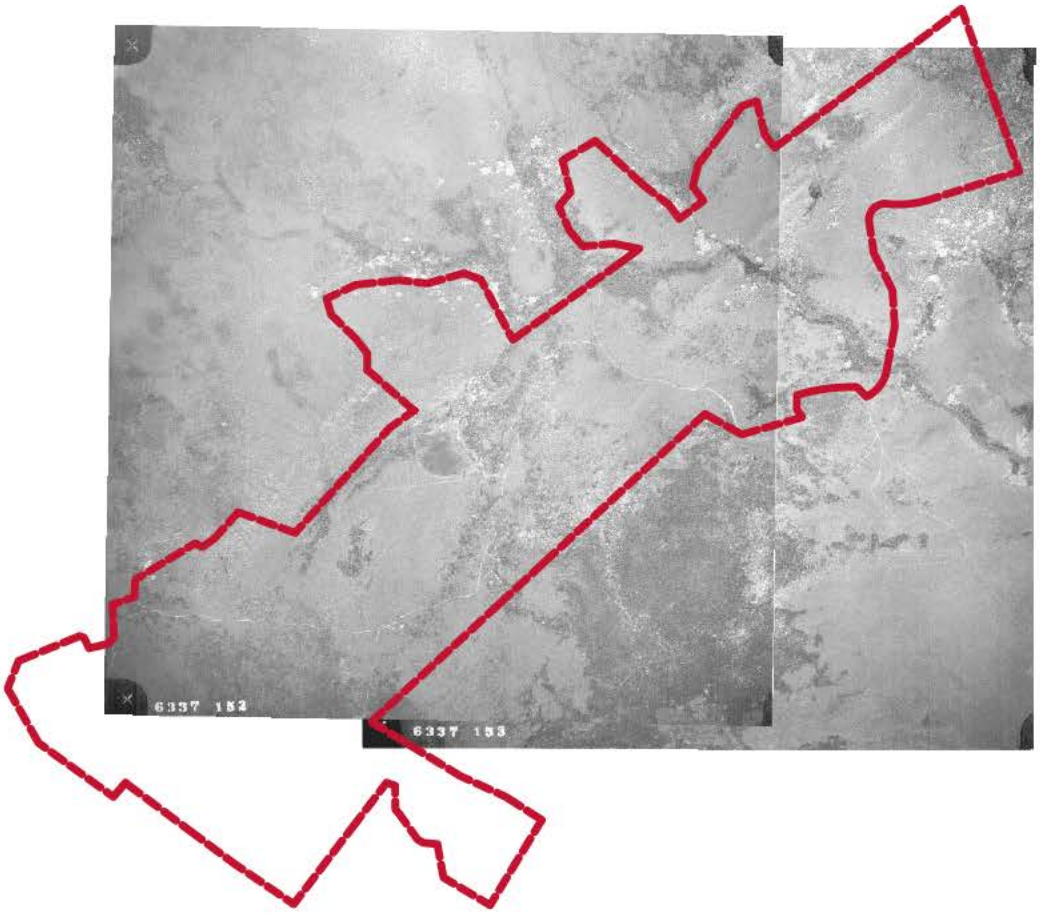

1963

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SITE BOUNDARY

Scale

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Project	Drawing			
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 1963			
Drawn By: CHG	Date: July 2021	Project No.: 100523.001	Drawing No.: FIGURE J3	Revision No.: 0

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CONSULTING ENGINEERS AND SCIENTISTS

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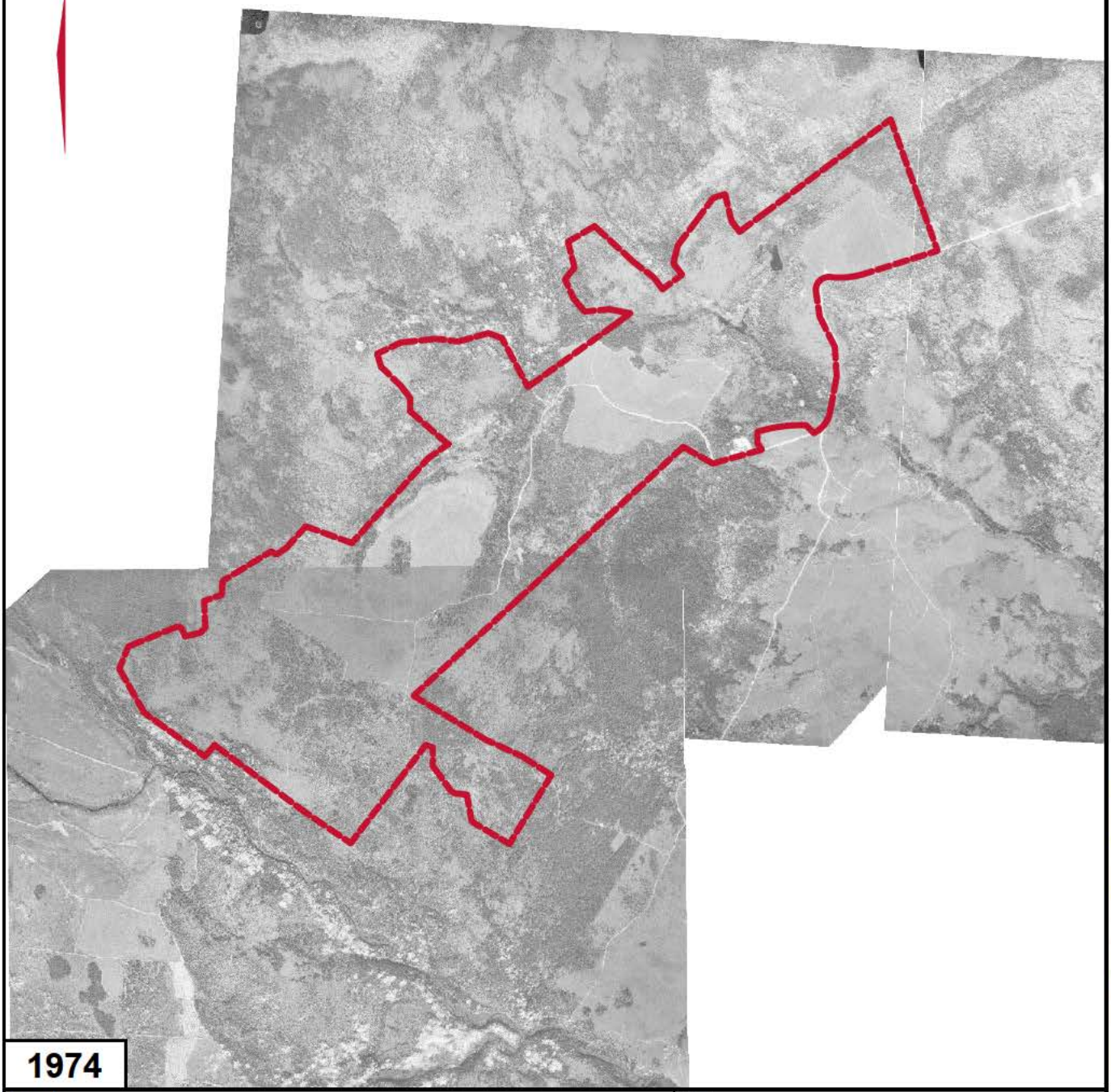

1974

Legend

SITE BOUNDARY

Scale

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Project	Drawing			
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 1974			
Drawn By: CHG	Date: July 2021	Project No.: 100523.001	Drawing No.: FIGURE J4	Revision No.: 0

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CONSULTING ENGINEERS AND SCIENTISTS

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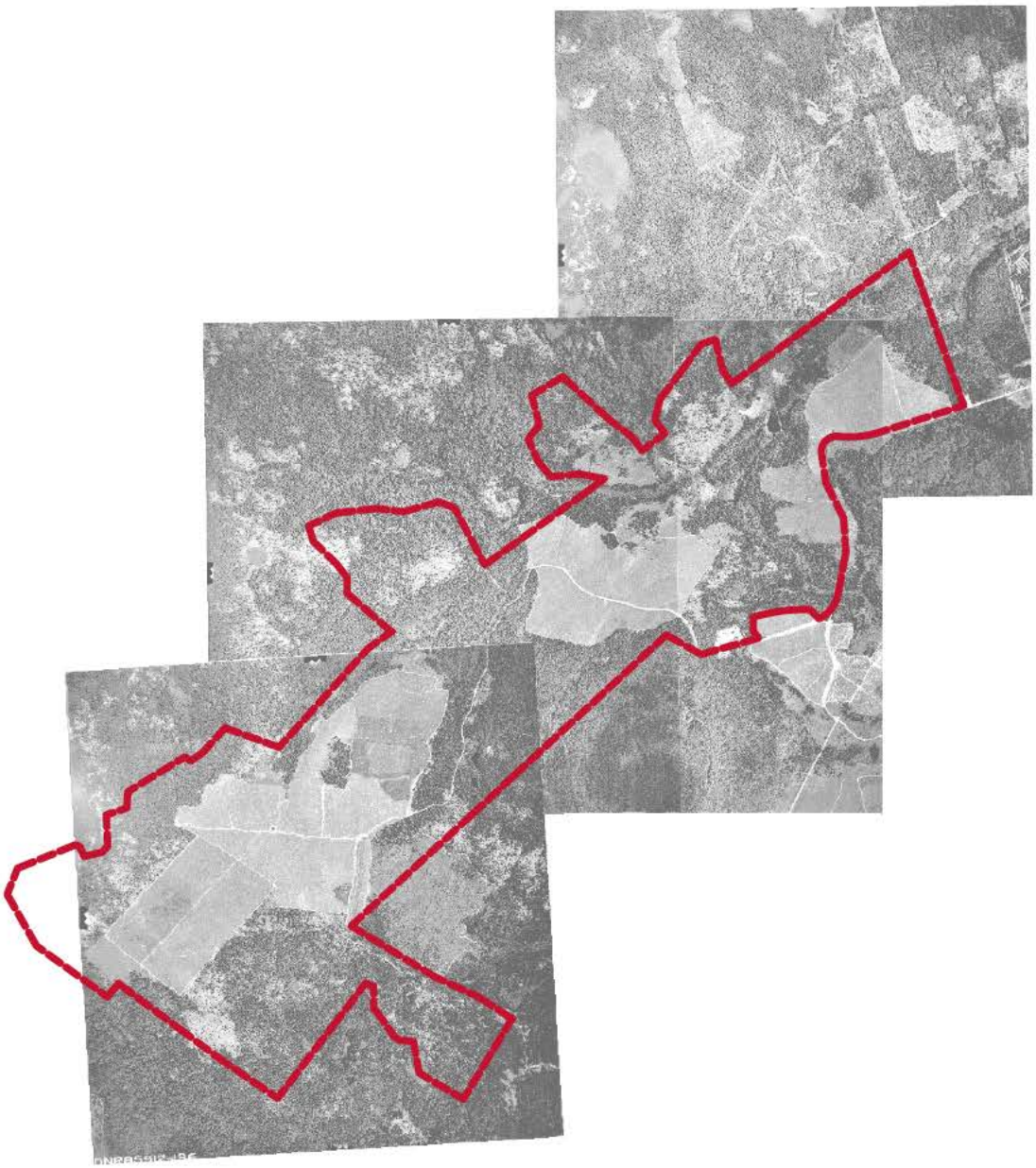
AERIAL PHOTOGRAPH SOURCE: ERD / DER.



1985

Legend

SITE BOUNDARY

Scale

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0 0.5 1 2 km

Project	Drawing			
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 1985			
Drawn By: CHG	Date: July 2021	Project No.: 100523.001	Drawing No.: FIGURE J5	Revision No.: 0

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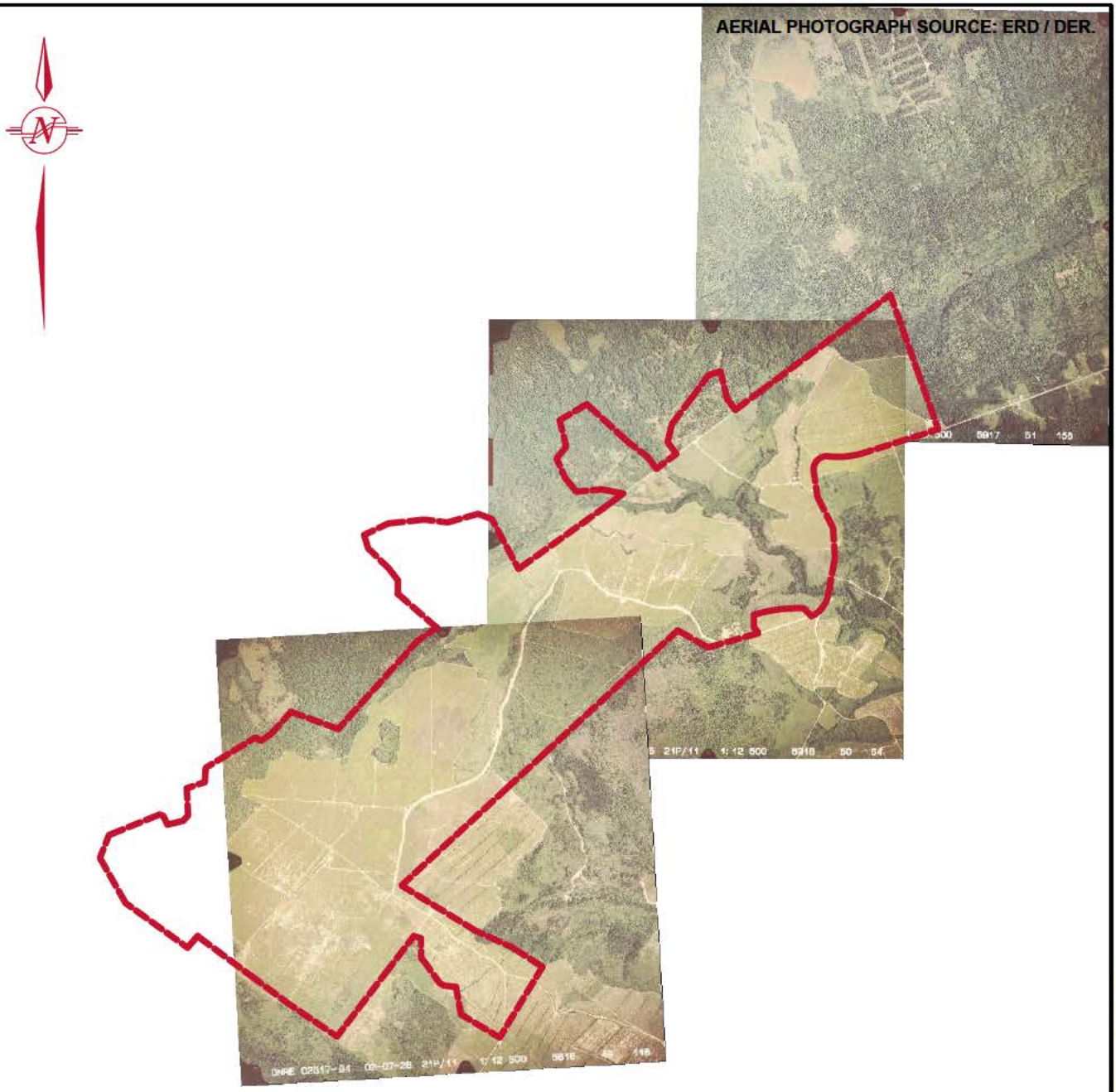
N:\Projects\100700\100725.001\06_Drafting\100725.001_DWG05_Rev0_AERIAL_2021-07-22.dwg



2002

Legend

SITE BOUNDARY

Scale

1:40000

0 0.5 1 2 km

Project	Drawing			
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 2002			
Drawn By: CHG	Date: July 2021	Project No.: 100523.001	Drawing No.: FIGURE J6	Revision No.: 0

GEMTEC
CONSULTING ENGINEERS AND SCIENTISTS

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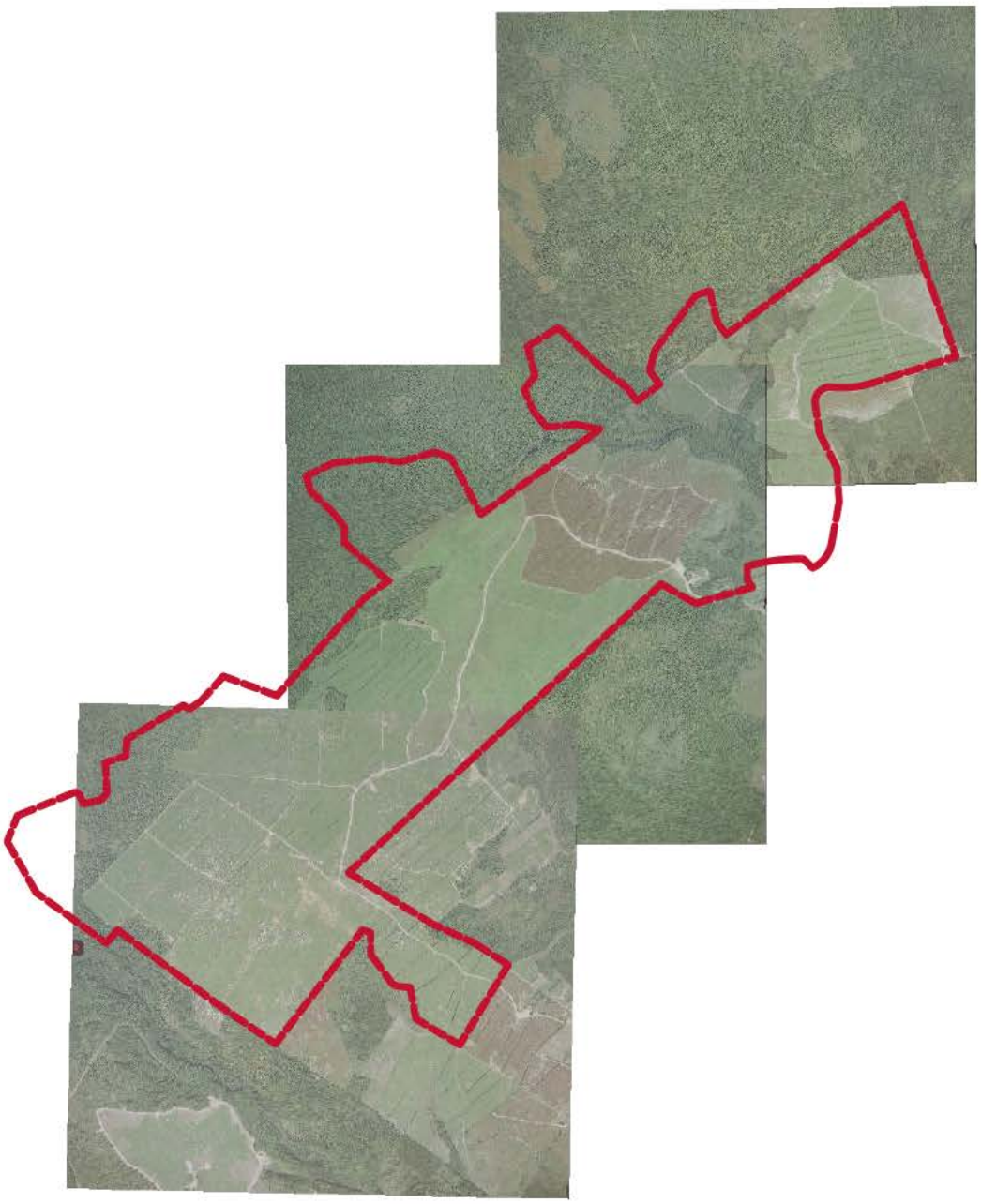
AERIAL PHOTOGRAPH SOURCE: ERD / DER.



2012

Legend

SITE BOUNDARY

Scale

1:40000

0 0.5 1 2 km

Project	Drawing			
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 2012			
Drawn By: CHG	Date: July 2021	Project No.: 100523.001	Drawing No.: FIGURE J7	Revision No.: 0

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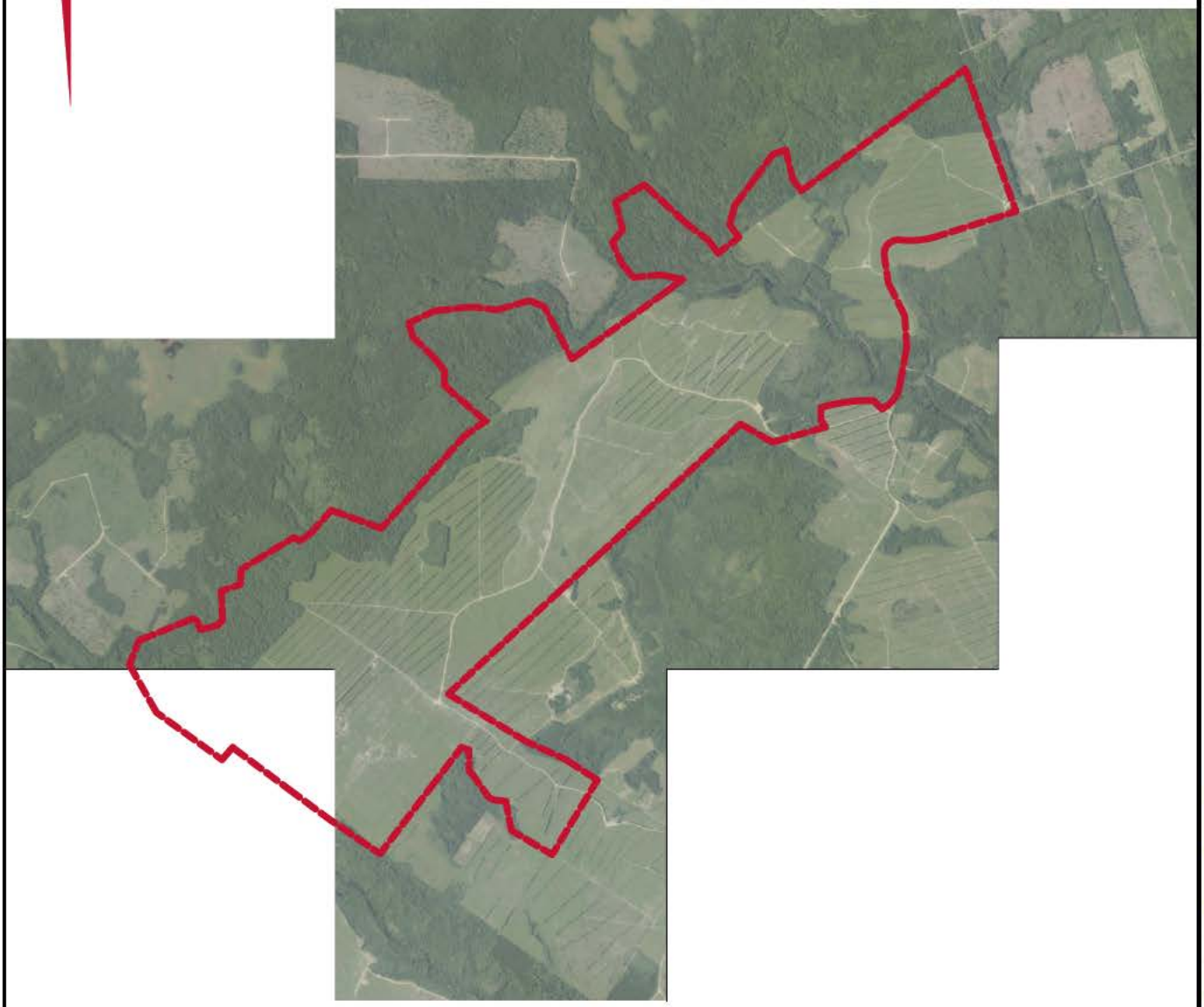
AERIAL PHOTOGRAPH SOURCE: ERD / DER.



2020

Legend

SITE BOUNDARY

Scale

1:40000

0 0.5 1 2 km

Project	Drawing			
ENVIRONMENTAL IMPACT ASSESSMENT AND WATER SOURCE SUPPLY ASSESSMENT, VAL-DOUCET, NB	HISTORICAL AERIAL PHOTO 2020			
Drawn By: CHG	Date: July 2021	Project No.: 100523.001	Drawing No.: FIGURE J8	Revision No.: 0

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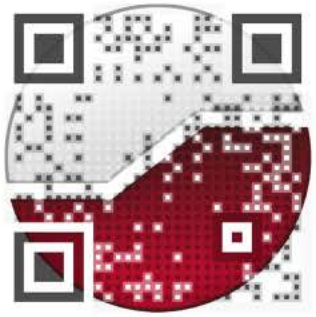
experience • knowledge • integrity



civil	civil
geotechnical	géotechnique
environmental	environnement
structural	structures
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité