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PRELIMINARY ECONOMIC ASSESSMENT OF THE BÉGIN-LAMARCHE PHOSPHATE PROPERTY, SAGUENAY – LAC SAINT-JEAN REGION, NORTHERN QUÈBEC

UTM NAD83 ZONE 19N 326,000 m EAST AND 5,403,000 m NORTH, or 71°21'51" WEST LONGITUDE AND 48°45'21" NORTH LATITUDE

FOR
FIRST PHOSPHATE CORPORATION

NI 43-101 & 43-101F1
TECHNICAL REPORT

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1.0 SUMMARY

This National Instrument ("NI") 43-101 Technical Report was prepared by P&E Mining Consultants Inc. ("P&E") for First Phosphate Corporation ("First Phosphate" or the "Company") to provide a Preliminary Economic Assessment ("PEA" or the "Report") of the Bégin-Lamarche Phosphate Property ("the Property" or "Project"), Saguenay – Lac-Saint-Jean Region, northern Québec. The Bégin-Lamarche ("BL") Property is 100% owned by First Phosphate.

Input to this PEA was also provided by BBA Inc. This Technical Report has an effective date of December 4, 2024.

First Phosphate is a public company registered in British Columbia and listed on the Canadian Securities Exchange, where it trades under the symbol PHOS. The Company's head office is located in the City of Vancouver, British Columbia.

P&E completed an Initial Mineral Resource Estimate on the Bégin-Lamarche Phosphate Property for First Phosphate with an effective date of September 9, 2024, which forms the basis for this PEA. The Company's exploration program evaluated the potential for near surface phosphate, magnetite and ilmenite mineralization.

1.1 PROPERTY DESCRIPTION AND LOCATION

The Bégin-Lamarche Property is located ~270 km north of Québec City, Québec and ~75 km northwest of the City of Saguenay, Québec (Figure 1.1). The Property consists of 688 contiguous CDC claims with a total area of 38,610 ha. First Phosphate fully owns the 688 claims. All the Property claims are registered with the Ministry of Natural Resources and Forests ("MRNF"). All the claims are in good standing as of the effective date of this Report.

1.2 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Bégin-Lamarche Property is accessible via ~50 km driving-distance on highways 170 and 172 west and northwest of the City of Saguenay. These highways connect by secondary and tertiary roads to the Property. The Bégin-Lamarche Project, which includes the area of the current Mineral Resource, is located within the limits of the Municipality of Bégin and ~9 km north of the Town of Bégin and adjacent to the Town of Lamarche.

The Saguenay Region has a humid continental-type climate that is milder than that of the surrounding Canadian Shield and similar to that of the St. Lawrence Lowlands. Located just above the 49^{th} parallel, the region has a very low average temperature (2.3°C) with very cold winters (average −21.1°C in January) and relatively cool summers (24.1°C on average in July).

FIGURE 1.1 LOCATION MAP OF BÉGIN-LAMARCHE PROPERTY, QUÉBEC

Source: *https://www.canadamaps.com/map-of-quebec-with-cities-and-towns/ (September 2024)*

The Saguenay - Lac Saint-Jean Region has a population of 280,000 inhabitants (Census Canada, 2021) and extensive industrial, agricultural, forestry and tourist industries. The region also has a significant hydro-electric system (owned by Rio Tinto) to produce electricity for the aluminum production and transformation industries. The University of Québec at Chicoutimi in the City of Saguenay houses a well-known geological department. The nearby mining operations are mainly aggregate and dimensional stone quarries. The only metallic mine in the area is the Niobec Niobium Mine operated by Magris Resources.

The City of Saguenay is the sixth largest city in Québec, with an airport, a skilled industrial workforce, and established local infrastructure. Deep-water all-season port facilities at the Port of

Saguenay, 30 road-km distant, are linked by the Saguenay River to the St. Lawrence River at the Town of Tadoussac and, ultimately, the Atlantic Ocean. The Company has signed a Memorandum of Understanding with the Port of Saguenay to secure access and development space at the port facilities. Furthermore, the port of Bécancour on the Saint Lawrence River is located 260 km south-southeast of the City of Saguenay and is accessible by Highway Road 172 west to Highway 169, and then south along Highway 155 to the City of Trois-Rivieres. There are regularly scheduled flights to Saguenay from the City of Montréal.

The topography of the Property consists of rolling hills containing numerous outcrops and small valleys covered with a thick layer of overburden. Vegetation is a mixed forest of deciduous and coniferous trees with a few lakes.

1.3 HISTORY

Historically, exploration work in the Bégin-Lamarche region focused mainly on industrial minerals and dimensional stone. In the 1970s, the region was mapped by Provincial Government teams, with a focus on a large anorthosite complex. In 1986 and 1996, lake sediment samples and stream sediment samples returned anomalous values in nickel, copper and cobalt.

From the mid-1990s to 2022, Virginia Gold Mines, Secova Metals and local prospectors completed geophysical, lithogeochemical, and geological surveys designed to detect mainly the presence of massive magmatic sulphide mineralization associated with anorthosite. Disseminated Ni-Cu-Co sulphide mineralized showings and phosphate mineralized occurrences were found.

First Phosphate interest in the Bégin-Lamarche area stemmed from the presence of a 7 km long, southwesterly trending airborne anomaly and two historical grab samples taken by prospectors that returned results of 10.5% and 12.0% P_2O_5 (phosphorus pentoxide) in a cumulate rock type with >90% oxide (magnetite and ilmenite) and apatite. In 2022, First Phosphate purchased the northern part of the Bégin Property from the local prospectors, expanded it through staking and additional acquisition deals, and commenced exploration for magmatic phosphate mineralization.

1.4 GEOLOGICAL SETTING, MINERALIZATION, DEPOSIT TYPE

The Bégin-Lamarche Phosphate Deposit is hosted in an oxide-apatite gabbro intrusion within the large Proterozoic age Lac-Saint-Jean-Anorthosite (“LSJA”) Suite in the Grenville Province, Québec. The LSJA is the largest phosphate mineralized anorthosite complex worldwide.

The Deposit extends for 2,500 m along strike, dips steeply, and is internally offset along cross-cutting faults into three mineralized zones: 1) the Southern Zone; 2) the Northern Zone; and 3) the Mountain Zone. The Southern Zone is the largest, consisting of four phosphate layers up to 200 m thick, and extends for 1,700 m along strike. The Northern Zone consists of two phosphate layers ranging from 100 to 200 m in thickness and extends for 600 m along strike. The Mountain Zone is a single phosphate-bearing somewhat elongated mass up to 200 m in diameter and 250 m in length. Drilling at the Mountain Zone intersected massive apatite (phosphate-bearing mineral) layers up to 2 m thick.

Bégin-Lamarche is an anorthosite massif-hosted phosphate (apatite) mineral deposit.

1.5 EXPLORATION AND DRILLING

In 2023 and 2024, First Phosphate has carried out geological reconnaissance and sampling programs, an airborne magnetic survey, a petrographic study, bulk sampling for metallurgical testing, and diamond drilling programs. In 2023, 21 drill holes were completed for a total of 4,461 m of NQ drill core. Between January and April 2024, 99 drill holes were completed for a total of 25,929 m. In total, First Phosphate has completed 120 drill holes for 30,390 m on the Property.

1.6 SAMPLE ANALYSES AND DATA VERIFICATION

It is the Authors' opinion that sample preparation, security and analytical procedures for the Bégin-Lamarche Project 2023 to 2024 drill program were adequate, and that the data are of satisfactory quality and suitable for use in the current Mineral Resource Estimate. Future drill core sampling at the Project should include the insertion and monitoring of field and coarse reject duplicates, and 5 to 10% umpire samples of all future drill core samples at a reputable secondary laboratory.

Verification of the Bégin-Lamarche Project data, used for the current Mineral Resource Estimate, was undertaken by the Authors, and included a site visit, due diligence sampling, verification of drilling assay data, and assessment of the available QA/QC data for the recent drilling data. The Authors consider that there is satisfactory correlation between the P_2O_5, TiO_2 and Fe_2O_3 assay values in First Phosphate's database and the independent verification samples collected by the Authors and analyzed at SGS. The Authors consider that sufficient verification of the Project data has been undertaken and that the supplied data are of satisfactory quality and suitable for use in the current Mineral Resource Estimate.

1.7 MINERAL PROCESSING AND METALLURGICAL TESTING

Metallurgical testwork has been carried out by SGS at their Québec City facility with additional support by SGS Lakefield, Ontario. Recent test results have confirmed that an apatite concentrate can be produced assaying 40% P_2O_5 and at over 90% recovery. Additional metallurgical test results indicate that the Bégin-Lamarche Deposit may have the potential to produce two other, possibly marketable concentrates: 1) an iron oxide (magnetite) concentrate; and 2) a titanium dioxide (ilmenite) concentrate. Further metallurgical testing is required.

The Queen's University Geology Department at Kingston, Ontario in cooperation with the Université du Québec à Chicoutimi provided detailed mineralogical analyses on several Mineral Resource-representative drill core samples.

1.8 MINERAL RESOURCE ESTIMATE

The Mineral Resources are considered by the Authors to be amenable to open pit mining methods. The Mineral Resource Estimate is listed in Table 1.1 at a cut-off grade of 2.5% P_2O_5 with an effective date of December 4, 2024.

TABLE 1.1
PIT-CONSTRAINED MINERAL RESOURCE ESTIMATE AT 2.5% P_2O_5 CUT-OFF (1-4)

Class-ification	Zone	Tonnes (M)	P_2O_5 (%)	P_2O_5 (kt)	Fe_2O_3 (%)	Fe_2O_3 (Mt)	TiO_2 (%)	TiO_2 (kt)
Indicated	Mountain	9.3	8.19	758	9.95	0.9	3.23	299
	Northern	32.2	6.00	1,934	10.91	3.5	3.33	1,073
	Total	**41.5**	**6.49**	**2,692**	**10.69**	**4.4**	**3.31**	**1,372**
Inferred	Mountain	6.8	8.57	584	10.34	0.7	3.68	251
	Northern	44.3	6.98	3,090	11.14	5.0	3.26	1,442
	Southern	162.9	5.63	9,177	10.85	17.6	3.73	6,080
	Total	**214.0**	**6.01**	**12,851**	**10.89**	**23.3**	**3.63**	**7,773**

Notes: *P_2O_5 = phosphorus pentoxide, Fe_2O_3 = iron oxide or ferric oxide, TiO_2 = titanium dioxide.*

1. *Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability.*
2. *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*
3. *The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued exploration.*
4. *The Mineral Resources in this Technical Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.*

The Bégin-Lamarche Mineral Resource Estimate is based on 120 drill holes totalling 29,762 m. The database contains 7,968 assays for percentage values of P_2O_5, Fe_2O_3 and TiO_2.

The Bégin-Lamarche Deposit mineralized wireframes boundaries were determined from lithology, structure, and grade boundary interpretation from visual inspection of drill hole cross-sections. Seven mineralized wireframes were developed, one for the Mountain Zone, two for the Northern Zone and four for the Southern Zone. The mineralized wireframes were constructed on 50 m spaced vertical cross-sections for the Mountain and Northern Zones and 100 m spacing for the Southern Zone, with computer screen digitized polylines on drill hole cross-sections in GEOVIA GEMS™. The mineralized wireframe outlines were influenced by the selection of mineralized material grading above 2.5% P_2O_5 that demonstrated a lithological, structural and zonal continuity along strike and down dip. In some cases, mineralization grading $<2.5\%$ P_2O_5 was included for the purpose of maintaining mineralized zone continuity. The minimum constrained width for mineralized wireframe interpretation was 3 m of drill core length.

In order to regularize the assay sampling intervals for grade interpolation, a 3.0 m compositing length was selected for the drill hole intervals that fell within the constraints of the above-described Mineral Resource wireframe domains. Grade capping was investigated on the 3.0 m composite values in the database within the constraining domains to ensure that the possible influence of erratic high-grade values did not bias the grade interpolation. Three P_2O_5 values in the Mountain Zone Domain were capped at 23%, whereas no capping was required for other minerals and domains. The capped composites were utilized to develop variograms for block model grade interpolation search ellipse ranges.

A variography analysis was undertaken to provide a guide to determining a grade interpolation search ellipse strategy. Directional variograms were developed using the P_2O_5 composites for each mineralized domain where sufficient data were available. Continuity ellipses based on the observed variogram ranges were subsequently generated and utilized as the basis for grade estimation search ranges, distance weighting calculations and Mineral Resource classification criteria.

The Bégin-Lamarche block model was constructed using GEOVIA GEMS™ V6.8.4 geological modelling software. The block model consists of separate model attributes for estimated P_2O_5, Fe_2O_3 and TiO_2 grade, rock type (mineralized domain), volume percent, bulk density, and classification. All blocks in the rock type block model were initialized with a waste rock code of 99, corresponding to the surrounding country rocks. The mineralized domain was used to code all blocks within the rock type block model that contain ≥0.1% volume within the mineralized domains. These blocks were assigned the appropriate rock type code. The overburden and topographic surfaces were subsequently utilized to assign rock codes 99 and 0, corresponding to overburden and air respectively, for all blocks ≥50% above the surfaces.

A volume percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining mineralized domains. Consequently, the mineralized domain boundary was properly represented by the volume percent model ability to measure individual infinitely variable block inclusion percentages within that domain. The minimum percentage of any mineralized block was set to 0.1%.

The P_2O_5, Fe_2O_3 and TiO_2 grade blocks were interpolated with the Inverse Distance Squared ("ID^2") method. Nearest Neighbour grade interpolation ("NN") was utilized for validation. Multiple passes were executed for the grade interpolation to progressively capture the sample points to avoid over-smoothing and preserve local grade variability. Ellipse search ranges and directions were based on the variograms. The average bulk density derived from the Authors' site visit sampling of 3.23 t/m^3 was applied to all mineralized blocks.

It is the Authors' opinion that the drilling, assaying and exploration work on the Bégin-Lamarche Project support this Mineral Resource Estimate and are sufficient to indicate a reasonable potential for eventual economic extraction, and thus it qualifies as a Mineral Resource under the CIM definition standards. The Mineral Resource is classified as Indicated and Inferred, based on the geological interpretation, variogram performance and drill hole spacing. The Indicated Mineral Resource is initially classified for the blocks interpolated with the Pass I, which used at least three composites from a minimum of two drill holes. The Inferred Mineral Resource is classified for all remaining grade populated blocks within the mineralized domains. The classifications were adjusted by creating solids to reasonably reflect the distribution of each classification.

The Bégin-Lamarche Mineral Resource Estimate was derived from applying a 2.5% P_2O_5 cut-off value to the pit-constrained block model and reporting the resulting tonnes and grades for potentially mineable areas. The P_2O_5 cut-off value is calculated using the parameters below:

US$:CAD$ Exchange Rate:	$0.75
P_2O_5 Price (32%):	US$180/t (approximate two-year trailing average)
P_2O_5 Price (40%):	US$225/t
P_2O_5 Process Recovery:	91%
Processing Cost:	CAD$14.00/t
G&A:	CAD$3.00/t
Mining Cost:	CAD$2.75/t (mineralized material and waste)
Pit Slopes:	45°

The Mineral Resource in this Technical Report was estimated using the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM"), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The Inferred Mineral Resource component of this grade estimate has a lower level of confidence than that applied to the Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

1.9 MINING METHODS

The Bégin-Lamarche Project PEA is based on conventional truck-and-shovel open pit mining methods. The target is to produce 900,000 tpa of phosphate concentrate grading 40% P_2O_5. Iron will be potentially recovered in magnetite while titanium in ilmenite is not currently considered to be economic, pending further metallurgical testing.

The PEA mine production plan utilizes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them to be classified as Mineral Reserves. There is no certainty that the Inferred Mineral Resource will be upgraded to a higher Mineral Resource classification in the future.

Pit optimization was completed using Geovia Whittle™ software. Table 1.2 presents the list of pit optimization parameters. No revenue was attributed to magnetite or ilmenite in the pit optimizations. Mining areas consist of three extraction zones: Mountain Zone, Northern Zone and Southern Zone, as shown in Figure 1.2. Geotechnical pit wall slope design assumptions were provided by BBA (November 2024). Pit slope angles of the hanging walls used in pit optimizations were flattened by five degrees to account for a ramp. As recommended in the BBA report, ramps should be kept on the hanging walls.

FIGURE 1.2 MOUNTAIN, NORTHERN AND SOUTHERN ZONES

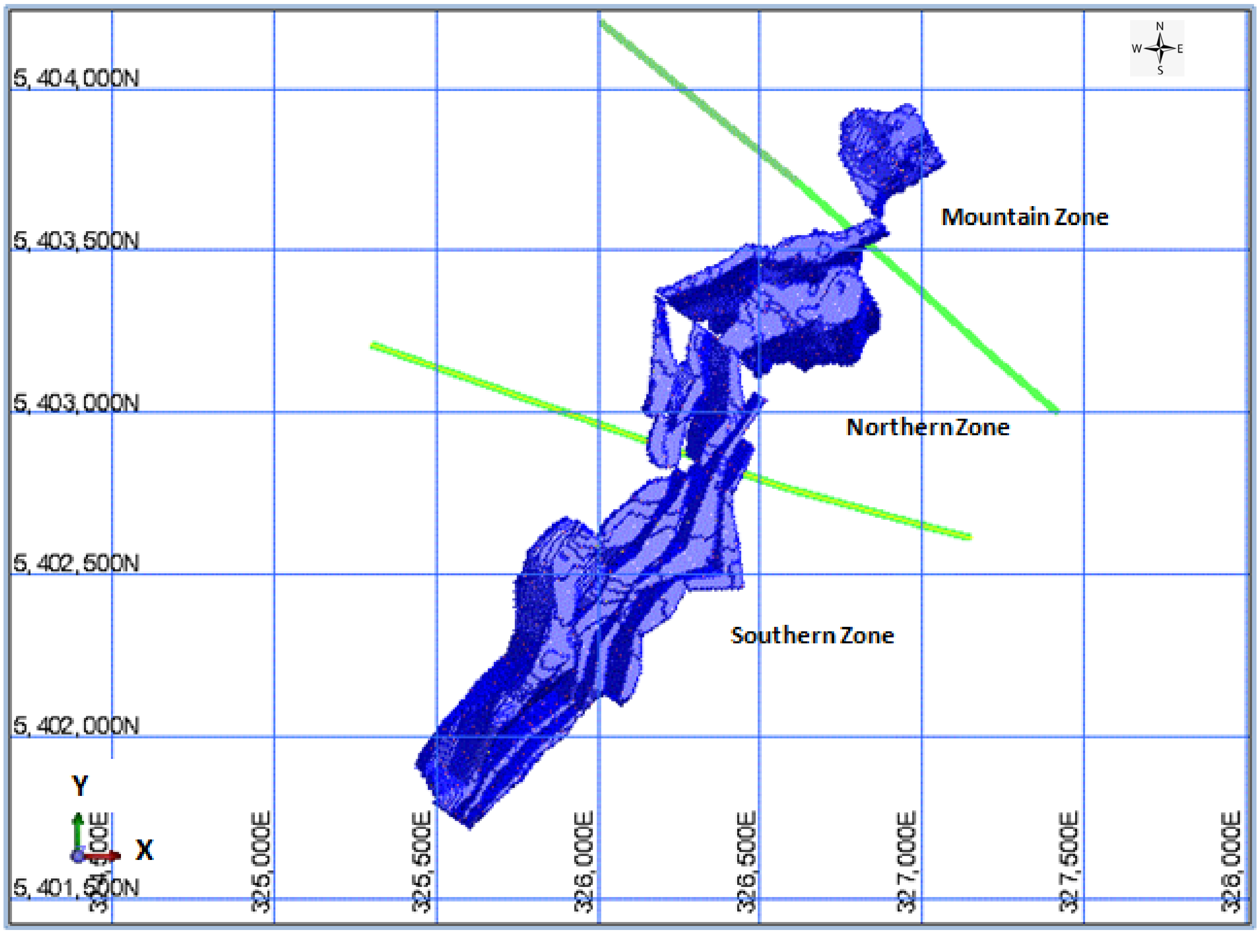


TABLE 1.2 **PIT OPTIMIZATION PARAMETERS**		
Parameter	**Unit**	**Value**
Resource Classification Used	all	Ind & Inf
Production rate, P_2O_5 concentrate	tpa	900,000
P_2O_5 concentrate grade	% P_2O_5	40
Mining Costs		
Process plant feed	$/t mined	2.75
Waste rock	$/t mined	2.75
Overburden	$/t mined	2.00
Process Plant Costs		
Processing cost	$/t processed	13.00
Tailings cost	$/t processed	1.85
G&A cost	$/t processed	1.20
Total Processing+ Tailing + G&A	**$ t processed**	**16.05**

Table 1.2 Pit Optimization Parameters		
Parameter	**Unit**	**Value**
Concentrate Costs (Deductions)		
Concentrate handling and transport	$/t concentrate	35.00
Phosphate Price Model		
Exchange Rate (FX)	CAD$:US$	0.73
Phosphate Concentrate Price Input	US$/dmt	281.25
Phosphate Price	CAD$/dmt	385.27
(-) Concentrate Costs	CAD$/dmt	-35.00
Phosphate Net Price	CAD$/dmt	350.27
Concentrate Grade	% P_2O_5	40
P_2O_5 Recovery	%	90.0
Cut-off Grade (% P_2O_5)	% P_2O_5	2.04
Pit Slopes (Optimization Slopes)		**Maximum**
Mountain Zone– Hanging Wall	deg	42
Mountain Zone–Footwall	deg	47
Northern Zone– Hanging Wall	deg	38
Northern Zone–Footwall	deg	41
Southern Zone– Hanging Wall	deg	39
Southern Zone–Footwall	deg	44
Overburden	deg	30

Note: *Ind & Inf = Indicated and Inferred Mineral Resources, dmt = dry metric tonne.*

Pit optimization produced a series of pit shells at different Revenue Factors ("RF") ranging from 0.3 to 1.0 at 0.02 intervals. The 1.0 RF corresponds to the base case P_2O_5 concentrate price of US$281.25/t. The results of pit optimization indicate that the discounted value of net operating cash flows starts to level off above a RF of 0.6. Beyond a RF of 0.58, the process plant feed tonnage increases very gradually which results in higher waste strip ratios. Due to site conditions, waste storage capacity is limited and mining high amounts of waste materials is not favoured. Therefore, minimizing the need for large external waste storage capacity is a factor in selecting the ultimate pit shell. The pit shell corresponding to 0.56 RF was selected as the basis for the open pit design.

Pit designs were performed based on the 0.56 RF pit shell and BBA recommendations (November 2024). In addition to the ultimate pit, a series of pit phases were designed for production scheduling purposes. The ultimate pit will be mined out in seven phases as shown in Table 1.3. The Mountain Zone will be mined in one phase (Phase 1 in Table 1.3); The Northern Zone will be mined in three phases (Phases 2 to 4 in Table 1.3) and the Southern Zone will be mined in three phases (Phases 5 to 7 in Table 1.3). The final pit design is shown in Figure 1.3.

FIGURE 1.3 FINAL OPEN PIT DESIGN

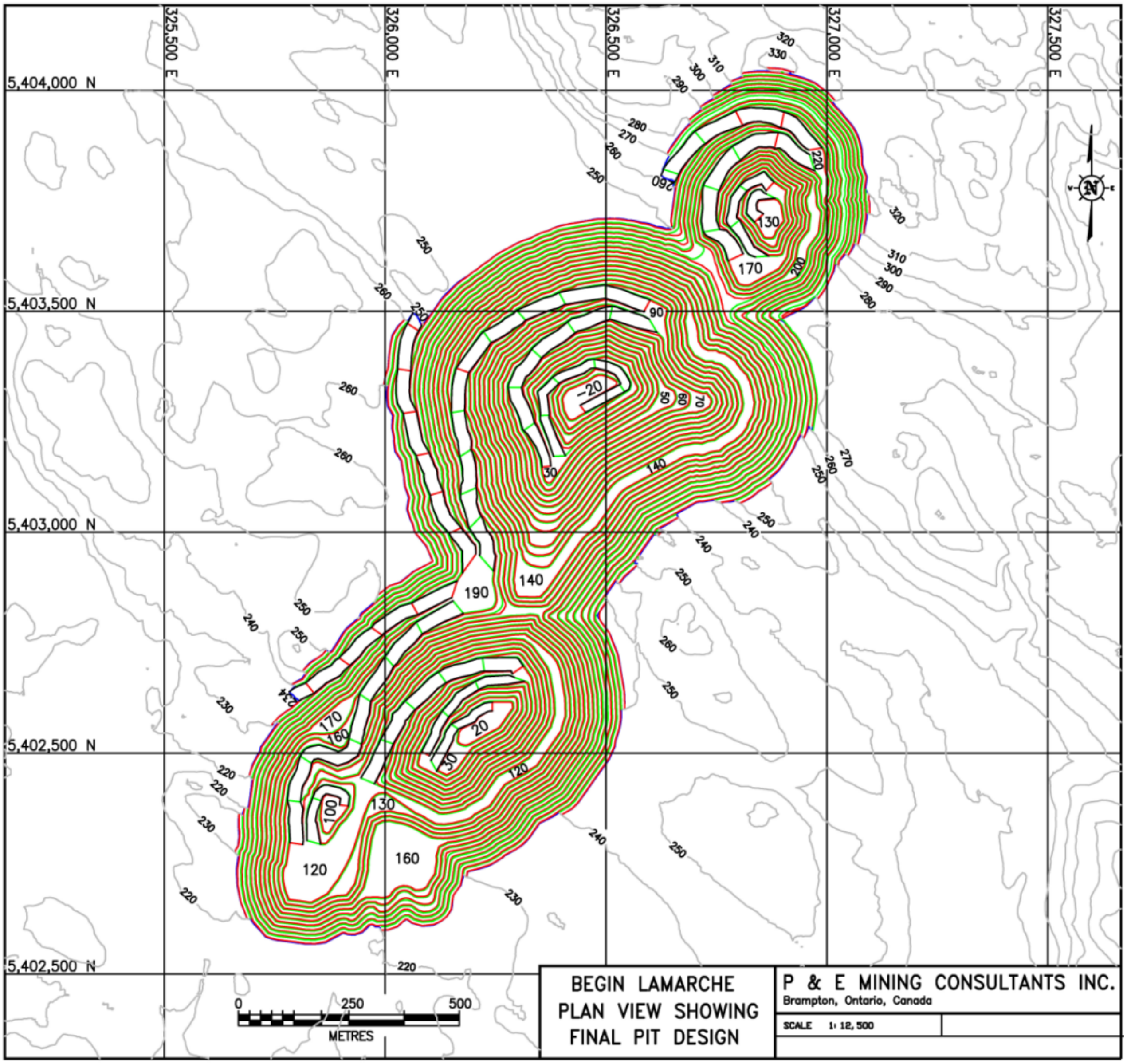


TABLE 1.3 PIT PHASE TONNAGES								
Material	**Total**	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**	**Phase 7**
Total Material (Mt)	**369.61**	40.37	23.13	76.83	94.41	44.31	36.75	53.81
Overburden (Mt)	**7.78**	1.20	1.14	1.28	1.50	1.18	0.61	0.85
Waste Rock (Mt)	**211.28**	21.04	12.01	49.85	63.76	16.51	16.01	32.09
Process Plant Feed (Mt)	**150.55**	18.11	9.95	25.68	29.16	26.58	20.15	20.90
P_2O_5 (%)	**5.76**	7.20	5.93	5.66	5.96	5.28	5.33	5.30
Fe_2O_3 (%)	**10.32**	9.02	10.71	10.51	10.72	10.62	10.27	10.11
TiO_2 (%)	**3.39**	2.97	3.39	3.24	3.32	3.62	3.57	3.53
Strip Ratio	**1.5**	1.23	1.32	1.99	2.24	0.67	0.82	1.57

The mine production schedule consists of six months of pre-production followed by 22 years of active mining and one year of stockpile reclaim, for a total LOM of 24 years. Total mining is 23 years and total process plant production is 23 years.

In generating the production schedule, the target was to supply sufficient tonnage of phosphate feed to the process plant in order to produce approximately 900,000 tpa of recoverable 40% P_2O_5 concentrate. Process plant ramp up was assumed to be 70% in the first production year and reaches full capacity starting in the second production year. Low-grade material in excess of required process plant capacity and above the process plant cut-off grade will be stored in a low-grade stockpile area close to the primary crusher. This material will be processed mostly during the last two production years when the pit is mined out. Mining starts in the Mountain Zone since the grade is high and the strip ratio is relatively low. The Mountain Zone will be completed during the first four production years and will be available for in-pit waste rock storage. Subsequently, the first phase of the Northern Zone will be mined, followed by the first phase of the Southern Zone. To reduce the need for external waste storage space, mining will continue in the second phase of the Northern Zone followed by the third (final) phase of the Northern Zone. Once the Northern Zone is completely mined out, it will be available from production year 16 to store waste rock mined out from the second and third phases of the Southern Zone. Over the LOM, the open pit will produce 150.55 Mt of process plant feed grading 5.76% P_2O_5, 10.32% Fe_2O_3 and 3.39% TiO_2. Total waste generated will be 219 Mt with a LOM strip ratio of 1.5:1.

The open pit will require the development of external storage facilities for both overburden and waste rock and will generate 8 Mt of overburden and 211 Mt of waste rock. Overburden will be stored in two storage areas to the south of the open pit. Waste rock will be stored in external waste storage south of the pit as well as in-pit in the mined-out Mountain and Northern Zones. Over the LOM, a total of 138 Mt will be placed in the external waste storage, 30 Mt will be placed in-pit in the Mountain Zone, and 43 Mt will be placed in-pit at the Northern Zone.

It is assumed that the Bégin-Lamarche mine will be an owner operated open pit mine, except for blasting operations. It is assumed that an explosive supplier would be contracted for explosive delivery, blast hole charging, and blast control. It is anticipated that the mining operations would be conducted 24 hours per day and 7 days per week throughout the entire year.

It is expected that diesel-powered hydraulic excavators (10 m^3 bucket size) and front-end loaders (11 m^3 bucket size) will be used to excavate the blasted rock. The anticipated truck capacity is 90 t. The primary mining equipment will be supported by a fleet of equipment consisting of dozers, road graders, watering trucks, maintenance vehicles, and service vehicles. The mining personnel will peak in Year 10 at approximately 184, including operators, maintenance, supervision, and technical staff.

The Bégin-Lamarche open pit operation will require mine offices, maintenance facilities, warehousing, lube and fuelling station, and cold storage areas. These will be located in the general vicinity of the process plant area.

1.10 RECOVERY METHODS

The principal process stages will include a gyratory unit crushing of ROM material, SAG-ball mill grinding, the application of various intensities of magnetic separation to produce a magnetite concentrate, and the performance of moderate strength multi-stage flotation to produce a high-grade apatite concentrate. High density slurry reagent conditioning, regrinding of rougher magnetite and first cleaner apatite concentrates will be necessary. Concentrate slurry thickening will be followed by pressure filtration, drying and preparation for shipping of the magnetite and apatite products. Magnetite and apatite tailings will be combined, thickened, and pressure filtered to accommodate "dry stacking" tailings management. Desliming, a common process step in industrial minerals processing, is not expected to be included in the flowsheet. Confirmation of this flowsheet can be anticipated following receipt of the results of additional bench-scale testing and pilot scale tests on fresh samples and on samples representing variations in Mineral Resource mineralization.

The principal mineral product is a high-grade apatite concentrate at 900,000 tpa that will be suitable for purified phosphoric acid ("PPA") which can contribute to electric vehicle ("EV") battery manufacturing as well as other high value phosphorous products. The conversion of the apatite to provide phosphorous compounds for these products will be undertaken off-site by buyers of the apatite product or by First Phosphate in partnership with other organizations at a Saguenay location.

Based on 336 operating days per year (92% of 365), the tonnage processed is planned to be increased from 10,300 tpd in the first production year, up to on average 15,800 tpd for years 2 to 4, and on average 20,800 tpd for years 5 to the end of mine life. The process plant will include design characteristics that will readily permit a 30% increase in capacity after year 4. The phosphate grade mined from the open pit will decrease over the LOM, hence higher process plant throughput is required to keep a constant production of 900,000 tpa of apatite concentrate.

Ilmenite concentrate production is not included in the current process flowsheet. High intensity magnetic separation, gravity separation and possibly froth flotation could be considered in future efforts to produce an ilmenite concentrate from the apatite tails.

1.11 PROJECT INFRASTRUCTURE

1.11.1 Existing Infrastructure

Existing infrastructure at the Bégin-Lamarche Project site consists of the following:

- A nearby electrical powerline with the closest point being 25 km southeast of the Bégin-Lamarche site. It is a 735 kV transmission line controlled and maintained by Hydro-Québec; and

- A well-maintained access road system consisting of three roads connecting with the municipalities of Bégin, Labrecque and Lamarche**.** The site is currently accessible from the City of Saguenay. Upon upgrading, the secondary logging road site accesses will be sufficient for the transportation of major equipment including mills, crusher, process equipment and tankage, piping and electrical as well as all consumables and mine manpower.

1.11.2 Planned Infrastructure

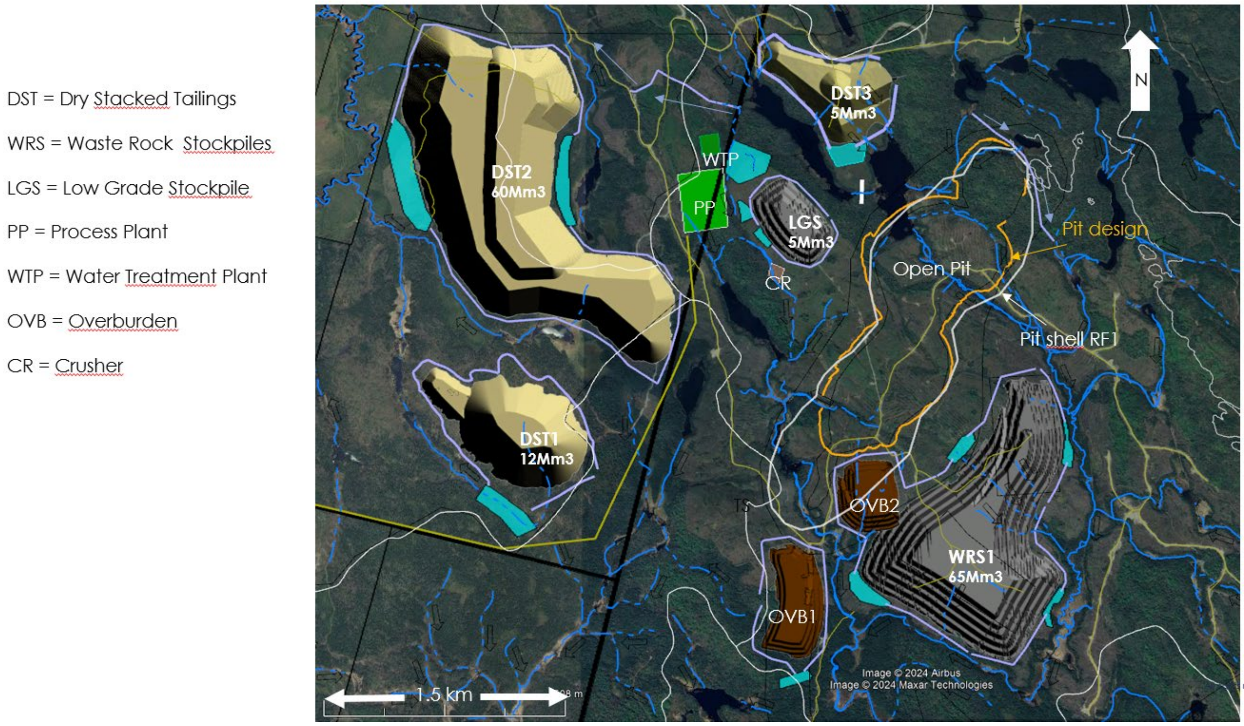
The planned infrastructure to support the mining activities of the Bégin-Lamarche Project (Figure 1.4) are the following:

- Open pit mine;
- Primary crusher;
- Process plant and laboratory with main electrical substation and power distribution;
- Three dry stacked storage areas of filtered tailings;
- Waste rock storage area;
- Overburden stockpiles;
- Low-grade mineralization stockpile; and
- Water collection basins and a central water treatment plant with basin;

Additional auxiliary buildings will complete the infrastructure:

- Main access road and gatehouse;
- Administration building;
- Mechanical parts warehouse;
- Process plant supplies warehouse;
- Maintenance building for mining equipment;
- Explosives storage and magazine;
- Water and sewage treatment plants; and
- Diesel fuel tank farm and fuelling station.

FIGURE 1.4 GENERAL MINE AREA LAYOUT



Major infrastructure excluding the open pit are the dry stacked filtered tailings and the waste rock storage areas. The dry stacked filtered tailings will be in three separate piles. The intent is to avoid fish habitat as much as possible. The three piles will handle a total of 77 Mm^3 of filtered tailings. The waste rock storage area will be located southeast of the open pit, at a minimum distance of 300 m from the pit rim and at 500 m on average from the pit. The total waste rock capacity is designed at 65 Mm^3, and the remaining waste rock will be backfilled in the pit with a proper sequence aligned with the LOM plan. The waste rock is considered non-PAG and non-metal leaching.

Two overburden stockpiles are located south of the open pit and will be used for reclamation at the end of the mine life.

The low-grade mineralized material will be stockpiled near of the primary crusher for processing in the later years of the Project.

1.12 MARKET STUDIES AND CONTRACTS

The Authors utilized the approximate November 30, 2024, 24-month trailing average P_2O_5 grade-premium adjusted phosphate price (US$250/t + 25% purity premium + US$38/t assured supply premium = US$350/t) and grade-premium adjusted magnetite price (US$135/t + 35% purity premium = US$168/t) and a CAD$:US$ exchange rate of 1.37:1.

There are no existing contracts in place related to the Begin-Lamarche Property. There is an offtake MOU in place with a European purified phosphoric acid producer to cover part of its needs, which amount to approximately 400,000 tonnes of annual phosphate concentrate. Additionally, the offtake addresses the idea/concept of a long-term purified phosphoric acid toll processing agreement. There is also an offtake MOU with a US-based specialized scrap steel processor for all magnetite production to supplement its feed requirements.

SGS testwork indicates the concentrates produced will be very low in deleterious elements, and smelter/refining penalties are not anticipated.

1.13 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL IMPACT

1.13.1 Baseline studies

First Phosphate commissioned environmental baseline studies using the services of Groupe Synergis. Fieldwork was completed in summer 2024, and reports are currently being finalized.

Further studies will be undertaken to provide the level of information required for the Environmental and Social Impact Assessment ("ESIA"). First Phosphate is committed to ensuring the infrastructure does not encroach on the natural environment or as little as possible.

Due to its diverse and extensive hydrographic networks, the Saguenay–Lac-Saint-Jean Region supports a significant fish community. Thirteen species found in the region are of interest for sport fishing, Indigenous subsistence fishing, due to their vulnerable status, or because of their role as forage fish.

Based on a comparative analysis of available and sought-after habitats done by Synergis, the potential presence of assessed rare plant and animal species ("EASP") ranges from none to moderate (Groupe Synergis, 2024).

Additional baseline studies will be performed during 2025.

1.13.2 Permitting

The construction, operation and closure of a mine is subjected to several laws and regulations at the federal, provincial, and municipal levels.

The Project is subject to Québec's Environment Quality Act ("EQA", c. Q-2) and the environmental examination procedure (including the Bureau d'audiences publiques sur l'environnement ("BAPE") procedure).

A preliminary analysis of the Project suggests the Project will be subjected to the Federal Impact Assessment examination procedure since a magnetite concentrate will be produced in addition to apatite concentrate, however, this is still unclear at this stage.

1.13.3 Social or Community Impact

The Project is located within the Fjord-du-Saguenay and the Lac-Saint-Jean Est Regional County Municipalities ("RCM"), more specifically in the municipalities of Bégin, Lamarche and Labrecque.

The Project is located on provincial public land. There are four vacation leases in the study area and no forest shelter leases. There is a non-exclusive lease ("BNE") for extracting surface mineral substances, held by the *Coopérative Forestière de Petits Paris*, on the northeastern side of the Property.

First Phosphate organized public presentations to engage with broader local stakeholders and gather feedback with:

- Saguenay–Lac-Saint-Jean Chamber of Commerce;
- Regional Mining Consultation Table; and
- University of Québec at Chicoutimi.

1.13.3.1 Pekuakamiulnuatsh First Nation (Mashteuiatsh)

A collaboration agreement with the Pekuakamiulnuatsh First Nation was established to support the economic stability of the Project. This agreement also formalizes ongoing consultations and provides a framework for regular follow-up to monitor Project benefits for the Community.

1.13.4 Geochemistry and closure

1.13.4.1 Geochemistry

Static testing has been carried out on four mineralized samples and 18 waste rock samples. A waste rock and mineralization sampling campaign was carried out in summer 2024 by a First Phosphate geologist.

According to MELCCFP Guidelines, a few samples were considered possibly ARD from preliminary static tests results. Preliminary results for leaching tests carried out with SPLP and CTEU-9 procedures showed that waste rock and mineralized samples were classified as non-leachable according to MELCCFP Guidelines.

Kinetic testing using a humidity cells procedure was also carried out on two waste rock and two mineralized composite samples. First results from the kinetic test indicate that mineralization could show no ARD potential.

No testing has been conducted on tailings at this stage.

1.13.4.2 Closure

The main measures for restoring the mining site will include:

- Building a raised trench or rock barrier to prevent access to the open pit;
- Revegetation of the Project footprint, including process plant area, waste rock piles, dry stacked tailings and overburden storage areas;
- Demolishing and removing all buildings and other surface infrastructure;
- Managing the materials generated during dismantling of the facilities, by applying the principles of reduction, reuse, recycling and reclamation and, if necessary, disposing of materials at authorized sites, according to the level of contamination;
- Conducting a land characterization study to identify the presence of contaminants;
- Scarifying the roads built as part of the mining activities;
- Creating a breach in the water management ponds, levelling dams, covering the surface with topsoil before revegetation; and
- Restoring the hydrological drainage to passive flows when appropriate.

Progressive reclamation works will be carried out during the mining operations in areas that are no longer active as a means of verifying the success of larger-scale efforts that will take place during the mine closure phase.

Lastly, implementing an environmental monitoring program will demonstrate that reclamation works have achieved their goals.

1.14 CAPITAL AND OPERATING COSTS

All costs are presented in Q4 2024 Canadian Dollars. No provision has been included in the cost estimates to offset future escalation. The total initial capital cost of the Bégin-Lamarche Project is estimated at $675M. Sustaining capital costs incurred during the 23 production years are estimated at $317M. Total operating costs over the life-of-mine (“LOM”) are estimated at $4,261M which averages $28.31/t of process plant feed. This amounts to $218.39/t of phosphate concentrate before considering magnetite credits and $120.90/t of phosphate concentrate net of magnetite credits.

Initial capital costs are for construction of a 900,000 tpa phosphate concentrate process plant and dry stack tailings facility, and to set up an open pit mining site with the necessary infrastructure and pre-production activities. The capital cost estimates are summarized in Table 1.4.

TABLE 1.4 CAPITAL COST ESTIMATE			
Item	**Initial ($M)**	**Sustaining ($M)**	**Total ($M)**
Open Pit Mining Equipment and Pre-stripping	28.2	100.5	128.7
Process Plant	261.7	62.5	324.2
Tailings Management Facilities	29.2	39.1	68.3
Indirects, EPCM and Owner's Costs	151.4	4.4	155.8
Site Infrastructure	89.0	44.4	133.4
Contingency (20%)	111.9	50.2	162.1
Reclamation/Closure	3.6	16.0	19.6
Total[1]	**675.0**	**317.1**	**992.1**

[1] *Totals may not sum due to rounding.*

Operating costs are estimated to average $28.31/t processed over the LOM as presented in Table 1.5. Open pit mining costs are for 23 years of production and the pre-production mine operating costs are capitalized and incorporated into the initial capital costs. The operating costs have been estimated from first principles and consumable quotes, with factoring and estimates from the Authors' experience at other similar mines.

TABLE 1.5 OPERATING COST ESTIMATE			
Item	**Unit**	**Unit Cost ($/t)**	**LOM Total ($M)**
Mined			
Open Pit Mining all Material	$/t mined	2.73	1,010.3
Processed			
Open Pit Mining	$/t processed	6.71	1,010.3
Process Plant	$/t processed	12.56	1,890.6
General and Administration	$/t processed	1.28	192.5
Tailings and Water Management	$/t processed	3.45	519.1
Concentrate Handling and Transport	$/t processed	4.31	648.9
Total[1]	**$/t processed**	**28.31**	**4,261.3**

[1] *Totals may not sum due to rounding.*

1.15 ECONOMIC ANALYSIS

Cautionary Statement - The reader is advised that this PEA Technical Report is intended to provide only an initial, high-level review of the Bégin-Lamarche Project potential and design options. The PEA mine plan and economic model include numerous assumptions and the use of Inferred Mineral Resources. Inferred Mineral Resources are considered to be too speculative to be used in an economic analysis except as allowed by NI 43-101 in PEA studies. There is no guarantee the Project economics described herein will be achieved.

Under baseline scenarios (8% discount rate, payable commodities using prices of US$350/t phosphate concentrate (40% P_2O_5), US$168/t magnetite concentrate (92% Fe_20_3), OPEX and CAPEX as set out above), the after-tax NPV of the Project is estimated at $1.59B ($2.10B pre-tax), with an after-tax IRR of 33% (37% pre-tax). This results in an after-tax payback period of approximately 2.9 years. Applicable taxes have been calculated on taxable income at rates of Canadian Federal at 15% and Québec Provincial at 11.5%. A variable Québec mining tax rate of 16, 22 and 28% is applied to the profit margins of 0-35%, 35-50% and greater than 50%, respectively. The Project will qualify for a 30% Investment Tax Credit for Clean Technology Manufacturing.

A summary of the key economic parameters and results is presented in Table 1.6. All $ amounts are Canadian unless stated otherwise.

TABLE 1.6
PEA SUMMARY PARAMETERS AND RESULTS

Parameter	Amount[1]
Phosphate Price (40% P_2O_5) US$/t	350
Magnetite Price (92% Fe_2O_3) US$/t	168
Exchange Rate CAD$:US$	1.37
Production Profile	
Tonnes Processed (Mt)	150.55
Average Process Plant Feed Grade (%P_2O_5)	5.76
Average Process Plant Feed Grade (%Fe_2O_3)	10.32
Average Process Plant Feed Grade (%TiO_2)	3.39
Mine Life (years)	23
Process Plant Production (ktpa phosphate concentrate)	900
Phosphate Concentrate Grade (% P_2O_5)	40
Magnetite Concentrate Grade (% Fe_2O_3)	92
P_2O_5 Process Plant Recovery (%)	90
Fe_2O_3 Process Plant Recovery (%)	70
LOM Phosphate Concentrate (Mt)	19.51
LOM Magnetite Concentrate (Mt)	8.27
Revenue ($ M)	11,257.5
Operating Costs	
Unit Average LOM Opex ($/t processed)	28.31
Unit Average LOM Opex ($/t P_2O_5 conc. no Fe_2O_3 credit)	218.39
Unit Average LOM Opex ($/t P_2O_5 conc. with Fe_2O_3 credit)	120.90
Open Pit Mining Costs ($ per tonne processed)	6.71
Processing Costs ($ per tonne processed)	12.56
G&A ($ per tonne processed)	1.28
Tailings and Water Management Costs ($ per tonne processed)	3.45

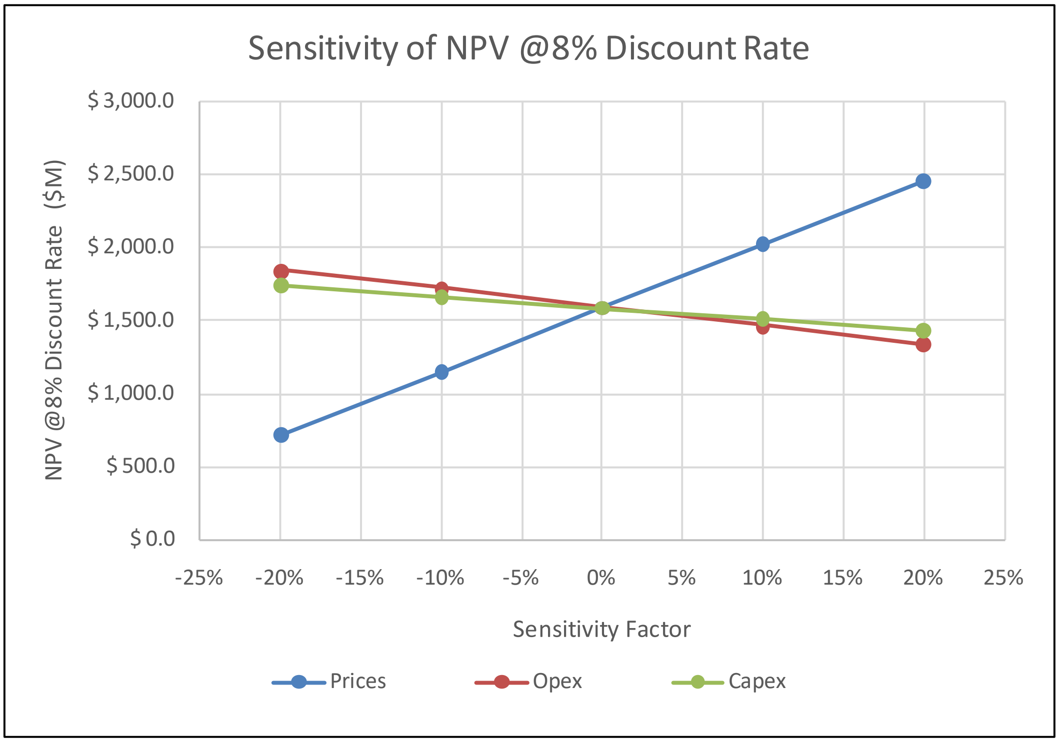
TABLE 1.6
PEA SUMMARY PARAMETERS AND RESULTS

Parameter	Amount[1]
Concentrate Handling and Transport ($ per tonne processed)	4.31
Total LOM Operating Cost ($ M)	4,261.3
Capital Requirements	
Pre-Production Capital Cost ($ M)	675.0
LOM Sustaining Capital Cost ($ M)	317.1
Project Economics	
Taxes ($ M)	1,472.4
Pre-Tax	
NPV (8% Discount Rate) ($ M)	2,099.7
IRR (%)	37.1
Payback (years)	2.6
Cumulative Undiscounted Cash Flow ($ M)	6,021.1
After-Tax	
NPV (8% Discount Rate) ($ M)	1,589.5
IRR (%)	33.0
Payback (years)	2.9
Cumulative Discounted Cash Flow ($ M)	4,548.7

[1] *Totals may not sum due to rounding.*

The Project NPV is most sensitive to changes in commodity prices, followed by OPEX, then CAPEX, as shown in Figure 1.5.

FIGURE 1.5 PROJECT AFTER-TAX NPV SENSITIVITY



It is the opinion of the Authors that the Bégin-Lamarche Project has potential to be financially viable. Therefore, it is recommended to advance the Project to the next phase of study.

1.16 ADJACENT PROPERTIES

The Niobec Mine, located in Saint-Honoré, Québec, ~30 km southeast of the Bégin-Lamarche Deposit, is the only operating mine in the area. The mine is one of the world's few and leading producers of niobium, a critical element used mainly in making high-strength, low-alloy steels. The mine is owned and operated by Magris Resources, a private Brazilian company. The mine has been in operation since 1976 and is expected to continue producing for several more decades.

The Bérubé Property is located a few km west of the Bégin-Lamarche Deposit. The owner of the claims explores for peat moss and is associated with Tourbières Lambert, which has a peat moss packing facility just west of the Bégin-Lamarche Property.

The Cormier Property, enclosed by the southern part of the Bégin-Lamarche Property, was drilled in 2011 and 2012 for phosphate and titanomagnetite. Nineteen drill holes were completed totalling 3,149 m on the known phosphate mineralization. Three mineralized zones were discovered on that property; the Centre, West and East Zones (GM 67674). The average phosphate content of the Center Zone is 9.16% P_2O_5, the average phosphate content of the West Zone is 8.91% P_2O_5, and the East Zone contains 9.17% P_2O_5.

Silice Charlevoix owns a property located north of the Niobec Mine. No work has been carried out on that property. There are a several small properties in and around the Bégin-Lamarche Property held by individual prospectors or businessmen with little or no reported exploration work.

1.17 PROJECT RISKS AND OPPORTUNITIES

Risks and opportunities have been identified for the Project. The most significant potential risk for impact on the Project is lower commodity prices. Advanced studies are required to improve the confidence in the operating and capital cost estimates. Further metallurgical testing and bench-scale batch and pilot-scale concentration tests are required to optimize recoveries, process plant design and Project revenue.

Opportunities consist of potentially increasing the mine life by expanding the open pit should future economic conditions change. The current Mineral Resource is estimated at 41.5 Mt Indicated and 214.0 Mt of Inferred Mineral Resource, and the current mine plan is smaller, set at 150.55 Mt of process feed. Further metallurgical testing may prove economic viability of titanium mineralization recovery and production of an ilmenite concentrate.

1.18 CONCLUSIONS

The Bégin-Lamarche Phosphate Property contains a significant P_2O_5 Mineral Resource that is hosted in an oxide gabbro intrusion within a large anorthosite intrusive complex. The Property has potential for delineation of additional Mineral Resources associated with extension of known anorthosite-associated magmatic mineralized zones and for discovery of new magmatic mineralized zones.

The Authors conclude that the Bégin-Lamarche Project has economic potential as an open pit mining and mineralized material processing operation to produce a high-quality apatite (phosphate) concentrate and secondary magnetite (iron) concentrate. This conclusion would need to be confirmed in a subsequent and more detailed Pre-Feasibility Study supported by additional Mineral Resource drilling and metallurgical tests.

The Authors note that this PEA is preliminary in nature, and its Mineral Resources include Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be classified as Mineral Reserves, and there is no certainty that the preliminary assessment will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

1.19 RECOMMENDATIONS

The Bégin-Lamarche Phosphate Property contains a significant P_2O_5 Mineral Resource that is hosted in an oxide gabbro intrusion within a large anorthosite intrusive complex. The Property has potential for delineation of additional Mineral Resources associated with extension of known anorthosite-associated magmatic mineralized zones and for discovery of new magmatic mineralized zones.

Additional exploration and pre-development study expenditures are warranted to improve the viability of the Bégin-Lamarche Phosphate Project and advance it through a Pre-Feasibility Study ("PFS"). The Authors recommend that First Phosphate undertake the following exploration and pre-development program.

The Authors recommend additional drilling and exploration work to convert the in-pit Inferred Mineral Resources to Indicated Mineral Resources, and to convert in-pit Indicated Mineral Resources to Measured Mineral Resources within the Mountain Zone since it has the highest grades and is planned to be mined first. It is estimated that a total of 12,000 m of drilling will be required. The current Mineral Resource is generally open to expansion by drilling down-dip. Future drill core sampling at the Project should include the insertion and monitoring of field and coarse reject duplicates, and to umpire sample 5 to 10% of all future drill core samples at a reputable secondary laboratory.

Additional metallurgical tests should be undertaken:

1. Bench-scale batch and pilot-scale concentration tests on composites representing rock type and grades similar to the Indicated Mineral Resource grades of each rock type; Pilot testing of the production of customer-acceptable magnetite and apatite concentrates; Ilmenite production may not be included in the test program, unless a new process is developed and accepted; The confirmation of process and production of adequate sample for customer checking; Solid-liquid and drying tests; and

2. Concentrate modifications such as magnetite for battery iron process feed; Apatite flow characteristics and agglomeration technology development for dust suppression and prevention of fluidization in shipment stability; Ilmenite (subject to development of acceptable process) agglomeration/pelletizing, and sintering bench scale tests.

Geological and geotechnical data compiled to date provides a basis for preliminary pit slope design assumptions. There may be an opportunity to optimize pit slope design angles once a comprehensive site geomechanical model is established. To improve geotechnical design confidence, data gaps should be addressed:

1. Some regions of the proposed pit walls have not been probed with diamond drilling. Drilling into the northeast and southwest walls should be oriented towards those walls. Geotechnical parameters (example: rock mass characterization, rock hardness, joint set orientation) should be obtained from the new diamond drill holes;

2. Develop a 3-D geological fault model, interpreting orientations and inclinations of faulting encountered by diamond drilling. Characterize the fault properties (example: width, presence of gouge, etc.);

3. Develop a 3-D geological model to include additional lithologies (example: dykes) that may be present in the vicinity of the pits;

4. Perform televiewer surveys in select existing diamond drill holes to generate the jointing database necessary for kinematic analysis. New diamond drill holes (specific geotechnical

drill holes) should be structurally logged with oriented core methods or surveyed with a televiewer;

5. Perform laboratory testing on representative diamond drill core samples to establish material properties of lithologies that are to be exposed in the pit highwall. Testing examples include Uniaxial ("UCS") testing, Tensile and Triaxial testing. A minimum of five tests per major rock lithology should be performed. As Project understanding improves, Direct Shear testing should be considered on representative open discontinuities; and

6. Kinematics and numerical (limit equilibrium and finite element) stability analyses are recommended for PFS level studies. Kinematic analysis, based on rock fabric data obtained from Televiewer and/or oriented drill core logging, is to be performed on all pit wall orientations. Incorporate the results of hydrogeology interpretations into future pit geotechnical designs (example: groundwater profile and seepage potential).

Recommendations on water management issues are as follows:

Collect site-specific meteorological and hydrological data. This data will be used to refine seasonal run-off values, design storm estimates and minimum freeboard requirements; Confirm the catchment areas contributing run-off to the process plant site and open pit, and the amount of groundwater inflow to the open pit; Complete a monthly site-wide water balance; Develop a predictive water quality model, in conjunction with the water balance, to review the requirements for water treatment and/or discharge; Develop a predictive aerial dispersion model of air-borne tailings and for operational noise of the DST areas to assess the impact on the citizens of the Town of Lamarche; And review and optimize water diversion channels.

Recommendations on dry stacked tailings are as follows:

Complete tailings testing to confirm index, strength, permeability, and filtration properties; Conduct a first geotechnical/hydrogeological site investigation to characterize the foundations of the infrastructure and conditions prevailing at the open pit; Optimize installation of the vertical drainage of consolidation cells by replacing vertical sand drainage system with wick drains during progressive installation of cell placement; Consider incorporating downstream rockfill buttresses under the liner system to steepen both the upstream and downstream slopes of peripheral dykes using a central raise scenario; Geochemical characterization testwork on the tailings and interstitial tailings water to confirm the geochemical properties and treatment requirements; Additional geochemical characterization testwork on the waste rock to confirm the geochemical properties; Perform analyses of pore water pressure increase under construction loading in consolidation cells and evaluate an adequate sizing of the drainage system; Study the possibility that climatic precipitation percolating down in the stack may raise the water level in the DST due to a diminution of the drainage capacity with time. Particle migration, precipitation of dissolved chemicals, etc. could be involved in this diminution. Such a condition could generate a DST overall instability and justify the installation of an upper membrane liner to avoid downward percolation of climatic precipitation; And perform effective stress stability analysis to refine and optimize stack geometry and embankment sections. The analysis should consider the increase of pore water pressure and the potential for liquefication and/or strength loss in the foundation and in the filtered tailings mass during construction loading and also upon a potential large magnitude earthquake.

The costs to complete the recommended work programs are estimated to be $8.5M (Table 1.7). The PFS activities are contingent on prior completion of the Exploration and Drilling items.

TABLE 1.7
BUDGET FOR RECOMMENDED WORK PROGRAM

Program	Units / Description	Cost Estimate (CAD$)
Exploration and Drilling		
Infill Drilling	12,000 m	2,400,000
Exploration Drilling	3,000 m	600,000
Geomechanical Drilling	2,500 m	500,000
Geomechanical Drilling	Televiewer Surveys	50,000
Geomechanical Drilling for Pit Wall Slopes	1,000 m	200,000
Contingency (20%)		750,000
Subtotal Exploration and Drilling		**4,500,000**
Pre-Feasibility Study		
Environmental, Permitting, Social Support		300,000
Updated Mineral Resource Estimate		200,000
Metallurgical Testwork*	Bench-scale Concentration and Concentrate Modification Tests	1,100,000
PFS Study		1,500,000
Contingency (20%)		620,000
Subtotal PFS		**3,720,000**
Administration & Overhead		300,000
Total		**8,520,000**

** Cost of assembling a large enough feed sample not included.*

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 TERMS OF REFERENCE

The following Technical Report was prepared to provide a National Instrument ("NI") 43-101 Preliminary Economic Assessment of phosphate, magnetite and ilmenite mineralization contained on the Bégin-Lamarche Property, Québec, Canada, owned by First Phosphate Corporation ("First Phosphate" or the "Company"). The Bégin-Lamarche ("BL") Property is located in the Saguenay – Lac-Saint-Jean Region of northern Québec and is 100% owned by First Phosphate.

This Technical Report (the "Report") was prepared by P&E Mining Consultants Inc. ("P&E") for First Phosphate Corporation (CSE: PHOS, OTC: FRSPF, FSE: KDO), a public company registered in British Columbia and listed on the Canadian Securities Exchange. First Phosphate's head office is located at:

1055 West Georgia St., 1500 Royal Centre,
P.O. Box 11117, Vancouver, B.C
V6E 4N7

Input to this PEA was also provided by BBA Inc. This Report has an effective date of December 4, 2024.

The purpose of the Report is to provide an independent, NI 43-101 Technical Report and Preliminary Economic Assessment ("PEA") of the phosphate, magnetite, ilmenite deposit (the "Deposit") on the Bégin-Lamarche Property ("the Property" or "Project"). This Technical Report is prepared in accordance with the requirements of NI 43-101F1 of the Ontario Securities Commission ("OSC") and the Canadian Securities Administrators ("CSA"). The Mineral Resource Estimate described in Section 14 of this Report is considered prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions.

2.2 SITE VISIT

Mr. Antoine Yassa, P.Geo. of P&E, an independent Qualified Person under the regulations of NI 43-101 conducted a site visit to the Property on April 9, 2024. At that time, an independent verification sampling program was completed by Mr. Yassa, the results of which are presented in Section 12 of this Report.

Mr. Eugene Puritch, P.Eng., FEC, CET of P&E, an independent Qualified Person under the regulations of NI 43-101 conducted a site visit to the Property on July 8, 2024. On that visit, Mr. Puritch observed Property road access, powerline locations, local topography, outcrop locations, overburden quality and potential infrastructure locations.

2.3 SOURCES OF INFORMATION

In addition to, and following the site visits, the authors (the "Authors") of this Report held discussions with technical personnel from the Company regarding all pertinent aspects of the Project and completed a review of all available literature and documented results concerning the Property. The reader is referred to those data sources, which are listed in the References section (Section 27) of this Report, for further detail.

This Report is based, in part, on internal Company technical reports, and maps, published government reports, Company letters, memoranda, public disclosure and public information as listed in the Section 27 of this Report. Sections from reports authored by other consultants have been directly quoted or summarized in this Report and are indicated where appropriate.

The Company's exploration program evaluated the potential for near surface phosphate, magnetite and ilmenite mineralization. P&E completed an Initial Mineral Resource Estimate on the Bégin-Lamarche Phosphate Property for First Phosphate with an effective date of September 9, 2024, which forms the basis for this initial PEA.

Table 2.1 presents the Qualified Persons that take responsibility for the various Report sections. Sections 4 to 10 and 23 of this Report were prepared by William Stone, Ph.D., P.Geo., of P&E, under the supervision of Antoine Yassa, P.Geo., of P&E, who acting as a Qualified Person as defined by NI 43-101, takes responsibility for those sections of the Report as outlined in the "Certificate of Author" in Section 28. Sections 11 and 12 of this Report were prepared by Jarita Barry, P.Geo., of P&E, under the supervision of Antoine Yassa, P.Geo., who acting as a Qualified Person as defined by NI 43-101, takes responsibility for those sections of this Report as outlined in the "Certificate of Author" in Section 28. Section 14 of this Report was prepared by Yungang Wu, P.Geo., and Eugene Puritch, P.Eng., FEC, CET, of P&E, under the supervision of Antoine Yassa, P.Geo., who acting as a Qualified Person as defined by NI 43-101, takes responsibility for the sections of this Report as outlined in the "Certificate of Author" in Section 28. The Authors acknowledge the helpful cooperation of First Phosphate's management and consultants, who quickly addressed all data and material requests, and responded openly and quickly to all questions.

TABLE 2.1
QUALIFIED PERSON RESPONSIBLE FOR THIS TECHNICAL REPORT

Qualified Person	Contracted By	Report Sections
Andrew Bradfield, P.Eng.	P&E Mining Consultants Inc.	Author of 2, 3, 15, 22 and Co-author of 1, 16, 21, 24, 25, 26, 27
Eugene Puritch, P.Eng., FEC, CET	P&E Mining Consultants Inc.	Author of 19 and Co-author of 1, 12, 14, 25, 26, 27
Antoine Yassa, P.Geo.	P&E Mining Consultants Inc.	Author of 4 to 12, 14, 23 and Co-author of 1, 24, 25, 26, 27

TABLE 2.1 QUALIFIED PERSON RESPONSIBLE FOR THIS TECHNICAL REPORT		
Qualified Person	**Contracted By**	**Report Sections**
D. Grant Feasby, P.Eng.	P&E Mining Consultants Inc.	Author of 13, 17 and Co-author of 1, 21, 24, 25, 26, 27
John Henning, Ph.D, P.Eng.	BBA Inc.	Co-author of 16, 24, 26, 27
Hugo Latulippe, P.Eng.	BBA Inc.	Author of 18, 20 and Co-author of 1, 24, 25, 26, 27

The Authors understand that this Report will support the public disclosure requirements of First Phosphate and will be filed on SEDAR+ as required under NI 43-101 disclosure regulations.

2.2 UNITS AND CURRENCY

In this Technical Report, all currency amounts are stated in Canadian dollars ("CAD$") unless otherwise stated. At the time of this Technical Report the 24-month trailing average exchange rate between the US dollar and the Canadian dollar is 1 US$ = 1.37 CAD$ or 1 CAD$ = 0.73 US$.

Commodity prices are typically expressed in US dollars ("US$") and are noted where appropriate. Quantities are generally stated in Système International d'Unités ("SI") metric units including metric tons ("tonnes", "t") and kilograms ("kg") for weight, kilometres ("km") or metres ("m") for distance, hectares ("ha") for area, grams ("g") and grams per tonne ("g/t") for metal grades. P_2O_5, Fe_2O_3 and TiO_2 values are reported as percentage (%). Abbreviations and terminology are summarized in Table 2.2 and measurements and units are listed in Table 2.3.

Grid coordinates for maps are given in the UTM NAD 83 Zone 19N projection or as longitude and latitude.

TABLE 2.2 TERMINOLOGY AND ABBREVIATIONS	
Abbreviation	**Meaning**
$	dollar(s)
$M	millions of dollars
$B	billions of dollars
°	degree(s)
°C	degrees Celsius
<	less than
>	greater than
%	percent
µm	micrometre, micron
3-D	three-dimensional
Actlabs	Activation Laboratories Ltd.

TABLE 2.2
TERMINOLOGY AND ABBREVIATIONS

Abbreviation	Meaning
Ag	silver
AGAT	AGAT Laboratories Ltd.
Al	aluminum
Al_2O_3	aluminum oxide
ALS	ALS Laboratories, part of ALS Global, ALS Limited
APGN	Agreement-in-Principle of General Nature with the First Nation of Pekuakamiulnuatsh Takuhikan regarding the Bégin-Lamarche Property claims
AMCG	anorthosite-mangerite-charnockite-granite
ARD	acid rock drainage
ATI	an authorization (ATI), from the *Ministère des Ressources naturelles et des Forêts* (MRNF), is required before conducting impact-causing exploration work in Québec
Author(s), the	the Author(s) of this Technical Report
BBA	BBA Inc.
BFA	bench face angle
BL	Bégin-Lamarche
BNE	non-exclusive lease for mineral extraction
CAD$	Canadian dollar
CAGR	compound annual growth rate
CaO	calcium oxide
CAPEX	capital expense/expenditure
CBW	catch bench width
CCISF	Chamber of Commerce and Industry
CDC	claim désignée sur carte = map designated claim
CDPNQ	Centre de données sur le patrimoine naturel du Québec
CEAEQ	Centre d'Expertise en Analyse Environnementale du Québec
CIM	Canadian Institute of Mining, Metallurgy, and Petroleum
Cl	chlorine
CLM	continental lithospheric mantle
cln con	cleaner concentrate
CLSC	Centre local de services communautaires
cm	centimetre(s)
CMAX	Economic Maximization Committee
Company, the	the First Phosphate Corporation company that the Report is written for
CPTAQ	Commission de la protection du territoire agricole du Québec
Cr	chromium
CRM	certified reference material
CR	crusher
CSA	Canadian Securities Administrators
Co	cobalt

TABLE 2.2
TERMINOLOGY AND ABBREVIATIONS

Abbreviation	Meaning
CoV	coefficient of variation
Cu	copper
CW	contact water
DAC	design acceptance criteria
Deposit, the	Bégin-Lamarche Deposit
dist'n	distribution
dmt	dry metric tonne
DST	dry stacked tailings
E	east
EPCM	engineering, procurement, and construction management
EPMA	electron-probe micro-analysis
EQA	Québec's Environment Quality Act
ESIA	Environmental and Social Impact Assessment
F	fluorine
Fe	iron
Fe_2O_3	iron (III) oxide or ferric oxide
$Fe_2O_3^t$	total as iron (III) oxide
FeO	iron (II) oxide or ferrous oxide
First Phosphate	First Phosphate Corporation
FOB	free on board
FS	factor of safety
FX	Exchange Rate
g	gram
G&A	general and administration
g/t	grams per tonne
GET	ground-engaging tools
GFA	General Framework Agreement
Glen Eagle	Glen Eagle Resources Inc.
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
H_2O	water
H_3PO_4	phosphoric acid
H:V	horizontal to vertical ratio
ha	hectare(s)
Hg	mercury
HIMS	high intensity magnetic separation
HRM	homemade reference material
IAA	Impact Assessment Act
IAAC	Impact Assessment Agency of Canada
ICP-OES	inductively coupled plasma-optical emission spectrometry
ID	identification

TABLE 2.2 TERMINOLOGY AND ABBREVIATIONS	
Abbreviation	**Meaning**
ID^2	inverse distance squared
IRA	inter-ramp angle
IRR	internal rate of return
ISO	International Organization for Standardization
ISO/IEC	International Organization for Standardization / International Electrotechnical Commission
k	thousand(s)
K_2O	potassium oxide
kg	kilograms(s)
km	kilometre(s)
kt	kilotonne(s) or thousand(s) of tonne(s)
Laurentia	Laurentia Exploration Inc.
LD	lake diversions
LFP	lithium iron phosphate
LG	low grade
LGS	low-grade stockpile
LiDAR	Light Detection and Ranging
LIMS	low intensity magnetic separation
LLDPE	linear low density polyethylene
LOM	life of mine
LSJA	Lac-Saint-Jean-Anorthosite
M	million(s)
m	metre(s)
m^3	cubic metre(s)
Ma	millions of years
masl	metres above sea level
MCC	motor control centre
MELCCFP	Québec's Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs
Mg	magnesium
MGA	merchant grade acid
MgO	magnesium oxide
mm	millimetre
Mm^3	millions of cubic metres
MnO	manganese (II) oxide
MOU	memorandum of understanding
m/s	metres per second
MRE	Mineral Resource Estimate
MRNF	Ministry of Natural Resources and Forests
MRNQ	Ministère des Ressources Naturelles du Québec
Mt	mega tonne or million tonnes

Table 2.2 Terminology and Abbreviations	
Abbreviation	**Meaning**
Mtpa	millions of tonnes per annum
N	north
Na_2O	sodium oxide
NAD	North American Datum
NCW	non-contact water
Ni	nickel
NI	National Instrument
NMC	nickel manganese cobalt
NN	nearest neighbour
No. or no.	number
Non-PAG	non-potentially acid generating
Novatem	Novatem Inc.
NPV	net present value
nT	nanotesla
NTS	National Topographic System
OAGN	apatite-oxide gabbronorite
OC	organic cover
OPEX	operating expense/expenditure
OSC	Ontario Securities Commission
OVB	overburden
P	phosphorus
P_2O_5	phosphorus pentoxide
P_{80}	80% percent passing
P&E	P&E Mining Consultants Inc.
PAG	potentially acid generating
Pb	lead
PEA	Preliminary Economic Assessment
P.Eng.	Professional Engineer
P.Geo.	Professional Geoscientist
PMF	probable maximum flood
PMP	probable maximum precipitation
PP	process plant
PPA	purified phosphoric acid
ppb	parts per billion
ppm	parts per million
Project, the	the Bégin-Lamarche Project
Property, the	the Bégin-Lamarche Property that is the subject of this Technical Report
QA	quality assurance
QA/QC	quality assurance/quality control
QC	quality control

Table 2.2 **Terminology and Abbreviations**	
Abbreviation	**Meaning**
R^2	coefficient of determination
RCM	Regional County Municipality/ies
REE	rare-earth elements
Report, the or this	this NI 43-101 Technical Report
RF	revenue factor
RM	reference material
Ro Tail	rougher tail
S	south
S	sulphur
SAG	semi-autogenous grinding (mill)
SALSJ	la Suite Anorthositique de Lac-Saint-Jean
SARA	Species at Risk Act
Savoy	Secova Metals Corp.
Sc	scandium
SCSE	SAG Circuit Specific Energy
SEDAR+	System for Electronic Document Analysis and Retrieval Plus
SEM-MLA	scanning electron microprobe-mineral liberation analysis
SGS	SGS Canada Inc., SGS Société Générale de Surveillance SA., SGS SA., SGS Lakefield - SGS Minerals Services' Lakefield
Shares, the	common shares of the Company
SiO_2	silicon dioxide
SLSJ	Saguenay–Lac-Saint-Jean
SMC	simulation modelling and impact comminution
Sn	tin
SPLP	synthetic precipitation leaching procedure
Std or st dev	standard deviation
t	metric tonne(s)
Technical Report	this NI 43-101 Technical Report
Th	thorium
Ti	titanium
TIMA	Tescan Integrated Mineralogical Analyses
TiO_2	titanium dioxide
t/m^3	tonnes per cubic metre
TMF	tailings management facilities
U	uranium
US$	United States dollar(s)
UTM	Universal Transverse Mercator grid system
UQAC	University of Québec at Chicoutimi
V	vanadium
VLF	very low frequency
Virginia	Virginia Gold Mines

TABLE 2.2 TERMINOLOGY AND ABBREVIATIONS	
Abbreviation	**Meaning**
W	west
w/w	weight by weight
WT	Wilfley Table
Wt% or wt%	weight percent
XRF	x-ray fluorescence
WRS	waste rock storage
WTP	water management and water treatment plant
Zn	zinc

TABLE 2.3 UNIT MEASUREMENT ABBREVIATIONS			
Abbreviation	**Meaning**	**Abbreviation**	**Meaning**
µm	microns, micrometre	m^3/d	cubic metre per day
$	dollar	m^3/h	cubic metre per hour
$/t	dollar per metric tonne	m^3/s	cubic metre per second
%	percent sign	m^3/y	cubic metre per year
% w/w	percent solid by weight	mØ	metre diameter
¢/kWh	cent per kilowatt hour	m/h	metre per hour
°	degree	m/s	metre per second
°C	degree Celsius	MHz	megahertz
cm	centimetre	Mt	million tonnes
d	day	Mtpy	million tonnes per year
ft	feet	min	minute
GWh	Gigawatt hours	min/h	minute per hour
g/mL, g/ml, g.ml	grams per millilitre	mL	millilitre
g/t	grams per tonne	mm	millimetre
h	hour	Mt	million tonnes or megatonnes
ha	hectare	MV	medium voltage
hp	horsepower	MVA	mega volt-ampere
Hz	hertz	MW	megawatts
k	kilo, thousands	oz	ounce (troy)
kg	kilogram	Pa	Pascal
kg/t	kilogram per metric tonne	pH	Measure of acidity
kHz	kilohertz	ppb	part per billion
km	kilometre	ppm	part per million
kPa	kilopascal	s	second

Table 2.3 Unit Measurement Abbreviations			
Abbreviation	**Meaning**	**Abbreviation**	**Meaning**
kt	thousands of tonnes or kilotonnes	t or tonne	metric tonne
kV	kilovolt	tpd	metric tonne per day
kW	kilowatt	t/h	metric tonne per hour
kWh	kilowatt-hour	t/h/m	metric tonne per hour per metre
kWh/t	kilowatt-hour per metric tonne	$t/h/m^2$	metric tonne per hour per square metre
L	litre	t/m	metric tonne per month
L/s	litres per second	t/m^2	metric tonne per square metre
L/min, l/min	liters per minute	t/m^3	metric tonne per cubic metre
$L/h/m^2$, $l/h/m^2$, $L/hr/m^2$, $l/hr/m^2$	liters per hour per square metre	T	short ton
lb	pound(s)	tpa	metric tonnes per annum
M	million	V	volt
m	metre	W	Watt
m^2	square metre	wt%	weight percent
m^3	cubic metre	yr	year

3.0 RELIANCE ON OTHER EXPERTS

Although the Authors carefully reviewed all available information presented, they cannot guarantee its accuracy and completeness. The Authors reserve the right, and will not be obligated to revise the Report and conclusions, if additional information becomes known subsequent to the effective date of this Report.

Copies of the tenure documents, operating licenses, permits, and work contracts were not reviewed. Information relating to tenure was reviewed on December 4, 2024 by means of the public information available through the Province of Québec's Ministère des Ressources naturelles et des Forêts ("MRNF"; the Ministry of Natural Resources and Forests) on-line claim management system at https://gestim.mines.gouv.qc.ca. The Authors have relied on this public information, and tenure information from First Phosphate and has not undertaken an independent detailed legal verification of title and ownership of the Bégin-Lamarche Property. The Authors have not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties, however, have relied on, and considers that it has a reasonable basis to rely on, First Phosphate to have conducted the proper legal due diligence.

Select technical data, as noted in the Report, were provided by First Phosphate and the Authors have relied on the integrity of such data.

A draft copy of this Report has been reviewed for factual errors by First Phosphate and the Authors have relied on First Phosphate's knowledge of the Bégin-Lamarche Property in this regard. All statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the effective date of this Report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

First Phosphate's Bégin-Lamarche Property is located ~270 km north of Québec City, Québec and ~75 km northwest of the City of Saguenay, Québec (Figure 4.1). The centre of the current Mineral Resource area on the Property is located at approximately (NAD83 Zone 19N) 326,000 m East and 5,403,000 m North (or 71°21'51" West Longitude and 48°45'21" North Latitude). The Property is covered by NTS sheets 022D05, 022D06, 022D11, O22D012, and 022D14.

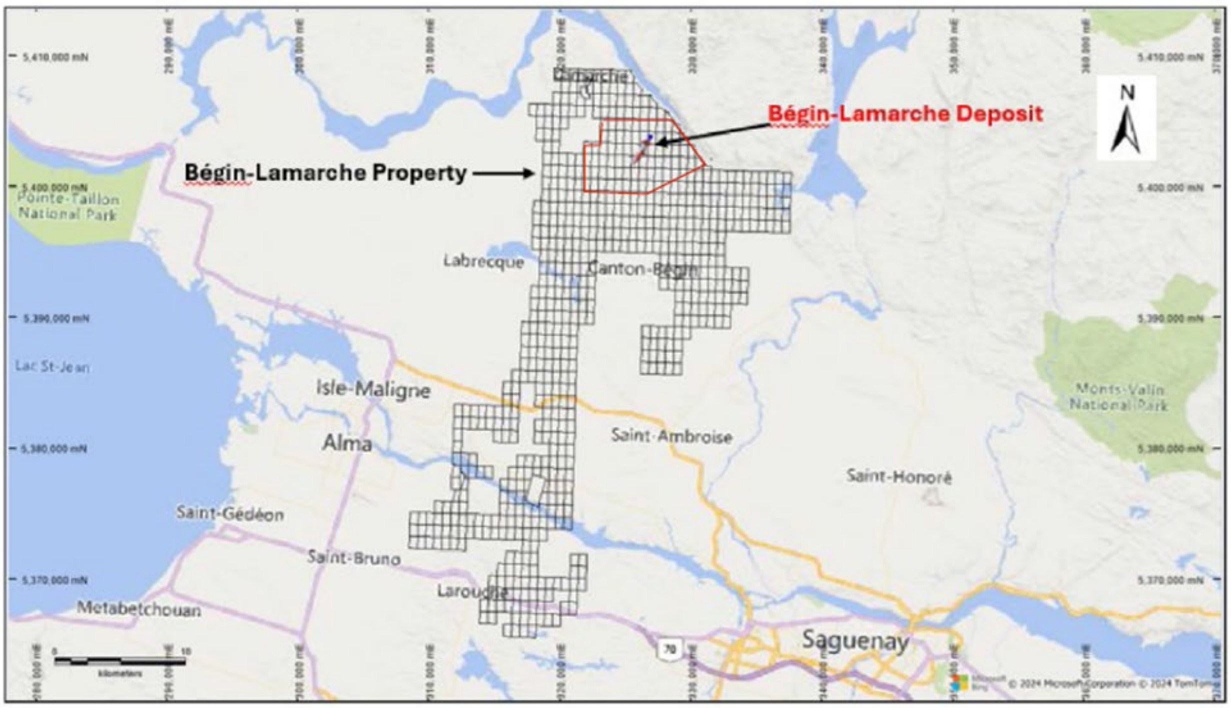
FIGURE 4.1 LOCATION OF BÉGIN-LAMARCHE PROPERTY, QUÉBEC

Source: *https://www.canadamaps.com/map-of-quebec-with-cities-and-towns/ (September 2024)*

4.2 PROPERTY DESCRIPTION AND MINERAL TENURE

The Bégin-Lamarche Property consists of 688 contiguous CDC claims with a total area of 38,610 ha (Figure 4.2). First Phosphate fully owns the 688 claims. All Property claims are registered with the Ministry of Natural Resources and Forests ("MRNF"). A full list of all the claims is presented in Appendix H of this Report. The Mineral Resources presented in Section 14 of this Report are covered by claims 2644047, 2644048, 2644049, 2655563, 2655564, 2658154 and 2658155. All the Bégin-Lamarche Property claims are in good standing as of the effective date of this Report.

FIGURE 4.2 CLAIM MAP OF THE BÉGIN-LAMARCHE PROPERTY



Source: *P&E (2024)*
Note: *The claims information is effective December 4, 2024.*
Figure 4.2 Description: *black outlines and no fill = claims 100% owned by First Phosphate; red outline = footprint of the proposed PEA Project Area.*

4.3 PROPERTY ACQUISITION

The Bégin-Lamarche Property was acquired by First Phosphate through deals with local prospectors and claim staking, as follows:

- In a Company press release dated August 24, 2022, First Phosphate announced the acquisition of 26 mineral claims covering 14 km^2 in the area of Bégin, Québec for cash consideration of $210,000 plus 50,000 shares. These shares were subject to a statutory four month and one-day hold. The newly acquired claims are free from any royalty;

- In a Company press release dated September 14, 2022, First Phosphate announced that it had staked additional mining claims in 10 areas, including Lamarche, of rich phosphate showings in and around its existing claims;

- In a Company press release dated March 9, 2023, First Phosphate announced that it had closed a purchase agreement with an arm's length party to acquire 13 additional mineral claims within the Bégin-Lamarche claim block representing approximately 612 ha in the area of the Saguenay - Lac Saint-Jean, Québec for consideration of $25,000, to be satisfied through the issuance of 27,173 common shares of the Company (the "Shares") at a deemed price of $0.92 per Share. These Shares were subject to a statutory four month and one day hold period from closing of the acquisition. The newly acquired claims are free from any royalty; and

- In a Company press release dated July 10, 2024, First Phosphate has entered into a mineral claims purchase agreement with arm’s length parties to acquire 15 additional mineral claims within the Bégin-Lamarche claim block in the area of the Saguenay – Lac-Saint-Jean, Québec. The effective closing date of the transaction is July 10, 2024 and compensation is to be satisfied through the issuance of 200,000 common shares of the Company (the “Shares”) at a deemed price of $0.20 per Share. These Shares are subject to a statutory four month and one day hold period from closing of the transaction and an additional escrow period of 24 months from the closing date. The newly acquired claims are free from any royalty. These claims have been transferred to and are 100% owned by First Phosphate.

4.4 MINING RIGHTS IN QUÉBEC

In the Province of Québec, mining is principally regulated by the provincial government. MRNF is the provincial agency entrusted with the management of mineral substances in Québec. The ownership and granting of mining titles for mineral substances are primarily governed by the Mining Act and related regulations. In Québec, land surface rights are distinct property from mining rights. Rights in or over mineral substances in Québec form part of the domain of the State (the public domain), subject to limited exceptions for privately owned mineral substances. Mining titles for mineral substances within the public domain are granted and managed by MRNF. The granting of mining rights for privately owned mineral substances is a matter of private negotiations, although certain aspects of the exploration for and mining of such mineral substances are governed by the Mining Act.

4.4.1 The Claim

A claim is the only exploration title for mineral substances (other than surface mineral substances, petroleum, natural gas and brine) currently issued in Québec. A claim gives its holder the exclusive right to explore for such mineral substances on the land subject to the claim, however, does not entitle its holder to extract mineral substances, except for sampling and only in limited quantities. In order to mine mineral substances, the claim holder must obtain a mining lease. The electronic map designation is the most common method of acquiring new claims from MRNF, whereby an applicant makes an online selection of available pre-mapped claims. In rare territories, claims can be obtained by staking.

4.4.2 The Mining Lease

Mining leases are extraction (production) mining titles that give their holder the exclusive right to mine mineral substances (other than surface mineral substances, petroleum, natural gas and brine). A mining lease is granted to the holder of one or several claims upon proof of the existence of indicators of the presence of a workable deposit on the area covered by such claims and compliance with other requirements prescribed by the Mining Act. A mining lease has an initial term of 20 years and may be renewed for three additional periods of 10 years each. Under some conditions, a mining lease may be renewed beyond the three statutory renewal periods.

4.4.3 The Mining Concession

Mining concessions are extraction (production) mining titles that give their holder the exclusive right to mine mineral substances (other than surface mineral substances, petroleum, natural gas and brine).

Mining concessions were issued prior to January 1, 1966. After that date, grants of mining concessions were replaced by grants of mining leases. Although similar in certain respects to mining leases, mining concessions granted broader surface and mining rights and are not limited in time. A grantee must commence mining operations within five years from December 10, 2013. As is the case for a holder of a mining lease, a grantee may be required by the government, on reasonable grounds, to maximize the economic spinoffs within Québec of mining the mineral resources authorized under the concession. The grantee must also, within three years of commencing mining operations and every 20 years thereafter, send the Minister a scoping and market study in regards to mineral processing in Québec.

4.5 ENVIRONMENT, PERMITTING, SOCIAL LICENSE

The Authors are not aware of any foreseeable problems relating to: access, weather, surface rights for mining operations, the availability and sources of electricity and water, mining personnel, potential tailings storage areas, potential waste disposal areas, environmental liabilities, and potential process plant sites.

A regular permit provided by the Québec Ministry of Forest, Wildlife and Parks is required for trenching and drilling works (autorisation pour la coupe de bois aux fins de réaliser certaines activités minières en vertu de l'article 213 de la Loi sur les mines (chapitre M-13.1)). First Phosphate received Permit No. 3032439 from Ministère des Ressources naturelles et des Forêts, Québec, for drilling on the Bégin-Lamarche Property in 2024 and 2025. This permit expires March 31, 2025.

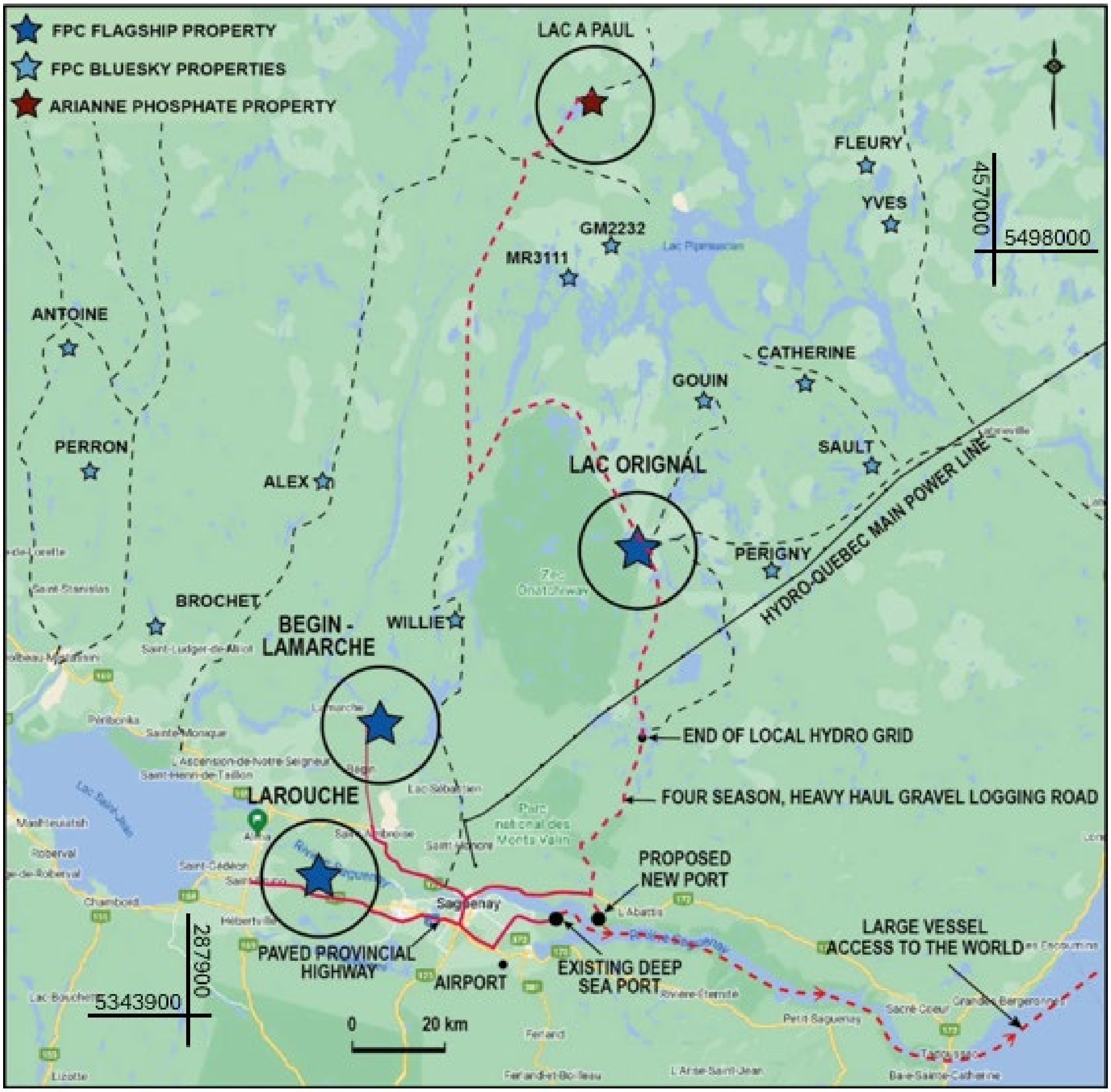
The Ministère des Ressources naturelles et des Forêts recently introduced a new authorization that must be obtained prior to completing any impact-causing exploration work. The new authorization was added to the Act on April 12, 2022, and came into force on May 6, 2024. The purpose of the new authorization, known as the ATI authorization, is to ensure that the concerns of neighbouring local municipalities and Indigenous communities are considered while fostering a predictable framework conducive to mining development investments and providing for improved control over the impact on their living environment from impacts related to exploration work. The ATI is based on a desire for transparency and harmonious conciliation of different land uses. It also allows the Department to impose conditions and obligations for work to be completed on land covered by claims, such that the concerns about proposed mining exploration activities expressed by local municipalities and Indigenous communications are considered. Therefore, impact-causing exploration work is now subject to authorization before being undertaken.

All claims of the Bégin-Lamarche Property are under an Agreement-in-Principle of General Nature ("APGN") with the First Nation of Pekuakamiulnuatsh Takuhikan. First Phosphate must request authorization from community councils prior to proceeding with exploration work, logging, and blasting and bulk sampling; authorization of which is embedded within a government ATI permit. An ATI permit was issued by the Ministère des Ressources naturelles et des Forêts for Bégin-Lamarche on June 5, 2024. This permit expires June 4, 2026.

4.6 ADDITIONAL PROPERTIES OF INTEREST

First Phosphate's flagship phosphate property, Lac à l'Orignal (P&E, 2023), and its prospective phosphate properties occur mainly to the north and west of the Bégin-Lamarche Property (Figure 4.3). Nevertheless, the Bégin-Lamarche Property is the sole focus of this Report.

FIGURE 4.3 LOCATION OF ADDITIONAL FIRST PHOSPHATE PROPERTIES IN THE SAGUENAY REGION OF NORTHERN QUÉBEC



Source: *First Phosphate website (September 2024)*

4.7 COMMENTS ON SECTION 4

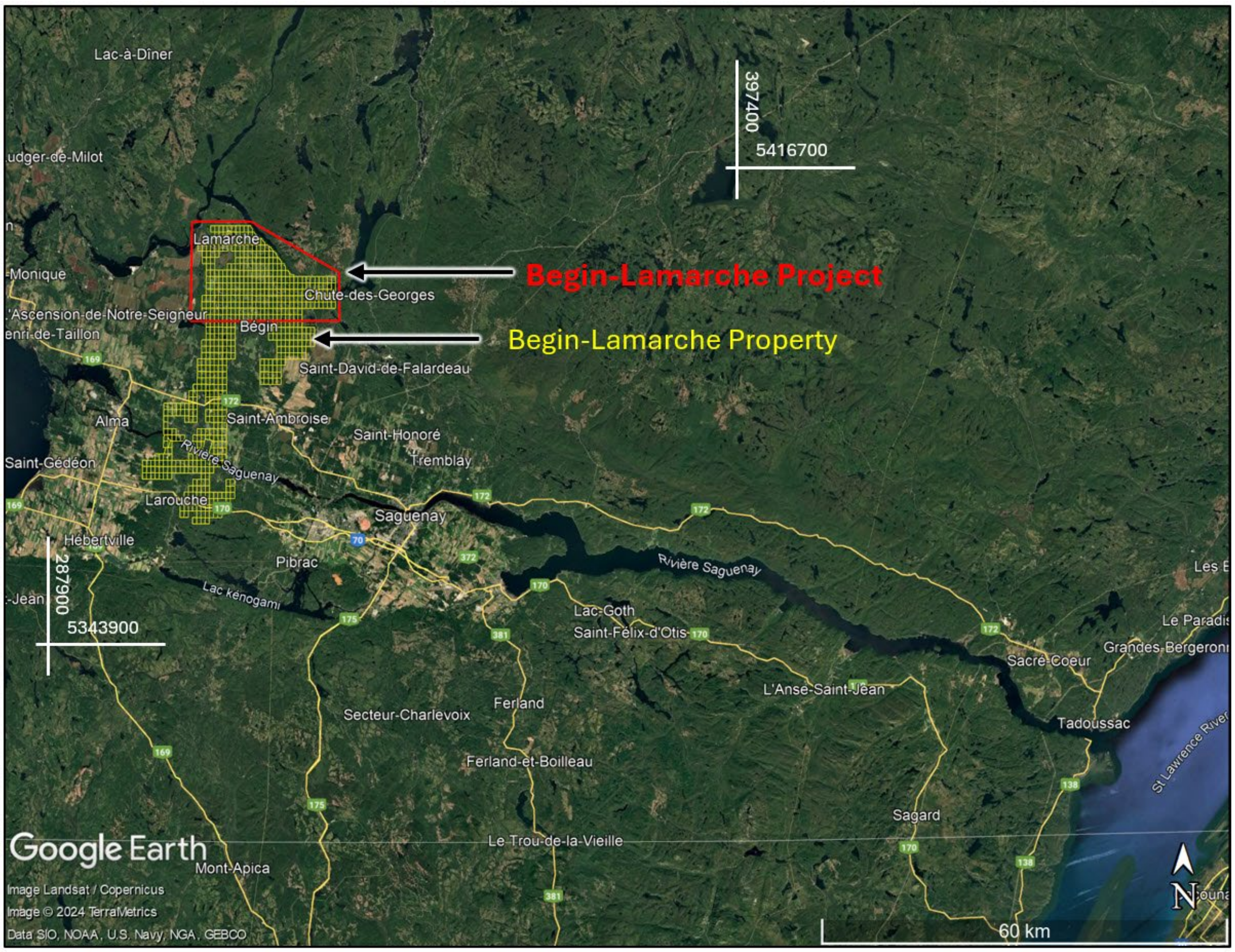
Additional permits may be required for any future Project exploration or development. To the extent known, there are no other significant factors and risks that may affect access, title, or right or ability to perform work on the Bégin-Lamarche Property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESS

First Phosphate's Bégin-Lamarche Property is accessible via ~50 km driving-distance on highways 170 and 172 west and northwest of the City of Saguenay (Figure 5.1). These highways are connected by secondary and tertiary roads to the Property. The Bégin-Lamarche Project, which includes the area of the current Mineral Resource, is located within the limits of the Municipality of Bégin and ~9 km north of the Town of Bégin and adjacent to the Town of Lamarche.

FIGURE 5.1 ACCESS TO THE BÉGIN-LAMARCHE PROPERTY AND PROJECT



Source: *P&E (2024)*

5.2 CLIMATE

The Saguenay region has a humid continental-type climate that is milder than that of the surrounding Canadian Shield and similar to that of the St. Lawrence Lowlands. Located just above the 49th parallel, the region has a very low average temperature (2.3°C), which results from significant temperature variations involving very cold winters (average −21.1°C in January) and relatively cool summers (24.1°C on average in July).

The weather statistics presented in Table 5.1 represent the average value of the various meteorological parameters for each month of the year for a 30-year period ending in 2020.

TABLE 5.1 **MONTHLY WEATHER STATISTICS FOR THE CITY OF SAGUENAY**												
Parameter	**Month**											
	J	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Mean Daily Max Temp. (ºC)	-9.7	-7.4	-0.7	7.4	16.6	22.3	24.5	23.4	18.2	9.9	2.3	-5.1
Mean Daily Min Temp. (ºC)	-20.4	-18.7	-11.8	-3.2	3.7	9.6	12.9	11.8	6.9	1.4	-5.4	-13.9
Average Rainfall (mm)	6.9	4.9	15.2	39.4	74.5	88.9	112.1	100	101.6	84.4	32.5	12.5
Average Snowfall (cm)	61.8	52.3	48.7	23.3	3.4	0	0	0	0	7.6	39.4	65.1

Source: *Climate Data for Canadian Forces Base Bagotville 1991 to 2020.*

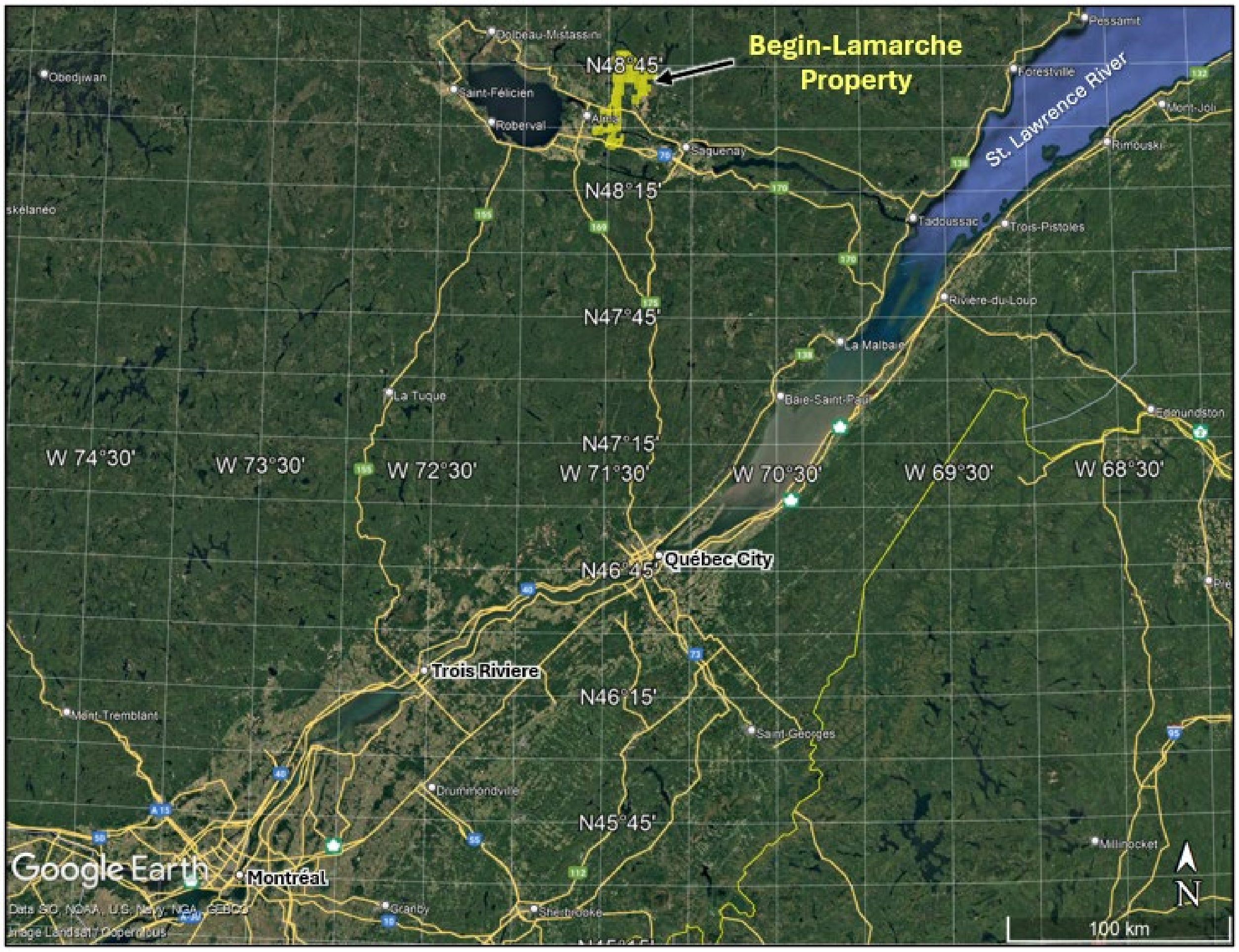
5.3 INFRASTRUCTURE

The Saguenay-Lac-Saint-Jean Region has a population of 280,000 inhabitants (Census Canada, 2021) and has extensive industrial, agricultural, forestry and tourist industries. It also has a significant hydro-electric system (owned by Rio Tinto) to produce electricity for the aluminum production and transformation industries. The University of Québec at Chicoutimi in the City of Saguenay houses a well-known geological department. The nearby mining operations are mainly aggregate and dimensional stone quarries. The only metallic mine in the area is the Niobec Niobium Mine operated by Magris Resources.

The City of Saguenay is the sixth largest city in Québec, with an airport, a skilled industrial workforce, and established local infrastructure. Deep-water all-season port facilities at the Port of Saguenay, 30 road-km distant, are linked by the Saguenay River to the St. Lawrence River at the Town of Tadoussac and, ultimately, the Atlantic Ocean (Figures 5.1 and 5.2). The Company has signed a Memorandum of Understanding with the Port of Saguenay to secure access and development space at the port facilities. Furthermore, the port of Bécancour is located 260 km south-southeast of the City of Saguenay and is accessible by Highway Road 172 west to Highway 169, and then south along Highway 155 to the City of Trois-Rivieres. In addition, the Company announced in a press release dated September 9, 2024, that it has secured a facility lease for a 10,000 tonne per annum iron phosphate cathode active material per-cursor plant in Saguenay (borough of La Baie).

The City of Saguenay is also connected by rail to Montréal and is served by the Bagotville Airport, which shares the Canadian Forces Base Bagotville aerodrome. The airport operates daily flights to Montréal-Trudeau International Airport and flights to Québec City and Sept-Îles.

FIGURE 5.2 REGIONAL INFRASTRUCTURE



Source: *P&E (2024)*

The main infrastructure at the Bégin-Lamarche Property are the access roads, which are generally in good condition. The Property is large enough to support mining operations, infrastructure, mineral process facilities, and waste rock and tailings storage facilities. Water is abundant in the Property area. Grid power is available at the nearby Towns of Bégin and Lamarche. The Hydro-Québec main 735 kV powerline is located 25 km southeast of the Property.

5.4 PHYSIOGRAPHY

The topography of the Property consists of rolling hills containing numerous outcrops and small valleys covered with a thick layer of overburden. Vegetation is a mixed forest of deciduous and coniferous trees with a few lakes.

6.0 HISTORY

The information in this section is summarized mainly from company assessment reports GM 57006 (1995), GM 65097 (2010) and GM 73598 (2023). Note that figure coordinates use the projection UTM NAD 83 Zone 19N.

6.1 EXPLORATION HISTORY

Historically, exploration work in the Bégin-Lamarche region (i.e., sheet SNRC 22D11) focused mainly on industrial minerals and dimension stone. Mica and possibly calcite mines were developed, starting in the 1930s (GM 06255, 1939). In the 1970s, the region was mapped by Provincial Government teams led by Laurin and Sharma (1972, 1975). In 1986, the MRNQ published the results of a regional lake sediment survey that had been completed (Choinière, 1986a and 1986b). Most of the work completed in the area since the early 1990s appears to be related to exploration for magmatic Ni-Cu-Co sulphide deposits.

6.1.1 1995

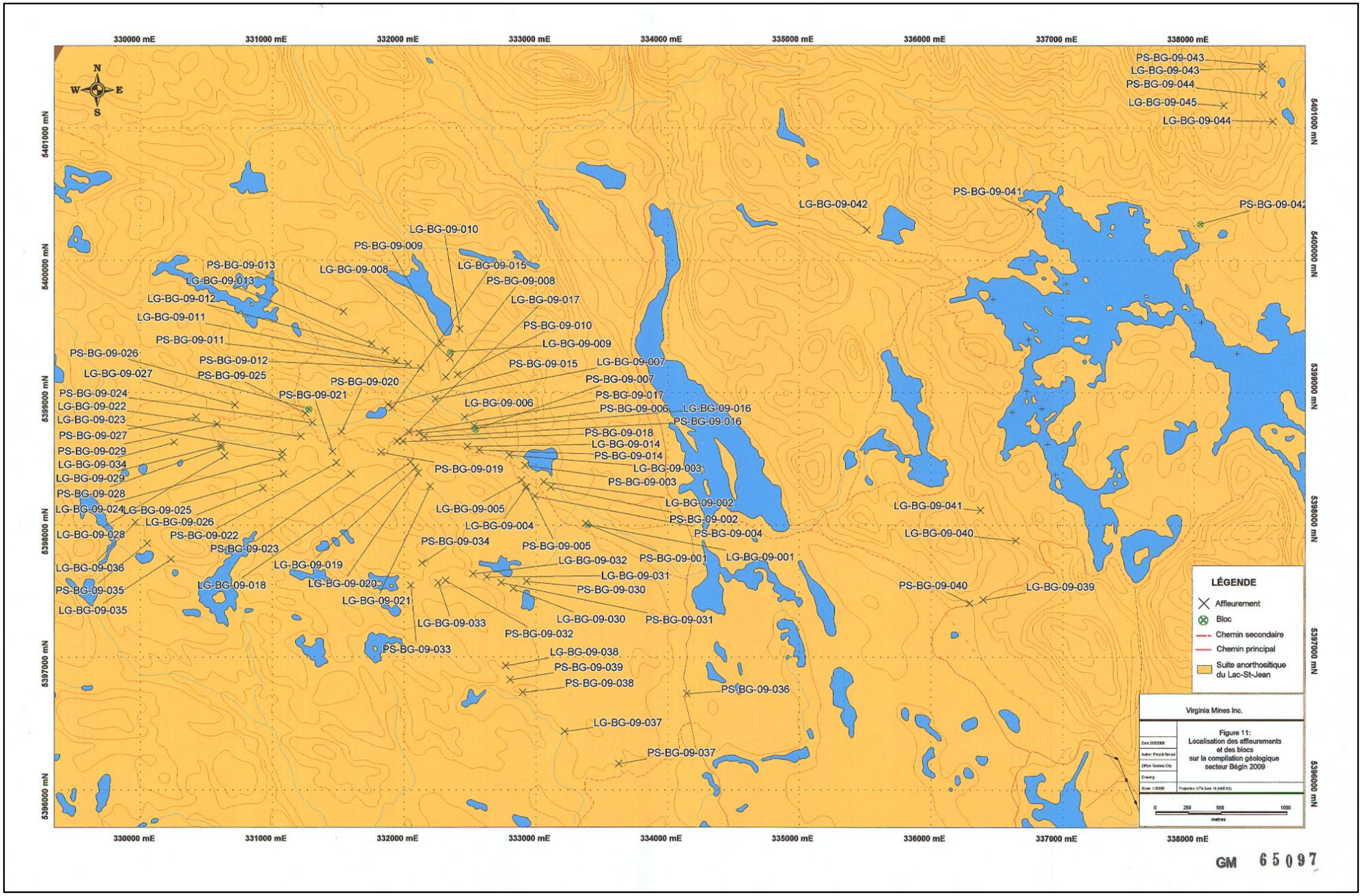
The discovery of a major magmatic Ni-Cu-Co deposit in troctolites at Voisey's Bay, Labrador in the early 1990s, led to a global exploration effort to locate and evaluate troctolite bodies for massive sulphide potential. As a result, the anorthosite complexes in the Grenville Province were targeted for such deposits.

The Bégin area was prospected by Virginia Gold Mines ("Virginia") through IOS Geoscientific Services, starting in 1995 (GM 57006). A troctolite dyke ~100 m thick outcrops for 40 km in the Townships of Taché, Bourget and Bégin ~10 km east of Saint-Nazaire. This intrusion had previously been the subject of a Master's Thesis by Côté (1986). Stream sediment samples from the area returned anomalous values of Ni, Cu and Co (Barrette, 1996).

6.1.2 2009

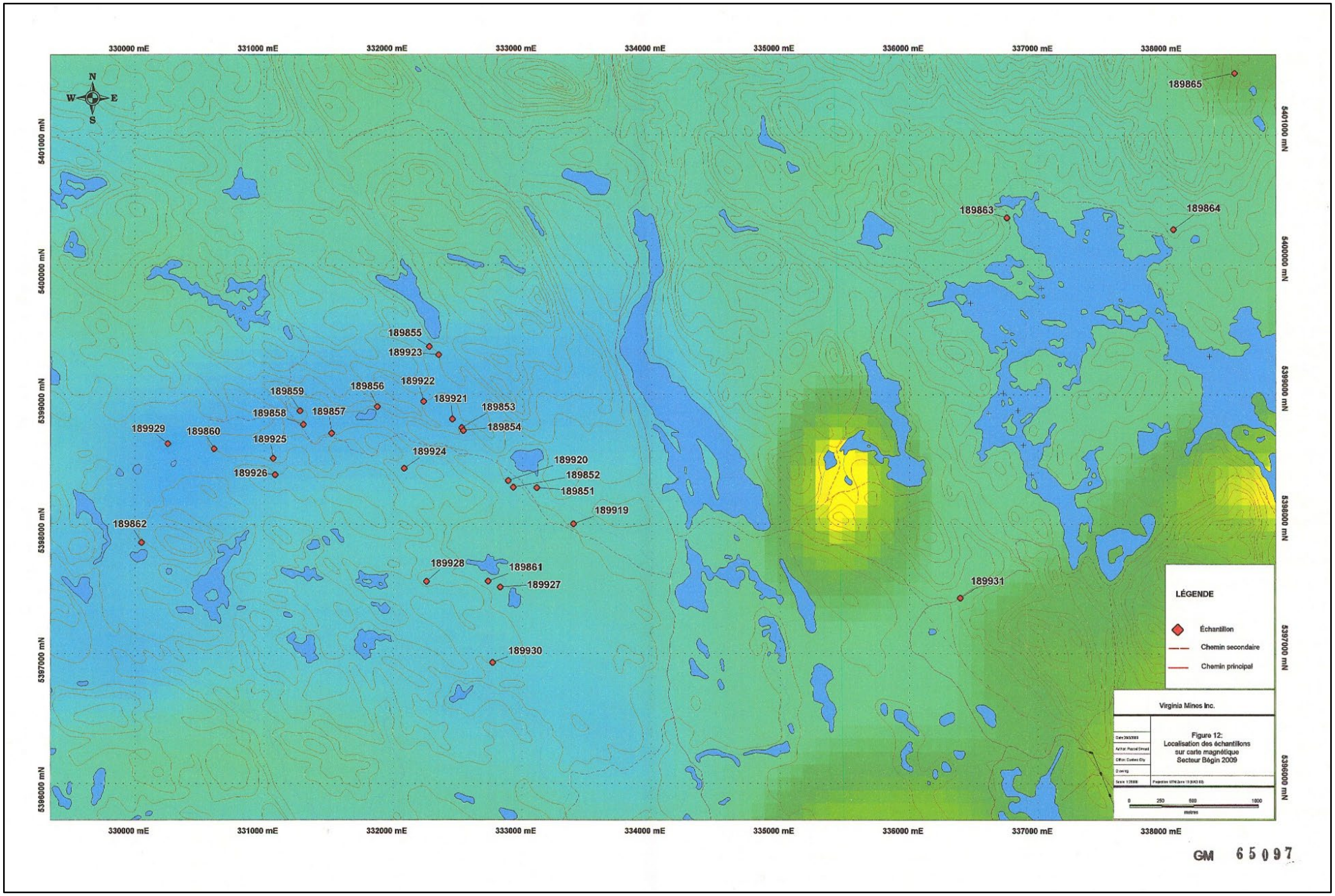
In 2009, the Bégin area was included in SOQUEM's Generation Grenville Program (GM 65097). The associated mapping and prospecting campaign was completed by Virginia between May 11 and 14, 2009. During the fieldwork, 84 outcrops and 5 erratic boulders were described and 28 were sampled for geochemical analysis. All outcrop locations are shown in Figure 6.1, the sampled locations are shown in Figure 6.2, and selected assay results are listed in Table 6.1.

FIGURE 6.1 OUTCROPS IN THE BÉGIN AREA



Source: *GM 65097 (2010)*

FIGURE 6.2 LOCATION OF OUTCROP SAMPLES ON MAGNETIC MAP



Source: *GM 65097 (2010)*

TABLE 6.1
SUMMARY ASSAY RESULTS FROM THE BÉGIN AREA

Rock Sample ID	UTM NAD 83 Zone 19N		Co (ppm)	Cu (ppm)	Ni (ppm)
	Easting	Northing			
189851	333,113	5,398,283	170	9	1,090
189929	330,255	5,398,624	141	1,230	573

Source: *GM 65097 (2010)*

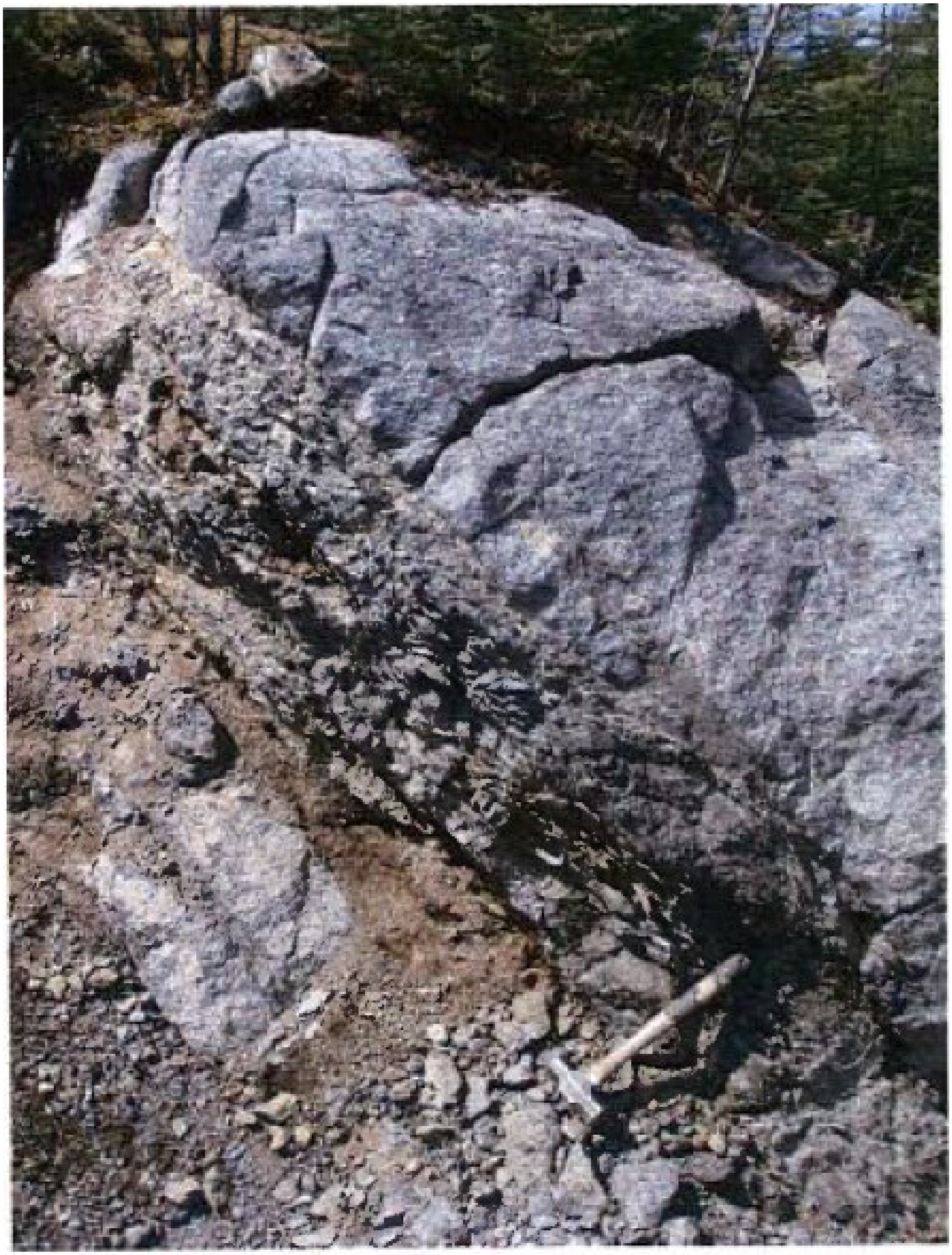
During the 2009 work, the rock unit observed was anorthosite. The anorthosite is massive and composed of plagioclase, pyroxenes and magnetite and minor quartz and biotite. Phenocrysts of clinopyroxene (1 to 5 cm) were observed (Figure 6.3). The anorthosite is intruded by thin dykes of very magnetic pyroxenite. The dykes have a very-fine grain size and are locally aphanitic. The different rock units are cut by many faults and shear zones (Figure 6.4).

In contact with the anorthosite, a troctolite unit was identified. The transitional contact passes through an anorthosite phase, then a gabbro phase (Figure 6.5), and finally the troctolite phase (Figure 6.6). The troctolite consists of plagioclase, clinopyroxene, orthopyroxene, olivine and magnetite. It has a cumulate texture characterized by grains of olivine set in a plagioclase-dominated groundmass.

FIGURE 6.3 ANORTHOSITE WITH CLINOPYROXENE PHENOCRYSTS IN OUTCROP PS-BG-09-005

Source: *GM 65097 (2010)*

FIGURE 6.4 SHEAR ZONE CUTTING ANORTHOSITE IN OUTCROP LG-BG-09.006

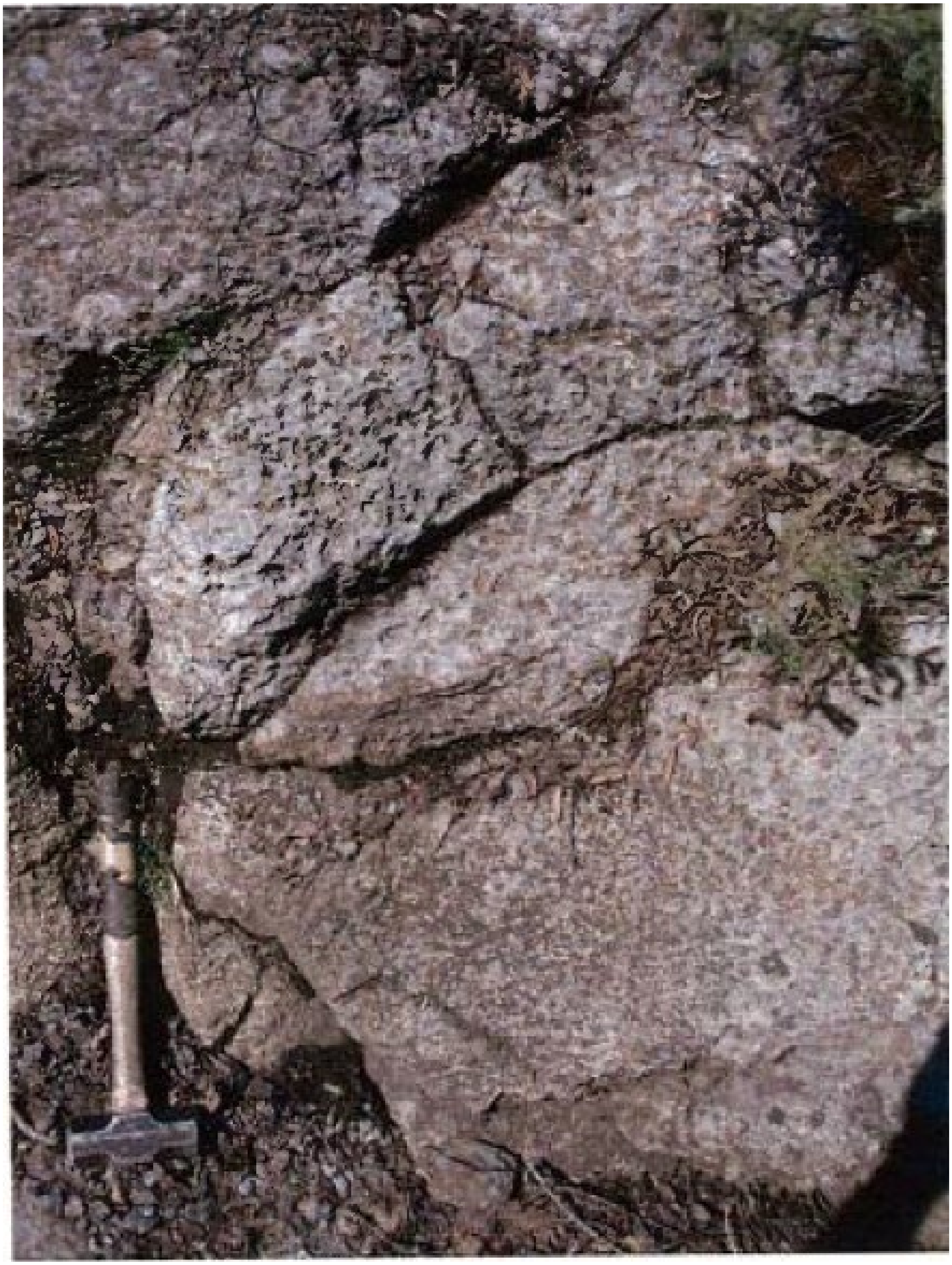


Source: *GM 65097 (2010)*

FIGURE 6.5 TRANSITIONAL GABBRO UNIT IN OUTCROP LG-BG-09-019

Source: *GM 65097 (2010)*

FIGURE 6.6 TROCTOLITE UNIT IN OUTCROP LG-BG-09-026



Source: *GM 65097 (2010)*

Corona textures of greenish clinopyroxenes around burnt orange coloured orthopyroxene are present (Figure 6.7). Cumulate textures were also observed in the gabbros.

FIGURE 6.7 CORONA TEXTURE OF CLINOPYROXENE AROUND ORTHOPYROXENE GRAINS IN OUTCROP PS-BG-09-043

Source: *GM 65097 (2010)*

Despite the traverses completed in the area, the southern contact between the anorthosite and the troctolite could not be found. The extent of the troctolite unit remains to be determined. A day of reconnaissance farther to the northeast resulted in the troctolite being found. This discovery opened the door to new areas for exploration.

In terms of mineralization, sample 189929 (Table 6.1) from outcrop LG-BG-034 indicated the presence of magmatic sulphide mineralization 35 km northwest of the City of Saguenay (GM 65097). The mineralization was discovered in a trench excavated on a geophysical target and consisted of disseminated pyrite, chalcopyrite and magnetite in anorthositic gabbro. Sample 1489929 (LG-BG-034) returned 1,230 ppm Cu and 573 ppm Ni. Approximately 2.9 km to the east, near Fortin Pond, sample 189851 (PS-GB-09-002; UTM NAD83 Zone 19, 333,113 m E 5,398,283 m N) returned 2.83% Cr_2O_3 and 40.2% Fe_2O_3 in anorthosite.

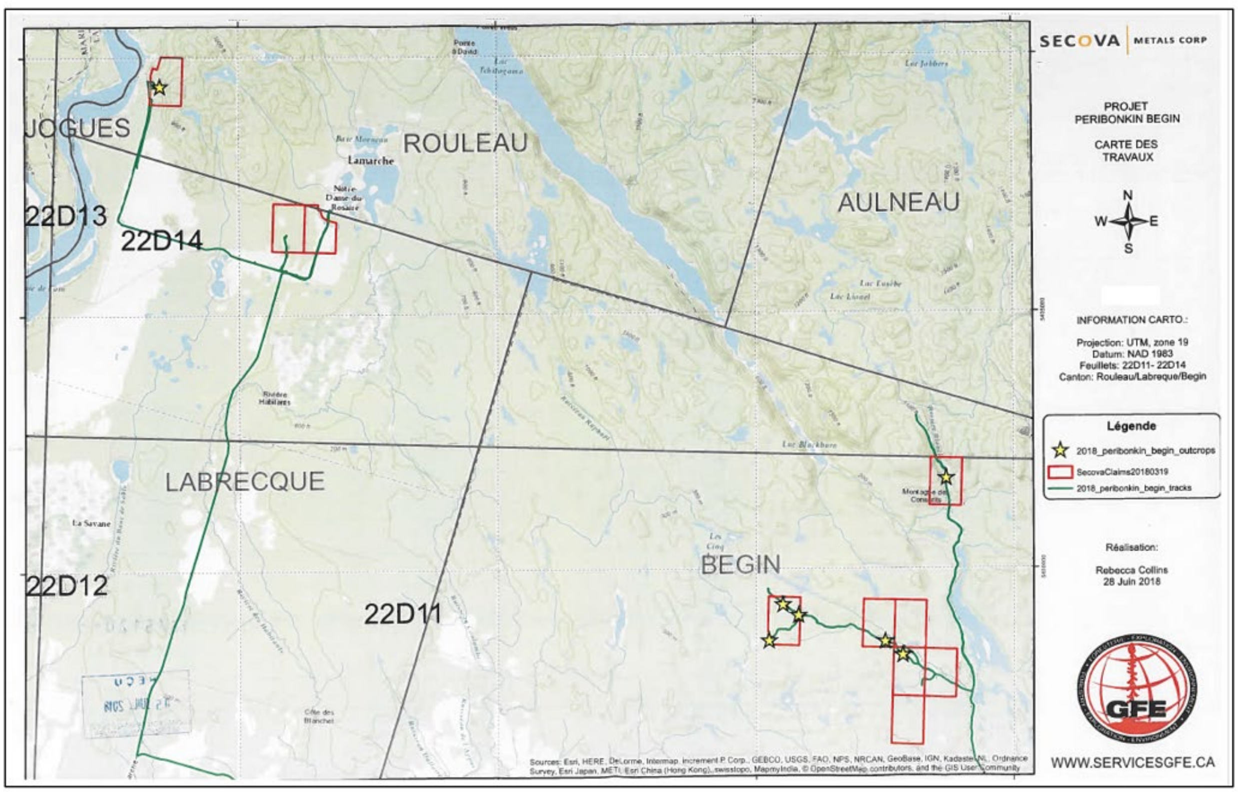
In the Bégin area, the exploration work aimed to find the presence of rock that could be associated with magmatic Ni-Cu mineralization. The troctolite unit discovered during previous work was re-mapped and extended to the northeast of the lineament. In the Bégin area, a more extensive surface exploration campaign was recommended in order to locate the southern contact between the anorthosite and the troctolite. More detailed work could be done to the northeast of the main lineament, where only a single day of reconnaissance work was completed and the troctolitic unit was found.

6.1.3 2018 Secova Metals Corp.

Secova Metals Corp. ("Savoy") worked their Peribonkin Bégin Property in 2018 and submitted an assessment report (GM 70766) (Figure 6.8). Their exploration focused mainly on the mafic and ultramafic rocks. Mafic rocks were considered favourable hosts for massive magmatic sulphide mineralization, and therefore peridotites, pyroxenites, and olivine-gabbros were prospected as exploration targets. Disseminated sulphides and local occurrences of semi-massive and massive sulphide veins with elevated contents of Cu and Ni were known in the area. The margins of the intrusions and the bases of differentiated sills and plutons were favourable sites for sulphide mineralization.

At the historical sample sites visited, Secova reported disseminated pyrite, chalcopyrite and magnetite mineralization in gabbro-anorthosite. Prospecting identified additional outcrops with potential to host mineralization. An additional location was identified to have oxidized, brecciated pockets within anorthosite containing abundant magnetite and <1% sulphides. Mineralization was observed at many other locations (Figure 6.8) on the Property and appeared to be structurally controlled within a mafic host rock.

FIGURE 6.8 WORK LOCATIONS ON THE PERIBONKIN BÉGIN PROPERTY IN 2018



Source: *GM 70766 (2018)*

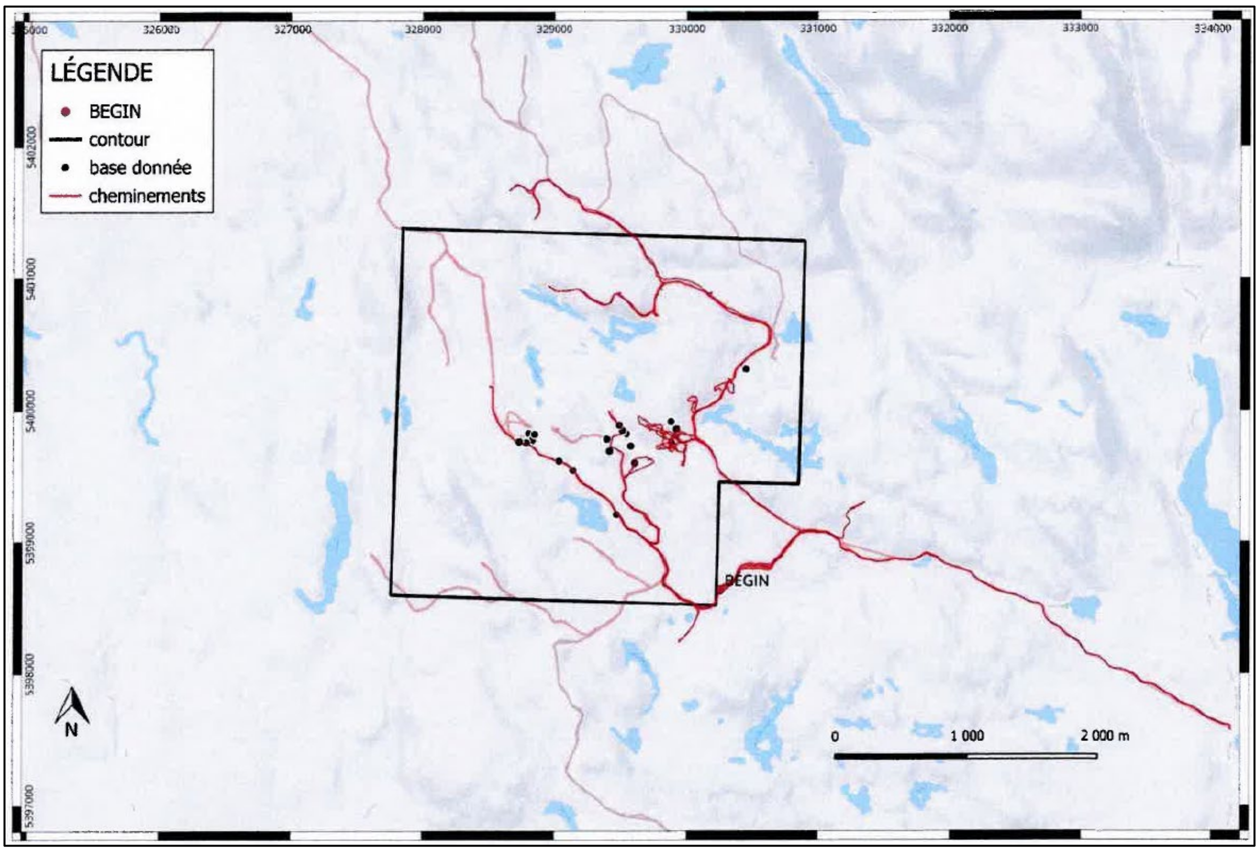
6.1.4 2020 to 2022

Geological and geophysical exploration programs were completed by prospectors on the Property before the northern part of it was sold and transferred to First Phosphate in 2022. The following information is summarized from company assessment report GM 73598 (2023).

6.1.4.1 Geological Work

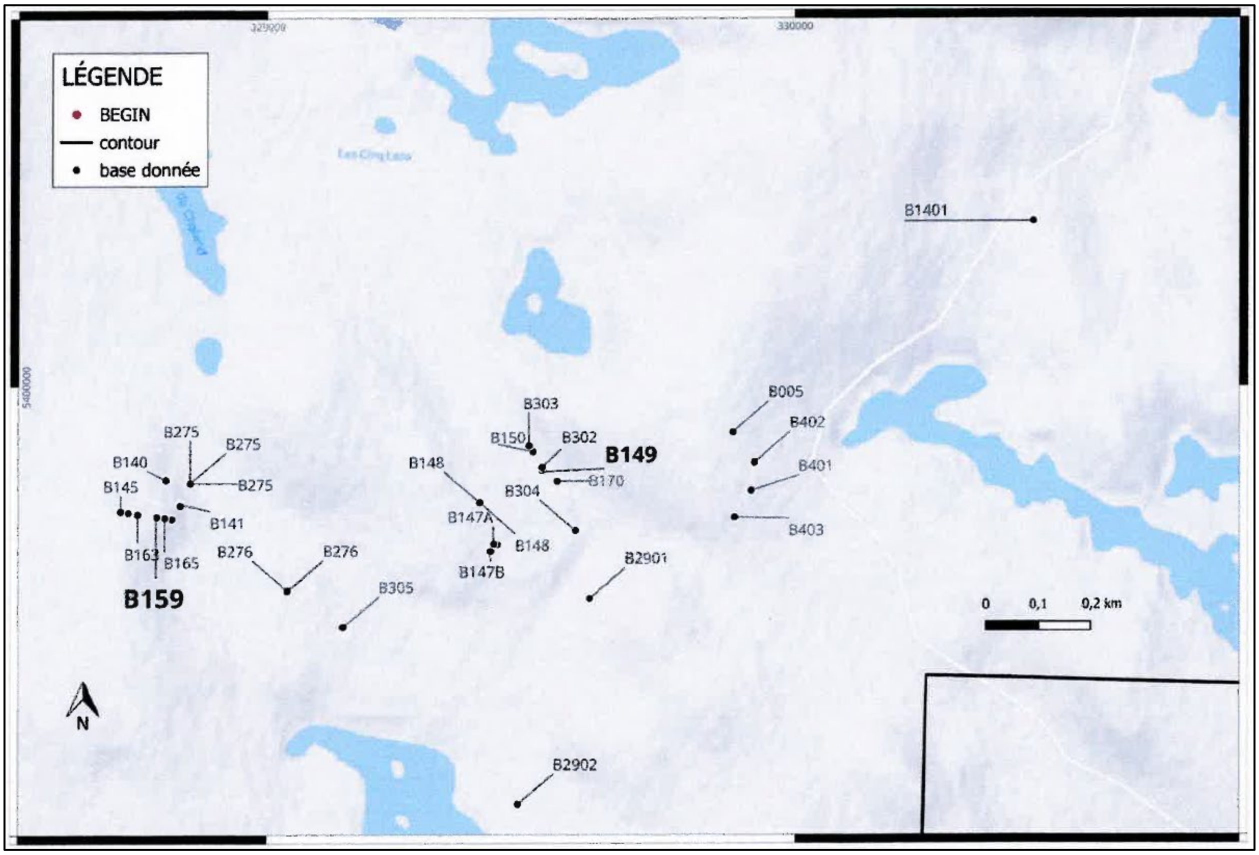
In December 2020, two prospectors travelled logging roads that were under construction and found newly exposed mineralized zones (Figure 6.9). During the winter of 2021, they were able to explore around their main discovery, B159 (Figure 6.10). The mineralization at B159 was disseminated copper-nickel sulphides. In the spring, mineralization was also discovered at B149. A BeepMat™ electromagnetic survey was conducted on several surrounding outcrops.

FIGURE 6.9 ACCESS ROADS AND SAMPLED LOCATIONS



Source: *GM 73598 (2023)*
Note: *red lines = roads, dots = sample locations.*

FIGURE 6.10 SAMPLED LOCATIONS AT THE B159 AND B149 SHOWINGS



Source: *GM 73598 (2023)*
Note: *dots = sampled locations.*

In the fall of 2022, a small excavator was used to clean a few outcrops around the B159 showing. Mafic and ultramafic rocks with large pyroxene grains and disseminated sulphides were exposed in outcrops and sampled (Figure 6.11). Many of the samples collected here resemble the Bégin Showing, described in Section 6.1.2 above. Eight samples were submitted to ALS Laboratories for analysis and several others analyzed with a portable XRF spectrometer by crushing the rock to 100 µm, followed by quartering, pelleting and analysis. The assay results are listed in Table 6.2. In 2023, geologist Christian Tremblay noticed that there were abnormally high values of scandium.

6.1.4.2 Geophysical Work

A BeepMat™ carpet was used, however, only magnetic results were produced. A small ground magnetic exploration survey with a McPhar 700™ device and a VLF survey with a Scintrex Omni+™ device were completed on a grid. As part of the 2022 land deal, First Phosphate completed an airborne survey (GM 72942) on this Property at the same time as on the adjoining part of the Property sold and transferred to them. The results of the First Phosphate airborne geophysical survey are summarized in Section 9 of this Report.

FIGURE 6.11 MINERALIZED SAMPLE FROM THE B159 SHOWING

Source: *GM 73598 (2023)*

TABLE 6.2 **SUMMARY OF 2021 SAMPLING ASSAY RESULTS**																	
Sample ID	**Method**	**UTM Easting***	**UTM Northing***	**Ag (ppm)**	**Co (ppm)**	**Cr (ppm)**	**Cu (ppm)**	**Fe (%)**	**Mg (%)**	**Ni (ppm)**	**P (ppm)**	**S (%)**	**Sc (ppm)**	**Sn (ppm)**	**Ti (%)**	**V (ppm)**	**Zn (ppm)**
B159	XRF	328,790	5,399,752			1,230	1,240			760				16			97
B163	XRF	328,755	5,399,758				145	15.73		470		0.25					164
B164	XRF	328,819	5,399,749			1,730	990	8.65		710		0.41			1.29		287
B165	XRF	328,806	5,399,751			2,060	980	8.91		1090		0.47			0.99		106
B275	XRF	328,854	5,399,816			1,460	970	8.81		890		0.52			1.02		444
B140	ALS	328,808	5,399,823			3,032	1,420	9.95	1.84	1295	1324	0.51		42	0.72	443	161
B140		328,808	5,399,823			3,032	1,420	9.95	1.84	1295	1324	0.51		42	0.72	443	161
B141		328,835	5,399,777			2,717	842	9.80	2.02	916	1326	0.25		42	0.67	383	133
B275		328,854	5,399,816	0.32	78.3	1,200	1,015	10.10	8.70	573	40	0.65	94.0	0.4	555	337	70
B140	ALS	328,808	5,399,823	0.37	80.3	1,220	1,090	10.4	8.73	701	40	0.76	104.5	0.5	0.63	357	68
B141		328,835	5,399,777			2,717	842	9.80	2.02	916	1326	0.25		42	0.67	383	133
B159		328,790	5,399,752	0.43	84.4	1,040	1,285	9.54	7.67	749	60	0.84	89.6	0.4	0.53	309	64
B159		328,791	5,399,753	0.08	67.5	43	337	9.99	4.24	347	90	0.44	27.7	0.8	0.81	209	102
B275		328,854	5,399,816	0.32	78.3	1,200	1,015	10.1	8.70	573	40	0.65	94.0	0.4	0.56	337	70
B148	ALS	329,402	5,399,780	0.22	86.7	388	645	11.70	8.61	420	100	0.76	105.0	0.3	0.57	295	97
B148	XRF	329,402	5,399,780			1,765	623	10.32	2.24	829	1374	0.38		30	0.63	348	790
B149	ALS	329,522	5,399,838	0.30	281	121	2,910	12.65	6.15	1485	60	2.76	27.8	1.1	0.18	77	162
B149	XRF	329,522	5,399,838		250	1,047	2,891	13.55	1.65	2366	1536	2.53		30	0.22	110	
B150	ALS	329,503	5,399,876	0.36	72.4	547	1,080	9.63	5.90	532	50	0.96	71.0	0.6	0.59	305	69
B150	XRF	329,503	5,399,876		136	1,833	1,195	7.77	1.07	1026	1400	0.69			0.54	286	207
B170	XRF	329,549	5,399,820		94	1,234	136	6.34	1.21	544	1415	0.02		16	0.46	216	619
B302	ALS	329,520	5,399,846	0.12	129.5	183	840	15.00	10.30	681	40	1.39	38.2	0.6	0.24	110	182
B304	ALS	329,583	5,399,727	0.21	79.6	375	476	11.15	8.45	284	110	0.55	108.0	0.3	0.65	323	88
B305	ALS	329,145	5,399,544	0.11	62.9	482	265	10.05	8.32	186	100	0.19	102.5	0.3	0.58	334	79

Source: *GM 73598 (2023)* ***Note:*** ** coordinates in UTM NAD83 Zone 19N.*

First Phosphate interest in the Bégin-Lamarche area stemmed from the presence of a 7 km long, southwesterly trending airborne anomaly and two historical grab samples taken by prospectors that returned results of 10.5% and 12.0% P_2O_5 in a cumulate with >90% oxide (magnetite and ilmenite) and apatite.

6.2 HISTORICAL MINERAL RESOURCE ESTIMATES

There are no historical mineral resource estimates reported for the Property.

6.2 CURRENT MINERAL RESOURCE ESTIMATE

P&E completed an Initial Mineral Resource Estimate on the Bégin-Lamarche Phosphate Property for First Phosphate with an effective date of September 9, 2024. The Mineral Resource Estimate presented in Section 14 of this Report is current and forms the basis for this initial PEA.

6.3 PAST PRODUCTION

There has been no past production of phosphorous, iron and titanium on the Property. Muscovite was produced from pegmatites on the Bégin Property in the 1930s (GM 06255).

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

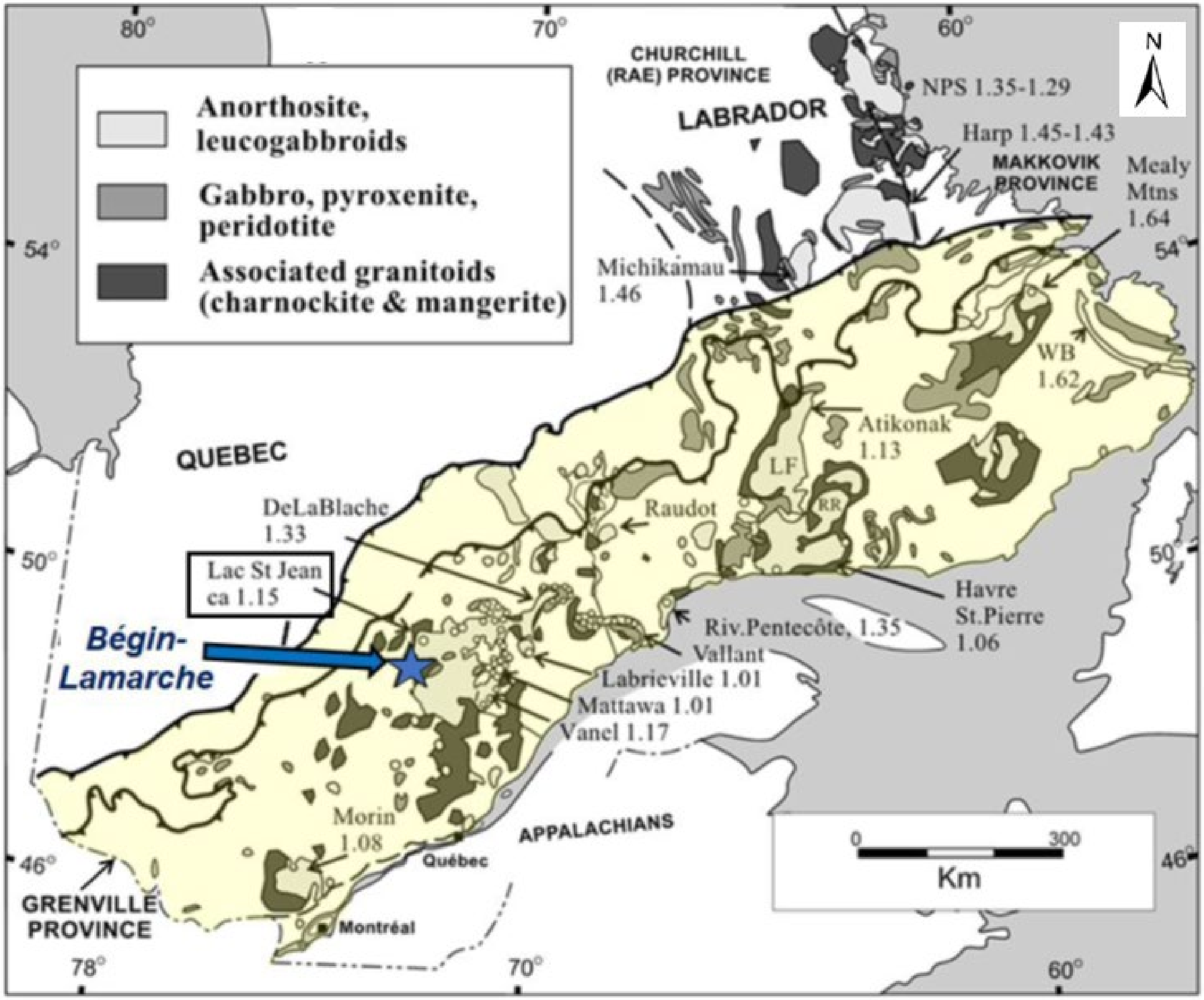
The Lac-Saint-Jean Anorthosite ("LSJA") Suite occurs in the central part of the Grenville Structural Province (Figure 7.1; Higgins and Breemen, 1992). The Grenville Structural Province is a ~1,600 km long and ~350 km wide Mesoproterozoic orogenic belt along the southeastern margin of the Canadian Shield. The Grenville contains numerous anorthosite massifs and anorthosite-mangerite-charnockite-granite ("AMCG") suites, such as the LSJA Suite (Hébert *et al.*, 2005).

The LSJA Suite consists of anorthosite, leuconorite, leucotroctolite, norite, olivine-bearing gabbro, gabbro, pyroxenite, peridotite, dunite, nelsonite, magnetitite, and rare charnockite–mangerite units (Hébert *et al.*, 2005). All the rock types are composed of plagioclase with variable amounts of pyroxene and olivine (Higgins *et al.*, 2002). Plagioclase is primarily andesine and labradorite (An_{45} to An_{60}; Higgins and Breemen, 1992).

The host rocks of the LSJA Suite are the Chicoutimi Gneiss Complex (~1,530 Ma), the Saguenay Gneiss Complex (~ 1,506 Ma), the Hulot Complex (~1,434 Ma), the Cap à l'Est Gneiss Complex, and the Cyriac Rapakivi Granite (~1393 to 1383 Ma) (Higgins and Breemen, 1996; Hébert *et al.*, 2005). These units are Grenvillian orthogneisses and paragneisses.

The anorthosites of the LSJA Suite are interpreted to have intruded in multiple phases over ~170 million years, starting at 1,160 million years ago (Higgins *et al.*, 2002). The Suite defines three periods of magmatism: 1) between 1,160 and 1,140 Ma; 2) between 1,082 to 1,050 Ma; and 3) between 1,020 and 1,000 Ma (Higgins and Breemen, 1996). An accurate emplacement age for Bégin-Lamarche Deposit has not been determined.

FIGURE 7.1 GEOLOGICAL MAP SHOWING THE LOCATION OF THE LSJA SUITE IN THE GRENVILLE PROVINCE, QUÉBEC



Source: *Modified by Banerjee (2023) from Higgins et al. (2002) and Bedard (2009)*

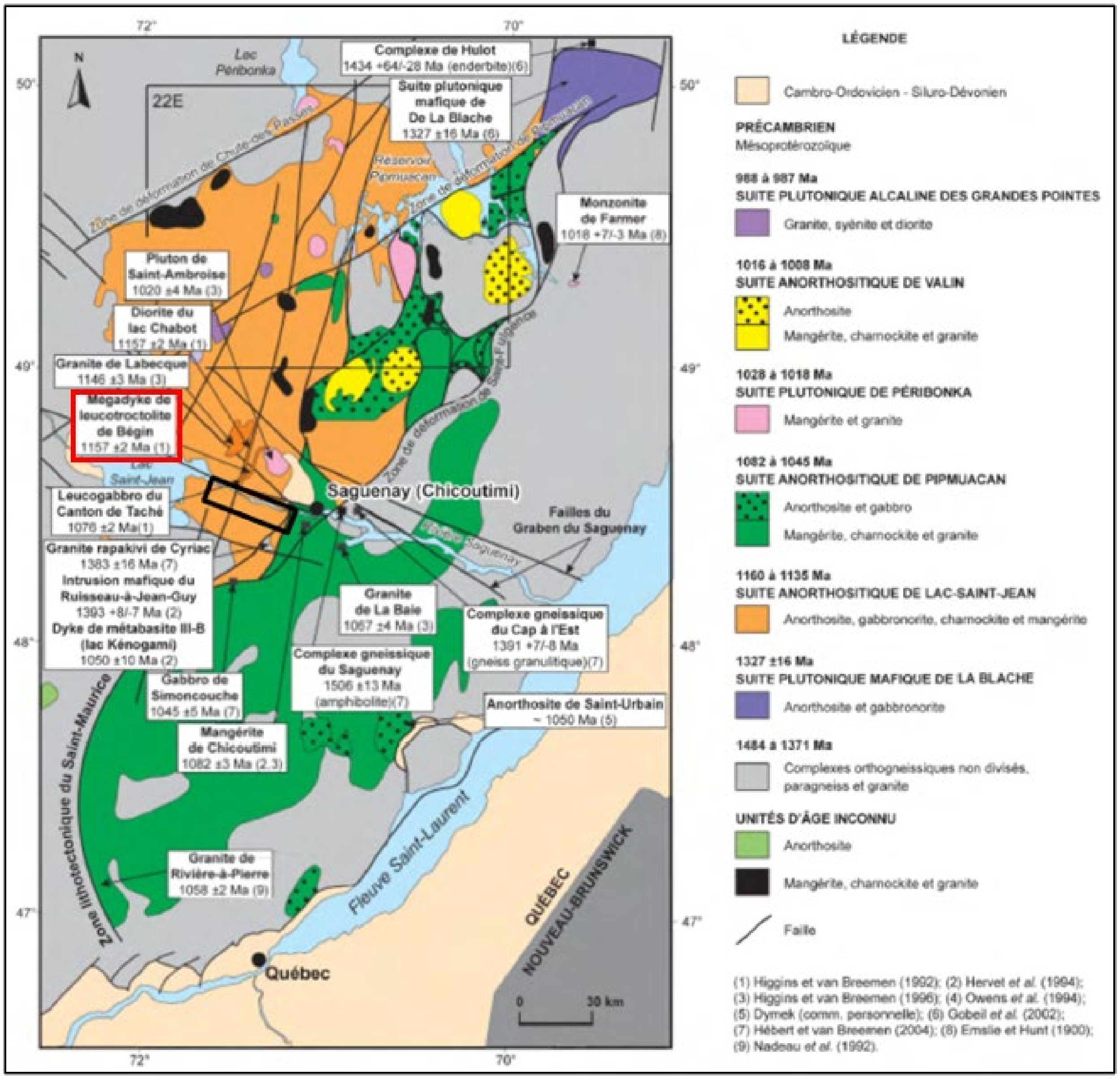
Figure 7.1 Description: *Location of the Lac-Saint-Jean Anorthosite ("LSJA") Suite and the Bégin-Lamarche Property and other anorthosite bodies within the Grenville Province of Canada. The ages of the anorthosite bodies are also shown (in billion years). WB=White Bear Arm anorthosite, LF=Lac Fournier lobe, RR=riviere Romaine lobe.*

7.2 LOCAL AND PROPERTY GEOLOGY

The Bégin-Lamarche Property area is underlain mainly by rocks of the LSJA Suite (Laurin and Sharma, 1972, 1975) (Figure 7.2). The Suite consists of lobes emplaced during successive magmatic injections (Hébert, 1998). The main rock types are norite, gabbro, troctolite, anorthosite and ultramafic rocks (including nelsonite), which are cross cut by pyroxenite dykes (Hébert *et al*., 2009. The Property is crossed by the Mesoproterozoic Bégin Megadyke (Figures 7.2 and 7.3) (GM 73598). The dyke is composed of leucotroctolite and has been traced for distances of 2 km along strike and 200 m across strike.

The Bégin-Lamarche area rocks show a foliation trending east-northeast and dipping steeply north. Several shear zones trending northeast intersect the rock units (GM 65097). Prograde regional metamorphism is to granulite facies followed by retrograde metamorphism to upper amphibolite facies.

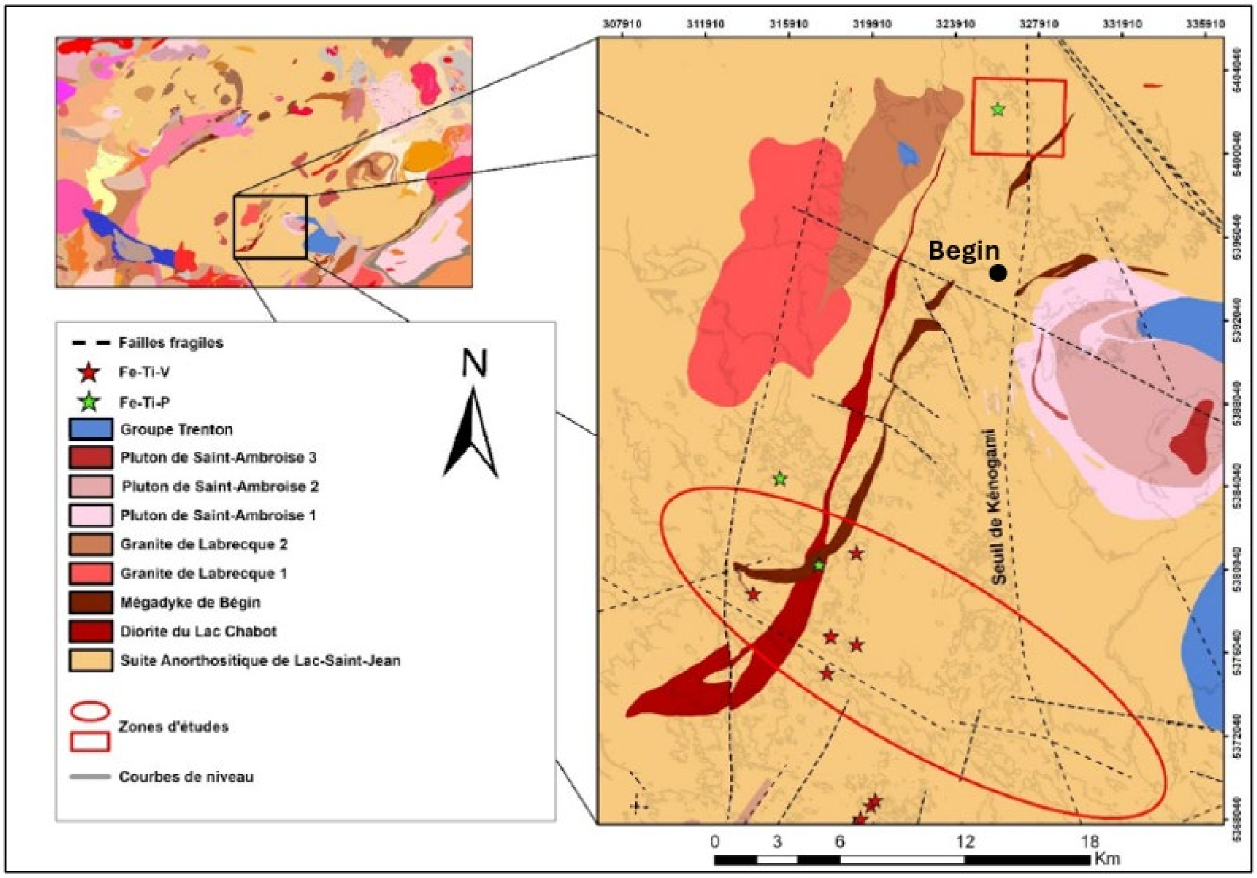
FIGURE 7.2 GEOLOGICAL MAP OF THE LSJA SUITE AND SURROUNDING ROCKS



Source: *MB 2024-07*

***Figure 7.2 Description**: Map showing the distribution of the main geological units surrounding the LSJA (orange) with the main geochronological dates of the regional units, the major deformation zones, the area mapped during the 2023 field program (outlined in black), and the Bégin Leucotroctolite Megadyke (outlined red) (modified from Hebert et al., 2009c).*

FIGURE 7.3 PROPERTY SCALE GEOLOGICAL MAP



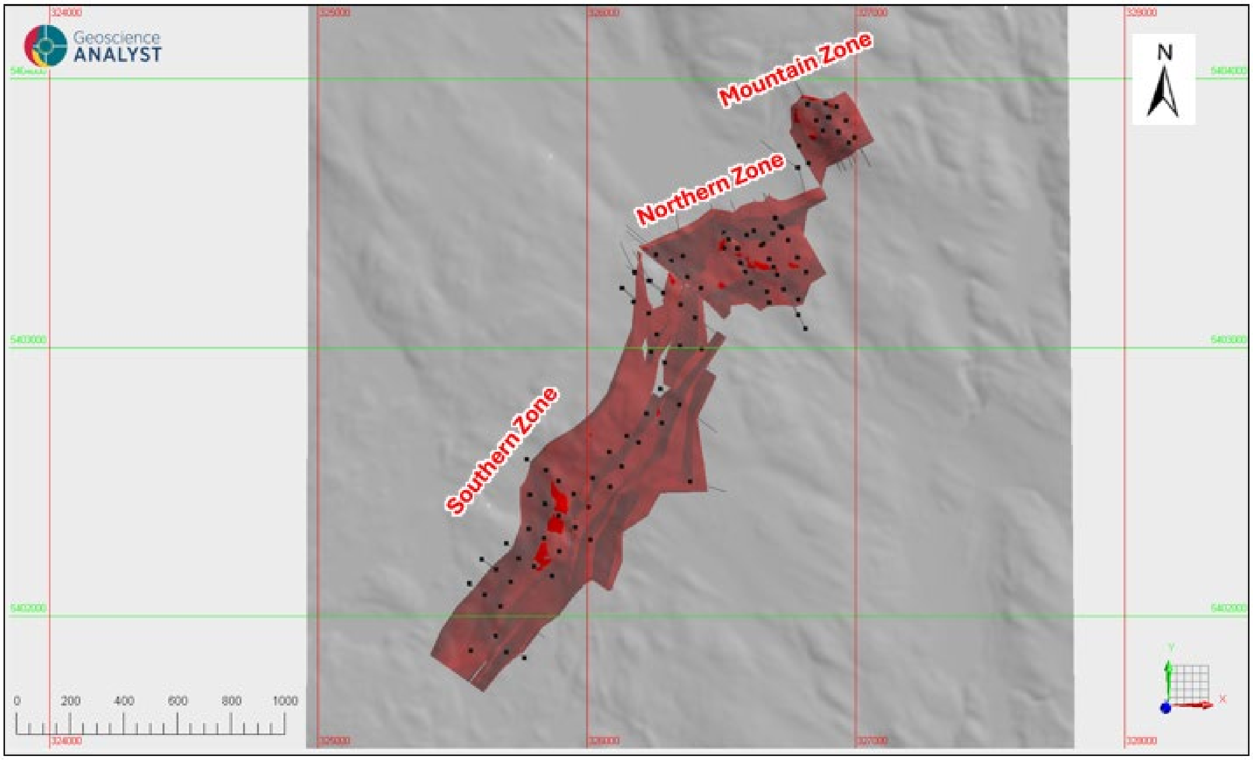
Source: *MB 2024-08 (2024)*

Figure 7.3 Description: *Geological map of the LSJAS in the study area with megadykes (modified from SIGEOM, 2024). Fe-Ti-P mineralization indicated by green stars and Fe-Ti-V mineralization by red stars. The red polygons represent study areas, of which the northern one (the rectangle) roughly coincides with the location of the current Mineral Resources.*

7.3 DEPOSIT GEOLOGY

The Bégin-Lamarche Phosphate Deposit is hosted in oxide-apatite peridotite intrusions within the LSJA Suite. The Bégin-Lamarche Phosphate Deposit as defined in drilling extends for 2.5 km along strike and dips are steeply to the west-northwest or east-southeast. The Deposit is internally offset along cross-cutting faults into three main phosphate mineralized zones: 1) the Southern Zone; 2) the Northern Zone; and 3) the Mountain Zone (Figure 7.4).

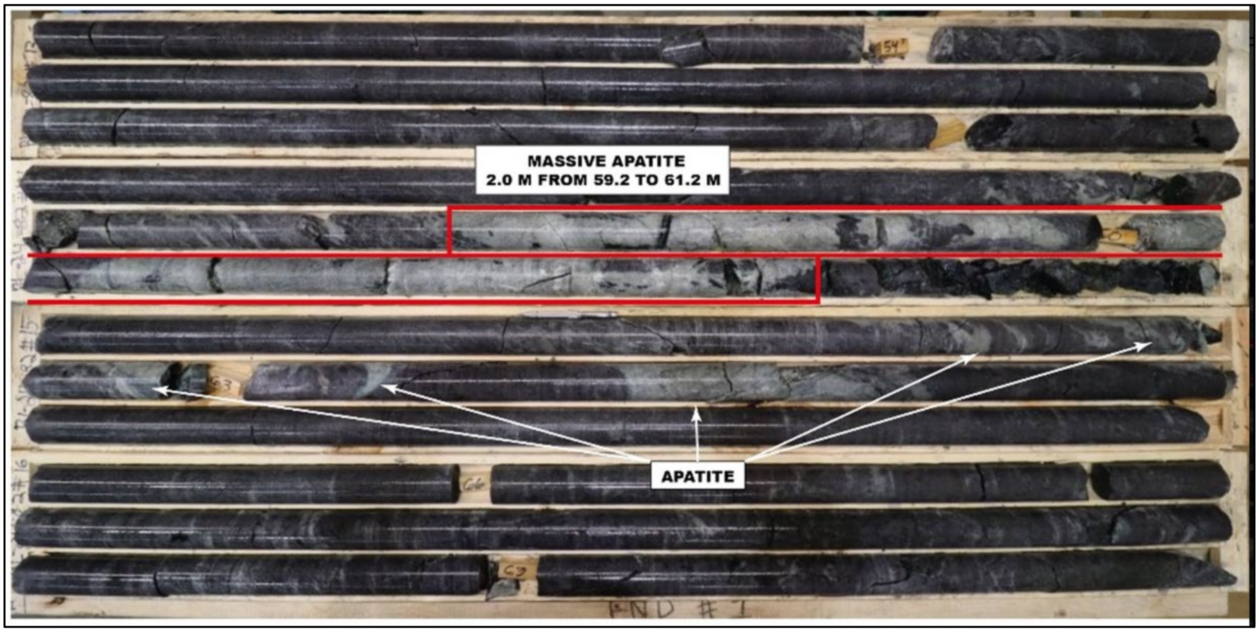
FIGURE 7.4 MINERALIZED ZONES OF THE BÉGIN-LAMARCHE PHOSPHATE DEPOSIT



Source: *P&E (2024)*

The Southern Zone, the largest of the three mineralized zones, consists of four phosphate layers, one of which has a thickness of up to 200 m and extends for 1.7 km along strike. The Northern Zone consists of two phosphate layers (Northeast and Northwest Domains) that are up to 100 m thick and extend for 500 m along strike. The Mountain Zone is a single phosphate-bearing mass up to 200 m in diameter and 250 m in length with a northwest dip. Drilling at the Mountain Zone intersected massive apatite (phosphate-bearing mineral) layers up to 2 m thick (Figure 7.5).

FIGURE 7.5 MASSIVE APATITE INTERVALS IN NORTHERN ZONE CORE FROM DRILL HOLE BL-24-82



Source: *First Phosphate website (September 25, 2024)*

7.4 MINERALIZATION

The summary below is derived largely on the work of Banerjee (2023), which was based on the sampling of nine drill holes from the Southern and Northern Zones (Table 7.1).

The mineral apatite at the Bégin-Lamarche Deposit is hosted in peridotite. The major minerals forming the peridotite are olivine, orthopyroxene, clinopyroxene, plagioclase, amphibole, apatite, ilmenite, and magnetite. Biotite, Al-spinel and pyrrhotite occur as accessory minerals (<5%). Common alteration minerals are serpentine and iddingsite. Cross-cutting calcite and serpentine veins are also common in some samples with high whole-rock Cl contents.

Based on the modal abundances of olivine, orthopyroxene, clinopyroxene, and plagioclase, the peridotite host rock can be more specifically characterized as olivine gabbronorite with phaneritic texture. Estimated modal abundances of the major minerals in drill core are given in Table 7.2. A brief description of the major minerals of the Deposit is provided below.

TABLE 7.1
DRILL CORE SAMPLING AND AVERAGE WHOLE-ROCK GEOCHEMISTRY

Sample ID	Zone	Drill Hole ID	Drill Hole Depth (m)	P_2O_5 (%)	Cl (%)
1*	South	BL-23-12	147.1	12.35	0.1
2*	South	BL-23-12	150.1	12.35	0.1
3*	South	BL-23-12	152.7	12.35	0.13
4*	South	BL-23-12	155.8	12.35	0.07
5*	South	BL-23-13	139.6	13.43	0.11
6*	South	BL-23-13	142.0	13.43	0.12
7*	South	BL-23-13	144.9	13.43	0.17
8*	South	BL-23-13	145.9	13.43	<0.01 to 0.17
9*	North	BL-23-06	246.1	9.27	0.73
10*	North	BL-23-06	248.3	9.27	0.46
11*	North	BL-23-06	250.3	9.27	0.46 to 0.81
12*	North	BL-23-06	251.3	9.27	0.81
13*	North	BL-23-01	208.9	9.64 to 11.61	0.55 to 1.01
14*	North	BL-23-01	190.5	9.45 to 10.43	0.30 to 0.33
15*	North	BL-23-10	122.85	11.46	0.09
16**	South	BL-23-14	51.0	8.10	0.06
17**	South	BL-23-14	54.3	8.10	0.06
18**	South	BL-23-14	55.0	8.10	0.06
19**	South	BL-23-14	56.8	8.10	0.06
20**	South	BL-23-15	137.4	4.02	0.04
21**	South	BL-23-15	139.3	4.02	0.04
22**	South	BL-23-15	140.8	4.02	0.04
23**	South	BL-23-15	142.6	4.02	0.04
24**	North	BL-23-03	58.6	10.68	0.04
25**	North	BL-23-03	63.0	10.68	0.04
26**	North	BL-23-18	108.0	9.07	0.04
27**	North	BL-23-18	110.0	9.07	0.04
28**	North	BL-23-18	114.2	9.07	0.04

Source: *Banerjee (2023)*
Notes: ** Samples with high whole-rock Cl contents.*
*** Samples with low whole-rock Cl contents.*

TABLE 7.2
MODAL ABUNDANCE OF MAJOR MINERALS USING SEM-MLA*

Sample IDs	Zone	Drill Hole ID	Drill Hole Depth (m)	Olivine	Serpentine	Ortho-pyroxene	Clino-pyroxene	Amphibole	Apatite	Magnetite	Ilmenite
3**	South	BL-23-12	152.7	15	8	<1	<1	<1	46	7	13
7**	South	BL-23-13	144.9	8	25	<1	3	<1	31	8	9
9**	North	BL-23-06	246.1	53	5	2	2	4	17	1	1
12**	North	BL-23-06	251.25	11	21	<1	2	<1	31	6	15
13**	North	BL-23-01	208.9	16	33	<1	4	<1	24	5	5
15**	North	BL-23-10	122.85	8	25	<1	3	<1	31	8	9
24***	North	BL-23-03	58.6	17	2	11	1	1	23	10	15
28***	North	BL-23-18	114.2	1	1	41	2	5	32	5	16

Source: *Banerjee (2023)*
Notes: ** SEM-MLA = scanning electron microprobe-mineral liberation analysis.*
*** Samples with high whole-rock Cl contents.*
**** Samples with low whole-rock Cl contents.*

Olivine (Mg_2SiO_4 - Fe_2SiO_4) is the dominant mineral. Olivine crystals of the peridotite are subhedral in shape. The crystals range in size from ~0.2 to 3 mm. Equant crystals of olivine are common (Figure 7.6A and 7.6B). Olivine crystals are generally fractured, and the fractures are filled with serpentine. Many olivine crystals from rock samples with high whole-rock Cl contents are altered to iddingsite. Additional alteration products of olivine are saponite and celadonite (Laverne *et al*., 2006; Singh *et al.*, 2023), which occur in samples with high and low whole-rock Cl contents. Olivine has end-member compositions of forsterite (Mg_2SiO_4: 49.1 to 54.6 mol%) and fayalite (Fe_2SiO_4: 45.4 to 50.9 mol%). There is little variability in contents of SiO_2 (34.4 to 35.2%), MnO (0.56 to 0.59%), and CaO (0.01 to 0.03%) (Table 7.3).

Orthopyroxene ($Mg_2Si_2O_6$ - $Fe_2Si_2O_6$) crystals are mostly subhedral in shape and equant in size (~0.5 to 2.0 mm; Figures 7.6C and 7.6D). They are associated with magnetite, ilmenite and apatite, and are less altered than olivine.

Clinopyroxene ($(Ca,Mg,Fe)(Mg,Fe)Si_2O_6$) crystals are less abundant than orthopyroxene (Figure 7.6D) and are also generally subhedral. Crystals range in size from ~0.5 to 2 mm.

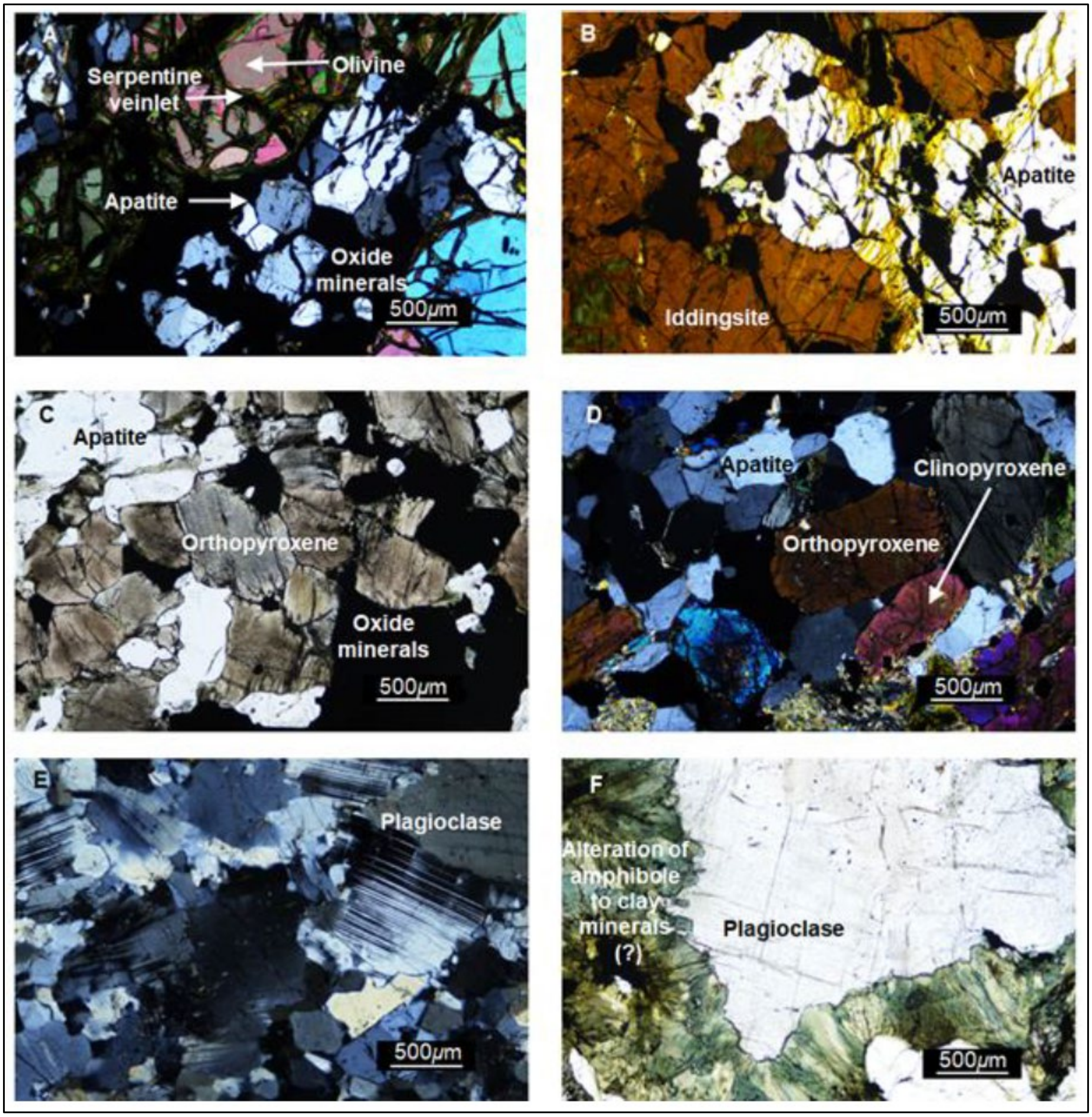
Plagioclase ($NaAlSi_3O_8$ - $CaAl_2Si_2O_8$) crystals are euhedral to subhedral (Figure 7.6E and 7.6F) and mostly equant in size ranging from ~0.5 to 2 mm. End-member compositions are (44.1 to 48.4 mol.% anorthite, 51.5 to 52.7 mol.% albite, and 0.1 to 0.22 mol.% orthoclase. There is little variability in contents of SiO_2 (55.0 to 55.8%) and Al_2O_3 (27.9 to 28.2%) (Table 7.3).

Amphibole $(Na, K)_{0-1}(Na, Ca, Mg, Fe^{2+}, Mn^{2+}, Li)_2(Mg, Fe^{2+}, Fe3^{+}, Al, Mn, Zn, Cr, Ti, Li)_5(Si, Al)_8O_{22}(OH, F, Cl, O)_2$) crystals are identified under the optical microscope from the samples with low whole-rock Cl contents**.** The crystals are mostly subhedral in shape. Alteration of amphibole and plagioclase to clay minerals has been reported (Proust *et al*., 2006) (Figure 7.6F).

Apatite ($Ca_5(PO_4)_3F$) mostly occurs as individual crystals associated with oxide minerals, orthopyroxene, olivine, and amphibole (Figure 7.7). Inclusions of apatite within olivine and orthopyroxene occur locally. Apatite crystals are euhedral to subhedral in shape and range in size from ~0.3 to 3 mm. Late-stage veinlets of serpentine cross-cutting apatite are common in the peridotite (Figure 7.7F). Apatite crystals have narrow ranges of CaO (54.8 to 55.4%) and P_2O_5 (41.8 to 42.4%) contents. The contents of SiO_2 (≤0.04%), MnO (0.05 to 0.16%), MgO (0.04 to 0.15%), and FeO (0.14 to 0.31%) are low (Table 7.3). The contents of F (2.63 to 3.00%) are higher than Cl (660 to 860 ppm) and H_2O (0.34 to 0.53%) (Table 7.3). Mole fraction values of fluorapatite ($X^{Ap}F_{Ap}$) range from 0.71 to 0.80 (Table 7.3), as calculated following the procedure of Piccoli and Candela (2002).

Ilmenite ($FeTiO_3$) and magnetite (Fe_2O_3) are the two dominant oxide minerals. Both minerals occur as euhedral to subhedral grains that range in size from ~0.2 to 1.5 mm in diameter (Figure 7.8).

FIGURE 7.6 MAJOR SILICATE MINERALS PRESENT THE HOST ROCKS OF THE BÉGIN-LAMARCHE DEPOSIT



Source: *Banerjee (2023)*

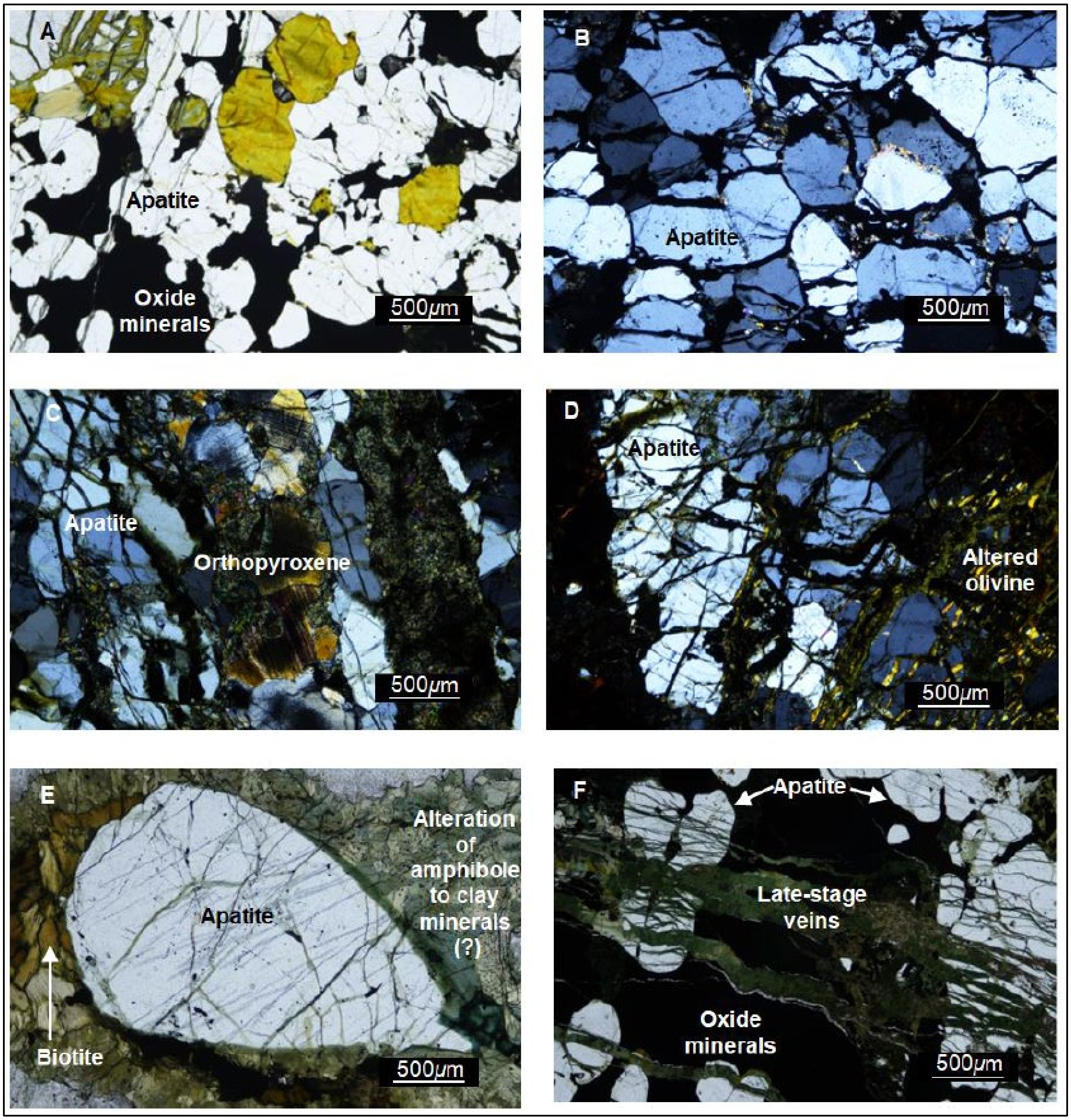
Figure 7.6 Description: *Major silicate minerals present in the host rocks of the Bégin-Lamarche Deposit. (A) Serpentine veinlets within olivine crystals (under cross-polarized light); (B) Iddingsite (altered products of olivine) associated with apatite (under plane-polarized light); (C) Orthopyroxene crystals associated with apatite crystals (under plane-polarized light); (D) Equant crystals of clinopyroxene and orthopyroxene (under cross-polarized light); (E) Equant crystals of plagioclase (under cross-polarized light); (F) Plagioclase crystal enclosed by amphibole crystals (under plane-polarized light).*

TABLE 7.3
RANGES OF CHEMICAL COMPOSITIONS OF MAJOR MINERALS FROM THE BÉGIN-LAMARCHE DEPOSIT

Element/Oxide	Olivine (%)	Plagioclase (%)	Apatite (%)
SiO_2	34.4 to 35.2	55.0 to 55.8	≤0.04
Al_2O_3	≤0.01	27.9 to 28.2	≤0.01
FeO	38.5 to 42.1	0.08 to 0.14	0.14 to 0.31
MnO	0.56 to 0.59	n.a.	0.05 to 0.16
MgO	22.8 to 26.0	n.a.	0.04 to 0.15
CaO	0.01 to 0.03	9.70 to 9.95	54.8 to 55.4
Na_2O	n.a.	5.84 to 6.00	0.02 to 0.08
K_2O	n.a.	0.02 to 0.04	n.a
P_2O_5	n.a.	n.a.	41.8 to 42.4
F	n.a.	n.a.	2.63 to 3.00
Cl	n.a.	n.a.	0.07 to 0.90
H_2O	n.a.	n.a.	0.34 to 0.53
X^{ap} F_{ap} (mole fraction)	-----	-----	0.71 to 0.80
End Members	$Fo_{49.1-54.6}$	$An_{44.1-48.4}$ $Ab_{51.5-52.7}$ $Or_{0.10-0.22}$	-----

Source: *Banerjee (2023)*
Notes: *n.a. = not analyzed; Fo = forsterite; An = anorthite, Ab = Albite, Or = Orthoclase.*

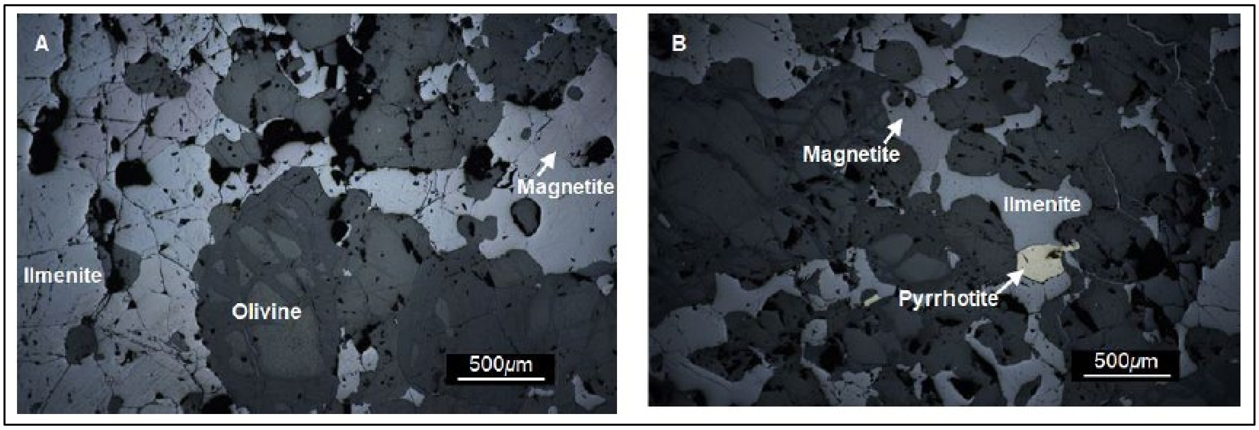
FIGURE 7.7 APATITE MINERALIZATION AT BÉGIN-LAMARCHE DEPOSIT



Source: *Banerjee (2023)*

Figure. 7.7 Description: *Apatite (the primary phosphate mineral) associated with different minerals within the Bégin-Lamarche Deposit host rock. (A) Apatite crystals associated with oxide minerals (under plane-polarized light); (B) Equant crystals of apatite associated with oxide minerals (under cross-polarized light); (C) Apatite crystals associated with orthopyroxene crystals (under cross-polarized light); (D) Apatite crystals associated with altered olivine (under cross-polarized light); (E) Apatite crystal enveloped by amphibole and biotite crystals (under plane-polarized light); (F) Late-stage veins cut through apatite crystals (under plane-polarized light).*

FIGURE 7.8 MAJOR OXIDE MINERALS AT BÉGIN-LAMARCHE



Source: *Banerjee (2023)*

Figure 7.8 *Major oxide minerals from the Bégin-Lamarche Property (under reflected light). (A) Magnetite and ilmenite crystals associated with serpentinized olivine crystals; (B) Pyrrhotite crystal (accessory phase) associated with magnetite and ilmenite crystals.*

8.0 DEPOSIT TYPES

Globally, phosphate mineral deposits occur in igneous rocks and in sedimentary rocks (Pufahl and Groat, 2017). There are two types of igneous rock hosted phosphate mineral deposits: 1) carbonatite hosted; and 2) massif-type anorthosite hosted. Bégin-Lamarche is an anorthosite massif-hosted phosphate (apatite) mineral deposit, similar to the nearby Lac à l'Orignal Deposit (P&E, 2023). The characteristics of igneous versus sedimentary phosphate mineral deposits are summarized in Table 8.1.

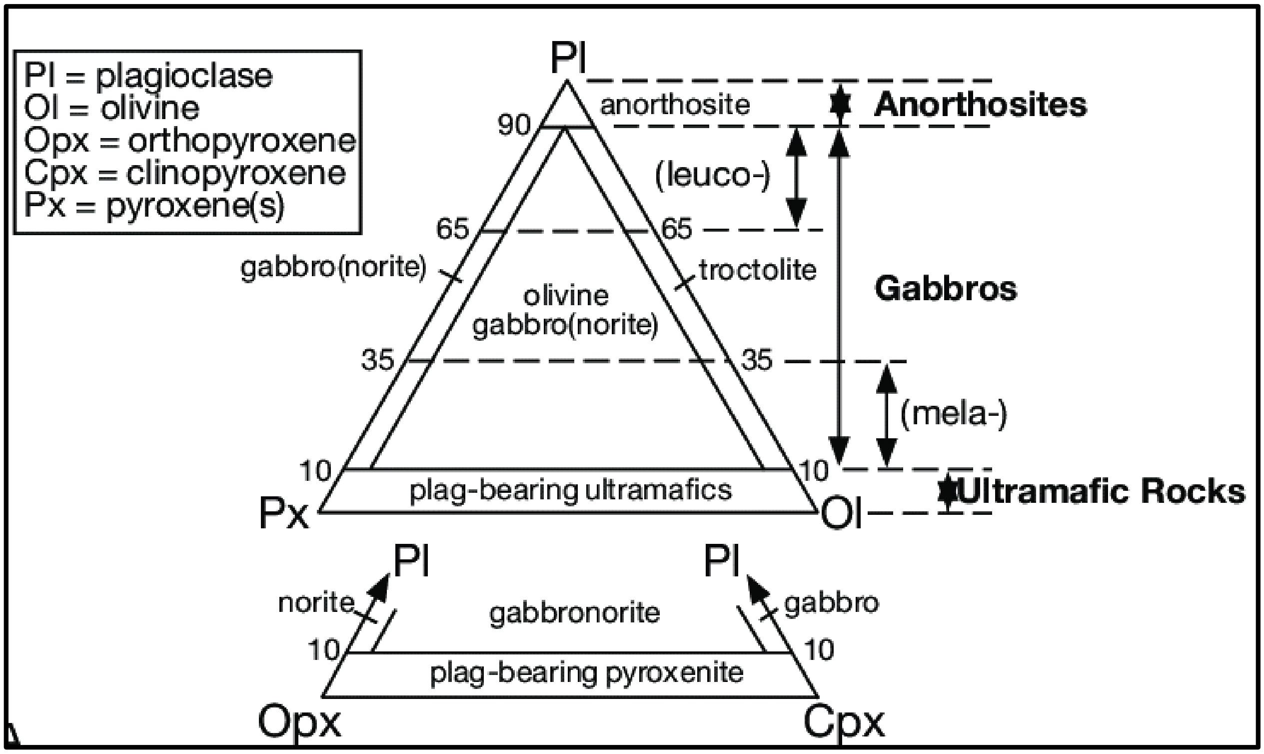
Anorthosites are plutonic igneous rocks that contain 90 to 100% plagioclase and 0 to 10% mafic silicate and (or) oxide minerals (Figure 8.1). The most common mafic minerals present are pyroxene (orthopyroxene and clinopyroxene), olivine, Fe-Ti oxides (e.g., magnetite, ilmenite) and apatite. Plagioclase-rich rocks that contain <90% plagioclase are leucotroctolites, leuconorites, leucogabbros, leucogabbros and leucogabbronorites, depending on the phase and amount of mafic silicate minerals. These rock types are also associated with anorthosite plutons. Apatite and Fe-Ti oxide mineralization commonly occurs within the anorthosite phase or in associated gabbro phases.

TABLE 8.1
COMPARISON OF IGNEOUS AND SEDIMENTARY HOSTED TYPE OF PHOSPHATE MINERAL DEPOSITS

Characteristic	Igneous Massif-Type Anorthosite	Igneous Carbonatite	Sedimentary
Host Rock	massif-type anorthosite	carbonatite	upwelling-related sedimentary rocks
Distribution	1% of global deposits	5% of global deposits	94% of global deposits
Shape of Deposits	sheets and lenses	veins and lenses	bedded (stratiform)
Rare Earth Elements	low	high	variable
Deleterious Trace Elements	low	low	high
Organic Matter	none	none	high
Phosphate Mineralogy	apatite	apatite	carbonate fluorapatite
Associated Minerals	pyroxene, plagioclase, ilmenite, magnetite	calcite, dolomite, magnetite	quartz, clay minerals, calcite, dolomite
P_2O_5 Content	~5 to 15%	~5 to 15%	~8 to 35%
Source	mantle/crust (~30 to 50 km depth)	mantle (>50 km depth)	upwelling-related organic matter
Mineralization Process	high-temperature crystallization in magma	high-temperature crystallization in magma	phosphate precipitation in accumulating sediment

Source: *First Phosphate Corporate Presentation (October 3, 2022), after Dr. Sandeep Banerjee, Postdoctoral Fellow/Researcher, Queen's University.*

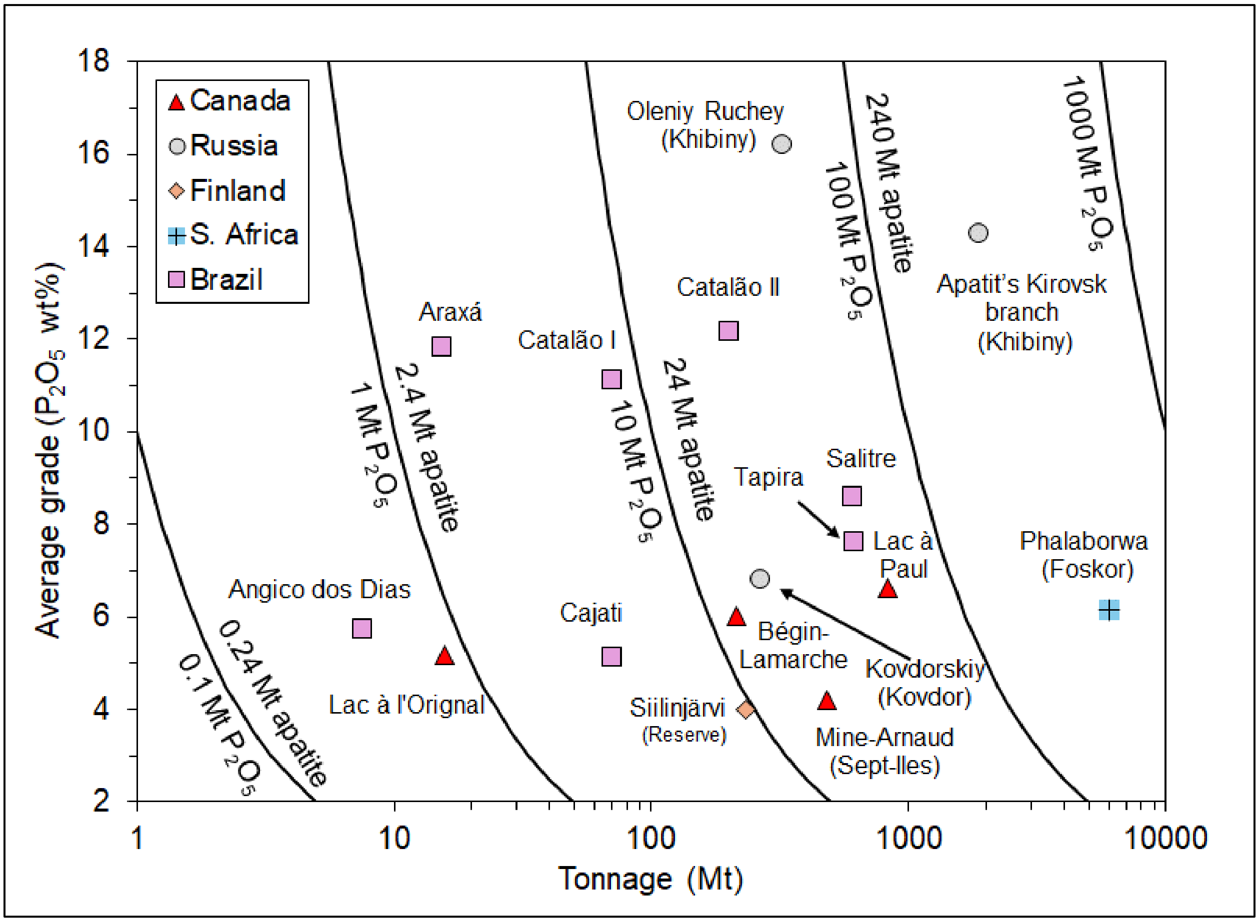
FIGURE 8.1 TERNARY DIAGRAM OF GABBROIC ROCKS



Source: *Banerjee (2022), after Scoates and Mitchell (2000).*

An average grade versus tonnage plot for P_2O_5 is shown in Figure 8.2. The plot shows a wide range of sizes of igneous phosphate deposits. The phosphate deposits range from low-grade, low tonnage (e.g., Angico dos Dias, Brazil) to high-grade, high tonnage (e.g., Apatit's Kirovsk Branch, Russia) (Banerjee *et al.*, 2024). Although the phosphate mineralization hosted in massif anorthosite (i.e., all igneous phosphate deposits in Canada) is not high-grade, the apatite from these deposits contains smaller amounts of toxic elements, such as Pb (1.4 to 2.9 ppm versus 14.3 ppm), Th (4.1 to 10.0 ppm versus 191 ppm), and U (1.4 to 5.4 ppm versus 12.3 ppm) than those from carbonatite-hosted igneous deposits worldwide. Similarly, the average rare-earth elements ("REE") contents in apatite (1,945 to 3,711 ppm) hosted in the oxide-apatite-mafic-ultramafic rocks in massif-anorthosite is lower than that of carbonatite worldwide (8,224 ppm REE). Therefore, the igneous phosphate mineralization from massif anorthosites is of higher quality and relatively environment-friendly (Banerjee *et al.*, 2024).

FIGURE 8.2 AVERAGE GRADE VERSUS TONNAGE FOR MAJOR IGNEOUS PHOSPHATE DEPOSITS WORLDWIDE

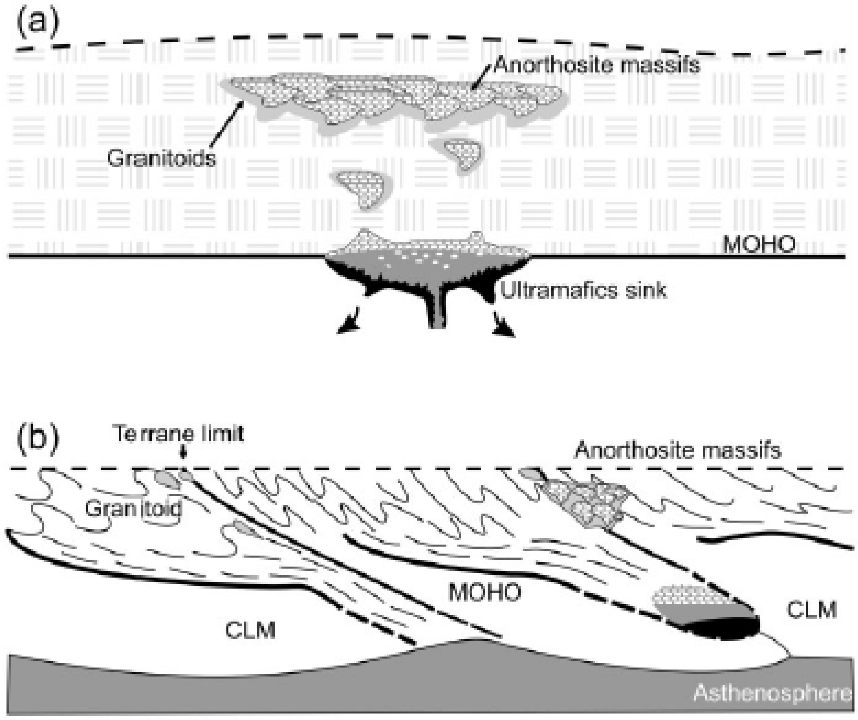


Source: *Banerjee et al. (2024)*

Figure 8.2 Description: *Average grade versus tonnage (mineral resources) for major igneous phosphate deposits in silica-undersaturated alkali and carbonatite intrusions worldwide. The mineral resources (tonnage) for Russian deposits (Oleniy Ruchey, Apatit's Kirovsk Branch, and Kovdorskiy) are considered from the A+B+C1 mineral reserve. Igneous phosphate deposits in Canada (prospective mines) hosted in oxide-apatite-mafic-ultramafic rocks within massif-anorthosites are also shown. Note that the tonnage (x)-axis is plotted on a logarithmic scale. The curvilinear lines indicate the amount (in Mt) of P_2O_5 or apatite contained in the phosphate mineral resources.*

Proterozoic anorthosites form complexes/massifs/batholiths with areal extent of tens to 20,000 km^2 and were emplaced in intracratonic settings. The parental magmas of anorthosites are considered to form in the mantle (Ashwal, 1993; Charlier *et al*., 2010) or in the lower crust (Bédard, 2001, 2009). The most generally accepted model involves formation of a basalt magma in the upper mantle, which intrudes the lower crust and fractionates large amounts of mafic minerals that settle in the magma chamber. The co-crystallizing plagioclase crystals float in the residual magma, which ascends farther into the crust and crystallizes as anorthosite complexes (Figure 8.3). Assimilation of crustal material may also drive large amounts of plagioclase crystallization and magma ascent (Emslie *et al*., 1994).

FIGURE 8.3 GENERALLY ACCEPTED MODEL FOR THE ORIGIN OF ANORTHOSITE



Source: *Charlier et al. (2010)*

Figure 8.3 Description: *Models for massif-type anorthosite genesis. (a) Anorogenic two-stage model of Ashwal (1993). Mantle-derived mafic melts pond at the crust-mantle boundary (Moho), where mafic silicates crystallize and sink. Residual melts become enriched in Al and Fe/Mg. Plagioclase is buoyant in these dense melts, producing anorthosite cumulates at the top of the magma chamber. The plagioclase-rich mush is gravitationally unstable, rises through the crust and drags aggregates of high-alumina orthopyroxene megacryst in sub-ophitic assemblage with plagioclase. The mush coalesces as plutons at mid-crustal levels. Heat from the crystallizing mantle-derived magma causes crustal anatexis to form granitoid magmas. (b) Post-collisional crustal tongue melting model of Duchesne (1999). Collisional stacking of terranes produces: (1) underthrust lower crust tongues; and (2) granitoid liquids by anatexis of mid-crustal material. These intrude at higher levels along terrane boundaries, due to delamination along zones of weakness. Some 10 Ma later, the rise in temperature melts a crustal tongue of suitable composition and a deep-seated magma chamber develops in which plagioclase floats to accumulate at the roof. Resultant anorthosite diapirs rise through the crust, channelled by zones of weakness, and coalesce higher-up at mid-crustal levels; the mafic cumulates, left behind, become indistinguishable from the mantle. A Moho offset represents the only evidence of the former magma chamber. CLM = continental lithospheric mantle.*

In an alternative model proposed by Arndt (2013), anorthosite complexes form when basalt magma differentiates in crustal magma chambers to form lower-density plagioclase and higher density residual liquid. Plagioclase and minor pyroxene crystallized in-situ on the floor of the magma chamber to produce the anorthosite complex, and the residual liquid migrated downwards, eventually to solidify as dense Fe-rich cumulates (Figures 8.4 and 8.5).

FIGURE 8.4 MODEL FOR ANORTHOSITE COMPLEX DEVELOPMENT

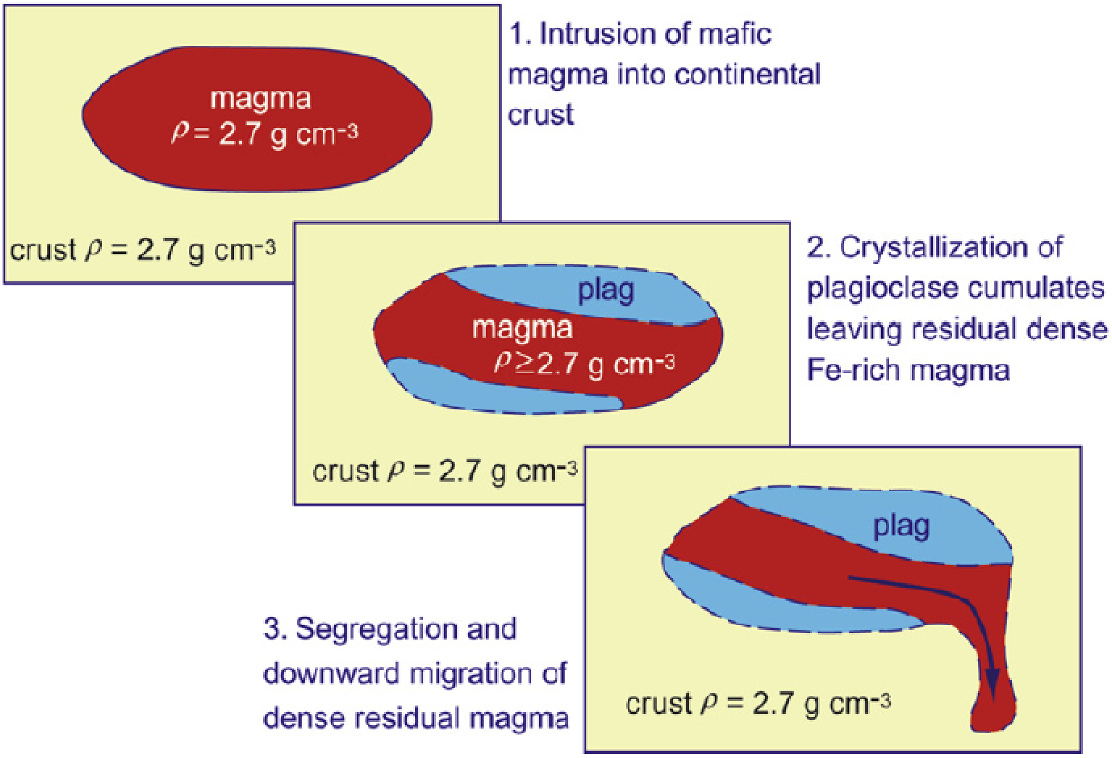


Figure 3. Sketches of three phases in the development of an anorthosite complex.

Source: *Arndt (2013)*

FIGURE 8.5 MODEL FOR MAGMATIC DIFFERENTIATION OF ANORTHOSITE

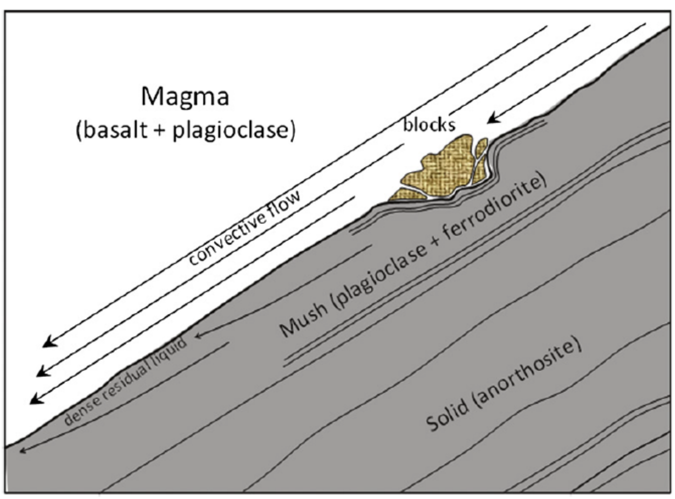


Figure 2. Sketch of the sloping margin of an anorthosite complex illustrating growth of plagioclase and minor mafic minerals in the layered series and flow of residual magma downwards past the margin (from Scoates et al., 2010).

Source: *Arndt (2013)*

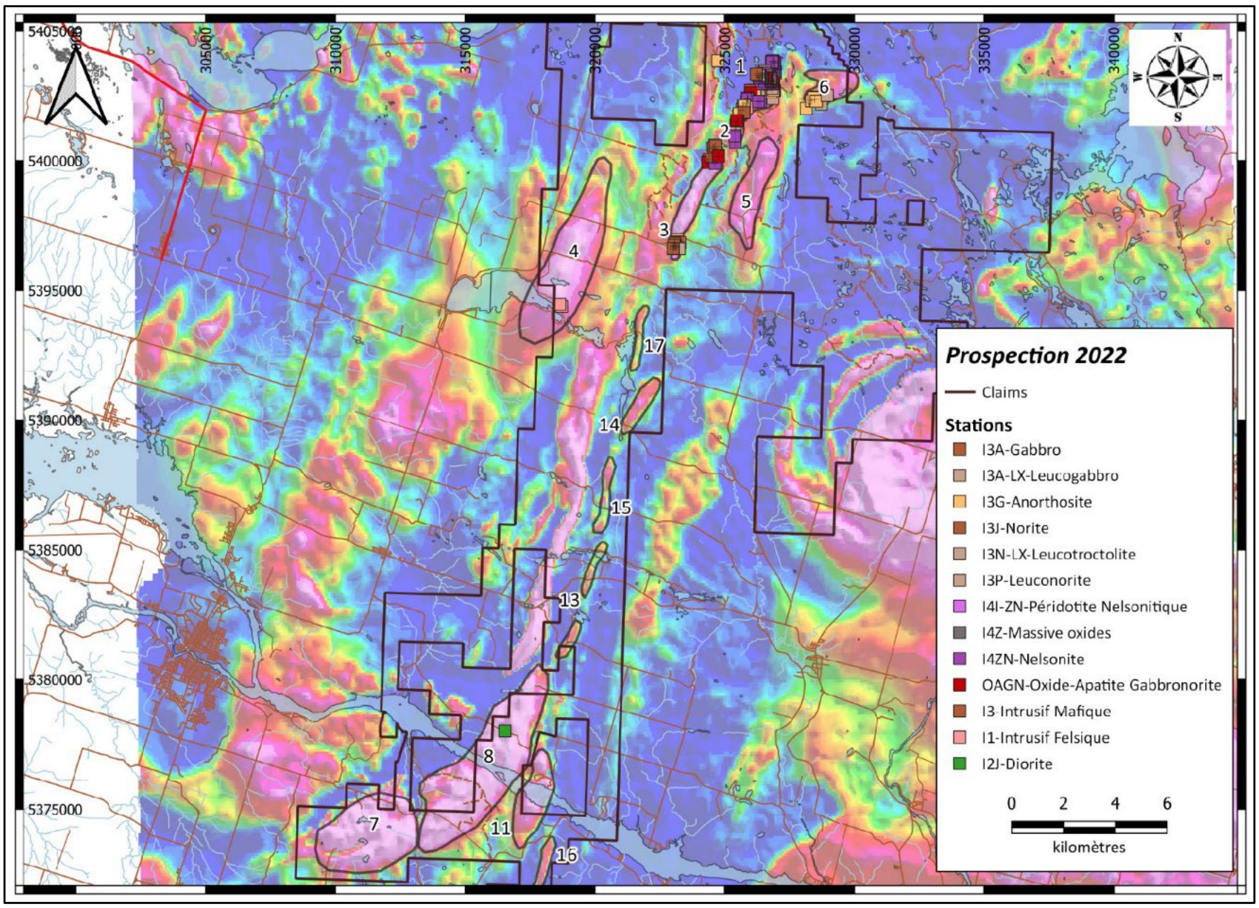
9.0 EXPLORATION

Two local prospectors discovered apatite mineralization in the northeast part of the Property in 2021. Since the Company acquired the claims in 2022, it has completed geological reconnaissance and sampling, very high-resolution airborne magnetic surveys, a petrographic study, bulk sampling, and diamond drilling. The non-drilling activities are described in this section and the drilling activities are presented in Section 10.

9.1 GEOLOGICAL RECONNAISSANCE AND SAMPLING

In November 2022, First Phosphate engaged Laurentia Exploration Inc. of Jonquière (Québec) to complete a geological reconnaissance and sampling program in the area of the apatite discovery, specifically Targets 1, 2 and 3 (Figure 9.1).

FIGURE 9.1 LOCATION OF THE SURVEYED AREAS



Source: *First Phosphate (October 2024)*

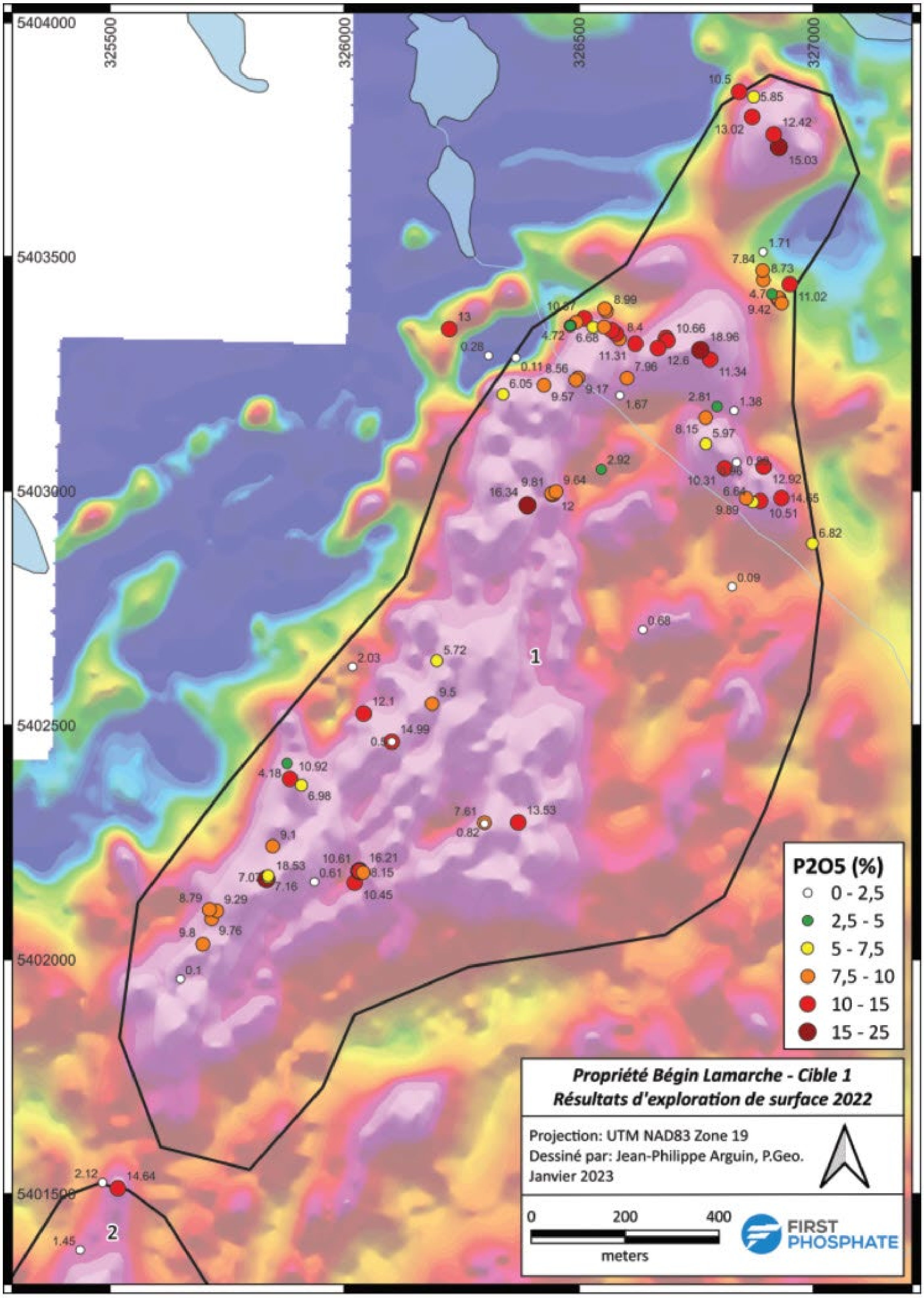
Targets 1 and 2 are composed of nelsonite horizons ranging in thickness from <1 m to several tens of metres, intercalated between massive to foliated, or more rarely, bedded horizons of anorthosite, leuconorite and norite. The norite beds are locally cut by injections of apatite-oxide gabbronorite ("OAGN"), up to several metres thick. The nelsonite is composed of 15 to 40% apatite in stocky crystals (<5 mm) disseminated in a matrix of magnetite and ilmenite. This rock type may contain <25% orthopyroxene as cm size phenocrysts. Pyroxene nelsonite is commonly highly deformed, as indicated by the presence of stretched phenocrysts in an anastomosing matrix composed of apatite and oxides (± plagioclase). Field-measured fabric (bedding and mineral foliation) give a general orientation ranging from north-northeast-southwest to east-northeast to southwest (Figure 9.2). Target 3 is the southwestern extension of Targets 1 and 2. This north-northeast to south-southwest trending magnetic high is characterized by the presence of nelsonite and apatite mafic rocks (probably norite) hosted in anorthosite. Its northern and central parts are composed of two magnetic horizons (West and East) 100 to 200 m apart. The West Horizon is composed mainly of apatite mafic rocks. These rocks are generally very weathered and friable, making them difficult to identify in the field. They are melanocratic and rich in pyroxene and iron-titanium oxides, with apatite content of between 2 and 10%. Similar rocks containing up to 20 to 25% apatite are present at the southern end of Target 3. The eastern horizon corresponds to a north-northeast to south-southwest trending nelsonite horizon whose thickness can reach 30 to 60 m in the central part of Target 3 (Figure 9.3). The nelsonite is either massive or bedded (intercalated with beds of apatite-bearing norite) and contains between 20 and 30% apatite as equant crystals in a matrix of magnetite and ilmenite.

In total, 108 rock samples were collected: 66 at Target 1, four at Target 2 and 31 at Target 3. The samples were sent to Actlabs in Ancaster, ON, for analyses. The sample code at Actlabs was 4Lithosearch with analyses of 10 major elements and 48 trace elements plus Cl, F and Hg.

On Target 1, 48 samples returned values of >5% P_2O_5 with a maximum amount of 15.05% P_2O_5 (Figure 9.2). Of the four samples collected on Target 2, one returned 14.64% P_2O_5 and the other three samples returned <2.12% P_2O_5. Twenty samples from Target 3 returned >5% P_2O_5, with a maximum amount of 15.65% P_2O_5.

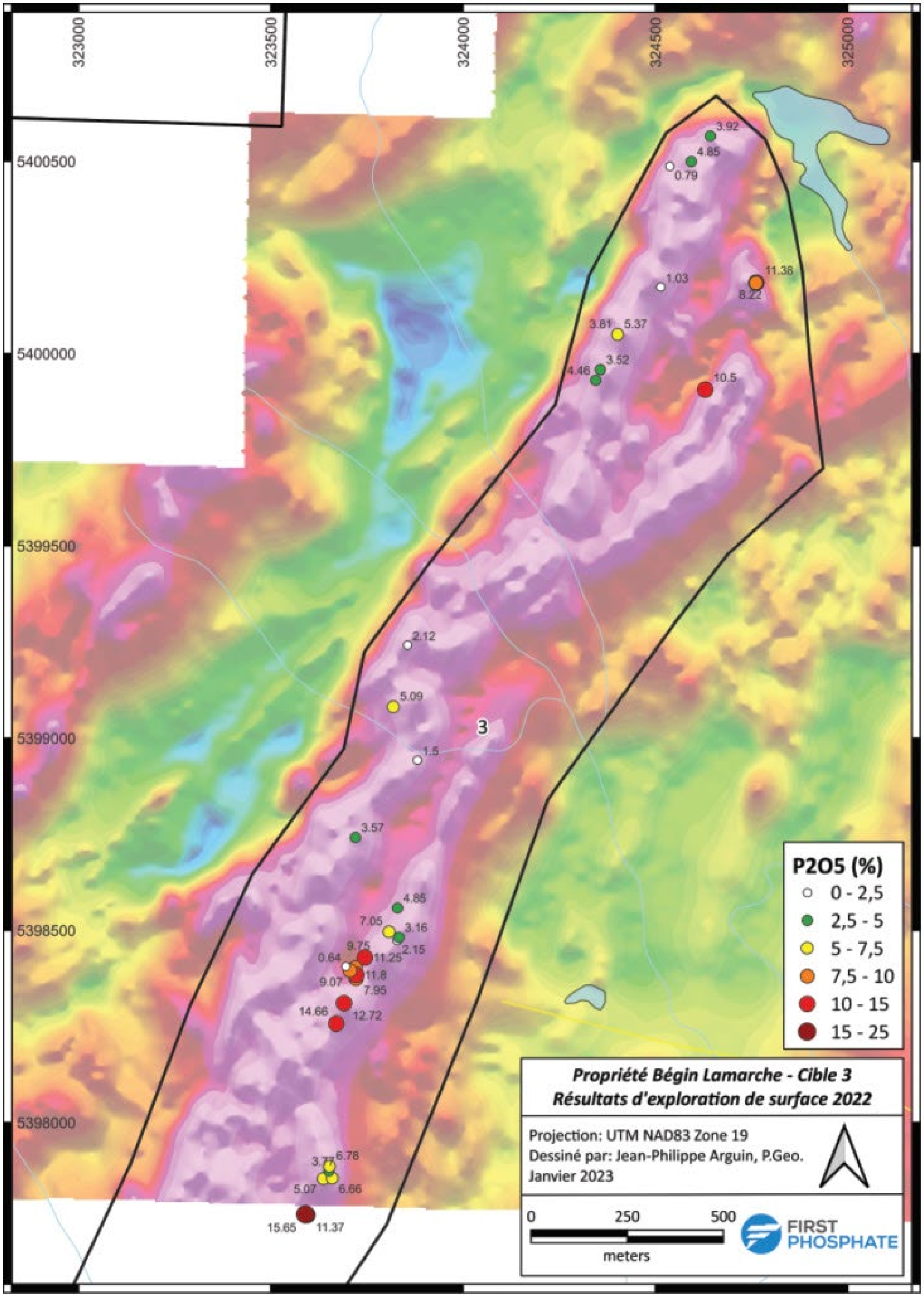
In October 2023, Laurentia conducted another sampling program to the northeast of Target 1, where apatite had previously been identified. The reconnaissance program identified an area measuring ~350 m long x 175 m wide (Figure 9.4) that was named the Mountain Zone. From field observation, the rock type is apatite-oxide peridotite, which is the most favourable rock type for phosphate. A total of 26 grab samples were taken in this area and all except one returned >5% P_2O_5. The samples were sent to Actlabs for analyses using Actlabs code 4B(+11), which analyzes for the ten major elements and seven additional elements.

FIGURE 9.2 LOCATION OF SAMPLES AND RESULTS FOR TARGETS 1 AND 2



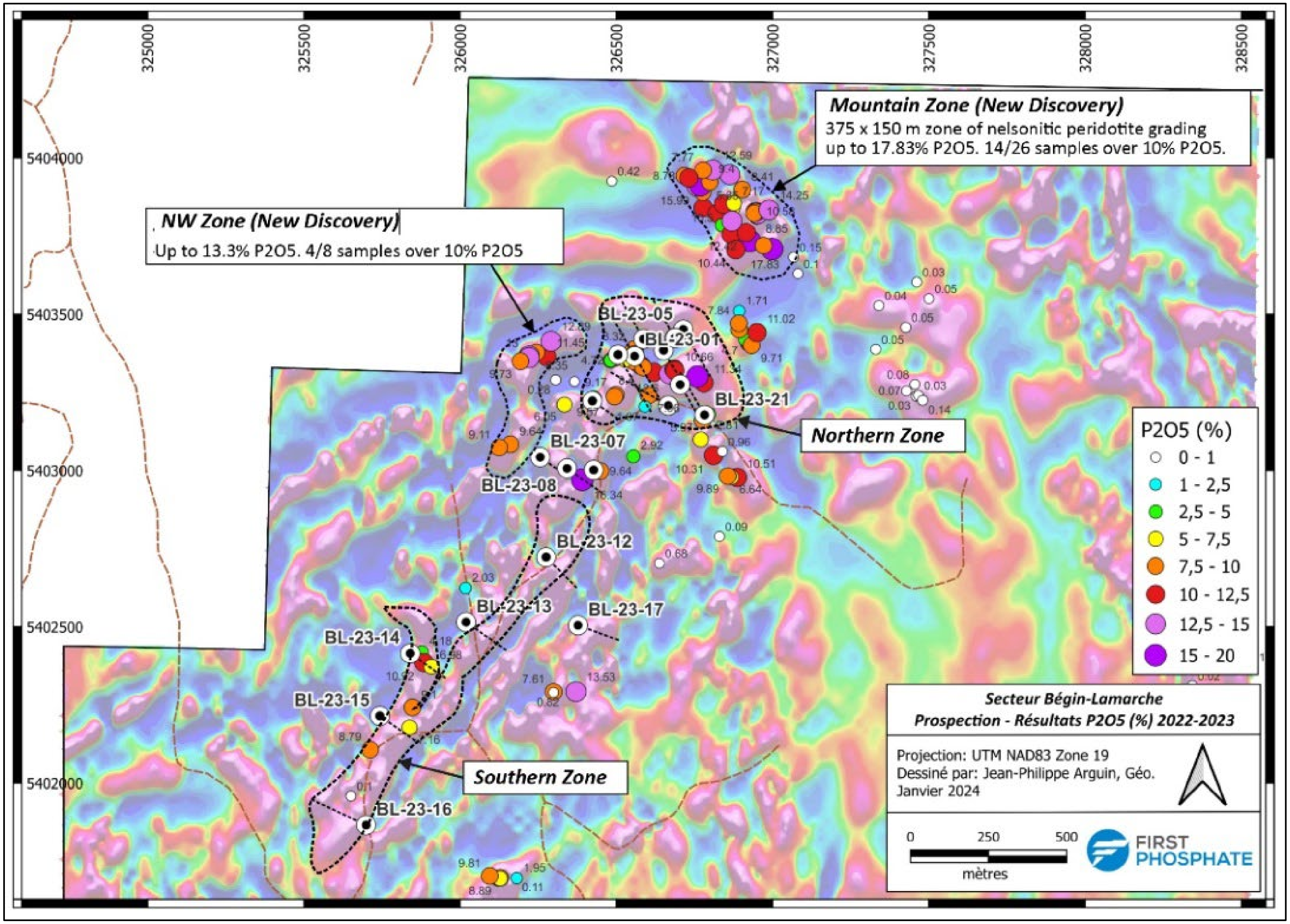
Source: *First Phosphate (October 2024)*

FIGURE 9.3 LOCATION OF SAMPLES AND RESULTS FOR TARGET 3



Source: *First Phosphate (October 2024)*

FIGURE 9.4 LOCATION OF SAMPLES AND RESULTS FOR THE MOUNTAIN ZONE



Source: *First Phosphate (October 2024)*

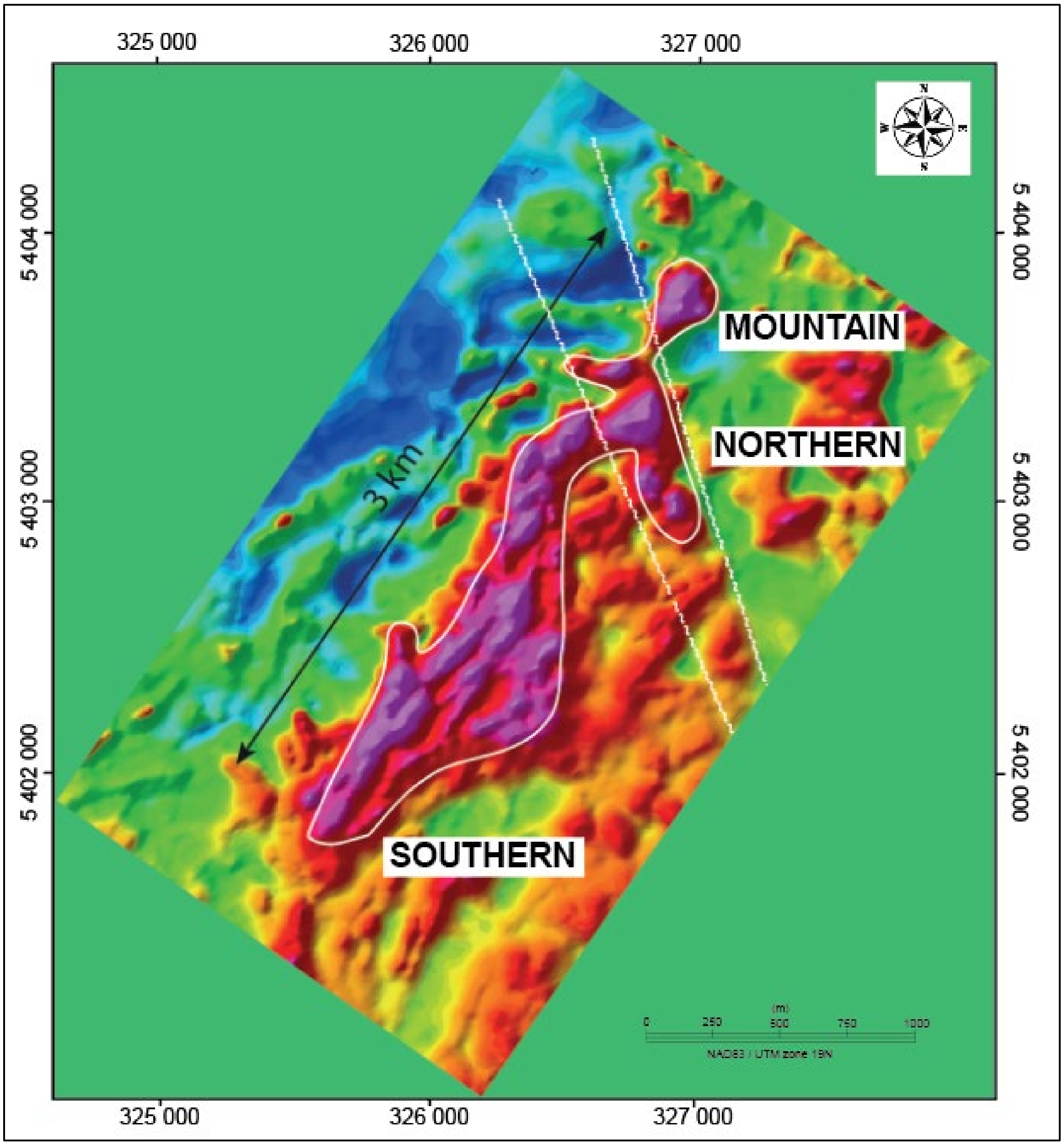
9.2 AIRBORNE MAGNETIC SURVEY

First Phosphate engaged Novatem Inc. to complete a very high-resolution airborne magnetic survey over a portion of the Property from August 28 to September 4, 2022. Novatem flew 1,647 line-km using its very high-resolution helicopter-borne system. The system consists of two laser optically pumped sensors providing 1,000 measurements per second (at 1,000 Hz) mounted at the front of a Guimbal G2 light helicopter, a multi-frequency GNSS sensor positioning system capable of receiving GPS, GLONASS, Galileo and BeiDou location coordinates, and an MDL laser altimeter, which measures the height of the helicopter with cm precision.

In January 2024, a very high-resolution magnetic survey using the AIM-LOW™ (magnetometer/drone/navigation) system was flown. The drone used for this survey was MMC's Skylle 1550. The magnetometer used is the Scintrex caesium vapour CS-VL. The measurement range is between 15,000 nT and 105,000 nT. Sensor sensitivity is 0.0006 nT/√Hz and absolute accuracy is <2.5 nT over the measurement range. The magnetometer is installed in a custom-built shell (bird) made of plastic, enabling the magnetometer's orientation to be accurately maintained during flight. This shell is supported under the drone at a height of 5 m, which flew at an average speed of 12 m/s. The survey was flown along lines oriented N55W at 25 m line-spacing, with tie lines oriented N35E at 250 m line-spacing. The entire survey was flown at an average altitude of 30 m.

This magnetic survey confirmed the high magnetic anomaly identified with the Novatem survey, and showed enhanced details about the structure of the anomaly (Figure 9.5).

FIGURE 9.5 VERY HIGH-RESOLUTION MAGNETIC SURVEY



Source: *First Phosphate (October 2024)*

9.3 PETROGRAPHIC STUDY

In July 2023, the Company contracted Dr. Sandeep Banerjee from Queens University in Kingston (Ontario) to study the chlorine content of the apatite. It is important to quantify chlorine because in the process of making phosphoric acid from the apatite concentrate, chlorhydric acid is formed and could damage the equipment.

High chlorine content was determined in some whole-rock samples from the 2023 drill program. For example, sample C560551 from drill hole BL-23-06 returned 0.87% Cl and sample C560503 from drill hole BL-23-01 returned 0.78% Cl. However, Dr. Banerjee concluded that the Cl content of apatite in the phosphatic layers at the Deposit is generally low.

In May 2023, the Company again contracted Dr. Sandeep Banerjee to characterize the host rock and mineralization of the Bégin-Lamarche Deposit. Dr. Banerjee concluded that host rocks are gabbronorite, norite, and troctolite. These rocks contain variable amounts of olivine, orthopyroxene, clinopyroxene, plagioclase, amphibole, biotite, chlorite, apatite, ilmenite, magnetite, and Al-spinel. Fluorapatite is the mineral of primary interest and ilmenite and magnetite are potentially of secondary interest. The P_2O_5 concentration of in-situ apatite is 41.7 ± 0.13%, which is comparable to that of the apatite concentrate (40%) produced and analyzed by SGS. The P_2O_5 and CaO contents and CaO/P_2O_5 ratios are better than required for phosphoric acid production. Therefore, the Bégin-Lamarche Deposit is a potentially viable source of P for the LFP battery market (Banerjee *et al.*, 2024).

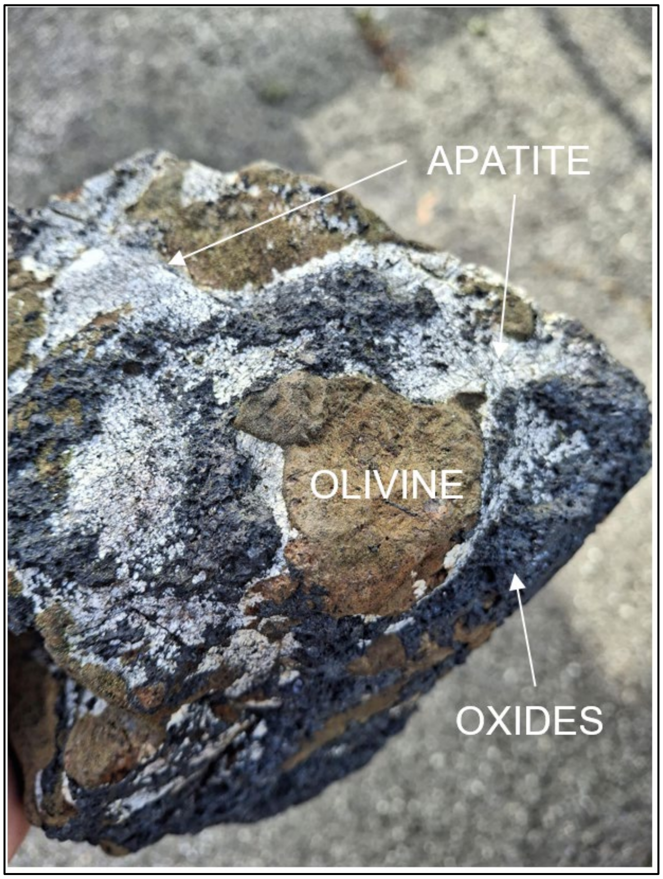
9.4 BULK SAMPLING

In February 2024, a 15-tonne rock sample was taken on surface in the vicinity of drill hole BL-23-11 (Figure 9.6). The sample contained olivine, apatite and oxides (Figure 9.7). The sample was crushed to 100% passing 1.8 cm. The crushed material was bagged in 14 one-tonne bags and sent to SGS in Québec City for treatment. Each bag was sampled and analyzed by Actlabs using 4Litho(11+) code. The average result for the 14 samples was 7.61% P_2O_5, 6.80% TiO_2 and 39.76% $Fe_2O_3(^t)$ (total Fe determined as Fe_2O_3), with low chlorine and possibly deleterious elements. The bulk sample was processed at SGS Québec and three concentrates were produced: 1) an apatite concentrate grading 40% P_2O_5; 2) a high purity magnetite concentrate; and 3) an ilmenite concentrate. The one-tonne apatite concentrate was sent to Prayon Technologies in Belgium. Prayon was able to produce Merchant Grade Acid ("MGA") and Purified Phosphoric Acid containing 85% H_3PO_4.

FIGURE 9.6 PHOTOGRAPH SHOWING EXCAVATION OF THE BULK SAMPLE

Source: *First Phosphate (2024)*

FIGURE 9.7 PHOTOGRAPH OF A ROCK SAMPLE TAKEN FROM THE BULK SAMPLE



Source: *First Phosphate (2024)*

10.0 DRILLING

Two diamond drill programs were completed by First Phosphate on the Property. Twenty-one drill holes were completed in 2023 for a total of 4,461 m of NQ drill core. Another drill program took place between January and April 2024, in which 99 NQ drill holes were completed for a total of 25,929 m. Three drill holes were also completed in each of the mineralized zones for metallurgical purposes.

10.1 2023 DRILL PROGRAM

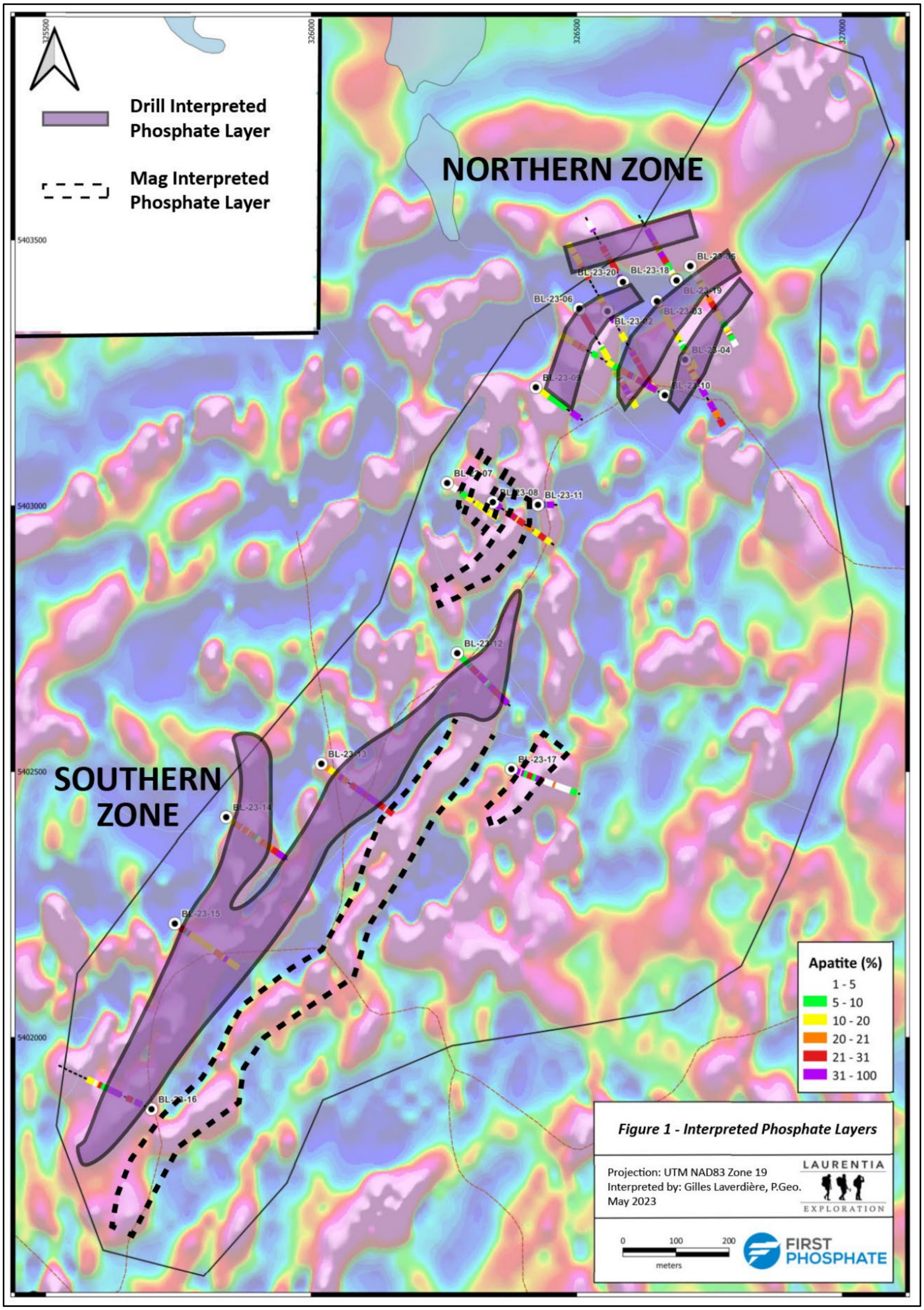
In 2023, First Phosphate commissioned Laurentia Exploration to manage a drilling program on the Property. Twenty drill holes totalling 4,391 m were completed from February 7 to March 23, 2023, and a 241 m drill hole was completed from June 21 to June 23, 2023. Significant Fe-Ti-P mineralization was intersected in all the drill holes.

Two phosphate zones were discovered: the Northern and Southern Zones. The Northern Zone is composed of four known phosphate layers up to 60 m thick and ~200 m long (Figure 10.1). Average phosphate grades are ~7%. Mineralization occurs in nelsonite peridotites interbedded with norites, leuconorites, troctolites and gabbronorites.

The Southern Zone consists of norite, leuconorite and troctolite units containing beds of nelsonite peridotite. The phosphate layers appear to be ~100 m thick and have been traced for 1.5 km (Figure 10.1).

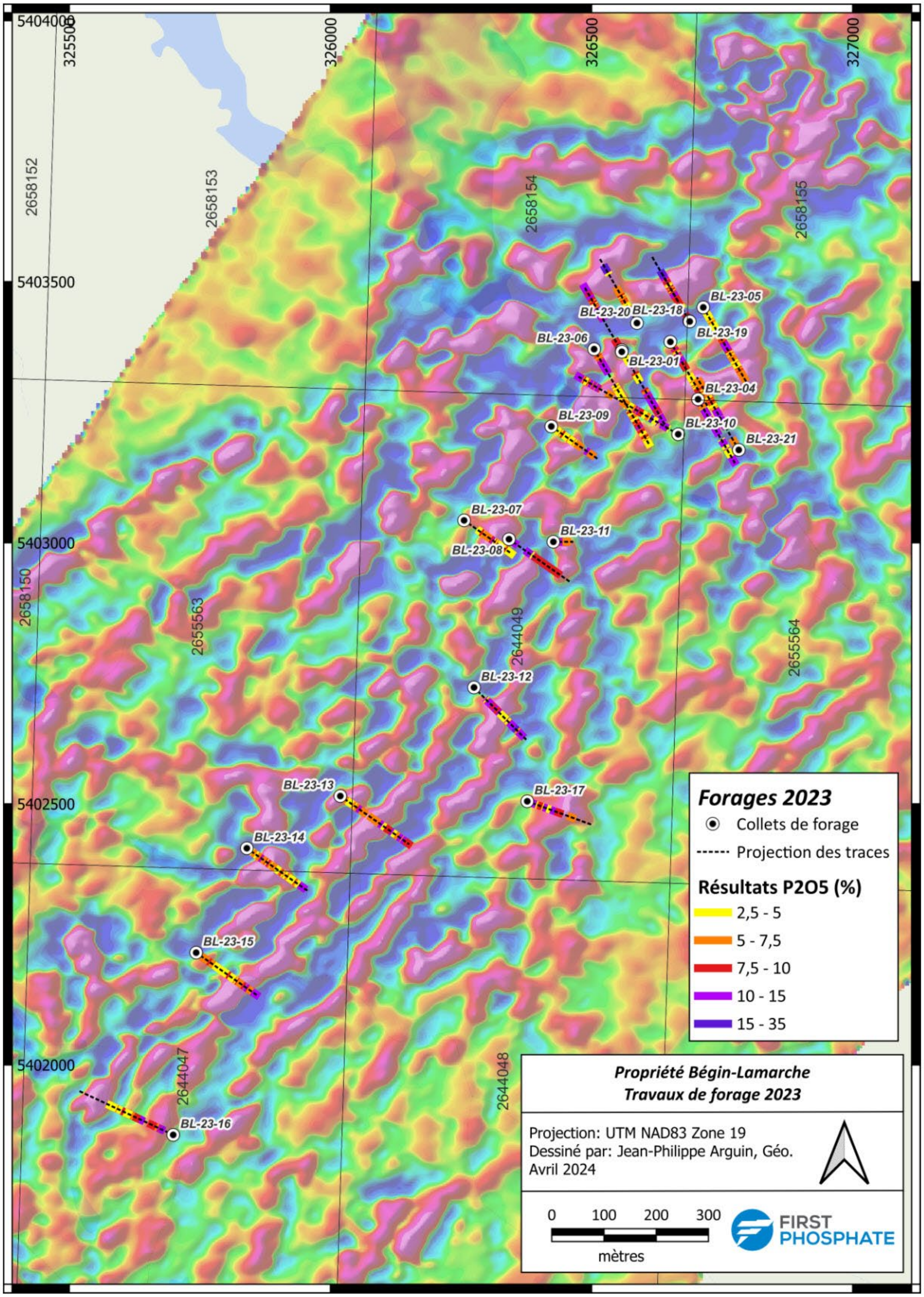
The drill hole locations are shown in Figure 10.2. The best phosphate intersections are shown in Table 10.1 and drill hole parameters are presented in Table 10.2.

FIGURE 10.1 INTERPRETATION OF THE PHOSPHATE LAYERS FROM THE 2023 DRILL HOLES



Source: *First Phosphate (October 2024)*

FIGURE 10.2 DRILL HOLES LOCATION MAP ON DV1 MAGNETIC MAP



Source: *First Phosphate (October 2024)*

TABLE 10.1 SIGNIFICANT MINERALIZED INTERVALS FROM THE 2023 DRILL PROGRAM							
Drill Hole ID	**From (m)**	**To (m)**	**Length (m)**	**P_2O_5 (%)**	**TiO_2 (%)**	**$Fe_2O_3^t$ (%)**	**Zone**
BL-23-01	131.9	215.4	83.5	7.82	4.16	27.13	Northern
BL-23-02	143.75	201	57.25	8.35	3.38	23.68	Northern
BL-23-03	13.8	78	64.2	8.43	4.37	28.17	Northern
BL-23-03	143	201	58	3.94	3.03	19.58	Northern
BL-23-04	4.8	76.7	71.9	4.28	2.78	15.29	Northern
BL-23-05	105.15	222.00	116.85	4.45	2.90	21.16	Northern
BL-23-06	7.3	66.8	59.5	6.55	4.41	27.72	Northern
BL-23-06	201	295.25	94.25	6.10	3.70	25.55	Northern
BL-23-07	53.5	156.0	102.5	3.65	3.42	19.11	Southern
BL-23-08	62.65	94.10	31.45	5.89	2.73	14.93	Southern
BL-23-09	39.00	91.75	52.75	4.45	3.11	20.13	Northern
BL-23-10	74.15	159.00	84.90	4.57	2.65	17.63	Northern
BL-23-10	252.2	311.0	58.8	7.14	3.30	24.05	Northern
BL-23-11	24.1	36.3	12.2	4.81	0.32	10.15	Southern
BL-23-12	53.1	182.3	129.2	4.83	2.95	18.39	Southern
BL-23-13	139.6	225.0	85.4	4.08	2.58	13.39	Southern
BL-23-14	18.0	151.5	133.5	5.00	4.15	27.17	Southern
BL-23-15	50.0	183.7	133.7	4.52	3.40	20.05	Southern
BL-23-16	36.1	64.8	28.7	7.60	3.88	22.09	Southern
BL-23-16	97.0	131.5	34.5	9.99	5.50	29.83	Southern
BL-23-17	13	79	66	2.59	2.15	12.84	Southern
BL-23-18	55.90	141.45	85.55	8.75	4.18	28.82	Northern
BL-23-19	197.4	308.2	110.8	7.02	3.30	25.46	Northern
BL-23-20	56.2	102.3	46.1	4.48	2.73	19.65	Northern
BL-23-21	122.85	255.00	132.15	6.75	3.94	24.37	Northern

Note: *$Fe_2O_3^t$ = total iron as Fe_2O_3. Potential recovery of Fe_2O_3 is approximately 50% of the assay values*

TABLE 10.2 TECHNICAL PARAMETERS OF THE 2023 DRILL HOLES							
Drill Hole ID	**UTM NAD 83 Zone 19N**		**Azimuth (°)**	**Dip (°)**	**Length (m)**	**Elevation (masl)**	**Zone**
	Easting	**Northing**					
BL-23-01	326,558	5,403,369	150	-45	244.5	249.7	Northern
BL-23-02	326,558	5,403,366	330	-45	201	249.7	Northern
BL-23-03	326,651	5,403,385	150	-45	201	253.0	Northern
BL-23-04	326,704	5,403,275	150	-45	201	251.9	Northern
BL-23-05	326,714	5,403,451	150	-45	240	252.6	Northern

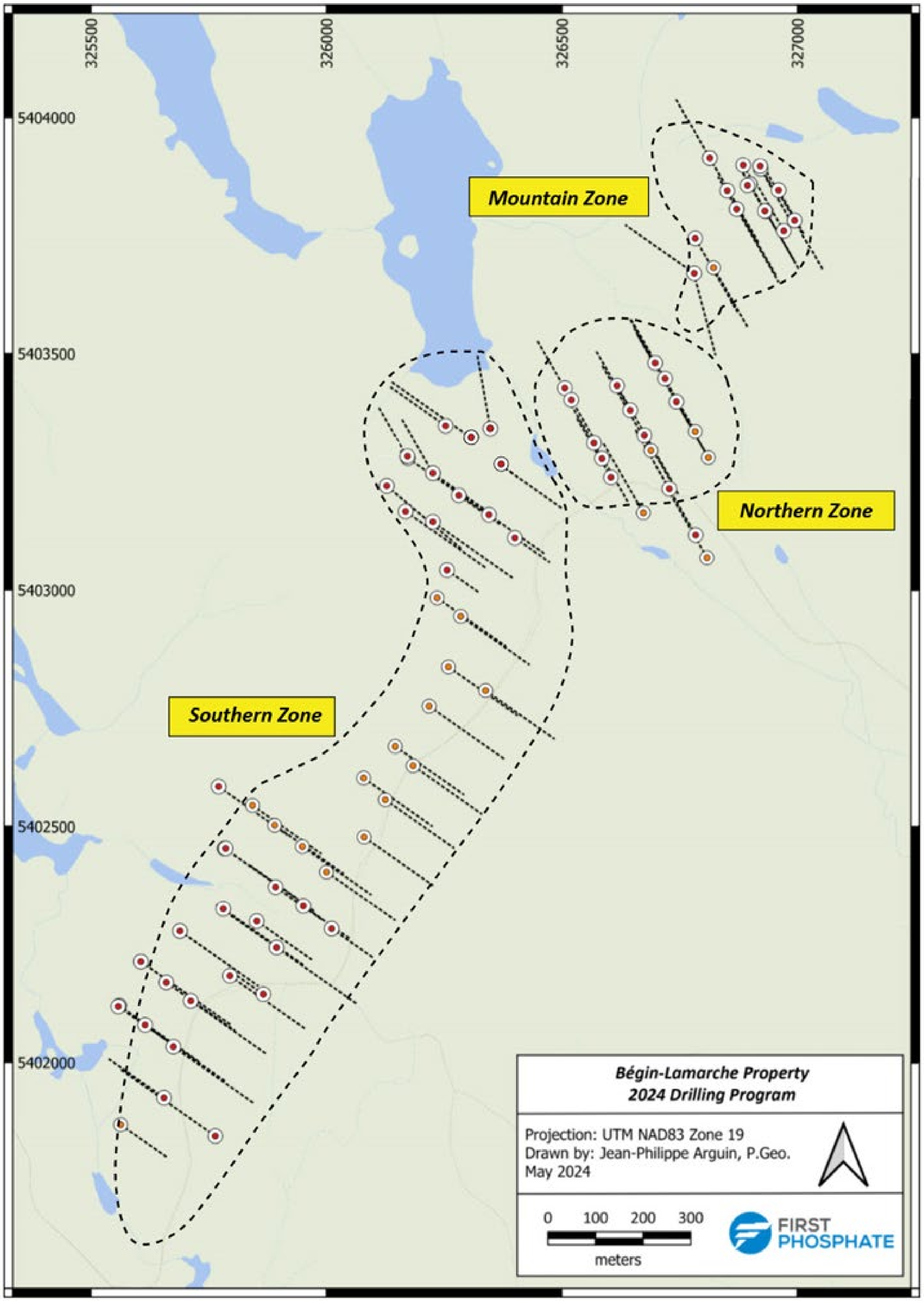
Table 10.2 Technical Parameters of the 2023 Drill Holes							
Drill Hole ID	UTM NAD 83 Zone 19N		Azimuth (°)	Dip (°)	Length (m)	Elevation (masl)	Zone
	Easting	Northing					
BL-23-06	326,505	5,403,371	150	-45	295.25	245.7	Northern
BL-23-07	326,256	5,403,043	125	-45	273	253.0	Southern
BL-23-08	326,342	5,403,007	125	-45	201	252.9	Southern
BL-23-09	326,423	5,403,223	125	-45	150	248.4	Northern
BL-23-10	326,666	5,403,208	300	-45	311	243.6	Northern
BL-23-11	326,427	5,403,002	90	-45	51	248.1	Southern
BL-23-12	326,278	5,402,724	135	-45	201	248.5	Southern
BL-23-13	326,019	5,402,515	125	-45	225	239.6	Southern
BL-23-14	325,840	5,402,415	125	-45	201	225.8	Southern
BL-23-15	325,743	5,402,215	125	-45	201	229.0	Southern
BL-23-16	325,699	5,401,866	295	-45	279	213.1	Southern
BL-23-17	326,377	5,402,505	110	-45	192	244.8	Southern
BL-23-18	326,687	5,403,425	330	-45	204	253.8	Northern
BL-23-19	326,688	5,403,424	330	-70	318	253.8	Northern
BL-23-20	326,587	5,403,421	330	-45	201	253.1	Northern
BL-23-21	326,782	5,403,178	330	-54	270	251.5	Northern

10.2 2024 DRILL PROGRAM

The 2024 drill program was designed and planned with the objective of supporting an initial Mineral Resource Estimate. A 100 x 50 m drill hole program covered the entire favourable area determined from the previous surface sampling, magnetic survey interpretation, and prior drilling. Ninety-nine holes for a total of 25,929 m were completed over the entire length of the magnetic anomaly (Figure 10.3). The drilling determined that although the Mountain, Northern and Southern Zones are aligned in the same direction and part of the same magnetic anomaly, they have different geological characteristics. In addition, the boundaries of each zone are most likely faulted, as interpreted from the magnetic survey and presence of gouge and severely broken core in some drill holes.

The main differences between the three mineralized zones are the grade and the abundance of apatite-rich ultramafic rocks. The Mountain Zone has the highest phosphate grade, ~8.3% P_2O_5, whereas the Northern Zone grades ~6.8% P_2O_5 and the Southern Zone grades ~5.6% P_2O_5. The quantity of phosphate is directly associated with the abundance of apatite-rich ultramafic rocks.

FIGURE 10.3 MAP SHOWING THE 2024 DRILL PROGRAM AT BÉGIN-LAMARCHE



Source: *First Phosphate (October 2024)*

Most drill core samples exhibit alternating phaneritic leucocratic (light-coloured) and melanocratic (dark-coloured) layers (Banerjee et al., 2024) The leucocratic layers consist mainly of plagioclase and the melanocratic layers consist of olivine, pyroxene, amphibole, biotite, ilmenite, and magnetite. All rock types exhibit cumulate textures. The phosphatic mineral is consistently apatite, specifically fluorapatite.

The technical parameters of the 2024 drill holes are listed in Table 10.3.

TABLE 10.3
TECHNICAL PARAMETERS OF THE 2024 DRILL PROGRAM

Drill Hole ID	UTM NAD 83 Zone 19N		Elevation (masl)	Azimuth (°)	Dip (°)	Length (m)	Cross-Section	Zone
	Easting	Northing						
BL-24-22	326,747	5,403,399	256.2	330	-45	270	N300	Northern
BL-24-23	326,747	5,403,399	256.2	150	-45	202	N300	Northern
BL-24-24	325,783	5,402,455	224.8	125	-45	325	S1100	Southern
BL-24-25	326,722	5,403,444	252.7	330	-45	200	S1100	Southern
BL-24-26	326,697	5,403,482	254.4	330	-45	150	N300	Northern
BL-24-27	326,697	5,403,482	254.6	150	-50	264	N300	Northern
BL-24-28	325,783	5,402,455	224.8	125	-60	312	S1100	Southern
BL-24-29	326,618	5,403,428	254.4	150	-45	327	N200	Northern
BL-24-30	325,775	5,402,585	232.1	125	-45	250	S1000	Southern
BL-24-31	326,672	5,403,326	252.7	150	-45	200	N200	Northern
BL-24-32	326,730	5,403,218	248.5	330	-45	200	N200	Northern
BL-24-33	325,896	5,402,376	229.3	125	-45	175	S1100	Southern
BL-24-34	326,643	5,403,380	252.8	330	-45	200	N200	Northern
BL-24-35	325,952	5,402,328	228.0	125	-45	250	S1100	Southern
BL-24-36	326,782	5,403,122	256.8	330	-55	345	N200	Northern
BL-24-37	325,786	5,402,454	224.8	0	-90	180	S1100	Southern
BL-24-38	326,506	5,403,428	245.3	150	-45	198	N100	Northern
BL-24-39	326,517	5,403,403	252.7	330	-45	210	N100	Northern
BL-24-40	326,585	5,403,279	245.9	330	-45	282	N100	Northern
BL-24-41	326,011	5,402,284	221.6	125	-45	150	S1100	Southern
BL-24-42	326,568	5,403,312	245.6	150	-45	201	N100	Northern
BL-24-43	325,689	5,402,279	233.2	125	-45	396	S1300	Southern
BL-24-44	326,604	5,403,239	244.0	330	-45	291	N100	Northern
BL-24-45	326,253	5,403,348	247.8	305	-45	204	S100	Southern
BL-24-46	326,814	5,403,914	306.7	150	-45	300	N600	Mountain
BL-24-47	325,689	5,402,279	233.1	125	-60	327	S1300	Southern
BL-24-48	326,814	5,403,914	306.8	330	-45	201	N600	Mountain
BL-24-49	326,308	5,403,322	241.4	305	-45	298	S100	Southern
BL-24-50	325,795	5,402,184	222.4	125	-45	276	S1300	Southern
BL-24-51	326,814	5,403,914	306.9	150	-60	244.7	N600	Mountain

Table 10.3 Technical Parameters of the 2024 Drill Program								
Drill Hole ID	**UTM NAD 83 Zone 19N**		**Elevation (masl)**	**Azimuth (°)**	**Dip (°)**	**Length (m)**	**Cross-Section**	**Zone**
	Easting	**Northing**						
BL-24-52	325,781	5,402,326	221.8	125	-45	300	S1200	Southern
BL-24-53	326,851	5,403,845	308.5	150	-45	301	N600	Mountain
BL-24-54	326,348	5,403,342	243.2	350	-45	225	S50	Southern
BL-24-55	325,852	5,402,300	223.1	125	-45	225	S1200	Southern
BL-24-56	326,899	5,403,859	320.0	150	-45	288	N650	Mountain
BL-24-57	325,897	5,402,245	228.3	125	-45	300	S1200	Southern
BL-24-58	326,371	5,403,264	246.2	125	-45	228	S100	Southern
BL-24-59	326,899	5,403,859	320.1	150	-60	216	N650	Mountain
BL-24-60	325,894	5,402,244	228.1	305	-50	200.5	S1200	Southern
BL-24-61	326,173	5,403,280	260.5	125	-45	312	S200	Southern
BL-24-62	326,922	5,403,891	323.2	150	-45	201	N700	Mountain
BL-24-63	325,866	5,402,145	217.8	305	-70	300	S1300	Southern
BL-24-64	326,933	5,403,801	324.9	150	-45	180	N650	Mountain
BL-24-65	325,712	5,402,131	220.2	125	-45	285	S1400	Southern
BL-24-66	326,281	5,403,201	255.5	125	-45	150	S200	Southern
BL-24-67	326,931	5,403,802	324.6	330	-45	161	N650	Mountain
BL-24-68	326,400	5,403,111	254.2	125	-45	126	S200	Southern
BL-24-69	326,894	5,403,856	320.3	0	-90	201	N650	Mountain
BL-24-70	326,345	5,403,160	255.4	125	-45	201	S200	Southern
BL-24-71	325,660	5,402,170	223.6	125	-45	354	S1400	Southern
BL-24-72	326,228	5,403,145	252.3	125	-45	315	S300	Southern
BL-24-73	325,606	5,402,214	221.4	125	-45	375	S1400	Southern
BL-24-74	326,960	5,403,846	322.2	150	-45	201	N700	Mountain
BL-24-75	326,126	5,403,222	253.8	130	-45	300	S300	Southern
BL-24-76	326,993	5,403,785	321.9	150	-45	175.5	N700	Mountain
BL-24-77	325,604	5,402,214	221.2	125	-60	366	S1400	Southern
BL-24-78	326,993	5,403,785	321.8	330	-45	250	N700	Mountain
BL-24-79	326,126	5,403,222	253.9	130	-60	250	S300	Southern
BL-24-80	326,921	5,403,897	323.4	0	-90	213	N700	Mountain
BL-24-81	325,560	5,402,121	215.6	125	-45	306	S1500	Southern
BL-24-82	326,921	5,403,897	323.2	150	-67	201	N700	Mountain
BL-24-83	326,168	5,403,167	254.0	125	-45	327	S300	Southern
BL-24-84	325,615	5,402,080	213.2	125	-45	301.3	S1500	Southern
BL-24-85	326,971	5,403,760	323.0	330	-50	201	N650	Mountain
BL-24-86	325,675	5,402,034	217.7	125	-45	293.5	S1500	Southern
BL-24-87	325,655	5,401,926	215.8	305	-45	210	S1600	Southern
BL-24-88	326,226	5,403,248	259.0	125	-45	366	S200	Southern

TABLE 10.3 TECHNICAL PARAMETERS OF THE 2024 DRILL PROGRAM								
Drill Hole ID	**UTM NAD 83 Zone 19N**		**Elevation (masl)**	**Azimuth (°)**	**Dip (°)**	**Length (m)**	**Cross-Section**	**Zone**
	Easting	**Northing**						
BL-24-89	325,764	5,401,845	210.7	305	-45	366	S1600	Southern
BL-24-90	326,885	5,403,899	315.2	150	-75	150	N650	Mountain
BL-24-91	326,226	5,403,248	259.0	330	-50	201	S200	Southern
BL-24-92	326,871	5,403,806	311.1	150	-45	252	N650	Mountain
BL-24-93	325,558	5,402,119	215.7	125	-60	363	S1500	Southern
BL-24-94	326,871	5,403,806	311.2	330	-70	225	N600	Mountain
BL-24-95	326,785	5,403,751	268.7	150	-45	162	N500	Mountain
BL-24-96	326,171	5,403,289	260.5	330	-45	177	S200	Southern
BL-24-97	325,833	5,402,543	237.1	125	-45	279	S1000	Southern
BL-24-98	326,776	5,403,661	262.1	305	-45	246	N450	Mountain
BL-24-99	326,171	5,403,288	260	305	-80	252	S200	Southern
BL-24-100	325,889	5,402,501	235.5	125	-45	264	S1000	Southern
BL-24-101	326,286	5,402,953	249.3	125	-45	252	S400	Southern
BL-24-102	326,776	5,403,661	262.2	165	-45	252	N450	Mountain
BL-24-103	325,946	5,402,459	229.4	125	-45	261	S1000	Southern
BL-24-104	326,818	5,403,689	264.4	150	-45	201	N500	Mountain
BL-24-105	326,675	5,403,167	241.2	330	-55	306	N100	Northern
BL-24-106	326,002	5,402,416	229.0	125	-45	250	S1000	Southern
BL-24-107	326,810	5,403,281	254.6	330	-45	360	N300	Northern
BL-24-108	326,082	5,402,482	240.7	125	-45	249	S900	Southern
BL-24-109	326,688	5,403,297	252.0	330	-45	300	N200	Northern
BL-24-110	326,135	5,402,567	243.0	125	-45	249	S800	Southern
BL-24-111	326,195	5,402,647	246.0	125	-45	252	S700	Southern
BL-24-112	326,138	5,402,680	247.6	125	-45	288	S700	Southern
BL-24-113	326,079	5,402,609	246.7	125	-45	264	S800	Southern
BL-24-114	326,215	5,402,757	254.5	125	-45	279	S600	Southern
BL-24-115	326,340	5,402,780	248.4	125	-45	252	S500	Southern
BL-24-116	326,810	5,403,070	251.8	330	-60	324	N200	Northern
BL-24-117	326,283	5,402,831	247.7	125	-45	252	S500	Southern
BL-24-118	326,229	5,402,996	250.7	125	-45	255	S400	Southern
BL-24-119	326,779	5,403,339	258.1	330	-45	201	N300	Northern
BL-24-120	325,563	5,401,869	212.3	125	-60	255	S1700	Southern

10.2.1 Mountain Zone

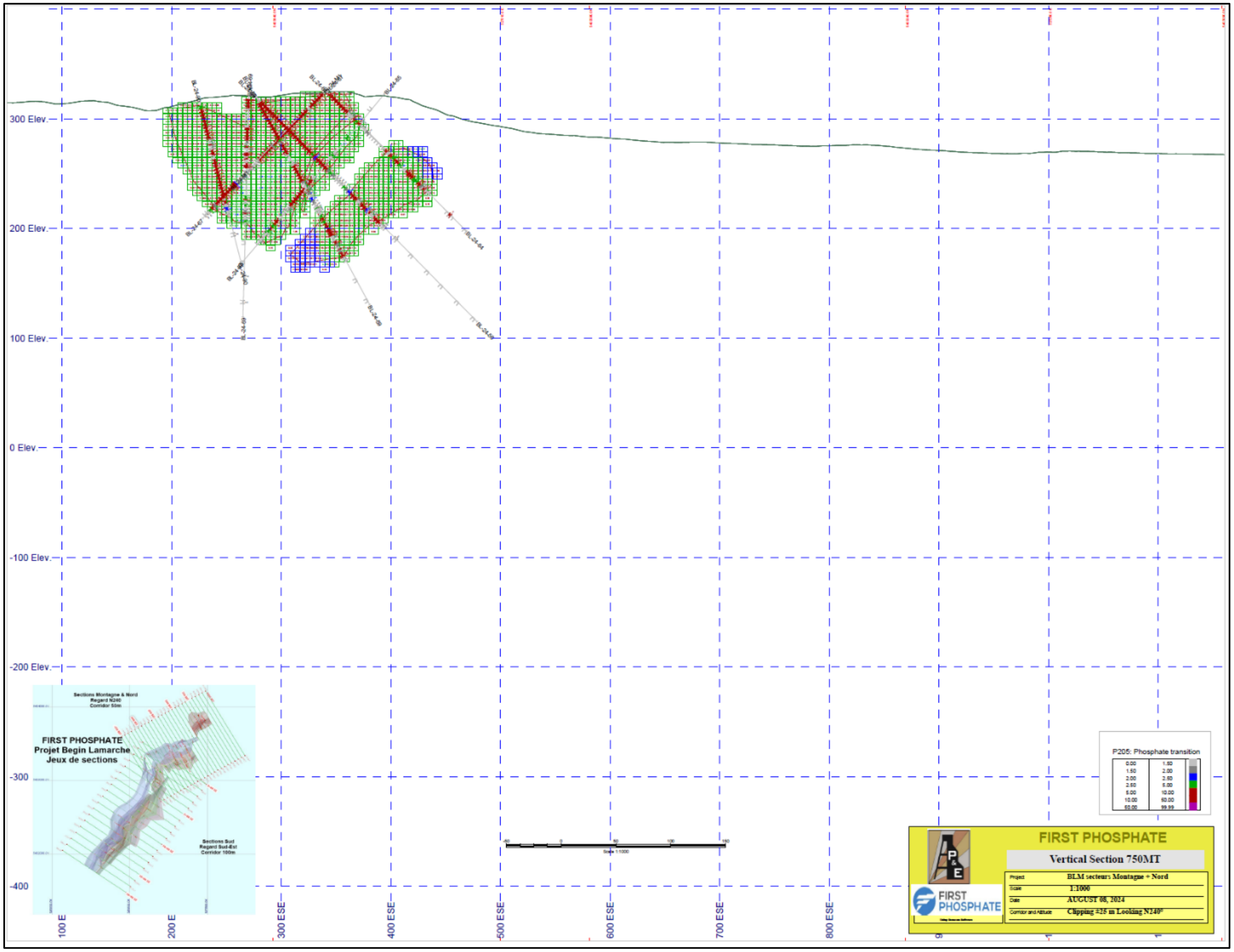
Twenty-three drill holes totalling 5,023 m were completed in the Mountain Zone. The Mountain Zone shows grades of >10% P_2O_5 over widths ranging from 7 to 177.0 m (Table 10.4). The Mountain Zone has a somewhat elongated massive shape with an average diameter of ~150 m (Figure 10.4) and it has been drilled over a total length of 250 m. The Mountain Zone contains several veins of massive apatite of up to 2 m thick.

TABLE 10.4
SIGNIFICANT MINERALIZED INTERVALS IN THE 2024 MOUNTAIN ZONE DRILL PROGRAM

Drill Hole ID	From (m)	To (m)	Length (m)	P_2O_5 (%)	TiO_2 (%)	$Fe_2O_3^t$ (%)
BL-24-46	155.2	177.6	22.4	14.33	5.83	28.28
BL-24-48	32.00	39.65	7.65	15.01	2.59	19.17
BL-24-51	70	111	41	7.72	1.88	16.09
BL-24-53	70.1	132.4	62.3	9.50	4.12	28.45
BL-24-53	154.1	246.0	91.9	6.92	3.50	20.08
BL-24-56	6.5	99.0	92.5	11.82	5.29	30.96
BL-24-56	123	162	39	8.43	3.18	17.56
BL-24-59	6.55	59.40	52.85	12.44	5.65	33.60
BL-24-62	69.00	144.65	75.65	9.97	3.66	20.71
BL-24-64	3	42	39	9.06	4.11	25.45
BL-24-67	3	87	84	11.85	5.09	32.49
BL-24-69	29.0	65.1	36.1	9.81	3.26	22.36
BL-24-74	82.0	102.3	20.3	10.30	4.28	19.01
BL-24-76	49.00	64.25	15.30	11.27	4.40	24.29
BL-24-78	47.55	102.70	55.15	8.72	3.18	19.87
BL-24-80	2.40	74.55	72.15	6.59	2.37	16.23
BL-24-82	6.0	83.7	77.7	11.07	3.28	18.63
BL-24-85	102	134	32	11.54	4.28	25.80
BL-24-90	6	90	84	10.15	2.82	21.43
BL-24-92	15	192	177	8.13	3.89	22.49
BL-24-94	51	150	99	11.38	3.98	25.37
BL-24-95	6	162	156	8.90	4.14	20.97
BL-24-98	18	33	15	4.62	2.24	12.74
BL-24-102	180	231	51	7.53	3.01	19.84
BL-24-104	6	93	87	8.43	4.35	22.30

$Fe_2O_3^t$ *= total iron as Fe_2O_3. Potential recovery of Fe_2O_3 is approximately 50% of the assay values.*

FIGURE 10.4 CROSS-SECTIONAL PROJECTION OF THE MOUNTAIN ZONE



Source: *First Phosphate (October 2024)*

10.2.2 Northern Zone

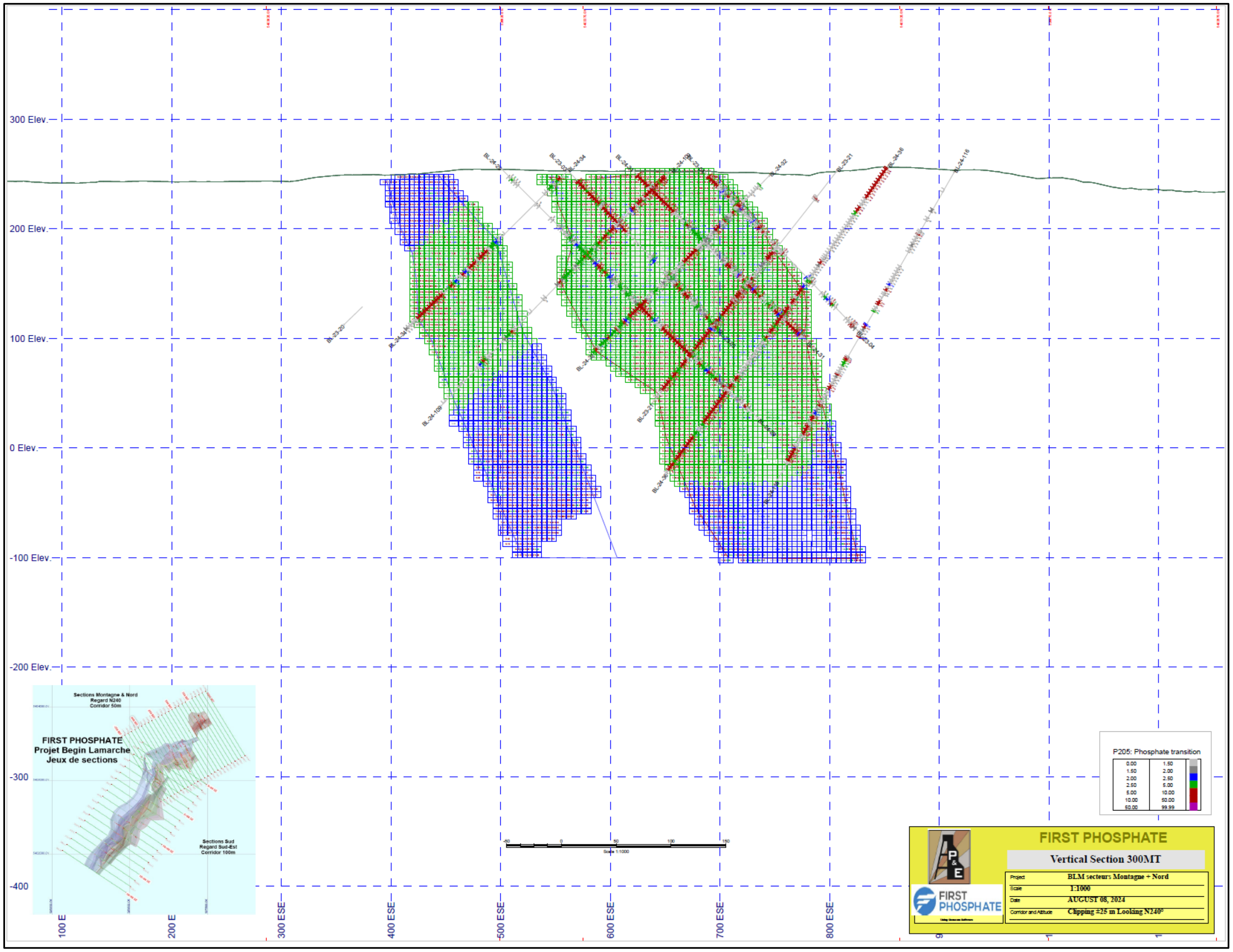
The Northern Zone is where a phosphate mineralized envelope (500 m thick) has been delineated by 19 drill holes totalling 4,831 m. The Northern Zone consists of two phosphate layers ranging from 100 to 200 m in thickness (Figure 10.5) and are 600 m long. Significant analyses are reported in Table 10.5.

TABLE 10.5
SIGNIFICANT MINERALIZED INTERVALS FROM THE 2024 NORTHERN ZONE DRILLING

Drill Hole ID	From (m)	To (m)	Length (m)	P_2O_5 (%)	TiO_2 (%)	$Fe_2O_3^t$ (%)
BL-24-22	195	259	64	5.80	2.94	21.04
BL-24-23	21.0	175.1	154.1	7.02	4.40	27.34
BL-24-26	6.9	96.0	89.1	9.44	3.92	27.59
BL-24-27	138	189	51	4.41	3.05	20.62
BL-24-29	99	276	177	4.46	3.63	22.85
BL-24-31	119.85	213.8	93.95	7.16	3.49	18.76
BL-24-32	159	228	69	5.51	3.82	24.60
BL-24-34	93	192	99	6.34	2.74	20.09
BL-24-36	234	342	108	6.83	4.33	28.34
BL-24-38	No significant results					
BL-24-39	102	150	48	5.51	2.20	16.64
BL-24-40	186.0	274.2	88.2	7.76	2.86	21.87
BL-24-42	6.6	188.7	182.1	5.04	3.09	17.77
BL-24-44	192.4	283.0	90.6	7.48	3.38	23.64
BL-24-105	132.00	144.65	12.65	5.12	2.38	17.53
BL-24-107	29.10	132.25	103.15	7.67	4.19	25.71
BL-24-107	217.1	360.0	142.9	8.86	4.47	30.20
BL-24-109	6.9	49.4	42.5	10.12	4.80	28.55
BL-24-116	256	304	48	7.46	3.95	22.77
BL-24-119	6.0	57.5	51.5	6.00	4.07	24.82

$Fe_2O_3^t$ *= total iron as Fe_2O_3. Potential recovery of Fe_2O_3 is approximately 50% of the assay values.*

FIGURE 10.5 CROSS-SECTIONAL PROJECTION OF THE NORTHERN ZONE



Source: *First Phosphate (October 2024)*

10.2.3 Southern Zone

The Southern Zone was drilled on 100 m spaced sections over a length of 1,700 m by 57 drill holes totalling 15,219 m. Results from the Southern Zone show the presence of four phosphate-mineralized units, three of which have an average thickness of 50 m and a thicker one up to 200 m thick (Figure 10.6). Significant analyses are presented in Table 10.6.

Table 10.6
Significant Mineralized Intervals in the 2024 Southern Zone Drill Program

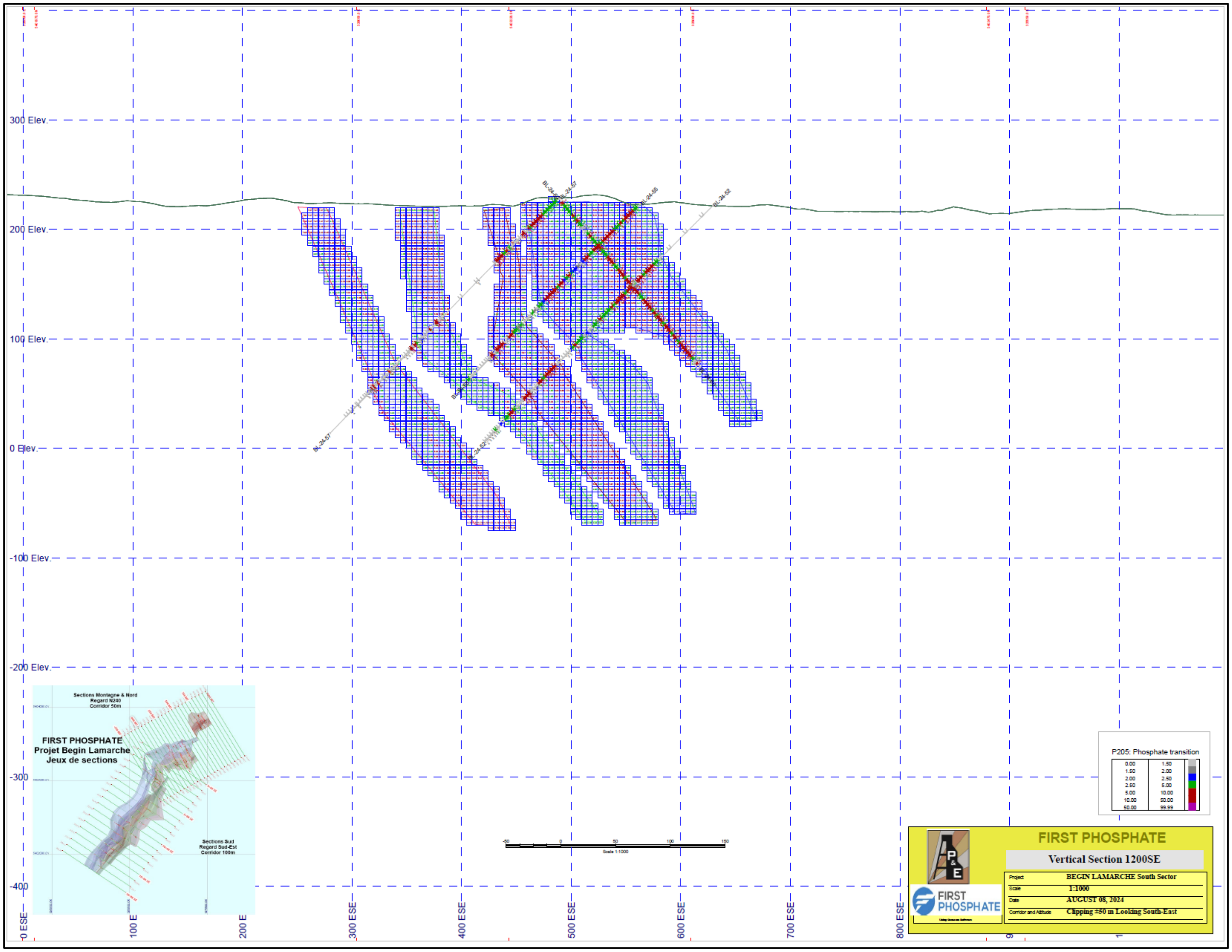
Drill Hole ID	From (m)	To (m)	Length (m)	P_2O_5 (%)	TiO_2 (%)	$Fe_2O_3^t$ (%)
BL-24-24	61.3	190.9	129.6	5.22	3.63	22.32
BL-24-25	74.2	117.0	42.8	9.89	3.54	28.65
BL-24-28	73.25	152.20	78.95	5.48	4.07	24.68
BL-24-30	33.00	78.65	45.65	4.28	2.97	19.83
BL-24-33	3.8	110.0	106.2	5.00	3.70	21.19
BL-24-35	212.5	253.7	41.2	6.25	3.44	19.55
BL-24-37	84	126	42	6.03	4.47	28.57
BL-24-41	96	141	45	5.18	3.08	17.68
BL-24-43	111	369	258	5.41	4.33	22.19
BL-24-45	22	60	38	7.97	3.15	20.54
BL-24-47	153	304	151	3.89	3.36	19.51
BL-24-49	72.5	105.5	33	8.65	3.77	24.05
BL-24-50	4.2	93.0	88.8	5.90	4.14	23.62
BL-24-52	204.0	247.7	43.7	7.04	3.62	24.50
BL-24-54	61.1	101.1	40.0	9.18	4.80	28.16
BL-24-55	4.0	194.8	190.8	4.60	3.64	19.83
BL-24-57	183.9	194.0	10.1	6.58	3.86	22.58
BL-24-58	81	144	63	4.02	3.46	18.82
BL-24-60	3.7	197.7	194.0	5.21	3.81	22.50
BL-24-61	No significant results					
BL-24-63	37.7	297.0	259.3	5.21	3.80	21.65
BL-24-70	73.6	148.0	74.4	4.27	3.49	20.55
BL-24-71	73.3	174.9	101.6	4.76	3.52	19.60
BL-24-72	196	305	109	4.72	3.70	21.26
BL-24-73	195.2	366.0	170.8	5.23	4.13	22.38
BL-24-75	118.2	135.0	16.8	6.01	4.34	26.65
BL-24-77	174	360	186	4.53	3.23	19.64
BL-24-79	No significant results					
BL-24-81	190.15	265.30	75.15	5.05	3.61	20.30
BL-24-83	5.0	216.6	211.6	5.81	3.52	24.00

TABLE 10.6
SIGNIFICANT MINERALIZED INTERVALS IN THE 2024 SOUTHERN ZONE DRILL PROGRAM

Drill Hole ID	From (m)	To (m)	Length (m)	P_2O_5 (%)	TiO_2 (%)	$Fe_2O_3^t$ (%)
BL-24-84	205.9	283.0	77.1	8.41	4.14	22.75
BL-24-86	9.30	44.55	35.25	6.24	4.46	23.61
BL-24-87	173.6	198.0	24.4	7.12	5.57	28.79
BL-24-88	219	363	144	7.18	4.61	31.02
BL-24-89	233	345	112	5.99	4.67	25.64
BL-24-91	84	129	45	7.63	4.05	24.55
BL-24-93	132.0	349.4	217.4	4.92	4.08	21.90
BL-24-96	66	78	12	9.19	3.46	21.77
BL-24-97	12.0	97.5	85.5	5.79	4.67	26.73
BL-24-99	92.0	122.5	30.5	7.25	4.03	24.94
BL-24-100	6.8	76.4	69.6	4.88	3.91	23.08
BL-24-101	82.0	103.5	21.5	5.32	3.58	15.79
BL-24-103	21.2	93.0	71.8	5.05	3.20	21.08
BL-24-106	6	51	45	4.57	3.21	16.61
BL-24-108	6.0	26.9	20.9	10.47	5.62	34.41
BL-24-110	5.35	41.30	36.00	5.74	3.91	21.14
BL-24-111	7.0	238.4	231.4	4.96	3.13	17.81
BL-24-112	38	159	121	4.73	3.81	20.83
BL-24-112	182.5	278.0	95.5	7.38	3.92	22.85
BL-24-113	171.00	256.65	85.65	6.36	2.88	16.48
BL-24-114	173	279	106	5.25	3.70	22.65
BL-24-115	10.85	46.00	35.15	5.40	3.24	18.32
BL-24-117	No significant results					
BL-24-118	143.75	176.00	32.30	5.00	3.75	16.81
BL-24-120	73.00	133.75	60.80	4.20	2.65	15.51

$Fe_2O_3^t$ *= total iron as Fe_2O_3. Potential recovery of Fe_2O_3 is approximately 50% of the assay values.*

FIGURE 10.6 CROSS-SECTIONAL PROJECTION OF THE SOUTHERN ZONE



Source: *First Phosphate (October 2024)*

11.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

The following section discusses drill core sampling carried out by First Phosphate at the Bégin-Lamarche Property from 2023 to 2024.

11.1 SAMPLE PREPARATION AND SECURITY

Drill core sampling and security protocol at the Project was designed in accordance with CIM Mineral Exploration Best Practices Guidelines. The NQ-sized drill core was transferred from the drill rig site to the drill core logging facility, where it was received by Laurentia Exploration Inc. ("Laurentia") geologists. Laurentia is a consulting firm based out of Jonquière, Québec, that First Phosphate contracted to oversee the 2023 and 2024 drilling programs.

Drill core was logged by the Laurentia geologists by recording lithology, mineralization, alteration and structure. Samples were also selected by the geologists, with sample intervals varying from 0.5 to 3.0 m in length, depending on the geological observations. The geo-technician sawed the drill core in half lengthwise, using a diamond saw. The samples of halved drill core were placed and sealed in plastic bags along with a unique sample tag ID. The smaller sample bags were then placed into larger rice bags, which were tied closed with zip lock ties and labelled. The remaining half of the drill core was returned to the drill core box and retained on-site for reference purposes. A blank and a certified reference material ("CRM") were inserted at the beginning of each sample batch, and then inserted alternatively every ten samples.

A formal chain-of-custody procedure was adopted for security of the drill core samples until receipt of the samples at the laboratory. The securely packaged half drill core samples were sent by ground transportation to an independent laboratory, Activation Laboratories Ltd. of Ancaster, Ontario ("Actlabs").

When received at Actlabs, the drill core samples were crushed up to 80% passing 2 mm (10 mesh), riffle split (250 g split), and pulverized (in mild steel) to 95% passing -200 mesh. Each sample was analyzed for whole-rock analysis (code 4B) for ten major oxides and seven trace elements by lithium metaborate/tetraborate fusion of 3 g of material and analyzed by ICP-OES. Assay data were reported electronically from Actlabs to First Phosphate.

The Actlabs' Quality System is accredited to international quality standards through ISO/IEC 17025:2017 and ISO 9001:2015. The accreditation program includes ongoing audits, which verify the QA system and all applicable registered test methods. Actlabs is also accredited by Health Canada. Actlabs is independent of First Phosphate and P&E.

Bulk density measurements were not taken by First Phosphate. However, the Authors have taken 18 independent verification samples (as described in Section 12.2) for multiple analyses, including bulk density determination.

11.2 BULK DENSITY DETERMINATIONS

Independent verification sampling of Bégin-Lamarche drill core was undertaken in April 2024 by the site visit Qualified Person. A total of 18 due diligence samples were taken and subsequently measured independently at SGS of Québec City by the water displacement method, returning a mean value of 3.23 t/m^3.

11.3 QUALITY ASSURANCE/QUALITY CONTROL REVIEW

The quality assurance/quality control ("QA/QC" or "QC") procedures utilized by First Phosphate during the 2023 and 2024 drilling programs at Bégin-Lamarche included the insertion of homemade reference material ("HRM") and blanks into the drill hole sample stream.

11.3.1 Performance of Homemade Reference Materials

Field personnel routinely inserted one of the four HRMs into the drill core sample stream at a rate of ~1:20 samples. Criteria for assessing HRM performance were as follows. Data plotting within ±2 standard deviations from the calculated mean value pass. Data plotting outside ±3 standard deviations from the calculated mean value, or two consecutive data points plotting between ±2 and ±3 standard deviations on the same side of the mean, fail.

Due to the absence of commercially available reference material certified for P_2O_5, First Phosphate utilized two previously prepared HRMs from Glen Eagle Resources Inc.'s ("Glen Eagle") 2012 and 2014 drilling programs at the Company's Lac à l'Orignal Property, Québec.

Glen Eagle prepared the two reference materials of differing P_2O_5 grades by collecting two mineralized field samples from the Property, weighing ~15 kg each, and sent them to AGAT Laboratories in Mississauga, Ontario, where two HRMs were prepared one low-grade HRM (Std-1) and one high-grade HRM (Std-2). When received by AGAT, the 15 kg samples were crushed to 90% passing 2 mm and then pulverized to 85% passing 200 mesh (75 µm). A series of major element analyses (Lithium Borate Fusion - Summation of Oxides with an ICP-OES finish) were carried out on 30 representative sub-samples split from each bulk sample, with ten sub-samples each analyzed over a period of three days. Individually packaged HRMs were prepared for use by the Company to mitigate the settling of heavy minerals (such as magnetite and ilmenite), by placing 100 g representative pulverized sub-samples into sealed bags. Mean values of 3.59% and 4.96% P_2O_5 were determined for Std-2 and Std-1, respectively.

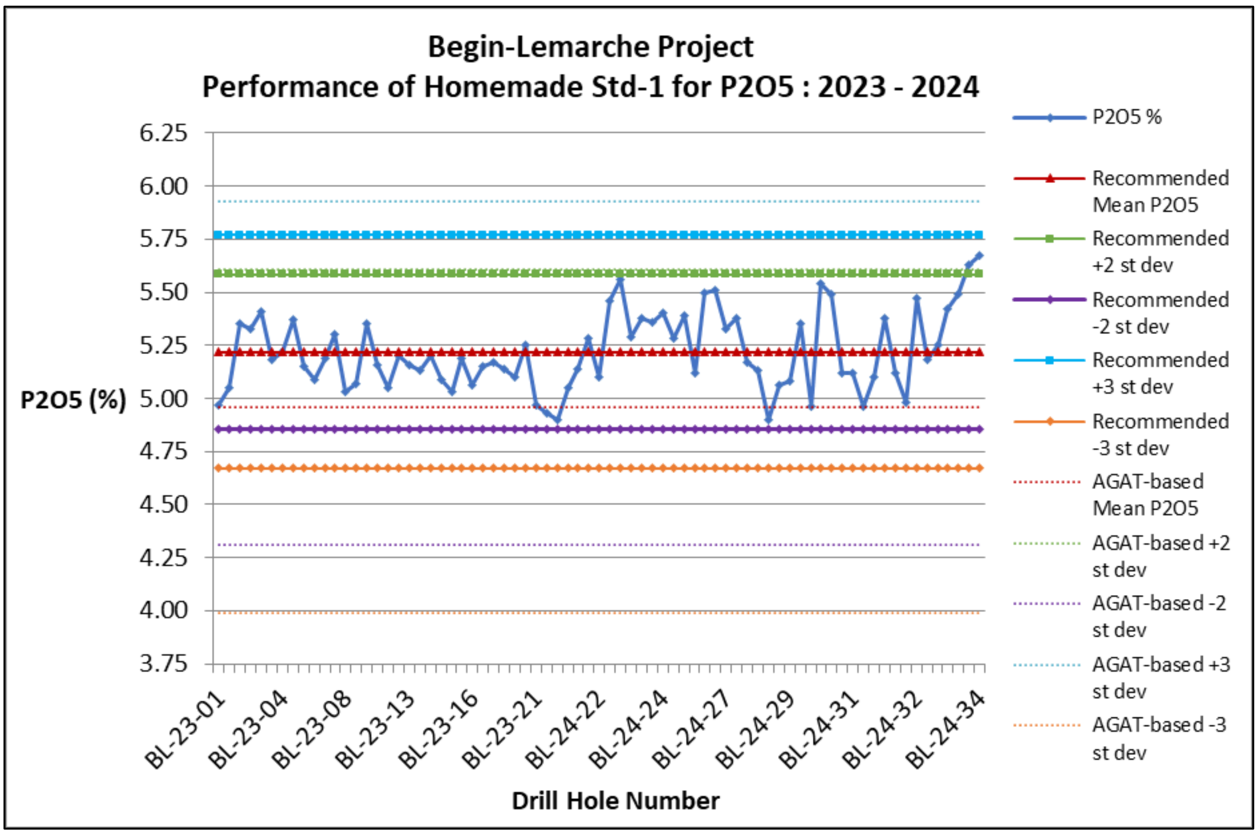
Both HRMs were found to display positive biases in Glen Eagle's 2012 and 2014 drilling programs at Lac à l'Orignal, and in the early stage of First Phosphate's drilling program at Bégin-Lamarche (drill holes BL-23-01 to BL-24-34). Std-2 returned a high percentage of results greater than +3 standard deviations from the estimated mean value, when assessed against the single-lab statistics calculated from the 30 samples analyzed at AGAT. The Authors conclude that the mean and standard deviations calculated from a single laboratory alone are not suitable for assessing HRM performance and that more rigorous round-robin testing at multiple labs would provide more robust statistical data for QC purposes. Consequently, the Authors have established new means and standard deviations for both the Std-1 and Std-2 RMs, based on data from First Phosphate's current drilling at the Property. The performance charts for both of these HRMs show the original

AGAT-calculated means and standard deviations, and the modified statistics recommended by the Authors (Figures 11.1 and 11.2). The use of RMs Std-1 and Std-2 was discontinued after drill hole BL-24-34.

From drill hole BL-24-35 to BL-24-120, First Phosphate utilized two newly homemade Property-specific HRMs that underwent more rigorous characterization studies at three separate reputable laboratories.

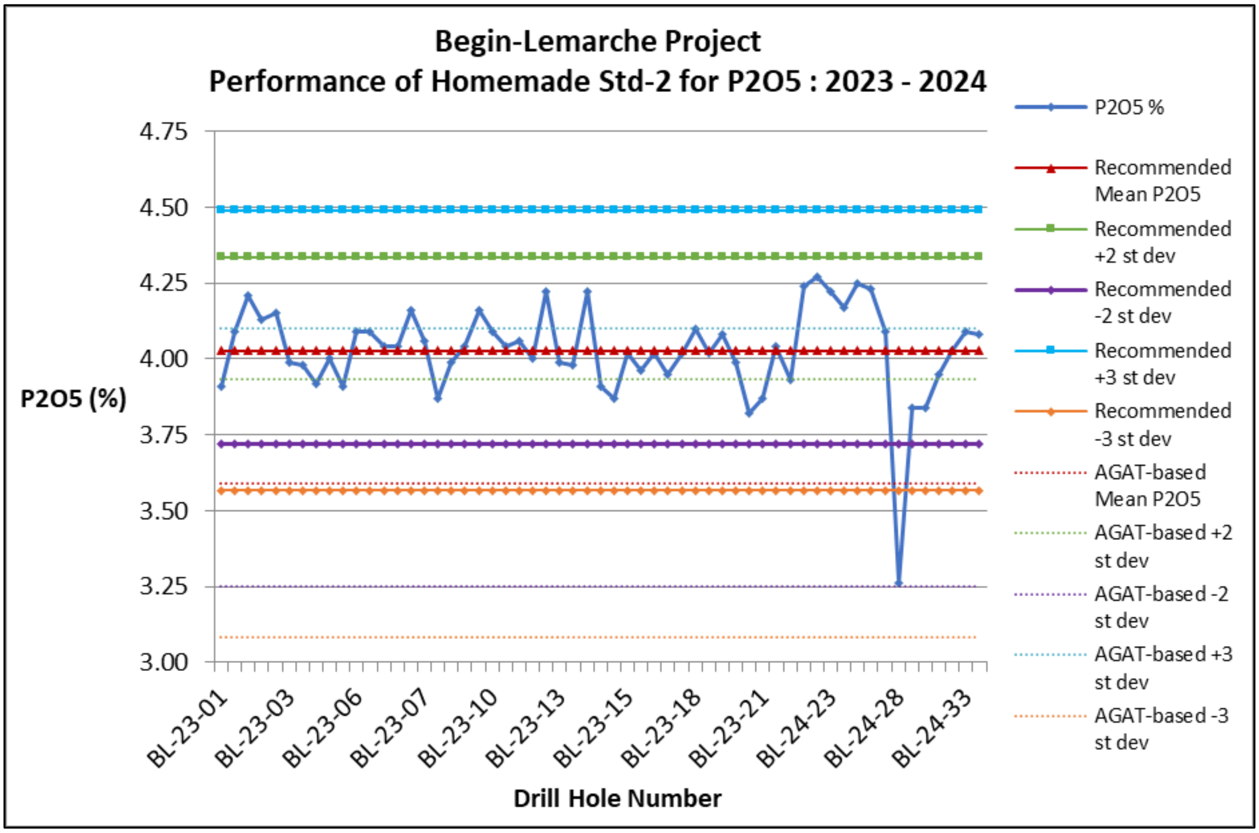
The performance of the four HRM was satisfactory, with very few failures recorded. All failures were followed-up in a timely manner and affected samples re-run if deemed necessary. Performance charts for the four HRMs are presented in Figures 11.1 to 11.4. The Authors of this Technical Report section consider that the HRM data demonstrate acceptable accuracy in the 2023 and 2024 Bégin-Lamarche data.

FIGURE 11.1 HRM RESULTS FOR STD-1: P_2O_5



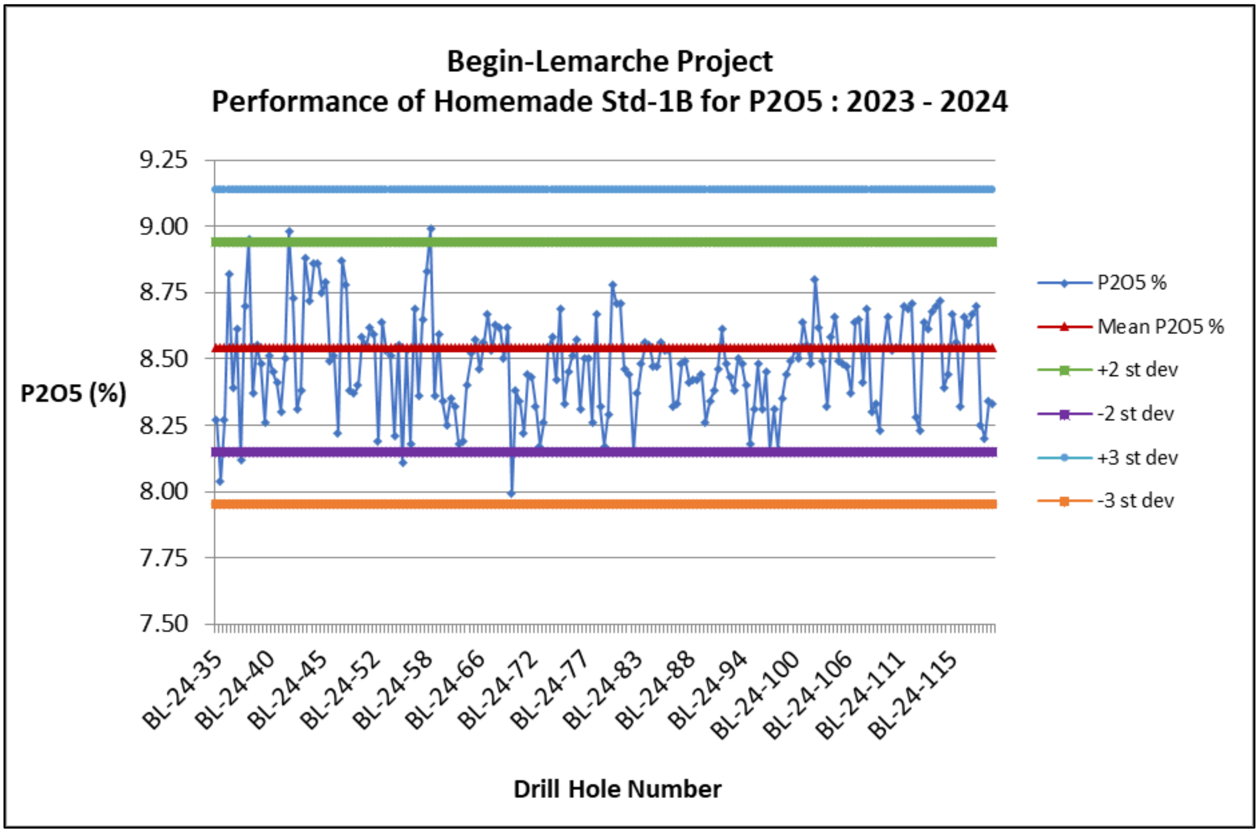
Source: *P&E (2024)*

FIGURE 11.2 HRM RESULTS FOR STD-2: P_2O_5



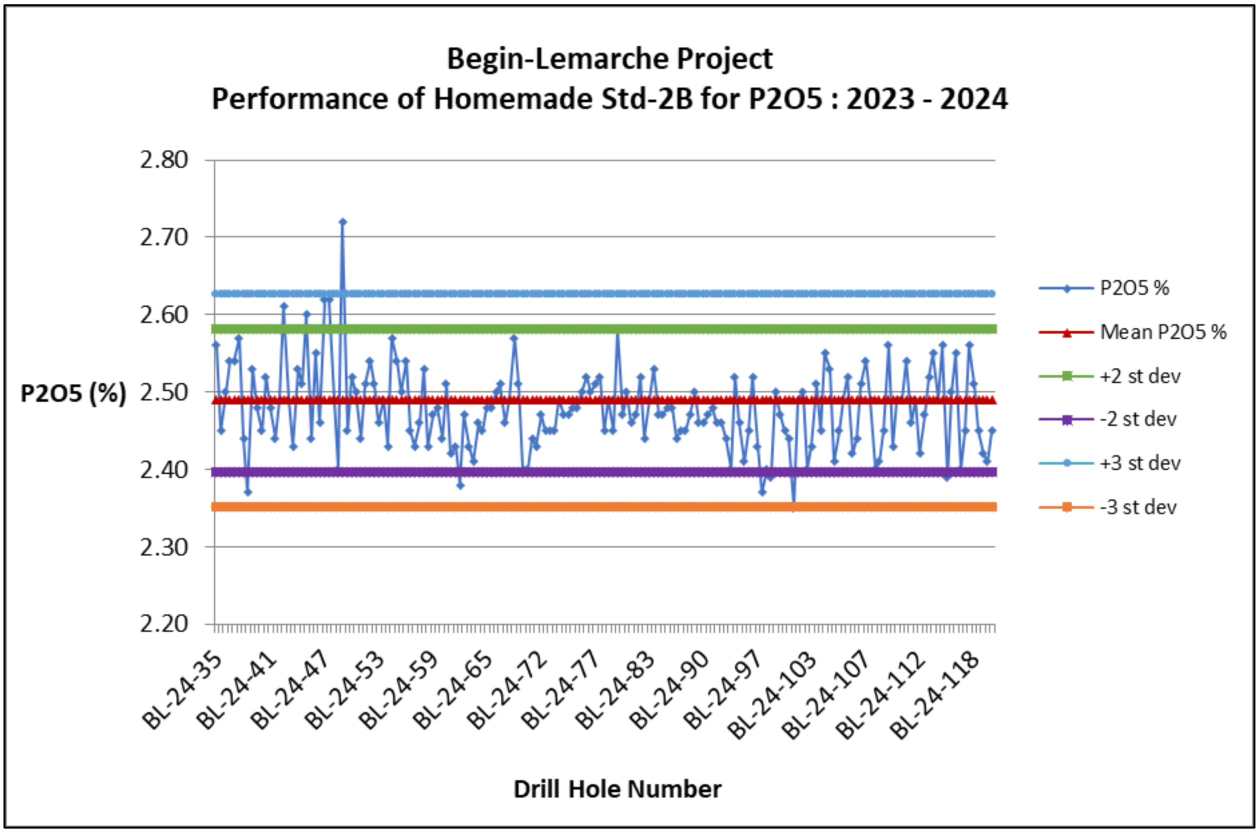
Source: *P&E (2024)*

FIGURE 11.3 HRM RESULTS FOR STD-1B: P_2O_5



Source: *P&E (2024)*

FIGURE 11.4 HRM RESULTS FOR STD-2B: P_2O_5



Source: *P&E (2024)*

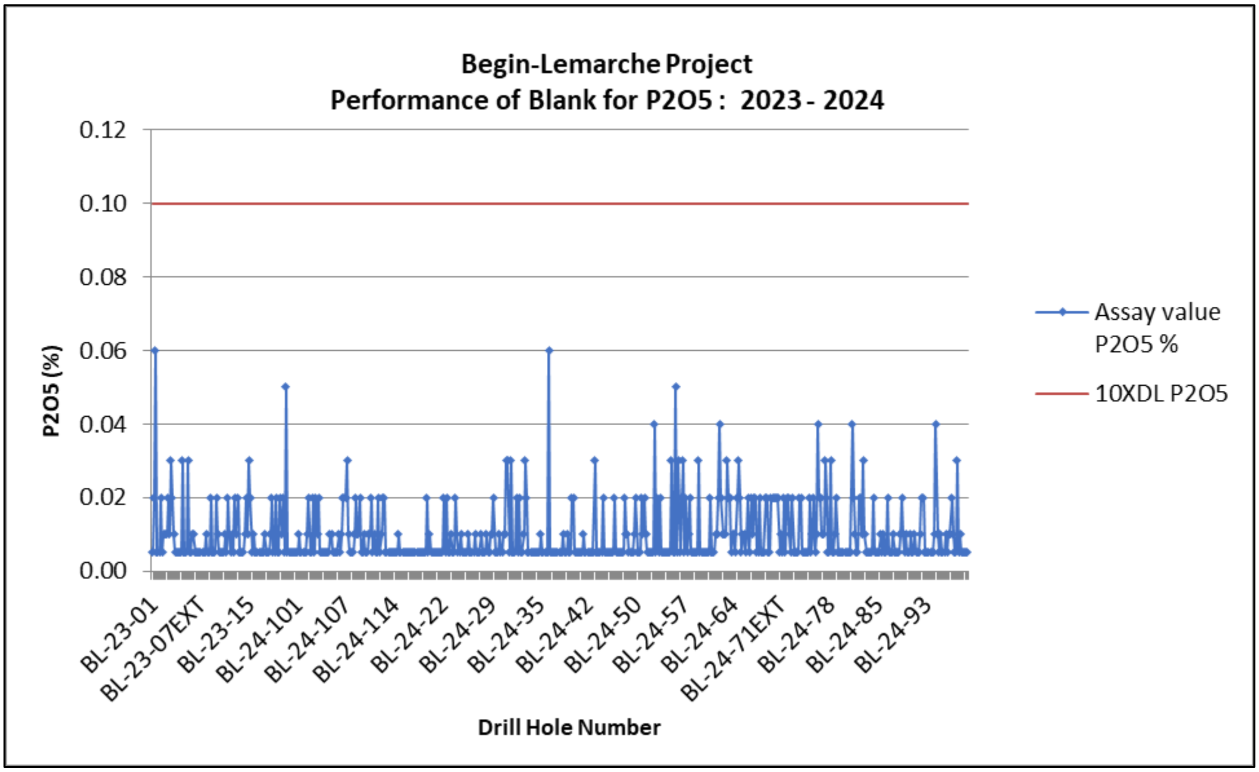
11.3.2 Performance of Blank Material

Blanks were routinely inserted into the drill core sample stream at a rate of approximately one every 10 samples. All blank data for P_2O_5 were reviewed by the Authors. If the assayed value in the certificate was indicated as being less than detection limit, the value was assigned the value of one-half the detection limit for data treatment purposes. An upper tolerance limit of ten times the detection limit was set. There were 574 data points to examine.

All data plot at or below the set tolerance limit and the Authors do not consider contamination to be an issue in the 2023 and 2024 drill hole sample data.

Results for the blank data are presented in Figure 11.5.

FIGURE 11.5 RESULTS FOR BLANK MATERIAL: P_2O_5

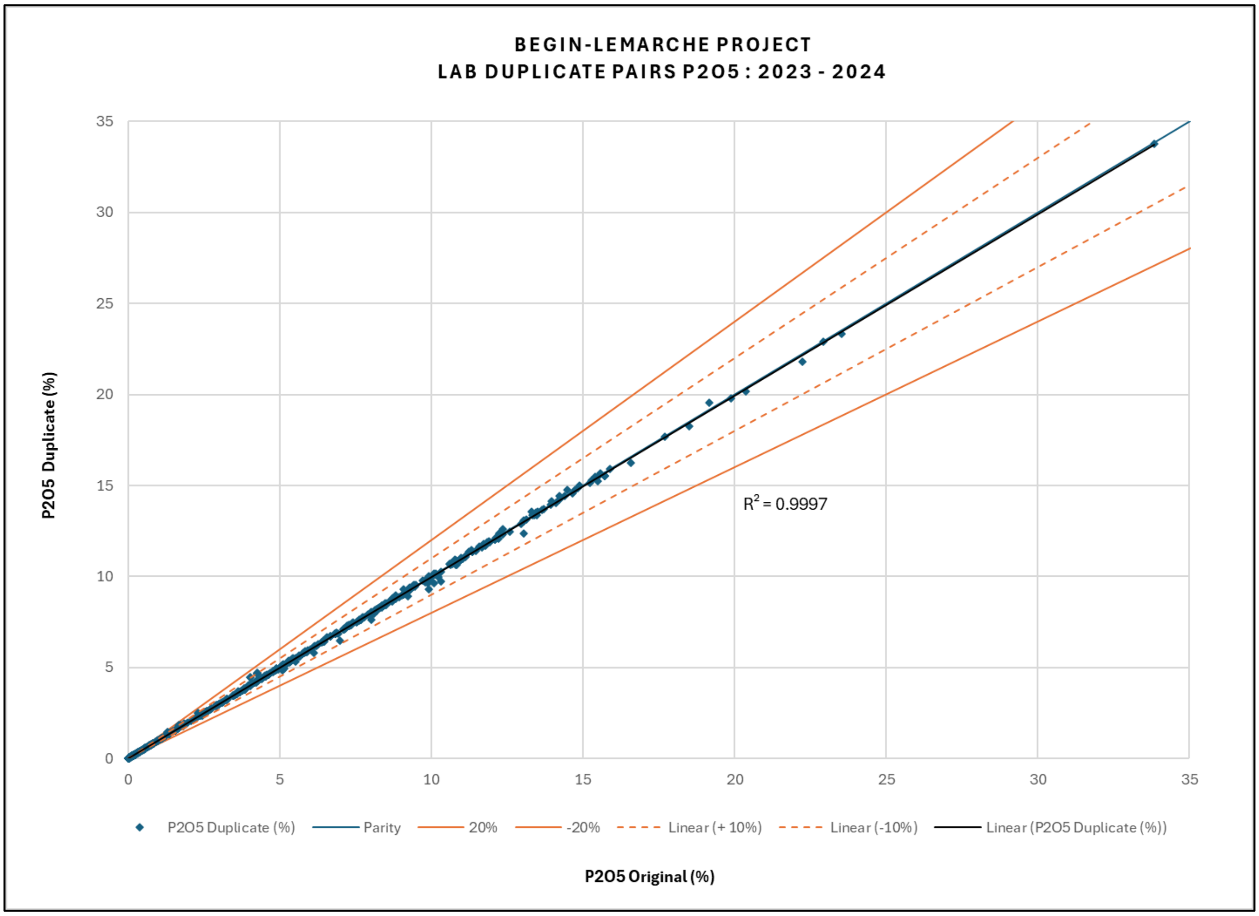


Source: *P&E (2024)*

11.3.3 Performance of Laboratory Pulp Duplicates

Field duplicates were not inserted into the sample stream by First Phosphate during the 2023 and 2024 drilling programs. However, laboratory duplicate data for P_2O_5 were reviewed by the Authors for the 2023 and 2024 sampling. The data were scatter-graphed and the coefficient of determination (“R^2”) used to estimate precision (Figure 11.6). The resultant R^2 value for P_2O_5 was estimated at 1. The Authors consider the Actlabs pulp duplicate data shows excellent precision at the pulp level.

FIGURE 11.6 SCATTER PLOT OF ACTLABS LAB PULP DUPLICATES: P_2O_5



Source: *P&E (2024)*

11.4 CONCLUSION

The Authors recommend the following be undertaken during future sampling at Bégin-Lamarche:

1. The routine insertion of field and coarse reject duplicates into the sampling stream; and
2. Check analyses of 5 to 10% of drill core samples taken at the Project, past and future, ensuring to include adequate QC samples to monitor umpire laboratory performance.

In the Authors' opinion, the sample preparation, security and analytical procedures for the 2023 to 2024 drilling at the Bégin-Lamarche Project were adequate and examination of QA/QC results for all recent sampling indicates no significant issues with accuracy, contamination or precision in the data.

The Authors consider the data to be of satisfactory quality and suitable for use in the current Mineral Resource Estimate.

12.0 DATA VERIFICATION

12.1 DRILL HOLE DATABASE VERIFICATION

12.1.1 Assay Verification

Verification of drill hole assay data entry was performed by the Authors on 1,362 assay intervals for P_2O_5, TiO_2 and Fe_2O_3. Data from holes drilled in 2023 and 2024 were verified. The 1,362 verified intervals were checked against original digital assay laboratory certificates downloaded directly from Actlabs' User Web Portal (WebLIMS) by the Authors. The checked assays represent 17.1% of the entire database (7,979 samples), and 15.3% of the constrained data (5,364 samples). No errors were encountered in the data during the verification process.

12.1.2 Drill Hole Data Verification

The Authors validated the Mineral Resource database in GEMS™ by checking for inconsistencies in analytical units, duplicate entries, interval, length or distance values less than or equal to zero, blank or zero-value assay results, out-of-sequence intervals, intervals or distances greater than the reported drill hole length, inappropriate collar locations, survey and missing interval and coordinate fields. A few minor errors were identified and corrected in the database.

12.2 2024 P&E SITE VISIT AND INDEPENDENT SAMPLING

The Bégin-Lamarche Project was visited by Mr. Antoine Yassa, P.Geo., on April 9, 2024, for the purpose of viewing drilling sites and outcrops, GPS location verifications, discussions, and due diligence sampling.

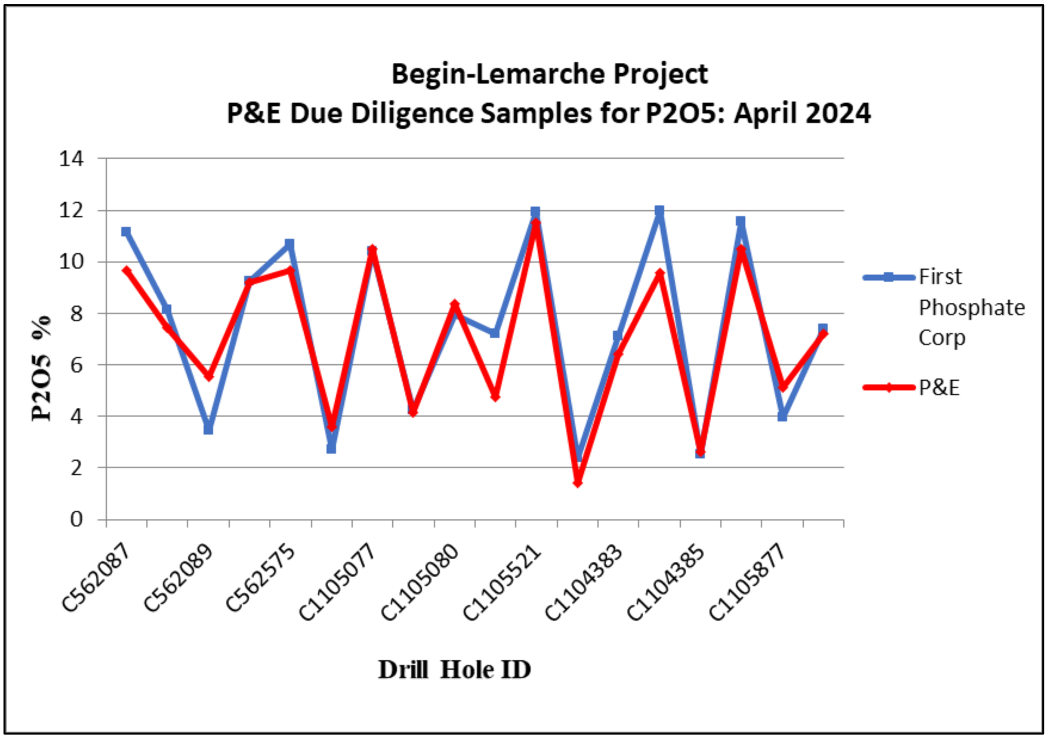
Mr. Yassa collected 18 samples from six diamond drill holes during the April 2024 site visit. All samples were selected from drill holes completed in 2023 and 2024. A range of high-, medium- and low-grade samples were selected from the stored drill core. Samples were collected by taking a quarter of the previously split NQ drill core with the other quarter drill core remaining in the drill core box. Individual samples were placed in plastic bags with a uniquely numbered tag, after which all samples were collectively placed in a larger bag and delivered directly to SGS in Québec City for analysis.

Requested analyses are drill core bulk density by the wet immersion method, then preparation and whole-rock analysis for Lithium Borate Fusion.

Sample processing services at SGS are ISO/IEC 17025:2017 accredited by the Standards Council of Canada. Quality Assurance procedures include standard operating procedures for all aspects of the processing and also include protocols for training and monitoring of staff. SGS is independent of First Phosphate and P&E.

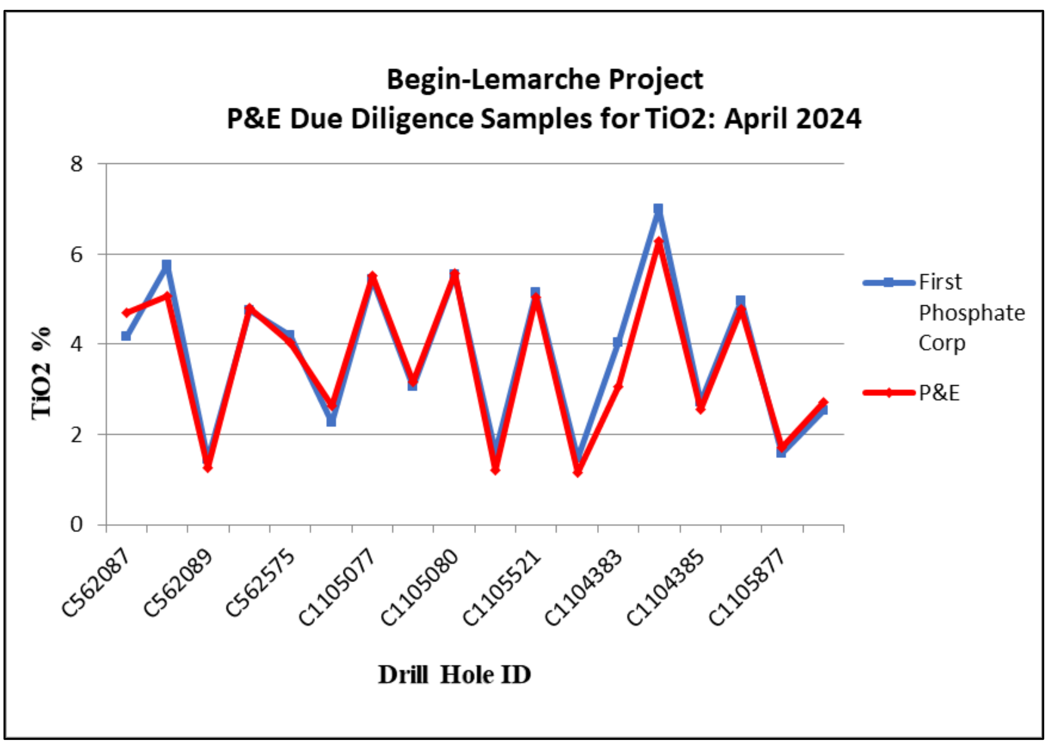
Results of the Bégin-Lamarche site visit due diligence samples are presented in Figures 12.1 to 12.3.

FIGURE 12.1 P&E SITE VISIT RESULTS FOR P_2O_5



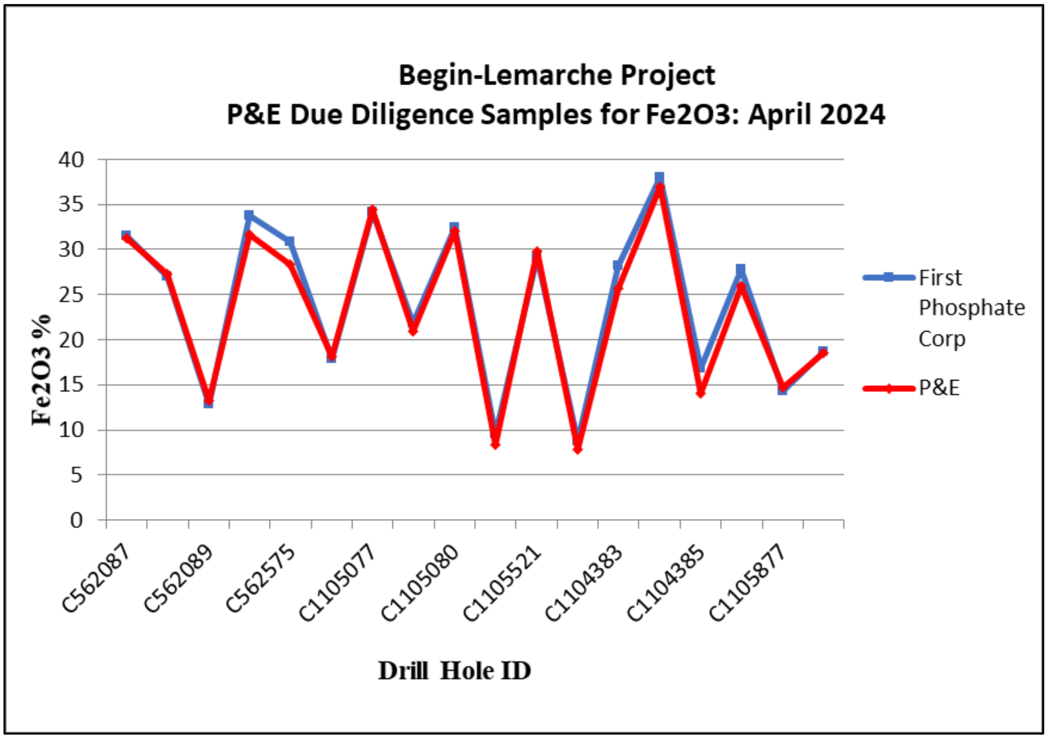
Source: *P&E (2024)*

FIGURE 12.2 P&E SITE VISIT RESULTS FOR TiO_2



Source: *P&E (2024)*

FIGURE 12.3 P&E SITE VISIT RESULTS FOR Fe_2O_3



Source: *P&E (2024)*

Mr. Eugene Puritch, P.Eng., FEC, CET of P&E, an independent Qualified Person under the regulations of NI 43-101 conducted a site visit to the Property on July 8, 2024. On that visit, Mr. Puritch observed Property road access, powerline locations, local topography, outcrop locations, overburden quality and potential infrastructure locations.

12.3 CONCLUSION

Verification of the Bégin-Lamarche Project data, used for the current Mineral Resource Estimate, was undertaken by the Authors, and included a site visit sample, due diligence sampling, verification of drilling assay data, and assessment of the available QA/QC data for the recent drilling data. The Authors consider that there is good correlation between the P_2O_5, TiO_2 and Fe_2O_3 assay values in First Phosphate's database and the independent verification samples collected by them and analyzed at SGS. The Authors consider that sufficient verification of the Project data has been undertaken and that the supplied data are of satisfactory quality and suitable for use in the current Mineral Resource Estimate.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

The following section is based on 2024 concentration tests by SGS Québec City that remain underway at the time of writing. The Authors had visited this SGS facility in September 2022 with regard to metallurgical tests on the mineralogically similar Lac à l'Orignal phosphate Mineral Resource. The Authors concluded that the SGS staff were well-informed and knowledgeable in developing the metallurgical processes appropriate for the "industrial" minerals present in the Lac à l'Orignal phosphate Mineral Resource, and would be appropriate for the Bégin-Lamarche ("BL") phosphate Mineral Resource.

SGS Lakefield completed Tescan Integrated Mineralogical Analyses ("TIMA") mineralogical examinations on a composite BL sample provided to SGS by First Phosphate. This composite was a higher-grade sample (9.27% P_2O_5) than the average current Indicated Mineral Resource grade (6.49% P_2O_5). The Queen's University Geology Department at Kingston, Ontario in cooperation with the Université du Québec à Chicoutimi provided detailed mineralogical analyses (Banerjee, et al. 2025a,b) on several BL Mineral Resource-representative drill core samples.

13.1 METALLURGICAL SAMPLE

Drill core representing the BL Mineral Resource were assembled by First Phosphate into an overall composite for metallurgical testing by combining M1, M2 and M3 composites.

The drill core was crushed, blended to form a single composite, and samples were cut out for assaying, mineralogy, comminution and metallurgical concentration testing.

The BL composite analyses, compared to a Lac à l'Orignal apatite composite which was subject to laboratory tests in 2022-23 by SGS, are summarized in Table 13.1.

TABLE 13.1
BÉGIN LAMARCHE COMPOSITE SAMPLE, SGS, JULY 2024
(COMPARISON TO LAC À L'ORIGNAL, 2022)

Major Components (%)			Minor Elements (ppm)			Notes
Compound	**Bégin Lamarche**	**Lac à l'Orignal**	**Element**	**Bégin Lamarche**	**Lac à l'Orignal**	
P_2O_5	9.27	5.55	Ag	<2	<2	
Fe_2O_3	31.7	22.6	As	<30	<30	
SiO_2	23.9	34.5	Ba	111	620	
TiO_2	5.01	4.01	Be	0.47	<0.2	
CaO	13.6	11.5	Bi	<20	<20	
MgO	10.7	6.05	Cd	<2	<2	
MnO	0.33	0.19	Co	114	93	
Na_2O	0.71	2.18	Li	<10	<10	
K_2O	0.16	0.60	Mo	<5	<5	
Cr_2O_3	<0.01	0.01	Ni	50	46	
V_2O_5	0.06	0.05	Pb	<20	<20	
S	0.07	0.46	Sb	<10	<30	Low S in BL
			Sn	<20	<20	
			Sr	320	940	
			Tl	<30	<30	
			Y	97	39	
			Zn	210	230	
			Th	0.50	0.34	
			U	<0.5	0.12	
			F	0.63%	0.28%	
			Cl	270	100	Higher Cl in BL
			Hg	<0.3	<5 ppb	
			REE's	510	250	Potentially Significant REE in BL

As indicated in the results of analyses of the BL metallurgical sample, elements of potential concern in phosphate products (fertilizers, food and battery grade materials), are very low in the BL apatite Mineral Resource. The low sulphur content suggests the tailings would not create an environmental risk for acid generation or for metal leaching. The total rare earth element ("REE") content can be assessed as moderate, however, since the REE's would be concentrated in the apatite mineral, they could be of potential economic value. However, rare earths typically associate with the gypsum-hemihydrate precipitated during phosphoric acid production and as a result, the rare earths can be challenging to isolate and recover.

13.2 MINERALOGY

A TIMA-X mineralogical study was conducted by SGS on a representative sample of ground composite. This technique provides an accurate representation of mineral identity, liberation and association as well as elemental content of specific minerals.

13.2.1 Mineral Content and Distribution

Four size fractions were cut from a composite sample and the mineral content (% mass) was determined by SGS for each fraction as shown in Table 13.2.

TABLE 13.2
BÉGIN-LAMARCHE COMPOSITE SAMPLE
FRACTION MINERAL CONTENT (LAC A L'ORIGNAL COMPARISON)

Mineral	Wt. %					
	Composite Content	+150 µm	150+75 µm	-75+25 µm	-25 µm	Lac à l'Orignal Composite
	100	10.4	41.7	31.8	16.1	
Apatite	22.3	14.1	22.0	24.9	23.3	13.4
Plagioclase	7.46	8.09	7.84	7.06	6.85	34.6
Orthoclase	0.08	0.06	0.07	0.09	0.11	0.93
Olivine	36.5	43.7	38.4	35.3	29.4	
Amphibole/Pyroxene	4.76	3.28	3.68	5.32	7.42	24.4
Micas/Chlorite/Clays	3.27	2.76	2.61	2.88	6.08	3.7
Quartz	0.16					0.57
Calcite	0.37					0.25
Dolomite	0.28					0.09
Pyrite/pyrrhotite	0.28	0.17	0.23	0.23	0.52	1.7
Fe-Oxides [1]	13.1	12.0	14.3	11.7	9.63	11.8
Ilmenite	9.16	8.97	8.72	6.65	5.33	7.4
Spinel	1.28	1.08	1.29	1.32	1.31	0.5
Other minerals [2]	0.12	0.06	0.33	0.48	1.90	0.66
Total	**100**	**100**	**100**	**100**	**100**	**100**

Note: [1] *TIMA tests were unable to distinguish between hematite and magnetite.*
[2] *Other minerals include sphalerite, titanite and miscellaneous oxides.*

The total mineral content and distribution by size of ground material suggest the following:

- An augmented concentration of apatite in the finer fractions suggests that scrubbing and desliming would be detrimental to apatite recovery. Desliming is a common step in processing minerals of this type, however, may not be appropriate in this case.

- As a first process step, the iron oxides, probably mainly magnetite, could be effectively removed/recovered by low intensity magnetic separation ("LIMS"). However, the production of a marketable concentrate is expected to require additional beneficiation stages.

- Ilmenite may also be recovered by magnetic separation from the apatite flotation tails. Ilmenite is typically a paramagnetic mineral and could be susceptible to high intensity magnetic separation ("HIMS"). Trace amounts of ilmenite could be removed from the apatite concentrate, however, may not be of suitable grade to add to ilmenite recovered from apatite flotation tailings.

- Pyrite/pyrrhotite concentrations are low in the BL Mineral Resource. As a result of the low sulphur content, the potential for acid generation is expected to be low, and neutralizing carbonate concentrations exceed that of sulphides.

- A significant mineral in the BL composite sample is olivine, which replaces much of the feldspar measured in the Lac à l'Orignal composite test sample. As discussed below, the olivine is paramagnetic and this complicates the production of high-grade magnetite and ilmenite concentrates by magnetic separation techniques.

- The iron content (31.7% Fe_2O_3 listed in Table 13.1 versus 13% Fe-Oxides listed in Table 13.2), can be largely explained by the iron content of the olivine as well as which was measured by Queen's to be 35-43% FeO (38-48% Fe_2O_3).

13.2.2 Apatite

Apatite is the principal mineral of interest and mineralogical analyses indicated a significant presence in all screen sizes of the sample. As listed in Table 13.2, 22.3% of the BL composite was identified as apatite.

The composite assayed 9.27% P_2O_5. Queen's University analyzed 115 specimens of apatite from BL drill core by EPMA (Banerjee, 2025a,b) and determined the P_2O_5 content in the apatite to be 41.4 to 41.8% and averaging 41.6%. There was excellent agreement between SGS and Queen's on the apatite purity and content, for example, the SGS measurement:

9.27% / 0.416 = 22.3% apatite in the composite sample

Other ranges of contents of the 115 apatite crystals examined by Queen's are summarized in Table 13.3.

TABLE 13.3
BEGIN LAMARCHE APATITE CRYSTAL ELEMENTAL CONTENT

Content	%									
	P	P_2O_5	CaO	MnO	SiO_2	F	Cl	Ti	Fe	ΣREE
Apatite Crystals	18.2	41.4 to 41.8	54.8 to 55.7	0.02 to 0.17	0.0 to 0.2	1.67 to 3.4	0.04 to 0.50	<0.02	0.12 to 0.57	0.16 to 0.26

Source: *Banerjee (2025a,b)*

These preliminary results indicate that the apatite varies mildly in elemental content and impurities. An exception might be the identification of the apatite as either fluorapatite or chlorapatite.

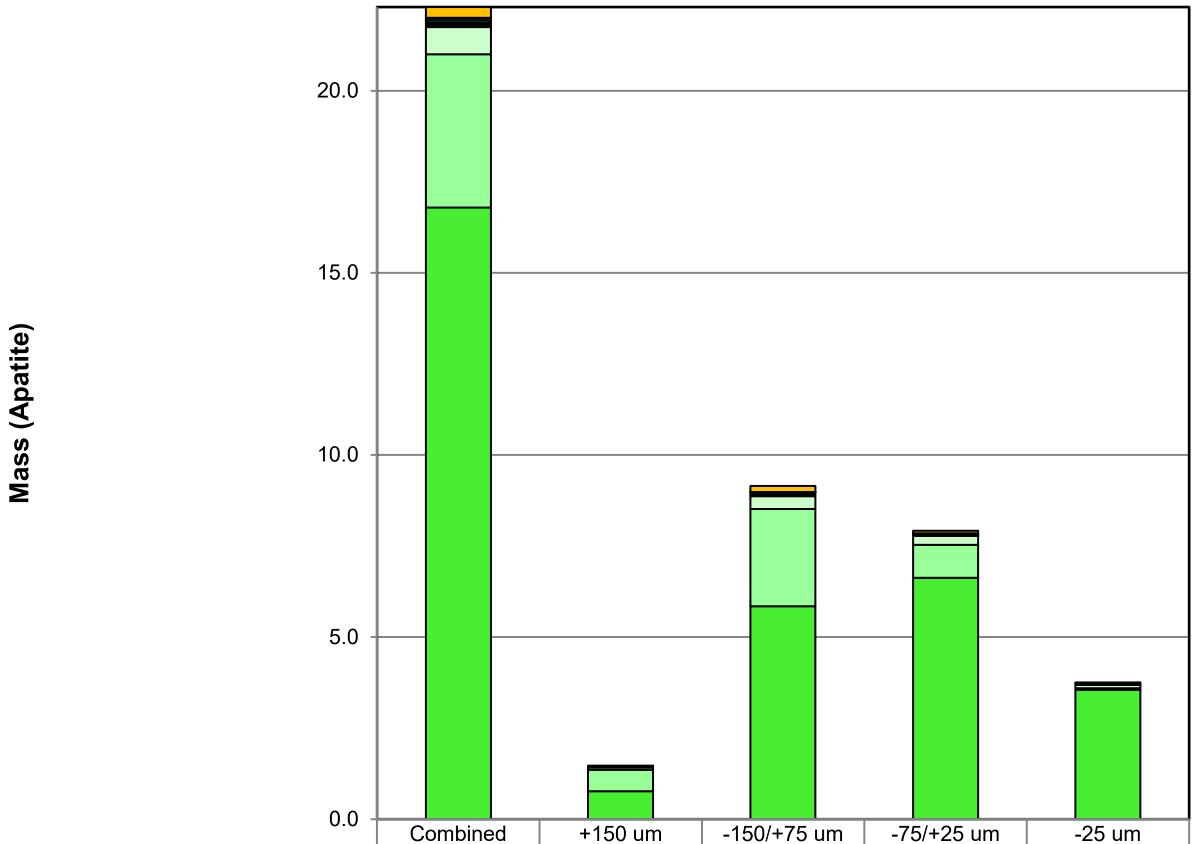
13.2.3 Mineral Liberation and Exposure

TIMA assessments were completed by SGS on the liberation and exposure of apatite, ilmenite and iron oxides. The following examples for apatite criteria were used is this assessment. Similar criteria were applied to ilmenite and iron oxides:

- Pure apatite – 100% liberated and free;
- Free apatite - >95% apatite in a particle; and
- Liberated apatite – >80 <95% apatite.

The results for apatite in the ground (P_{90} 150 µm) composite are summarized in Figure 13.1 from SGS, September 2024, First Phosphate TIMA Data.

FIGURE 13.1 BÉGIN-LAMARCHE APATITE ASSOCIATION – HEAD SAMPLE



	Combined	+150 um	-150/+75 um	-75/+25 um	-25 um
Complex	0.30	0.03	0.17	0.07	0.02
Apatite: Carbonates	0.00	0.00	0.00	0.00	0.00
Apatite: Sulphides	0.00	0.00	0.00	0.00	0.00
Apatite: Amphibole/Pyroxene	0.01	0.00	0.00	0.00	0.00
Apatite: Feldspars/Quartz	0.00	0.00	0.00	0.00	0.00
Apatite: Spinel	0.00	0.00	0.00	0.00	0.00
Apatite: Olivie: Chlorite: Serpentine	0.06	0.00	0.01	0.02	0.02
Apatite: Fe-Oxides:Olivine	0.00	0.00	0.00	0.00	0.00
Apatite: Olivine	0.06	0.00	0.04	0.01	0.01
Apatite: Fe-Oxides	0.07	0.00	0.04	0.02	0.01
Apatite: Ilmenite	0.04	0.01	0.02	0.01	0.01
Lib Apatite	0.75	0.06	0.35	0.25	0.09
Free Apatite	4.20	0.59	2.67	0.90	0.04
Pure Apatite	16.8	0.77	5.85	6.63	3.55

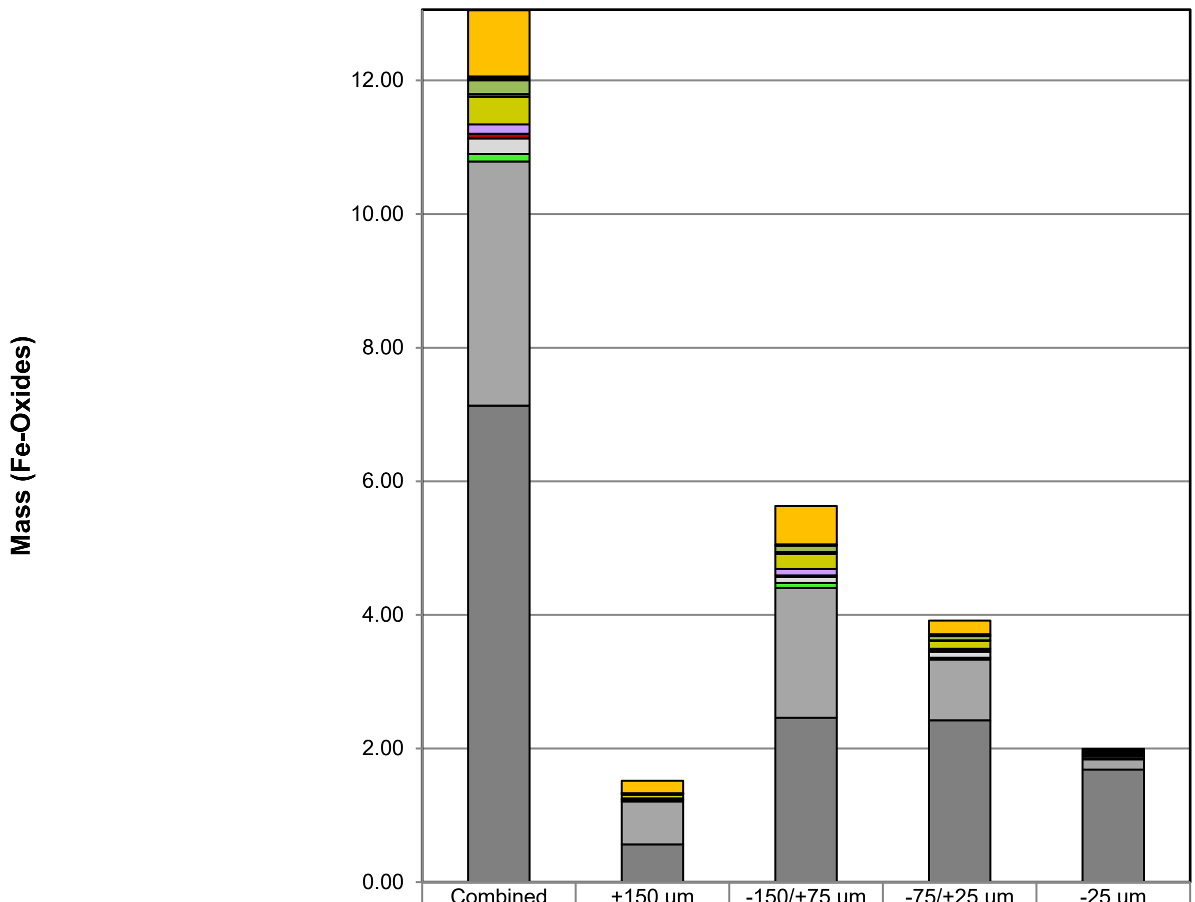
Source: *SGS (2024)*

The results shown in Figure 13.1 indicate that in order to produce a high-grade concentrate at high recovery (90%), minor additional grinding of the +75 µm fraction should be considered.

Similar mineral exposure results for iron oxides are shown in Figure 13.2. The iron oxides would be removed before apatite beneficiation using LIMS. A rougher iron concentration would need to be subject to additional beneficiation steps such as regrinding and flotation to remove the iron-rich olivine (fayalite – Fe_2SiO_4) and other impurities.

An iron oxide recovery of 90% has been suggested (by SGS). Figure 13.2 confirms that fine grinding would be required to meet such a high recovery of a high-quality concentrate. However, considering that LIMS concentration of magnetite is a strong selective process, 90% recovery is possible.

FIGURE 13.2 BÉGIN-LAMARCHE FE-OXIDES ASSOCIATION – HEAD SAMPLE

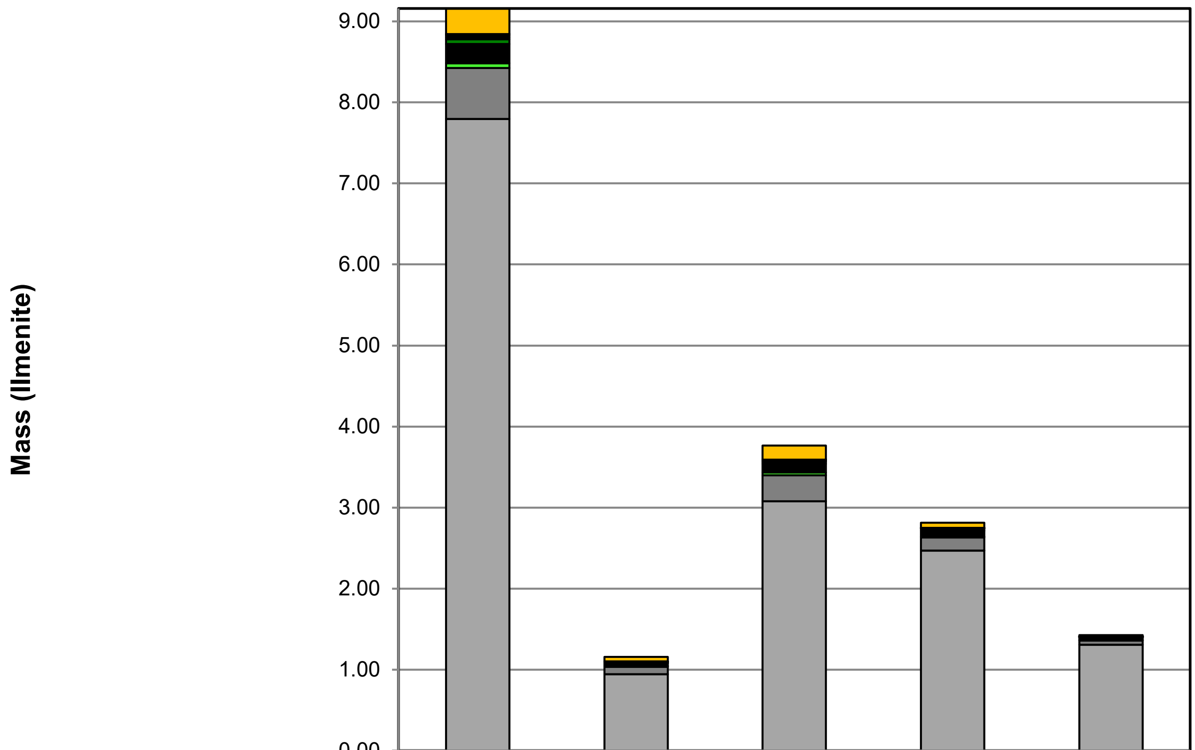


	Combined	+150 um	-150/+75 um	-75/+25 um	-25 um
Complex	0.99	0.18	0.57	0.20	0.03
Fe-Oxides: Carbonates	0.03	0.00	0.01	0.02	0.00
Fe-Oxides: Sulphides		0.00	0.00	0.00	0.00
Fe-Oxides: Amphibole: Pyroxene	0.01	0.00	0.00	0.01	0.00
Fe-Oxides: Feldspars: Quartz	0.01	0.00	0.00	0.00	0.00
Fe-Oxides: Olivine: Chlorite: Serpentine	0.21	0.02	0.10	0.06	0.03
Fe-Oxides: Ilmenite: Apatite	0.04	0.00	0.03	0.01	0.00
Fe-Oxides: Olivine	0.42	0.05	0.22	0.11	0.03
Fe-Oxides: Ilmenite: Spinel	0.14	0.02	0.10	0.02	0.00
Fe-Oxides: Spinel	0.07	0.00	0.02	0.03	0.01
Fe-Oxides: Ilmenite	0.23	0.02	0.09	0.09	0.03
Fe-Oxides: Apatite	0.12	0.01	0.07	0.03	0.01
Lib Fe-Oxides	3.66	0.64	1.95	0.91	0.16
Free Fe-Oxides	7.13	0.56	2.46	2.42	1.68

Source: *SGS (2024)*

The mineral exposure results for Ti oxides, principally ilmenite, are summarized in Figure 13.3. Ilmenite was shown to be well liberated in the sample with 92% of the ilmenite crystals either totally free or liberated. Ilmenite concentration and cleaning processes could include HIMS, gravity and flotation processes. Recoveries of a marketable concentrate could range between 50 and 60%.

FIGURE 13.3 BÉGIN-LAMARCHE ILLMENITE ASSOCIATION – HEAD SAMPLE



	Combined	+150 um	-150/+75 um	-75/+25 um	-25 um
Complex	0.31	0.06	0.17	0.06	0.01
Ilmenite: Carbonates	0.00	0.00	0.00	0.00	0.00
Ilmenite: Sulphides	0.00	0.00	0.00	0.00	0.00
Ilmenite: Amphibole/Pyroxene	0.00	0.00	0.00	0.00	0.00
Ilmenite: Feldspars: Quartz	0.00	0.00	0.00	0.00	0.00
Ilmenite: Spinel	0.01	0.00	0.00	0.00	0.00
Ilmenite: Olivine: Chlorite: Serpentine	0.02	0.00	0.01	0.01	0.01
Ilmenite: Apatite:Fe-Oxides	0.02	0.01	0.01	0.00	0.00
Ilmenite: Olivine	0.06	0.01	0.02	0.02	0.01
Ilmenite: Fe-Oxides	0.23	0.03	0.11	0.07	0.02
Ilmenite: Apatite	0.06	0.01	0.03	0.01	0.01
Lib Ilmenite	0.63	0.09	0.32	0.16	0.05
Free Ilmenite	7.80	0.94	3.08	2.47	1.31

Source: *SGS (2024)*

13.3 MINERAL PROCESSING TESTWORK

13.3.1 Comminution Tests

Simulation Modelling and Impact Comminution ("SMC") tests were performed by JKTech at the University of Queensland, Australia, on M1, M2 and M3 drill core samples. SMC tests are used to measure rock strength and comminution indices. The results can be used to simulate crushing and grinding circuits. Also included in the derived results are the SAG Circuit Specific Energy ("SCSE") values. The SCSE value is derived from simulations of a "standard" circuit comprising a SAG mill in closed circuit with a pebble crusher which is expected to be the design of a BL process plant. This allows "A*b" values to be described which was determined to be 62.7 for the BL samples. This value indicated that the test material was considerably softer than the average value in the JKTech database. Also, the SCSE was determined to be 8.75 kWh/t, approximately 85% of database average.

The Bond ball mill work index was determined by SGS to be 13.5 kWh/t, supporting a conclusion that the BL mineralized material could be designated as softer than average in the SGS database. The Abrasion Index was also measured by SGS and a value of 0.177 which was interpreted into a moderately low ball mill liner wear of 0.0068 kg/kWh of energy input.

13.3.2 Low Intensity Magnetic Separation for Magnetite

Following grinding to a P_{80} of approximately 150 µm, the ground material was subjected to low intensity magnetic separation ("LIMS") to remove the iron oxides, principally magnetite. The iron oxide mineral content (measured as Fe_2O_3) had been determined to 31.7% (Table 13.4). Approximately 40% of the Fe-oxide can be allocated to magnetite, the balance being mostly contained in olivine and ilmenite.

Greater than 95% of the free iron oxides (including magnetite) were removed in LIMS testing. Less than 4% of the P_2O_5 was taken with the magnetite concentrate. The concentrate grade was low at 62% Fe_3O_4, indicating that a significant amount of gangue mineralization was dragged into the concentrate. The iron and silica assays suggested that olivine was the major contaminant.

Davis Tube magnetic separation testing was performed on a LIMS magnetic concentrate to upgrade the concentrate magnetite grade. Three samples were ground to P_{80} of 43, 63 and 75 µm. The Satmagan (Fe_3O_4) grade was increased to 85.1, 84.9 and 85.1%, respectively. Silica (SiO_2) content was reduced from a feed grade of 8.30% to 2.25, 2.75 and 3.02%, respectively.

Additional testing is considered to be indicated as necessary to produce a marketable grade of magnetite.

TABLE 13.4 LIMS MAGNETIC SEPARATION, BL COMPOSITE														
Composite	**Wt**	**Fe_2O_3**		**Satmagan Fe_3O_4**		**TiO_2**		**P_2O_5**		**SiO_2**	**CaO**	**MgO**	**S**
	%	**%**	**Dist'n**	**%**	**Dist'n**	**%**	**Dist'n**	**%**	**Dist'n**	**%**	**%**	**%**	**%**
Magnetic Conc	16.6	74.9	39.4	61.7	98.8	3.47	12.5	2.21	3.97	8.30	3.35	4.80	0.19
Non-Magnetics	83.4	22.9	60.6	0.15	1.2	4.84	87.5	10.8	96.1	27.0	15.5	12.1	0.05
Head (Calc)	100	31.5	100	10.4	100	4.74	100	9.37	100	23.9	13.5	10.9	0.04
Direct		31.7				5.01		9.27		23.9	13.6	10.7	0.07

13.3.3 Flotation Concentration

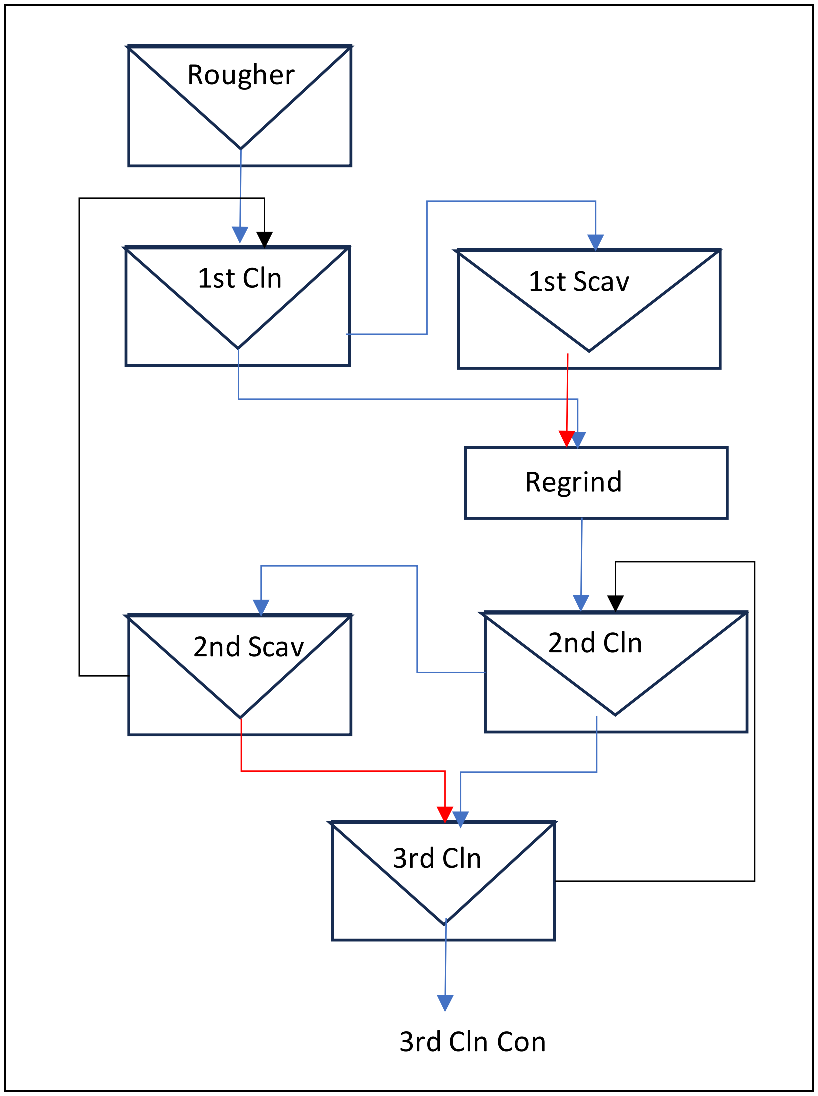
Seventeen batch flotation tests were performed, including bench scale batch tests. The results of the first 16 tests were available at the time of writing. All tests were initiated with thick, stage conditioning of "non-mags" LIMS tails with soda ash, starch and fatty acid. Initial flotation tests investigated rougher kinetics and the benefit of regrinding a rougher apatite concentrate.

The 15th flotation test (F15) included four cleaner stages with the addition of starch and sodium silicate in the cleaning stages. The rougher concentrate was reground to P_{80} 110 µm. The promising results of F15 are summarized in Table 13.5.

One six-stage locked cycle flotation test was completed by SGS. The test results are summarized in Table 13.6. The test results confirmed the basis for the method for producing a high-grade (~40% P_2O_5) apatite concentrate at high recovery. The locked cycle test flowsheet is shown in Figure 13.4.

Attempts to produce a marketable ilmenite concentrate from an apatite flotation tails using HIMS and Wilfley Table ("WT") gravity methods were unsuccessful. Ilmenite concentrations of 22.9 and 20.9% TiO_2 were respectively achieved. Recoveries were poor at 9 and 29% respectively. SiO_2, probably due to olivine content, was a major contaminant in both concentrates.

FIGURE 13.4 APATITE LOCKED CYCLE TEST FLOWSHEET



Source: *P&E (2024)*

TABLE 13.5
APATITE FLOTATION TEST (F15), METALLURGICAL BALANCE

Product	Weight		%						% Distribution					
	g	%	P_2O_5	Fe_2O_3	SiO_2	TiO_2	CaO	S	P_2O_5	Fe_2O_3	SiO_2	TiO_2	CaO	S
P_2O_5 4th Cleaner Conc	350.5	14.9	40.1	1.48	4.49	0.84	53.3	0.02	64.6	0.7	0.5	0.6	59.1	5.4
P_2O_5 3rd Cleaner Conc +3rd Scavenger Conc	489.2	20.8	39.2	2.49	1.44	0.38	52.2	0.02	88.1	1.7	1.3	1.6	1.6	7.9
P_2O_5 Rougher Tail	1,259	53.4	0.20	30.0	36.3	6.92	1.98	0.08	1.2	51.6	82.2	74.5	7.9	78
Magnetic Conc	391.2	16.6	2.21	74.9	8.30	3.47	3.35	0.01	4.0	40.0	5.8	11.6	4.1	2.3
Head (calc)	2,357	100.0	9.23	31.1	23.6	4.96	13.4	0.05	100.0	100.0	100.0	100.0	100.0	100.0
Head Assay			9.27	31.7	23.9	5.01	13.6	0.07						

TABLE 13.6
LOCKED 6-CYCLE APATITE FLOTATION TEST

Combined Products	Weight		Assays %						% Distribution					
	g	%	P_2O_5	Fe_2O_3	SiO_2	TiO_2	CaO	S	P_2O_5	Fe_2O_3	SiO_2	TiO_2	CaO	S
P_2O_5 3rd Cleaner Conc (A-F)	2,717.3	19.4	39.5	1.35	1.77	0.25	52.4	0.01	83.7	0.83	1.42	0.98	76.5	2.63
P_2O_5 1st Cleaner Scavenger Tail (A-F)	772.1	5.50	3.39	28.8	29.9	7.28	5.96	0.09	2.04	5.00	6.85	8.12	2.47	6.58
P_2O_5 Rougher Tail (A-F)	8,003.2	57.0	0.32	31.1	36.2	6.79	2.15	0.07	2.00	56.0	85.8	78.5	9.2	54.1
P_2O_5 3rd Cleaner Tail F	237.8	1.69	35.5	4.24	4.77	1.07	47.2	0.02	6.58	0.23	0.34	0.37	6.03	0.46
P_2O_5 2nd Cleaner Scavenger Conc F	96.6	0.69	24.2	11.5	12.8	3.34	33.8	0.04	1.82	0.25	0.37	0.47	1.75	0.37
P_2O_5 2nd Cleaner Scavenger Tail F	58.9	0.42	13.5	22.6	19.4	7.60	18.5	0.10	0.62	0.30	0.34	0.65	0.59	0.57
Magnetic Conc	2,147.0	15.3	1.95	77.4	7.63	3.52	2.98	0.17	3.3	37.4	4.9	10.9	3.4	35.3
Head (calc)	14,032.9	100	9.14	31.7	24.0	4.94	13.3	0.07	100.0	100.0	100.0	100.0	100.0	100.0
Head Assay			9.39	31.0	24.2	4.61	13.7	0.08						

In reviewing the results of the chemical analyses of the composite, the mineralogical examinations and the results of the magnetic separation, the multiple batch and the single locked cycle flotation tests, the following can be concluded:

- The BL anorthosite Mineral Resource contains good grade apatite. The high purity fluoro-apatite mineral is associated with very low levels of potentially hazardous components such as arsenic, heavy metals and radioactivity;

- The apatite mineral content has the potential to be concentrated as a high-grade product and at a high recovery. The latest batch test results indicate the production of 40% P_2O_5 at over 90% recovery is reasonably possible; and

- Additional locked cycle tests with the addition of a magnetic separation stage on an apatite concentrate can be expected to confirm high apatite grade and recovery. The magnetic separation could scavenge out residual olivine.

As indicated in mineralogical studies, the BL Mineral Resource presents the potential for recovering two additional mineral products, saleable magnetite and ilmenite concentrates. The ilmenite concentrate potential is expected to be confirmed with additional testing and matching test results with market specifications.

A valuable magnetite concentrate can be achieved by magnetic separation plus a potential grinding and classification to meet market requirements such as for heavy media separation. More than 80% of the magnetite, possibly grading as high as 90%, should be recoverable and saleable.

Most of the ilmenite mineralization will report to the apatite rougher tails. Ilmenite, being a paramagnetic mineral could be concentrated with a combination of HIMS combined with gravity and/or froth flotation techniques. Mineralogical examination of the ground composite indicated that 50% of the ilmenite was "pure" and 30% was "free". This suggests that with a combination of concentration methods, approximately 50 to 60% recovery of high-grade ilmenite concentrate could be expected. The presence of paramagnetic iron olivine is one of the challenges in producing a marketable ilmenite concentrate.

13.4 RECOMMENDED NEXT STEPS

The continuation of bench-scale apatite flotation testing is recommended, in particular tests determining the variability of metallurgical performance representing the variability of the Mountain, North and South Zones. As reported by Queen's and UQAC in July 2024, the rock types of the BL Mineral Resource present in the massif anorthosite are quite variable. This results in a wide range of apatite (0-70%), magnetite (0-27%) and ilmenite (0-24%). Other minerals, in particular olivine and pyroxene, are also widely variable. Additional bench-scale testing, at grades close to the Indicated Mineral Resource grade, and according to rock type, are justified.

Additional testing is essential in fine-tooling processes to produce a saleable magnetite concentrate. The production of a marketable ilmenite concentrate may depend on the acceptance and introduction of aggressive froth flotation agents to remove silicate impurities.

Industrial mineral processing and concentration which uses fatty acids is notoriously tricky as these reagents can accumulate and produce sticky, unselective metallurgical conditions. Pilot scale testing is recommended to assess these risks and develop techniques to deal with these conditions.

Fatty-acid produced concentrates are notoriously difficult to settle and to dewater by filtration. This is sometimes remediated by scrubbing off the fatty acid with inorganic acid. Tests are needed to determine process and equipment needs for a full-scale operation.

Concentrate settling, filtration and drying tests are needed to specify plant equipment and energy consumption. Settling and filtration tests are currently underway on apatite flotation tailings as part of a "dry stack" tailings management.

Potential purchasers of industrial mineral concentrates, in this case magnetite and apatite, can be expected to specify criteria such as moisture content, effective particle size (e.g. pelletization, agglomeration etc.) and flowability. Specialized test procedures may need to be contracted by specialists.

14.0 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

The purpose of this Technical Report section is to summarize initial Mineral Resource Estimate for the Bégin-Lamarche Project in Québec for First Phosphate Corp. The Mineral Resource Estimate presented herein is reported in accordance with the Canadian Securities Administrators' National Instrument 43-101 (2014) and has been estimated in conformity with the generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines (2019). Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the Mineral Resource will be converted into a Mineral Reserve. Confidence in the estimate of Inferred Mineral Resources is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Mineral Resources may be affected by further infill and exploration drilling that may result in increases or decreases in subsequent Mineral Resource Estimates.

This Mineral Resource Estimate was based on information and data supplied by First Phosphate Corp., and was undertaken by Yungang Wu, P.Geo., and Eugene Puritch, P.Eng., FEC, CET of P&E Mining Consultants Inc. of Brampton, Ontario. This Mineral Resource Estimate was supervised, reviewed and accepted by Antoine Yassa, P.Geo., an independent Qualified Person in terms of NI 43-101. The effective date of this Mineral Resource Estimate is December 4, 2024.

14.2 DATABASE

All drilling and assay data were provided in the form of Excel data files by First Phosphate Corp. The GEOVIA GEMS™ V6.8.4 database for this Mineral Resource Estimate, compiled by the Authors, consisted of 126 drill holes totalling 30,647.5 m. A total of 117 drill holes (29,096.5 m) intersected the mineralized wireframes used for the Mineral Resource Estimate. Three metallurgical drill holes totalling 375 m were not used for the Mineral Resource Estimate since they were not assayed. A drill hole plan is shown in Appendix A.

The drill hole assay database contained P_2O_5, Fe_2O_3 and TiO_2 and other minerals. The basic statistics of all raw assays of the principal minerals are presented in Table 14.1.

TABLE 14.1
BASIC STATISTICS OF ASSAY DATABASE

Variable	P_2O_5 (%)	Fe_2O_3 (%)	TiO_2 (%)	Sample Length (m)
Number of Samples	7,977	7,977	7,977	7,977
Minimum Value	0.01	0.54	0.03	0.20
Maximum Value	33.83	51.26	15.55	6.05
Mean	4.55	17.69	2.84	2.58
Median	3.18	16.23	2.56	3.00

TABLE 14.1 **BASIC STATISTICS OF ASSAY DATABASE**				
Variable	**P_2O_5 (%)**	**Fe_2O_3 (%)**	**TiO_2 (%)**	**Sample Length (m)**
Variance	21.08	114.39	4.54	0.41
Standard Deviation	4.59	10.70	2.13	0.64
Coefficient of Variation	1.01	0.60	0.75	0.25

Note: *P_2O_5 = phosphorus pentoxide, Fe_2O_3 = iron trioxide, TiO_2 = titanium dioxide.*

All drill hole survey and assay values are expressed in metric units. Coordinates are in the projected coordinate system UTM NAD 83, Zone 19N.

14.3 DATA VERIFICATION

Additional to verification procedures and protocols described in Sections 11 and 12 of this Technical Report. The Authors validated the Mineral Resource database in GEMS™ by checking for inconsistencies in analytical units, duplicate entries, interval, length or distance values less than or equal to zero, blank or zero-value assay results, out-of-sequence intervals, intervals or distances greater than the reported drill hole length, inappropriate collar locations, survey and missing interval and coordinate fields. A few minor errors were identified and corrected in the database. The Authors are of the opinion that the supplied database is suitable for Mineral Resource estimation.

14.4 DOMAIN INTERPRETATION

The Bégin-Lamarche Deposit domain boundaries were determined from lithology, structure, and grade boundary interpretation from visual inspection of drill hole cross-sections. Seven mineralized domains; one within the Mountain Zone, two within the Northern Zone and four within the Southern Zone were constructed by the Authors on 50 to 100 m spaced vertical cross-sections with computer screen digitizing polylines in GEMS™. The domain outlines were influenced by the selection of mineralized material above 2.5% P_2O_5 that demonstrated a lithological and structural zonal continuity along strike and down-dip. In some cases, mineralization <2.5% P_2O_5 was included for the purpose of maintaining zone continuity. On each cross-section, polyline interpretations were digitized from drill hole to drill hole, and typically were not extended >100 m into untested territory. Minimum constrained width for interpretation was 2 m of drill core length.

The topographic surface was created using LiDAR results from the Québec Government website (www.diffusion.mffp.gouv.qc.ca). The overburden surface was determined using average depth to bedrock with local adjustment using drill holes logs and outcrop locations. All mineralized domain wireframes were truncated at the bedrock surface.

The resulting mineralized wireframes were utilized as constraining boundaries during Mineral Resource estimation and for purposes of rock coding, statistical analysis and compositing limits. The 3-D domains are presented in Appendix B.

14.5 ROCK CODE DETERMINATION

A unique rock code was assigned to each mineralized domain in the Mineral Resource model as presented in Table 14.2.

TABLE 14.2
ROCK CODES USED FOR THE MINERAL RESOURCE ESTIMATE

Domain	Rock Code	Wireframe Volume (m^3)
Montagne	100	5,263,704
Nord-East	210	13,551,330
Nord-West	220	17,443,978
Sud1	310	16,730,865
Sud2	320	24,605,943
Sud3	330	9,864,675
Sud4	340	11,784,654
Air	0	
Overburden	10	
Waste	99	

14.6 WIREFRAME CONSTRAINED ASSAYS

Wireframe constrained assays were back coded in the assay database with rock codes that were derived from intersections of the mineralized domains and drill holes. The basic statistics of the wireframe constrained assays are presented in Table 14.3.

TABLE 14.3
WIREFRAME CONSTRAINED ASSAY SUMMARY

Variable	P_2O_5 (%)	Fe_2O_3 (%)	TiO_2 (%)	Sample Length (m)
Number of Samples	5,364	5,364	5,364	5,364
Minimum Value	0.02	0.91	0.05	0.50
Maximum Value	33.83	44.50	9.93	6.05
Mean	6.06	21.21	3.49	2.55
Median	5.49	21.80	3.56	3.00

Table 14.3 Wireframe Constrained Assay Summary				
Variable	**P_2O_5 (%)**	**Fe_2O_3 (%)**	**TiO_2 (%)**	**Sample Length (m)**
Variance	21.15	106.32	4.30	0.43
Standard Deviation	4.60	10.31	2.07	0.65
Coefficient of Variation	0.76	0.49	0.59	0.26

Note: *P_2O_5 = phosphorus pentoxide, Fe_2O_3 = iron trioxide, TiO_2 = titanium dioxide.*

14.7 COMPOSITING

In order to regularize the assay sampling intervals for grade interpolation, a 3.0 m compositing length was selected for the drill hole intervals that fell within the constraints of the above-described Mineral Resource wireframe domains. The composites were calculated for P_2O_5, Fe_2O_3 and TiO_2 over 3.0 m lengths starting at the first point of intersection between assay data drill hole and hanging wall of the 3-D zonal constraint. The compositing process was halted on exit from the footwall of the constraint. Missing samples (unsampled intervals) were assigned a background value of 0.001%. If the last composite interval was less than 1.50 m, the composite length was adjusted to make all composite intervals of the domain intercept of equal length. The resulting composite length ranged from 2.30 to 4.01 m. This process would not introduce any short sample bias in the grade interpolation process. The constrained composite data were extracted to a point file for a grade capping analysis. The composite statistics are summarized in Table 14.4.

TABLE 14.4 COMPOSITE SUMMARY							
Variable	**P_2O_5_Comp (%)**	**P_2O_5_Cap (%)**	**Fe_2O_3_Comp (%)**	**Fe_2O_3_Cap (%)**	**TiO_2_Comp (%)**	**TiO_2_Cap (%)**	**Length (m)**
Number of Composites	4,840	4,840	4,840	4,840	4,840	4,840	4,840
Minimum Value	0.00	0.00	0.00	0.00	0.00	0.00	2.30
Maximum Value	28.18	23.00	44.00	44.00	9.74	9.74	4.01
Mean	5.66	5.66	20.15	20.15	3.31	3.31	3.00
Median	5.19	5.19	20.81	20.81	3.39	3.39	3.00
Variance	16.60	16.51	103.88	103.88	3.80	3.80	0.00
Standard Deviation	4.07	4.06	10.19	10.19	1.95	1.95	0.06
Coefficient of Variation	0.72	0.72	0.51	0.51	0.59	0.59	0.02

Note: *Comp = composite; Cap = capped composite.*

14.8 GRADE CAPPING

Grade capping was investigated on the 3.0 m composite values in the database within the constraining domain to ensure that the possible influence of erratic high-grade values did not bias the database. Log-normal histograms and log-probability plots were generated for each mineralized domain and the selected resulting graphs are exhibited in Appendix C. Three P_2O_5 values in the Montagne Domain were capped at 23%, whereas no capping was required for other minerals and domains. The capped composite statistics are summarized in Table 14.4. The grade capping values are detailed in Table 14.5. The capped composites were utilized to develop variograms and for block model grade interpolation.

TABLE 14.5
GRADE CAPPING VALUES

Mineral	Domain	Total No. of Composites	Capping Value (%)	No. of Capped Composites	Mean of Composites (%)	Mean of Capped Composites (%)	CoV of Composites	CoV of Capped Composites	Capping Percentile (%)
P_2O_5	Montagne	773	23	3	8.04	8.03	0.69	0.68	99.6
P_2O_5	Nord-East	1,122	No cap	0	4.95	4.95	0.78	0.78	100
P_2O_5	Nord-West	527	No cap	0	6.20	6.20	0.67	0.67	100
P_2O_5	Sud1	710	No cap	0	5.05	5.05	0.64	0.64	100
P_2O_5	Sud2	1,160	No cap	0	4.95	4.95	0.54	0.54	100
P_2O_5	Sud3	262	No cap	0	5.81	5.81	0.63	0.63	100
P_2O_5	Sud4	286	No cap	0	5.22	5.22	0.84	0.84	100
Fe_2O_3	Montagne	773	No cap	0	19.34	19.34	0.61	0.61	100
Fe_2O_3	Nord-East	1,122	No cap	0	19.58	19.58	0.55	0.55	100
Fe_2O_3	Nord-West	527	No cap	0	20.49	20.49	0.53	0.53	100
Fe_2O_3	Sud1	710	No cap	0	20.49	20.49	0.47	0.47	100
Fe_2O_3	Sud2	1,160	No cap	0	21.35	21.35	0.40	0.40	100
Fe_2O_3	Sud3	262	No cap	0	20.13	20.13	0.47	0.47	100
Fe_2O_3	Sud4	286	No cap	0	18.23	18.23	0.55	0.55	100
TiO_2	Montagne	773	No cap	0	3.20	3.20	0.73	0.73	100
TiO_2	Nord-East	1,122	No cap	0	3.10	3.10	0.63	0.63	100
TiO_2	Nord-West	527	No cap	0	2.91	2.91	0.61	0.61	100
TiO_2	Sud1	710	No cap	0	3.53	3.53	0.55	0.55	100
TiO_2	Sud2	1,160	No cap	0	3.62	3.62	0.45	0.45	100
TiO_2	Sud3	262	No cap	0	3.46	3.46	0.54	0.54	100
TiO_2	Sud4	286	No cap	0	3.13	3.13	0.68	0.68	100

Note: *CoV = Coefficient of Variation.*

14.9 VARIOGRAPHY

A variography analysis was attempted as a guide to determining a grade interpolation search ellipse strategy. Directional variograms were developed using the P_2O_5 composites for each mineralized domain where sufficient data were available. Selected variograms are attached in Appendix D.

Continuity ellipses based on the observed variogram ranges were subsequently generated and utilized as the basis for estimation search ranges, distance weighting calculations and Mineral Resource classification criteria.

14.10 BULK DENSITY

The bulk density used for the creation of the bulk density block model was derived from eighteen samples taken by the Authors during a site visit that were analyzed by SGS Canada of Québec City. The average bulk density 3.23 t/m^3 was applied to all mineralized blocks for this Mineral Resource Estimate.

14.11 BLOCK MODELLING

The Bégin-Lamarche block model was constructed using GEOVIA GEMS™ V6.8.4 modelling software. The block model origin and block size are presented in Table 14.6. The block model consists of separate model attributes for estimated P_2O_5, Fe_2O_3 and TiO_2 grade, rock type (mineralized domain), volume percent, bulk density, and classification.

TABLE 14.6
BLOCK MODEL DEFINITION

Direction	Origin	No. of Blocks	Block Size (m)
X	324,460.909	310	5
Y	5,401,805.962	360	10
Z	350	100	5
Rotation	-35° (Clockwise)		

All blocks in the rock type block model were initialled with a waste rock code of 99, corresponding to the surrounding country rocks. The mineralized domain was used to code all blocks within the rock type block model that contain ≥0.1% volume within the mineralized domains. These blocks were assigned the rock type codes presented in Table 14.2. The overburden and topographic surfaces were subsequently utilized to assign rock codes 99 and 0, corresponding to overburden and air respectively, for all blocks ≥50% above the surfaces.

A volume percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining mineralized domains. As a result, the mineralized domain boundary was properly represented by the volume percent model ability to measure individual infinitely variable block inclusion percentages within that domain. The minimum percentage of any mineralized block was set to 0.1%.

The P_2O_5, Fe_2O_3 and TiO_2 grade blocks were interpolated with the Inverse Distance Squared ("ID^2") method. Nearest Neighbour grade interpolation ("NN") was utilized for validation. Multiple passes were executed for the grade interpolation to progressively capture the sample points to avoid over-smoothing and preserve local grade variability. Ellipse search ranges and directions were based on the variograms. Grade blocks were interpolated using the parameters in Table 14.7.

TABLE 14.7
BLOCK MODEL GRADE INTERPOLATION PARAMETERS

Pass	Major Range (m)	Semi-major Range (m)	Minor Range (m)	Max No. of Samples per Drill Hole	Min No. of Samples	Max No. of Samples
I	50	50	25	2	3	12
II	150	150	75	2	1	12

Selected cross-sections and plans of the P_2O_5 grade blocks are presented in Appendix E.

The average bulk density of 3.23 t/m^3 was applied to all mineralized blocks.

14.12 MINERAL RESOURCE CLASSIFICATION

It is the Authors' opinion that the drilling, assaying and exploration work on the Bégin-Lamarche Project support this Mineral Resource Estimate and are sufficient to indicate a reasonable potential for eventual economic extraction, and thus it qualifies as a Mineral Resource under the CIM definition standards. The Mineral Resource was classified as Indicated and Inferred, based on the geological interpretation, variogram performance and drill hole spacing. The Indicated Mineral Resource was initially classified for the blocks interpolated with the Pass I, which used at least three composites from a minimum of two holes. The Inferred Mineral Resource was classified for all remaining grade populated blocks within the mineralized domain. The classifications were adjusted by creating solids to reasonably reflect the distribution of each classification. Selected classification block cross-sections and plans are attached in Appendix F.

14.13 P_2O_5 CUT-OFF CALCULATION

The Bégin-Lamarche Mineral Resource Estimate was investigated with a pit optimization to ensure a reasonable assumption of potential economic extraction could be made. An optimized pit shell is presented in Appendix G. The pit-constrained Mineral Resource was derived from applying P_2O_5% cut-off values to the block model and reporting the resulting tonnes and grades for potentially mineable areas. The following parameters were used to calculate the P_2O_5 cut-off value that determines the open pit mining potentially economic portions of the constrained mineralization:

- **US$:CAD$ Exchange Rate:** 0.75
- **P_2O_5 Price (32%):** US$180/t (Approximate two-year trailing average)
- **P_2O_5 Price (40%):** US$225/t
- **P_2O_5 Process Recovery:** 91%
- **Processing Cost:** CAD$14.00/t
- **G&A:** CAD$3.00/t
- **Mining Cost:** CAD$2.75/t
- **Pit Slope:** 45°

The P_2O_5 cut-off for potential open pit mining is calculated as 2.5%.

14.14 MINERAL RESOURCE ESTIMATE

The Authors consider that the mineralization of the Bégin-Lamarche Project is potentially amenable to open pit economic extraction. The resulting pit-constrained Mineral Resource Estimate at the effective date of this Technical Report is tabulated in Table 14.8.

TABLE 14.8
PIT-CONSTRAINED MINERAL RESOURCE ESTIMATE AT 2.5% P_2O_5 CUT-OFF (1-4)

Classification	Zone	Tonnes (M)	P_2O_5 (%)	P_2O_5 (kt)	Fe_2O_3 (%)	Fe_2O_3 (Mt)	TiO_2 (%)	TiO_2 (kt)
Indicated	Mountain	9.3	8.19	758	9.95	0.9	3.23	299
	Northern	32.2	6.00	1,934	10.91	3.5	3.33	1,073
	Total	**41.5**	**6.49**	**2,692**	**10.69**	**4.4**	**3.31**	**1,372**
Inferred	Mountain	6.8	8.57	584	10.34	0.7	3.68	251
	Northern	44.3	6.98	3,090	11.14	5.0	3.26	1,442
	Southern	162.9	5.63	9,177	10.85	17.6	3.73	6,080
	Total	**214.0**	**6.01**	**12,851**	**10.89**	**23.3**	**3.63**	**7,773**

Notes:

1. *Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability.*
2. *The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.*
3. *The Inferred Mineral Resource in this estimate has a lower level of confidence than that applied to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued exploration.*
4. *The Mineral Resources in this Technical Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council.*

The pit-constrained Mineral Resource Estimate is sensitive to the selection of a reporting P_2O_5 cut-off value as demonstrated in Table 14.9.

TABLE 14.9 **PIT-CONSTRAINED MINERAL RESOURCE ESTIMATE SENSITIVITY TO P_2O_5 CUT-OFF**								
Classification	**Cut-off P_2O_5 (%)**	**Tonnage (M)**	**P_2O_5 (%)**	**P_2O_5 (kt)**	**Fe_2O_3 (%)**	**Fe_2O_3 (Mt)**	**TiO_2 (%)**	**TiO_2 (kt)**
Indicated	5.0	27.2	7.86	2,143	11.98	3.2	3.74	1,020
	4.5	30.5	7.53	2,298	11.71	3.5	3.65	1,113
	4.0	33.8	7.22	2,436	11.43	3.8	3.55	1,200
	3.5	36.7	6.94	2,547	11.16	4.1	3.46	1,272
	3.0	39.3	6.69	2,632	10.91	4.3	3.38	1,330
	2.5	41.5	6.49	2,692	10.69	4.4	3.31	1,373
	2.0	43.3	6.31	2,732	10.49	4.5	3.24	1,403
	1.5	44.8	6.16	2,759	10.30	4.6	3.18	1,426
	1.0	46.0	6.03	2,774	10.15	4.7	3.13	1,441
Inferred	5.0	135.8	7.16	9,732	12.13	16.5	4.03	5,470
	4.5	157.2	6.84	10,748	11.83	18.6	3.94	6,190
	4.0	178.1	6.53	11,639	11.52	20.5	3.85	6,849
	3.5	194.2	6.31	12,242	11.26	21.9	3.76	7,303
	3.0	206.1	6.13	12,633	11.05	22.8	3.69	7,605
	2.5	214.0	6.01	12,851	10.89	23.3	3.63	7,772
	2.0	218.7	5.92	12,959	10.79	23.6	3.59	7,860
	1.5	222.5	5.85	13,025	10.69	23.8	3.56	7,919
	1.0	225.6	5.79	13,064	10.60	23.9	3.53	7,958

14.15 CONFIRMATION OF ESTIMATE

The block model was validated using several industry standard methods, including visual and statistical methods, as follows:

- Visual examination of composites and block grades on successive plans and sections were performed on-screen, in order to confirm that the block models correctly reflect the distribution of composite grades. The review of estimation parameters included:

  - Number of composites used for grade estimation;
  - Number of drill holes used for grade estimation;
  - Number of passes used for grade estimation;
  - Mean value of the composites used;
  - Mean distance to sample used;
  - Actual distance to closest point; and
  - Grade of true closest point.

- A comparison of mean grades of composites with the block model on a global basis at a 0.001% P_2O_5 cut-off is presented in Table 14.10.

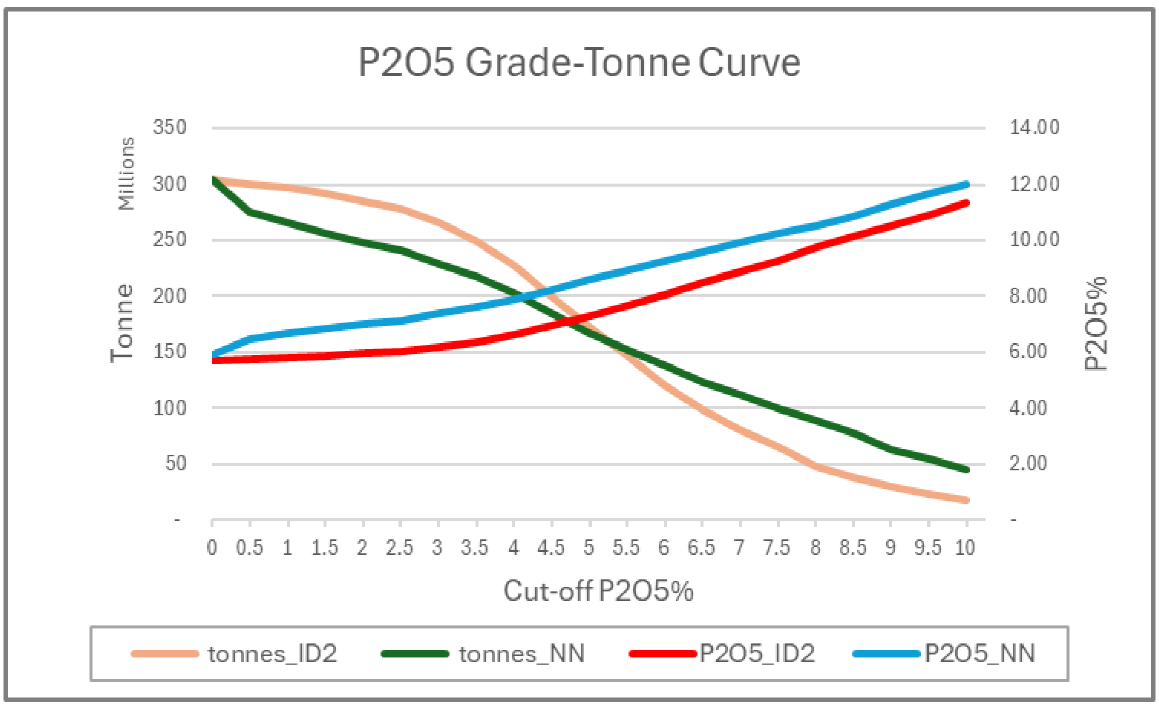
Table 14.10 Average Grade of Composite Comparison with Block Model			
Data Type	**P_2O_5 (%)**	**Fe_2O_3 (%)**	**TiO_2 (%)**
Composites	5.66	10.08	3.31
Capped Composites	5.66	10.08	3.31
Block Model ID^2	5.67	10.33	3.40
Block Model NN	5.90	10.58	3.48

Notes: ***ID^2****= block model grades were interpolated with Inverse Distance Squared.*
NN*= block model grades were interpolated using Nearest Neighbour.*

The comparisons above show the average grades of block model almost equal to that of capped composites used for the grade estimations.

- A comparison of the P_2O_5 grade-tonnage curve of the block model interpolated with Inverse Distance Squared ("ID^2") and Nearest Neighbour ("NN") on a global basis are presented in Figure 14.1.

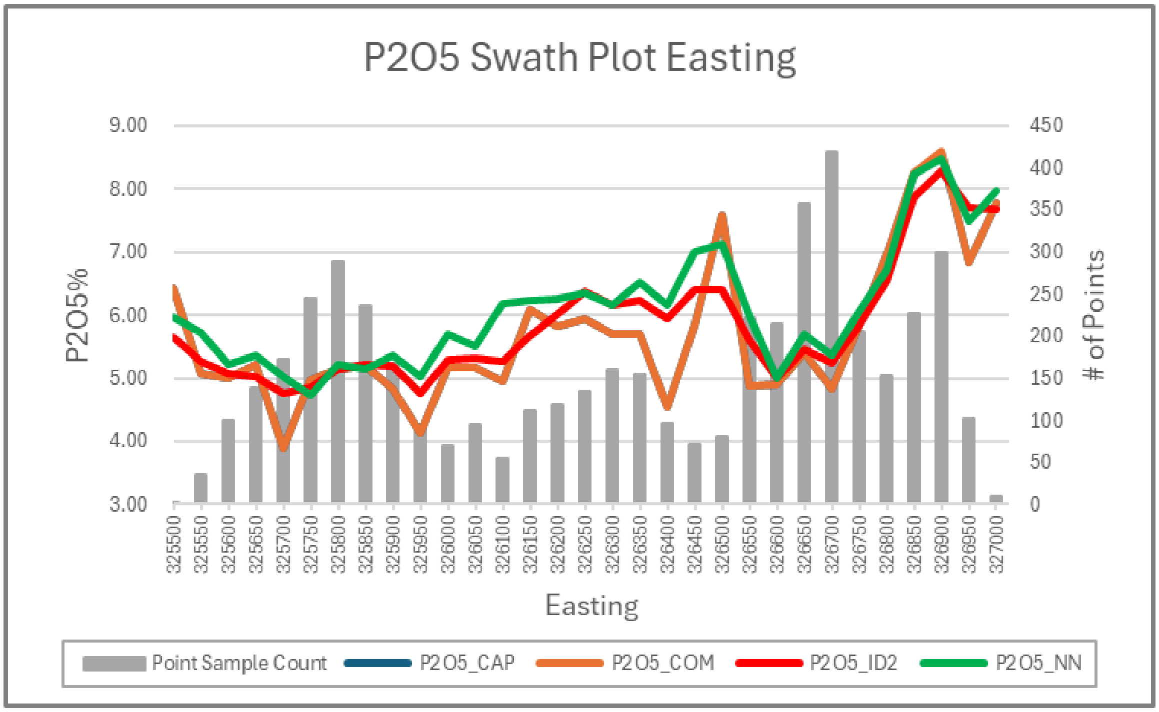
Figure 14.1 Grade-Tonne Curve ID^2 Versus NN Interpolation



Source: *P&E (2024)*

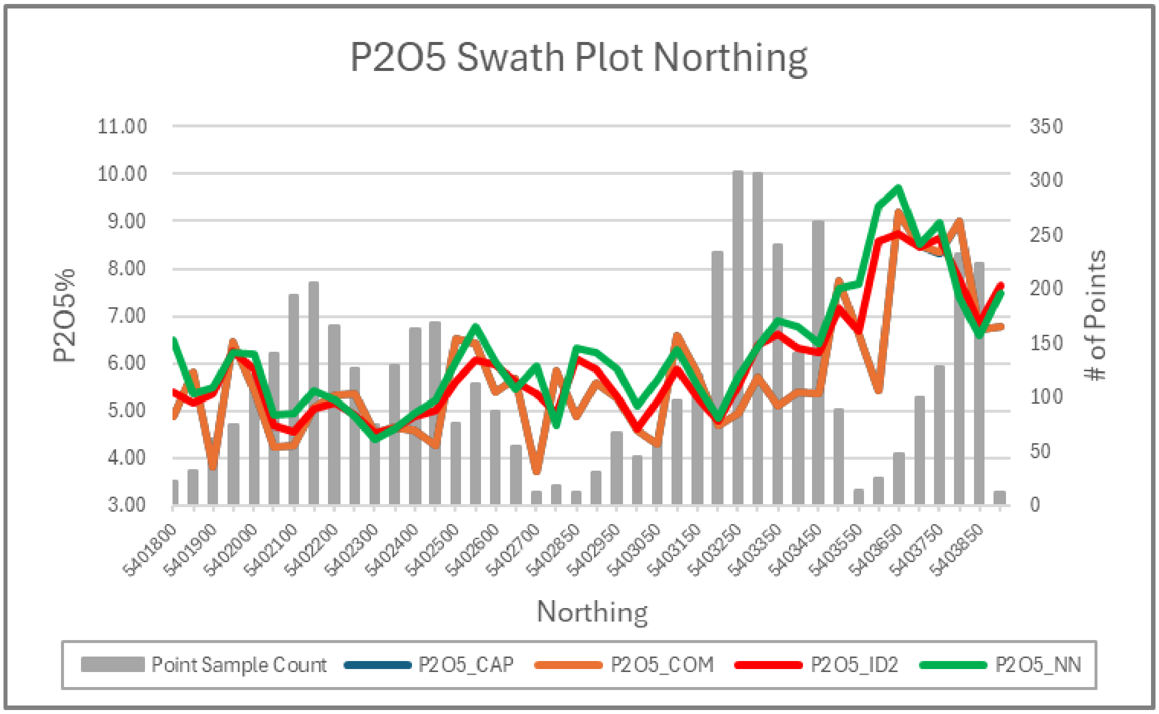
- P_2O_5 local trends were evaluated by comparing the ID[2] and NN estimate against the composites. As shown in Figures 14.2 to 14.4, grade interpolations with ID[2] and NN agreed reasonably well.

FIGURE 14.2 P_2O_5 GRADE SWATH PLOT EASTING



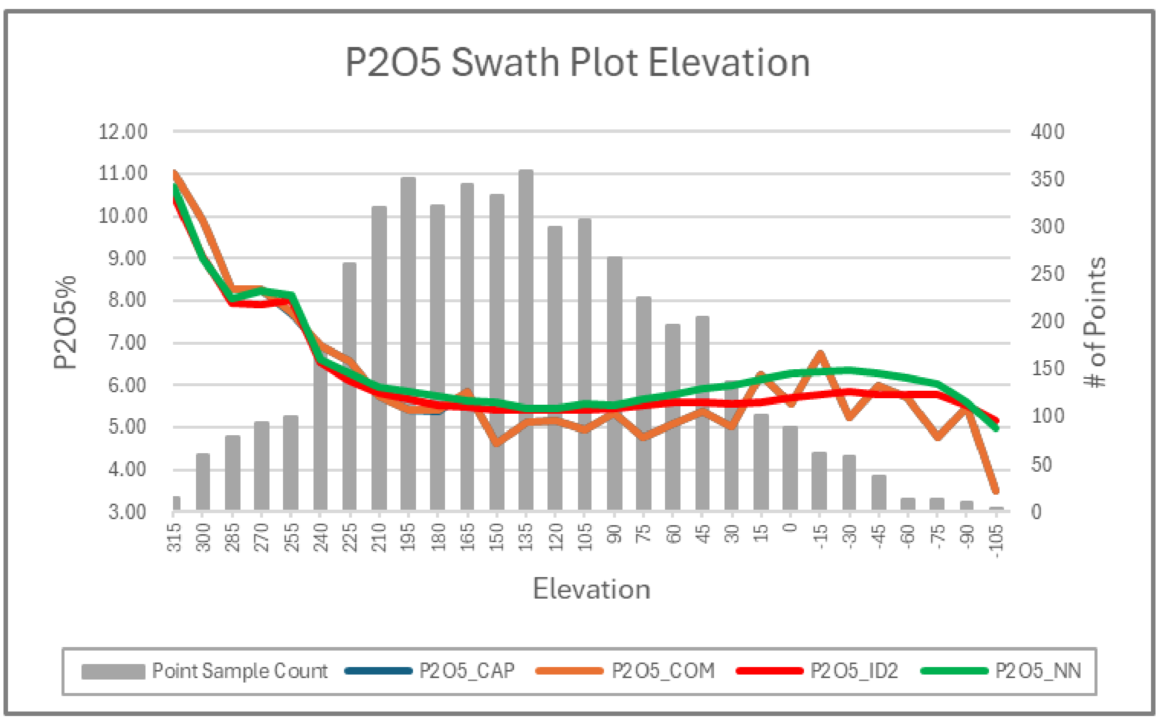
Source: *P&E (2024)*

FIGURE 14.3 P_2O_5 GRADE SWATH PLOT NORTHING



Source: *P&E (2024)*

FIGURE 14.4 P_2O_5 GRADE SWATH PLOT ELEVATION



Source: *P&E (2024)*

15.0 MINERAL RESERVE ESTIMATES

This section is not applicable to this Report.

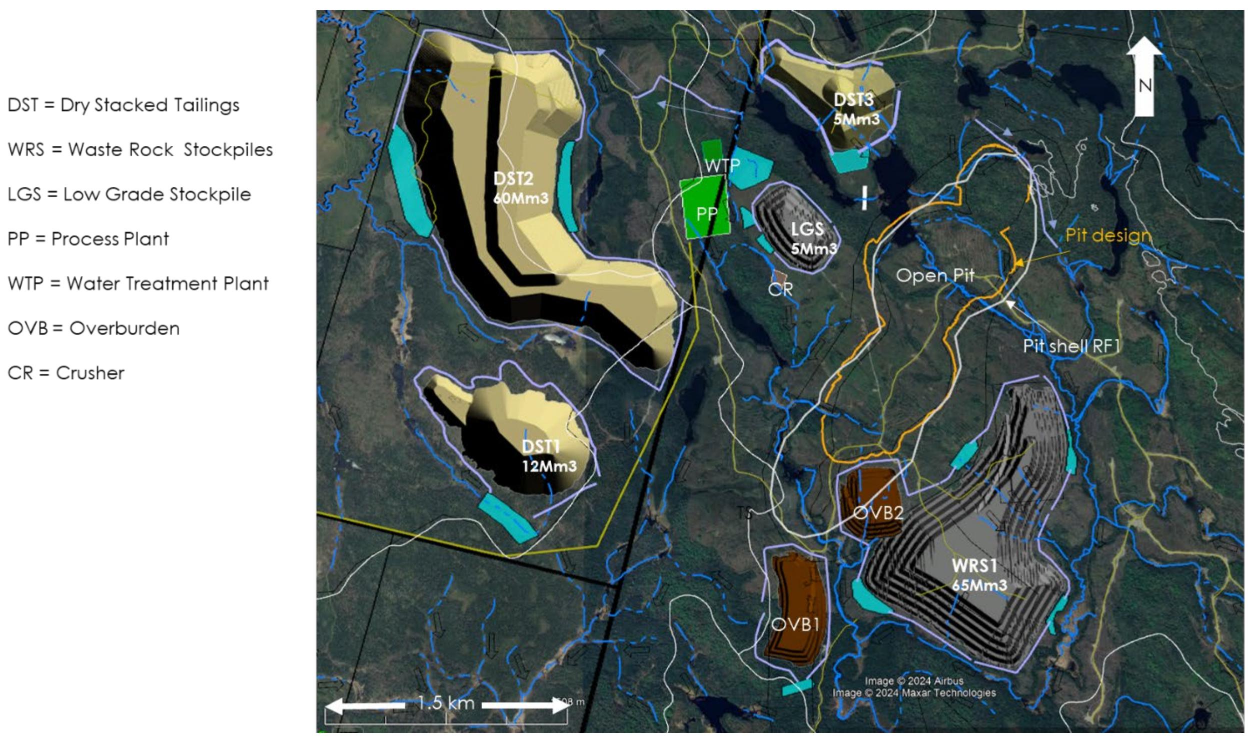
16.0 MINING METHODS

The Bégin-Lamarche Project consists of a relatively shallow phosphate deposit that lends itself to conventional truck-and-shovel open pit mining methods. Accordingly, this PEA mine plan entails developing a single final open pit to support a phosphate concentrate production operation. In addition to phosphate concentrate, iron will also be potentially recovered in the processing operation. Although titanium mineralization is reported in the Mineral Resource block model and production schedule, it is not currently considered to be economic, pending further metallurgical testing. No underground mining is considered in the PEA mine plan.

The PEA mine production plan utilizes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them to be classified as Mineral Reserves. There is no certainty that the Inferred Mineral Resources will be upgraded to a higher Mineral Resource classification in the future.

Figure 16.1 provides a general overview of the Project site, showing the location of the open pit, and proposed low-grade stockpile, overburden and waste rock storage facilities. The process plant site will be located northwest of the open pit.

FIGURE 16.1 GENERAL MINE LAYOUT



Source: *BBA (2024)*

The design of the open pit and the preparation of the mine production schedule consist of several technical steps. These are:

- Complete pit optimization to select the optimal shell to be used for open pit design.

- Design an operational pit (with ramps and catch benches) based on the selected optimal pit shell.

- Develop a life-of-mine ("LOM") production schedule, supplying sufficient tonnage of phosphate feed to the process plant in order to produce 900,000 tonnes annually of P_2O_5 concentrate grading 40% P_2O_5.

16.1 PIT OPTIMIZATION

Pit optimization was completed using Geovia Whittle™ software. The pit optimization analysis produces a series of nested pit shells, each containing mineralized material that is economically mineable according to a given geologic block model and a set of geotechnical and economic inputs. An optimal shell was then selected as the basis for the operational pit design.

Pit optimization was run using the parameters shown in Table 16.1. The base case phosphate concentrate price, grading 40% P_2O_5, was US$281.25/t. No revenue was attributed to iron or titanium in pit optimizations. The analysis included Indicated and Inferred Mineral Resources.

TABLE 16.1
PIT OPTIMIZATION PARAMETERS

Parameter	Unit	Value
Resource Classification Used	all	Ind & Inf
Production rate, P_2O_5 concentrate	tpa	900,000
P_2O_5 concentrate grade	% P_2O_5	40
Mining Costs		
Mining cost - feed	$/t mined	2.75
Mining cost - waste rock	$/t mined	2.75
Mining cost - overburden	$/t mined	2.00
Process Plant Costs		
Processing cost	$/t processed	13.00
Tailing cost	$/t processed	1.85
G&A cost	$/t processed	1.20
Total Processing+ Tailing + G&A	**$ t processed**	**16.05**
Concentrate Costs (Deductions)		
Concentrate handling and transport	$/t concentrate	35.00
Phosphate Price Model		
Exchange Rate (FX)	CAD$:US$	0.73
Phosphate Concentrate Price Input	US$/dmt	281.25
Phosphate Price	CAD$/dmt	385.27
(-) Concentrate Costs	CAD$/dmt	-35.00
Phosphate Net Price	CAD$/dmt	350.27
Concentrate Grade	% P_2O_5	40
P_2O_5 Recovery	%	90.0

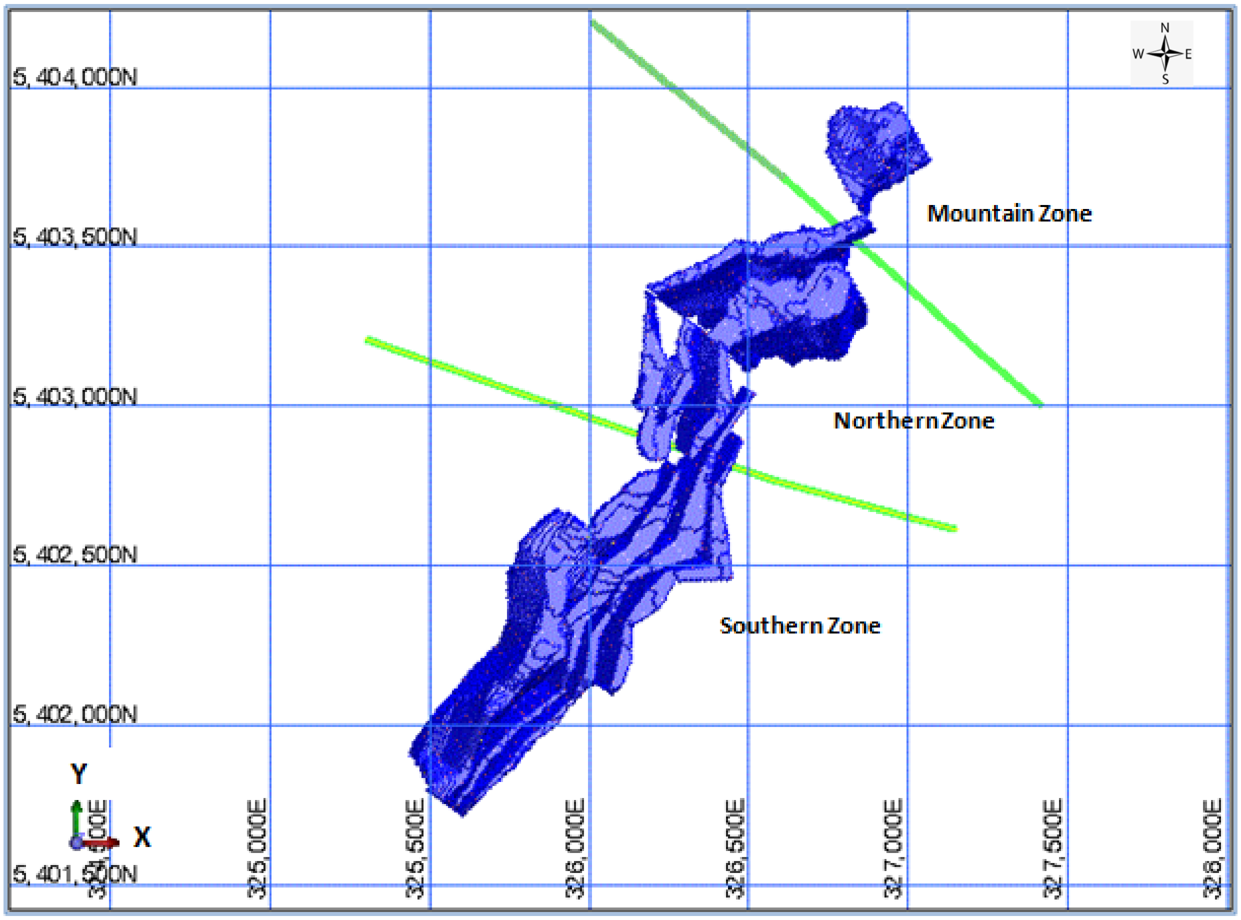
TABLE 16.1
PIT OPTIMIZATION PARAMETERS

Parameter	Unit	Value
Cut-off Grade (% P_2O_5)	% P_2O_5	2.04
Pit Slopes (Optimization Slopes)		**Maximum**
Mountain Zone– Hanging Wall	deg	42
Mountain Zone–Footwall	deg	47
Northern Zone– Hanging Wall	deg	38
Northern Zone–Footwall	deg	41
Southern Zone– Hanging Wall	deg	39
Southern Zone–Footwall	deg	44
Overburden	deg	30

Note: *Ind & Inf = Indicated and Inferred Mineral Resources, dmt = dry metric tonne.*

Geotechnical pit wall slope design assumptions were provided by BBA (November 2024) and are presented in Table 16.4. Mining areas consist of three mining zones: Mountain Zone, Northern Zone and Southern Zone, as shown in Figure 16.2. Geotechnical parameters vary from each zone to the other. Slope angles of the hanging walls used in pit optimizations were flattened by five degrees to account for a ramp. As recommended in the BBA report, ramps should be kept on the hanging walls.

FIGURE 16.2 MOUNTAIN, NORTHERN AND SOUTHERN MINING ZONES



The results of pit optimization are shown graphically in Figures 16.3 and Figure 16.4. The 1.0 Revenue Factor ("RF") corresponds to the base case P_2O_5 concentrate price of US$281.25/t.

Figure 16.3 indicates that beyond a RF of 0.58, the process plant feed tonnage increases very gradually. Figure 16.4 shows that the discounted value of net operating cash flows starts to level off above a RF of 0.60. As shown in Figure 16.3, higher revenue factors result in mining more waste material and consequently higher waste strip ratios. Due to site conditions, waste storage capacity is limited and mining high amounts of waste materials is not favoured. Therefore, minimizing the need for large external waste storage capacity is a factor in selecting the ultimate pit. The shell corresponding to 0.56 RF was selected as the basis for the open pit design.

FIGURE 16.3 OPTIMIZATION RESULT - TONNAGE VERSUS REVENUE FACTOR

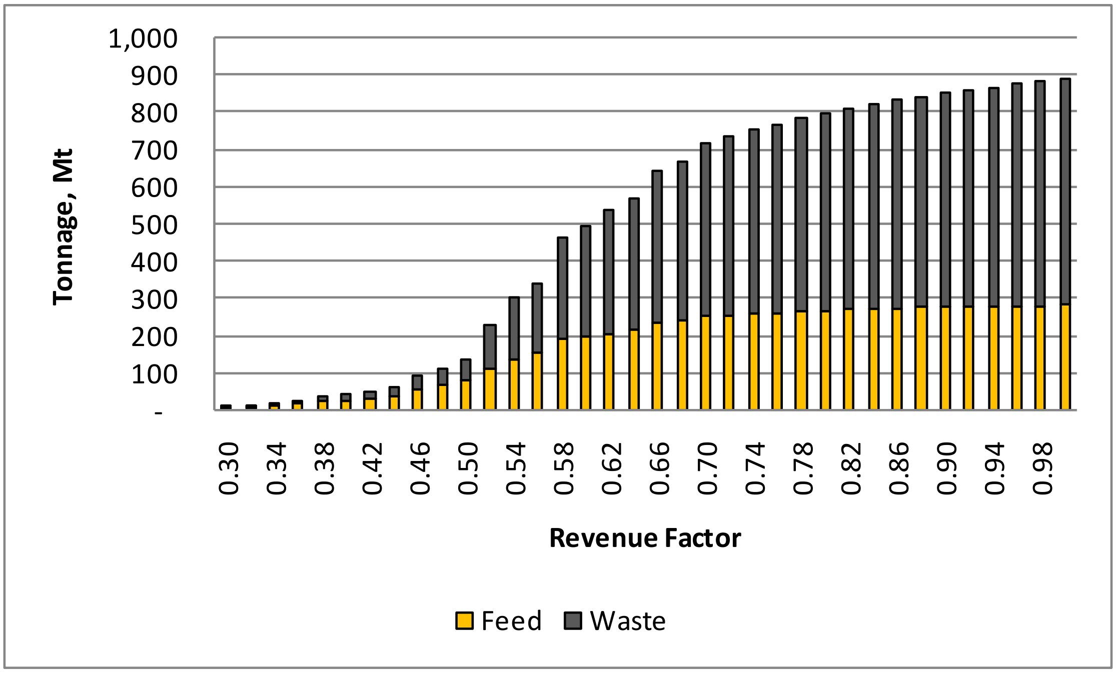
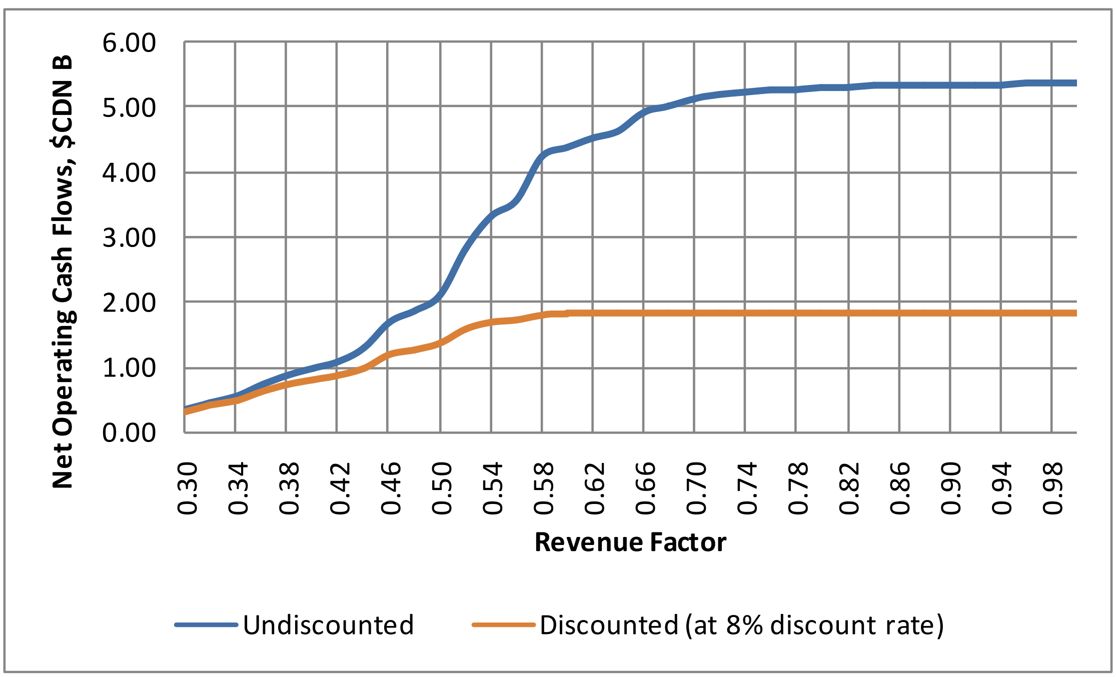


FIGURE 16.4 OPTIMIZATION RESULT - NPV VERSUS REVENUE FACTOR



Figures 16.5 and 16.6 provide a plan view and vertical cross-section for several optimized pit shells, illustrating the impact of increasing RF (i.e., commodity price) on the optimized pit size. The labels "0.56 RF (US$158/t)" indicate the RF and the corresponding P_2O_5 price used to define

that pit shell. As indicated above, the 0.56 RF pit shell (green) was selected as the basis for the open pit design.

FIGURE 16.5 OPTIMIZATION RESULT - PLAN VIEW

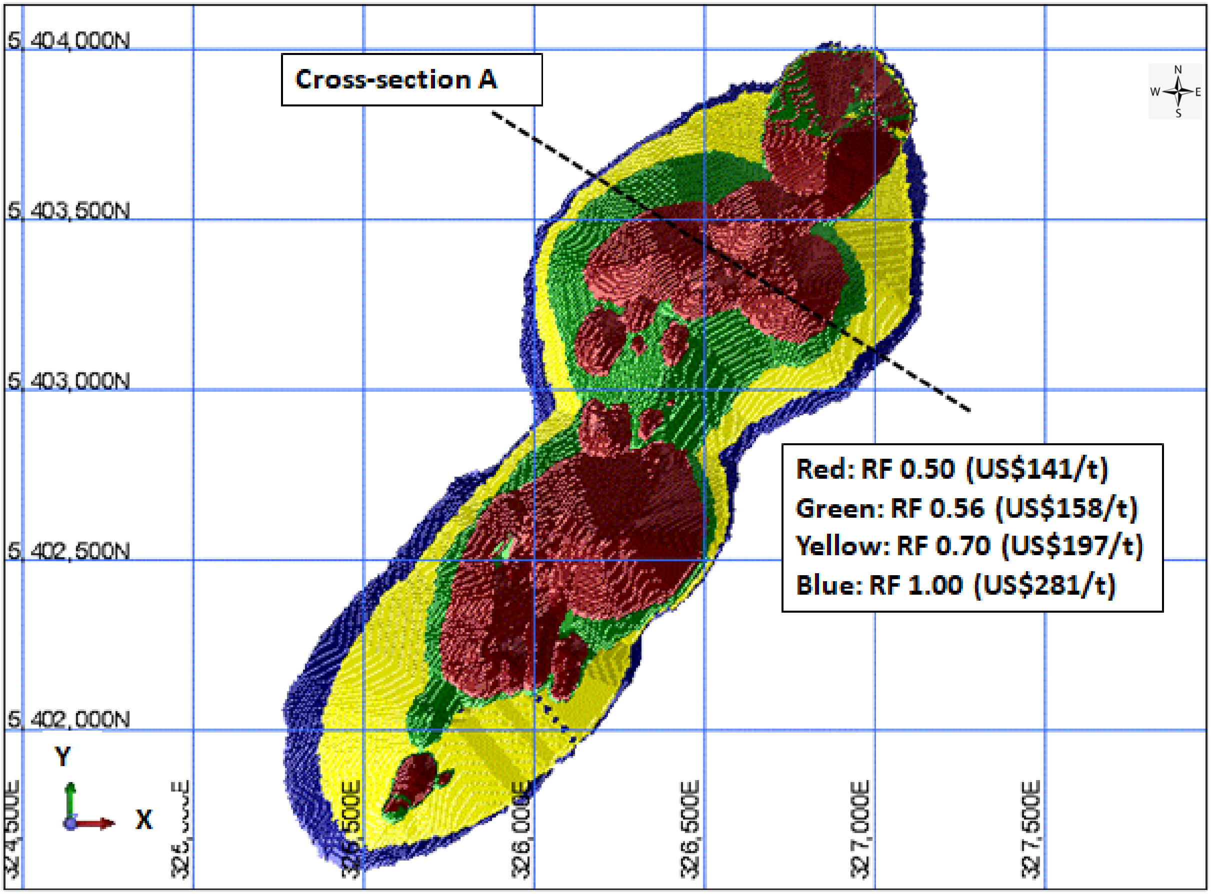
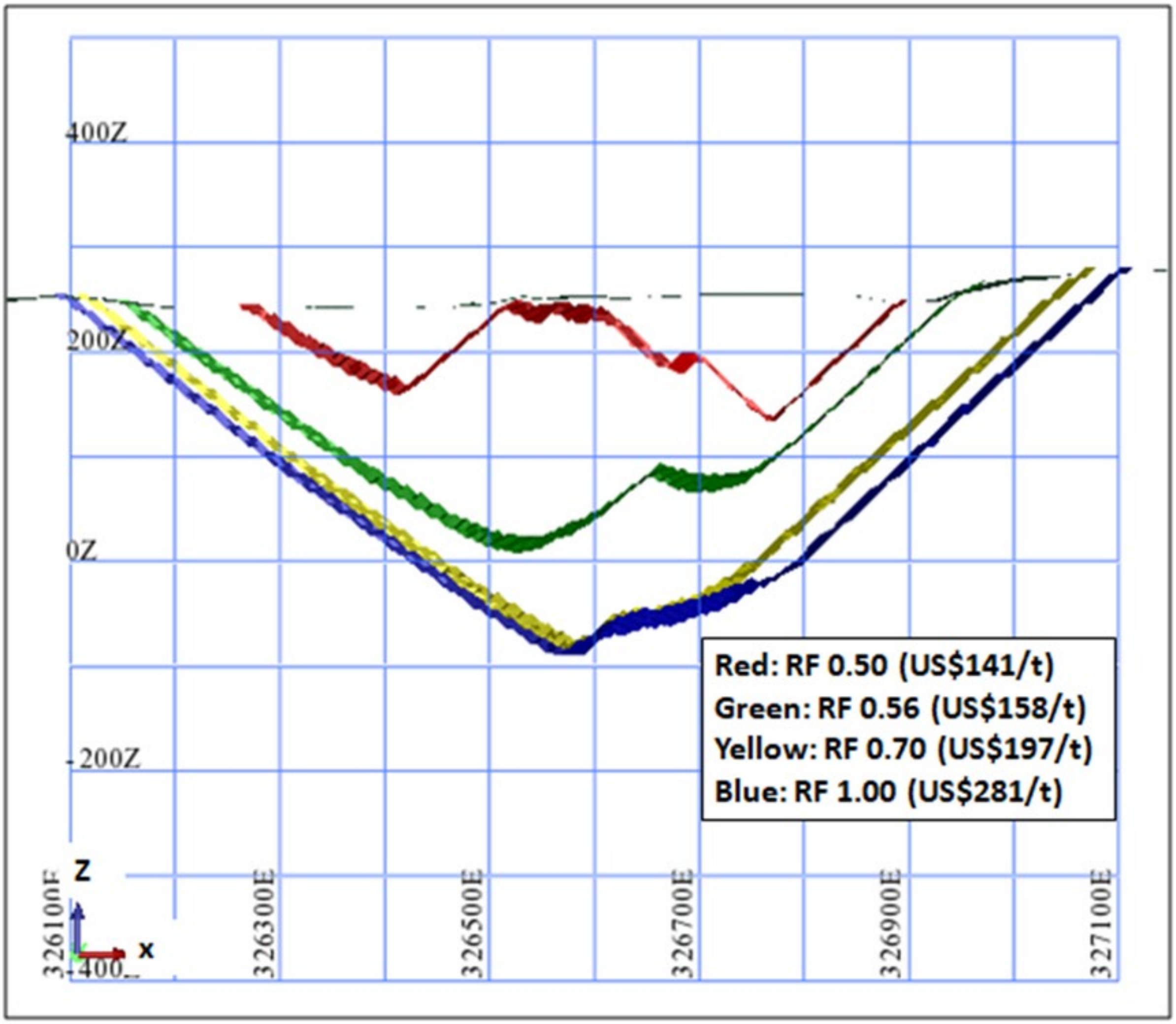


FIGURE 16.6 OPTIMIZATION RESULT –VERTICAL CROSS-SECTION A



16.2 MINE DESIGN

The open pit design was developed using the 0.56 RF optimized pit shell as a guide. Mining benches were designed based on the geotechnical pit wall recommendations provided by BBA (November 2024). Based on BBA's recommendations, all pit ramps were kept on the hanging wall.

16.2.1 Geotechnical Studies

BBA geotechnical recommendations (November 2024) are summarized below.

16.2.1.1 Geomechanic

Geotechnical Database

The lithology encountered at the Bégin-Lamarche Project is described as an anorthosite host rock. The mineralized phosphate deposit is intrusive, consisting of norite, gabbronorite, troctolite and ultramafic lithologies. The pit highwalls are located primarily within anorthosite.

Diamond drill holes routinely log the Rock Quality Designation ("RQD"), % Recovery and Fracture Frequency ("FF") per drilled interval. Compiled geotechnical data is summarized in Table 16.2. Geology logs and core photos of representative Bégin-Lamarche diamond drill holes were reviewed to visually estimate rock mass characteristics using the Modified NGI-Q' classification system (Barton et al. 1974). Ranges of anticipated rock mass quality (Q') per pit wall sector are summarized in Table 16.3.

TABLE 16.2
DISTRIBUTION OF LOGGED DIAMOND DRILL HOLE DATA

Parameter		Average Value	30th Percentile	Number Logged Intervals (3 m drill core run)
RQD distribution				
	Northern & Southern Zones	91%	90%	7,856
	Mountain Zone	85%	83.3%	1,630
Fracture frequency distribution (FF/m)				
	Northern & Southern Zones	4	1.7	7,856
	Mountain Zone	6	2.7	1,630

TABLE 16.3
RANGES OF ANTICIPATED ROCK MASS QUALITY (Q') PER PIT REGION

Design Region	Pit Region	Indicated Range of Rock Mass Quality (Q'), 30th Percentile
Hanging Wall	Mountain Zone, Northern Zone	15 to 21
	Southern Zone	24 to 35
Footwall	Mountain Zone, Northern Zone	8 to 14
	Southern Zone	23 to 25

16.2.1.2 Slope Design Basis

For conceptual level design, assessments of Bégin-Lamarche inter-ramp design considered the Haines & Terbrugge (1991) and Hoek & Bray (1981) empirical approaches.

- Design Acceptance Criteria ("DAC") of factor of safety ("FS") ≈ 1.2 was assumed slope inter-ramp angles. Bench height of 10 m and bench face angle 75° are assumed.

Initial recommendations for Bégin-Lamarche pit slopes are summarized Table 16.4. Designs are based on empirical estimation of inter-ramp angles and assumed bench height and bench face angle.

TABLE 16.4
SUMMARY - PEA GEOTECHNICAL DESIGN BASIS

Pit Zone	Highwall Location	Inter-Ramp Angle (IRA) (°)	Bench Height (m)	Bench Face Angle (BFA) (°)	Catch Bench Width (CBW) (m)
Mountain Zone	Hanging Wall	47	10	75	6.6
	Footwall & Northeast wall	47			6.6
	Southwest wall	46			7.0
Northern Zone	Hanging Wall	43	10	75	8.0
	Footwall & NE & SW end walls	41			8.8
Southern Zone	Hanging Wall, Footwall & SW end wall	44	10	75	7.7

16.2.2 Hydrogeological Studies

No hydrogeological studies have been completed for this PEA to evaluate the groundwater conditions at site. This field work will be undertaken at the next stage of study.

16.2.3 Pit Layouts

Pit designs were performed based on the design parameters in Table 16.5. Ramps were kept on the hanging wall based on BBA recommendations (November 2024).

TABLE 16.5 **PIT DESIGN PARAMETERS**		
Parameter	**Units/Type**	**All Pit Walls**
Mining Height	m	5
Benching	No.	2
Final Bench Height	m	10
Bench Face Angle	deg	75
Berm Width	m	Variable (6.6 – 8.8)
Inter-Ramp Angle	deg	Variable (41 – 47)
Maximum Stacking Height	m	120
Geotechnical Berm Width	m	15
Haul Road Width (10% gradient)	Double lane m	30
	Single lane m	20

A series of pit phases were designed for production scheduling purposes. The phases are used to enhance Project economics by distributing waste tonnages over time and allowing mining to start in an area near surface and with limited waste rock to strip. The pit will be mined out in seven phases as shown in Table 16.6. The Mountain Zone will be mined in one phase (Phase 1 in Table 16.6); The Northern Zone will be mined in three phases (Phases 2 to 4 in Table 16.6) and the Southern Zone will be mined in three phases (Phases 5 to 7 in Table 16.6). The pit phase and final pit layouts are shown in Figures 16.7 to 16.12.

TABLE 16.6 **PIT PHASE TONNAGES**								
Material	**LOM Total**	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**	**Phase 7**
Total Material (Mt)	**369.61**	40.37	23.13	76.83	94.41	44.31	36.75	53.81
Overburden (Mt)	**7.78**	1.20	1.14	1.28	1.50	1.18	0.61	0.85
Waste Rock (Mt)	**211.28**	21.04	12.01	49.85	63.76	16.51	16.01	32.09
Feed (Mt)	**150.55**	18.11	9.95	25.68	29.16	26.58	20.15	20.90
P_2O_5 (%)	**5.76**	7.20	5.93	5.66	5.96	5.28	5.33	5.30
Fe_2O_3 (%)	**10.32**	9.02	10.71	10.51	10.72	10.62	10.27	10.11
TiO_2 (%)	**3.39**	2.97	3.39	3.24	3.32	3.62	3.57	3.53
Strip Ratio	**1.5**	1.23	1.32	1.99	2.24	0.67	0.82	1.57

FIGURE 16.7 MOUNTAIN ZONE PIT DESIGN

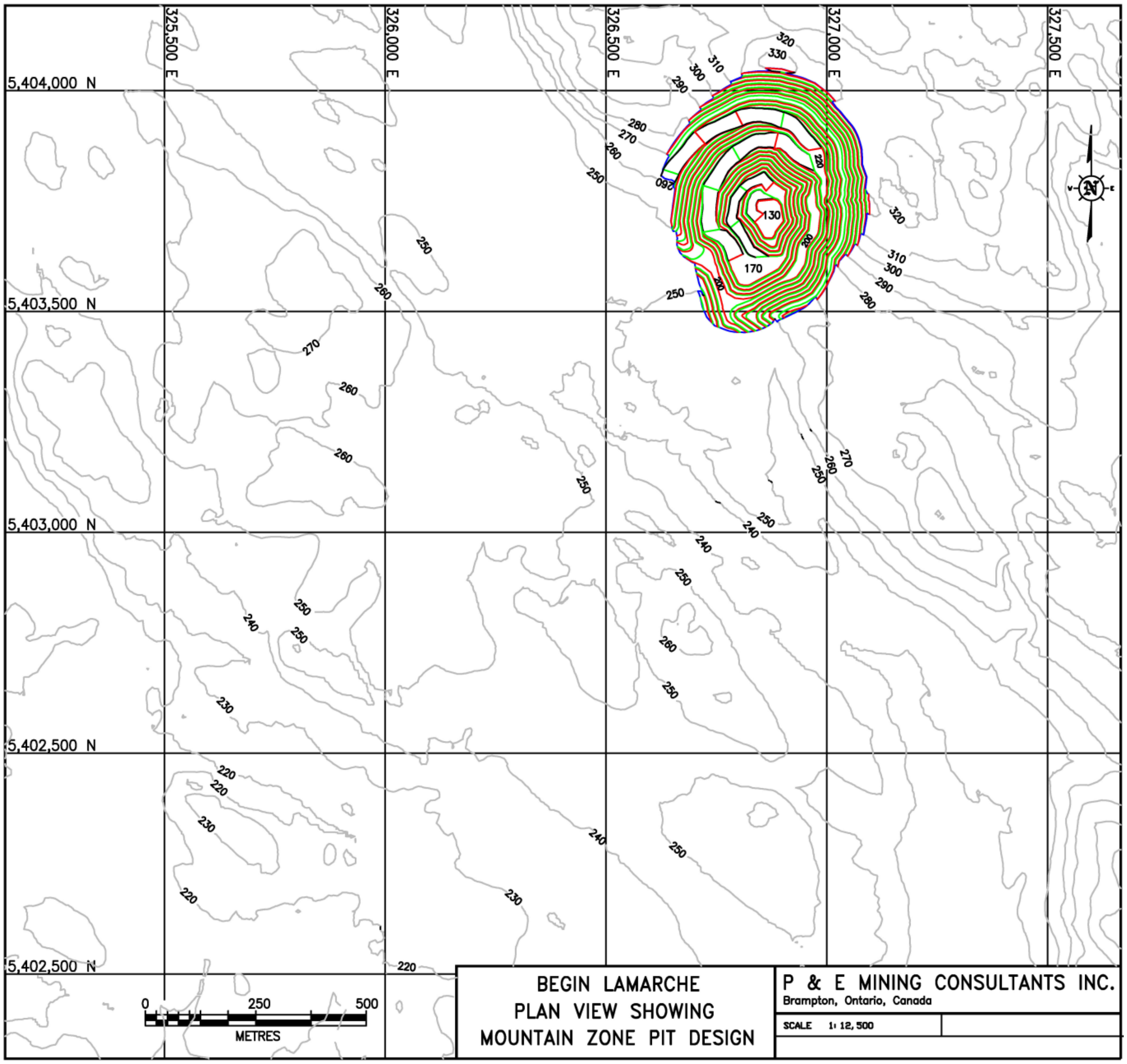


FIGURE 16.8 NORTHERN ZONE PHASE 1 PIT DESIGN

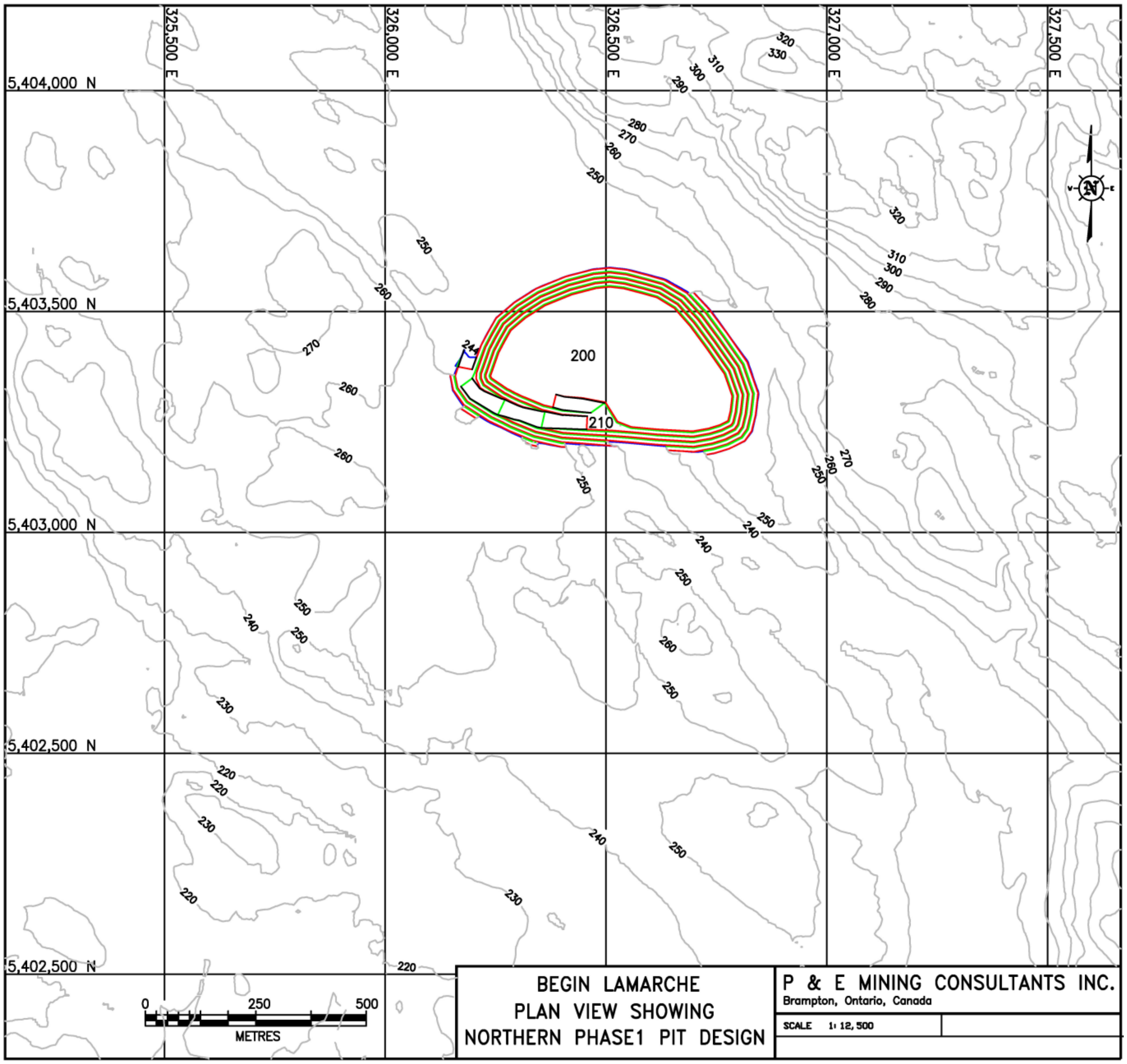


FIGURE 16.9 NORTHERN ZONE PHASE 2 PIT DESIGN

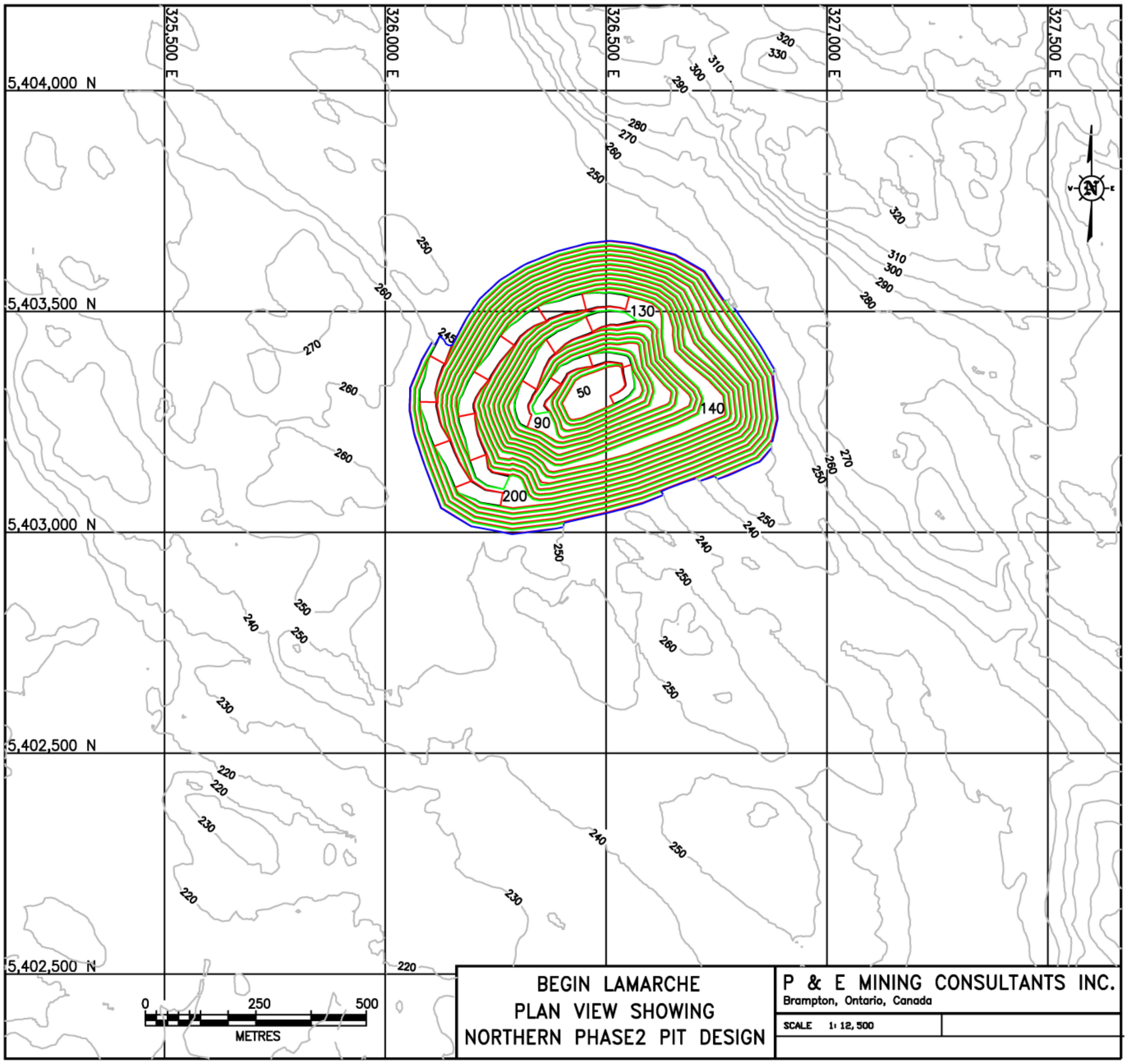


FIGURE 16.10 SOUTHERN ZONE PHASE 1 PIT DESIGN

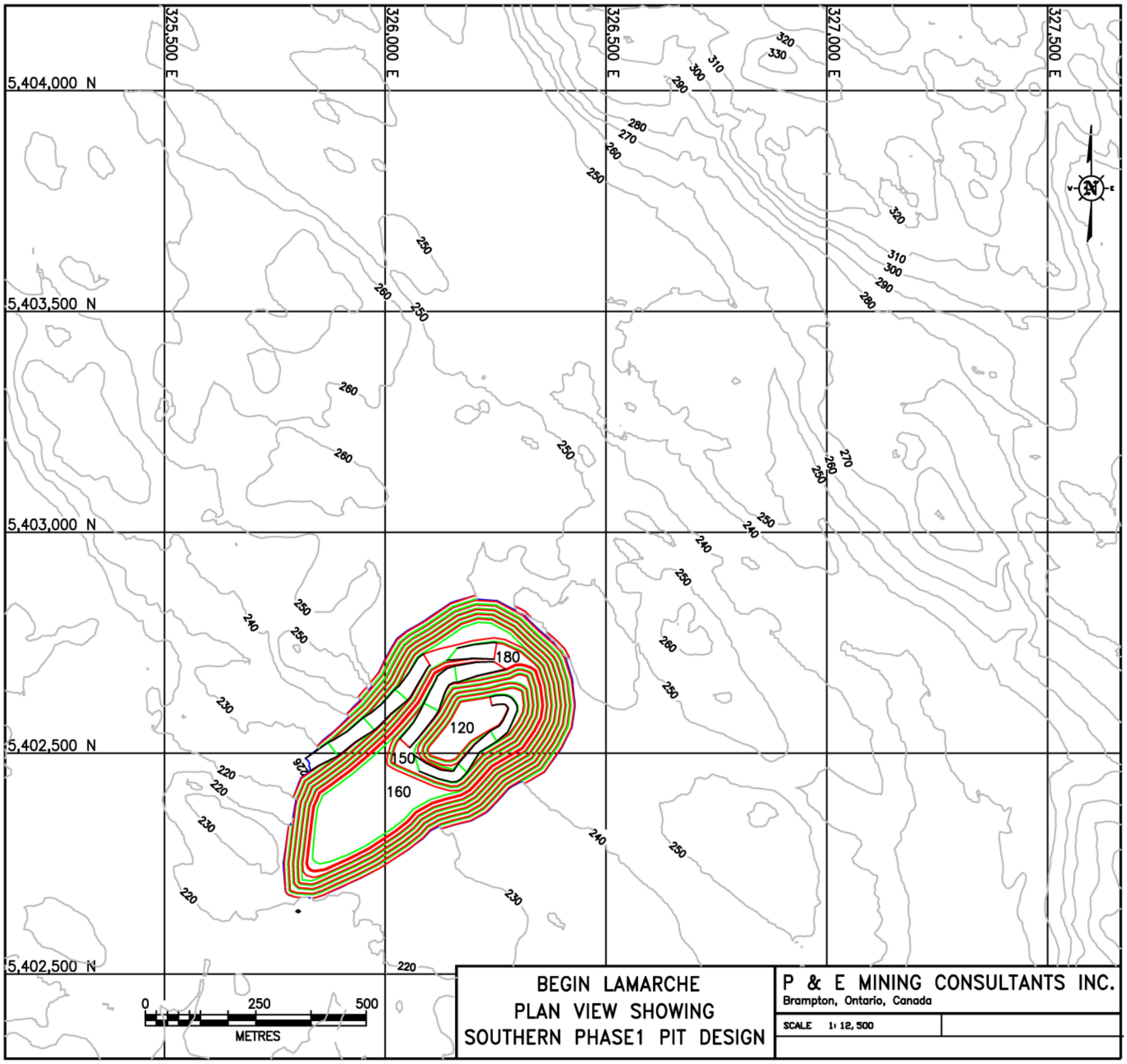


FIGURE 16.11 SOUTHERN ZONE PHASE 2 PIT DESIGN

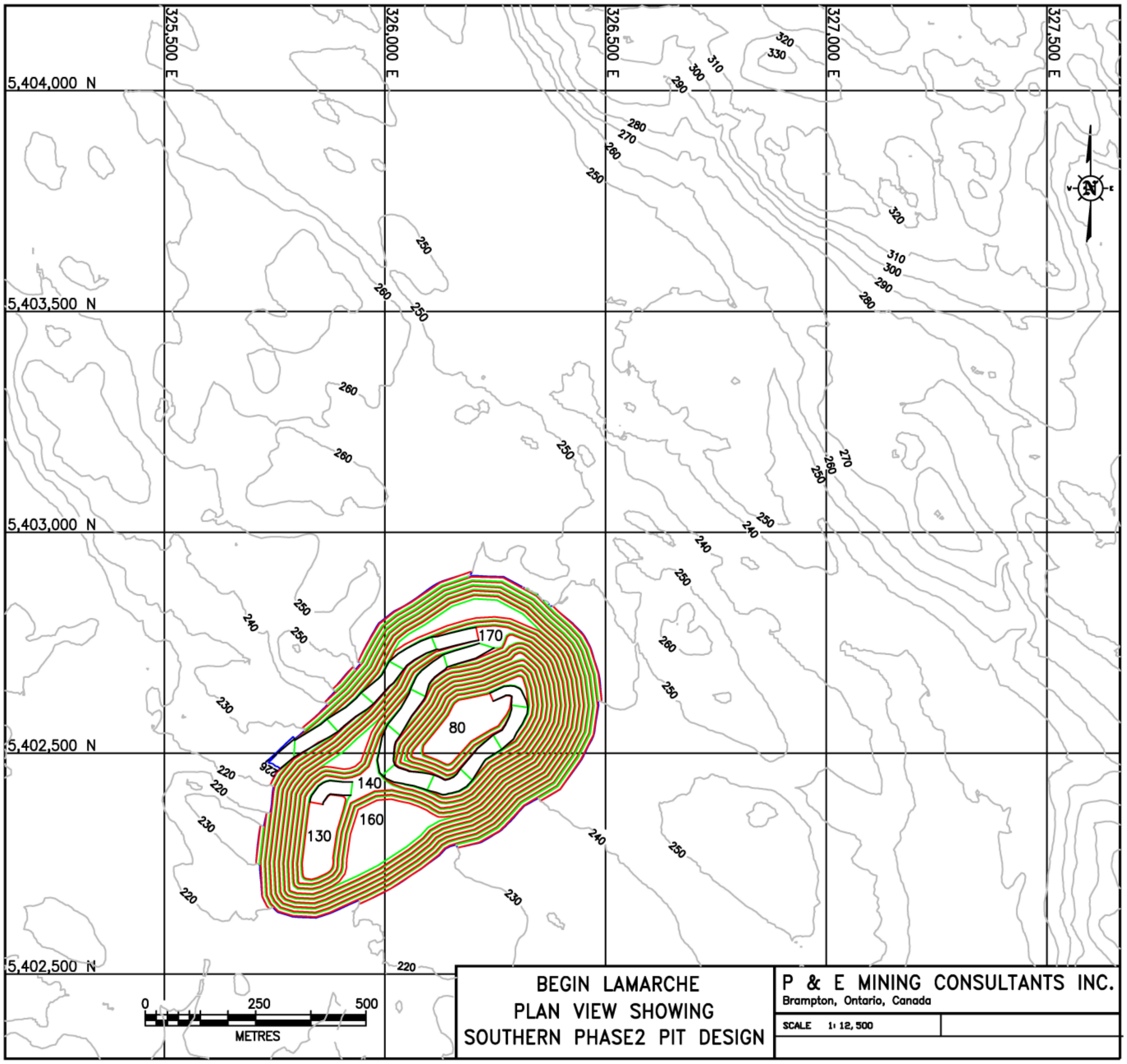
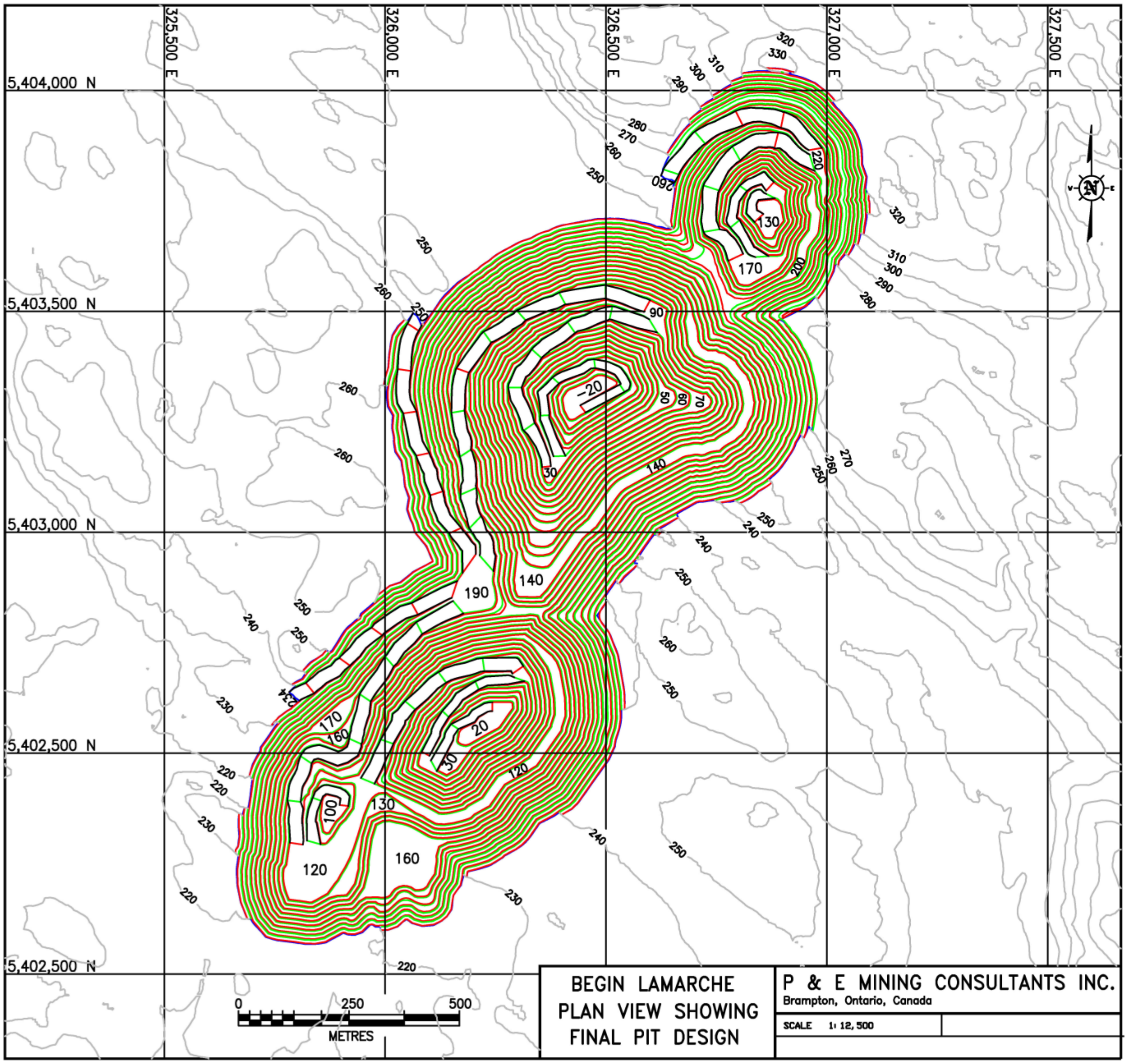


FIGURE 16.12 FINAL OPEN PIT DESIGN



16.2.4 Dilution and Losses

Some loss of process plant feed tonnage will occur during mining. The PEA assumes that 3% of the feed tonnage will be lost due to misclassification and spillage.

It is also recognized that waste rock and low-grade material surrounding the mineralized zones would be mixed with the plant feed during mining, thereby creating dilution.

To estimate diluting grade, a 2 m thick low-grade "halo" was assumed around the outside perimeter of the mineralized zones. This "halo" was modelled on several of the pit benches.

A 3-D solid was created for the low-grade "halo". The halo domain average diluting grades were estimated from assays constrained within the low-grade halo solid. These grades are applied as diluting grades, summarized in Table 16.7.

The diluting volume and subsequent tonnage was determined from the aggregate volume proportion of wireframe boundary blocks that were outside the mineralized wireframes.

The resulting diluting grade and tonnage were merged with the Mineral Resource wireframe boundary blocks to create a 5 x 10 x 5 m diluted mining block model which was used in pit optimizations and production scheduling. Mining dilution is estimated to be 5% to 7%. Since the mineralized zone is fairly large and extensive, one would predict dilution to be relatively low.

TABLE 16.7
DILUTION AND LOSS PARAMETERS

Feed Loss	Average Dilution	Average Diluting Grades		
		P_2O_5	Fe_2O_3	TiO_2
3%	6%	1.7%	17.3%	3.0%

16.3 PROCESS PLANT FEED SUMMARY

The total quantity of feed sent to the process plant is 150.55 Mt. The overall strip ratio is 1.5:1.

Table 16.8 presents the total PEA production plan tonnage classified as Indicated and Inferred Mineral Resources. There are no Measured Mineral Resources. Approximately 78% of the 150.55 Mt feed tonnes consist of Inferred Mineral Resources.

TABLE 16.8
MINE PLAN TONNAGE BY MINERAL RESOURCE CLASSIFICATION

Classification	Tonnage (k)	P_2O_5 (%)	Fe_2O_3 (%)	TiO_2 (%)
Indicated	33,780	6.17	10.01	3.11
Inferred	116,770	5.64	10.40	3.46

16.4 PRODUCTION SCHEDULE

Table 16.9 presents the life-of-mine ("LOM") production schedule. The mine production schedule consists of six months of pre-production followed by 22 years of active mining and one year of stockpile reclaim, for a total LOM of 24 years. Total mining years are 23 and total process plant production years are 23.

During generation of the production schedule, the target is to supply sufficient tonnage of phosphate feed to the process plant in order to produce approximately 900,000 tpa of recoverable

40% P_2O_5 concentrate. Process plant ramp up is 70% in the first production year and reaches full capacity starting in the second production year. Low-grade materials in excess of required process capacity and above the process plant cut-off grade will be stored in a low-grade stockpile area close to the crusher. These materials will be processed mostly during the last two production years when the pit is mined out. Mining starts in the Mountain Zone since the grade is high and the strip ratio is relatively low. The Mountain Zone will be completed during the first four production years and will be available for in-pit waste rock storage. Subsequently, the first phase of the Northern Zone will be mined followed by the first phase of the Southern Zone. To reduce the need for external waste storage space, mining will continue in the second phase of the Northern Zone followed by the third (final) phase of the Northern Zone. Once the Northern Zone is completely mined out, it will be available from production year 16 to store waste rock mined out from the second and third phases of the Southern Zone. Over the LOM, the pit will produce 150.55 Mt of process plant feed grading 5.76% P_2O_5, 10.32% Fe_2O_3 and 3.39% TiO_2. Total waste generated will be 219 Mt with a LOM strip ratio of 1.5:1.

Table 16.9 Annual Mine Production Schedule Summary																										
Production Type	**Units**	**Total**	**Year**																							
			-1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
Total mined	Mt	**369.6**	1.2	9.4	13.2	15.0	14.1	15.5	14.7	15.4	23.5	28.1	28.0	25.2	24.2	18.5	14.8	16.5	17.0	18.5	16.2	15.9	12.5	10.1	1.9	
Waste mined	Mt	**219.1**	1.2	5.2	7.4	9.1	7.5	7.9	6.7	7.3	15.5	20.4	20.3	17.5	16.6	11.3	7.8	10.8	10.8	10.5	8.4	8.1	4.8	3.6	0.4	
Mining reject & loss	Mt	**28.3**		0.4	0.7	0.6	1.0	1.7	1.5	1.5	1.6	1.9	2.1	1.8	1.7	1.2	1.1	0.6	1.0	1.8	1.5	1.7	1.3	1.3	0.2	
Waste rock mined	Mt	**183.0**		4.8	6.7	8.5	5.3	5.4	4.8	4.7	13.6	17.1	18.0	15.7	15.0	10.1	6.7	10.1	8.8	8.2	6.9	6.4	3.5	2.3	0.3	
Overburden mined	Mt	**7.8**	1.2				1.1	0.8	0.4	1.0	0.3	1.3	0.2						1.0	0.5						
Strip ratio	W:F[1]	**1.46**		1.2	1.3	1.6	1.1	1.0	0.8	0.9	1.9	2.6	2.6	2.3	2.2	1.6	1.1	1.9	1.8	1.3	1.1	1.0	0.6	0.5	0.3	
Pit to process plant	Mt	**138.5**		3.5	5.0	5.1	5.8	6.4	7.1	7.4	7.2	6.7	7.0	7.0	6.7	6.8	6.6	5.6	6.0	7.8	7.6	7.6	7.6	6.6	1.4	
P_2O5, grade	%	**6.04**		8.04	7.93	7.90	6.86	6.24	5.61	5.40	5.56	5.95	5.72	5.74	5.99	5.87	6.02	7.11	6.69	5.16	5.25	5.25	5.26	5.95	6.63	
Fe_2O_3, grade	%	**10.68**		10.37	9.73	9.33	10.85	11.45	11.52	11.04	10.93	10.83	10.26	10.30	10.69	10.77	11.34	12.23	11.13	10.72	10.71	10.23	9.98	9.80	9.55	
TiO_2, grade	%	**3.51**		3.35	3.22	3.15	3.56	3.70	3.93	3.78	3.65	3.49	3.30	3.28	3.38	3.35	3.45	3.73	3.25	3.76	3.72	3.61	3.42	3.45	3.35	
Pit to stockpile	Mt	**12.0**		0.7	0.8	0.8	0.8	1.2	0.9	0.8	0.9	1.0	0.7	0.7	0.9	0.4	0.4	0.1	0.2	0.3	0.2	0.2	0.1			
P_2O5, grade	%	**2.57**		2.79	2.73	2.70	2.59	2.68	2.61	2.60	2.58	2.60	2.47	2.46	2.58	2.37	2.44	2.32	2.34	2.30	2.25	2.20	2.17			
Fe_2O_3, grade	%	**6.15**		5.00	4.60	4.68	6.25	6.58	6.70	6.74	6.61	6.48	6.35	6.42	6.50	6.42	6.47	6.24	5.93	6.34	6.31	6.20	6.08			
TiO_2, grade	%	**1.90**		1.28	1.20	1.24	1.97	2.15	2.28	2.20	2.12	2.05	1.94	1.99	2.01	1.95	1.86	1.87	1.85	2.15	2.03	1.92	1.84			
Stockpile to process plant	Mt	**12.0**																					0.1	0.4	6.1	5.5
P_2O5, grade	%	**2.57**																					2.6	2.6	2.6	2.6
Fe_2O_3, grade	%	**6.15**																					6.1	6.1	6.1	6.1
TiO_2, grade	%	**1.90**																					1.9	1.9	1.9	1.9
Tonnage Processed	Mt	**150.55**		3.5	5.0	5.1	5.8	6.4	7.1	7.4	7.2	6.7	7.0	7.0	6.7	6.8	6.6	5.6	6.0	7.8	7.6	7.6	7.6	6.9	7.5	5.5
P_2O5, grade	%	**5.76**		8.04	7.93	7.90	6.86	6.24	5.61	5.40	5.56	5.95	5.72	5.74	5.99	5.87	6.02	7.11	6.69	5.16	5.25	5.24	5.24	5.77	3.34	2.57
Fe_2O_3, grade	%	**10.32**		10.37	9.73	9.33	10.85	11.45	11.52	11.04	10.93	10.83	10.26	10.30	10.69	10.77	11.34	12.23	11.13	10.72	10.71	10.23	9.95	9.60	6.80	6.15
TiO_2, grade	%	**3.39**		3.35	3.22	3.15	3.56	3.70	3.93	3.78	3.65	3.49	3.30	3.28	3.38	3.35	3.45	3.73	3.25	3.76	3.72	3.61	3.41	3.36	2.18	1.90
P_2O_5 concentrate	kt	**19,512**		630	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	564	318
Tonnage in stockpile	Mt			0.7	1.5	2.3	3.1	4.3	5.2	6.0	6.8	7.8	8.6	9.3	10.2	10.6	11.0	11.1	11.3	11.6	11.8	11.9	11.9	11.6	5.5	0.0
P_2O5, grade	%			2.79	2.76	2.74	2.70	2.70	2.68	2.67	2.66	2.65	2.64	2.62	2.62	2.61	2.60	2.60	2.59	2.59	2.58	2.58	2.57	2.57	2.57	
Fe_2O_3, grade	%			5.00	4.79	4.75	5.15	5.54	5.74	5.87	5.96	6.03	6.05	6.08	6.12	6.13	6.14	6.14	6.14	6.15	6.15	6.15	6.15	6.15	6.15	
TiO_2, grade	%			1.28	1.24	1.24	1.43	1.63	1.74	1.80	1.84	1.87	1.87	1.88	1.89	1.90	1.89	1.89	1.89	1.90	1.90	1.90	1.90	1.90	1.90	

Note: *The potential process plant feed tonnages utilized in the PEA contain both Indicated and Inferred Mineral Resources. The reader is cautioned that Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be classified as Mineral Reserves, and there is no certainty that value from such Mineral Resources will be realized either in whole or in part.*

1. Waste rock mined : Process plant feed.

16.5 OPEN PIT MINING PRACTICES

It is assumed that the Bégin-Lamarche mine will be an owner operated open pit mine, except for blasting operations. While contract mining may be an option, this was not considered in this PEA.

The owner's mining team would undertake all drilling (blasting would be contracted), loading, hauling, and mine site maintenance activities. The owner will also be responsible for technical services, such as mine planning, grade control, geotechnical, and surveying services. It is assumed that an explosive supplier would be contracted for explosive delivery, blast hole charging, and blast control.

It is anticipated that the mining operations would be conducted 24 hours per day and 7 days per week throughout the entire year.

It is assumed that most of the materials mined will require drilling and blasting. Overburden would be free digging and not require blasting.

16.5.1 Mine Equipment Fleet and Personnel

It is expected that diesel-powered hydraulic excavators (10 m^3 bucket size) and front-end loaders (11 m^3 bucket size) will be used to excavate the blasted rock. The anticipated truck capacity is 90 t.

The primary mining equipment will be supported by a fleet of equipment consisting of dozers, road graders, watering trucks, maintenance vehicles, and service vehicles.

As the open pit deepens, it will likely experience groundwater seepage. No quantitative information was available to adequately predict the expected water inflow into the pits, however, it is expected to be minimal. Table 16.10 summarizes the expected mining equipment fleet from Year -1 until Year 10 when fleet requirements peak.

The mining personnel will peak in Year 10 at approximately 184, including operators, maintenance, supervision, and technical staff. The workforce breakdown by role is presented in Table 16.11.

TABLE 16.10 MINE EQUIPMENT FLEET, YEARS -1 TO 10											
Item	**Year**										
	-1	1	2	3	4	5	6	7	8	9	10
Sandvik Drill DR410i	0	1	2	2	2	2	2	2	3	3	3
Stemming Truck 15 t	0	1	1	1	1	1	1	1	1	1	1
Hydraulic Excavator 10 m^3	1	1	2	2	2	2	2	2	2	3	3
Wheel Loader 11 m^3	1	1	1	1	1	1	1	1	1	1	1
Haul Truck 90 t	1	4	5	7	7	7	6	8	14	17	18
Personnel Van	1	1	1	1	1	1	1	1	1	1	1
Crane, Grove 40T	1	1	1	1	1	1	1	1	1	1	1
Dozer D8	2	3	3	3	3	3	3	3	4	4	4
Mechanic & Welding Truck	1	1	1	1	1	1	1	1	1	1	1
Excavator 4 m^3	1	1	1	1	1	1	1	1	1	1	1
Fuel & Lube Truck	1	2	2	2	2	2	2	2	2	2	2
Grader (GD655)	2	2	2	2	2	2	2	2	2	2	2
Flat Deck w Hiab	1	1	1	1	1	1	1	1	1	1	1
Lighting Plant	2	6	6	6	6	6	6	6	6	6	6
Tire Handler	1	1	1	1	1	1	1	1	1	1	1
Truck & Float Trailer, 200 t	1	1	1	1	1	1	1	1	1	1	1
Pickup Truck	6	6	6	6	6	6	6	6	6	6	6
Pit Water Pumps	2	2	2	2	2	2	2	2	2	2	2
Forklift	1	1	1	1	1	1	1	1	1	1	1
Wheel Loader 4 m^3	1	1	1	1	1	1	1	1	1	1	1
Water Truck (HM400)	1	1	1	1	1	1	1	1	1	1	1

TABLE 16.11 PEAK MINE PERSONNEL	
Category	**Number**
Driller	9
Truck Drivers	72
Excavator Operators	10
Wheel Loader Operators	1
HD Mechanic	37
Pit Services	2
Grader Operator	4
Dozer Operator	8
Water/Sand Truck Operator	2
Utility Operators	4

TABLE 16.11 PEAK MINE PERSONNEL	
Category	**Number**
Mine Superintendent	1
Mine Foremen	4
Mine Clerk	1
Dispatchers	4
Equipment Trainer	1
Maintenance Gen Foreman	1
Maintenance Foreman	2
Maintenance Clerk	1
Planner	1
Welder	2
Gas Mechanic	1
Fuel and Lube Person	4
Tireman	1
Partsman	1
Labourer	2
Chief Mine Engineer	1
Senior Pit Engineer	1
Geologist	2
Surveyor	1
Survey Technician	1
Mine Technician	1
Grade Control Technician	1
Total	184

16.5.2 Waste Rock Storage Facilities

The open pit will require the development of storage facilities for both overburden and waste rock. The pit will generate 8 Mt of overburden and 211 Mt of waste rock. Overburden will be stored in two storage places to the south of the pit, as shown in Figure 16.1. Waste rock will be stored in external waste storage south of the pit. In production year 4, the Mountain Zone will be completely mined out and available for in-pit waste storage. From production year 4 to production year 9, some of the waste rock mined out from the Northern Zone will be stored in-pit in the Mountain Zone until it reaches the full storage capacity of 14 Mm^3 in year 9. From production year 10 to 15 all waste rock generated from the pit will be stored in the external waste storage. In year 16, the Northern Zone will be completely mined out and becomes available to store waste rock. Some of the waste rock produced in year 16 and all waste rock produced from year 17 until end of pit life in year 22 will be stored in-pit in the Northern Zone. Over the LOM, a total of 138 Mt will be stored in the external waste storage, 30 Mt will be stored in-pit in the Mountain Zone, and 43 Mt will be stored in-pit in the Northern Zone.

At this PEA stage, the waste storage facilities are not designed in detail. Potential locations are identified, and field reconnaissance and geotechnical investigations will be undertaken at the next stage of study to confirm suitability and design specifications.

16.5.3 Mine Support Facilities

The Bégin-Lamarche open pit operation will require mine offices, maintenance facilities, warehousing, lube and fuelling station, and cold storage areas. These will be located in the general vicinity of the process plant area.

17.0 RECOVERY METHODS

A summary of available metallurgical testwork on the Bégin Lamarche ("BL") Mineral Resource has been presented in Section 13 of this Report. While the extent of test process data is generally adequate for the production of an apatite (phosphate) concentrate, as well as magnetite (iron), a successful method for the production of an ilmenite (titanium) concentrate was not completed.

It has been assumed that a BL process flowsheet will be composed of elements representing conventional industrial mineral processing technology. Several variations of individual process units could be considered in the future development and refinement of a final flowsheet.

A conceptual BL flowsheet may not be a precise replica of any other known mineral process. Implementation of a flowsheet on an industrial scale will require the inclusion and adjustment of basic principles, however, with the capacity to be flexible and innovative to contend with variability in feed tonnage and Mineral Resource characteristics. The combined processes will be expected to be robust and deliver products that meet precise specifications, and therefore, are saleable products as opposed to commodities (such as precious metals). Often buyers are intolerant of off "spec" batches of industrial minerals.

The principal BL process stages will include a gyratory unit crushing of ROM material, SAG-ball mill grinding, the application of various intensities of magnetic separation to produce a magnetite concentrate, and the performance of moderate strength[1] multi-stage flotation to produce a high-grade apatite concentrate. High density slurry reagent conditioning, regrinding of rougher magnetite and first cleaner apatite concentrates will be necessary. Concentrate slurry thickening will be followed by pressure filtration, drying and preparation for shipping of the magnetite and apatite products. Magnetite and apatite tailings will be combined, thickened, and pressure filtered to accommodate "dry stacking" tailings management. Desliming, a common process step in industrial minerals processing, is not expected to be included in the BL flowsheet.

Ilmenite concentrate production is not included in the current BL process flowsheet. High intensity magnetic separation ("HIMS"), gravity separation and possibly froth flotation could be considered in future efforts to produce a saleable ilmenite concentrate from the apatite tails.

The flowsheet shown in Figure 17.1 represents the SGS laboratory test procedures used to produce magnetite and apatite concentrates. Confirmation of this flowsheet can be anticipated following receipt of the results of additional bench-scale testing and pilot scale tests on fresh samples and on samples representing variations in Mineral Resource mineralization. The validation of process fundamentals and wise equipment selection can provide the assurance to be able to make the necessary adjustments to consistently meet customer acceptance specifications of the mineral products.

The principal mineral product is a high-grade apatite concentrate that will be suitable for purified phosphoric acid ("PPA") which can contribute to electric vehicle ("EV") battery manufacture as well as other high value phosphorous products. The conversion of the apatite to provide

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[1] Strength related to the activity of flotation agents – fatty acids are less active than xanthates or amines

phosphorous compounds for these products will be undertaken off-site by buyers of the apatite product or by First Phosphate in partnership with other organizations at a Saguenay location.

The conceptual process flowsheet outlined in Figure 17.1[2] and process data are sized for a nominal processing capacity of 12,000 tpd of mineralized feed grading 9.19% P_2O_5 (the laboratory composite sample grade). For such a feed grade and tonnage, 900,000 tpa of apatite concentrate would be produced.

Based on 336 operating days per year (92% of 365), the tonnage processed is planned to be increased from 10,300 tpd in the first production year, up to on average 15,800 tpd for years 2 to 4, and on average 20,800 tpd for years 5 to the end of mine life. The process plant will include design characteristics that will readily permit a 30% increase in capacity after year 4.

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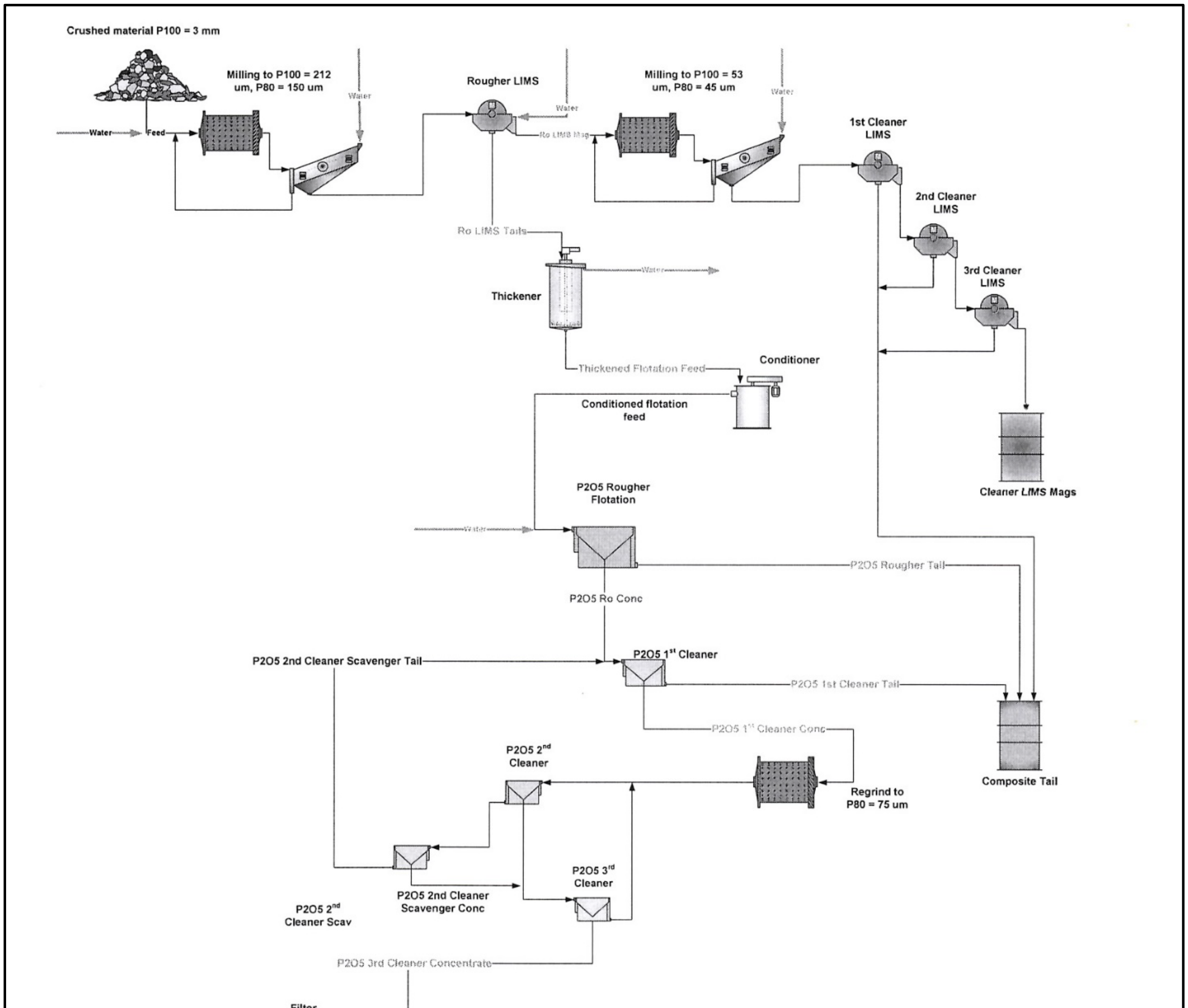
[2] SGS Quebéc City, Canada, November 11, 2024

FIGURE 17.1 SGS NOVEMBER 2024 LABORATORY FLOWSHEET



Basis	12000	TPD

	% of feed	Mass flow (TPD)	Mass flow (TPY)	Size (P80: µm)	P2O5 (%)	Fe2O3 (%)	TiO2(%)	SiO2(%)	S(%)
Primary mill feed	100%	12000.0	4,380,000	3000	9.19	31.0	4.62	24.2	0.08
Ro LIMS Feed	100%	12000.0	4,380,000	150	9.39	31.0	4.62	24.2	0.08
Ro LIMS Tail	84.7%	10165.2	3,710,298	150	10.5	23.1	5.10	26.8	0.07
Ro LIMS Conc	15.3%	1838.4	671,016	150	1.95	77.4	3.52	7.63	0.17
Magnetite Final Conc	11.7%	1405.2	512,898	75	0.26	91.9	2.45	3.02	0.16
Cln LIMS tail	3.56%	427.2	155,928	75	8.30	26.8	6.99	24.8	0.28
Ro Flotation Conc	26.7%	3204.0	1,169,460	150	31.5	7.44	1.81	7.93	0.03
Ro Flotation Tail	58.1%	6973.2	2,545,218	150	0.32	31.1	6.79	36.18	0.07
1st Cln flotation Conc	23.3%	2796.0	1,020,540	150	35.4	1.57	0.36	1.78	0.01
1st Cln flotation tail	5.9%	710.4	259,296	150	3.3	28.9	7.29	30.0	0.09
2nd Cln flotation Conc	20.9%	2510.3	916,252	80	39.9	1.10	0.18	1.38	0.01
2nd Cln Scav flotation Conc	0.69%	82.9	30,266	80	24.2	11.5	3.34	12.8	0.04
2nd Cln Scav flotation tail	0.42%	50.4	18,396	80	13.5	22.6	7.60	19.4	0.10
3rd Cln flotation Conc	20.7%	2484.0	906,660	80	39.6	1.31	0.25	1.61	0.01
3rd Cln flotation tail	0.91%	1189.2	434,058	80	35.5	4.24	1.07	4.77	0.02

Source: *SGS (2024)*

17.1 PROCESS PLANT FEED HANDLING

Mineralized material will originate from open pit mining. ROM mineralized material will be delivered by mine trucks to a gyratory crusher outside the process plant. The moderately large-sized gyratory crusher will not require a grizzly and can directly receive ROM material from mine trucks. The gyratory crusher would produce a minus 150 mm (6 inch) product and would require a 400 kW electric drive. A major advantage of gyratory crusher is its capacity to receive full truck loads of large-sized ROM rocks without a general need for size scalping. A small number of oversized rocks will be broken by a crusher-dedicated rock breaker.

Crusher discharge would be transferred to a ~35,000 t capacity covered stockpile, from which process plant feed would be continuously drawn by at least three feeders to a grinding feed conveyor equipped with a belt weightometer. The stockpile would be manipulated with a propane-fuelled loader to reduce stockpile segregation by size and to compensate for freezing. Dust management at the crusher as well as inside the covered stockpile will be an important design feature.

The crushing facility would operate 60 to 75% of available time. Major downtime is essential in open pit mining which has to accommodate haulage interruption for pit blasting and crusher maintenance.

17.2 GRINDING – CRUSHING MODIFICATIONS

Multiple grinding unit operations are to be considered in the overall BL process. For this Report's conceptual process consideration, the primary grinding step is suggested to be a conventional SAG (semi-autogenous grinding) and ball mill combination ("SABC"). SAG feed is normally automatically conveyor weighed and grab-sampled for moisture content. With a target primary grind feed size P80 of 150 µm, a SAG size of approximately 9 m diameter by 4 m long and a ball mill of 6 m diameter by 9 m long could be suitable. Based on the Authors' experience, and the medium grind parameters obtained in initial testwork (ref. Section 13.3 of this Report) steel ball consumption could be in the order of 2.5-3 kg/t and grinding energy draw in the range of 20-25 kWh/t.

The SAG mill will be equipped with a pebble circuit where +20 mm pebbles, wet screened from the SAG discharge, are recycled to the SAG mill feed. Initial pebble return is expected to be low in the first year, at less than 5% of feed. Later, a pebble crusher (short head cone crusher) will be installed, e.g. year 2, to increase the grinding circuit capacity as pebble return increases.

As tonnage processed is increased in the following years of operations – years 2-3 (15,000 tpd) to years 4-5 (19,000 to 20,000 tpd) a vibrating screen and a cone crusher will be installed in the crushing-grinding circuit between the gyratory crusher and the SAG mill. Nominally, the cone crusher will reduce the 100-150 mm material to less than 50 mm.

The large ball mill will be in a closed circuit with two banks of cyclones in a combined array (one operating, one standby) with cyclone overflow sent to magnetic separation following automatic two-stage slurry sampling for mineral and metal content.

A major possible variation in a BL crushing-grinding circuit would be the substitution, for a SAG installation, with a set of crushers and screens and high-pressure grinding rolls ("HPGR"). HPGR are less energy intensive than SABC. However, relevant test data and the measurement of effect on flotation performance are not available. HPGR's are good producers of cracks in minerals which is beneficial for leaching circuits like gold-cyanide, however, may be detrimental to froth flotation dynamics.

17.3 MAGNETITE SEPARATION

Magnetite is an important mineral in the BL Mineral Resource and this mineral can be readily isolated by magnetic separation in advance of apatite concentration by flotation. As indicated by the SGS-tested composite sample, the magnetite content was roughly 12%, and its removal likely had a significant, positive influence of downstream apatite concentration process steps.

17.3.1 Magnetic Separation of Magnetite

Wet low intensity (drum) magnetic separators ("LIMS") will be used to remove the magnetite from the cyclone overflow. These LIMS devices are commonly used in iron ore processing to separate ferromagnetic minerals such as magnetite and hematite from gangue minerals. A four-stage magnetic separation process, operating at a magnetic intensity of 1,000 Gauss (0.1 Tesla) will be applied and will concentrate and remove the free magnetite mineral fragments. The first-stage magnetics concentrate will be reground to a P_{80} of approximately 45 µm by a moderately sized ball mill or by a tower mill and will be subjected to three stages of magnetics cleaning as indicated in Figure 17.1.

The magnetite LIMS concentrate will be thickened, pressure filtered, dried and prepared for shipment. The drier methodology could be a propane-fired rotary kiln, a fluidized bed or Holoflite-type heated screw. The rotary kiln method could be selected. Filters and dryers would likely be duplicated and operate in parallel.

17.3.2 Additional Magnetite Concentration Process Development

Olivine is a major mineral in the BL Mineral Resource and has proven in testwork to be paramagnetic. This iron silicate has resulted in a silica content exceeding 2% in precise magnetic separation tests (ref. Section 13.3.2). Either hydro-separation, gravity methods or silicate flotation after LIMS may ensure the production of a high-quality product.

The magnetite product will be fine-grained and is anticipated to potentially be a free-flowing powder – the material rheology is yet to be determined. Bulk shipment may be prohibitive due to anticipated powder dusting and fluidization characteristics, however, "Big Bag" containment and shipping is a potential option. Potential destinations for the magnetite concentrate could be: iron-making, chemical conversion or use as a heavy media separation agent. For iron-making, palletization or briquetting followed by sintering may be required. For heavy media separation or other applications, particle size ranging may be needed. Conversion of the magnetite concentrate is expected to be done off-site by the magnetite customer(s).

17.4 APATITE RECOVERY AND CONCENTRATION BY FLOTATION

The apatite recovery and concentration section are major components of the overall flowsheet as shown in Figure 17.1. The key operational parameters for apatite (represented as P_2O_5) flotation are reagents selection, conditioning slurry density and sequences, flotation time and conditions, and regrinding of a first cleaner concentrate. Conditioning for flotation will be three-staged (three linked conditioning tanks will be installed). A saponified (caustic soda) fatty acid is the main flotation collector and the pH is maintained at 11.0 by soda ash (Na_2CO_3). Sodium silicate and starches will serve as silicate mineral depressants. The flotation feed will be conditioned at high percent solids (65%), for up to 10 minutes following, in series, caustic soda and fatty acid addition.

Rougher flotation is expected to be rapid (retention time 3-5 minutes) and could be performed by traditional tank-type flotation cells. Regular square cell float cells with froth paddles may be preferred to pull away a sticky froth. Regrinding of the first cleaner concentrate to a P_{80} of 75 µm could be performed by a small ball mill with steel grinding media, or by a tower mill with ceramic grinding media. The tower mill is preferred to prevent iron-smearing of apatite mineral surfaces and minimizing the potential lessening of flotation response. The ready expansion of the flotation cell capacity to meet the 30% tonnage expansion in production year 4 will be considered in process plant design.

Second and third cleaner flotation of the reground apatite concentrate will include additional reagent conditioning (sodium silicate, fatty acid and froth manager) and should demonstrate the anticipated quick flotation response. Conventional flotation cells could be used, however, the use of column flotation cells could be considered for the final cleaning stages. Column cells are space-saving, provide inherently quiet froth conditions and have capability to water wash residual mineral impurities out of the froth.

The final apatite (P_2O_5) concentrate will be thickened, filtered and dried. Since fatty acid-generated froths tend to be sticky and stable, froth degradation chemicals and/or physical methods will be applied to destroy the residual froth in the apatite thickener. The filtration of thickener underflow will be performed by two parallel operating plus one spare plate and frame pressure filters, the design of which will be determined by future pilot-scale test results. Since the final product will be dried, the minimum filter cake moisture content will be targeted in filter design. Extensive pressure filter testing will be needed.

The apatite filter cake will be dried to a customer-specified moisture content. With indications that the moisture content should be very close to 1.5%, an electricity-powered Holoflite-type drier may be the optimum dryer choice.

The dried apatite concentrate is expected to be transported from the BL mine site to a Saguenay Port. Approximately 45% of the concentrate (400,000 tpa) is anticipated to be transported overseas. This concentrate may be bulk transported, packaged or shipped in containers. The containers could be either small, water-proof sea containers or “Big Bags”. Bulk shipment would require precautions to prevent shifting or fluidization during transport. Since fine material is more unstable than coarse, agglomeration of the apatite product could be needed for bulk shipment. An agglomeration test program should part of the design for bulk shipment from the mine to the port, intraport and at the buyer’s facility.

17.5 ILMENITE RECOVERY

High intensity magnetic separation (“HIMS”) could be used to extract the ilmenite from the apatite flotation tailings. HIMS tests to date indicate that a low-grade ilmenite concentrate could be produced, however, a significant amount of the olivine content of the BL Mineral Resource reports to a HIMS concentrate. Additional tests including gravity and silicate flotation may be investigated to confirm the potential production and sale of an olivine-free ilmenite concentrate.

17.6 INFORMATION REQUIREMENTS FOR PROCESS PLANT DESIGN

The currently-available process results provide a great deal of basic information; mineralogy, crushing and grinding parameters and concentration fundamentals for the generation of two products; apatite (assayed as P_2O_5), and magnetite (Fe_2O_3). A conceptual flowsheet outline and the selection of fundamental processes and equipment have been made possible.

Addition investigations and tests are required:

- Integrate th e processes by conducting a thorough pilot scale test;
- Complete the development of magnetite and apatite concentration methodology. Ensure that olivine does not contaminate either concentrate;
- Measure settling, filtration, drying and dry powder characteristics of the two concentrates;
- If bulk shipment of apatite is to be considered, investigate agglomeration methods, cost and stability;
- Assure compliance with product chemical and physical market specifications for both concentrates;
- Determine process plant responses to variation in Mineral Resource grade and mineral composition;
- Assess the impact of the use of mine site fresh water and of water recycling; and
- Consider the application of alternative grinding, flotation and dewatering equipment.

The sources of this required information are both bench and pilot scale tests. Targeted exploration activity may be required to access fresh mineralized material.

18.0 PROJECT INFRASTRUCTURE

18.1 EXISTING INFRASTRUCTURE

Existing infrastructure at the Begin-Lamarche Project mine site consists of the following:

- A nearby electrical powerline joining the Micoua electrical power distribution station near the Manic 3 powerhouse with the Chute à Caron power plant. The closest point of this powerline with the southeast limit of the Begin-Lamarche site is 25 km. A 735 kV transmission line is controlled and maintained by Hydro-Québec; it is considered the optimal electrical power source for the Project;

- A well-maintained access road system consisting of three roads, 172 Provincial, Labrecque, and Lamarche. The site is accessible by the south through the 7^{ième} Rang and by the north by the 10^{ième} Rang joining the Lamarche road to the immediate proximity of the Begin-Lamarche mine site. The site is currently accessible from the City of Saguenay and is approximately 50 km from Saguenay by the 172 and Begin road, while it is approximately 70 km by the 172 and Labrecque road. Upon upgrading, the secondary logging roads site accesses will be sufficient for the transportation of major equipment including mills, crusher, process equipment and tankage, piping and electrical as well as all consumables and mine manpower.

Figure 18.1 shows the different access roads (in yellow) to the site under study (whose limits are in red) and the 735 kV transmission line (in blue).

18.2 PLANNED INFRASTRUCTURE

18.2.1 Major Planned Infrastructure for the Begin-Lamarche Project

The following infrastructure represents the most important Project footprints (also presented in Figure 18.2):

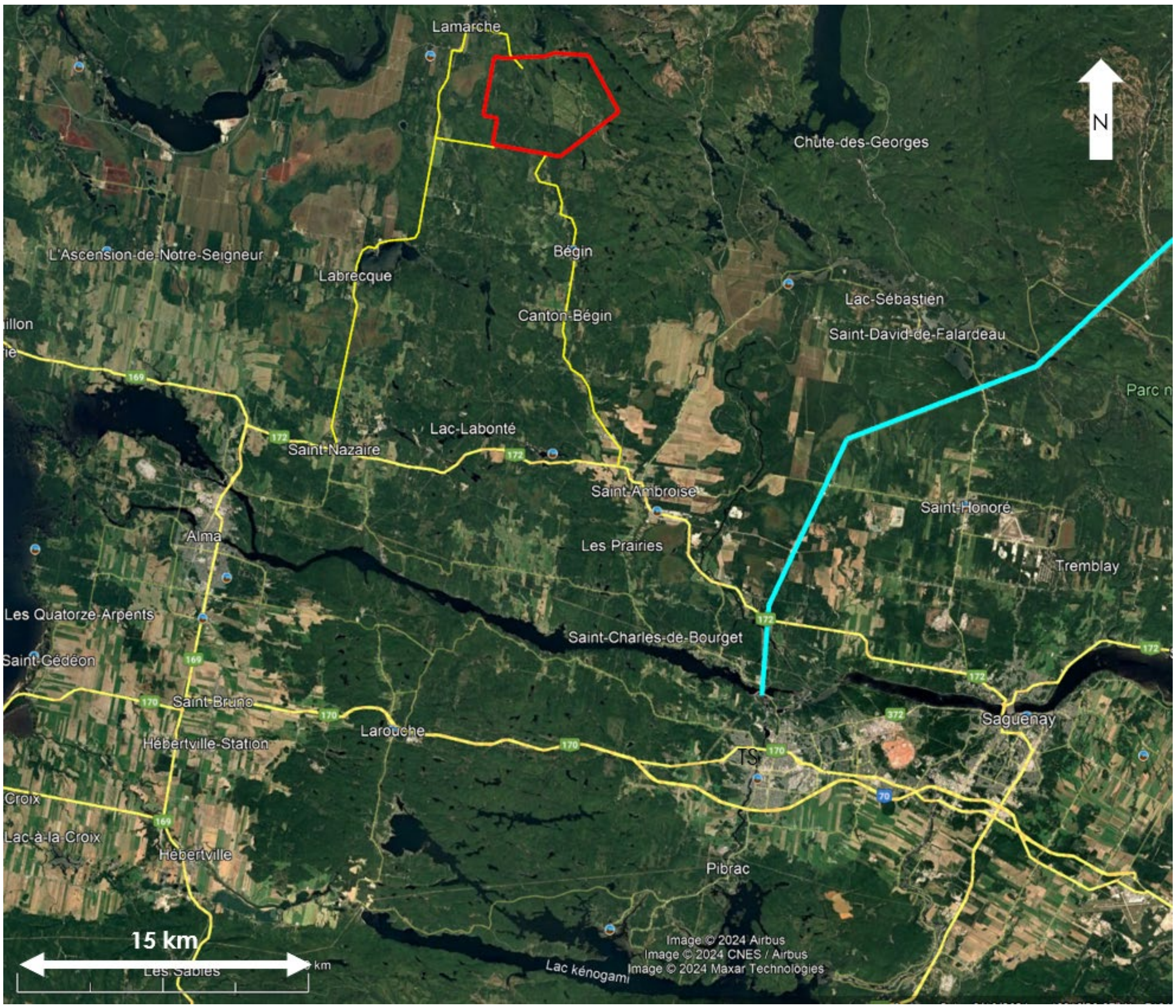
- An open pit mine presenting three connecting open pits;
- A crusher;
- A process plant and laboratory with main substation and electrical power distribution;
- Several dry stacks of filtered tailings;
- Waste rock stockpile;
- Overburden stockpiles;
- Low-grade mineralization stockpile; and
- Water collection basins and a central water treatment basin and plant.

Also several infrastructure items will be incorporated within or around the process plant footprint:

- Tailings filtering;
- Main access road and gatehouse;
- Administration building;

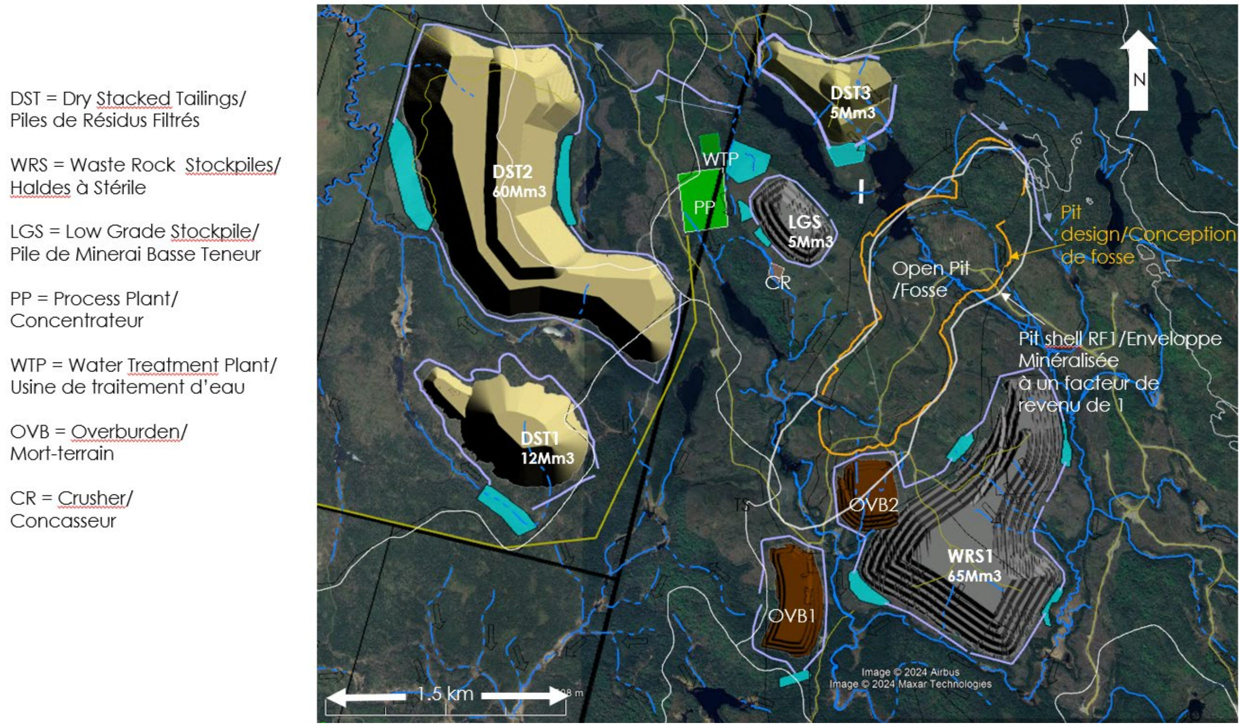
- Mechanical parts warehouse;
- Process plant supplies warehouse;
- Maintenance building with overhead crane for mining equipment;
- Explosives magazine;
- Personnel change room facility with showers;
- Water and sewage treatment plants; and
- Diesel fuel tank farm and fuelling station.

FIGURE 18.1 GENERAL LOCATION OF EXISTING INFRASTRUCTURE



Source: *BBA (2024)*

FIGURE 18.2 PROJECTED INFRASTRUCTURES PLAN VIEW



Source: *BBA (2024)*

18.3 TAILINGS, WASTE ROCK, AND WATER MANAGEMENT

18.3.1 Introduction

The Project will include an open pit divided into three sub-pits, several Dry Stacked Tailings ("DST") areas, Waste Rock Storage ("WRS") areas, a Low-Grade Stockpile ("LGS"), a Process Plant ("PP") site equipped with a tailings filtering plant, several Overburden ("OVB") stacks and Organic Cover ("OC"), a Crusher ("CR") and finally, a Water Management and Water Treatment Plant ("WTP"). BBA provided tailings and water management layouts, as well as waste rock management support for this PEA.

The process plant throughput is currently envisioned to average 18,000 tpd from the open pit mine over a planned 23-year mine life, generating a total of 113 Mt of tailings that are Non-Potentially Acid Generating ("Non-PAG") and will be filtered and stored in the DST areas.

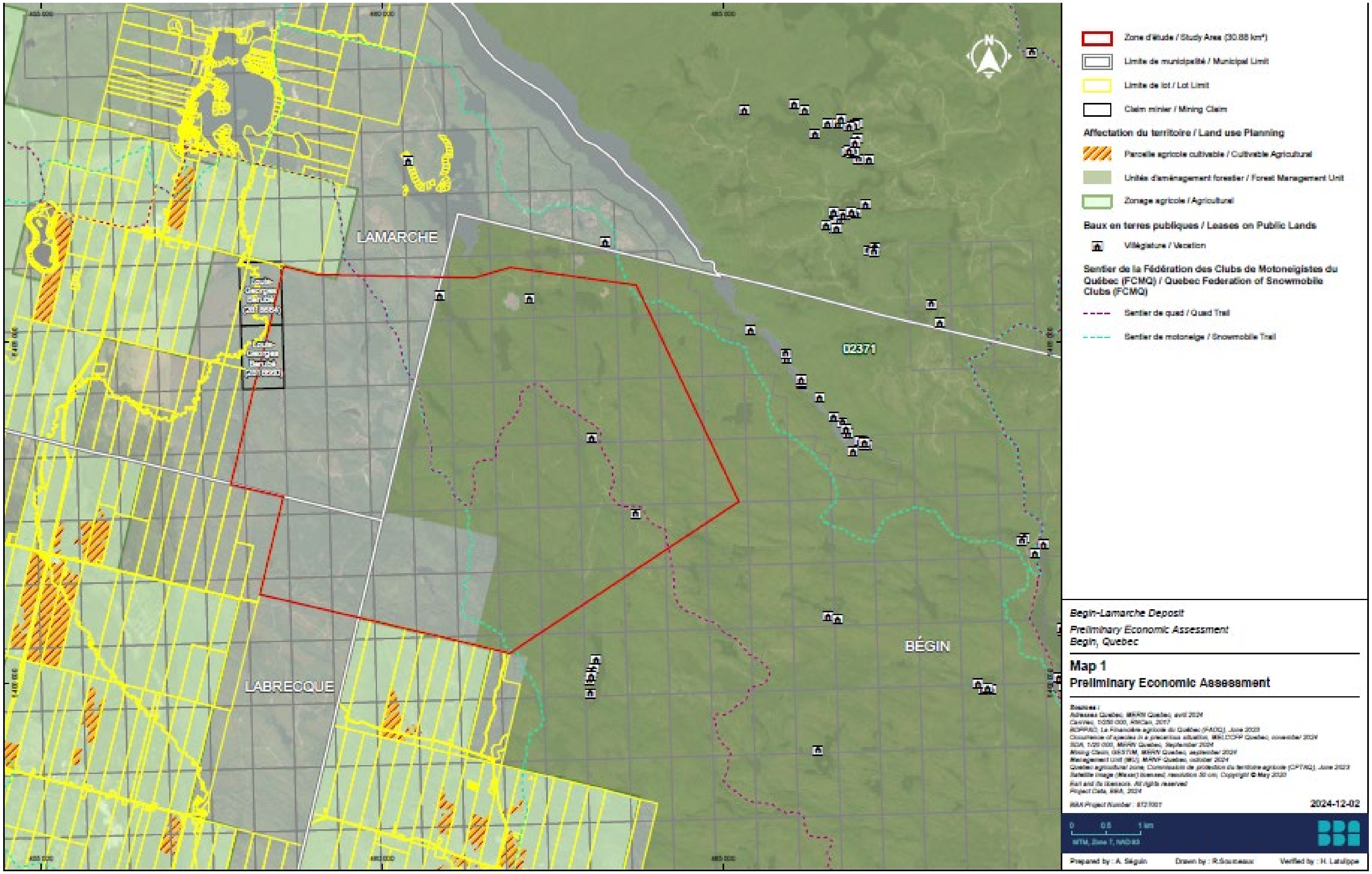
This Report Section provides a summary of the tailings and water management concepts for the Project, as well as high-level recommendations. Waste rock storage ("WRS") and overburden piles are described. The following is included:

- Summary of site conditions;
- Design basis and criteria;
- Tailings Management Facilities (“TMF”), and Water Management concept summaries;
- WRS and Overburden piles;
- Schedule of estimated materials, quantities, and costs; and
- Recommendations and potential opportunities during future studies.

18.3.2 Site Conditions

The area of this PEA is part of the Crown Lands of the Province of Québec and is therefore not private property. Forestry activities have been conducted in the past on these lands and a forestry road network exists within the site of the study. Also, some vacation leases are on these Crown Lands. Figure 18.3 shows an aerial view of the site.

FIGURE 18.3 PRESENT LAND OCCUPATION

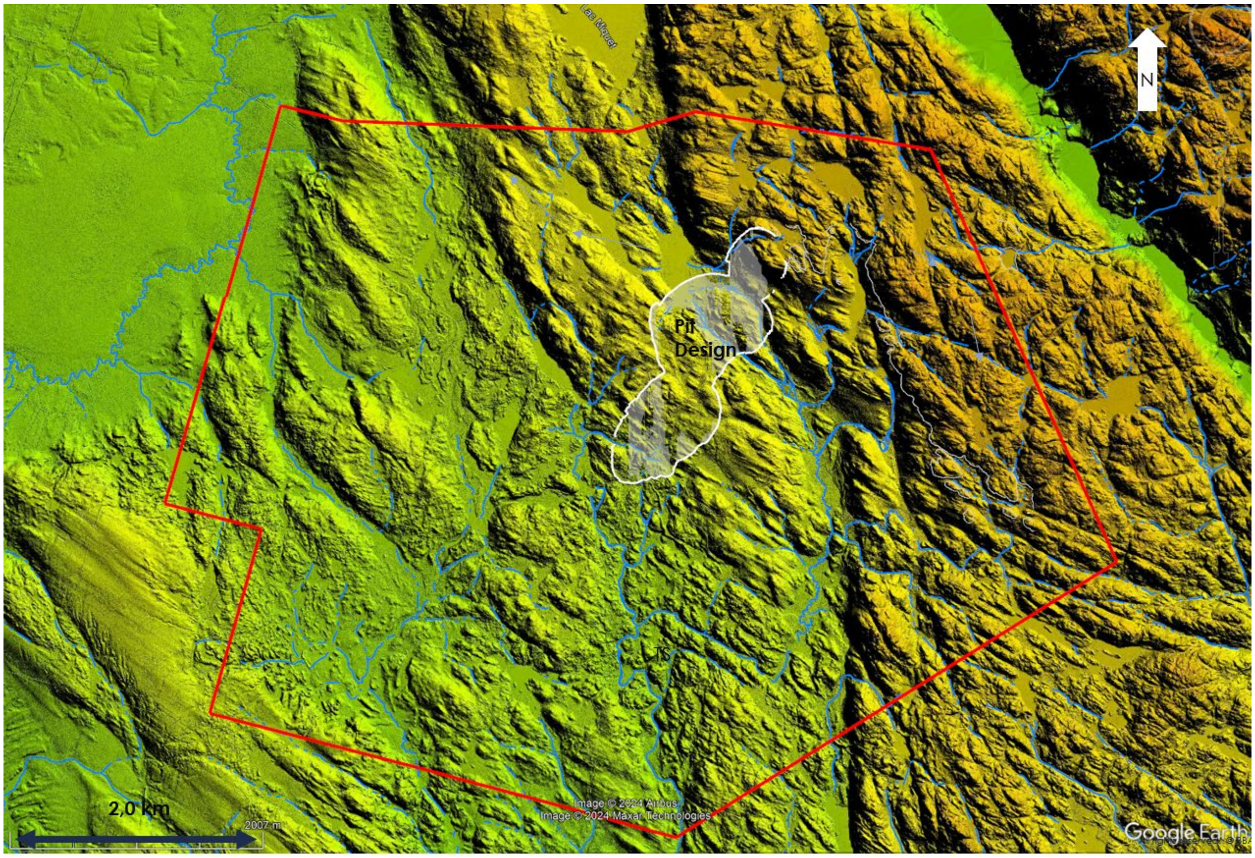


Source: *BBA (2024)*

18.3.3 Topography

The area under study is irregular with rolling hills and a multitude of small valleys where streams, small lakes, ponds, and wet areas are sheltered. Figure 18.4 illustrates the topography of the area of study and its vicinity along with the surface hydrography. Over approximately a 6 km distance from West to East, ground elevation varies approximately from 180 to 367 m above sea level. The area of study covers mainly one large watershed flowing towards the south.

FIGURE 18.4 TOPOGRAPHY AND SURFACE HYDROGRAPHY

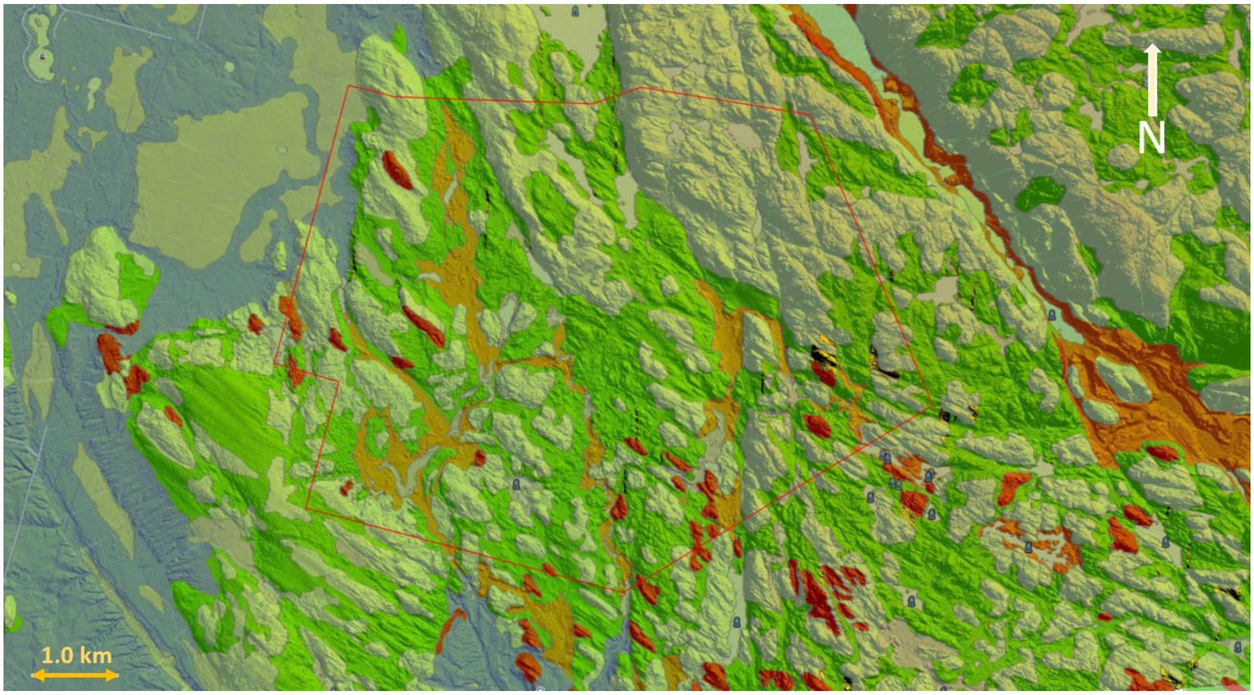


Source: *BBA (2024)*

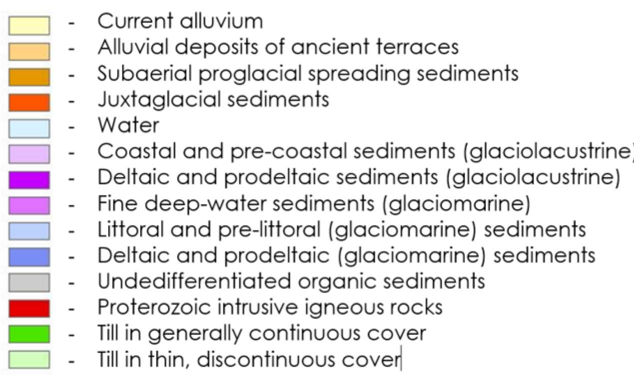
18.3.4 Surficial Geology

Surficial geology maps for the area indicate the Project location is generally comprised of exposed bedrock with pockets of varying types of glacial till. Figure 18.5 illustrates the nature of surface deposits of the area of study and its vicinity. Roughly half the area of study is covered by continuous till deposits and the other half is covered with discontinuous shallow till deposits.

FIGURE 18.5 SURFACE DEPOSITS



Source: *BBA (2024)*



18.4 DESIGN BASIS

The design basis for the DST areas, WRS areas, and site water management measures were developed based on input from First Phosphate, past studies for the Project, industry accepted best practices, previous experience on similar projects, and anticipated site conditions.

The main design basis considerations are as follows:

- All permanent stream flows and existing water bodies are considered occupied by aquatic life and should never be infringed by infrastructure so as to affect or impact aquatic life. A protection zone of 60 m wide is to be observed between streams and water bodies and projected infrastructure. Only intermittent streams can be sacrificed by infrastructure;

- The main existing forestry road alignments must be respected for future haul road construction alignments;
- Mining infrastructure shall be exclusively located in the Municipalities of Lamarche and Begin. Dry stack deposition technology is the only one to consider for the Project.

18.5 DESIGN CRITERIA

18.5.1 DST Areas

The DST areas are sized for a total storage of 70.6 Mm^3 of tailings plus 10% of volume dedicated to an internal drainage system. The Filtered Tailings will be transported to the DTS areas by truck after being treated at the Filter Plant inside the process plant site. The average placed and compacted dry density of the filtered tailings is assumed to be 1.6 t/m^3 for the duration of the Project. It is also assumed that tailings will be suitable for filtering. This should be verified with testing during future levels of study.

At the time of issuance of this PEA, no environmental characterization of tailings has been carried out. However, based on static and kinetic testing results, it is possible that the mineralization may not be potentially ARD or leachable. Therefore, it is possible that the tailings would also not be potentially ARD or leachable.

In this context, it is still considered that a geomembrane lining system will be required under the DST areas, which is a conservative approach.

Each DST area will consist of a peripheral dyke of compacted filtered tailings and a core of placed filtered tailings.

Peripheral dyke tailings are compacted at optimum water content +/- 2% according to the Standard Proctor Energy of compaction energy. As the starter dykes and downstream raises get constructed an upstream ad downstream slope of 4H:1V slope will be provided to ensure slope stability upon the underlining liner system and to facilitate progressive closure work with a second geomembrane lining system and for revegetation.

18.5.2 Water Management

Water management comprises water collection basins dedicated to Contact Water ("CW") and Non-Contact Water ("NCW") for each DST and waste rock pile areas as well as the main Water Treatment Plant where water treatment is accomplished. These water collection basins are intended for primary sedimentation of particles in each water flow collected by peripheral ditches keeping CW and NCW separate. Water from the waste rock piles can be released in the environment. However, when suspended matters concentration meets Directive No. 019 criteria, which presents guidelines for the mining industry regarding the environment, the CW from the DST areas will be pumped to a main Water Treatment basin near the process plant for water treatment and partial reuse at the process plant, before being released in the same watershed from which it was initially collected.

Surface Water Management Systems – Collection ditches, diversion berms, and sediment basins will be built to collect and temporarily contain all surface run-off from the Project infrastructure. Following settling/clarification, the collected run-off will either be transferred to the main water basin or released to the environment if the water quality is acceptable.

The initial Water Treatment Plant will have a capacity to treat 20,000 m^3/d. A second water treatment plant will be added at year 5 for a total treatment capacity of 40,000 m^3/d.

18.5.3 Waste Rock Storage Areas

The WRS areas will primarily provide storage for non-PAG waste rock. Approximately 20% of the waste rock produced from the Project is expected to be reused as-is or crushed to build platforms, roads, and DST areas.

The waste rock stockpile ramps have been designed with a 10% slope and 30 m width. The maximum waste rock pile height is 100 m. The design criteria for the waste rock stockpile and low-grade stockpile are presented in Table 18.1 and represents an overall slope ratio of 2.5H:1V.

TABLE 18.1
WASTE ROCK/LOW-GRADE/OVERBURDEN STOCKPILE CONFIGURATION

Description	Unit	Rock	Overburden
Lift Height	m	20	10
Overall Slope	deg	22	18
Bench Face Angle	deg	37	40
Berm Width	m	23	18

18.6 DST AREAS STORAGE CONCEPT SUMMARY

Upon the first year of operation, the peripheral starter dyke will be partial (will only cover a minimum part of the DST perimeter) and consists of a starter dyke.

The DST areas comprise two main structures, namely: the peripheral dykes and the core of the DST area. The peripheral dykes are composed of compacted filtered tailings and offer the proper support to maintain the core material, which presents a softer behaviour as it is non-compacted and will be exposed to uncontrolled seasonal precipitation.

Core area tailings are placed in successive lifts and divided in consolidation cells of approximately 40 m x 40 m and 2.5 m thick. These cells are surrounded by vertical drains made of filter sand drains wrapped with geotextile and are also drained by layers of filter sand placed between each cell.

Cells are the main feature to ensure the pore water pressure that could develop is controlled during construction and progressive loading of placed tailings, which could be affected by precipitations, inflow of water and entrapped snow or ice. If such control is not provided, an increase of pore pressure could soften or liquefy placed tailings.

The bottom system will need to be installed on engineered flat surfaces that will present a series of berms and drainage slopes enabling proper control of run-off water during construction to minimize erosion and particle transport. The bottom liner system will have a tailing under drainage consisting of a LLDPE slotted pipes network to enhance drainage capacity. Free water percolating from the filtered tailings will be collected with these pipes and be sent to the dedicated basin of the respective DST areas.

18.7 DST CONSTRUCTION

The location of the DST areas was selected based on a high-level option assessment, which considered topography, a minimal offset of 60 m from local water bodies, and to serve as noise reduction features for known nearby residential or recreational areas. Construction will follow several stages:

- Vegetation, topsoil, and unsuitable material will be removed from the DST areas footprint to prepare them for land forming of under liner construction and tailings placement;

- The geosynthetic lining system will be installed on the prepared foundation to prevent seepage into the underlying foundation. It will include a minimum 300 mm thick bedding layer to provide a suitable subgrade for geosynthetics;

- The bedding layer will be covered by nonwoven geotextile 5.8 mm thick (ex: TEXEL 934) and 80 mil (2.0 mm) LLDPE geomembrane textured both sides (ex: TEXEL TM480-T). A layer of the same geotextile will cover the geomembrane to keep it clean and isothermal during construction and extension of the liner system by execution of geomembrane welding;

- A 600 mm thick underdrain layer will be installed over the upper geomembrane to convey collected seepage of CW from the tailings to seepage collection sumps, or collection ditches, and on to the local water management pond areas before being pumped to the main pond. Bedding and underdrain material for the geosynthetic lining system will likely consist of processed waste rock;

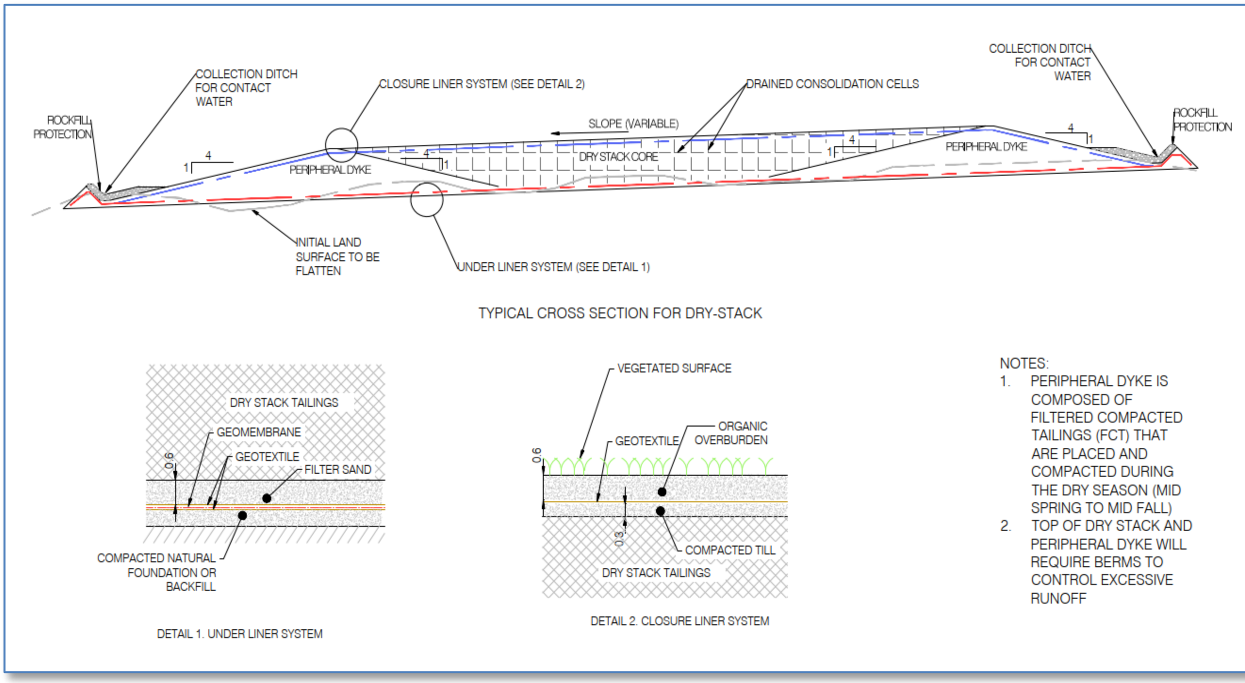
- The geosynthetic lining system and underdrain layer will be extended periodically during operations as the DST areas footprint is expanded;

- NCW will be diverted away by ditches from the construction area to be collected in settling ponds and released in the environment within their original watershed; and

- During winter, snow will be removed from select interim surfaces and temporarily stored upstream of the DST. Snow will be left on inactive surfaces to reduce dust potential.

Figure 18.6 illustrates a typical DST cross-section.

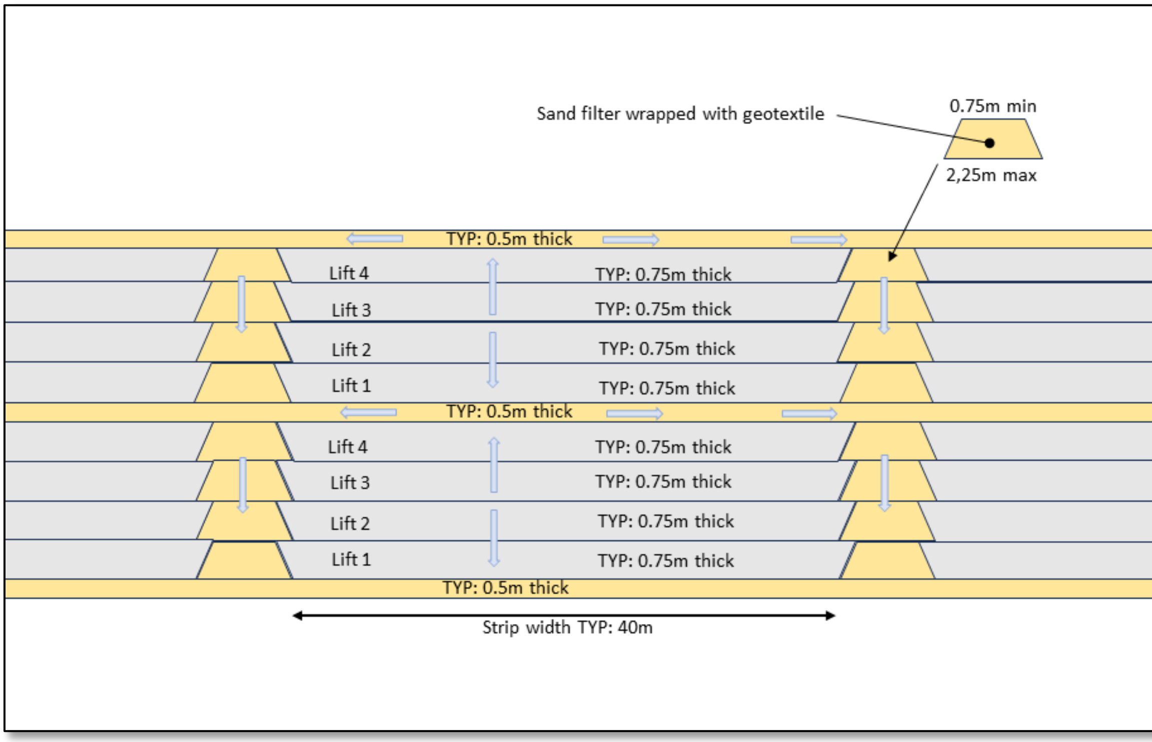
Figure 18.6 Typical DST Area Cross-Section



Source: *BBA (2024)*

The core area of the DST will incorporate an internal structure made of a series of consolidation cells. These are needed to dissipate potential pore pressure increase due to increased interstitial water content from rain, snow and ice melt entrapped in filtered tailings when placed in unfavourable climatic conditions. It represents a safeguard against losses of stress resistance of the core tailings area. Figure 18.7 illustrates the concept of these consolidation cells that presents vertical and horizontal drainage systems within the DST areas. These cells consist of long strips that can reach 100 m long or more before a transversal vertical drain system is to be installed. The blue arrows show the drainage path for pore water under increased total stress during construction loading.

FIGURE 18.7 TYPICAL CONSOLIDATION CELL TRANSVERSAL CROSS-SECTION



Source: *BBA (2024)*
Note: *Not to Scale*

18.8 GENERAL SITE LAYOUT

The general site layout is presented in Figure 18.2 and shows all important features of the essential facilities. Note that there are two lake diversions ("LD").

18.8.1 Tailings Transport and Placement

The thickened tailings will be filtered in the process plant to achieve a target moisture content of less than 15% (w/w). A filter press with a capacity of 6.5 Mt per year (dry solids basis) will be utilized for this dewatering process. The resulting filter cake will be discharged onto a conveyor, which will transport it to a covered stockpile with a 24-hour temporary storage capacity. A loader will then reclaim the tailings from the stockpile and load them onto trucks for transport to the Dry Stacking Tailings areas. In these areas, the tailings will be placed or compacted into the embankment structure, depending on their designated use as part of the core or dyke.

When compacted during dry conditions in the peripheral dykes, filtered tailings will be spread by a CAT D8 sized dozer and compacted with a 15 t compactor in 400 mm thick lifts. When placed only in the core, lifts will be as shown in Figure 18.7 and will be surrounded by a drainage system to constitute consolidation cells. Sealing lift layers prior to foreseen precipitation shall be executed using a light 5 t smooth roller compactor.

The Dry Stacked Tailings area will follow the sequence presented in Table 18.2.

TABLE 18.2 DRY STACKED TAILINGS PERIOD		
Infrastructure	**Years**	**Capacity (Mm^3)**
DST 1	1 to 5	12
DST 2	6 to 22	60
DST 3	22 to 23	5

18.8.2 DST Area Instrumentation

Vibrating wire piezometers will be installed within the tailings and underdrain. Piezometers will be used to monitor pore pressures within the tailings and underdrain. Automatic data loggers will be installed to allow real time remote monitoring of pore pressure conditions and alert the onsite tailings management team to changing conditions.

Instrumentation consisting of monitoring wells, vibrating wire piezometers, survey monuments, and slope inclinometers will be installed within the foundation and embankment fill materials as required. The instrumentation will be monitored to verify embankment performance.

18.9 WATER MANAGEMENT

18.9.1 Site Water Management

Water collected in the primary collector basins for potentially contaminated water from DST or the pit and the groundwater will be transferred to the main water treatment basin for proper treatment before being released into the environment. Water collected from the waste rock pile (WRS -1), the low-grade pile (LG-1) and the two overburden piles (OVB 1 & 2) will be released into the environment basin. Figure 18.8 presents the water management infrastructure diagram.

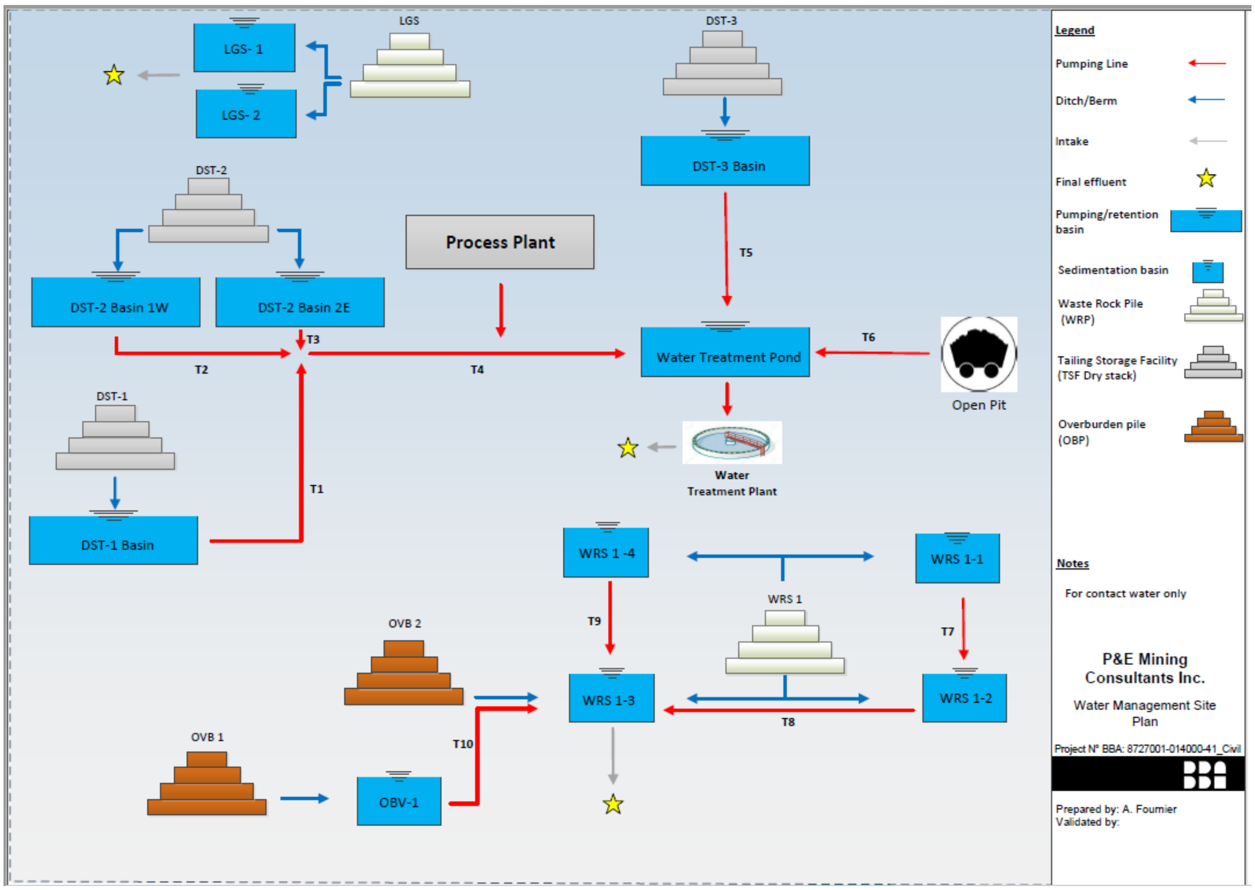
For this Project, the overall design criteria used involves the 24 h 1:2,000 year recurrence rain combined with a centennial (100-year recurrence) snowmelt over 30 days. Since waste rock stockpiles and overburden piles are considered non-leaching and non-acid generating material, the criterion for rain is reduced to 1:100 year recurrence. This was considered since water collected from these stockpiles is not contaminated, however, assumed to contain sediment only.

All above-mentioned criteria must be reviewed once the geochemistry laboratory tests of waste materials are available. The assumed criteria is conservative and should be revisited at future project design stages. Also, water quality in individual sedimentation ponds should be considered. It is assumed that no dead volume is considered for sediment deposition at the bottom of the basins. These will have to be dredged regularly. Given the above assumptions, available data, and design criteria, the required storage volumes for mine site water management and associated infrastructure (dams, ditches, ponds, and pumping systems) have been designed. The water balances for typical weather and climatic conditions (normal, dry, and wet years) have been prepared.

Projected drained area and water volumes for retention structures are presented in Table 18.3.

TABLE 18.3 RETENTION STRUCTURE SIZING		
Infrastructure	**Drained Area (ha)**	**Volume to be Stored (m^3)**
DST-1 and basin	55	59,550
DST 2 and basin 1	137	147,770
DST 2 and basin 2	75	80,600
DST 3 and basin	38.4	41, 570

FIGURE 18.8 FLUX DIAGRAM OF THE SITE WATER MANAGEMENT



Source: *BBA (2024)*

It should be noted that process water is included in the water balance calculation and represents a small portion. Water will be reclaimed from the water treatment pond for the process plant.

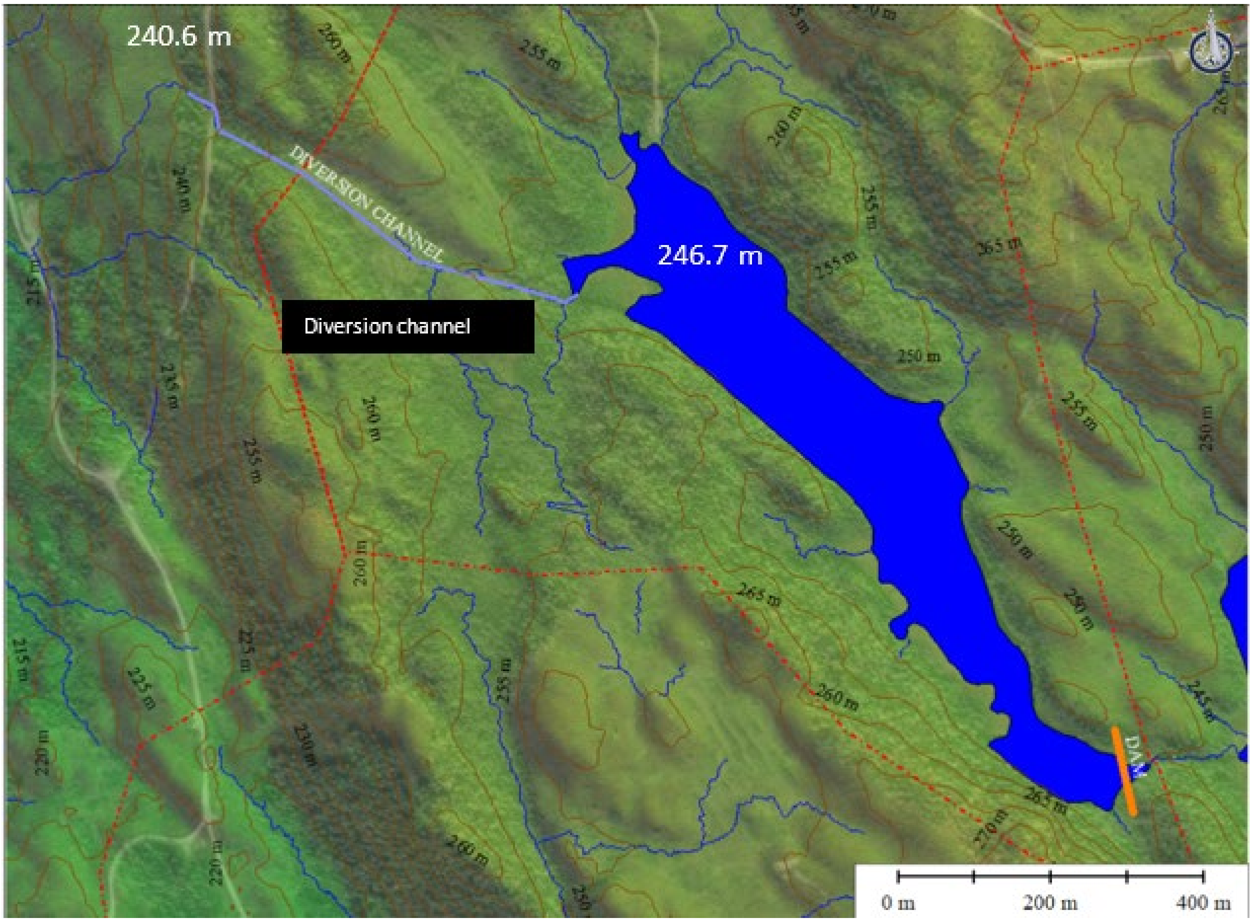
18.9.2 Water Diversions

One lake on the northwest of the pit will need to be drained and a few other small lakes will have to be diverted. Given the site topography and geography, a water diversion strategy has been analyzed to redirect water bodies and lakes into different watersheds and sub-watersheds. This approach aims to prevent any contact between water sources and mining infrastructure. This analysis has identified two key locations for water diversion: one near the northern boundary of the site near DST-3, and another at the north end of the pit.

Different options of diversion were analyzed to minimize excavation. The chosen solution is a gravity flow channel that keeps the actual lake water level unchanged to optimize dam height, while extending and preventing lake ecology disturbances. A diversion channel and a spillway should be created to ensure the diversion is gravity driven. As part of the initial design, the water diversion channel should be able to handle the conveyance of the Probable Maximum Flood (“PMF”) issued from the Probable Maximum Precipitation (“PMP”). The channel should have a similar geometry to the lake's natural outlet.

For the first water diversion, a channel will redirect lake water into an adjacent southwest watershed (Figure 18.9). The channel is approximately 580 m long with a 1% slope. Considering a conservative freeboard, the maximum dam height was estimated at 248 masl (this is ~1.5 m above the LiDAR water level of the lake). The normal lake water level should be maintained at its current level of 246.7 masl.

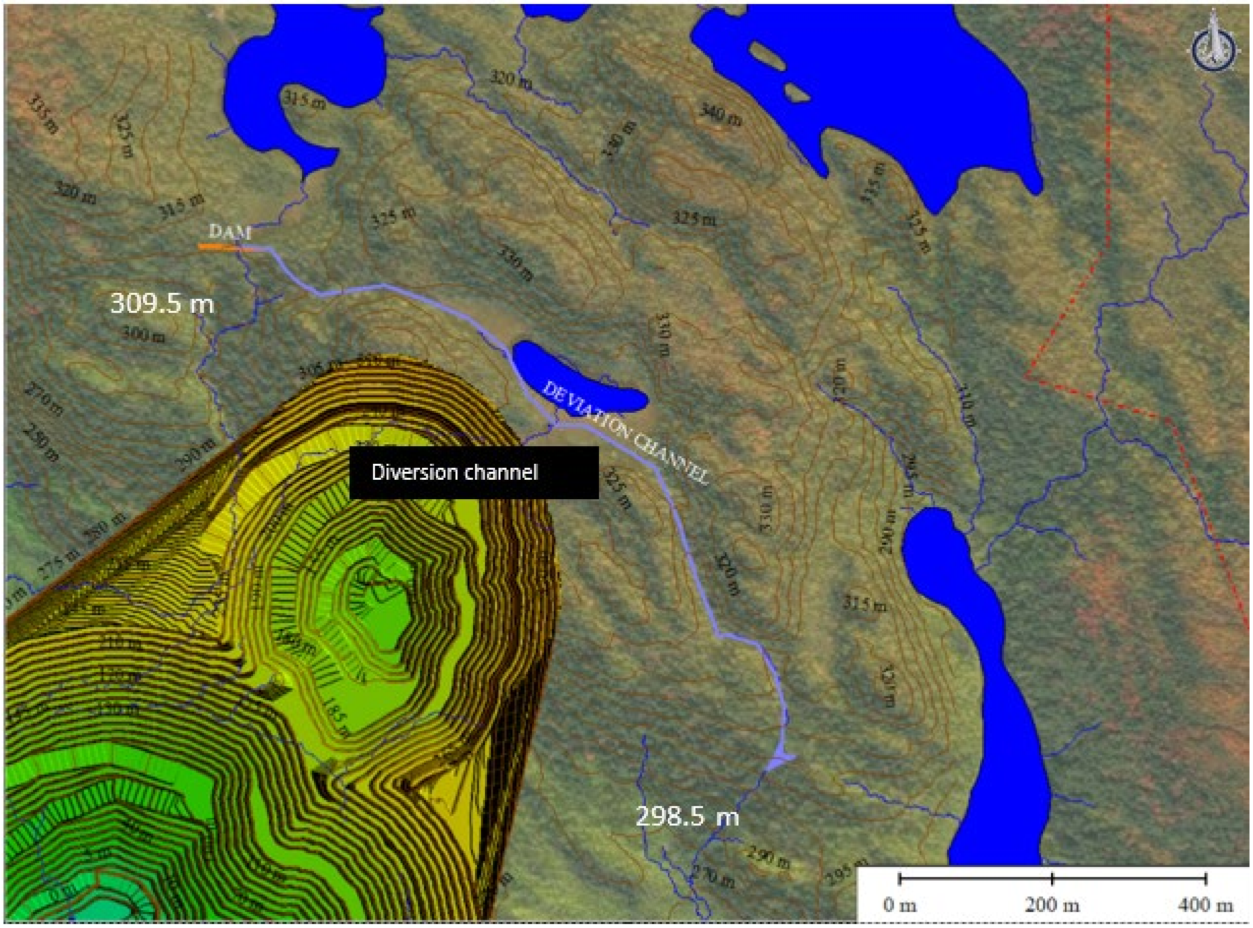
FIGURE 18.9 LAKE 1 WATER DIVISION



Source: *BBA (2024)*

For the second water diversion, a channel will be built to redirect the lake's outlet around the northern side of the pit into another sub-watershed (Figure 18.10). The channel will also collect water from another lake's outlet along its path as it flows northeast. Channel length is 1.2 km long with a 1% slope. The maximum dam height was estimated at an elevation of 310.8 masl (this is ~1.3 m above the LiDAR water level of the lake).

FIGURE 18.10 LAKE 2 WATER DIVERSION



Source: *BBA (2024)*

At the PEA study level, fish passages have not been addressed. This should be integrated later to the final diversion concept and design.

18.10 WASTE ROCK STORAGE AREA

The WRS is located approximately 500 m southeast of the open pit and was sized by BBA to store 140 Mt of waste rock (65 Mm^3 at an assumed placed density of 2.15 t/m^3). The distance from the pit rim is set to avoid any Mineral Resource sterilization based on the current geological model.

The remaining waste rock will be backfilled in the Mountain Zone (30 Mt) during years 4 to 6 and Northern Zone (43 Mt) during years 16 to 22. The low-grade stockpile with a capacity of 5 Mm^3 or 12 Mt will be located close to the crusher and processed at the end of the mine life (year 23).

The WRS will have non-PAG material and non-metal leaching material. It has been designed to be close to the open pit, trying to avoid fish habitat and stay within the same watershed.

No stability assessment has been conducted for this PEA. The overall slope angle of the pile has a 2.5H:1V ratio and should not be re-sloped for reclamation.

The following recommendations are provided to advance the design and construction/operating procedures for the WRS:

- Conduct a first geotechnical/hydrogeological site investigation to characterize the foundations of the infrastructure and conditions prevailing at the WRS as well as the evaluation of underground water flows;
- Conduct stability analysis;
- Optimize the size of the waste dump and water management; and
- Review waste rock stockpile location.

18.11 COST ESTIMATES

Material and quantity estimates were developed for the starter peripheral dykes and ultimate DSTs and for the ultimate WRS and LGS arrangements. Also, the ultimate arrangement for site-wide water management measures has been considered.

Quantities include foundation preparation, embankment construction, geosynthetics liner system, embankment instrumentation, collection ditches, diversion berms, and sediment basins. Unit rates were used to estimate the capital costs of facilities. Material and quantity estimates were generally determined based on design lines from the figures.

The following assumptions were used in developing the PEA-level cost estimates:

1. The waste and water management costs were developed based on the current understanding of the site conditions;
2. Limited geotechnical information was available for concept development and quantity estimates;
3. Suitable construction materials for the infrastructure (concrete aggregates and backfill materials) will be sourced from open pit development and levelling of infrastructure foundations (bedrock blasting). Processing with a 2 to 3 stage portable crusher plant will be required to meet the specification for specialized rockfill zones, gravel, and sand size filter materials;
4. The cost estimates are at a conceptual level of detail (+/-50%). Contingency costs are additional;
5. The capital cost estimates are provided in Q4 2024 $CAD; and
6. The cost to build facilities over one pre-production year (CAPEX) and 23 years of operations (OPEX & SUSTAINING CAPITAL) are estimated as follows (direct costs only, no contingency and indirect costs presented here):

a) DSTs and heavy equipment initial capital is $29.2M;
b) DSTs and heavy equipment LOM sustaining capital is $39.1M;
c) DSTs and heavy equipment LOM operation Opex is $490.6M;
d) WRS + LGS + OVB + DST road initial capital is $3.5M;
e) WRS + LGS + OVB + DST road LOM sustaining capital is $3.3M;
f) Water management structures and treatment initial capital is $27.7M;
g) Water management structures and treatment LOM sustaining capital $36.2M;
h) Water management structures and treatment LOM Opex is $28.5M.

19.0 MARKET STUDIES AND CONTRACTS

19.1 PRODUCT PRICES AND FOREIGN EXCHANGE

The Authors utilized the approximate November 30, 2024, 24-month trailing average P_2O_5 grade-premium adjusted phosphate price (US$250/t + 25% purity premium + US$38/t assured supply premium = US$350/t) and grade-premium adjusted magnetite price (US$135/t + 35% purity premium = US$168/t) and CAD$:US$ exchange rate. The commodity prices and FX are listed in Table 19.1.

TABLE 19.1
PRODUCT PRICES AND FOREIGN EXCHANGE

Commodity	Phosphate[1] (US$/t)	Magnetite[2] (US$/t)	CAD$:US$
Price	350	168	1.37

***Notes**: [1] 40% P_2O_5, [2] 92% Fe_2O_3*

19.1.1 Phosphate Demand Outlook

The global phosphate rock market is anticipated to reach a valuation of US$26 billion in 2024, driven by increasing demand for specialty phosphates. The trend is expected to create new opportunities for the market, leading to a projected compound annual growth rate ("CAGR") of 3.3% between 2024 and 2034, and reaching a total valuation of approximately US$36 billion by 2034.

One of the primary factors driving the growth of the phosphates market is worldwide agricultural expansion. Phosphates play a crucial role in promoting plant growth, improving crop productivity, and enhancing soil fertility. The demand for food is increasing, as the global population continues to grow, leading to the need for higher agricultural yields. Phosphates are essential components of fertilizers and soil amendments used to replenish phosphorous levels in the soil. The increasing adoption of modern farming techniques and the focus on sustainable agriculture are further driving the demand for phosphates.

A major trend in the world of batteries and electric vehicles is the move towards lithium-iron phosphate ("LFP") batteries. Not only do they cost less than rival nickel manganese cobalt ("NMC") batteries, they also last approximately twice as long and are much safer (almost zero risk of fire). This explains why LFP battery sales are surging globally with a +10% CAGR and now account for over 30% market share.

19.1.2 Magnetite Demand Outlook

The future of the global magnetite market looks promising with opportunities in the iron and steel and medication industries. The global magnetite market is expected to reach an estimated US$153 billion by 2034 with a projected CAGR of 6.2% from 2024 to 2034.

Magnetite has diverse range of usage, which makes it a key element in various industries, for instance, it is used to make steel, bolts, household gadgets, décor, equipment, flyovers, industrial facilities, automotive, heavy machinery, industrial machinery, infrastructure development, shipbuilding, railways, railway lines, and other items. Powdered iron uses include magnets, high-frequency cores, auto parts, and use as a catalyst. Radioactive iron (iron 59) is often used in medicine as well as in neurochemical and metallurgical research as a tracer component. Paints, dyes and pigments, polymers, personal care products, and paper and textile industries all use iron blue. Black iron oxide is a pigment that is also used in polishing compounds, medicines, and magnetic inks, which is another factor contributing to revenue growth of the future magnetite market.

19.2 CONTRACTS

There are no existing contracts in place related to the Begin-Lamarche Property. There is an offtake MOU in place with a European purified phosphoric acid ("PPA") producer to cover part of its needs, which amount to approximately 400,000 tonnes of annual phosphate concentrate. Additionally, the offtake addresses the idea/concept of a long-term purified phosphoric acid toll processing agreement. There is also an offtake MOU with a US-based specialized scrap steel processor for all magnetite production to supplement its feed requirements.

19.3 PENALTIES

SGS testwork indicates the concentrates produced will be very low in deleterious elements, and smelter/refining penalties are not anticipated.

19.4 LOGISTICS COSTS

For product sales, phosphate concentrate, with a lesser amount of magnetite concentrate will be transported by truck off-site and delivered to the all-season port of Saguenay (overseas phosphate transport) or to the rail facilities at Hébertville-Station/Dolbeau-Mistassini (domestic phosphate and magnetite transport). All shipment costs beyond these points are free on board ("FOB").

20.0 ENVIRONMENTAL STUDIES, PERMITS, AND SOCIAL OR COMMUNITY IMPACTS

This Report Section describes the main components of the current physical, biological, and human environment in the Project area. Data in this section is based on existing inventories and public databases. First Phosphate commissioned environmental baseline studies using the services of Groupe Synergis. Fieldwork was completed in summer 2024, and reports are currently being finalized.

Further studies will be undertaken to provide the level of information required for the Environmental and Social Impact Assessment ("ESIA"). First Phosphate is committed to ensuring the infrastructure does not encroach on the natural environment or as little as possible.

20.1 ENVIRONMENTAL STUDIES AND ENVIRONMENTAL ISSUES

20.1.1 Physical Environment

20.1.1.1 Climate and Flora

The Project is in the ecological region of the eastern yellow birch and balsam fir forest (4E). This area is characterized by a decline in typical deciduous species and an increase in boreal species. The most representative forests of this region are yellow birch and balsam fir stands, often accompanied by red maple, white spruce, and, less frequently, sugar maple and eastern cedar.

The region has a continental climate characterized by cold and moderately humid conditions.

Extensive climate normal data is available for Falardeau[3] station, approximately 25 km southeast of the Property. The station is operated by the Government of Québec. Between 1981 and 2010, climate normals indicate the following highlights:

- Significant seasonal variations are observed;
- Annual daily average temperature averages 1.9°C;
- Daily freezing average temperatures from November to March;
- Total yearly precipitation of 1,082.5 mm, with 833.4 mm of rainfall and 248.0 cm of snowfall;
- July to October are the highest rainfall months;
- Snowfalls typically occur between October and April, with limited snowfalls possible in September and May; and

[3] https://www.environnement.gouv.qc.ca/climat/normales/sommaire.asp?cle=706KC09

- High snowfall months have been recorded in December and January.

20.1.1.2 Geology

Geologically, the entire 4E area is part of the Laurentian Massif. It contains igneous and metamorphic rocks belonging to the Grenville Province of the Canadian Shield. Additionally, sedimentary rocks are dispersed throughout the area, particularly near the Saint Lawrence River and Lake Saint-Jean (Groupe Synergis).

The 4E region contains marine deposits with both coarse and fine textures. In several locations, there are also coarse-textured deltaic deposits, formed during the glacial melt based on historical sea levels and the size of rivers flowing into the area at that time. Elsewhere in the region, the terrain is characterized by rolling hills with abundant, thin layers of till deposits.

20.1.1.3 Hydrography

Québec has 13 hydrographic regions, each encompassing several watersheds. These divisions are based on the territory's hydrological and ecological characteristics rather than administrative boundaries. The Project area falls within the Saguenay and Lac Saint-Jean hydrological region and is in the watershed of the Rivière des Aulnaies, which spans 421 km^2. The Rivière des Aulnaies is a direct tributary of the Saguenay River. Most drainage in the study area is managed by the hydrographic network of the Coulombe and Raphaël streams. Named water bodies in the area include Pilot, Méridié, Pilote, and Raphaël Lakes (Groupe Synergis).

20.1.2 Biological Environment

20.1.2.1 Herpetofauna

Due to its relatively northern location compared to regions further south in Québec, the Saguenay–Lac-Saint-Jean ("SLSJ") region has low herpetofauna diversity, with approximately 17 species (Groupe Synergis).

The anurans (frogs and toads) group includes seven common species, as does the group of urodeles (salamanders and newts), with five widely distributed species across Québec. Five reptile species are documented in the region, including the wood turtle, a vulnerable species in Québec.

20.1.2.2 Fish and Fish Habitat

Due to its diverse and extensive hydrographic networks, the SLSJ region supports a significant fish community. Thirteen species found in the region are of interest for sport fishing, Indigenous subsistence fishing, due to their vulnerable status, or because of their role as forage fish (Table 20.1).

TABLE 20.1 MAIN FRESHWATER FISH SPECIES OF INTEREST IN THE SAGUENAY-LAC-ST-JEAN REGION		
Common Name	**Latin Name**	**Presence Potential**
American Eel	Anguilla rostrata	Moderate
Walleye	Sander vitreus	Low
Rainbow Smelt	Osmerus mordax	Low to moderate
Northern Pike	Esox lucius	Moderate to high
Lake Whitefish	Coregonus clupeaformis	Moderate
Monkfish	Lota lota	Low
White Sucker	Catostomus commersonii	High
Brook Trout	Salvelinus fontinalis	High
Arctic Char (Freshwater Form)	Salvelinus alpinus oquassa	Low
Landlocked Salmon and Atlantic Salmon	Salmo salar	Low
Yellow Perch	Perca flavescens	Moderate
Antlantic Tomcod	Microgadus tomcod	Low
Lake Trout	Salvelinus namaycush	Low

20.1.3 Large Mammals

Four large wildlife species are found in the SLSJ region as well as 19 fur-bearing species. While several may be present within the Project area, some are absent from the southern part of the region, such as the boreal woodland caribou, a species designated as threatened in Québec. To validate the presence of these species, field surveys have been conducted in summer 2024 and will be finalized in 2025.

Woodland Caribou

In Canada, there are currently four subspecies of caribou, with only one found in Québec: the woodland caribou. Within this subspecies, biologists categorize caribou into three ecotypes, primarily based on their behavioural characteristics (e.g., the type of habitat they use and their diet): migratory caribou, woodland caribou, and mountain caribou, which includes the caribou population in Gaspésie.

The woodland caribou has been classified as a “vulnerable” species since 2005 under Québec's Act Respecting Threatened or Vulnerable Species and has been designated as a “threatened” species since 2003 under Canada's Species at Risk Act.

The government of Québec is currently developing a strategy for both woodland and mountain caribou. The goal is to adequately address their needs to ensure both their long-term survival and the vitality of Québec and its regions. Until the strategy is adopted, and as a continuation of the caribou habitat management measures set out, interim measures to manage the habitat of woodland caribou have been put in place. These mainly concern the protection of key caribou ranges in the territory.

The Project is not located within the distribution area of the woodland caribou and is not part of the interim protection areas for the woodland caribou identified by the Québec government (Source PAFI).

Moose

The Project area is in hunting zone 28. The last aerial survey in this zone was conducted in the winter of 2006, establishing a density of 0.9 moose per 10 km². Compared to neighbouring hunting zones, the moose density in zone 28 is relatively low (Groupe Synergis).

White-Tailed Deer

The abundance of white-tailed deer in the SLSJ region is considered marginal. Its regional distribution is primarily limited to the Saguenay River Valley, which is also where most hunting harvest occurs. The presence of this species in the Project area is possible, however, in very low numbers (Groupe Synergis).

Black Bear

In hunting zone 28, Lamontagne et al. (2006) estimated the black bear density at 0.7 bears per 10 km² in 2001, which is lower than the estimated values for some neighbouring zones.

20.1.4 Small Mammals

The group of small mammals in the region includes approximately 16 species, among which the Rock Vole and Cooper's Vole are considered species likely to be designated as threatened or vulnerable in Québec (Groupe Synergis).

Several other mammal species are also found in the SLSJ region, including the eastern chipmunk (*Tamias striatus*), groundhog (*Marmota monax*), northern flying squirrel (*Glaucomys sabrinus*), brown rat (*Rattus norvegicus*), and North American porcupine (*Erethizon dorsatum*).

Like for large mammals, ground inventories for small mammals were conducted in 2024. Studies will end in 2025.

Bats

There are six bat species (Chiroptera) recorded in the SLSJ region. The silver-haired bat and the hoary bat are species likely to be designated as threatened or vulnerable in Québec. Meanwhile, the little brown bat and the eastern pipistrelle are federally listed as an endangered species.

20.1.4.1 Avifauna

Just over 300 bird species have already been observed in the SLSJ region. Of these, almost half can be considered relatively common and representative of the region (Groupe Synergis).

The two major bodies of water, Lac St-Jean, and the Saguenay, along with their coastal marshes and agroforestry landscapes, attract numerous species of both southern and boreal birds. Despite the region's latitude, a relatively high level of avian diversity can be observed.

There are no waterfowl concentration areas in the Project area. A bird inventory has been conducted in 2024 on the Property and studies will be finalized in 2025.

20.1.4.2 Species at Risk

Several species with a special status are likely to frequent the study area. Local wildlife species with status in Canada, as defined by the Species at Risk Act ("SARA"), and in Québec, as defined by the Act Respecting Threatened or Vulnerable Species. According to the database of the Centre de données sur le patrimoine naturel du Québec ("CDPNQ"), available via the interactive online map, the only plant or wildlife species present within a 12 km radius of the Project at the Labrecque Lake is the bank swallow.

Based on a comparative analysis of available and sought-after habitats done by Synergis, the potential presence of assessed rare plant (Table 20.2) and animal species (EASP) (Table 20.3) ranges from none to moderate (Groupe Synergis).

TABLE 20.2
LIST OF PLANT SPECIES OF PRECARIOUS STATUS IDENTIFIED IN THE REGION AND THEIR POTENTIAL PRESENCE IN THE PROJECT AREA

Common Name	Latin Name	Status QC [1]	Status CAN [2]	Presence Potential
Anticosti Aster	*Symphyotrichum anticostense*	V	M	None
Hooked Cephaloziella	*Cephaloziella uncinata*	S	NEP	None - Low
Susquehanna Cherry	*Prunus pumila var. susquehanae*	S	NEP	Low
Corallorhize Striée	*Corallorhiza striata var. striata*	S	NEP	Low
Leafy Dicranodont	*Dicranodontium denudatum*	S	NEP	Low - Moderate
False Scapania Obtuse	*Diplophyllum obtusatum*	S	NEP	None-Low
Frail Gymnocarp	*Gymnocarpium continentale*	S	NEP	None-Low
Southern Listeria	*Neottia bifolia*	M	NEP	Low
Eurasian Water Milfoil	*Myriophyllum humile*	S	NEP	Low-Moderate

TABLE 20.2 **LIST OF PLANT SPECIES OF PRECARIOUS STATUS IDENTIFIED IN THE REGION AND THEIR POTENTIAL PRESENCE IN THE PROJECT AREA**				
Common Name	**Latin Name**	**Status QC [1]**	**Status CAN [2]**	**Presence Potential**
Two-Lobed Thistle	*Nardia insecta*	S	NEP	Low
Black-toothed Pohlie	*Pohlia melanodon*	S	NEP	Low
Quadrident oval	*Tetrodontium ovatum*	S	NEP	Low
Leafy seliger various	*Seligeria diversifolia*	S	NEP	Low
Houghton's Nutsedge	*Cyperus houghtonii*	S	NEP	Moderate

1: *M (threatened) / V (vulnerable) / S (susceptible) / C (candidate).*
2: *VD (endangered) / M (threatened) / P (special concern) / NEP (not at risk).*

TABLE 20.3 **LIST OF WILDLIFE SPECIES AT RISK IN THE REGION AND THEIR POTENTIAL PRESENCE IN THE PROJECT AREA**				
Common Name	**Latin Name**	**Status QC [1]**	**Status CAN [2]**	**Presence Potential**
Mammals (7)				
Pygmy Weasel	*Mustela nivalis*	S	NEP	Moderate
Rock Vole	*Microtus chrotorrhinus*	S	NEP	None-Low
Cooper Vole-Lemming	*Synaptomys cooperi*	S	NEP	Low
Silver-Haired Bat	*Lacionycteris noctivagans*	S	NEP	Low
Hoary Bat	*Lasiurus cinerus*	S	NEP	Low
Nordic Bat	*Myotis septentrionalis*	A	VD	Moderate to Low
Little Brown Bat	*Myotis lucifugus*	A	VD	Moderate to Low
Amphibians and Reptiles (2)				
Northern Garter Snake	*Diadophis punctatus edwardsii*	S	NEP	Low
Wood Turtle	*Glyptemys inscul*	V	M	Low-moderate
Birds (11)				
Red Knot Rufa	*Calidris canutus rufa*	S	VD	Low
Nelson’s Sparrow	Nelson *Ammospiza nelsoni*	S	NEP	None-Low
Peregrine Falcon Anatum/Tundrius	*Falco peregrinus*	V	P	Nesting: Low Nutrition: Moderate
Barrow's Goldeneye, Eastern Pop.	*Bucephala islandica*	V	P	None

TABLE 20.3 LIST OF WILDLIFE SPECIES AT RISK IN THE REGION AND THEIR POTENTIAL PRESENCE IN THE PROJECT AREA				
Common Name	**Latin Name**	**Status QC [1]**	**Status CAN [2]**	**Presence Potential**
Bicknell's Thrush	*Catharus bicknelli*	V	M	None
Short-Eared Owl	*Asio flammeus*	S	P	Low-Moderate
Bank Swallow	*Riparia riparia*	C	M	None-Low
Chimney Swift	*Chaetura pelagica*	S	M	None
Least Bittern	*Ixobrychus exilis*	V	M	Moderate
Bald Eagle	*Haliaeetus leucocephalus*	V	NEP	None-Low
Yellow Rail	*Coturnicops noveboracensis*	M	P	Low
Fish (2)				
Rainbow Smelt, Pop. From Southern St. Lawrence Estuary	*Osmerus mordax*	V	NEP	None
Arctic Char (Freshwater Form) Freshwater)	*Salvelinus alpinus oquassa*	S	NEP	None

1: *M (threatened) / V (vulnerable) / S (susceptible) / C (candidate) / A (no designation)*
2: *VD (endangered) / M (threatened) / P (special concern) / NEP (not at risk)*

It is important to note that the absence of recorded occurrences of rare species (flora or fauna) by the CDPNQ for a given area does not implicitly indicate the absence of these species at that location. Studies and inventories have been carried out on the Property and will be finalized in 2025.

The field inventories conducted for large mammals and small mammals that will be finalized in 2025 will help confirm the presence of species at risk on the Property.

20.1.5 Social or Community Considerations

The Project is located within the Fjord-du-Saguenay and the Lac-Saint-Jean Est Regional County Municipalities ("RCM"), more specifically in the municipalities of Bégin, Lamarche and Labrecque. The RCM is responsible for managing the territory, which is part of the forestry land use under which the exploitation of natural resources, primary and secondary processing of natural resources, and the extractive industry are authorized. The Project is in the 023-71 forestry management unit, where Groupe Forestra holds a guarantee of supply in the management unit. The Project area populations are presented in Table 20.4.

TABLE 20.4 **PROJECT AREA POPULATION**	
Municipality	**Population Size**
Fjord-du-Saguenay RCM	24,288 inhabitants
Bégin municipality	871 inhabitants
Lac-Saint-Jean-Est RCM	53,439 inhabitants
Labrecque	1,328 inhabitants
Lamarche	503 inhabitants

20.1.5.1 Public Land

The Project is located on Provincial public land. There are four vacation leases in the study area and no forest shelter leases. There is a non-exclusive lease ("BNE") for extracting surface mineral substances, held by the Coopérative Forestière de Petits Paris, on the northeastern side of the Property.

20.1.5.2 Land Use

A residential area is located northwest of the Property, with the nearest residences approximately 3.5 km away.

Adjacent to the Property is agricultural land protected under the Act respecting the preservation of agricultural land and agricultural activities (chapter P-41.1). Any non-agricultural activities and associated infrastructure within this agricultural zone require authorization from the Commission de la protection du territoire agricole du Québec ("CPTAQ").

20.1.5.3 Socio-economic Indicators

Table 20.5 highlights socio-economic indicators of the Fjord-du-Saguenay RCM and Lac-Saint-Jean-Est RCM's.

TABLE 20.5 **SOCIO-ECONOMIC INDICATORS**		
Socio-economic Indicators	**Fjord-du-Saguenay RCM**	**Lac-Saint-Jean-Est RCM**
Population	23,213	53,471
Number Workers 25-64 years	9,776	20,110
Median employment income 25-64 years ($)	52,662	52,879
Disposable income per capita 2022 ($)	34,959	33,968
Average property value of single-family homes (2024) ($)	250,921	235,508

Institut de la statistique du Québec, Principaux indicateurs sur le Québec et ses régions, 2022-2023 (https://statistique.quebec.ca/fr/vitrine/region/02/mrc/93 ; https://statistique.quebec.ca/fr/vitrine/region/02/mrc/942)

20.1.5.4 Recreational Activities

A snowmobile trail owned by the Club de motoneige Caribou-Conscrits runs through the Property from north to south and is frequently used by snowmobilers. Additionally, a quad trail operated by Club Quad Saguenay is located adjacent to the northeast of the Property. There is also a dog sled trail operated by the Club des Mushers Jeannois that runs parallel to the snowmobile trail on the east side of the Property.

20.1.5.5 Infrastructure and Services

Road Network

The Project is located midway between the cities of Saguenay and Alma on highway 172 along the north shore of the Saguenay River and is mainly accessible via the following roads (Groupe Synergis):

- Rang Double;
- Rang des Aulnaies;
- Rang Labrecque;
- Rang de l'Ascension; and
- Rang de Lamarche.

Airports

Three main airports serve the Project area:

- Alma;
- Bagotville; and
- St-Honoré.

Health Centres

The Project area is served by three hospitals: Alma, Jonquière, and Chicoutimi. The closest community health centre, the Centre local de services communautaires ("CLSC") Jonquière, is in St-Ambroise, followed by the CLSC Secteur-Centre in Alma and, lastly, the CLSC de Chicoutimi.

20.1.5.6 Indigenous Communities

The Project is on the territory of one indigenous community, the Innu Pekuakamiulnuatsh First Nation territory. Pekuakamiulnuatsh First Nation community is in Mashteuiatsh on the west bank of Lake Saint-Jean near Roberval. The Pekuakamiulnuatsh First Nation comprises 11,344 members, 2,135 of whom reside in the Mashteuiatsh community (Indian Registration System, Aboriginal Services Canada, August 2024).

The community has several businesses and enterprises, a museum, and a community complex that includes an ice rink. The community is governed by a band council under the Indian Act and

Pekuakamiulnuatsh Takuhikan serves as the political and administrative organization of the Mashteuiatsh community.

Pekuakamiulnuatsh Takuhikan is a stakeholder in the General Framework Agreement ("GFA"), which was signed in March 2004 between the governments of Québec and Canada and the Mamuitun and Nutashkuan First Nations. This agreement serves as the foundation for comprehensive land negotiations aimed at concluding a treaty.

A formal collaboration agreement with Pekuakamiulnuatsh Takuhikan First Nation was signed on April 9, 2024, which includes the ability for the First Nation to become involved financially in the mining activity and other related downstream facilities to be developed by First Phosphate.

20.2 WASTE ROCK, TAILINGS AND WATER MANAGEMENT

Waste rock, tailings and water management are provided in Section 18.4.

20.2.1 Geochemical Characterization of Waste Rock and Mineralization

Static testing has been carried out on 22 samples, including four mineralized samples and 18 waste rock samples. A waste rock and mineralization sampling campaign was carried out in the summer of 2024 by a First Phosphate geologist.

The analytical program was carried out by the SGS laboratory (Lakefield, Ontario), a laboratory accredited by the Centre d'expertise en analyse environnementale du Québec ("CEAEQ") for selected analyses. Static tests were carried out to classify the mining material samples according to the criteria of MELCCFP Guidelines for geochemical characterization of ore and mining wastes.

Regarding Acid Rock Drainage ("ARD"), preliminary results showed ARD potential for three waste rock samples (16.7%) and three mineralized samples (75%) as per MELCCFP guidelines. The NP-CO3 and NP-bulk ratios suggest that other sources of neutralization, such as silicate minerals, are present in the materials. Consequently, the neutralization potential of samples based on their carbonate content is not a reliable predictor of neutralization potential ("NP") for these materials.

Preliminary results for leaching tests carried out with SPLP and CTEU-9 procedures showed that waste rock and mineralized samples were classified as non-leachable according to MELCCFP Guidelines.

Kinetic testing using a humidity cells procedure was also carried out on two waste rock and two mineralized composite samples. Results from the first five weeks showed neutral pH, low conductivity, low sulphates concentrations and very low concentrations of toxic metals (arsenic, cadmium, copper, nickel, etc.). One mineralized humidity cell showed higher conductivity as well as manganese and chlorides concentrations. However, concentrations showed a rapid decrease.

First results from the kinetic test indicate that mineralization could show no ARD potential. Kinetic testing will be continued during many weeks.

20.2.2 Geochemical Characterization of Tailings

When available, tailings samples will be characterized following MELCCFP *Guide de caractérisation du minerai et des résidus miniers.* Tailings will also be characterized for filler and agricultural use.

20.3 REGULATORY CONTEXT

20.3.1 Environmental Impact Assessment Procedures

20.3.1.1 Provincial Procedure

The Project is subject to Québec's Environment Quality Act ("EQA", c. Q-2). Under this act, projects requiring environmental impact studies are identified in the Regulation Respecting Environmental Impact Assessment and Review (Q-2, r. 23). The regulation stipulates that mining projects at a processing capacity at or above 2,000 tpd (section n.8) are subject to this procedure.

However, it is important to note that in May 2024, the Québec Minister of Natural Resources introduced *Bill No. 63 — An Act to Amend the Mining Act and Other Provisions* to the National Assembly of Québec. Notably, it proposes subjecting all new mining projects to the environmental impact assessment and review procedure. Once the bill comes into force, the Project will automatically be subject to the Regulation Respecting Environmental Impact Assessment and Review (Q-2, r. 23). The bill is currently undergoing detailed review in parliamentary committee, however, all indications suggest it will be adopted when the Project reaches this stage in its development.

20.3.1.2 Federal Procedure

The Schedule of the Physical Activities Regulations (SOR/2019-285) describing the Project in whole or in part is as follows:

- 18(c): The construction, operation, decommissioning and abandonment of a new metal mine, other than a rare earth element mine, placer mine or uranium mine, with an ore production capacity of 5,000 tpd or more;

- 18(d): The construction, operation, decommissioning and abandonment of a new metal mill, other than a uranium mill, with an ore input capacity of 5,000 tpd or more.

A preliminary analysis of the Project suggests the Project will be subjected to the Federal Impact Assessment examination procedure because magnetite concentrates (and potentially ilmenite concentrates) will be produced in addition to phosphorus concentrate.

In fact, the Impact Assessment Agency of Canada ("IAAC") will have to decide whether the designated Project will be subject to an impact assessment if it is likely to have significant environmental effects on the components referred to in subsection 7(1), which are the following:

- Fish and fish habitat as defined in subsection 2(1) of the Fisheries Act;
- Aquatic species as defined in subsection 2(1) of the Species at Risk Act;
- Migratory birds as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994;
- Any other environmental component listed in Schedule 3 of the Impact Assessment Act (no components currently identified in this schedule as of October 14, 2023);
- Changes to the environment on federal and cross-border territory; and
- The impact in Canada of changes affecting Indigenous peoples on health and socio-economic matters, on natural and cultural heritage, on the current use of lands and resources for traditional purposes, and on a construction, site or thing of historical, archeological, paleontological, or architectural significance.

Is it noteworthy that in October 2023, the Supreme Court of Canada stated that the *Impact Assessment Act* is unconstitutional in some regards for examination of various types of projects, including mining projects. On June 20, 2024, the *Budget Implementation Act, 2024*, received Royal Assent and brought into force amendments to the *Impact Assessment Act* ("IAA"). These changes were made in response to the Supreme Court of Canada's decision on the constitutionality of the IAA. It is not yet known how these changes will affect the scope of the federal environmental assessment that may be required for this Project. Discussions with the IAAC are ongoing and the IAAC website is being monitored to identify any new procedures, policy and guidance documents that reflect these changes.

20.3.2 Laws and Regulation

Table 20.6 presents the most significant acts, regulations, directives, and guidelines that apply to the Project. This list is non-exhaustive and is based on information known so far. Their applicability will have to be reviewed as the Project components are further defined.

TABLE 20.6 PROVINCIAL AND FEDERAL LIST OF PERMITS
Acts and Regulations
Provincial
***Environment Quality Act* (c. Q-2)**
Regulation respecting the regulatory scheme applying to activities based on their environmental impact (Q-2, r. 17.1)
Design code of a storm water management system eligible for a declaration of compliance (Q-2, r.9.01)
Clean Air Regulation (Q-2, r. 4.1)
Regulation respecting the environmental and social impact assessment and review procedure applicable to the territory of James Bay and Northern Québec (Q-2, r. 25)

TABLE 20.6 **PROVINCIAL AND FEDERAL LIST OF PERMITS**
Acts and Regulations
Regulation respecting the operation of industrial establishments (Q-2, r. 26.1)
Snow, road salt and abrasives management regulation (Q-2, r. 28.2)
Regulation respecting pits and quarries (Q-2, r. 7)
Regulation respecting the landfilling and incineration of residual materials (Q-2, r. 19)
Regulation respecting used tire storage (Q-2, r. 20)
Regulation respecting the declaration of water withdrawals (Q-2, r. 14)
Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (Q-2, r. 15)
Regulation respecting halocarbons (Q-2, r. 29)
Regulation respecting hazardous materials (Q-2, r. 32)
Regulation respecting the reclamation of residual materials (Q-2, r. 49)
Regulation respecting activities in wetlands, bodies of water and sensitive areas (Q-2, r. 0.1)
Regulation respecting compensation for adverse effects on wetlands and bodies of water (Q-2, r. 9.1)
Protection policy for lakeshores, riverbanks, littoral zones, and floodplains (Q-2, r. 35)
Water withdrawal and protection regulation (Q-2, r. 35.2)
Land protection and rehabilitation regulation (Q-2, r. 37)
Regulation respecting the quality of the atmosphere (Q-2, r. 38)
Regulation respecting the charges payable for the use of water (Q-2, r. 42.1)
Directive 019 sur l'industrie minière (2012)
Protection and rehabilitation of contaminated sites policy (1998)
***Mining Act* (c. M-13.1)**
Regulation respecting mineral substances other than petroleum, natural gas, and brine (M-13.1, r. 2)
***Threatened or Vulnerable Species Act* (c. E-12.01)**
Regulation respecting threatened or vulnerable wildlife species and their habitats (E-12.01, r. 2)
Regulation respecting threatened or vulnerable plant species and their habitats (E-12.01, r. 3)
Compensation Measures for the Carrying out of Projects Affecting Wetlands or Bodies of Water Act (M-11.4)
***Act respecting the conservation of wetlands and bodies of water* (2017, chapter 14; Bill 132)**
***Watercourses Act* (c. R-13)**
Regulation respecting the water property in the domain of the State (R-13, r. 1)
***Conservation and Development of Wildlife Act* (c. C-61.1)**
Regulation respecting wildlife habitats (C-61.1, r. 18)
***Act respecting the lands in the domain of the state* (chapter T-8.1)**
Regulation respecting the sale, lease and granting of immovable rights on lands in the domain of the State (chapter T-8.1, r. 7)
***Sustainable Forest Development Act* (chapter A-18.1)**

Table 20.6 Provincial and Federal List of Permits
Acts and Regulations
Regulation respecting the sustainable development of forests in the domain of the State (chapter A-18.1, r. 0.01)
Regulation respecting forestry permits (chapter A-18.1, r. 8.)
***Building Act* (c. B-1.1)**
Safety Code (B-1.1, r. 3)
Construction Code (B-1.1, r. 2)
***Explosives Act* (c. E-22)**
Regulation under the *Act respecting explosives* (E-22, r. 1)
***Cultural Heritage Act* (c. P-9.002)**
***Occupational Health and Safety Act* (c. S-2.1)**
Regulation respecting occupational health and safety in mines (S-2.1, r. 14)
Highway Safety Code (c. C-24.2)
Transportation of Dangerous Substances Regulation (C-24.2, r. 43)
Federal
***Impact Assessment Act* (S.C. 2019, c. 28, s. 1)**
Physical Activities Regulations (SOR/2019-285)
Designated Classes of Projects Order (SOR/2019-323)
Information and Management of Time Limits Regulations (SOR/2019-283)
***Fisheries Act* (R.S.C., 1985, c. F-14)**
Authorizations Concerning Fish and Fish Habitat Protection Regulations (SOR/2019-286);
Metal Mining Effluent Regulations (SOR/2002-222)
***Canadian Environmental Protection Act* (S.C. 1999, c. 33)**
PCB Regulations (SOR/2008-273)
Environmental Emergency Regulations, 2019 (SOR/2019-51)
Federal Halocarbon Regulations (SOR/2003-289)
National Pollutant Release Inventory
***Species at Risk Act* (S.C. 2002, c. 29)**
***Canadian Wildlife Act* (R.S.C., 1985, c. W-9)**
Wildlife Area Regulations (C.R.C., c. 1609)
***Migratory Birds Convention Act*, 1994 (S.C. 1994, c. 22)**
Migratory Birds Regulations (C.R.C., c. 1035)
***Nuclear Safety and Control Act* (S.C., 1997, c. 9)**
General Nuclear Safety and Control Regulations (SOR/2000-202)
Nuclear Substances and Radiation Devices Regulations (SOR/2000-207)
***Hazardous Products Act* (R.S.C., 1985, c. H-3)**
***Explosives Act* (R.S.C., 1985, c. E-17)**
***Transportation of Dangerous Goods Act* (1992)**
Transportation of Dangerous Goods Regulations (SOR/2001-286)

Table 20.7 presents a non-exhaustive list of required approvals, authorizations, permits, or licenses based on the known components of the Project and typical activities related to mining projects.

TABLE 20.7
PRELIMINARY AND NON-EXHAUSTIVE LIST OF PERMITTING REQUIREMENTS

Activities	Type of Request	Authority
Closure plan	Approval	MRNF
Mining operations	Lease	MRNF
Mine waste management facilities and process plant location	Approval	MRNF
Mine waste management facilities	Lease	MRNF
Infrastructure implantation on public land	Lease	MRNF
Construction and operation of an industrial establishment, the use of an industrial process and an increase in the production of property or services	Authorization	MELCCFP
Withdrawal of water, including related work and works	Authorization	MELCCFP
Establishment of potable, wastewater and mine water management and treatment facilities	Authorization	MELCCFP
Work, structures or other interventions carried out in wetlands and bodies of water	Authorization	MELCCFP
Installation and operation of any other apparatus or equipment designed to treat water to prevent, abate or stop the release of contaminants into the environment	Authorization	MELCCFP
Installation and operation of an apparatus or equipment designed to prevent, abate, or stop the release of contaminants into the atmosphere	Authorization	MELCCFP
Industrial depollution attestation	Attestation	MELCCFP
Carry out an activity likely to modify a wildlife habitat	Authorization	MELCCFP
Operation of a borrow pit	Authorization	MELCCFP
Harvest wood on public land where a mining right is exercised	Authorization	MRNF
Build or improve a multi-use road	Authorization	MRNF
Use of high-risk petroleum equipment	Permits	RBQ
Construction	Permits	RCM
Construct, place, alter, rebuild, remove, or decommission a work in, on, over, under, through or across any navigable water	Approval	Transport Canada
Harmful alteration, disruption, or destruction of fish habitat	Authorization	DFO
Explosives possession, magazine, and transportation	Permit	SQ
Explosives transportation	Permit	NRCan
Use of nuclear substances and radiation devices	Licence	CNSC
Notice and Environmental Emergency Plan	-	ECCC

20.4 CONSULTATION ACTIVITIES

First Phosphate has initiated a series of activities and is committed to maintaining ongoing dialogue with local and regional stakeholders all throughout the Project development, operation, and remediation phases. Consultation activities began in 2022, during which the Project was presented to stakeholders to initiate communication, identify key interests, and understand the concerns of land users and local stakeholders, fostering social acceptability and harmonious relationships with affected parties.

In pursuit of successful stakeholder engagement and consultation, the following objectives will guide all activities conducted with stakeholders throughout the Project's development. These objectives are designed to establish a foundation for effective communication, collaboration, and cooperation throughout the entirety of the engagement process.

- Foster inclusive engagement with both Indigenous and non-Indigenous stakeholders;
- Establish and maintain positive relationships, fostering constructive exchanges with the stakeholders;
- Communicate the nature, purpose, and potential socio-economic and environmental benefits and effects of the Project to stakeholders;
- Work collaboratively with stakeholders to manage their diverse interests effectively;
- Address and consider any issues raised by stakeholders in a thoughtful and comprehensive manner and consider input in design and planning process; and
- Contribute to local economic development by building strong partnerships and encouraging active participation in the Project.

20.4.1 Government Authorities

First Phosphate maintains regular communication with federal and provincial government agencies and ministries, including ongoing discussions with the Ministry of Natural Resources and the Ministry of Energy and Economy.

In March 2024, the Project was awarded a mining research and innovation grant from the Québec Ministry of Natural Resources and Forestry ("MRNF"). This grant provides $315,236 in financial support to further mineralogical studies on its apatite, ilmenite, and magnetite concentrates, and includes processing mine tailings for re-use in the cement construction industry.

The Project also received a letter of support for the mining project and planned purified phosphoric acid plant from the Hon. Mario Simard, Member of Parliament (Bloc Québécois) for Jonquière, Québec. Mr. Simard, elected to the Canadian Parliament in 2019, serves as vice-chair of the Standing Committee on Natural Resources and is the Bloc Québécois critic for natural resources.

20.4.2 Municipal Authorities

First Phosphate held several meetings with local authorities to discuss the Project's anticipated economic and social benefits and address potential impacts within the region. Specific meetings include:

- **Lac-Saint-Jean-Est RCM**: One meeting was conducted with representatives of the Lac-Saint-Jean-Est Regional County Municipality ("RCM") to discuss economic and social contributions the Project may bring to the region;

- **Fjord-du-Saguenay RCM**: Two meetings were conducted with the Fjord-du-Saguenay RCM, focusing on the Project's cumulative effects on regional land use planning and sustainable development. Follow-up consultations with RCM experts are ongoing, aiming to incorporate their technical and environmental recommendations into the Project; and

- **Municipality of Bégin**: A specific meeting with representatives of the Municipality of Bégin focused on local issues and potential Project impacts on the community.

Additionally, a collaborative agreement with the Saguenay–Lac-Saint-Jean Economic Maximization Committee ("CMAX") was signed to formalize the inclusion of local economic stakeholders and partnership in the Project's development. The agreement aims at ensuring maximum positive economic impact for construction companies, equipment manufacturers and their suppliers in the Saguenay-Lac-Saint-Jean region.

20.4.3 Public Presentations

First Phosphate organized public presentations to engage with broader local stakeholders and gather feedback:

- **Saguenay–Lac-Saint-Jean Chamber of Commerce**: Two conferences were held with the Chamber of Commerce to update entrepreneurs and economic leaders on the Project's progress and gather input;

- **Regional Mining Consultation Table**: As an active member of this forum, First Phosphate will engage in regular consultations with various mining sector actors and regional representatives, ensuring ongoing dialogue and feedback; and

- **University of Québec at Chicoutimi ("UQAC")**: Two conferences were hosted at UQAC to discuss industry challenges and encourage dialogue with students and faculty on research and innovation relevant to the Project.

20.4.4 Pekuakamiulnuatsh First Nation (Mashteuiatsh)

A collaboration agreement with the Pekuakamiulnuatsh First Nation, was established to support the economic stability of the Project. This agreement also formalizes ongoing consultations and provides a framework for regular follow-up to monitor Project benefits for the community.

The agreement sets guidelines for employment, business opportunities, environmental protection, and consultation with First Nation members during exploration work on Nitassinan, their ancestral territory. Potential access to the Mashteuiatsh industrial park and a financial stake in the Project for the First Nation are also considered.

The agreement provides for First Phosphate to issue shares to the ilnu-aitun and Nelueun cultural funds, along with 2.5% of exploration and development expenses in shares annually.

20.4.5 Project Support

The Project is supported by several local parties in the region's economic development landscape including:

- Promotions Saguenay (economic development corporation for the city of Saguenay);
- Saguenay-Le Fjord Chamber of Commerce and Industry ("CCISF");
- Alliage 02 (Saguenay-Lac-Saint-Jean Manufacturers and Industrial Parks Corporation);
- Saguenay-Lac-St-Jean Economic Maximization Committee ("CMAX"); and
- Pekuakamiulnuatsh First Nation (Mashteuiatsh).

20.5 REHABILITATION AND CLOSURE PLANNING

20.5.1 Concepts

Closure and rehabilitation planning will take place in collaboration with shareholders. The main goals of closure and rehabilitation activities will be the following:

- Eliminate unacceptable health hazards and ensure public safety;
- Limit the production and spread of contaminants that could damage the receiving environment;
- Eliminate long-term maintenance and monitor requirements;
- Return the site to a visually acceptable condition; and
- Return infrastructure areas to a state compatible with future use.

The main measures for restoring the mining site will include:

- Building a raised trench or rock barrier to prevent access to the open pit;

- Revegetation of the Project footprint in accordance with regulations;
- Revegetation of waste rock piles and dry stack tailings;
- Levelling the overburden storage areas followed by revegetation;
- Demolishing and removing all buildings and other surface infrastructure;
- Levelling the process plant area, followed by revegetation;
- Managing the materials generated during dismantling of the facilities, by applying the principles of reduction, reuse, recycling and reclamation and, if necessary, disposing of materials at authorized sites, according to the level of contamination;
- Conducting a land characterization study to identify the presence of contaminants with concentrations in excess of regulatory values and taking the necessary measures, in compliance with the provisions of the Environment Quality Act, and the Land Protection and Rehabilitation Regulation;
- Scarifying the roads built as part of the mining activities and restoring the natural drainage patterns;
- Dismantling the industrial wastewater treatment installations when deemed no longer necessary and dismantling all related installations (removal of pumps, pipelines, etc.);
- Creating a breach in the water management ponds, levelling dams, covering the surface with topsoil before revegetation; and
- Restoring the hydrological drainage to passive flows when appropriate.

Progressive reclamation works will be carried out during the mining operations in areas that are no longer active as a means of verifying the success of larger-scale efforts that will take place during the mine closure phase.

Lastly, implementing an environmental monitoring program will demonstrate that reclamation works have achieved their goals.

20.5.2 Cost Estimation and Financial Guarantee

The total cost of reclamation (and the guarantee) is estimated at $36M. This cost includes the direct and indirect costs of site rehabilitation as well as post-closure monitoring, engineering costs (30%) and the mandatory 15% contingency. A detailed cost estimate will be developed throughout the closure planning process in accordance with the Guidelines for Preparing Mine Closure Plans in Québec (MRNF, October 2024).

A financial bond corresponding to the total anticipated cost of completing all the work set forth in the rehabilitation and reclamation plan will be provided to the Minister of Finance of Québec as required by regulations.

21.0 CAPITAL AND OPERATING COSTS

The estimated capital and operating costs related to the construction and operation of the mining and processing facilities are provided in this section. All costs are presented in Q4 2024 Canadian dollars. No provision has been included in the cost estimates to offset future escalation. Typical PEA costing accuracy is in the range of +/-50%.

The total initial capital cost of the Bégin-Lamarche Project is estimated at $675M. Sustaining capital costs incurred during the 23 production years are estimated at $317M. Total operating costs over the life-of-mine ("LOM") are estimated at $4,261M which averages $28.31/t processed. This amounts to $218.39/t of phosphate concentrate before considering magnetite credits and $120.90/t of phosphate concentrate net of magnetite credits.

21.1 INITIAL CAPITAL COST ESTIMATES

Initial capital costs are for construction of a 900,000 tpa phosphate concentrate process plant and dry stack tailings facility, and to set up an open pit mining site with the necessary infrastructure and pre-production activities. The capital cost estimates are summarized in Table 21.1.

TABLE 21.1
CAPITAL COST ESTIMATE

Item	Initial ($M)	Sustaining ($M)	Total ($M)
Open Pit Mining Equipment and Pre-stripping	28.2	100.5	128.7
Process Plant	261.7	62.5	324.2
Tailings Management Facilities	29.2	39.1	68.3
Indirects, EPCM and Owner's Costs	151.4	4.4	155.8
Site Infrastructure	89.0	44.4	133.4
Contingency (20%)	111.9	50.2	162.1
Reclamation/Closure	3.6	16.0	19.6
Total[1]	**675.0**	**317.1**	**992.1**

[1] Totals may not sum due to rounding.

21.1.1 Open Pit Mining Equipment and Pre-Stripping

Major pieces of open pit mining equipment are planned to be leased over successive five-year periods at a 9% interest rate, and minor equipment will be purchased. Major equipment is comprised of excavators, haul trucks, drills, wheel loaders, track dozers, graders and water trucks. A 10% down payment cost is planned for all leased equipment. Minor open pit mining equipment consists of support equipment such as maintenance equipment, smaller excavators and wheel loaders, pick-up trucks, pumps and lighting plants. The cost for leases and purchases of open pit mining equipment during the pre-production period is estimated at $22.6M.

A total of 1.2 Mt of overburden are planned to be mined at the open pit during the second year (Year -1) of pre-production. At a unit cost of $4.65/t material, open pit pre-stripping costs are estimated at $5.6M. The total initial capital cost for open pit mining equipment and pre-stripping is estimated at $28.2M.

21.1.2 Process Plant

For the process plant described in Section 17 of this Report, a summary of the preliminary estimated capital costs is shown in Table 21.2.

TABLE 21.2
PROCESS PLANT CAPITAL COST ESTIMATE

Description	Cost ($M)
General Plant	22.6
Gyratory Crusher Area	23.0
Coarse Stockpile and Reclaim	11.9
Grinding and Classification	66.7
Magnetic Separation for Magnetite	12.5
Magnetite Thickening, Filtration, Drying, Storage	12.0
Phosphate Flotation	31.5
Phosphate Concentrate Thickening, Filtration, Drying, Storage	34.4
Phosphate Concentrate Transport Handling	18.8
Reagents Area	8.3
Metallurgical Laboratory	5.0
Assay Laboratory	15.0
Total[1]	**261.7**

Note: *[1]Totals may not sum due to rounding.*

Major mechanical equipment costs are based on previous budget quotations provided by major vendors and factored accordingly for the design throughput required to produce 900,000 tpa of phosphate concentrate. Details of specific process design criteria are provided in Sections 13 and 17 of this Report. In addition, minor mechanical equipment costs are based on the Authors' database and familiarity with costs of the equipment. Bulk materials costs such as bins, tanks, structures are based on some built-up rates, factored costs and allowances.

Direct construction costs are based on factoring and direct input of costs where applicable. This includes process area, site development, concrete and steel work, mechanical, piping, motor control centre ("MCC") electrical and instrumentation.

21.1.3 Tailings Management Facilities

Material and quantity estimates were developed for the starter and ultimate TMF arrangements, as well as the ultimate arrangement for the site wide water management plan. The quantities include foundation preparation, embankment construction, geosynthetics and liner tie-in items, embankment instrumentation, collection ditches, diversion berms, and sediment basins. The unit rates to estimate the capital costs of the facilities have been based on the Authors' experience at similar sites. The material and quantity estimates were generally determined based on designs from the figures in section 18.

The following key assumptions were used in developing the PEA level cost estimates:

- The waste and water costs were developed based on the current understanding of the site conditions. Limited geotechnical information was available for concept development and quantity estimates;
- Suitable construction materials for the TMF and water management ponds will be sourced from open pit development. Material sizing will be required to meet the specification for specialized rockfill zones; and
- The cost estimates are at a conceptual level of detail (+/-50%).

The estimated capital costs are $29.2M for initial TMF construction to provide adequate storage capacity for the first two years of production, install a filtration unit in the process plant and purchase equipment to haul, spread and compact the dry stack tailings.

21.1.4 Construction Indirects, EPCM and Owner's Costs

A 25% factor was applied to all initial capital costs before contingency to calculate indirect construction costs that totalled $84.1M. A further $14.6M was estimated for first fills, start-up and commissioning of the process plant.

Engineering, procurement, and construction management ("EPCM") has been estimated to be $36.1M.

Owner's costs include administrative staff and construction management during the two-year pre-production period. Also included are general offices expenses, environmental and community expenses, insurance, generator costs until grid electrical power is connected, transportation to site, lodging if required, and maintenance costs. The initial capital cost for Owner's costs is estimated at $16.6M.

Initial capital costs for construction indirect costs, EPCM and Owner's costs are estimated at $151.4M.

21.1.5 Site Infrastructure

Site infrastructure is estimated at a total cost of $89.0M.

Site infrastructure includes items such as a gatehouse to the mine site, administration offices with first aid and safety offices, a warehouse, diesel fuel storage with a distribution station, a change house, a mine equipment maintenance shop, mobile equipment for the process plant, fresh water/fire water/potable water systems, and electrical distribution systems at the process plant/admin site. The initial capital cost for site infrastructure is estimated at $15.6M.

Site development is estimated to cost $9.6M and includes items such as:

- Construction of the main access road to the Property and to the process plant site;
- Process plant and open pit area clearing, grubbing, topsoil removal and site preparation;
- Construction contractor lay-down pad preparation;
- Construction of initial haul roads; and
- Site preparation of the TMF, waste rock storage and overburden storage facilities.

A system for process plant water management including pipelines and a site water management system including surface structures and a water treatment plant is estimated to cost $27.7M.

A 735 kV transmission line is located approximately 25 km southeast from the proposed process plant site. The line is controlled and maintained by Hydro Québec and is considered the optimum electrical power source for the Project. Approximately 25 km of new powerline is required, along with substation and distribution equipment. The cost to install a powerline and transformers and connect adequate power to the Bégin-Lamarche Project site is estimated at $36.0M.

21.1.6 Contingency

A contingency of 20% has been applied to all capital costs. On initial CAPEX the contingency is estimated at $111.9M.

21.2 SUSTAINING CAPITAL COSTS

Sustaining capital costs are estimated at $317.1M and are described below.

21.2.1 Open Pit Mining Equipment

Over the production period, sustaining capital will be required to expand and replace existing mining equipment. Lease and down payments on major equipment over the production period are estimated at $86.9M. Replacement of support equipment is estimated at $13.6M. Total LOM sustaining costs required for open pit mine equipment are estimated at $100.5M.

21.2.2 Process Plant

Sustaining capital will be required to maintain the process plant and to expand its capacity in production Year 5 in order to enable the process plant to process sufficient feed to maintain a production level at 900,000 tpa of phosphate concentrate. Sustaining process plant costs are estimated at $62.5M over the 23-year production period.

21.2.3 Tailings Management Facilities

Sustaining capital will be required during the 23-year production period to construct the second dry stack storage facility needed in production Year 6 and the third facility needed in production Year 22. Sustaining capital will also be required to replace and expand equipment needed for hauling, spreading and packing the dry stack tailings. The total sustaining cost required for tailings management facility is estimated at $39.1M.

21.2.4 Reclamation, Closure Costs and Salvage Value

The Project involves the development of an open pit mine, a process plant, tailings and water management infrastructure including collection ditches, settling ponds, water treatment system, and ancillary infrastructure. The five main closure activities include decontamination and decommissioning; asset removal; demolition and disposal; rehabilitation; and monitoring and reporting. The reclamation cost required at the end of mine life is estimated at $35.7M. To secure this cost, $3.6M will be deposited in a reclamation bond in Year -1, in addition to an annual amount of $700k during the production period. It is assumed that the annual payments will accrue interest at 4% per annum. Total reclamation bond payments over the production period are $16.0M, which, in addition to interest and the $3.6M payment in Year -1 that is included in the initial capital cost, will accumulate to the $35.7M required for reclamation and closure at the end of mine life.

A 5% salvage value ($17.0M) has been estimated for site infrastructure equipment, and process plant equipment that could potentially be sold at the end of the mine life.

21.2.5 Sustaining Cost Contingency

A contingency of 20% has been applied to all sustaining capital costs and is estimated at $50.2M.

21.3 OPERATING COST ESTIMATES

Operating costs are estimated to average $28.31/t processed over the LOM as presented in Table 21.3. This amounts to $218.39/t of phosphate concentrate before considering magnetite credits and $120.90/t of phosphate concentrate net of magnetite credits. Open pit mining costs are for 23 years of production and the pre-production mine operating costs are capitalized and incorporated into the initial capital costs. The operating costs have been estimated from first principles and consumable quotes, with factoring and estimates from the Authors' experience at other similar mines.

TABLE 21.3 OPERATING COST ESTIMATE			
Item	**Unit**	**Unit Cost ($/t)**	**LOM Total ($M)**
Mined			
Open Pit Mining all Material	$/t mined	2.73	1,010.3
Processed			
Open Pit Mining	$/t processed	6.71	1,010.3
Process Plant	$/t processed	12.56	1,890.6
General and Administration	$/t processed	1.28	192.5
Tailings and Water Management	$/t processed	3.45	519.1
Concentrate Handling and Transport	$/t processed	4.31	648.9
Total[1]	**$/t processed**	**28.31**	**4,261.3**

[1] Totals may not sum due to rounding.

21.3.1 Open Pit Mining

A breakdown of LOM average open pit mining unit operating costs by activity and by element is presented in Table 21.4. LOM total costs are also shown.

Mine operating costs are derived from a combination of first principle calculations with an in-house equipment database for all major and supporting equipment operating parameters, and include fuel, consumables, labour rates, and general parts costs. The average open pit mine operating cost is estimated at $2.73/t of material mined over the 23 production years including stockpile re-handling.

Annual mineralized material tonnes, waste tonnes and loading and hauling hours are calculated based on the capacities of the loading and hauling fleet. These tonnes and hours provide the basis for drilling, blasting, and support fleet inputs. Based on the tonnages scheduled, a requirement for production drilling hours is calculated based on blast hole size and pattern, bench height, material insitu density and drill penetration rate.

An estimate for blasting supplies, initiation systems and blasting accessories is provided on a per blast hole basis. Drilling and blasting inputs (pattern area, explosives powder factor, etc.) have been included.

Fleet requirements for loading, hauling and support are derived from the loading and hauling operating hours. Operating hours for a support fleet of dozers, front-end loaders, graders, service and welding trucks, etc., are estimated to derive the support fleet requirements.

The diesel fuel price assumed is $1.00/L.

All equipment costs are based on estimated fuel consumption rates, consumables costs, ground-engaging tools (“GET”) estimates, and general parts and preventative maintenance costs on a per-hour or per-metre basis.

Operating labour man-hours are categorized for the different labour categories such as operators, mechanics, electricians, welders etc. The mining cost also includes all mine salaried staff, technical consumables and software.

TABLE 21.4
OPEN PIT MINING OPERATING COST ESTIMATE

Item	Unit Cost ($/t material moved)	LOM Total ($M)
By Activity		
Drilling	$0.22	82.8
Blasting	$0.47	175.1
Loading	$0.31	116.1
Hauling	$1.05	389.1
Services/Roads/Waste Storage	$0.35	130.6
General/Supervision/Technical	$0.19	68.5
Allowance	$0.13	48.1
Total[1]	**$2.73**	**1,010.3**
By Element		
Operating Labour	$0.56	206.4
Maintenance Labour	$0.27	100.6
Supervision and Technical	$0.15	55.4
Non-Energy Consumables and Parts	$1.00	370.8
Fuel	$0.48	176.5
Electric Power	$0.01	3.2
Leases and Outside Services	$0.13	49.2
Allowance	$0.13	48.1
Total [1]	**$2.73**	**1,010.3**

[1] Totals may not sum due to rounding.

The average open pit mining operating cost equates to $6.71/t processed over the LOM. The mining personnel will peak in Year 10 at approximately 184, including operators, maintenance, supervision, and technical staff.

21.3.2 Process Plant

Process plant operating costs are based on preliminary process design criteria including manpower requirements, estimated connected power, maintenance and operating consumables including reagents. Operating labour rates, wear components, reagent costing, power and diesel rates were obtained from suppliers and local vendors. Power costs are estimated at $0.056/kWh with diesel costs estimated at $1.00/L. Total process plant connected power is estimated at 49 MW with operating costs estimated to average $12.56/t processed over the LOM. The process plant operating cost estimates are summarized in Table 21.5.

TABLE 21.5 PROCESS PLANT OPERATING COSTS			
Item	**LOM Total ($M)**	**Unit Cost ($/t Processed)**	**% of Total**
Labour	295.0	1.96	15
Power and Fuel	678.9	4.51	36
Grinding Media	587.0	3.90	31
Mill Liners	16.6	0.11	1
Reagents	239.3	1.59	13
Supplies and Mobile Equipment	73.8	0.49	4
Total[1]	**1,890.6**	**12.56**	**100**

[1] Totals may not sum due to rounding.

The process plant labour rates are based on local manpower rates for similar operations within the area. Rates address senior process management, operating personnel, and specific support personnel including maintenance (mechanical, electrical, instrumentation) and assay laboratory. An average wage burden rate of 38% for each labour category was applied accordingly.

To accommodate a 24-hour/7 days per week operation, the number of process-related hourly employees and staff totals 97. Process plant operations employees are estimated at 66 and maintenance employees are estimated at 31.

Reagent costs are based on quotations from local suppliers in Canada and include caustic starch, soda ash, sodium silicate, caustic soda, fatty acids, collectors, frothers and flocculants. Reagent consumption is based on Project testwork from recent SGS testwork.

Grinding media and wear components costs for process equipment including grinding mills and crushers are supplied by local Canadian vendors. Consumptions are calculated on an annual basis and unit costs are based on variable process plant feed rates of 3.5 Mtpa (production Year 1), 5.3 Mtpa (production Years 2 to 4), 7 Mtpa (production Years 5 to 22), and 5.5 Mtpa (production Year 23).

Electric power to the Project site is assumed to be supplied by a dedicated 56 kV feeder line from a Hydro Québec 735 kV transmission line located 25 km from the proposed process plant site. Electricity consumption for the process plant is estimated at 483,000 MWh per year at an estimated cost of $0.056/kWh.

21.3.3 General and Administration

General and Administration ("G&A") costs are estimated at $8.4M annually, as summarized in Table 21.6. This equated to an average G&A unit operating cost of $1.28/t processed over the LOM. Administrative staff is estimated at 48 people.

TABLE 21.6
GENERAL AND ADMINISTRATION COSTS

Item	Number	Annual Cost[2] ($)
General Manager	1	345,000
Public Relations/Sustainability	1	124,200
Administration Manager	1	220,800
Human Resources	1	165,600
Community Relations	1	124,200
Safety & Security Officer	1	138,000
Safety & Training Staff	3	289,800
Warehouse Supervisor	1	124,200
Warehouse Staff	2	193,200
Purchasing	2	220,800
Logistics & Concentrate Sales	3	331,200
Security Team	12	993,600
Nurse	2	220,800
Receptionist	1	82,800
Environmental Officer	1	124,200
Environmental Technicians	3	289,800
Accountants	2	220,800
Support Staff	8	772,800
IT Support	2	193,200
General Office Expenses	Lump sum	300,000
Environmental & Permit Expenses	Lump sum	300,000
Software, Computers, Safety Supplies	Lump sum	200,000
Insurance	Lump sum	500,000
Consultants	Lump sum	200,000
Community Service Programs	Lump sum	300,000
Allowance	20%	1,395,000
Total[1]		**8,370,000**

[1] Totals may not sum due to rounding
[2] Annual salary costs include wage burdens

21.3.4 Tailings and Water Management

LOM average tailings operating cost is estimated at $3.26/t and water management operating cost is estimated at $0.19/t. As summarized in Table 21.7, total LOM tailing and water management operating costs is $3.45/t.

Table 21.7 Tailings and Water Management Operating Cost Estimate		
Item	**Unit Cost ($/t processed)**	**LOM Total ($M)**
Tailings Operating Cost		
Dry Stacked Tailings Material and Installation	$1.49	225.0
Tailings Filtration Plant (parts, power)	$0.31	46.6
TMF Operating Equipment Fleet (haul, spread, pack)	$1.45	218.9
Subtotal Tailings Operating Cost[1]	**$3.26**	**490.6**
Water Management Operating Cost		
Water Treatment Plant	$0.14	20.5
Surface Water Management Structures (power, maintenance)	$0.05	8.0
Subtotal Water Management Operating Cost [1]	**$0.19**	**28.5**
Total Tailings and Water Management Operating Cost[1]	**$3.45**	**519.1**

[1] Totals may not sum due to rounding.

21.3.5 Concentrate Handling and Transport

LOM average phosphate and iron concentrates handling, transportation and storage cost is estimated at $4.31/t processed (LOM total $648.9M). The unit cost is based on a quotation from a leading transportation contractor that operates in the Saguenay area.

21.4 SITE PERSONNEL

Peak site employees are estimated at 329, consisting of 184 open pit mining, 97 process plant and 48 G&A. Maintenance personnel are included in the mining and process plant totals.

22.0 ECONOMIC ANALYSIS

Cautionary Statement - The reader is advised that this PEA Technical Report is intended to provide only an initial, high-level review of the Bégin-Lamarche Project potential and design options. The PEA mine plan and economic model include numerous assumptions and the use of Inferred Mineral Resources. Inferred Mineral Resources are considered to be too speculative to be used in an economic analysis except as allowed by NI 43-101 in PEA studies. There is no guarantee the Project economics described herein will be achieved.

Economic analysis for the Bégin-Lamarche Project has been undertaken for the purposes of evaluating potential financial viability of the Project. Base case NPV and IRR estimates are calculated based on a set of inputs: costs (described in Section 21) and revenues (detailed in this section). Revenues are derived from estimated process recoveries and confidential offtaker payables.

A sensitivity analysis has been completed for after-tax NPV and IRR on a ±20% range of values for commodity prices, and OPEX and CAPEX costs. The sensitivity of NPV to changes in discount rate has also been investigated. All costs and revenues in the financial analysis are in Q4 2024 Canadian dollars, with no provision for escalation or inflation. Commodity prices are quoted in US dollars.

The Project life consists of a two-year pre-production construction period followed by 22 years of active mining and one year of stockpile reclaim, for a total production period of 23 years. Reclamation and closure activities are scheduled over the final year of Project life (post-production).

Over the LOM, the open pit will produce 150.55 Mt of diluted process plant feed grading 5.76% P_2O_5, 10.32% Fe_2O_3 and 3.39% TiO_2. Total waste generated will be 219 Mt with a LOM strip ratio of 1.5:1. The Project's cash inflows will be generated from phosphate and magnetite concentrates. In this PEA, titanium mineralization it is not considered to be economic, pending further metallurgical testing.

Base case prices and exchange rate are as follows:

- Phosphate concentrate, grading 40% P_2O_5: US$350/t.
- Magnetite concentrate, grading 92% Fe_2O_3: US$168/t.
- Exchange rate CAD$:US$: 1.37.

Based on these base case prices and exchange rate, and OPEX and CAPEX as set out in Section 21, the after-tax NPV of the Project at an 8% discount rate is estimated at $1.59B ($2.10B pre-tax), with an after-tax IRR of 33.0% (37.1% pre-tax). The estimated after-tax payback period is approximately 2.9 years (2.6 years pre-tax).

22.1 PARAMETERS

The revenue, and therefore profit and NPV, of the Project are influenced by the parameters detailed below in Sections 22.1.1 to 22.1.5. Cost estimates are detailed in Section 21.

22.1.1 Commodity Prices

The Authors utilized the approximate November 30, 2024, 24-month trailing average P_2O_5 grade-premium adjusted phosphate price (US$250/t + 25% purity premium + US$38/t assured supply premium = US$350/t) and grade-premium adjusted magnetite price (US$135/t + 35% purity premium = US$168/t).

22.1.2 Discount Rate

An 8% discount rate was selected for the Project. Mining legislation in the stable jurisdiction of Québec, Canada, is well understood. Existing infrastructure includes a nearby electrical power line and water sources. A skilled labour pool, mining equipment sales and parts distribution, and well-established mining contractors are available nearby.

22.1.3 Costing

Mining is based on conventional truck-and-shovel open pit methods with predictable costs for consumables, equipment, and labour. Process plant costing has been performed from first principles in combination with factors derived from the Authors' experience in similar settings, and the current Canadian labour market.

22.1.4 Other Inputs

The economic analysis is valid for the LOM production schedule presented in Section 16. The schedule includes a reasonable ramp-up of the process plant of 70% in Year 1 and full production starting from Year 2.

Mineralized material is to be treated in an on-site process plant to produce a saleable phosphate concentrate, with a lesser amount of magnetite concentrate, to be transported off-site and delivered to the all-season ports of Saguenay and Hébertville-Station (phosphate concentrate); and Dolbeau-Mistassini (magnetite concentrate) where product control will be assumed by an offtaker. The process plant is structured to maintain a LOM production rate of 900,000 tpa of phosphate concentrate grading 40% P_2O_5.

A stockpiling strategy is used to store low-grade material mined in excess of process plant capacity and to enhance the average grade of material processed during early years of production. A mineralized stockpile of approximately 12.0 Mt is built up during open pit mining life which will be reclaimed primarily during the last two years of production.

There is a provision for salvage value of the process plant equipment and open pit mining equipment at the end of production, which is assumed to be 5% of the purchase price ($17M).

The reclamation cost required at the end of mine life is estimated at $35.7M. To secure this cost, $3.6M will be deposited in a reclamation bond in Year -1, in addition to an annual amount of $700k during the production period. It is assumed that the annual payments will accrue interest at

4% per annum. Total reclamation bond payments over the production period are $16.0M, which, in addition to interest and the $3.6M payment in Year -1 that is included in the initial capital cost, will accumulate to the $35.7M required for reclamation and closure at the end of mine life.

22.1.5 Royalty and Taxes

The Project is not subject to royalties.

A variable mining tax rate of 16, 22 and 28% is applied to the profit margins of 0-35%, 35-50% and greater than 50%, respectively.

Applicable income taxes have been calculated on taxable income at rates of Canadian Federal at 15% and Québec Provincial at 11.5%.

The Project will qualify for a 30% Investment Tax Credit for Clean Technology Manufacturing.

Based on the production, pricing and cost assumptions applied in the base case of this PEA, total taxes payable is estimated at $1.47B. Table 22.1 summaries the LOM taxes payable.

TABLE 22.1
LOM TAXES PAYABLE

Item	Taxes[1] ($M)
Québec Mining Taxes	244.8
Canadian Federal Taxes	864.0
Investment tax credit (Clean Technology Manufacturing Investment)	-298.8
Québec Provincial Taxes	662.4
Total Taxes	**1,472.4**

[1] Totals may not sum due to rounding.

22.2 SIMPLIFIED FINANCIAL MODEL

Table 22.2 summarizes the NPV, IRR and payback period of the Project under baseline inputs.

TABLE 22.2
PAYBACK PERIOD, NPV AND IRR FOR BASELINE FINANCIAL MODEL

Item	Payback Period (years)	NPV (8% discount rate) ($B)	IRR [1] (%)
Pre-Tax	2.6	2.10	37.1
After-Tax	2.9	1.59	33.0

Note: *1. IRR value was calculated using Microsoft Excel's IRR function.*

A summary of the key economic parameters and results is presented in Table 22.3.

TABLE 22.3 PEA SUMMARY PARAMETERS AND RESULTS	
Parameter	**Amount[1]**
Phosphate Price (40% P_2O_5) US$/t	350
Magnetite Price (92% Fe_2O_3) US$/t	168
Exchange Rate CAD$:US$	1.37
Production Profile	
Tonnes Processed (Mt)	150.55
Average Process Plant Feed Grade (%P_2O_5)	5.76
Average Process Plant Feed Grade (%Fe_2O_3)	10.32
Average Process Plant Feed Grade (%TiO_2)	3.39
Mine Life (years)	23
Process Plant Production (ktpa phosphate concentrate)	900
Phosphate Concentrate Grade (% P_2O_5)	40
Magnetite Concentrate Grade (% Fe_2O_3)	92
P_2O_5 Process Plant Recovery (%)	90.0
Fe_2O_3 Process Plant Recovery (%)	70.0
LOM Phosphate Concentrate (Mt)	19.51
LOM Magnetite Concentrate (Mt)	8.27
Revenue ($ M)	11,257.5
Operating Costs	
Unit Average LOM Opex ($/t processed)	28.31
Unit Average LOM Opex ($/t P_2O_5 conc. no Fe_2O_3 credit)	218.39
Unit Average LOM Opex ($/t P_2O_5 conc. with Fe_2O_3 credit)	120.90
Open Pit Mining Costs ($ per tonne processed)	6.71
Processing Costs ($ per tonne processed)	12.56
G&A ($ per tonne processed)	1.28
Tailings and Water Management Costs ($ per tonne processed)	3.45
Concentrate Handling and Transport ($ per tonne processed)	4.31
Total LOM Operating Cost ($ M)	4,261.3
Capital Requirements	
Pre-Production Capital Cost ($ M)	675.0
LOM Sustaining Capital Cost ($ M)	317.1
Project Economics	
Taxes ($ M)	1,472.4
Pre-Tax	
NPV (8% Discount Rate) ($ M)	2,099.7
IRR (%)	37.1

TABLE 22.3 PEA SUMMARY PARAMETERS AND RESULTS	
Parameter	**Amount[1]**
Payback (years)	2.6
Cumulative Undiscounted Cash Flow ($ M)	6,021.1
After-Tax	
NPV (8% Discount Rate) ($ M)	1,589.5
IRR (%)	33.0
Payback (years)	2.9
Cumulative Discounted Cash Flow ($ M)	4,548.7

[1] Totals may not sum due to rounding.

A simplified financial model for the Project, using baseline inputs, is presented in Table 22.4.

TABLE 22.4
FINANCIAL MODEL SUMMARY (CAD$M)

Item	Total	Year																								
		-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
P_2O_5 Revenue	**9,355.3**	0.0	0.0	302.1	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	431.5	270.6	152.5	0.0
Fe_2O_3 Revenue	**1,902.3**	0.0	0.0	44.2	60.1	57.8	77.5	89.9	100.5	100.1	96.2	89.1	87.9	87.9	87.5	89.9	92.3	84.3	81.5	101.7	100.0	95.6	93.0	81.6	62.4	41.3	0.0
Revenue	**11,257.5**	**0.0**	**0.0**	**346.3**	**491.6**	**489.3**	**509.0**	**521.4**	**532.0**	**531.6**	**527.7**	**520.6**	**519.4**	**519.4**	**519.0**	**521.4**	**523.8**	**515.8**	**513.0**	**533.2**	**531.5**	**527.1**	**524.5**	**513.1**	**333.0**	**193.8**	**0.0**
(-) Operating Cost	**4,261.3**	0.0	0.0	126.8	155.3	160.0	170.6	167.1	187.7	194.8	209.7	211.5	217.6	214.9	210.2	201.0	191.5	180.9	187.0	210.7	206.5	206.7	199.4	181.7	148.1	121.5	0.0
(-) Capital Spending	**992.1**	201.7	473.2	14.2	17.6	70.1	10.7	52.7	7.9	11.2	12.2	13.4	16.1	11.0	10.8	4.9	7.2	9.4	8.4	5.2	6.0	5.1	5.9	2.7	13.3	1.3	0.0
Salvage	**17.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0
Reclamation And Closure	**19.6**	0.0	3.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0
Pre-Tax Cash Flow	**6,021.1**	**(201.7)**	**(473.2)**	**205.3**	**318.8**	**259.2**	**327.7**	**301.6**	**336.3**	**325.5**	**305.9**	**295.7**	**285.7**	**293.5**	**298.0**	**315.5**	**325.1**	**325.6**	**317.6**	**317.3**	**319.0**	**315.3**	**319.2**	**328.7**	**171.7**	**71.0**	**17.0**
(-) Income Tax	**-1,472.4**	0.0	0.0	(2.8)	(47.3)	(32.7)	(41.0)	(46.2)	(41.5)	(42.7)	(40.6)	(64.9)	(75.2)	(78.6)	(80.8)	(89.6)	(93.0)	(91.8)	(88.6)	(88.9)	(89.7)	(88.8)	(90.1)	(94.0)	(46.4)	(17.6)	0.0
After-Tax Cash Flow	**4,548.7**	**(201.7)**	**(473.2)**	**202.5**	**271.5**	**226.6**	**286.8**	**255.5**	**294.8**	**282.8**	**265.2**	**230.8**	**210.5**	**214.9**	**217.2**	**225.9**	**232.2**	**233.8**	**229.0**	**228.4**	**229.3**	**226.5**	**229.1**	**234.7**	**125.3**	**53.4**	**17.0**
Cumulative After-Tax Cash Flow	**4,548.7**	(201.7)	(675.0)	(472.5)	(201.0)	25.6	312.4	567.8	862.6	1,145.4	1,410.7	1,641.5	1,852.1	2,067.0	2,284.2	2,510.1	2,742.3	2,976.1	3,205.1	3,433.5	3,662.8	3,889.3	4,118.4	4,353.1	4,478.4	4,531.7	4,548.7
Discounted After-Tax Cash Flow (8%)	**1,589.5**	**(194.1)**	**(421.6)**	**167.0**	**207.4**	**160.3**	**187.8**	**154.9**	**165.5**	**147.0**	**127.7**	**102.9**	**86.9**	**82.1**	**76.8**	**74.0**	**70.4**	**65.7**	**59.6**	**55.0**	**51.1**	**46.8**	**43.8**	**41.5**	**20.5**	**8.1**	**2.4**
Discounted Cumulative After-Tax Cash Flow	**1,589.5**	(194.1)	(615.8)	(448.7)	(241.3)	(81.1)	106.7	261.6	427.2	574.2	701.9	804.7	891.6	973.8	1,050.6	1,124.6	1,195.1	1,260.7	1,320.3	1,375.3	1,426.4	1,473.2	1,517.0	1,558.5	1,579.0	1,587.1	1,589.5

22.3 SENSITIVITY

Sensitivities of base case after-tax NPV and IRR to changes in key Project variables have been investigated. Key variables considered are:

- Product prices;
- OPEX; and
- CAPEX.

Investigations have been performed by changing each of the key variables, one at a time, between -20% and 20% while holding the other key variables constant.

Sensitivity of the base case NPV to changes in discount rate is also analyzed for 0, 5, 8 and 10% discount rates and is shown in Table 22.5. This sensitivity is not applicable to IRR since it is not related to discount rate.

Variance in OPEX and CAPEX can be the result of changes in the Canadian labour market, increase in raw materials costs, changes in mining or processing parameters, changes in scale or design, changes in technology, general inflation, and other sources. Commodity price variance can be the result of changes in banking policies, market trends, general supply and demand pressures, and other sources. Variance in discount rate can be the result of market trends, changes in perceived risk, banking policies, corporate financing structure, and other sources.

As shown in Figure 22.1, Project NPV is most sensitive to changes in commodity prices, followed by OPEX, then CAPEX. The Project IRR is most sensitive to changes in commodity prices, then CAPEX and OPEX, as shown in Figure 22.2.

TABLE 22.5
PROJECT SENSITIVITY TO DISCOUNT RATE

Discount Rate (%)	After-Tax NPV ($M)
0	4,548.7
5	2,310.6
8	**1,589.5**
10	1,249.6

FIGURE 22.1 PROJECT AFTER-TAX NPV SENSITIVITY

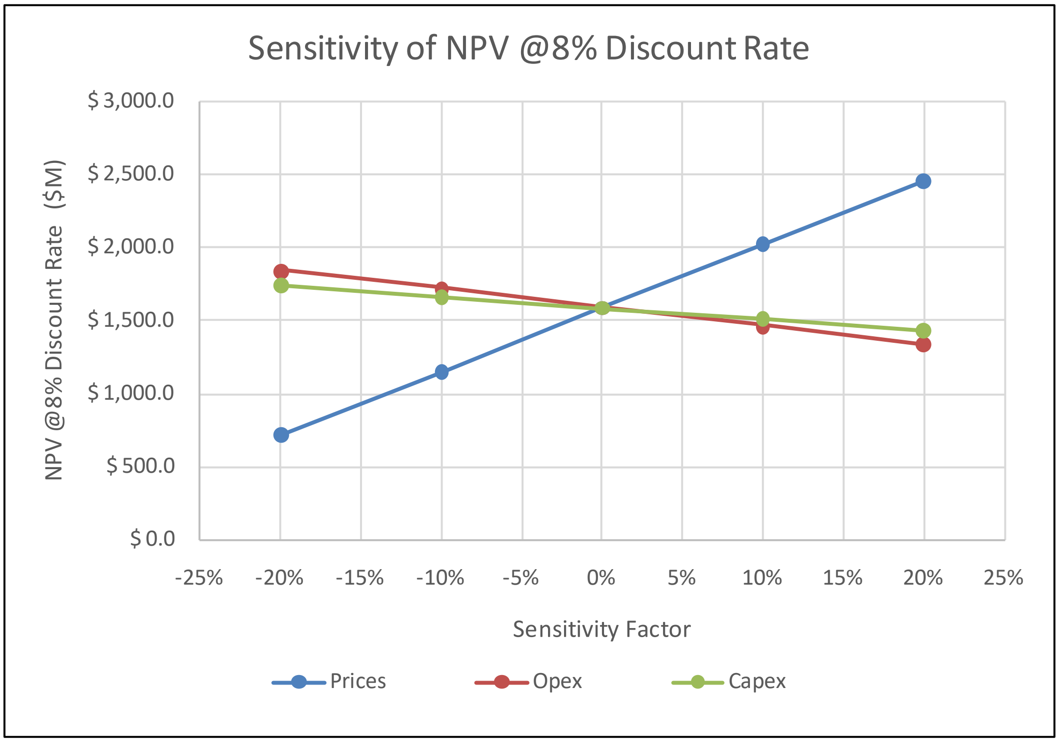
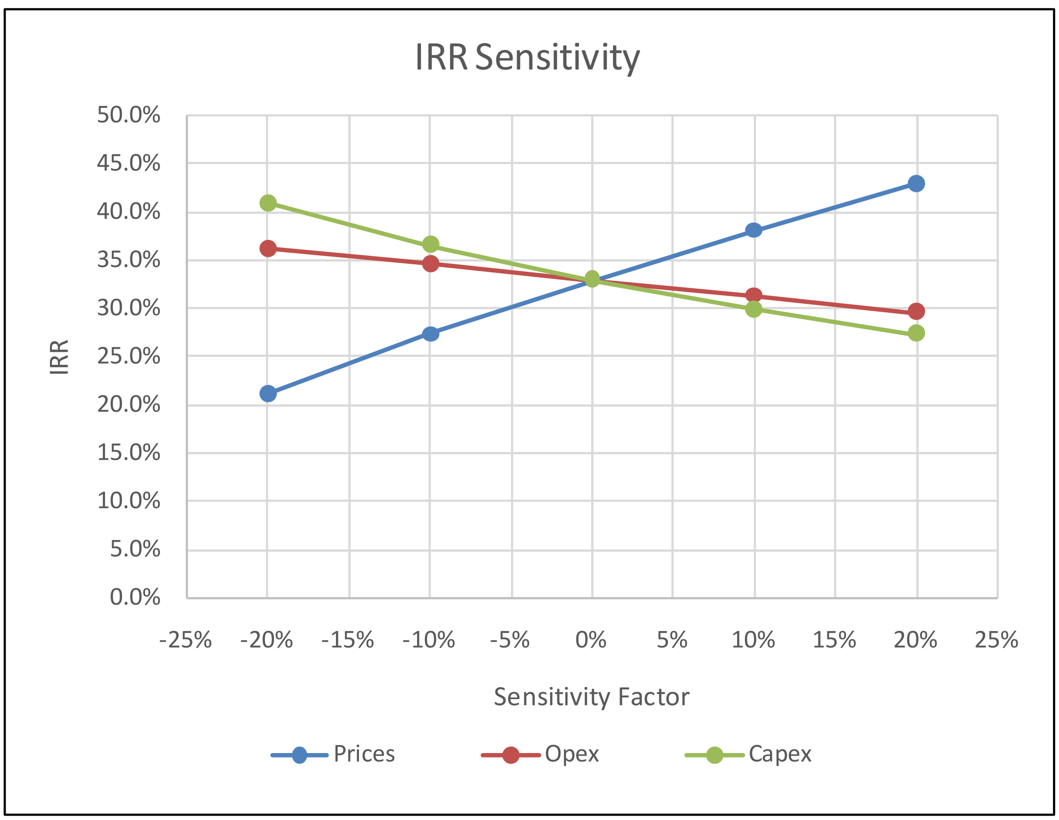


FIGURE 22.2 PROJECT AFTER-TAX IRR SENSITIVITY



22.4 SUMMARY

The Project's economic merit measures are most sensitive to changes in the product prices, followed by OPEX, then CAPEX.

It is the opinion of the Authors that the Bégin-Lamarche Project has potential to be financially viable. Therefore, it is recommended to advance the Project to the next phase of study.

23.0 ADJACENT PROPERTIES

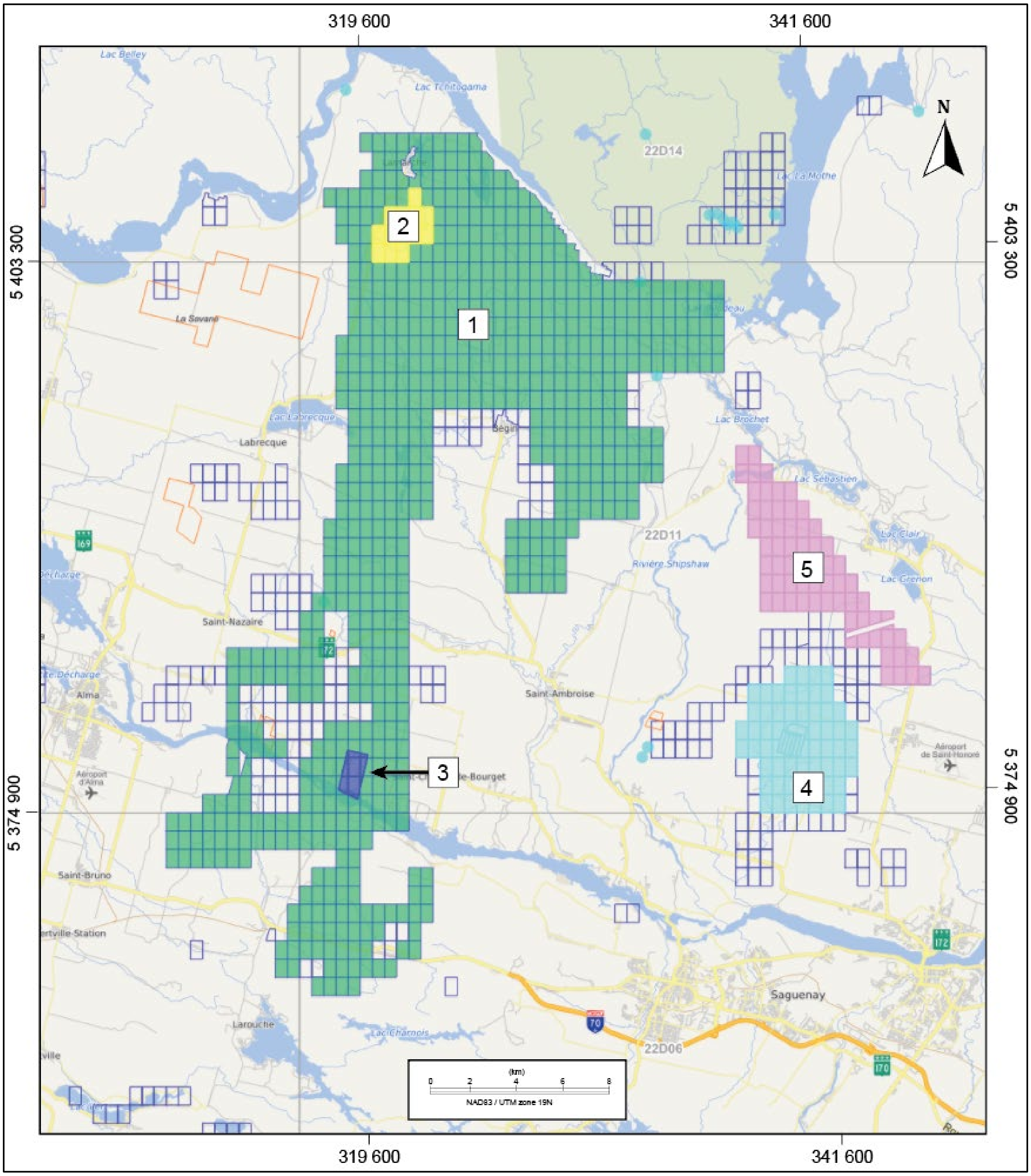
The Niobec Mine, located in Saint-Honoré, Québec, ~30 km southeast of the Bégin-Lamarche Deposit, is the only operating mine in the area (Figure 23.1). The mine is one of the world's few and leading producers of niobium, a critical element used mainly in making high-strength, low-alloy steels. The mine is owned and operated by Magris Resources, a private Brazilian company. The most recent publicly available Mineral Reserve Estimate, provided in 2014 when the mine was sold to Magris Resources by Iamgold, suggested Proven and Probable Mineral Reserves of ~418 Mt of ore grading ~0.42% niobium pentoxide (Nb_2O_5). In addition to Mineral Reserves, the mine also has significant Measured, Indicated, and Inferred Mineral Resources. The mine has been in operation since 1976 and is expected to continue producing for several more decades.

The Bérubé Property is located a few km west of the Bégin-Lamarche Deposit (Figure 23.1). The owner of the claims explores for peat moss and is associated with Tourbières Lambert, which has a peat moss packing facility just west of the Bégin-Lamarche Property.

The Cormier Property, enclosed by the southern part of the Bégin-Lamarche Property (Figure 23.1), was drilled in 2011 and 2012 for phosphate and titanomagnetite. Nineteen drill holes were completed totalling 3,149 m on the known phosphate mineralization. Three mineralized zones were discovered on that property; the Centre, West and East Zones (GM 67674). The Centre Zone has been intersected for 390 m of strike oriented at N165° to N180° dipping 50° to 85° west. The average phosphate content of the Center Zone is 9.16% P_2O_5. The apparent thickness of the Centre Zone is between 15 to 45 m. The West Zone is located <50 m west of the Centre Zone, parallels the Central Zone and dips 45° to 55° west. The average phosphate content of the West Zone is 8.91% P_2O_5. The East Zone has an average thickness of 9.54 m and contains 9.17% P_2O_5.

Silice Charlevoix owns a property located north of the Niobec Mine (Figure 23.1). No work has been carried out on that property. There are a several small properties in and around the Bégin-Lamarche Property held by individual prospectors or businessmen with little or no reported exploration work.

FIGURE 23.1 ADJACENT PROPERTIES MAP



Notes: *1 = Bégin-Lamarche Property, 2 = Bérubé Claims, 3 = Cormier Claims, 4 = Niobec Mine, 5 = Silice Charlevoix*

The information in this section has not been verified by the Authors and it is not necessarily indicative of the mineralization on the Bégin-Lamarche Property, which is the subject of this Technical Report.

24.0 OTHER RELEVANT DATA AND INFORMATION

24.1 PROJECT RISKS AND OPPORTUNITIES

Risks and opportunities have been identified for the Project. The anticipated impact on the Project is listed in brackets after each item, using low-medium-high categories.

24.1.1 Risks

Lower commodity prices and market access for the products would decrease the Project economics. Financial viability of the Project is sensitive to the commodity prices and market access. (high).

Water management risks are potentially:

1. Flooding/dam failure could lead to overflow of surrounding areas (medium);
2. Sedimentations in basins can reduce storage capacity (medium);
3. Blockage or insufficient water flow in the diversion channel (low); and
4. Specific wastewater treatment required for potential contaminants (e.g. phosphorus) identified in geochemical characterization of tailings (low).

Open pit geomechanics risks are potentially:

1. Geotechnical slope design assumptions are based on empirical assumptions. Additional geotechnical rock mass characterization is needed to establish a site-specific slope design basis (medium);
2. The geological fault model is considered preliminary. A 3-D fault model will be required (medium);
3. The lithology model is considered preliminary (medium); and
4. The preliminary hydrogeology model is not considered in slope designs (low).

The presence of fatty acids in the filtered tailings could potentially diminish the friction angle of the filtered tailings and jeopardize the compaction and shear resistance of the peripheral dyke filtered tailings material. This risk can be attenuated or avoided by implementing a proper quality control system during construction of the dry stacks. Modification at the processing or selected fatty acid may reduce this risk. (high)

Presently, the closure cover impermeability is provided by a compacted till layer underlying a geotextile upon which an organically enhanced soil is placed for vegetation growth. The purpose of the geotextile is to avoid root systems to penetrate the till layer resulting in a permeability increase as they decompose at the end of their life. Further studies could prove that percolation of water on the long term could generate leaching and reprecipitation of dissolved chemical therefore diminishing the efficiency of the core's internal drainage system. This could lead to an unacceptable water table raise in the dry stacks exposing the peripheral dykes to instabilities. This scenario could be controlled by long term post closure monitoring and possibly by remediation by pumping. (medium)

Even if consolidation cells are introduced in the design of the dry stacked tailings, the possibility of water percolation and saturation of the filtered tailings is omnipresent and can cause excess pore pressures if the core raising is too rapid or if the slopes of the free faces are too steep. Proper design features and monitoring instrumentation can efficiently limit or avoid this risk. An opportunity to respond to this risk consists of adding vertical wick drains in areas where a potential problem is foreseen. (medium)

US$:CAD$ exchange rate variations might have an impact on Project economics (medium).

Since this study is at a PEA level of engineering and costing, and relies in part on factored costs, it is possible that operating and capital costs could increase at more detailed levels of study. Mining contractors should be asked to provide bids for inclusion in future engineering studies (medium).

Approximately 78% of the tonnage in the mine plan consists of Inferred Mineral Resources. There is no certainty that the Inferred Mineral Resources will be upgraded to a higher Mineral Resource classification in the future (medium).

There is a presence of fish habitats for all potential locations of waste rock storage areas (low).

24.1.2 Opportunities

There is opportunity to increase the size of the open pit in the future should economic conditions change to support an expansion. This would lengthen the mine life. The current Mineral Resource is estimated at 41.5 Mt Indicated and 214.0 Mt Inferred Mineral Resource, and the current mine plan is much smaller, set at 150.55 Mt of process feed. (high)

Water management can be designed to optimize and minimize the number of basins and pumps (high).

Titanium mineralization is not currently considered to be economic in this PEA; further metallurgical testing might prove economic viability of its recovery (medium).

More water can be recycled or reused, especially for the process plant requirements (medium).

In this PEA, there are two assigned overburden storage locations. There is an opportunity for further optimization to eliminate one of these locations which might reduce capital and reclamation costs (medium).

There is an opportunity to store dry stack tailings in-pit in the mined out Northern Zone, which will reduce the need to external dry stack storage capacity (medium).

Waste rock could be sold or transported off site for other customers or construction material (low).

Open pit geomechanics opportunities are:

1. Address rock mass characterization gaps to establish representative rock mass details in the vicinity of the proposed pit highwalls. Suggested follow-up action includes:
    - Perform diamond drill core logging to establish geotechnical parameters (high).
    - Perform televiewer or oriented core logging to establish rock fabric (jointing) trends (high);

2. Perform laboratory testing of representative diamond drill core samples (medium); and

3. Perform kinematic and numerical modelling analysis to establish the basis for slope designs (medium).

An opportunity to avoid a liner system for the dry stacked tailings area could be confirmed by geochemistry testing. The current PEA considers a lining system, however, it could be confirmed that it is not required (low).

There is an opportunity to extend the ramp into the footwall of the Southern Zone, which could reduce the amount of waste rock generation and consequently the mining costs (low).

25.0 INTERPRETATION AND CONCLUSIONS

The Bégin-Lamarche Property is located ~270 km north of Québec City, Québec and ~75 km northwest of the City of Saguenay, Québec. The Property consists of 688 contiguous CDC claims with a total area of 38,610 ha. First Phosphate fully owns the 688 CDC claims. All the Property claims are registered with the Ministry of Natural Resources and Forests ("MRNF"). All the claims are in good standing as of the effective date of this Report.

The Bégin-Lamarche Property is accessible via ~50 km driving-distance on highways 170 and 172 west and northwest of the City of Saguenay. These highways connect by secondary and tertiary roads to the Property. The Bégin-Lamarche Project, which includes the area of the current Mineral Resource, is located ~1 km north of the Town of Bégin and adjacent to the Town of Lamarche.

The Saguenay region has a humid continental-type climate that is milder than that of the surrounding Canadian Shield and similar to that of the St. Lawrence Lowlands. Located just above the 49^{th} parallel, the region has a very low average temperature (2.3°C) with very cold winters (average −21.1°C in January) and relatively cool summers (24.1°C on average in July). The topography of the Property is made up of rolling hills containing numerous outcrops and small valleys covered with a thick layer of overburden. Vegetation is a mixed forest of deciduous and coniferous trees with a few lakes.

The Saguenay - Lac Saint-Jean region has a population of 280,000 inhabitants and extensive industrial, agricultural, forestry and tourist industries. The region also has a significant hydro-electric system (owned by Rio Tinto) to produce electricity for the aluminum production and transformation industries. The University of Québec at Chicoutimi in the City of Saguenay houses a well-known geological department. The nearby mining operations are mainly aggregate and dimensional stone quarries. The only metallic mine is the Niobec Niobium Mine operated by Magris Resources.

The City of Saguenay is the sixth largest city in Québec, with an airport, a skilled industrial workforce, and established local infrastructure. Deep-water all-season port facilities at the Port of Saguenay, 30 road-km away, are linked by the Saguenay River to the St. Lawrence River at the Town of Tadoussac and, ultimately, the Atlantic Ocean. The Company has signed a Memorandum of Understanding with the Port of Saguenay to secure access and development space at the port facilities. Furthermore, the port of Bécancour is located 260 km south-southeast of the City of Saguenay and is accessible by Highway Road 172 west to Highway 169, and then south along Highway 155 to the City of Trois-Rivieres. There are regularly scheduled flights to Saguenay from the City of Montréal.

Historically, exploration work in the Bégin-Lamarche region focused mainly on industrial minerals and dimensional stone. In the 1970s, the region was mapped by Provincial Government teams, with a focus on a large anorthosite complex. In 1986 and 1996, lake sediment samples and stream sediment samples returned anomalous values in nickel, copper and cobalt. From the mid-1990s to 2022, Virginia Gold Mines, Secova Metals and local prospectors completed geophysical, lithogeochemical, and geological surveys designed to detect mainly the presence of massive magmatic sulphide mineralization associated with anorthosite. Disseminated Ni-Cu-Co sulphide mineralized showings and phosphate mineralization occurrences were found.

First Phosphate interest in the Bégin-Lamarche area stemmed from the presence of a 7 km long, southwesterly trending airborne anomaly and two historical grab samples taken by prospectors that returned results of 10.5 and 12.0% P_2O_5 in a cumulate rock with >90% oxide (magnetite and ilmenite) and apatite. In 2022, First Phosphate purchased northern part of Bégin Property from the local prospectors, expanded it through staking and additional acquisition deals, and commenced exploration for magmatic phosphate mineralization.

The Bégin-Lamarche Phosphate Deposit is hosted in oxide-apatite peridotite intrusions within the large Proterozoic Lac-Saint-Jean-Anorthosite ("LSJA") Suite in the Grenville Province, Québec. The LSJA is the largest phosphate mineralized anorthosite complex worldwide.

Bégin-Lamarche is an anorthosite massif-hosted phosphate (apatite) mineral deposit. The Deposit extends for 2.5 km along strike, dips steeply, and is internally offset along cross-cutting faults into three mineralized zones: 1) the Southern Zone; 2) the Northern Zone; and 3) the Mountain Zone. The Southern Zone is the largest one, and consists of four phosphate layers up to 200 m thick, and extends for 1.7 km along strike. The Northern Zone consists of two phosphate layers ranging from 100 to 200 m in thickness and extends for 600 m along strike. The Mountain Zone is a single phosphate-bearing, somewhat elongated mass up to 200 m in diameter and 250 m in length, and contains the highest average phosphate grade. Drilling at the Mountain Zone intersected massive apatite (phosphate-bearing mineral) layers up to 2 m thick.

In 2023 and 2024, First Phosphate has carried out geological reconnaissance and sampling programs, an airborne magnetic survey, a petrographic study, bulk sampling for metallurgical testing, and diamond drilling programs. In 2023, 21 drill holes were completed for a total 4,461 m of NQ drill core. Between January and April 2024, 99 drill holes were completed for a total of 25,929 m. In total, First Phosphate has completed 120 drill holes for 30,390 m on the Property.

It is the Authors' opinion that sample preparation, security and analytical procedures for the Bégin-Lamarche Project 2023 to 2024 drill program were adequate, and that the data are of satisfactory quality and suitable for use in the current Mineral Resource Estimate. Future drill core sampling at the Project should include the insertion and monitoring of field and coarse reject duplicates, and 5 to 10% umpire samples for all future drill core samples at a reputable secondary laboratory.

Verification of the Bégin-Lamarche Project data, used for the current Mineral Resource Estimate, was undertaken by the Authors, and included a site visit sample, due diligence sampling, verification of drilling assay data, and assessment of the available QA/QC data for the recent drilling data. The Authors consider that there is good correlation between the P_2O_5, TiO_2 and Fe_2O_3 assay values in First Phosphate's database and the independent verification samples collected by the Authors and analyzed at SGS. The Authors consider that sufficient verification of the Project data has been undertaken and that the supplied data are of good quality and suitable for use in the current Mineral Resource Estimate.

Metallurgical testwork has been undertaken by SGS at their Québec City facility with additional support by SGS Lakefield, Ontario. Recent test results have confirmed that an apatite concentrate can be obtained assaying 40% P_2O_5 and at over 90% recovery. Additional metallurgical test results indicate that the Bégin-Lamarche Deposit may have the potential to produce two other, possibly marketable concentrates: 1) an iron oxide (magnetite) concentrate; and 2) a titanium oxide (ilmenite) concentrate. Further metallurgical testing is warranted.

The Mineral Resources are considered by the Authors to be amenable to open pit mining methods. At an effective date of December 4, 2024, and a cut-off grade of 2.5% P_2O_5, the Bégin-Lamarche Deposit contains 41.5 Mt grading 6.49% P_2O_5, 10.69% Fe_2O_3, and 3.31% TiO_2 in pit-constrained Indicated Mineral Resources, and 214.0 Mt grading 6.01% P_2O_5, 10.89% Fe_2O_3 and 3.63% TiO_2 in pit-constrained Inferred Mineral Resources. Contained metal contents are 2,692 kt of P_2O_5, 4.4 Mt of Fe_2O_3 and 1,372 kt of TiO_2 in Indicated Mineral Resources, and 12,851 kt of P_2O_5, 23.3 Mt Fe_2O_3 and 7,773 kt TiO_2 in Inferred Mineral Resources.

The Mineral Resources in this Technical Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions (2014) and Best Practices Guidelines (2019) prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council. Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The Inferred Mineral Resource component of this estimate has a lower level of confidence than that applied to the Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of the Inferred Mineral Resources could be converted to Indicated Mineral Resources with continued exploration.

The Bégin-Lamarche Deposit is to be mined by conventional truck-and-shovel open pit mining methods in a single open pit. The Project is planned to produce 900,000 tpa phosphate concentrate grading 40% P_2O_5. LOM mineralized production will consist of 150.55 Mt at average grades of 5.76 P_2O_5, 10.32% Fe_2O_3 and 3.39% TiO_2. Overburden mined is estimated at 7.8 Mt, and waste rock will total 211.3 Mt over the LOM, for an overall strip ratio of 1.5:1. Mining dilution is estimated at 6% and mining losses are estimated at 3%. The mine production schedule consists of six months of pre-production followed by 22 years of active mining and one year of stockpile reclaim, for a total LOM of 24 years. Total mining years are 23 years and total process plant production is 23 years. To meet the phosphate concentrate needs, the annual mining rates of feed and waste rock combined will peak at approximately 28 Mtpa (77,000 tpd) in Years 9 and 10. The open pit will be mined in a series of seven phases, or pushbacks, beginning with the Mountain Zone. The Bégin-Lamarche mine will be an owner operated open pit mine, except for blasting operations. It is anticipated that the mining operations would be conducted 24 hours per day and 7 days per week throughout the entire year. It is expected that diesel-powered hydraulic excavators (10 m^3 bucket size) and front-end loaders (11 m^3 bucket size) will be used to excavate the blasted rock. The anticipated truck size capacity is 90 t. The mining personnel will peak at approximately 184, including operators, maintenance, supervision, and technical staff.

The principal process stages will include a gyratory unit crushing of ROM material, SAG-ball mill grinding, the application of various intensities of magnetic separation to produce a magnetite concentrate, and the performance of moderate strength multi-stage flotation to produce a high-grade apatite concentrate. High density slurry reagent conditioning, regrinding of rougher magnetite and first cleaner apatite concentrates will be necessary. Concentrate slurry thickening will be followed by pressure filtration, drying and preparation for shipping of the magnetite and apatite products. Magnetite and apatite tailings will be combined, thickened, and pressure filtered to accommodate “dry stacking” tailings management. Confirmation of this flowsheet can be anticipated following receipt of the results of additional bench-scale testing and pilot scale tests on fresh samples and on samples representing variations in Mineral Resource mineralization.

Employees and contractors will commute from nearby communities. The Project will include an open pit, waste rock storage facilities, mineralized material stockpiles, process plant site, tailings management facilities, and a water management pond and treatment plant. First Phosphate will also construct infrastructure for staff offices, first aid facilities, warehousing, change rooms, lunch rooms, diesel fuel tank farm and fuelling station, maintenance building, explosives magazines, and water and sewage treatment. A dedicated powerline from the Hydro Québec 735 kV line located approximately 25 km southeast from the proposed process plant site will be constructed to supply all power requirements.

The Project is located within the Fjord-du-Saguenay and the Lac-Saint-Jean Est Regional County Municipalities (“RCM”), more specifically in the municipalities of Bégin, Lamarche and Labrecque. The Project is located on provincial public land. There are four vacation leases in the study area and no forest shelter leases. There is a non-exclusive lease (“BNE”) for extracting surface mineral substances, held by the Coopérative Forestière de Petits Paris, on the northeastern side of the Property. A collaboration agreement with the Pekuakamiulnuatsh First Nation was established to support the economic stability of the Project. This agreement also formalizes ongoing consultations and provides a framework for regular follow-up to monitor Project benefits for the community. First Phosphate commissioned environmental baseline studies using the services of Groupe Synergis. Fieldwork was completed in summer 2024, and reports are currently being finalized. Further studies will be undertaken to provide the level of information required for the Environmental and Social Impact Assessment (“ESIA”). First Phosphate is committed to ensuring the infrastructure does not encroach on the natural environment or as little as possible. The construction, the operation and the closure of a mine is subjected to several laws and regulations at the federal, provincial, and municipal levels. The Project is subject to Québec’s Environment Quality Act (“EQA”, c. Q-2) and the environmental examination procedure (including the Bureau d'audiences publiques sur l'environnement (“BAPE”) procedure). A preliminary analysis of the Project suggests the Project will be subjected to the Federal Impact Assessment examination procedure since a magnetite concentrate will be produced in addition to apatite concentrate, however, this is still unclear at this stage.

All costs are presented in Q4 2024 Canadian dollars. No provision has been included in the cost estimates to offset future escalation. Open pit mining costs have been estimated to average $2.73/t mined, equivalent to $6.71/t processed, including stockpile re-handling, over the production years. Process costs ($12.56/t processed), site G&A ($1.28/t processed), tailings and water management ($3.45/t processed) and concentrate handling/transport ($4.31/t processed) contribute to a total LOM average cost estimated at $28.31/t processed. LOM total operating costs are estimated at $4,261M. This amounts to $218.39/t of phosphate concentrate before considering magnetite credits and $120.90/t of phosphate concentrate net of magnetite credits.

Initial capital costs to construct and commission the process plant, pre-strip the open pit to enable production, and install surface infrastructure are estimated at $675M and include a 20% contingency. Sustaining capital costs during the production years are estimated at $317M. The LOM total capital cost of the Project is estimated at $992M.

Under baseline scenarios (8% discount rate, payable commodities using prices of US$350/t phosphate concentrate (40% P_2O_5), US$168/t magnetite concentrate (92% Fe_20_3), OPEX and CAPEX as set out above), the after-tax NPV of the Project is estimated at $1.59B ($2.10B pre-tax), with an after-tax IRR of 33% (37% pre-tax). This results in an after-tax payback period of approximately 2.9 years. Applicable taxes have been calculated on taxable income at rates of Canadian Federal at 15% and Québec Provincial at 11.5%. A variable Québec mining tax rate of 16, 22 and 28% is applied to the profit margins of 0-35%, 35-50% and greater than 50%, respectively. The Project will qualify for a 30% Investment Tax Credit for Clean Technology Manufacturing. Project economics are more sensitive to items directly affecting the commodity prices, followed by OPEX, then CAPEX.

It is the opinion of the Authors that the Bégin-Lamarche Project has potential to be financially viable. Therefore, it is recommended to advance the Project to the next phase of study.

26.0 RECOMMENDATIONS

The Bégin-Lamarche Phosphate Property contains a significant P_2O_5 Mineral Resource that is hosted in an oxide gabbro intrusion within a large anorthosite intrusive complex. The Property has potential for delineation of additional Mineral Resources associated with extension of known anorthosite-associated magmatic mineralized zones and for discovery of new magmatic mineralized zones.

Additional exploration and pre-development study expenditures are warranted to improve the viability of the Bégin-Lamarche Phosphate Project and advance it through a Pre-Feasibility Study ("PFS"). The Authors recommend that First Phosphate undertake the following exploration and pre-development program.

The Authors recommend additional drilling and exploration work to convert the in-pit Inferred Mineral Resources to Indicated Mineral Resources, and to convert in-pit Indicated Mineral Resources to Measured Mineral Resources within the Mountain Zone since it has the highest grades and is planned to be mined first. It is estimated that a total of 12,000 m of drilling will be required at a cost of $2.4M. The current Mineral Resources are generally open to expansion by drilling down-dip. Future drill core sampling at the Project should include the insertion and monitoring of field and coarse reject duplicates, and to umpire sample 5 to 10% of all future drill core samples at a reputable secondary laboratory.

Additional metallurgical tests can be undertaken:

1. Bench-scale batch and pilot-scale concentration tests on:
    a. Composites representing rock type and grades similar to the Indicated Mineral Resource grades of each rock type ($150k);

    b. Pilot testing of the production of customer-acceptable magnetite and apatite concentrates. Ilmenite production may not be included in the test program, unless a new process is developed and accepted. The confirmation of process and production of adequate sample for customer checking ($560k +cost of assembling large enough feed sample); and

    c. Solid-liquid and drying tests ($40k).

2. Concentrate modifications:
    a. Magnetite – modification for battery iron process feed ($50k);

    b. Apatite – flow characteristics ($30k);

    c. Apatite – agglomeration technology development for dust suppression and prevention of fluidization in shipment stability ($100k); and

    d. Ilmenite (subject to development of acceptable process) – agglomeration/pelletizing-sintering bench scale tests ($80k).

Total metallurgical testing costs are estimated at $1.1M.

Geological and geotechnical data compiled to date provides a basis for preliminary slope design assumptions. There may be an opportunity to optimize slope design angles once a comprehensive site geomechanical model is established. To improve geotechnical design confidence, the following data gaps should be addressed:

1. Address diamond drill gaps. Some regions of the proposed pit walls have not been probed with diamond drilling. These include:

    a. The east and northeast walls of the Mountain Zone;
    b. The HW of the Northern and Southern Zones (south of Fault N310);
    c. The northeast and southwest walls of the Northern Zone; and
    d. The northeast and southwest walls of the Southern Zone.

    Drilling into the northeast and southwest walls should be oriented towards those walls. Geotechnical parameters (example: rock mass characterization, rock hardness, joint set orientation) should be obtained from the new diamond drill holes;

2. Large-scale structure (fault model). Develop a 3-D geological fault model, interpreting orientations and inclinations of faulting encountered by diamond drilling at the Bégin-Lamarche site. Characterize the fault properties (example: width, presence of gouge, etc.);

3. Lithology model. Develop a 3-D geological model to include additional lithologies (example: dykes) that may be present in the vicinity of the pits;

4. Structural data (rock fabric model). Perform televiewer surveys in select existing diamond drill holes to generate the jointing database necessary for kinematic analysis. New diamond drill holes (specific geotechnical drill holes) should be structurally logged with oriented drill core methods or surveyed with a televiewer;

5. Rock laboratory testing. Perform testing on representative diamond drill core samples to establish material properties of lithologies that are to be exposed in the pit highwall. Testing examples include Uniaxial ("UCS") testing, Tensile and Triaxial testing. A minimum of five tests per major rock lithology should be performed. As Project understanding improves, Direct Shear testing should be considered on representative open discontinuities; and

6. Geomechanics evaluation. Kinematics and numerical (limit equilibrium and finite element) stability analyses are recommended for PFS level studies. Kinematic analysis, based on rock fabric data obtained from Televiewer and/or oriented drill core logging, is to be performed on all pit wall orientations. Incorporate the results of hydrogeology interpretations into future pit geotechnical designs (example: groundwater profile and seepage potential).

Recommendations on water management and dry stacked tailings are as follows:

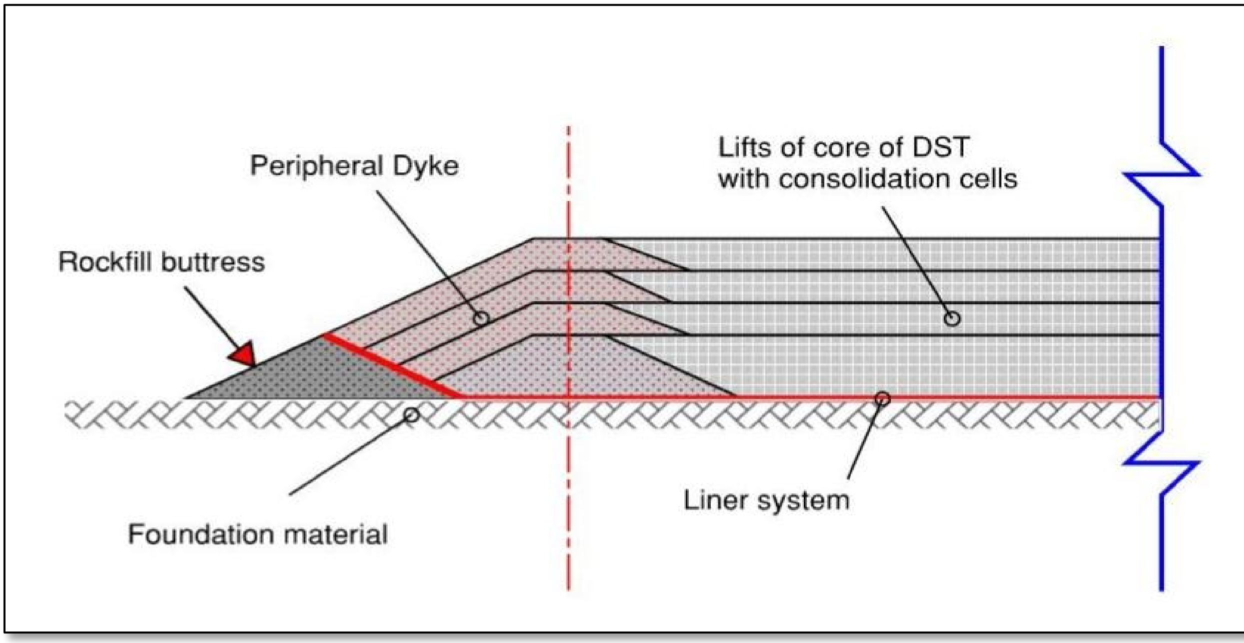
1. Complete tailings testing to confirm index, strength, permeability, and filtration properties;
2. Conduct a first geotechnical/hydrogeological site investigation to characterize the foundations of the infrastructure and conditions prevailing at the open pit;
3. Optimize installation of the vertical drainage of consolidation cells by replacing vertical sand drainage system with wick drains during progressive installation of cell placement;
4. Consider incorporating downstream rockfill buttresses under the liner system to steepen both the upstream and downstream slopes of peripheral dykes using a central raise scenario (see Figure 26.1);
5. Consider replacing the liner system (both layers of geotextile and LLDPE geomembrane) by a single layer of asphaltic geomembrane offering a higher interface friction angle and enabling further steepening of peripheral dyke slopes;
6. Geochemical characterization testwork on the tailings and interstitial tailings water to confirm the geochemical properties and treatment requirements;
7. Additional geochemical characterization testwork on the waste rock to confirm the geochemical properties;
8. Perform analyses of pore water pressure increase under construction loading in consolidation cells and evaluate an adequate sizing of the drainage system;
9. Study the possibility that climatic precipitation percolating down in the stack may raise the water level in the DST due to a diminution of the drainage capacity with time. Particle migration, precipitation of dissolved chemicals, etc. could be involved in this diminution. Such a condition could generate a DST overall instability and justify the installation of an upper membrane liner to avoid downward percolation of climatic precipitation;
10. Perform effective stress stability analysis to refine and optimize stack geometry and embankment sections. The analysis should consider the increase of pore water pressure and the potential for liquefication and/or strength loss in the foundation and in the filtered tailings mass during construction loading and also upon a potential large magnitude earthquake;
11. Collect site-specific meteorological and hydrological data. This data will be used to refine seasonal run-off values, design storm estimates and minimum freeboard requirements;
12. Confirm the catchment areas contributing run-off to the process plant site and open pit, and the amount of groundwater inflow to the open pit;
13. Complete a monthly site-wide water balance;

14. Develop a predictive water quality model, in conjunction with the water balance, to review the requirements for water treatment and/or discharge;

15. Develop a predictive aerial dispersion model of air-borne tailings and for operational noise of the DST areas to assess the impact on the citizens of the Town of Lamarche ; and

16. Review and optimize water diversion channels.

FIGURE 26.1 ROCKFILL BUTTRESS WITH CENTRAL RAISE OF PERIPHERAL DYKES



Source: *BBA (2024)*

The costs to complete the recommended work programs are estimated to be $8.5M (Table 26.1). The PFS activities are contingent on prior completion of the Exploration and Drilling items.

TABLE 26.1 COST ESTIMATES FOR RECOMMENDED WORK PROGRAM		
Program	**Units / Description**	**Cost Estimate (CAD$)**
Exploration and Drilling		
Infill Drilling	12,000 m	2,400,000
Exploration Drilling	3,000 m	600,000
Geomechanical Drilling	2,500 m	500,000
Geomechanical Drilling	Televiewer Surveys	50,000
Geomechanical Drilling for Pit Wall Slopes	1,000 m	200,000
Contingency (20%)		750,000
Subtotal Exploration and Drilling		**4,500,000**
Pre-Feasibility Study		
Environmental, Permitting, Social Support		300,000
Updated Mineral Resource Estimate		200,000
Metallurgical Testwork*	Bench-scale Concentration and Concentrate Modification Tests	1,100,000
PFS Study		1,500,000
Contingency (20%)		620,000
Subtotal PFS		**3,720,000**
Administration & Overhead		300,000
Total		**8,520,000**

** Cost of assembling a large enough feed sample not included.*

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28.0 CERTIFICATES

CERTIFICATE OF QUALIFIED PERSON

ANDREW BRADFIELD, P. ENG.

I, Andrew Bradfield, P. Eng., residing at 5 Patrick Drive, Erin, Ontario, N0B 1T0, do hereby certify that:

1. I am an independent mining engineer contracted by P&E Mining Consultants.
2. This certificate applies to the Technical Report titled "Preliminary Economic Assessment of the Bégin-Lamarche Phosphate Property, Saguenay – Lac Saint-Jean Region, Northern Québec", (The "Technical Report") with an effective date of December 4, 2024.
3. I am a graduate of Queen's University, with an honours B.Sc. degree in Mining Engineering in 1982. I have practiced my profession continuously since 1982. I am a Professional Engineer of Ontario (License No.4894507). I am also a member of the National CIM.

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

   I have practiced my profession continuously since 1982. My summarized career experience is as follows:

   - Various Engineering Positions – Palabora Mining Company 1982-1986
   - Mines Project Engineer – Falconbridge Limited 1986-1987
   - Senior Mining Engineer – William Hill Mining Consultants Limited 1987-1990
   - Independent Mining Engineer 1990-1991
   - GM Toronto – Bharti Engineering Associates Inc 1991-1996
   - VP Technical Services, GM of Australian Operations – William Resources Inc 1996-1999
   - Independent Mining Engineer 1999-2001
   - Principal Mining Engineer – SRK Consulting 2001-2003
   - COO – China Diamond Corp 2003-2006
   - VP Operations – TVI Pacific Inc 2006-2008
   - COO – Avion Gold Corporation 2008-2012
   - Independent Mining Engineer 2012-Present

4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for authoring Sections 2, 3, 15, 22 and co-authoring Sections 1, 16, 21, 24, 25, 26, and 27 of this Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101. I am independent of the Vendor and the Property.
7. I have had no prior involvement with the Project that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: December 4, 2024
Signing Date: January 17, 2025

{SIGNED AND SEALED}
[Andrew Bradfield]

Andrew Bradfield, P.Eng.

CERTIFICATE OF QUALIFIED PERSON

EUGENE PURITCH, P.ENG, FEC, CET

I, Eugene J. Puritch, P. Eng., FEC, CET, residing at 44 Turtlecreek Blvd., Brampton, Ontario, L6W 3X7, do hereby certify that:

1. I am an independent mining consultant and President of P&E Mining Consultants Inc.
2. This certificate applies to the Technical Report titled "Preliminary Economic Assessment of the Bégin-Lamarche Phosphate Property, Saguenay – Lac Saint-Jean Region, Northern Québec", (The "Technical Report") with an effective date of December 4, 2024.
3. I am a graduate of The Haileybury School of Mines, with a Technologist Diploma in Mining, as well as obtaining an additional year of undergraduate education in Mine Engineering at Queen's University. In addition, I have also met the Professional Engineers of Ontario Academic Requirement Committee's Examination requirement for a Bachelor's degree in Engineering Equivalency. I am a mining consultant currently licensed by the: Professional Engineers and Geoscientists New Brunswick (License No. 4778); Professional Engineers, Geoscientists Newfoundland and Labrador (License No. 5998); Association of Professional Engineers and Geoscientists Saskatchewan (License No. 16216); Ontario Association of Certified Engineering Technicians and Technologists (License No. 45252); Professional Engineers of Ontario (License No. 100014010); Association of Professional Engineers and Geoscientists of British Columbia (License No. 42912); and Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (No. L3877). I am also a member of the National Canadian Institute of Mining and Metallurgy.

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

   I have practiced my profession continuously since 1978. My summarized career experience is as follows:
   - Mining Technologist - H.B.M.& S. and Inco Ltd., 1978-1980
   - Open Pit Mine Engineer – Cassiar Asbestos/Brinco Ltd., 1981-1983
   - Pit Engineer/Drill & Blast Supervisor – Detour Lake Mine, 1984-1986
   - Self-Employed Mining Consultant – Timmins Area, 1987-1988
   - Mine Designer/Resource Estimator – Dynatec/CMD/Bharti, 1989-1995
   - Self-Employed Mining Consultant/Resource-Reserve Estimator, 1995-2004
   - President – P&E Mining Consultants Inc, 2004-Present
4. I have visited the Property that is the subject of this Technical Report on July 8, 2024.
5. I am responsible for authoring Section 19 and co-authoring Sections 1, 12, 14, 25, 26, and 27 of this Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had no prior involvement with the Project that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: December 4, 2024
Signing Date: January 17, 2025

{SIGNED AND SEALED}
[Eugene Puritch]

____
Eugene Puritch, P.Eng., FEC, CET

CERTIFICATE OF QUALIFIED PERSON

ANTOINE R. YASSA, P.GEO.

I, Antoine R. Yassa, P.Geo. residing at 3602 Rang des Cavaliers, Rouyn-Noranda, Québec, J0Z 1Y2, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
2. This certificate applies to the Technical Report titled "Preliminary Economic Assessment of the Bégin-Lamarche Phosphate Property, Saguenay – Lac Saint-Jean Region, Northern Québec", (The "Technical Report") with an effective date of December 4, 2024.
3. I am a graduate of Ottawa University at Ottawa, Ontario with a B. Sc (HONS) in Geological Sciences (1977) with continuous experience as a geologist since 1979. I am a geological consultant currently licensed by the Order of Geologists of Québec (License No 224) and by the Association of Professional Geoscientist of Ontario (License No 1890);

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

   My relevant experience for the purpose of the Technical Report is:

   - Minex Geologist (Val d'Or), 3-D Modelling (Timmins), Placer Dome 1993-1995
   - Database Manager, Senior Geologist, West Africa, PDX, 1996-1998
   - Senior Geologist, Database Manager, McWatters Mine 1998-2000
   - Database Manager, Gemcom modelling and Resources Evaluation (Kiena Mine) 2001-2003
   - Database Manager and Resources Evaluation at Julietta Mine, Bema Gold Corp. 2003-2006
   - Consulting Geologist 2006-present
4. I have visited the Property that is the subject of this Technical Report on April 9, 2024.
5. I am responsible for authoring Sections 4 to 12, 14, 23 and co-authoring Sections 1, 24, 25, 26, 27 of this Technical Report.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101. I am independent of the Vendor and the Property.
7. I have had prior involvement with the Project that is the subject of this Technical Report I was a "Qualified Person" for a Technical Report titled "Technical Report and Initial Mineral Resource Estimate of the Bégin-Lamarche Phosphate Property, Saguenay – Lac Saint-Jean Region, Northern Quèbec", with an effective date of September 9, 2024.
8. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: December 4, 2024
Signing Date: January 17, 2025

{SIGNED AND SEALED}
[Antoine R. Yassa]

____

Antoine R. Yassa, P.Geo.

CERTIFICATE OF QUALIFIED PERSON

D. GRANT FEASBY, P. ENG.

I, D. Grant Feasby, P. Eng., residing at 12,209 Hwy 38, Tichborne, Ontario, K0H 2V0, do hereby certify that:

1. I am an independent metallurgical consultant contracted by P&E Mining Consultants Inc. I am also currently the Owner and President of:

   FEAS - Feasby Environmental Advantage Services
   38 Gwynne Ave, Ottawa, K1Y1W9

2. This certificate applies to the Technical Report titled "Preliminary Economic Assessment of the Bégin-Lamarche Phosphate Property, Saguenay – Lac Saint-Jean Region, Northern Québec", (The "Technical Report") with an effective date of December 4, 2024.

3. I graduated from Queens University in Kingston Ontario, in 1964 with a Bachelor of Applied Science in Metallurgical Engineering, and a Master of Applied Science in Metallurgical Engineering in 1966. I am a Professional Engineer registered with Professional Engineers Ontario. I have worked as a metallurgical engineer for over 50 years since my graduation from university.

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

   My relevant experience for the purpose of the Technical Report has been acquired by the following activities:
   - Metallurgist, Base Metal Process Plant.
   - Research Engineer and Lab Manager, Industrial Minerals Laboratories in USA and Canada.
   - Research Engineer, Metallurgist and Plant Manager in the Canadian Uranium Industry.
   - Manager of Canadian National Programs on Uranium and Acid Generating Mine Tailings.
   - Director, Environment, Canadian Mineral Research Laboratory.
   - Senior Technical Manager, for large gold and bauxite mining operations in South America.
   - Expert Independent Consultant associated with several companies, including P&E Mining Consultants, on mineral processing, environmental management, and mineral-based radiation assessment.

4. I have not visited the Property that is the subject of this Technical Report.

5. I am responsible for authoring Sections 13 and 17, and co-authoring Sections 1, 21, 24, 25, 26, and 27 of this Technical Report.

6. I am independent of the issuer applying the test in Section 1.5 of NI 43-101.

7. I have had no prior involvement with the Project that is the subject of this Technical Report.

8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

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

Effective Date: December 4, 2024
Signing Date: January 17, 2025

{SIGNED AND SEALED}
[D. Grant Feasby]

____
D. Grant Feasby, P.Eng.

CERTIFICATE OF QUALIFIED PERSON

JOHN G. HENNING, P.ENG.

I, John G. Henning, P.Eng. residing at 2146 Emily Circle, Oakville, Ontario, L6M 0E5, do hereby certify that:

1. I am a Principal Rock Mechanic Engineer with BBA Inc., located at 20 Carlson Court, Suite 100, Toronto, Ontario M9W 7K6.
2. This certificate applies to the Technical Report titled "Preliminary Economic Assessment of the Bégin-Lamarche Phosphate Property, Saguenay – Lac Saint-Jean Region, Northern Québec", (The "Technical Report") with an effective date of December 4, 2024.
3. I have graduated from McMaster University (B.Sc., Geology, 1982), University of Toronto (B.A.Sc., Geotechnical Engineering, 1985), and from McGill University with M. Eng. (1998) and Ph.D. (2007) degrees in Mining Engineering (Rock Mechanics).
4. I am a registered member of the Professional Engineers of Ontario (PEO #19284306).
5. I am a specialist geotechnical mining engineer with over 35 years of operational expertise in managing geotechnical risk across a wide range of rock conditioned in both underground and surface mines. I have performed and reviewed similar technical geotechnical evaluations at numerous locations in Québec, Ontario, and internationally.
6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
7. I am responsible co-authoring Sections 16, 24, 26, 27 of this Technical Report.
8. I have not visited the Property that is the subject of this Technical Report.
9. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101. I am independent of the Vendor and the Property.
10. I have had no prior involvement with the Property that is the subject of this Technical Report.
11. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.
12. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: December 4, 2024
Signing Date: January 17, 2025

{SIGNED AND SEALED}
[John G. Henning]

John G. Henning, P.Eng.

CERTIFICATE OF QUALIFIED PERSON

HUGO LATULIPPE, P.ENG.

I, Hugo Latulippe, P.Eng., B.Sc.A., as a co-author of the Technical Report, do hereby certify that:

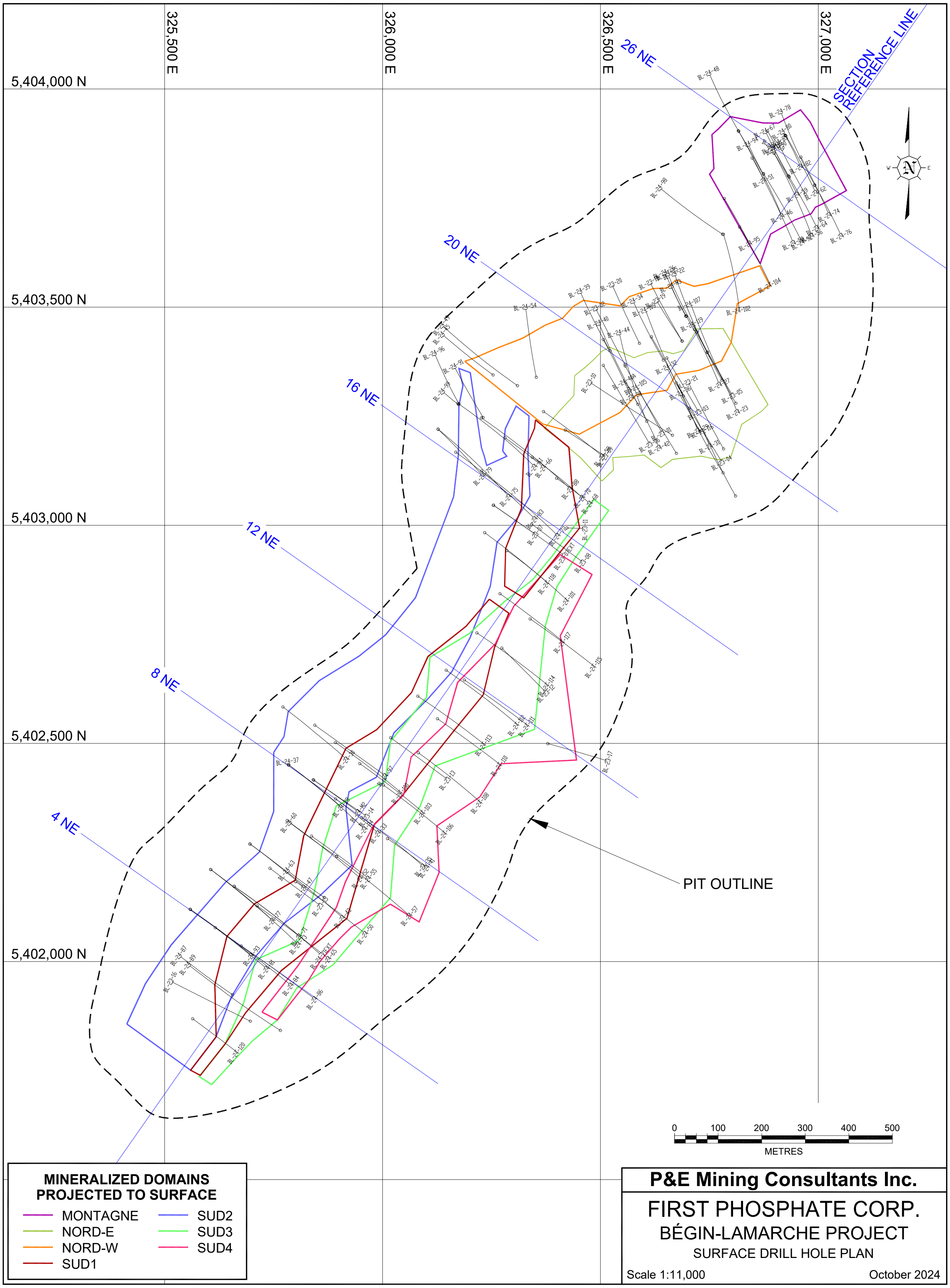
1. I am a Senior Engineer at BBA Engineering Ltd., located at 990 de l'Église Road, Office 590, Québec, QC, G1V 3V7.
2. This certificate applies to the Technical Report titled "Preliminary Economic Assessment of the Bégin-Lamarche Phosphate Property, Saguenay – Lac Saint-Jean Region, Northern Québec", (The "Technical Report") with an effective date of December 4, 2024.
3. I am a graduate of Mining and Mineralogy Engineering at Laval University, Québec, Québec, Canada, 2001.
4. I am a member of the *Ordre des ingénieurs du Québec* (OIQ 126558), Professional Engineers Ontario (PEO No. 100520994) and Engineers and Geoscientists British Columbia (No 209460).
5. I have been working in the mining industry since 2001. I began as a mining engineer in underground mines in Abitibi and then worked in open pit operations. I acquired solid experience in mining operations before working on the development of three projects. I have been involved in mining studies since 2012.
6. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
7. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101.
8. I am an author and responsible for the preparation of Sections 18, 20 and co-author of Sections 1, 24, 25, 26 and 27.
9. I have not visited the site.
10. I have no prior involvement with the Property that is the subject of the Technical Report.
11. I have read NI 43-101, and the sections of the Technical Report for which I am responsible have been prepared following NI 43-101 rules and regulations.
12. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Effective Date: December 4, 2024
Signing Date: January 17, 2025

{SIGNED AND SEALED}
[Hugo Latulippe]

____
Hugo Latulippe, P.Eng.

APPENDIX A DRILL HOLE PLAN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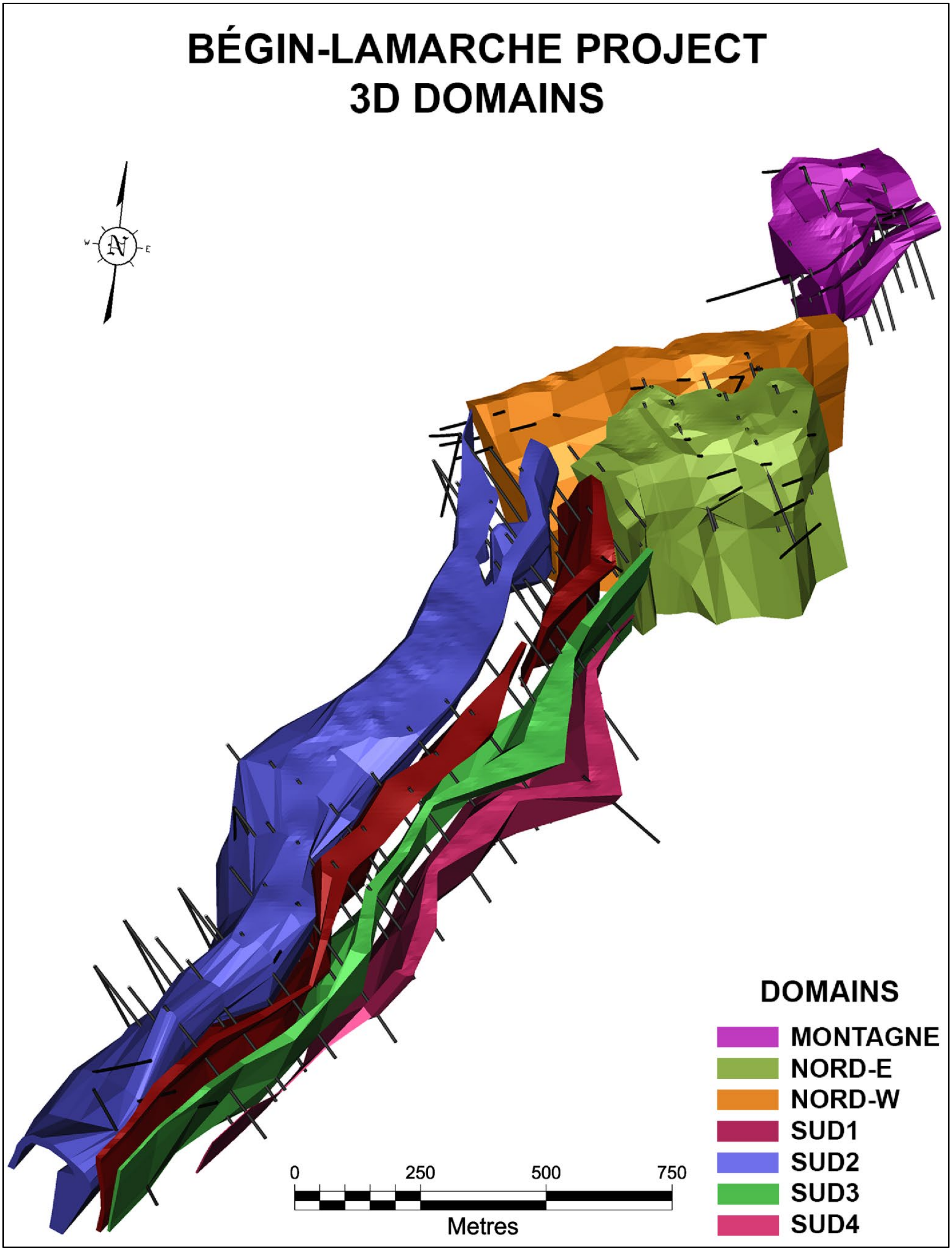
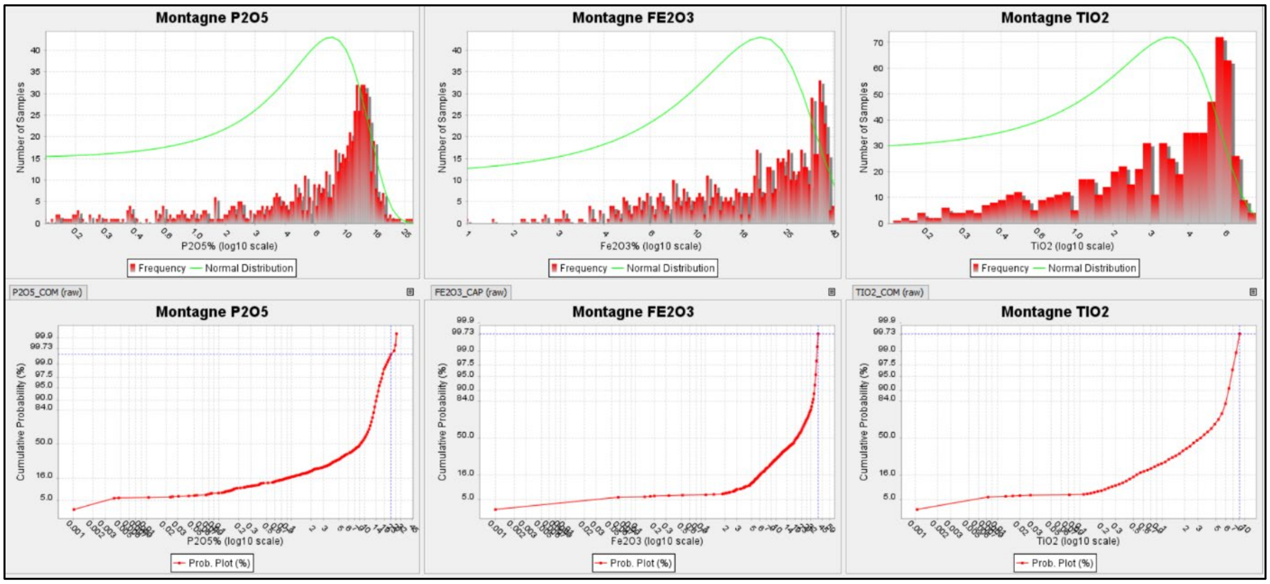
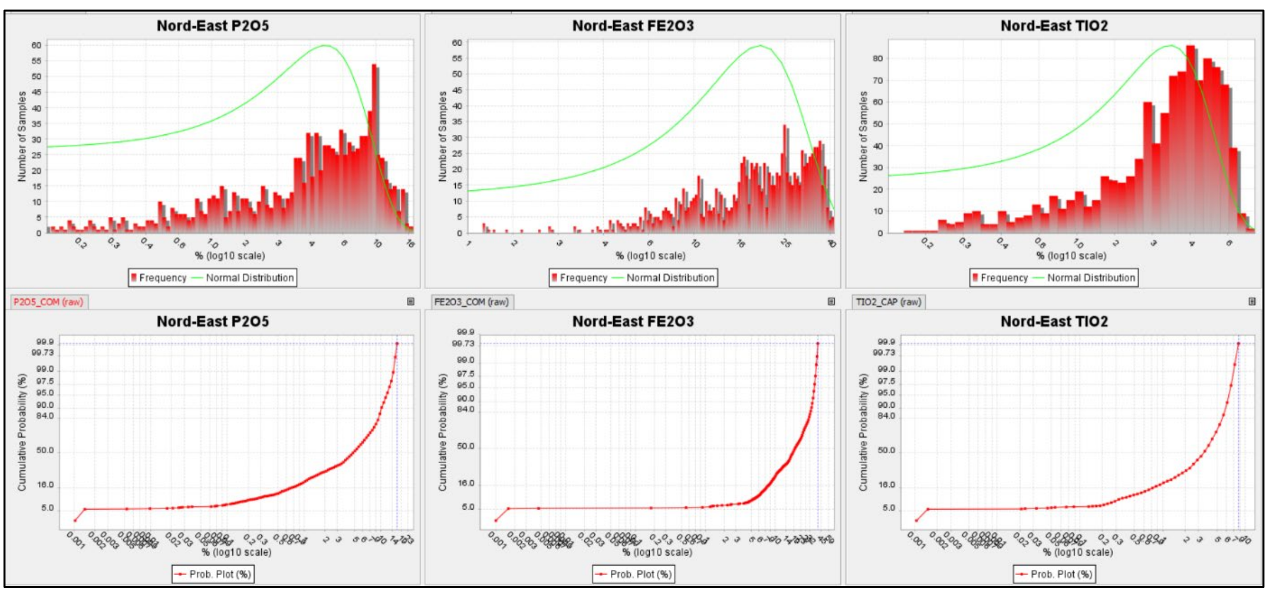
326,000 E
326,500 E
327,000 E
5,404,000 N
5,403,500 N
5,403,000 N
5,402,500 N
5,402,000 N
26 NE
20 NE
16 NE
12 NE
8 NE
4 NE
SECTION REFERENCE LINE
PIT OUTLINE
0
100
200
300
400
500
METRES
MINERALIZED DOMAINS PROJECTED TO SURFACE
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
SURFACE DRILL HOLE PLAN
Scale 1:11,000
October 2024

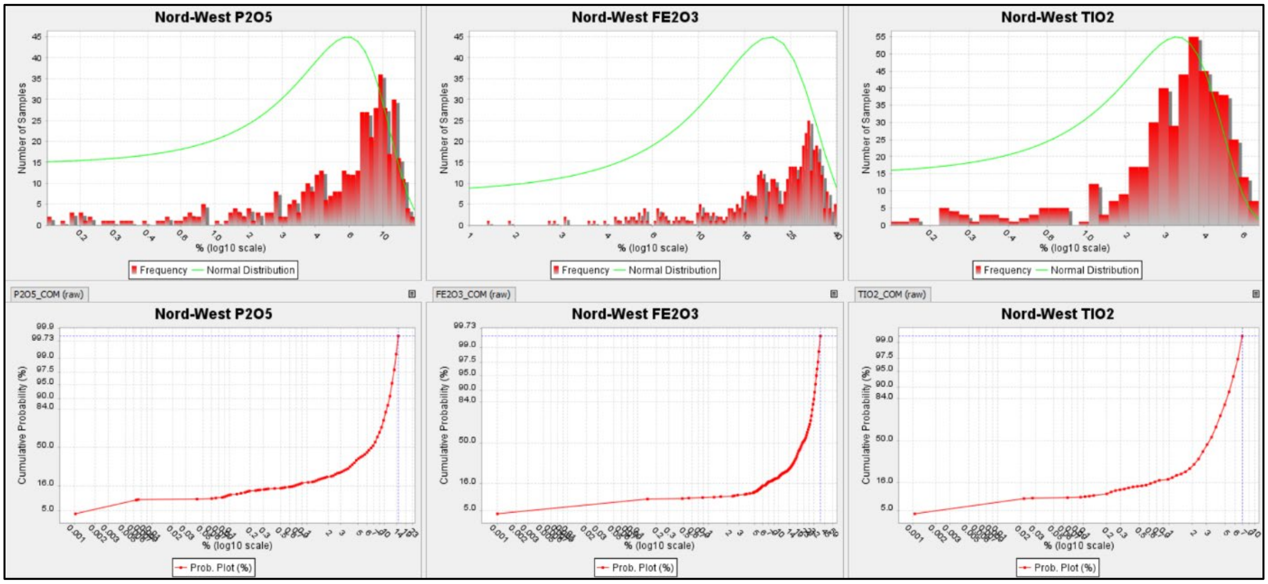
APPENDIX B   3-D DOMAINS

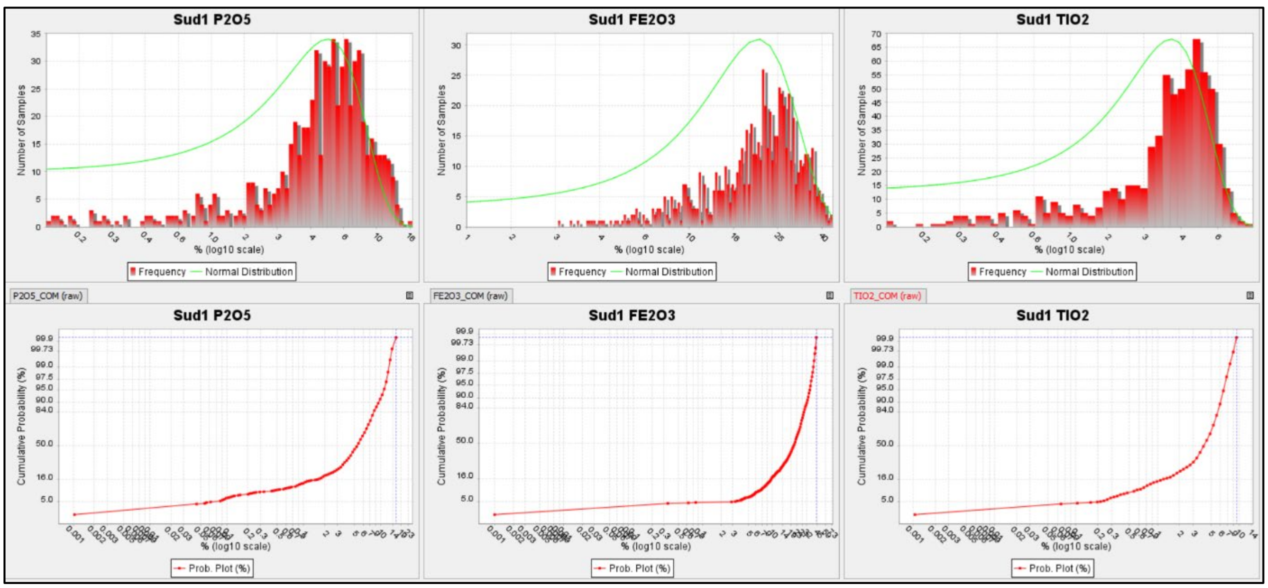

BÉGIN-LAMARCHE PROJECT
3D DOMAINS
N
W
E
DOMAINS
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0
250
500
750
Metres

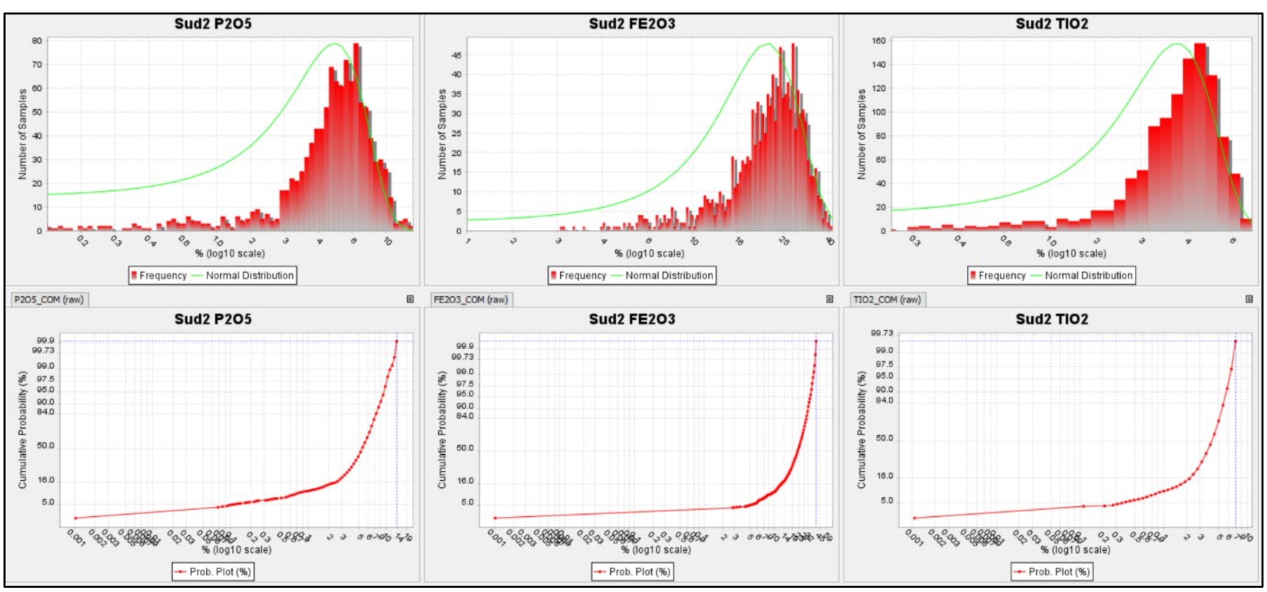
APPENDIX C LOG NORMAL HISTOGRAMS AND PROBABILITY PLOTS

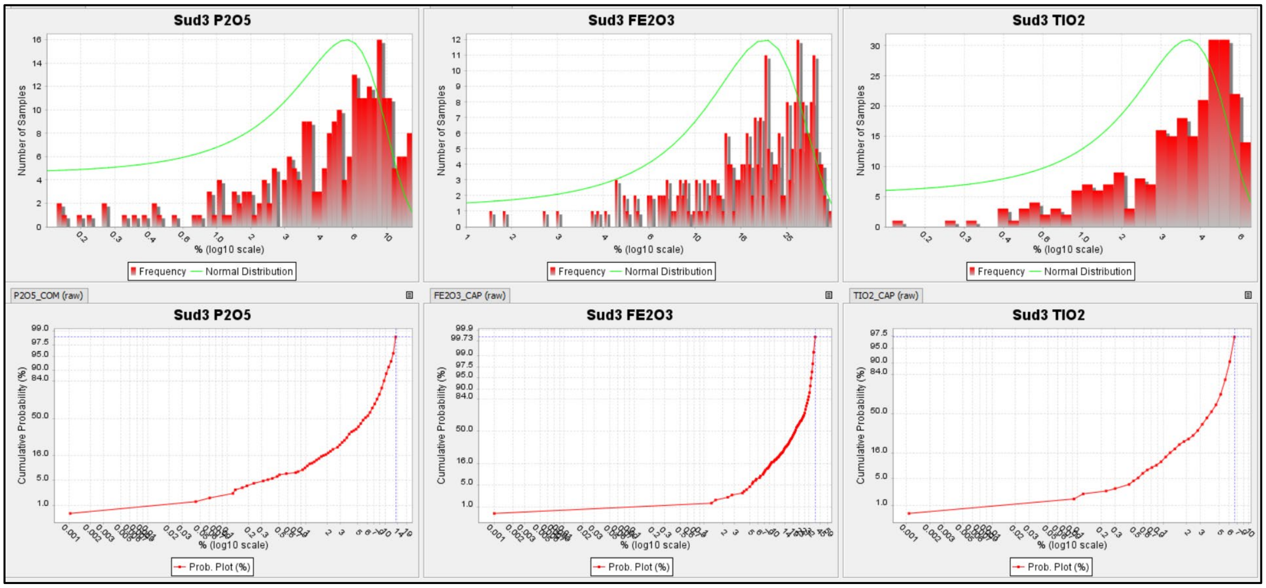


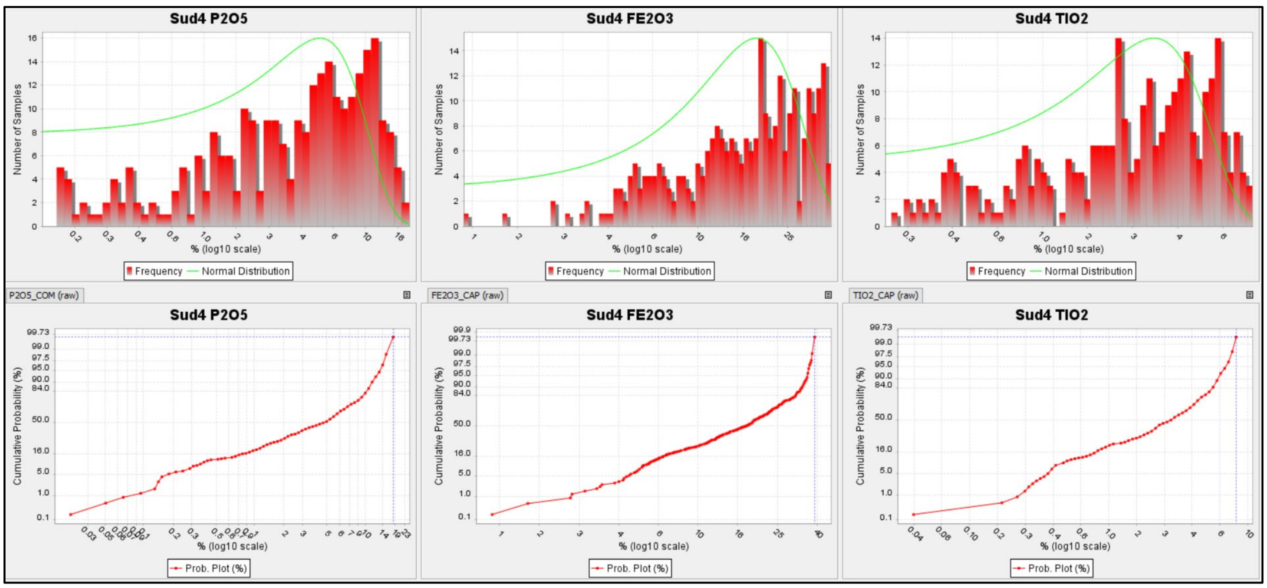



Nord-West P2O5
Nord-West FE2O3
Nord-West TIO2
Number of Samples
% (log10 scale)
Frequency
Normal Distribution
P2O5_COM (raw)
FE2O3_COM (raw)
TIO2_COM (raw)
Cumulative Probability (%)
Prob. Plot (%)

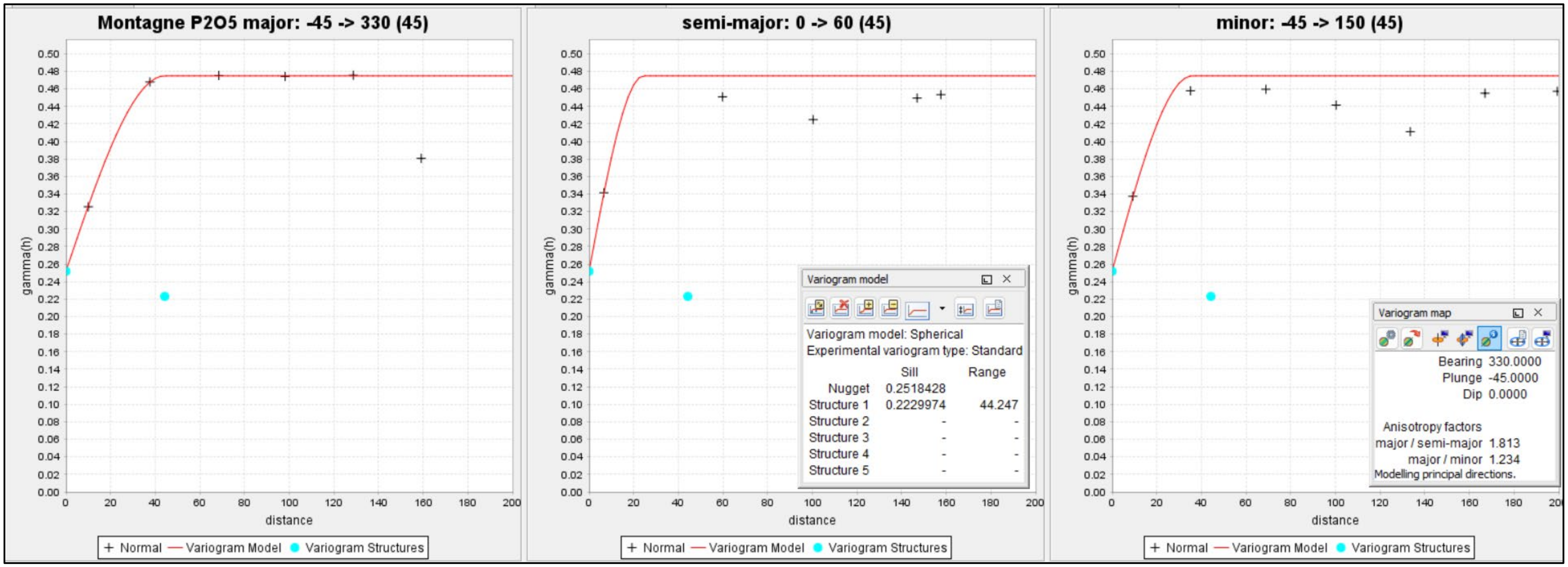

Sud1 P2O5
Sud1 FE2O3
Sud1 TIO2
Number of Samples
% (log10 scale)
Frequency
Normal Distribution
P2O5_COM (raw)
FE2O3_COM (raw)
TIO2_COM (raw)
Cumulative Probability (%)
Prob. Plot (%)

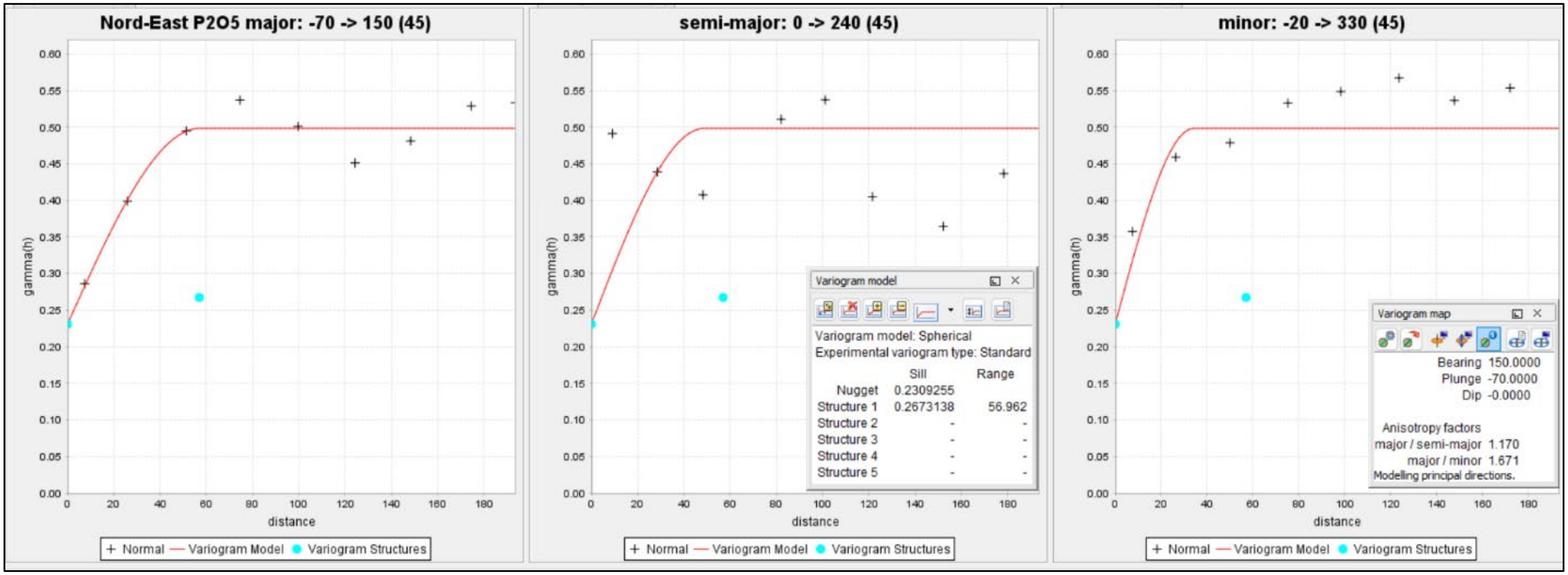

Sud2 P2O5
Sud2 FE2O3
Sud2 TIO2
Number of Samples
% (log10 scale)
Frequency
Normal Distribution
P2O5_COM (raw)
FE2O3_COM (raw)
TIO2_COM (raw)
Cumulative Probability (%)
Prob. Plot (%)

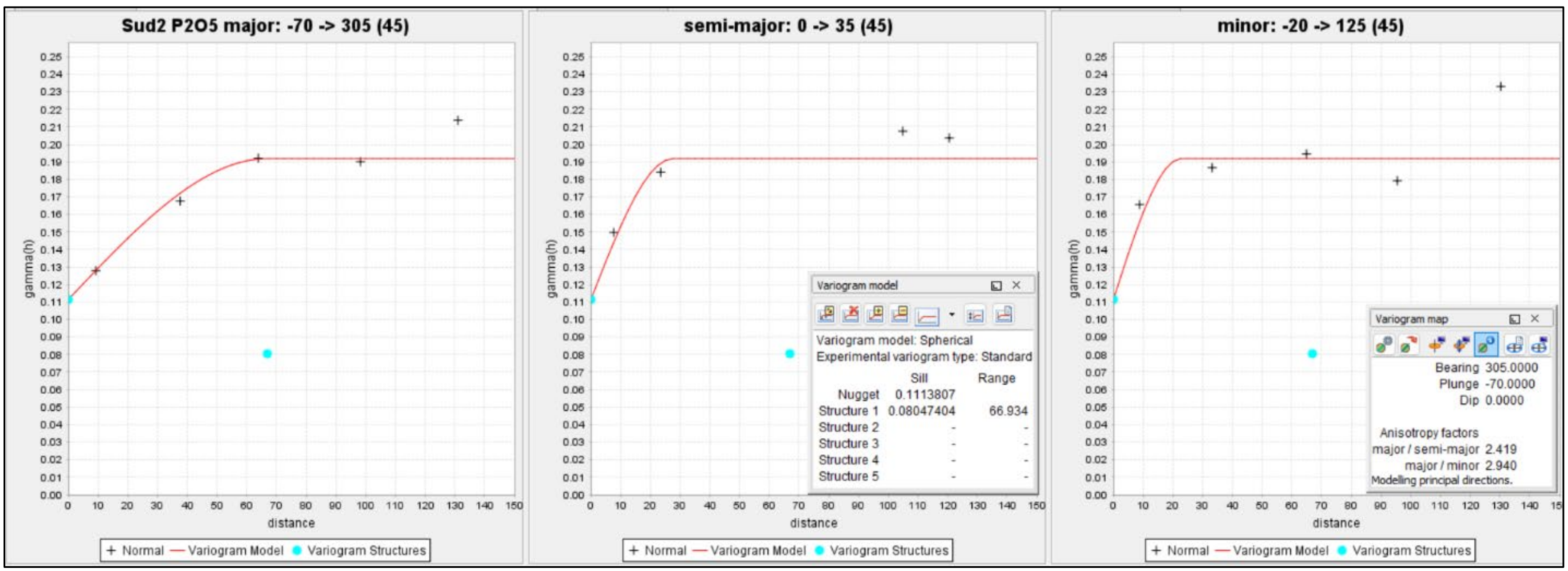

Sud3 P2O5
Sud3 FE2O3
Sud3 TIO2
Number of Samples
% (log10 scale)
Frequency
Normal Distribution
P2O5_COM (raw)
FE2O3_CAP (raw)
TIO2_CAP (raw)
Cumulative Probability (%)
Prob. Plot (%)


Sud4 P2O5
Sud4 FE2O3
Sud4 TIO2
Number of Samples
% (log10 scale)
Frequency
Normal Distribution
P2O5_COM (raw)
FE2O3_CAP (raw)
TIO2_CAP (raw)
Cumulative Probability (%)
Prob. Plot (%)

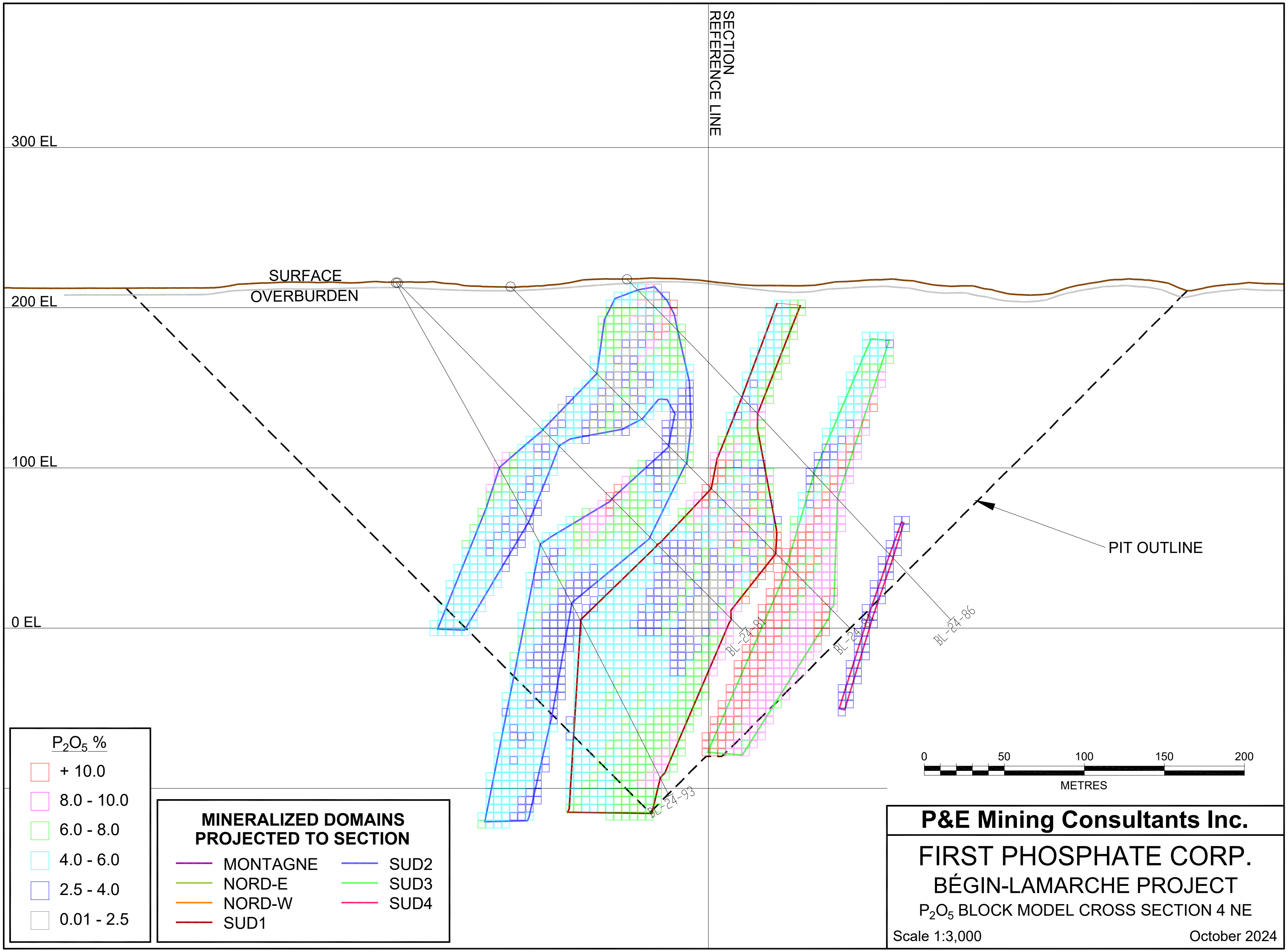
APPENDIX D VARIOGRAMS



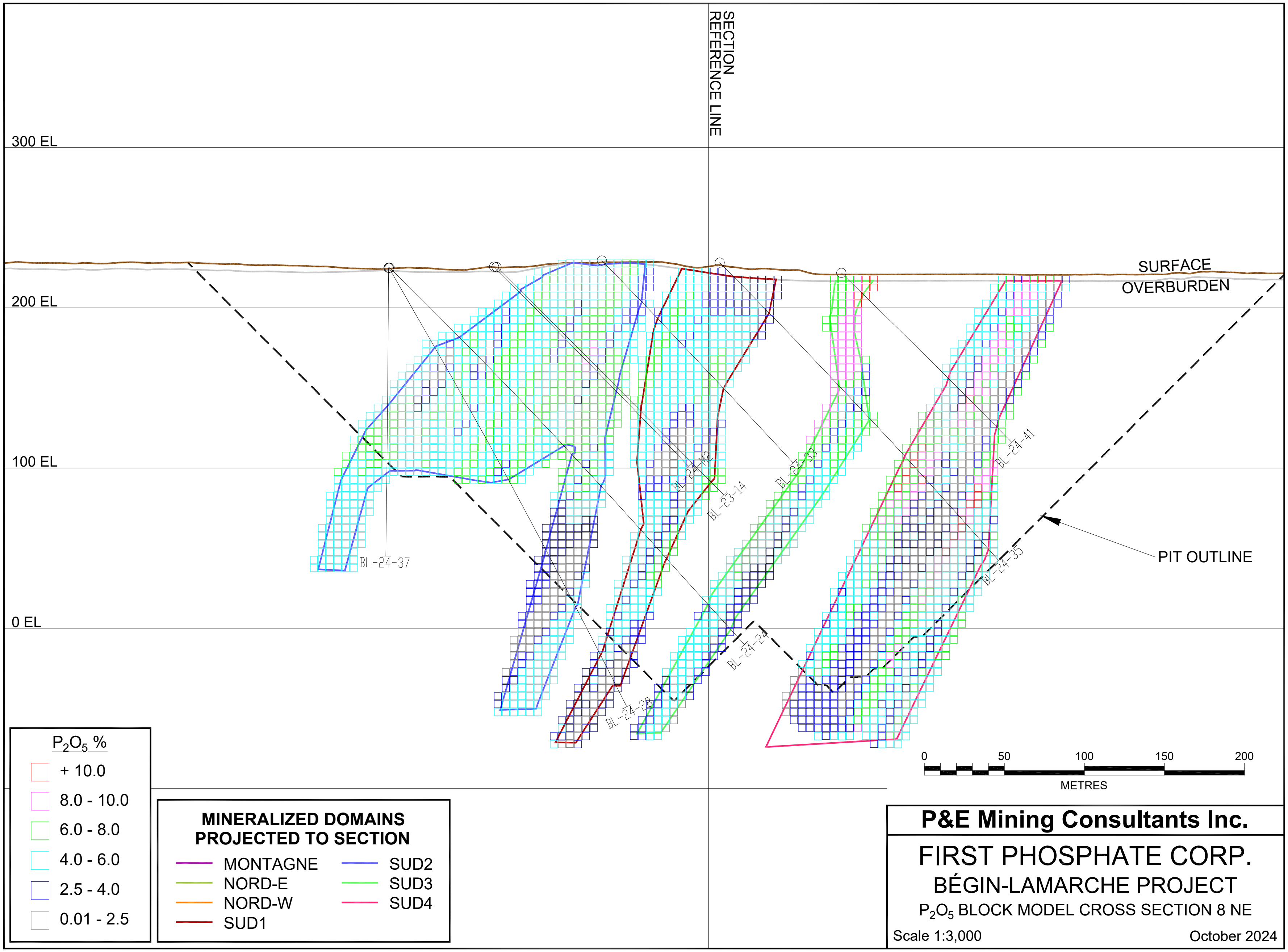

Nord-East P2O5 major: -70 -> 150 (45)
semi-major: 0 -> 240 (45)
minor: -20 -> 330 (45)
gamma(h)
distance
Variogram model
Variogram model: Spherical
Experimental variogram type: Standard
Sill Range
Nugget 0.2309255
Structure 1 0.2673138 56.962
Structure 2 - -
Structure 3 - -
Structure 4 - -
Structure 5 - -
Variogram map
Bearing 150.0000
Plunge -70.0000
Dip -0.0000
Anisotropy factors
major / semi-major 1.170
major / minor 1.671
Modelling principal directions.
+ Normal — Variogram Model ● Variogram Structures


Sud2 P2O5 major: -70 -> 305 (45)
semi-major: 0 -> 35 (45)
minor: -20 -> 125 (45)
gamma(h)
distance
Variogram model
Variogram model: Spherical
Experimental variogram type: Standard
Sill Range
Nugget 0.1113807
Structure 1 0.08047404 66.934
Structure 2 - -
Structure 3 - -
Structure 4 - -
Structure 5 - -
Variogram map
Bearing 305.0000
Plunge -70.0000
Dip 0.0000
Anisotropy factors
major / semi-major 2.419
major / minor 2.940
Modelling principal directions.
+ Normal — Variogram Model ● Variogram Structures

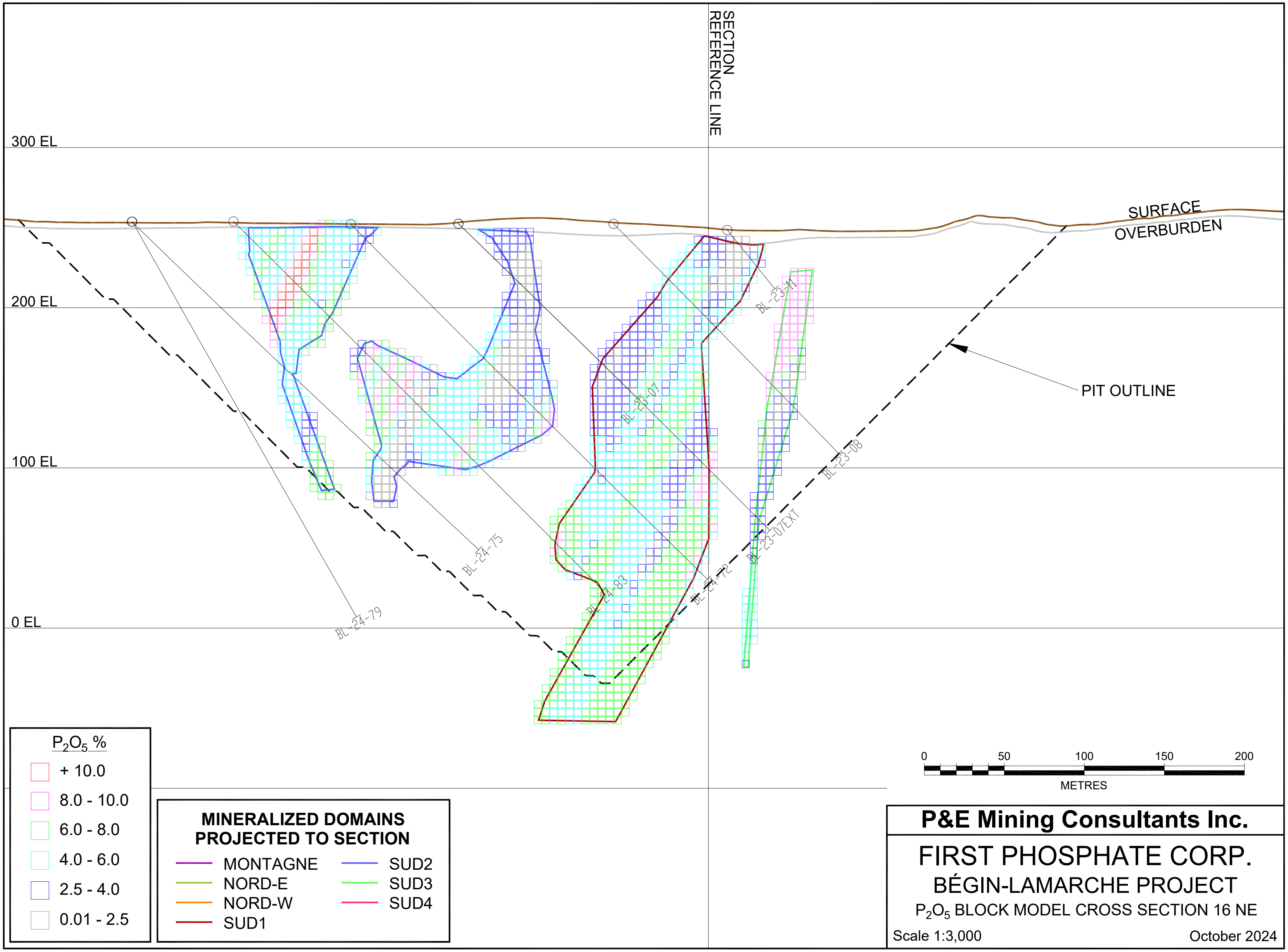
APPENDIX E P_2O_5 BLOCK MODEL CROSS-SECTIONS AND PLANS

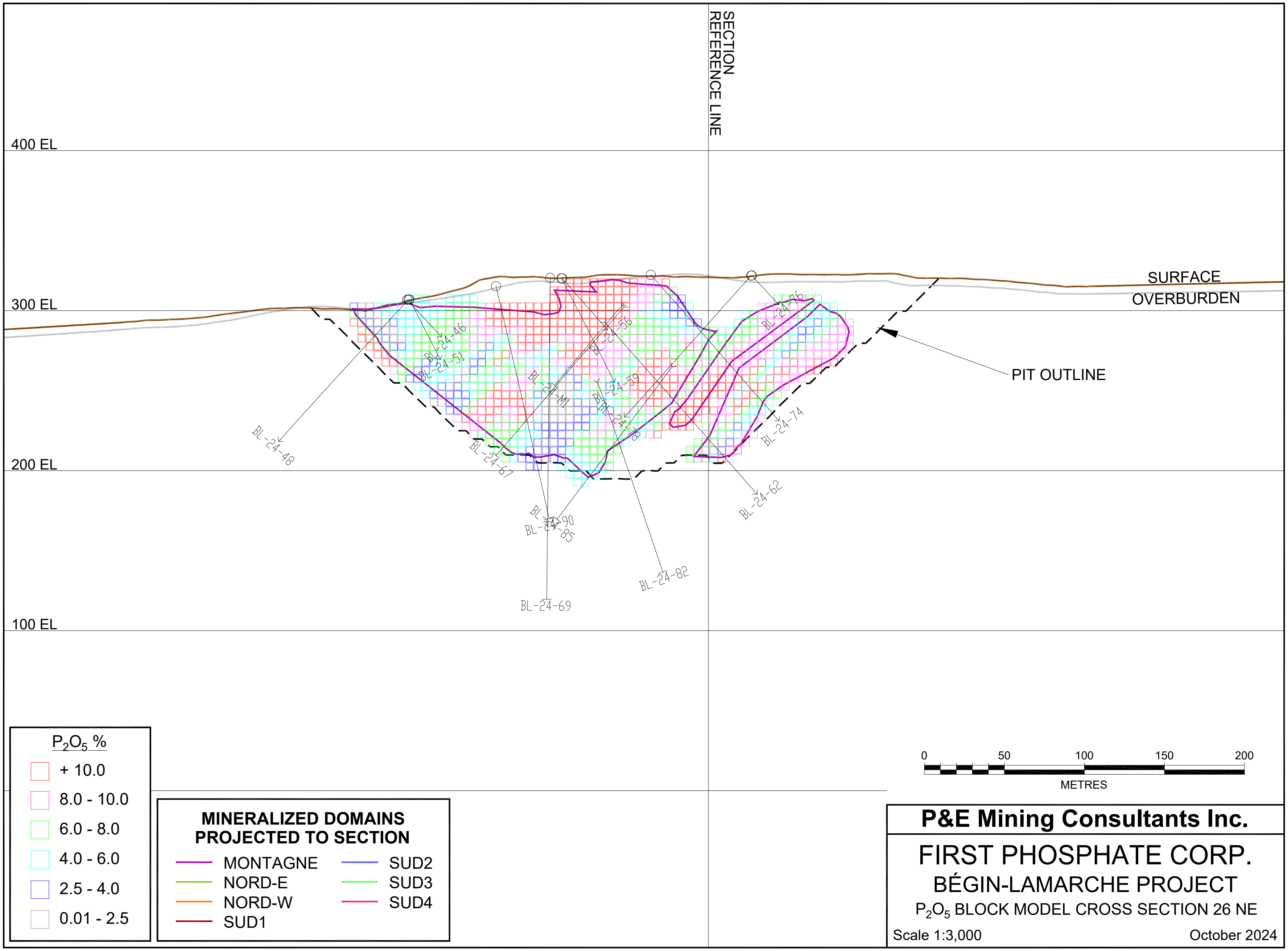


SECTION REFERENCE LINE
300 EL
200 EL
100 EL
0 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-81
BL-24-84
BL-24-86
BL-24-93
P2O5 %
+ 10.0
8.0 - 10.0
6.0 - 8.0
4.0 - 6.0
2.5 - 4.0
0.01 - 2.5
MINERALIZED DOMAINS PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0
50
100
150
200
METRES
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
P2O5 BLOCK MODEL CROSS SECTION 4 NE
Scale 1:3,000
October 2024

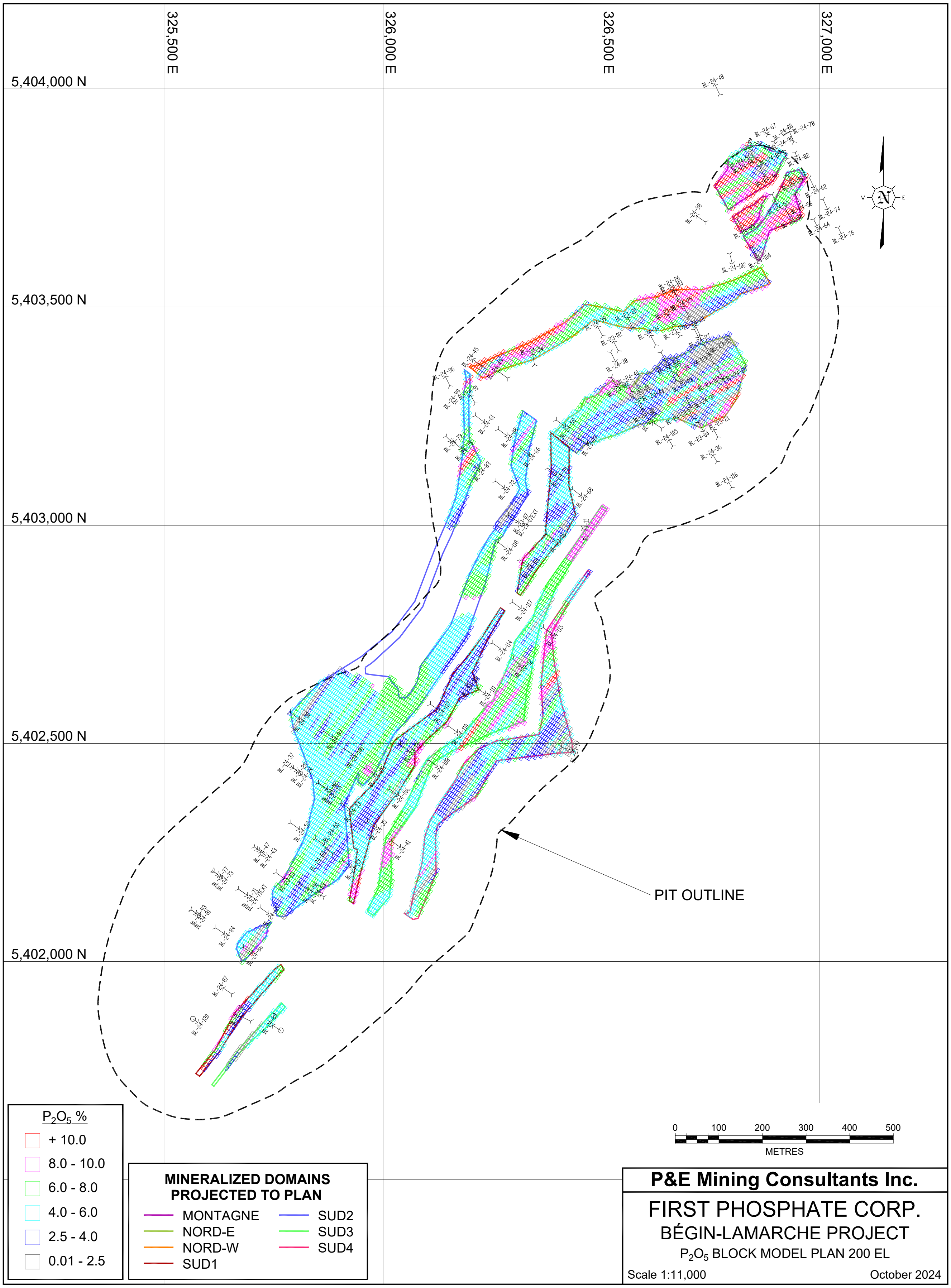


SECTION REFERENCE LINE
300 EL
200 EL
100 EL
0 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-37
BL-24-M2
BL-23-14
BL-24-33
BL-24-41
BL-24-35
BL-24-24
BL-24-28
0
50
100
150
200
METRES
P_2O_5 %
+ 10.0
8.0 - 10.0
6.0 - 8.0
4.0 - 6.0
2.5 - 4.0
0.01 - 2.5
MINERALIZED DOMAINS PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
P_2O_5 BLOCK MODEL CROSS SECTION 8 NE
Scale 1:3,000
October 2024

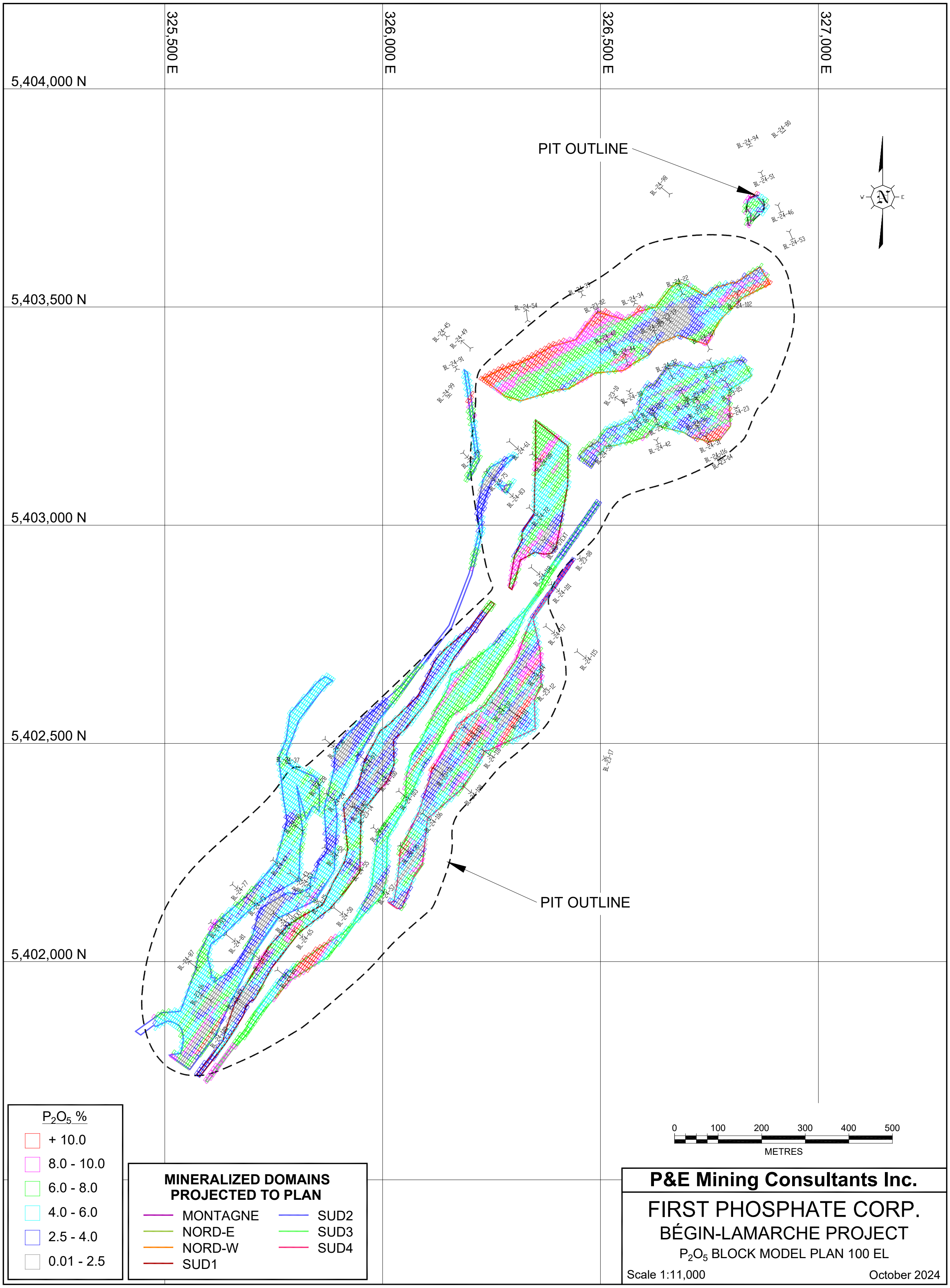

SECTION REFERENCE LINE
300 EL
200 EL
100 EL
0 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-79
BL-24-75
BL-24-83
BL-23-07
BL-24-72
BL-23-07EXT
BL-23-11
BL-23-08
P2O5 %
+ 10.0
8.0 - 10.0
6.0 - 8.0
4.0 - 6.0
2.5 - 4.0
0.01 - 2.5
MINERALIZED DOMAINS PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0 50 100 150 200
METRES
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
P2O5 BLOCK MODEL CROSS SECTION 16 NE
Scale 1:3,000
October 2024



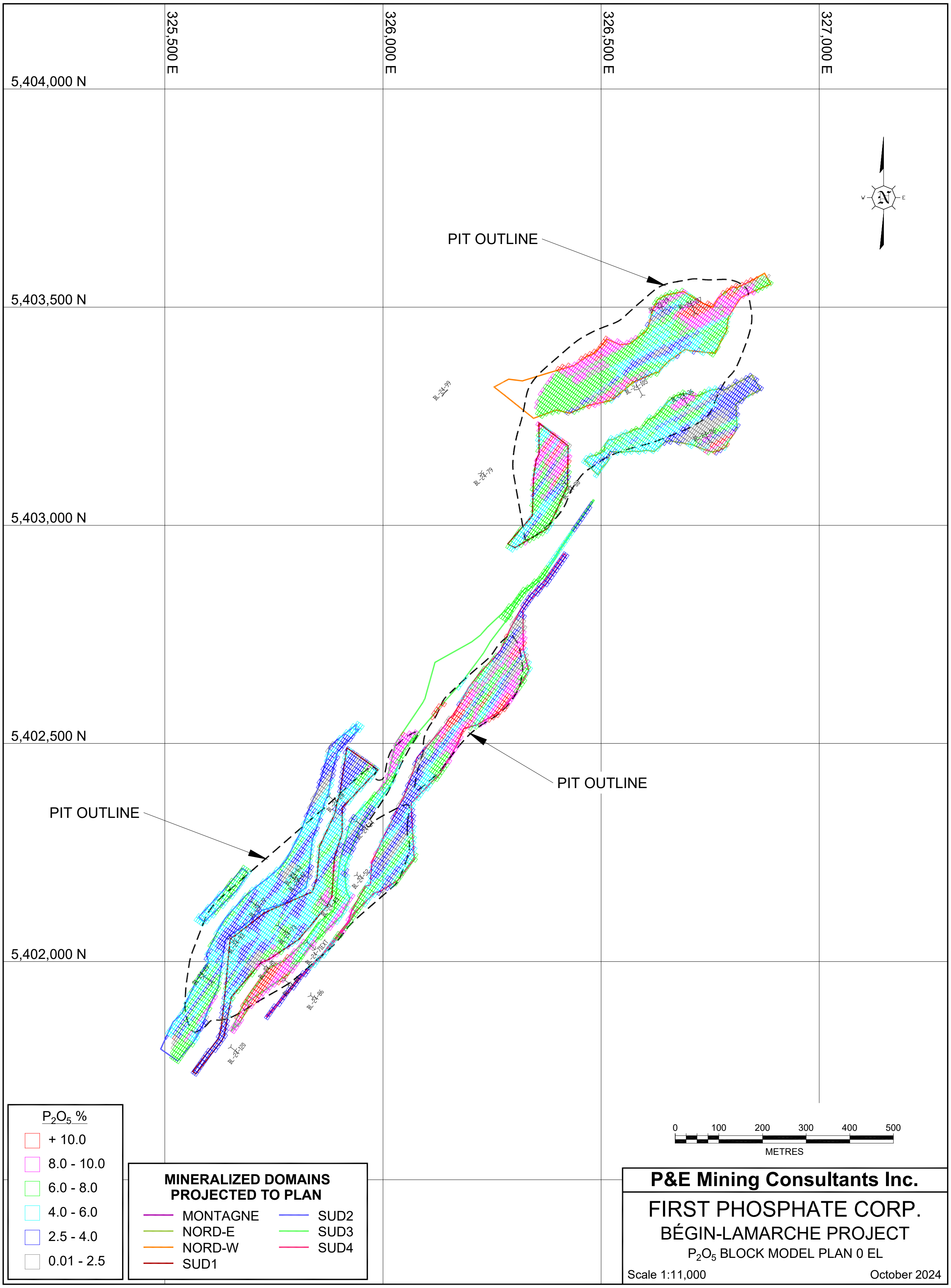
SECTION REFERENCE LINE
400 EL
300 EL
200 EL
100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-46
BL-24-51
BL-24-48
BL-24-67
BL-24-56
BL-24-59
BL-24-76
BL-24-74
BL-24-62
BL-24-82
BL-24-69
BL-24-90
BL-24-85
P_2O_5 %
+ 10.0
8.0 - 10.0
6.0 - 8.0
4.0 - 6.0
2.5 - 4.0
0.01 - 2.5
MINERALIZED DOMAINS PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0 50 100 150 200
METRES
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
P_2O_5 BLOCK MODEL CROSS SECTION 26 NE
Scale 1:3,000
October 2024



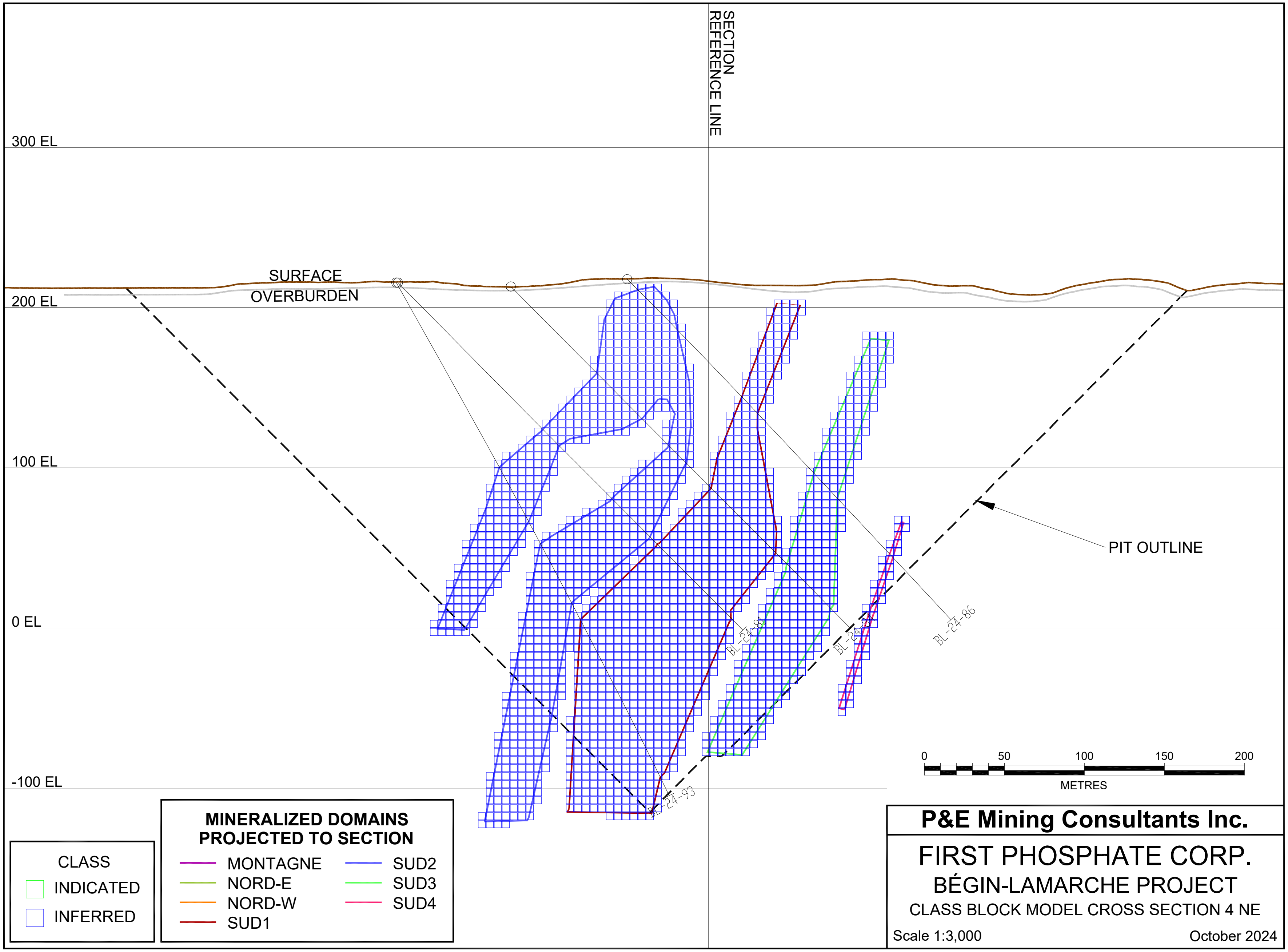
325,500 E
326,000 E
326,500 E
327,000 E
5,404,000 N
5,403,500 N
5,403,000 N
5,402,500 N
5,402,000 N
PIT OUTLINE
P2O5 %
+ 10.0
8.0 - 10.0
6.0 - 8.0
4.0 - 6.0
2.5 - 4.0
0.01 - 2.5
MINERALIZED DOMAINS PROJECTED TO PLAN
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0 100 200 300 400 500
METRES
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
P2O5 BLOCK MODEL PLAN 200 EL
Scale 1:11,000
October 2024



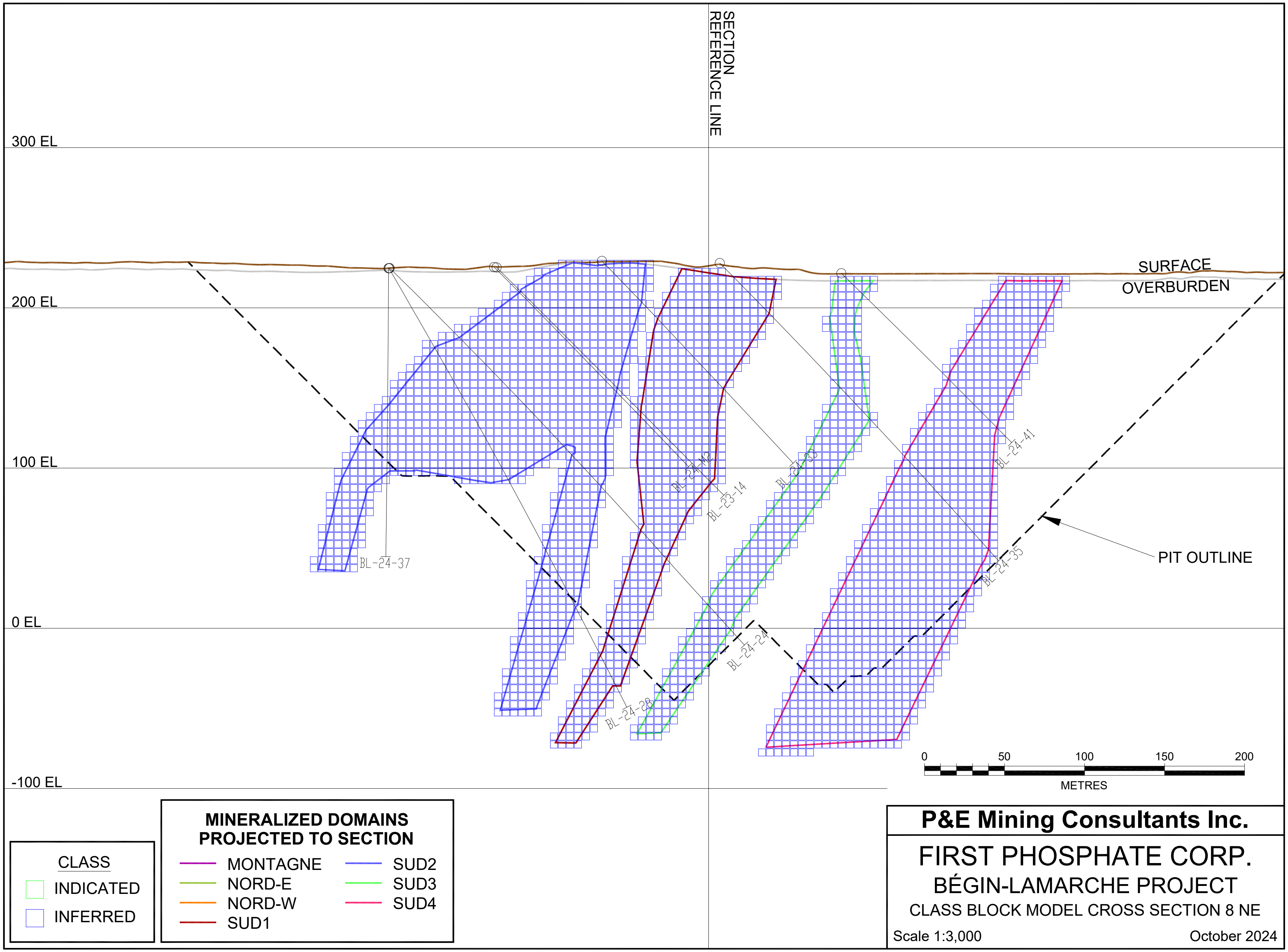
325,500 E
326,000 E
326,500 E
327,000 E
5,404,000 N
5,403,500 N
5,403,000 N
5,402,500 N
5,402,000 N
PIT OUTLINE
PIT OUTLINE
P_2O_5 %
+ 10.0
8.0 - 10.0
6.0 - 8.0
4.0 - 6.0
2.5 - 4.0
0.01 - 2.5
MINERALIZED DOMAINS PROJECTED TO PLAN
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0
100
200
300
400
500
METRES
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
P_2O_5 BLOCK MODEL PLAN 100 EL
Scale 1:11,000
October 2024

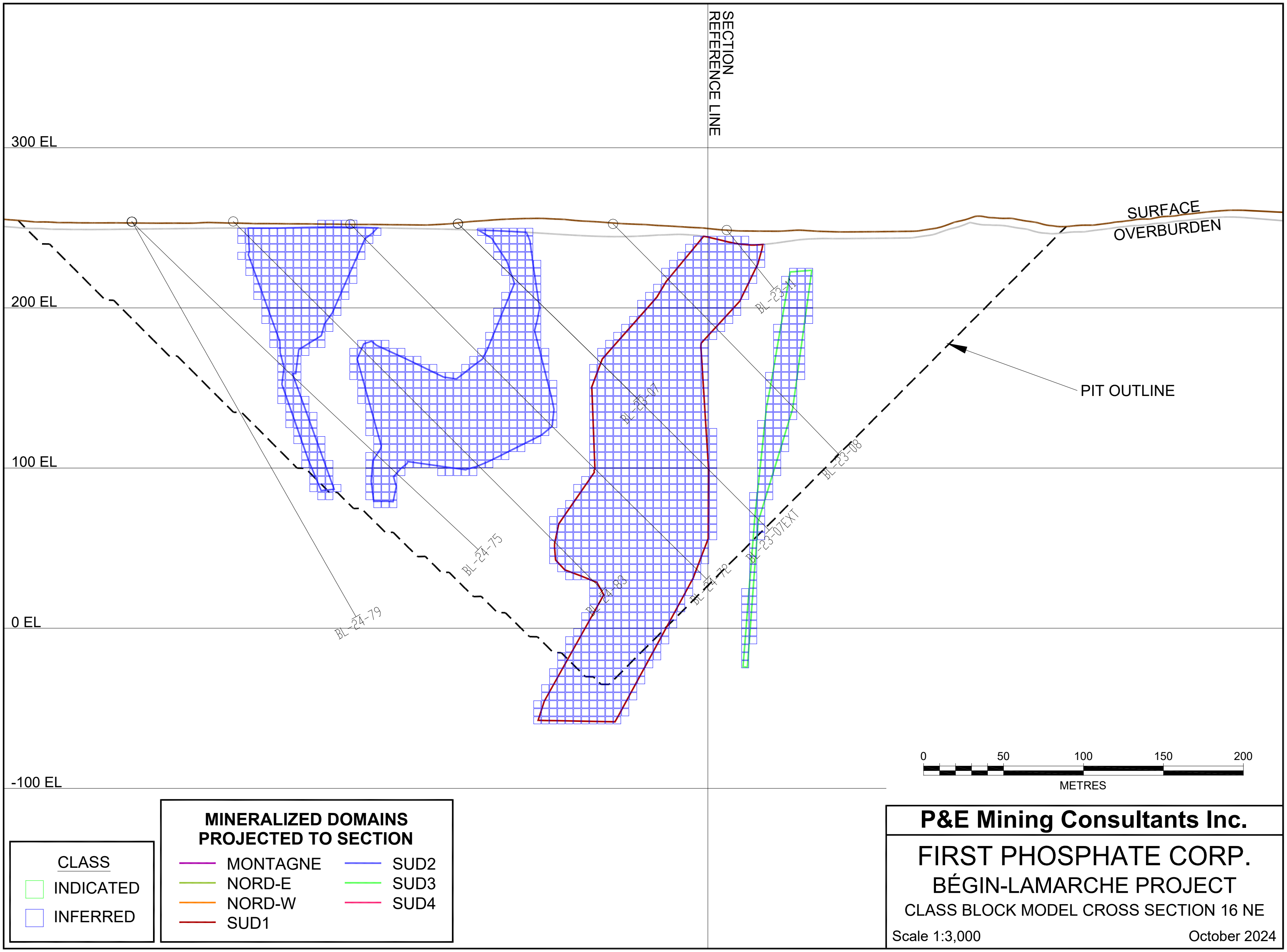

325,500 E
326,000 E
326,500 E
327,000 E
5,404,000 N
5,403,500 N
5,403,000 N
5,402,500 N
5,402,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
P2O5 %
+ 10.0
8.0 - 10.0
6.0 - 8.0
4.0 - 6.0
2.5 - 4.0
0.01 - 2.5
MINERALIZED DOMAINS
PROJECTED TO PLAN
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0 100 200 300 400 500
METRES
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
P2O5 BLOCK MODEL PLAN 0 EL
Scale 1:11,000
October 2024

APPENDIX F CLASSIFICATION BLOCK MODEL CROSS-SECTIONS AND PLANS

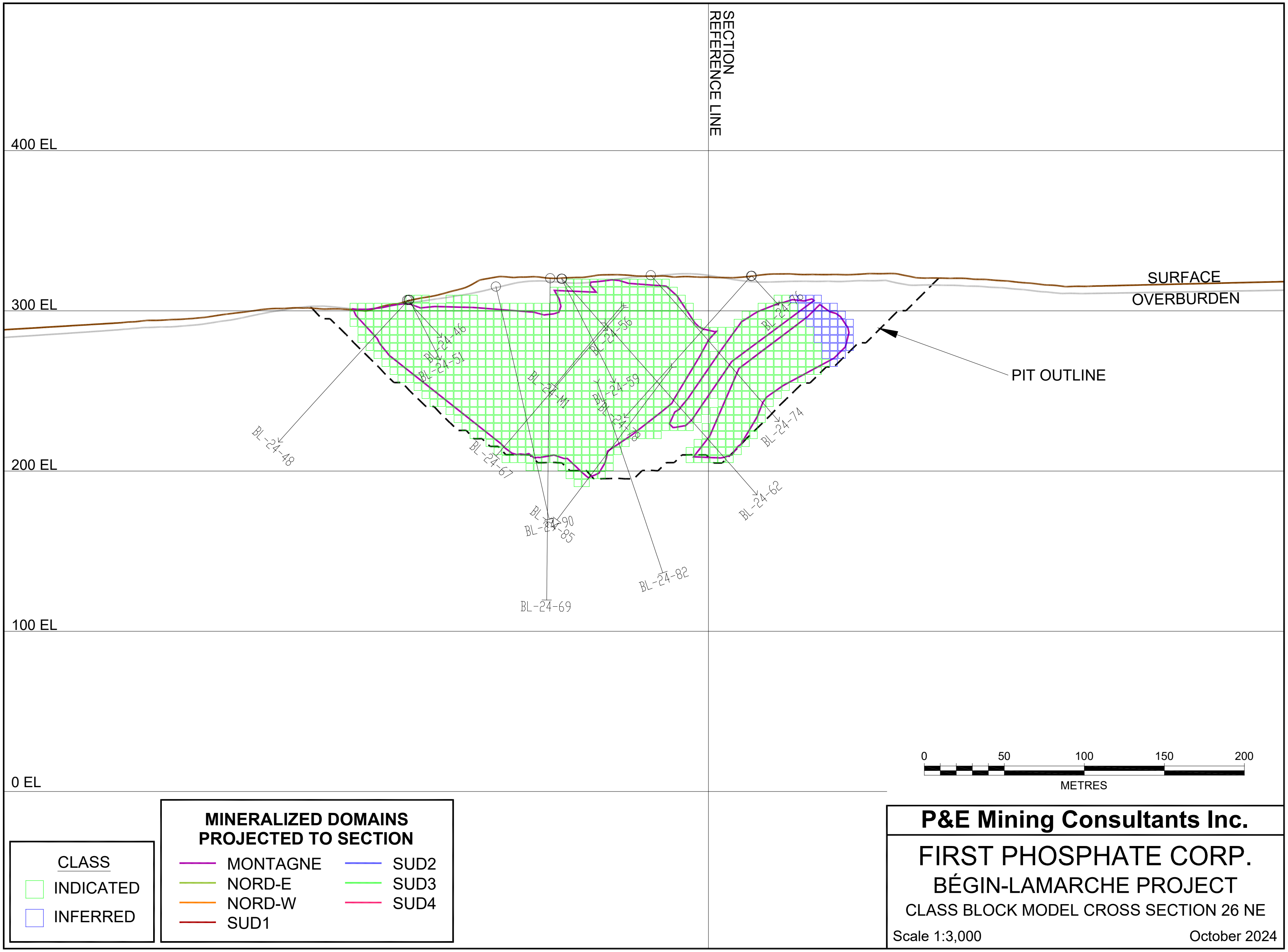


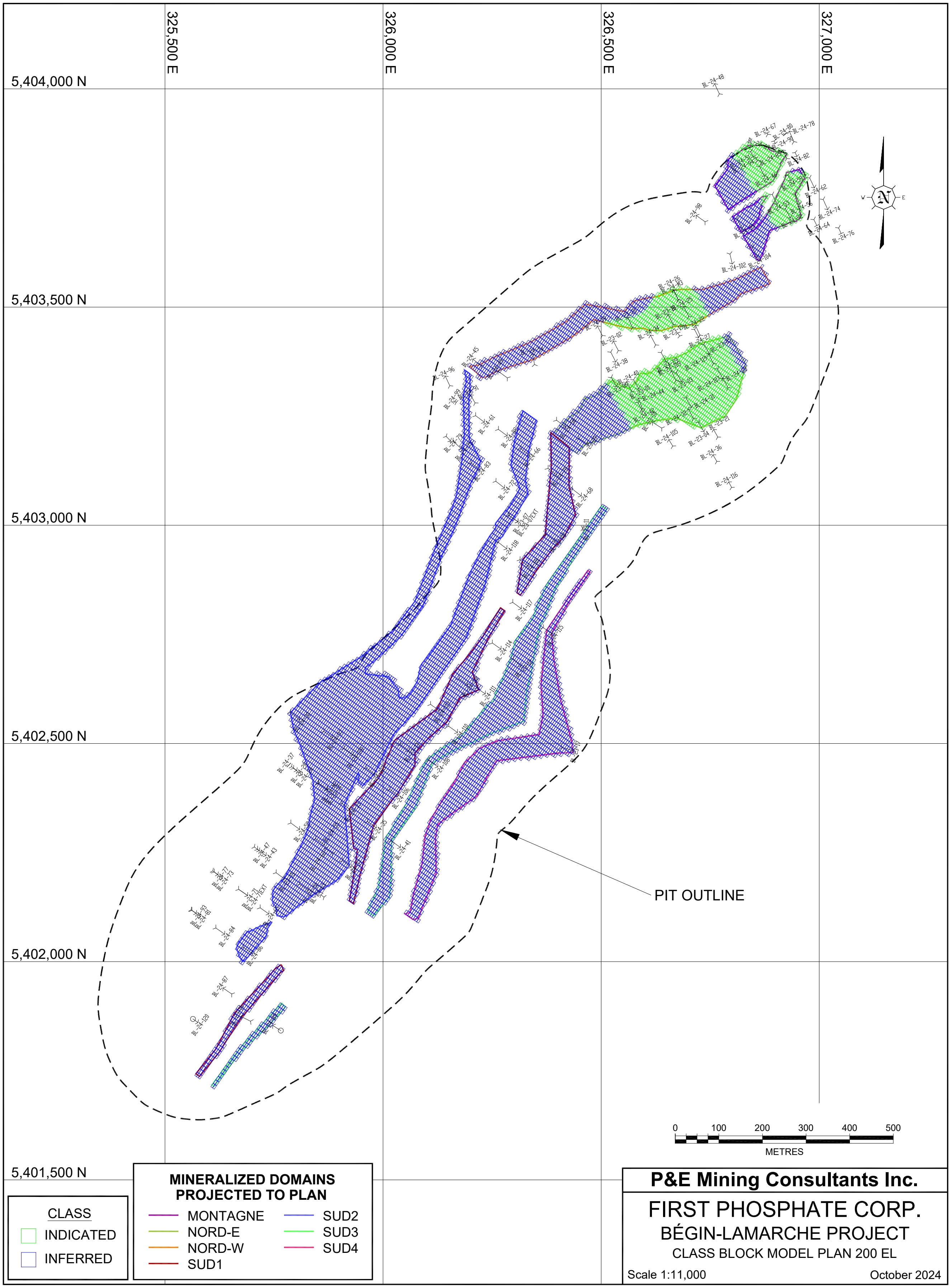
SECTION
REFERENCE LINE
300 EL
200 EL
100 EL
0 EL
-100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-81
BL-24-84
BL-24-86
BL-24-93
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
CLASS BLOCK MODEL CROSS SECTION 4 NE
Scale 1:3,000
October 2024

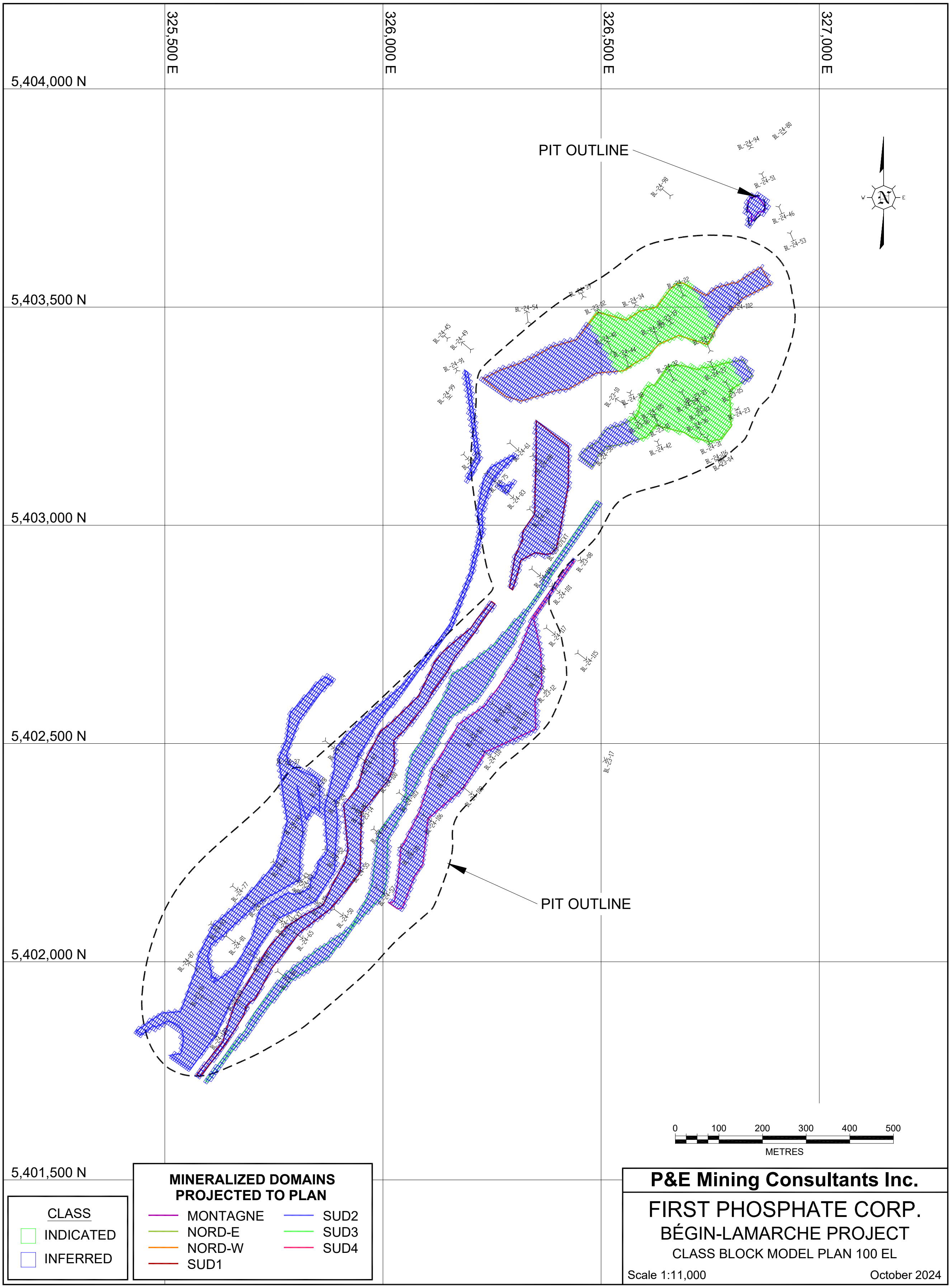

SECTION
REFERENCE LINE
300 EL
200 EL
100 EL
0 EL
-100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-37
BL-24-41
BL-24-35
BL-23-14
BL-24-24
BL-24-28
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
CLASS BLOCK MODEL CROSS SECTION 8 NE
Scale 1:3,000
October 2024



SECTION REFERENCE LINE
300 EL
200 EL
100 EL
0 EL
-100 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-79
BL-24-75
BL-24-88
BL-24-72
BL-23-07EXT
BL-23-08
BL-23-11
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
CLASS BLOCK MODEL CROSS SECTION 16 NE
Scale 1:3,000
October 2024


SECTION REFERENCE LINE
400 EL
300 EL
200 EL
100 EL
0 EL
SURFACE
OVERBURDEN
PIT OUTLINE
BL-24-48
BL-24-46
BL-24-51
BL-24-67
BL-24-56
BL-24-59
BL-24-62
BL-24-74
BL-24-82
BL-24-69
0
50
100
150
200
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
CLASS BLOCK MODEL CROSS SECTION 26 NE
Scale 1:3,000
October 2024


325,500 E
326,000 E
326,500 E
327,000 E
5,404,000 N
5,403,500 N
5,403,000 N
5,402,500 N
5,402,000 N
5,401,500 N
PIT OUTLINE
0
100
200
300
400
500
METRES
MINERALIZED DOMAINS PROJECTED TO PLAN
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
CLASS
INDICATED
INFERRED
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
CLASS BLOCK MODEL PLAN 200 EL
Scale 1:11,000
October 2024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326,500 E
327,000 E
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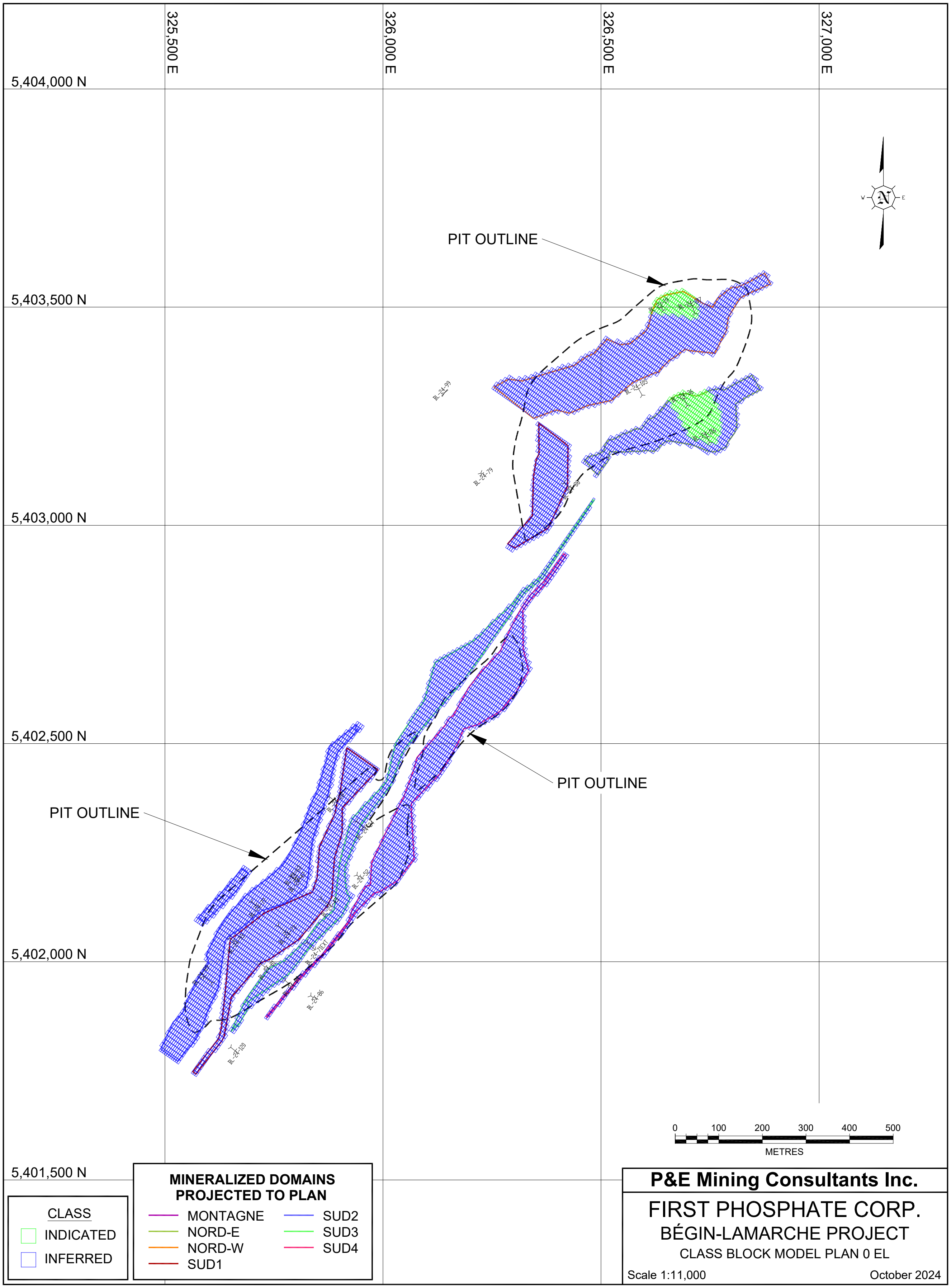
5,402,500 N
5,402,000 N
5,401,500 N
PIT OUTLINE
PIT OUTLINE
0 100 200 300 400 500
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS PROJECTED TO PLAN
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
CLASS BLOCK MODEL PLAN 100 EL
Scale 1:11,000
October 2024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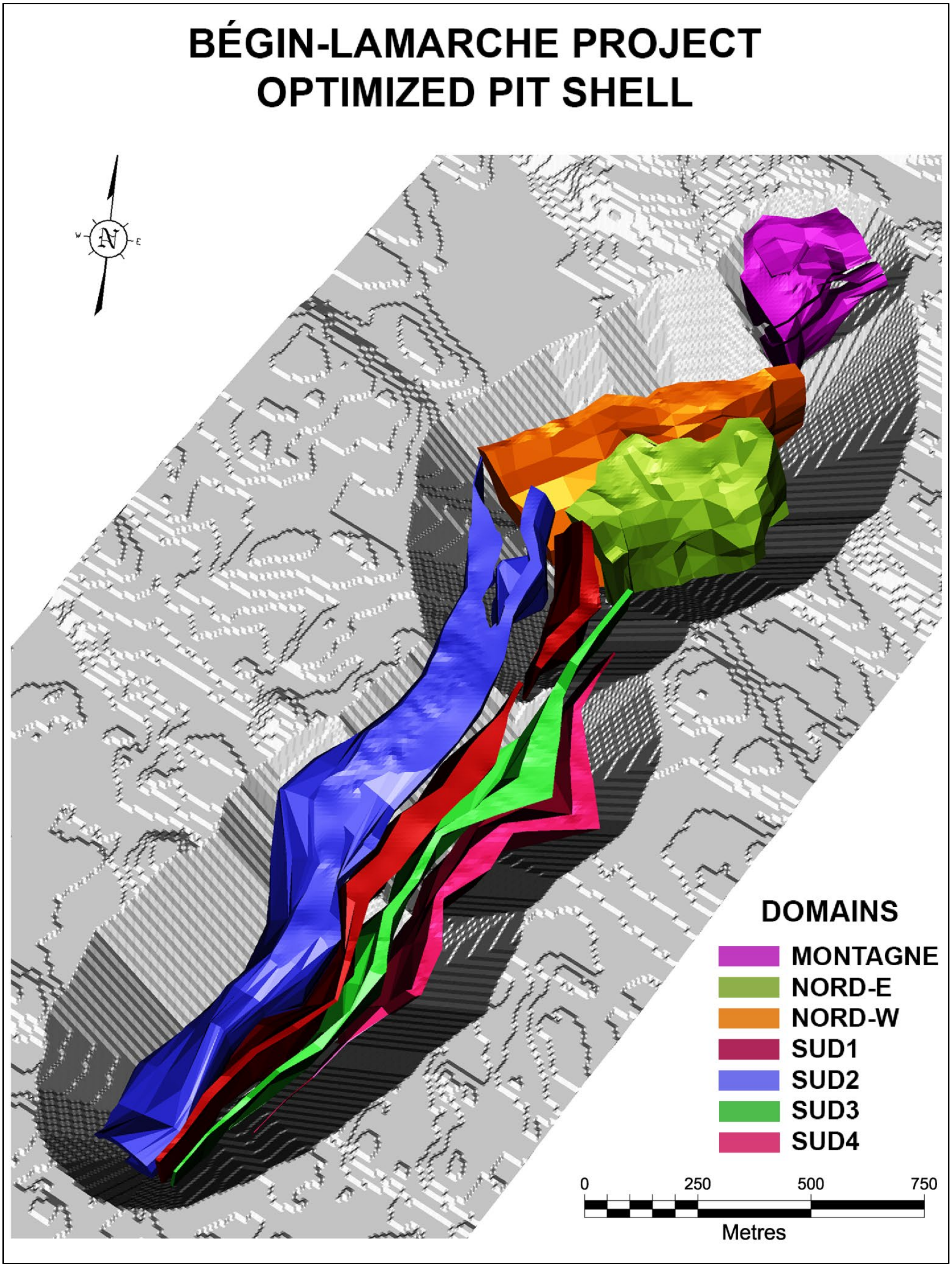
5,401,500 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
0
100
200
300
400
500
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
P&E Mining Consultants Inc.
FIRST PHOSPHATE CORP.
BÉGIN-LAMARCHE PROJECT
CLASS BLOCK MODEL PLAN 0 EL
Scale 1:11,000
October 2024

APPENDIX G OPTIMIZED PIT SHELL


BÉGIN-LAMARCHE PROJECT
OPTIMIZED PIT SHELL
W
N
E
DOMAINS
MONTAGNE
NORD-E
NORD-W
SUD1
SUD2
SUD3
SUD4
0
250
500
750
Metres

APPENDIX H CLAIMS LISTING

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2612967	CDC	56.77	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2612968	CDC	56.77	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2612969	CDC	56.76	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2612970	CDC	56.76	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2612971	CDC	56.77	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2612972	CDC	56.78	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2612973	CDC	56.78	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2612974	CDC	56.78	2021-06-11	2026-06-10	First Phosphate Corp.	Active	1,200	77	0
2615546	CDC	44.79	2021-07-26	2026-07-25	First Phosphate Corp.	Active	1,200	77	0
2633525	CDC	50.18	2022-01-22	2025-01-21	First Phosphate Corp.	Active	1,200	77	0
2633526	CDC	57.06	2022-01-22	2025-01-21	First Phosphate Corp.	Active	1,200	77	0
2633527	CDC	57.06	2022-01-22	2025-01-21	First Phosphate Corp.	Active	1,200	77	0
2633528	CDC	57.05	2022-01-22	2025-01-21	First Phosphate Corp.	Active	1,200	77	0
2633529	CDC	57.01	2022-01-23	2025-01-22	First Phosphate Corp.	Active	1,200	77	0
2641811	CDC	57.03	2022-03-15	2025-03-14	First Phosphate Corp.	Active	1,200	77	0
2641812	CDC	22.60	2022-03-15	2025-03-14	First Phosphate Corp.	Active	500	39.5	0
2641813	CDC	53.17	2022-03-15	2025-03-14	First Phosphate Corp.	Active	500	77	0
2641814	CDC	34.67	2022-03-15	2025-03-14	First Phosphate Corp.	Active	500	77	0
2641815	CDC	57.05	2022-03-15	2025-03-14	First Phosphate Corp.	Active	500	77	0
2641816	CDC	57.04	2022-03-15	2025-03-14	First Phosphate Corp.	Active	500	77	0

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2644046	CDC	56.79	2022-04-04	2025-04-03	First Phosphate Corp.	Active	1,200	77	1,131
2644047	CDC	56.79	2022-04-04	2025-04-03	First Phosphate Corp.	Active	1,200	77	97,056
2644048	CDC	56.79	2022-04-04	2025-04-03	First Phosphate Corp.	Active	1,200	77	1,131
2644049	CDC	56.78	2022-04-04	2025-04-03	First Phosphate Corp.	Active	1,200	77	321,681
2650165	CDC	1.40	2022-05-26	2025-05-25	First Phosphate Corp.	Active	500	39.5	0
2650166	CDC	50.25	2022-05-26	2025-05-25	First Phosphate Corp.	Active	500	77	0
2655561	CDC	56.80	2022-06-28	2025-06-27	First Phosphate Corp.	Active	1,200	77	1,131
2655562	CDC	56.80	2022-06-28	2025-06-27	First Phosphate Corp.	Active	1,200	77	1,131
2655563	CDC	56.78	2022-06-28	2025-06-27	First Phosphate Corp.	Active	1,200	77	41,299
2655564	CDC	56.78	2022-06-28	2025-06-27	First Phosphate Corp.	Active	1,200	77	95,257
2655565	CDC	56.78	2022-06-28	2025-06-27	First Phosphate Corp.	Active	1,200	77	1,130
2657024	CDC	56.81	2022-07-16	2025-07-15	First Phosphate Corp.	Active	1,200	77	1,131
2657025	CDC	56.81	2022-07-16	2025-07-15	First Phosphate Corp.	Active	1,200	77	1,131
2657026	CDC	56.80	2022-07-16	2025-07-15	First Phosphate Corp.	Active	1,200	77	1,131
2657027	CDC	56.80	2022-07-16	2025-07-15	First Phosphate Corp.	Active	1,200	77	1,131
2658038	CDC	57.08	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658039	CDC	57.08	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658040	CDC	57.08	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658041	CDC	57.08	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658042	CDC	57.08	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658043	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658044	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658045	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658046	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658047	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658048	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2658049	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658050	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658051	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658089	CDC	56.86	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658090	CDC	56.85	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658091	CDC	56.85	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658092	CDC	56.85	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658093	CDC	56.85	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658094	CDC	56.85	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658095	CDC	56.84	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658096	CDC	56.84	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658097	CDC	56.84	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658098	CDC	56.84	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658099	CDC	56.84	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658100	CDC	56.84	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658101	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658102	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658103	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658104	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658105	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658106	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658107	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658108	CDC	56.83	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658109	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658110	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658111	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2658112	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658113	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658114	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658115	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658116	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658117	CDC	56.81	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658118	CDC	56.81	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658119	CDC	56.81	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658120	CDC	56.81	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658121	CDC	56.81	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658122	CDC	56.80	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658123	CDC	56.80	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658124	CDC	56.80	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658125	CDC	56.79	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658126	CDC	56.79	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658127	CDC	56.79	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658128	CDC	56.79	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658129	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658136	CDC	57.03	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658137	CDC	57.02	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658138	CDC	57.01	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658139	CDC	57.01	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658140	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658141	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658142	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658143	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658144	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658145	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658146	CDC	56.99	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658147	CDC	56.99	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658148	CDC	56.99	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658149	CDC	56.78	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658150	CDC	56.78	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658151	CDC	56.77	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658152	CDC	56.77	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658153	CDC	56.77	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658154	CDC	56.77	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	326,463
2658155	CDC	56.77	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	49,093
2658156	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658157	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658158	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658159	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658160	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658161	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658162	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658163	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658164	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658165	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658166	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658167	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658168	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658169	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1 **BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)**									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658170	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658171	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658172	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658173	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658174	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658175	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658176	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658177	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658178	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658179	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658180	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658362	CDC	57.03	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658363	CDC	57.02	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658364	CDC	57.01	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658365	CDC	57.01	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658366	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658367	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658368	CDC	57.00	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658369	CDC	56.99	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658370	CDC	56.99	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658371	CDC	56.99	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658372	CDC	56.99	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658373	CDC	56.98	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658374	CDC	56.98	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658375	CDC	56.98	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658376	CDC	56.98	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1 BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658377	CDC	56.98	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658378	CDC	56.97	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658379	CDC	56.97	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658380	CDC	56.97	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658381	CDC	56.97	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658382	CDC	56.97	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658383	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658384	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658385	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658386	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658387	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658388	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658389	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658390	CDC	56.96	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658391	CDC	56.95	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658392	CDC	56.95	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658393	CDC	56.95	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658394	CDC	56.95	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658395	CDC	56.95	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658396	CDC	56.95	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658397	CDC	56.95	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658398	CDC	56.79	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658399	CDC	56.79	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658400	CDC	56.79	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658441	CDC	57.06	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658442	CDC	57.06	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658443	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658444	CDC	57.05	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658445	CDC	57.04	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658446	CDC	57.07	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658447	CDC	36.49	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658448	CDC	57.04	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658449	CDC	57.02	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658450	CDC	54.35	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658451	CDC	38.55	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658452	CDC	57.02	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658453	CDC	57.02	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658454	CDC	57.03	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658455	CDC	57.03	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658456	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658457	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658458	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658459	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658460	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658461	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658462	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658463	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658464	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658465	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658466	CDC	56.89	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658467	CDC	56.89	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658468	CDC	56.89	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1 BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658469	CDC	56.89	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658470	CDC	56.88	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658471	CDC	56.88	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658472	CDC	56.88	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658473	CDC	56.88	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658474	CDC	56.87	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658475	CDC	56.87	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658476	CDC	56.87	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658477	CDC	56.86	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658478	CDC	56.86	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658479	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658480	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658481	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658482	CDC	56.76	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658483	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658484	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658485	CDC	56.75	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658486	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658487	CDC	56.74	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658488	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658489	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658490	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658491	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658492	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658493	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658494	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658495	CDC	56.73	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658561	CDC	56.94	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658562	CDC	56.94	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658563	CDC	56.94	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658564	CDC	56.94	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658565	CDC	56.94	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658566	CDC	56.94	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658567	CDC	56.94	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658568	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658569	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658570	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658571	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658572	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658573	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658574	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658575	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658576	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658577	CDC	56.93	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658578	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658579	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658580	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658581	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658582	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658583	CDC	56.92	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658584	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658585	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658586	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658587	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658588	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658589	CDC	56.91	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658590	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658591	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658592	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658593	CDC	56.90	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658594	CDC	56.86	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658595	CDC	56.86	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658596	CDC	56.86	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658597	CDC	56.85	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	0
2658598	CDC	56.82	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658599	CDC	56.81	2022-07-27	2025-07-26	First Phosphate Corp.	Active	1,200	77	1,131
2658744	CDC	57.08	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658745	CDC	57.07	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658746	CDC	57.07	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658747	CDC	57.07	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658748	CDC	57.06	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658749	CDC	57.06	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658750	CDC	57.05	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658751	CDC	57.05	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658752	CDC	57.04	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658753	CDC	57.04	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658754	CDC	57.04	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658755	CDC	57.04	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2658756	CDC	57.03	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658757	CDC	57.01	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658758	CDC	57.01	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658759	CDC	57.0	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658760	CDC	57.0	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658761	CDC	56.99	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658762	CDC	56.99	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658763	CDC	56.98	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658764	CDC	56.98	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658765	CDC	56.97	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658766	CDC	56.97	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658767	CDC	56.86	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658768	CDC	56.86	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658769	CDC	56.86	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658770	CDC	56.86	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658771	CDC	56.86	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658772	CDC	56.86	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658773	CDC	56.86	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658774	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658775	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658776	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658777	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658778	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658779	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658780	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658781	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2658782	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658783	CDC	56.85	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658784	CDC	56.84	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658785	CDC	56.99	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658786	CDC	56.99	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2658787	CDC	56.99	2022-07-28	2025-07-27	First Phosphate Corp.	Active	1,200	77	0
2659296	CDC	57.03	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659297	CDC	57.02	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659298	CDC	57.02	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659299	CDC	57.01	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659300	CDC	57.01	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659301	CDC	57.00	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659302	CDC	57.00	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659303	CDC	56.90	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659304	CDC	56.90	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659305	CDC	56.89	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659306	CDC	56.85	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659307	CDC	56.84	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659308	CDC	56.83	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659309	CDC	56.83	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659310	CDC	56.82	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659311	CDC	56.82	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659312	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659313	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659314	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659315	CDC	56.80	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1 BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2659316	CDC	56.80	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659317	CDC	56.80	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659318	CDC	56.80	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659319	CDC	56.79	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659320	CDC	56.79	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659321	CDC	56.79	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659322	CDC	56.78	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659323	CDC	56.78	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659324	CDC	56.78	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659325	CDC	56.78	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659326	CDC	56.77	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659327	CDC	56.77	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659328	CDC	56.77	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659329	CDC	56.77	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659330	CDC	56.76	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659331	CDC	56.76	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659332	CDC	56.76	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659340	CDC	56.83	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659341	CDC	56.82	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659342	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659343	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659344	CDC	56.8	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659345	CDC	56.8	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659346	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659347	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659348	CDC	56.81	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 **Bégin-Lamarche Property Claims Information* (27 pages)**									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2659349	CDC	56.8	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659350	CDC	56.8	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659351	CDC	56.8	2022-07-31	2025-07-30	First Phosphate Corp.	Active	1,200	77	0
2659361	CDC	56.89	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659362	CDC	56.89	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659363	CDC	56.88	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659364	CDC	56.88	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659365	CDC	56.88	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659366	CDC	56.87	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659367	CDC	56.87	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659368	CDC	56.87	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659369	CDC	56.87	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659370	CDC	56.85	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659371	CDC	56.85	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659372	CDC	56.85	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659373	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659374	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659375	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659376	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659377	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659378	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659379	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659380	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659381	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659382	CDC	56.84	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659383	CDC	56.83	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	1,131

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2659384	CDC	56.83	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	1,131
2659385	CDC	56.83	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	1,131
2659386	CDC	56.83	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	1,131
2659387	CDC	56.83	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659388	CDC	56.83	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659389	CDC	56.82	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659390	CDC	56.82	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	1,131
2659391	CDC	56.82	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659392	CDC	56.82	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659393	CDC	56.81	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659394	CDC	56.81	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659395	CDC	56.81	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659396	CDC	56.81	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659397	CDC	56.8	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659398	CDC	56.8	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659399	CDC	56.8	2022-08-01	2025-07-31	First Phosphate Corp.	Active	1,200	77	0
2659782	CDC	57.04	2022-08-09	2025-08-08	First Phosphate Corp.	Active	1,200	77	0
2659783	CDC	57.04	2022-08-09	2025-08-08	First Phosphate Corp.	Active	1,200	77	0
2659784	CDC	57.04	2022-08-09	2025-08-08	First Phosphate Corp.	Active	1,200	77	0
2659785	CDC	57.03	2022-08-09	2025-08-08	First Phosphate Corp.	Active	1,200	77	0
2659928	CDC	56.83	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659929	CDC	56.83	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659930	CDC	56.83	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659931	CDC	56.82	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659932	CDC	56.82	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659933	CDC	56.82	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2659934	CDC	56.81	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659935	CDC	56.81	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659936	CDC	56.81	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659937	CDC	56.81	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659938	CDC	56.81	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659939	CDC	56.81	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659940	CDC	56.80	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659941	CDC	56.80	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659942	CDC	56.80	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659943	CDC	56.80	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659944	CDC	56.80	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659945	CDC	56.80	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2659946	CDC	56.80	2022-08-10	2025-08-09	First Phosphate Corp.	Active	1,200	77	0
2661418	CDC	56.98	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661419	CDC	36.27	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661420	CDC	55.00	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661421	CDC	45.00	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661422	CDC	56.18	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661423	CDC	41.82	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661424	CDC	54.01	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661425	CDC	28.34	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661426	CDC	45.82	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661427	CDC	40.58	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661428	CDC	48.55	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661429	CDC	50.70	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661432	CDC	50.82	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2661433	CDC	51.19	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661434	CDC	47.49	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661435	CDC	35.22	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661436	CDC	50.43	2022-08-29	2025-08-28	First Phosphate Corp.	Active	1,200	77	0
2661446	CDC	18.98	2022-08-29	2025-08-28	First Phosphate Corp.	Active	500	39.5	0
2661447	CDC	0.18	2022-08-29	2025-08-28	First Phosphate Corp.	Active	500	39.5	0
2663495	CDC	56.89	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663496	CDC	56.89	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663497	CDC	56.88	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663498	CDC	56.88	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663499	CDC	56.88	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663500	CDC	56.87	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663501	CDC	56.87	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663502	CDC	56.87	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663503	CDC	56.86	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663504	CDC	56.86	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663505	CDC	56.86	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663506	CDC	56.86	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663507	CDC	56.86	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663508	CDC	56.86	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663509	CDC	56.86	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663510	CDC	56.85	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663511	CDC	56.85	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663512	CDC	56.85	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663513	CDC	56.84	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663514	CDC	56.84	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2663515	CDC	56.84	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663516	CDC	56.84	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663517	CDC	56.83	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663518	CDC	56.83	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663519	CDC	56.83	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663520	CDC	56.83	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663521	CDC	56.83	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663522	CDC	56.83	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663523	CDC	56.83	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663524	CDC	56.82	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663525	CDC	56.82	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663526	CDC	56.82	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663527	CDC	56.82	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663528	CDC	56.82	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2663529	CDC	56.82	2022-09-13	2025-09-12	First Phosphate Corp.	Active	1,200	77	0
2664312	CDC	57.08	2022-09-16	2025-09-15	First Phosphate Corp.	Active	1,200	77	0
2664313	CDC	57.08	2022-09-16	2025-09-15	First Phosphate Corp.	Active	1,200	77	0
2664314	CDC	57.08	2022-09-16	2025-09-15	First Phosphate Corp.	Active	1,200	77	0
2664315	CDC	57.08	2022-09-16	2025-09-15	First Phosphate Corp.	Active	1,200	77	0
2664316	CDC	57.08	2022-09-16	2025-09-15	First Phosphate Corp.	Active	1,200	77	0
2667056	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667057	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667058	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667059	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667060	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667061	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 Bégin-Lamarche Property Claims Information* (27 pages)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2667062	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667063	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667064	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667065	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667066	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667067	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667068	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667069	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667070	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667071	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667072	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667073	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667074	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667075	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667076	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667077	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667078	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667079	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667080	CDC	57.16	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667081	CDC	57.16	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667082	CDC	57.16	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667083	CDC	57.16	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667084	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667085	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667086	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667087	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0

Table Appendix H.1 **Bégin-Lamarche Property Claims Information* (27 pages)**									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2667088	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667089	CDC	57.15	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667090	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667091	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667092	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667093	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667094	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667095	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667096	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667097	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667098	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667099	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667100	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667101	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667102	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667103	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667104	CDC	57.13	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667105	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667106	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667107	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667108	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667109	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667110	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667111	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667112	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667113	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1 **BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)**									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2667114	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667115	CDC	57.12	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667116	CDC	57.11	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667117	CDC	57.11	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667118	CDC	57.11	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667119	CDC	57.11	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667120	CDC	57.07	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667121	CDC	57.07	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667122	CDC	56.93	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667123	CDC	56.93	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667124	CDC	56.92	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667125	CDC	56.92	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667126	CDC	56.90	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667127	CDC	56.90	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667128	CDC	56.89	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667129	CDC	56.89	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667130	CDC	56.89	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667131	CDC	56.89	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667132	CDC	56.89	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667133	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667134	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667135	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667136	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667137	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667138	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667139	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0

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BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2667140	CDC	56.86	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667141	CDC	56.86	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667142	CDC	56.86	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667143	CDC	56.86	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667144	CDC	56.85	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667145	CDC	56.85	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667146	CDC	56.85	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667147	CDC	56.85	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667148	CDC	56.84	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667149	CDC	56.84	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667150	CDC	56.84	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667151	CDC	56.84	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667152	CDC	56.83	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667153	CDC	56.83	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667154	CDC	56.83	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667155	CDC	56.83	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667156	CDC	56.82	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667157	CDC	56.82	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667158	CDC	56.82	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667159	CDC	56.81	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667160	CDC	56.81	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667161	CDC	56.80	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667162	CDC	56.95	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667163	CDC	56.95	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667164	CDC	56.95	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667165	CDC	56.95	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1
BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2667166	CDC	56.95	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667167	CDC	56.94	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667168	CDC	56.94	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667169	CDC	56.94	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667170	CDC	56.94	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667171	CDC	56.94	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667172	CDC	56.93	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667173	CDC	56.93	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667174	CDC	56.93	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667175	CDC	56.92	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667176	CDC	56.92	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667177	CDC	56.92	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667178	CDC	56.92	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667179	CDC	56.91	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667180	CDC	56.91	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667181	CDC	56.91	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667182	CDC	56.91	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667183	CDC	56.91	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667184	CDC	56.91	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667185	CDC	56.91	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667186	CDC	56.90	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667187	CDC	56.90	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667188	CDC	56.90	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667189	CDC	56.90	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667190	CDC	56.90	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667191	CDC	56.89	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0

TABLE APPENDIX H.1 BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)									
Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2667192	CDC	56.89	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667193	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667194	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667195	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667196	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667197	CDC	56.88	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667198	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667199	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667200	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667201	CDC	56.86	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667315	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667316	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667317	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667318	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667319	CDC	57.14	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667320	CDC	57.11	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667321	CDC	57.11	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667322	CDC	57.11	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667323	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667324	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667325	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667326	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667327	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667328	CDC	57.10	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667329	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667330	CDC	57.09	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0

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Title No	**Title Type**	**Area (ha)**	**Registration Date**	**Expiry Date**	**Titleholder (100%)**	**Status**	**Required Work (CAD$)**	**Required Fees (CAD$)**	**Excess Work (CAD$)**
2667331	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667332	CDC	57.08	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2667333	CDC	56.87	2022-09-20	2025-09-19	First Phosphate Corp.	Active	1,200	77	0
2672519	CDC	56.82	2022-09-27	2025-09-26	First Phosphate Corp.	Active	1,200	77	0
2673454	CDC	57.05	2022-09-29	2025-09-28	First Phosphate Corp.	Active	1,200	77	0
2673455	CDC	37.37	2022-09-29	2025-09-28	First Phosphate Corp.	Active	1,200	77	0
2674220	CDC	57.05	2022-09-30	2025-09-29	First Phosphate Corp.	Active	1,200	77	0
2691824	CDC	41.47	2022-11-23	2025-11-22	First Phosphate Corp.	Active	1,200	77	0
2691825	CDC	0.21	2022-11-23	2025-11-22	First Phosphate Corp.	Active	500	39.5	0
2824401	CDC	56.83	2024-04-04	2027-04-03	First Phosphate Corp.	Active	1,200	77	0
2824402	CDC	56.83	2024-04-04	2027-04-03	First Phosphate Corp.	Active	1,200	77	0
2824403	CDC	56.83	2024-04-04	2027-04-03	First Phosphate Corp.	Active	1,200	77	0
2827259	CDC	56.80	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827260	CDC	56.80	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827261	CDC	56.79	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827262	CDC	56.79	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827263	CDC	56.79	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827264	CDC	56.79	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827265	CDC	56.79	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827266	CDC	56.79	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827267	CDC	56.79	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827268	CDC	56.78	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827269	CDC	56.78	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827270	CDC	56.78	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827271	CDC	56.78	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827272	CDC	56.77	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0

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BÉGIN-LAMARCHE PROPERTY CLAIMS INFORMATION* (27 PAGES)

Title No	Title Type	Area (ha)	Registration Date	Expiry Date	Titleholder (100%)	Status	Required Work (CAD$)	Required Fees (CAD$)	Excess Work (CAD$)
2827273	CDC	56.77	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827274	CDC	56.76	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2827275	CDC	56.76	2024-05-20	2027-05-19	First Phosphate Corp.	Active	1,200	77	0
2597636	CDC	56.82	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597637	CDC	56.82	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597638	CDC	56.82	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597639	CDC	56.82	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597640	CDC	56.81	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597641	CDC	56.81	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597642	CDC	56.81	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597643	CDC	56.81	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597644	CDC	56.81	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597645	CDC	56.80	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597646	CDC	56.80	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597647	CDC	56.80	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597648	CDC	56.80	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2597649	CDC	56.80	2021-02-07	2026-02-06	First Phosphate Corp.	Active	1,200	77	3,884
2659191	CDC	56.83	2022-07-30	2025-07-29	First Phosphate Corp.	Active	1,200	77	0

** Claims information effective December 4, 2024*