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# **TECHNICAL REPORT ON THE PRELIMINARY ECONOMIC ASSESSMENT FOR THE SCOTT LAKE PROJECT, NORTHWESTERN QUÉBEC, CANADA**

**NI 43-101 Report**

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**December 6, 2017**

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Technical Report on the Preliminary Economic Assessment for the Scott Lake Project, Northwestern Québec, Canada

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# 1 SUMMARY

## EXECUTIVE SUMMARY

Roscoe Postle Associates Inc. (RPA) was retained by Yorbeau Resources Inc. (Yorbeau) to prepare an independent Technical Report on the Preliminary Economic Assessment (PEA) for the Scott Lake Project (the Project), located in northwestern Québec, Canada. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects. RPA most recently visited the Project on June 12 and 13, 2017.

The Property consists of three non-contiguous claim blocks consisting of 129 claims covering a total area of approximately 6,337 ha, located approximately 20 km southwest of the town of Chibougamau, Québec, and approximately 500 km north of Montreal, Québec. The property is accessible by a network of secondary roads extending from Highway 113. On February 2, 2015, Yorbeau acquired the Project from Cogitore Resources Inc. (Cogitore).

Currently, the Project contains a number of zinc-copper-gold silver massive sulphide and stringer sulphide zones located in northwestern Scott Township.

Based on the Mineral Resource estimate prepared by RPA for the Scott Lake Project as of February 14, 2017, the PEA proposes production of 12 million tonnes (Mt) at grades of 4.14% Zn, 0.81% Cu, 27 g/t Ag, and 0.24 g/t Au over 15 years of mine life. With the exception of the Selco zone, Mineral Resources start at approximately 300 m below surface, with the exception of the Selco Zone and continue to depth, hence mining will be by underground methods accessed via a ramp decline. Processing of 2,200 tonnes per day (tpd) mill feed will consist of crushing, grinding, and flotation circuits that will produce copper and zinc concentrates.

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

## CONCLUSIONS

In RPA's opinion, consideration of an Underground Exploration Program, consisting of ramping, development of drill platforms, and infill drilling, is merited.

The Project represents an opportunity to develop an operating mine located within close proximity to the town of Chibougamau, Québec, a typical northern mining environment, offering the advantages of living facilities and availability of equipment and materials required to develop and operate the Project. The Project site has existing access and can be serviced with available hydroelectric power from the provincial grid located nearby.

RPA offers the following conclusions by area.

### **GEOLOGY AND MINERAL RESOURCES**

- The Project consists of a number of mineralized zones that have all the characteristics of volcanogenic massive sulphide (VMS) mineralization, comprised of distinct stratabound massive sulphide lenses located mainly along or close to rhyolite-andesite/basalt contacts. In addition to the massive sulphides, separate zones of VMS-style disseminated and stringer sulphides, which may or may not be connected with massive sulphide lenses, have been found over a strike length of at least two kilometres.
- The following mineralized zones and lenses have been outlined by drilling at Scott Lake to date:
  - Selco Scott deposit;
  - West Massive Sulphide Lens;
  - 34 Zinc Massive Sulphide Lens, which is stacked above the West Lens;
  - Scott Lake Sulphide Stringer Zone, which lies below the West Lens;
  - 800 Massive Sulphide Lens;
  - Massive Sulphide Central Zone including three lenses, which have been interpreted as stacked above the Sulphide Stringer Zone;
  - CFO Lens, which is located west of and at depth from the West Lens;
  - CFO Stringer Zone, located beside and underneath the CFO Lens;
  - Gap Zone that was recently discovered between the West Lens and the CFO Lens and at the western extent of the Sulphide Stringer Zone. Its eastern extent incorporates the former SC-30 lens.
- The discovery of the massive sulphide and sulphide stringer zones associated with rhyolitic volcanic rocks indicates the potential for other discoveries and extensions of known zones along the two- to three-kilometre strike length of favourable lithologies that hosts the Scott Lake zones.
- Core sampling procedures used by Cogitore and Yorbeau are consistent with industry standards and are adequate for the estimation of Mineral Resources.
- RPA reviewed cross sections, longitudinal sections, and plan views, and found the geological interpretation of both rock types and mineralized zones to be well done and acceptable for Mineral Resource estimation.
- The drill hole database including drill logs, density determinations, and assay results are appropriate for use in the estimation of Mineral Resources. RPA notes, however, that the following should be added to the current procedures:

- Rock Quality Designation (RQD) measurements
  - Photographing of all drill core
  - Insertion of Certified Reference Materials at one per 20 samples
  - Insertion of certified blank material at one per 20 samples
  - Insertion of duplicate samples at one per 20 samples
- RPA estimated Mineral Resources for the Scott Lake Project using drill hole data available as of February 10, 2017. Indicated Mineral Resources total 3.57 Mt, at grades of 4.17% Zn, 0.95% Cu, 37 g/t Ag, and 0.22 g/t Au. Inferred Mineral Resources total 14.28 Mt, at grades of 3.49% Zn, 0.78% Cu, 22 g/t Ag, and 0.22 g/t Au. The Mineral Resource estimate is based on a C\$100/t net smelter return (NSR) cut-off value for massive sulphide zones and C\$65/t NSR cut-off value for sulphide stringer zones.
  - RPA is of the opinion that the Yorbeau drilling programs carried out from 2015 to date have increased confidence in the continuity of the mineralization and have shown that there is potential for other discoveries. The discovery of the massive sulphide Gap Zone and the extension of the Scott Lake Stringer Sulphide Zone to the west are good examples, and have contributed most of the significant increase in tonnage in the current Mineral Resource estimate from the previous estimate completed by RPA in 2011. Continued exploration, primarily by underground diamond drilling, is abundantly warranted for the property.
  - Potential exists to increase Mineral Resources and, based on the significant amount of drilling already done on the Scott Lake deposit, the main areas of potential for increasing resources are thought to be:
    - At depth below, current resources blocks:
      - Western Scott Lake Sulphide Stringer Zone from approximately -1,800 mE to -1,850 mE, and below the 800 Lens.
      - Gap Lens down-dip from hole SC-83 where borehole geophysics modelling clearly suggests extension of more than 50 m down-dip.
    - West of the Gwillim Lake fault, at depth:
      - Recent structural interpretation suggests that the CFO Lens may in fact be a structural “raft” caught within the fault corridor, and which may have been dragged into the northeast trending fault corridor from an unknown source.
      - If this is the case, and considering that the Gwillim Lake fault is a reverse left-handed fault, then the primary source of those rafts may be located at depth, west of the fault, and south of the known Scott mineralized corridor.

## **MINING**

- The mining at Scott Lake will consist of a combination of bulk and conventional methods.
- Stopping methods will include: Longitudinal Longhole stoping (50%); Transverse Longhole (26%), Cut and Fill (11%) with the balance of the Life of Mine (LOM) tonnage or 13% from ore development.

- Both paste backfill and waste rock backfill will be used in the stoping process. An estimated 50% to 60% of the tailings will be used for paste fill (approximately 1,000 tpd) which will provide for a smaller tailings facility footprint requirement.
- Lateral development in waste will average 12 m per day with a high of 18 m per day in Year six of the LOM, while ore development will average 5 m per day.
- A shaft access option was evaluated, however, capital costs were restrictive with the current Mineral Resources. Due to the depth of the deposit, continued review of shaft alternatives as further studies are developed is warranted.
- Haulage of material (ore and waste) was evaluated using 50 tonne electric trucks that provide a more efficient haulage speed/productivity profile than diesel units and also reduce the capital cost for haulage units.
- Contractor services were considered for the pre-production phase of the LOM.

### **PROCESSING AND TAILINGS**

- Processing will average 2,200 tpd over the LOM with a high of 2,500 tpd in Years eight and nine of the LOM.
- Preliminary metallurgical testing has indicated very high lime consumption, which is reflected in the process operating cost.
- Concentrates are assumed to be shipped to local areas such as Noranda and Valleyfield for the copper and zinc concentrates respectively.
- Preparation of paste backfill for the mining operation was considered, with an estimated 65% usage of the mill tailings or approximately 1,150 tpd.
- Use of the tailings for paste fill will reduce the tailings management facility footprint.
- Preliminary metallurgical test results at a bench scale level were obtained through batch flotation tests and a single locked cycle flotation test (LCT), however, the estimated target Cu concentrate grade (25%), target Cu recovery to Cu concentrate (85%), target Zn concentrate grade (55%), and target Zn recovery to Zn concentrate (87%) need to be demonstrated under optimized flotation test conditions.
- Ore samples for metallurgical test work should be representative of the different zones and proportions of massive sulphide and stringer sulphides to be processed during the LOM plan.
- Ore variability need to be investigated through detailed mineralogical analysis.
- A comprehensive comminution and flotation test program is required on a range of average ore types and variability samples.
- The target concentrate grades and recoveries have not yet been achieved through metallurgical testing, however, further optimization is possible, and may improve the results.

- Further improvements in process design, performance, and cost estimation are to be expected with advanced levels of study.

### **INFRASTRUCTURE**

- The Project is close to established infrastructure for access, power, and transport of materials and concentrates. Consumables are also readily available from the local communities, as are emergency services and health care services.
- The location of the Project relative to established population centres with a history of mining is a clear advantage.

### **ENVIRONMENT AND PERMITTING**

- A full Environmental Baseline Study was completed by Stavibel Service D'Ingénierie in 2012.
- Permitting will be required from both the Provincial Government and the Federal Government that have established permit requirements. The Project is subject to the Québec Mining Act. The Federal permits and authorizations include fisheries and metal mining effluent regulations (MMER) that must be met as well as those related to explosives and explosives produces.
- The towns of Chibougamau and Chapais as well as the Cree community of Oujé-Bougoumou are the closest communities to the Project site. Social and community involvement with these localities/groups will be of major importance in sourcing manpower, materials, equipment and cooperation to ensure smooth operations are established and maintained throughout the mine life. Discussions with the local First Nations people is of high importance in ensuring the Project development, control, and highest environmental standards pre and post operation are met. As well discussion of an Impact Benefit Agreement (IBA) with the First Nations people should be made a priority.
- The Québec Mining Act also outlines requirements for the mine closure plan that need to be addressed early in the process and certain financial guarantees provided by the mine operator. Preparation of a Mine Site Rehabilitation Plan will be required. An allowance of three million dollars has been allocated for mine closure in this study.

### **ECONOMICS**

- The PEA base case pre-tax net present value at an 8% discount rate ( $NPV_{8\%}$ ) of \$146 million, with a net pre-tax cash flow of \$519 million representing a Project internal rate of return (IRR) of 16.6%.
- There is a pre-existing 1% NSR on the 16 claim Scott-Diagold part of the property due to Diagold which Yorbeau can buy out for \$750,000. This is not applicable to the Scott Lake property.
- The Project is most sensitive to metal prices, exchange rate, recovery, and head grade.
- As a sensitivity, RPA considered a case where the Underground Exploration Program has been completed, and considered as a sunk cost. With ramping in place, capital

costs and construction schedules would be reduced. Project economics improve to a pre-tax NPV<sub>8%</sub> of \$188 million, with a pre-tax cash flow of \$568 million and a Project IRR of 21%.

## RECOMMENDATIONS

RPA recommends that a program of surface exploration drilling and metallurgical testing be carried out, followed by development of an Underground Exploration Program.

In addition, RPA offers the following recommendations by area:

### **GEOLOGY AND MINERAL RESOURCES**

- RQD measurements on drill core should be carried out in future drilling programs.
- All drill core should be photographed prior to logging and sampling in future drilling programs.
- With respect to quality assurance/quality control (QA/QC) on Scott Lake sampling and assaying, RPA recommends the following:
  - Acquire suitable CRMs for insertion at a rate of one every 20 samples.
  - Use a duplicate insertion rate of not less than 5% in future exploration programs. Continue with the current re-assaying program at a second laboratory to supplement the current program.
  - Insert certified blank material into the sample stream, to test for possible contamination in the sample preparation phase, at a rate of 5% of the total assays.
  - Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- Density determinations should be continued for both mineralized and non-mineralized rock types.
- For the current Mineral Resource, no outliers were capped, however, a future Mineral Resource update should include a detailed statistical analysis for each mineralized zone to determine if capping is required.
- A structural model of the Scott Lake deposit area should be developed to assist in interpretation of the mineralized zones and to guide future drilling.
- Additional drilling in the Gap Zone, West Lens, and the eastern part of the Scott Lake Sulphide Stringer Zone should be carried out in order to understand the structural controls that constrain grade continuity and to upgrade the Mineral Resources from Inferred to Indicated. Specifically, in order to upgrade the Inferred Mineral Resources to Indicated Mineral Resources, RPA recommends that the Stringer Sulphide Zone be drilled on a 50 m by 50 m pattern, and the West, 34 Zinc, and Central Lenses be drilled on a 25 m by 25 m pattern. Such drilling patterns will allow better shape definition of the lenses.

- The extent and continuity of the mineralization of the Gap Zone warrants exploration below -500 m elevation by diamond drilling. Additional drilling is also recommended in the eastern portion of the Stringer Sulphide Zone where drill hole spacing is greater than 100 m.

#### **MINING**

- Carry out a geotechnical study to assist in mine design and verification for a crown pillar above the Selco Zone.
- Review level spacing for the longhole stoping to evaluate if a 30 m spacing can be utilized which would result in reduced development requirements.
- Design a ramp and drill platforms for the Underground Exploration Program.

#### **PROCESSING AND TAILINGS**

- Assess the required drill holes to prepare samples of both the massive and stringer sulphide zones to be used for continued metallurgical sampling.
- Verify construction materials (quarries, borrow pits, etc.) that can be used for the tailings facility construction.
- Verify potential for use of tailings to prepare paste fill for the underground mine and assess characteristics, and paste fill system design requirements.
- Confirm the tailings deposition modelling to confirm the deposition plan for subaqueous deposition.
- Retain a metallurgist and an accredited laboratory to carry out a metallurgical test work optimization program using drill core representative of the different zones of massive sulphides and stringer sulphides.
- Perform greater comminution and ore variability testing.
- Carry out detailed mineralogical analysis of the feeds and products in beneficiation.
- Carry out analysis and characterization of all waste streams and determination of the appropriate methods of disposal.
- Complete detailed energy and water balance for the entire process flowsheet.

#### **INFRASTRUCTURE**

- Develop a preliminary schedule for the infrastructure installation (buildings, portals, tailings facility, stockpiles).
- Assess the requirements and costs for a substation facility to receive power from the Hydro Québec grid.

**ENVIRONMENT**

- Assess the Project permitting critical path with the timeline for the various phases of the pre-production and production phases of the Project, including the Underground Exploration Program.
- Continue to assess requirements for environmental aspects with the Provincial and Federal authorities and the local municipalities.
- Prepare a detailed site layout of the ore and waste stockpiles and complete a water management plan to confirm the requirement for pollution control ponds and other related infrastructure.
- Prepare a Rehabilitation and Restoration plan as part of the project in accordance with the provincial Guidelines for Preparing a Mining Site Rehabilitation Plan and General Mining Site Rehabilitation Requirements (1997).

**FIRST NATIONS AND COMMUNITY RELATIONS**

- Continue to engage and enhance the relations with local First Nations and communities.
- Engage the local First Nations with discussions on a proposed IBA.

**PROJECT EXECUTION**

- Carry out the Project planning to advance the underground exploration program as the next phase of the Project development.

**BUDGET**

A two-phase surface and then underground exploration budget is presented below to enable upgrading the resource classification, improving the metallurgical information, and providing a head start on the mine development pre-production phase of the Project.

**TABLE 1-1 EXPLORATION BUDGET (SURFACE)  
Yorbeau Resources Inc. – Scott Lake Project**

Item	Cost (C\$000)
Head Office Expense	25
Project Management/Staff Cost	200
Diamond Drilling (7,000 m)	910
Misc. (Assay/Shipping/etc.)	50
Metallurgical Testing	55
<b>Sub-Total</b>	<b>1,240</b>
Contingency (25%)	310
<b>Total</b>	<b>1,550</b>

**TABLE 1-2 EXPLORATION BUDGET (UNDERGROUND)  
Yorbeau Resources Inc. – Scott Lake Project**

Item	Cost (C\$000)
Head Office Expense	50
Project Management/Staff Cost	350
Exploration Development (3,000 m)	19,500
Diamond Drilling (15,000 m)	1,950
Misc. (Assay/Shipping/etc.)	150
<b>Sub-Total</b>	<b>22,000</b>
Contingency (25%)	5,500
<b>Total</b>	<b>27,500</b>

## ECONOMIC ANALYSIS

The economic analysis in this report is based in part on Inferred Mineral Resources, and is preliminary in nature. Inferred Mineral Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty the economic forecasts based on this PEA will be realized.

An after-tax cash flow summary has been generated and is shown in Table 1-3. A summary of the key criteria is provided as follows:

All costs are in 2017 Canadian dollars, unless otherwise specified and no escalation or inflation has been considered in the cash flow projections.

## ECONOMIC CRITERIA

### PHYSICALS

- Pre-production period of approximately 24 months.
- Mine Life of 15 years.
- The LOM plan is shown in Table 16-1.
- Total processing of 12.0 million tonnes grading 4.14% Zn, 0.81% Cu, 26.59 g/t Ag and 0.24 g/t Au.
- Mill recovery averaging 87% for zinc, 85% for copper, 45% for silver and 63% for gold.

### REVENUE

- Copper concentrate averages 96% payable for copper, 92% payable for silver, and 82% payable for gold, net of minimum deductions. Zinc concentrate averages 85% payable for zinc and 2% payable for silver, net of minimum deductions.

- Metal prices used are US\$1,500/oz for gold, US\$23/oz for silver, US\$3.50/lb for copper, and US\$1.30/lb for zinc with an exchange rate of US\$1.00=C\$1.25.
- Revenue is recognized at the time of production.

#### **COSTS**

- Pre-production capital expenditure is C\$215 million
- Total LOM capital expenditures are C\$390 million
- Average operating cost over the LOM is C\$89/tonne processed.
- No IBA costs included in the operating costs.

#### **TAXES**

- Quebec Mining Tax, on a sliding scale based on profit margin, starting at 16%.
- Federal Income Tax of 15%.
- Provincial Income Tax of 11.9%

TABLE 1-3 LOM CASH FLOW SUMMARY  
Yorbeau Resources Inc. - Scott Lake Project

INPUTS			UNITS	TOTAL	Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	
<b>MINING</b>																									
Underground	Operating Days	365	days	5,455		122	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	345	-
	Tonnes milled per day		tonnes / day	2,204				1,474	1,621	1,961	2,114	2,407	2,270	2,339	2,493	2,446	2,356	2,370	2,339	2,342	2,283	2,252			
Production	Au Grade		'000 tonnes g/t	12,024	538	592	716	772	879	829	854	910	893	860	865	854	865	854	855	833	833	777	-	-	-
	Ag Grade		g/t	0.24	0.18	0.23	0.25	0.28	0.19	0.20	0.23	0.27	0.32	0.38	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.14	-	-
	Ag Grade		%	26.59	21.90	22.81	22.20	22.00	33.70	37.84	39.58	26.21	26.24	26.57	24.94	25.39	22.51	25.39	22.51	25.39	22.51	18.86	21.54	-	-
	Cu Grade		%	0.81	0.56	0.62	0.62	0.68	0.95	0.99	1.11	0.82	0.61	0.68	0.45	0.84	0.94	0.90	1.20	-	-	-	-	-	-
	Zn Grade		%	4.14	5.05	5.54	4.99	5.70	2.81	3.64	3.20	2.68	5.47	4.48	6.02	5.11	4.16	2.66	1.33	-	-	-	-	-	-
	Waste		'000 tonnes	3,387	186	152	168	252	279	313	168	260	147	336	374	213	12	252	40	-	-	-	-	-	-
	Total Moved		'000 tonnes	15,341	724	744	874	1,024	1,158	1,201	1,022	1,170	1,040	1,196	1,239	1,067	981	1,085	817	-	-	-	-	-	-
	Tonnes per day O+Q		'000 tonnes	2,812	1,963	2,038	2,394	2,804	3,172	3,291	2,799	3,204	2,848	3,277	3,204	2,848	3,277	3,204	2,848	3,277	3,204	2,848	3,277	3,204	2,848
<b>PROCESSING</b>																									
Mill Feed	Au Grade		'000 tonnes g/t	12,024	538	592	716	772	879	829	854	910	893	860	865	854	865	854	855	833	833	777	-	-	-
	Ag Grade		g/t	0.24	0.18	0.23	0.25	0.28	0.19	0.20	0.23	0.27	0.32	0.38	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.14	-	-	-
	Cu Grade		%	26.59	21.90	22.81	22.20	22.00	33.70	37.84	39.58	26.21	26.24	26.57	24.94	25.39	22.51	25.39	22.51	25.39	22.51	18.86	21.54	-	-
	Cu Grade		%	0.81	0.56	0.62	0.62	0.68	0.95	0.99	1.11	0.82	0.61	0.68	0.45	0.84	0.94	0.90	1.20	-	-	-	-	-	-
	Zn Grade		%	4.14	5.05	5.54	4.99	5.70	2.81	3.64	3.20	2.68	5.47	4.48	6.02	5.11	4.16	2.66	1.33	-	-	-	-	-	-
	Contained Au		oz	92,018	3,110	4,413	5,774	6,923	5,232	5,237	5,389	5,739	7,776	8,933	7,276	7,588	7,695	7,494	3,398	-	-	-	-	-	-
	Contained Ag		oz	10,277,820	378,820	433,794	510,774	545,772	952,057	1,008,058	1,086,435	766,747	753,230	789,937	693,601	696,836	616,571	503,330	537,958	-	-	-	-	-	-
	Contained Cu		tonnes	97,207	3,020	3,672	4,427	5,268	8,324	8,218	7,440	5,445	5,876	3,910	7,214	8,060	7,514	9,323	-	-	-	-	-	-	-
	Contained Zn		tonnes	497,371	27,155	32,784	35,705	44,009	24,678	30,186	27,335	24,365	48,864	38,506	52,079	43,645	35,567	22,163	10,330	-	-	-	-	-	-
Recovery	Cu Concentrate	Recovery #2	%	-	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
	Au		%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
	Ag		%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
	Cu		%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
	Zn		%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
	Zn Concentrate	Recovery #3	%	-	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
	Au		%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
	Ag		%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
	Cu		%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
	Zn		%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%
	Net Recovery		%	-	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%
	Au		%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%
	Ag		%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
	Zn		%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
	Total Average Recovery		%	60%	61%	61%	61%	61%	59%	60%	59%	60%	61%	60%	61%	60%	61%	61%	61%	61%	61%	60%	59%	-	-
Recovered Amount	Cu Concentrate	Recovery #1	oz	58,155	1,965	2,789	3,649	4,375	3,307	3,341	3,406	3,627	4,915	5,646	4,598	4,795	4,663	4,730	2,148	-	-	-	-	-	-
	Au		oz	4,638,603	170,970	195,781	230,523	246,319	429,684	454,959	490,332	346,049	339,949	356,471	313,037	314,497	278,174	283,066	242,792	-	-	-	-	-	-
	Pb		tonnes	82,626	2,567	3,121	3,763	4,478	7,076	6,985	8,071	6,324	4,628	4,994	3,324	6,132	6,851	6,387	7,924	-	-	-	-	-	-
	Zn		tonnes	24,907	1,360	1,642	1,788	2,204	1,236	1,512	1,369	1,220	2,447	1,928	2,608	2,186	1,781	1,110	517	-	-	-	-	-	-
	Zn Concentrate	Recovery #2	oz	5,061	171	243	318	381	290	291	296	316	428	491	400	417	423	412	167	-	-	-	-	-	-
	Au		oz	1,347,574	49,669	56,877	66,970	71,569	124,829	132,171	142,448	100,632	98,760	103,569	90,941	91,366	81,104	66,256	70,534	-	-	-	-	-	-
	Cu		tonnes	5,042	157	190	230	273	432	426	493	386	282	395	203	374	418	390	484	-	-	-	-	-	-
	Pb		tonnes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Zn		tonnes	432,713	23,624	28,522	31,063	38,288	21,470	26,262	23,781	21,198	42,512	33,500	45,309	37,971	30,944	19,282	8,987	-	-	-	-	-	-
Grades in Concentrate	Cu Concentrate		dmt	330,505	10,268	12,484	15,052	17,912	28,303	27,941	32,285	25,297	18,512	19,978	13,295	24,527	27,404	25,549	31,698	-	-	-	-	-	-
	Au grade in concentrate		g/t	5.47	5.95	6.95	7.54	7.60	3.63	3.72	3.28	4.46	8.26	8.79	10.76	6.08	5.52	5.76	2.11	-	-	-	-	-	-
	Ag grade in concentrate		g/t	437	517.90	487.80	476.34	427.72	472.20	506.45	472.39	425.47	571.17	554.99	732.35	398.82	316.86	277.65	238.24	-	-	-	-	-	-
	Cu grade in concentrate	25.0%	%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	-	-	-	-	-	-
	Zn grade in concentrate		%	7.5%	13.2%	13.2%	11.9%	12.3%	4.4%	5.4%	4.2%	4.8%	13.2%	9.7%	19.6%	8.9%	6.5%	4.3%	1.6%	-	-	-	-	-	-
	Concentrate Moisture	8%	%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	-	-	-	-	-	-
	Cu Concentrate		wmt	359,244	11,161	13,569	16,361	19,470	30,764	30,371	35,092	27,497	20,122	21,715	14,451	26,660	29,787	27,770	34,554	-	-	-	-	-	-
	Zn Concentrate		dmt	786,750	42,954	51,859	56,478	69,614	39,037	47,749	43,238	38,541	43,238	38,541	43,238	38,541	43,238	38,541	43,238	38,541	-	-	-	-	-
	Au grade in concentrate		g/t	0.20	0.12	0.15	0.17	0.17	0.17	0.19	0.21	0.25	0.17	0.25	0.15	0.19	0.23	0.37	0.36	-	-	-	-	-	-



		INPUTS	UNITS	TOTAL	Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	
		Payable Zn	tonnes	\$67,806				20,081	24,244	26,404	32,544	18,250	22,323	20,214	18,018	36,135	28,475	38,512	32,276	28,302	16,389	7,639			
<b>Gross Revenue</b>	4%	Au Gross Revenue	CS '000	89,117				\$3,066	\$4,477	\$5,935	\$7,124	\$4,494	\$4,580	\$4,439	\$5,276	\$8,099	\$9,381	\$7,820	\$7,513	\$7,467	\$7,329	\$2,116			
	5%	Ag Gross Revenue	CS '000	123,536				\$4,522	\$5,178	\$6,097	\$6,515	\$11,520	\$12,034	\$13,226	\$9,153	\$8,992	\$9,429	\$8,280	\$8,318	\$7,384	\$6,032	\$6,855			
	33%	Cu Gross Revenue	CS '000	765,062				\$23,768	\$26,897	\$34,844	\$41,463	\$65,517	\$64,879	\$74,734	\$58,559	\$42,853	\$46,245	\$30,776	\$56,776	\$63,435	\$59,140	\$59,140	\$73,375		
	57%	Zn Gross Revenue	CS '000	1,317,655				\$71,939	\$86,854	\$94,590	\$116,590	\$95,379	\$79,971	\$72,416	\$64,549	\$129,452	\$102,011	\$137,970	\$115,827	\$94,236	\$58,714	\$27,368			
		<b>Total Gross Revenue</b>	<b>CS '000</b>	<b>2,295,370</b>				<b>\$103,295</b>	<b>\$125,406</b>	<b>\$141,467</b>	<b>\$171,692</b>	<b>\$146,910</b>	<b>\$161,264</b>	<b>\$164,815</b>	<b>\$137,537</b>	<b>\$169,395</b>	<b>\$167,066</b>	<b>\$184,845</b>	<b>\$188,234</b>	<b>\$172,512</b>	<b>\$131,216</b>	<b>\$109,714</b>			
<b>Total Charges</b>		Transport																							
		Cu Concentrate	CS '000	\$30,536				\$949	\$1,153	\$1,391	\$1,655	\$2,615	\$2,582	\$2,983	\$2,337	\$1,710	\$1,846	\$1,228	\$2,266	\$2,532	\$2,360	\$2,929			
		Zn Concentrate	CS '000	\$47,034				\$2,568	\$3,100	\$3,376	\$4,162	\$2,334	\$2,855	\$2,304	\$4,621	\$3,641	\$4,925	\$4,127	\$3,363	\$2,096	\$977				
		Treatment																							
		Cu Concentrate	CS '000	\$41,313				\$1,283	\$1,560	\$1,882	\$2,239	\$3,538	\$3,493	\$4,036	\$3,162	\$2,314	\$2,497	\$1,662	\$3,066	\$3,425	\$3,194	\$3,962			
		Zn Concentrate	CS '000	\$177,019				\$9,665	\$11,668	\$12,708	\$15,663	\$8,783	\$10,744	\$9,729	\$8,672	\$17,391	\$13,705	\$16,535	\$15,534	\$12,659	\$7,888	\$3,677			
		Refining cost																							
		Au	CS '000	\$297				\$10	\$15	\$20	\$24	\$15	\$15	\$18	\$27	\$31	\$26	\$25	\$25	\$24	\$7				
		Ag	CS '000	\$3,760				\$138	\$158	\$186	\$198	\$351	\$366	\$403	\$279	\$274	\$287	\$252	\$253	\$225	\$184	\$209			
		Cu	CS '000	\$19,673				\$611	\$743	\$866	\$1,066	\$1,685	\$1,663	\$1,922	\$1,506	\$1,102	\$1,189	\$791	\$1,460	\$1,631	\$1,521	\$1,887			
		Market Participation																							
		Cu	CS '000	\$0				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Zn	CS '000	\$0				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		<b>Total Charges</b>	<b>CS '000</b>	<b>\$319,631</b>				<b>\$15,224</b>	<b>\$18,398</b>	<b>\$20,458</b>	<b>\$25,007</b>	<b>\$19,320</b>	<b>\$21,717</b>	<b>\$21,671</b>	<b>\$18,277</b>	<b>\$27,439</b>	<b>\$23,196</b>	<b>\$27,420</b>	<b>\$26,311</b>	<b>\$23,860</b>	<b>\$17,267</b>	<b>\$13,647</b>			
		<b>Net Smelter Return</b>	<b>CS '000</b>	<b>\$1,975,738</b>				<b>\$88,072</b>	<b>\$107,009</b>	<b>\$121,009</b>	<b>\$146,685</b>	<b>\$127,590</b>	<b>\$139,547</b>	<b>\$143,144</b>	<b>\$119,260</b>	<b>\$161,956</b>	<b>\$143,870</b>	<b>\$157,425</b>	<b>\$161,503</b>	<b>\$148,652</b>	<b>\$113,949</b>	<b>\$96,067</b>			
	Royalty NSR	CS '000	\$0				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	<b>Net Revenue</b>	<b>CS '000</b>	<b>\$1,975,738</b>				<b>\$88,072</b>	<b>\$107,009</b>	<b>\$121,009</b>	<b>\$146,685</b>	<b>\$127,590</b>	<b>\$139,547</b>	<b>\$143,144</b>	<b>\$119,260</b>	<b>\$161,956</b>	<b>\$143,870</b>	<b>\$157,425</b>	<b>\$161,503</b>	<b>\$148,652</b>	<b>\$113,949</b>	<b>\$96,067</b>				
	Unit NSR	CS/t milled	\$164				\$164	\$181	\$169	\$190	\$145	\$168	\$168	\$131	\$181	\$167	\$182	\$189	\$174	\$137	\$124				
<b>CUT-OFF GRADE</b>																									
	Net Revenue by Metal																								
	Au	%	4%				3%	4%	5%	5%	4%	4%	3%	3%	4%	5%	6%	5%	5%	5%	6%	6%	2%		
	Ag	%	6%				5%	5%	5%	4%	4%	9%	8%	7%	5%	6%	5%	6%	5%	5%	5%	7%			
	Cu	%	34%				24%	24%	25%	25%	45%	41%	46%	43%	23%	28%	17%	31%	38%	46%	67%				
	Zn	%	55%				66%	67%	65%	66%	43%	46%	42%	45%	66%	59%	73%	59%	43%	24%	24%				
	Revenue per Metal Unit (NSR Factor)																								
	Au	\$ per g Au	\$31.03				\$31.59	\$32.51	\$32.94	\$32.97	\$27.52	\$27.76	\$26.40	\$29.46	\$33.37	\$33.65	\$34.44	\$31.73	\$31.09	\$31.38	\$19.95				
	Ag	\$ per % Ag	\$0.37				\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	\$0.37	
	Cu	\$ per % Cu	\$69.29				\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	\$69.29	
	Zn	\$ per % Zn	\$21.99				\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	\$21.99	
<b>OPERATING COST</b>																									
	Mining (Underground)	CS/t milled	\$54.14				\$77	\$65	\$55	\$53	\$50	\$52	\$51	\$53	\$50	\$52	\$54	\$53	\$53	\$53	\$53	\$53	\$55	\$55	
	Processing	CS/t milled	\$27.69				\$30	\$29	\$28	\$28	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$28	
	G&A	CS/t milled	\$7.11				\$8	\$8	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	\$7	
	<b>Total Operating Cost</b>	<b>CS/t milled</b>	<b>\$88.74</b>				<b>\$115</b>	<b>\$102</b>	<b>\$90</b>	<b>\$88</b>	<b>\$83</b>	<b>\$86</b>	<b>\$85</b>	<b>\$84</b>	<b>\$84</b>	<b>\$86</b>	<b>\$88</b>	<b>\$87</b>	<b>\$87</b>	<b>\$87</b>	<b>\$87</b>	<b>\$88</b>	<b>\$90</b>	<b>\$90</b>	
	Mining (Underground)	CS '000	\$650,949				\$41,188	\$38,266	\$39,069	\$41,056	\$43,518	\$43,147	\$43,570	\$48,317	\$44,552	\$44,616	\$46,474	\$45,143	\$44,933	\$44,389	\$42,711				
	Processing	CS '000	\$330,500				\$18,063	\$17,274	\$20,087	\$21,357	\$23,777	\$22,644	\$23,213	\$24,489	\$24,102	\$23,353	\$23,468	\$23,214	\$23,236	\$22,751	\$21,471				
	G&A	CS '000	\$85,551				\$4,570	\$4,800	\$5,334	\$5,575	\$6,034	\$5,819	\$5,907	\$5,170	\$5,096	\$5,064	\$5,076	\$5,028	\$5,032	\$5,840	\$5,597				
	<b>Total Operating Cost</b>	<b>CS '000</b>	<b>\$1,067,000</b>				<b>\$61,821</b>	<b>\$60,339</b>	<b>\$64,489</b>	<b>\$67,988</b>	<b>\$73,320</b>	<b>\$71,609</b>	<b>\$72,710</b>	<b>\$78,976</b>	<b>\$74,751</b>	<b>\$73,923</b>	<b>\$75,918</b>	<b>\$74,284</b>	<b>\$74,102</b>	<b>\$72,980</b>	<b>\$69,779</b>				
	Unit Operating Cost	CS/t milled	\$115				\$143	\$133	\$119	\$120	\$105	\$113	\$111	\$107	\$114	\$113	\$119	\$118	\$115	\$108	\$107				
	Operating Cashflow	CS '000	\$908,738				\$26,251	\$46,670	\$56,520	\$78,697	\$54,260	\$67,938	\$70,434	\$40,284	\$87,205	\$69,947	\$81,507	\$87,219	\$74,550	\$40,969	\$26,288				
<b>CAPITAL COST</b>																									
	<b>Direct Cost</b>																								
	Mining	CS '000	\$110,407	\$0	\$3,185	\$49,394	\$31,412	\$13,027	\$4,611	\$5,081	\$1,950	\$1,748	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	Processing	CS '000	\$59,992	\$0	\$13,153	\$46,839	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	Infrastructure	CS '000	\$15,788	\$0	\$0	\$15,788	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	Tailings	CS '000	\$4,551	\$0	\$1,153	\$3,488	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	<b>Total Direct Cost</b>	<b>CS '000</b>	<b>\$190,835</b>	<b>\$0</b>	<b>\$17,501</b>	<b>\$115,506</b>	<b>\$31,412</b>	<b>\$13,027</b>	<b>\$4,611</b>	<b>\$5,081</b>	<b>\$1,950</b>	<b>\$1,748</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>										
	<b>Other Costs</b>																								
	EPCM / Owners / Indirect Cost	35% CS '000	\$46,552	\$0	\$6,125	\$40,427	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	<b>Subtotal Costs</b>	<b>CS '000</b>	<b>\$237,387</b>	<b>\$0</b>	<b>\$23,626</b>	<b>\$155,933</b>	<b>\$31,412</b>	<b>\$13,027</b>	<b>\$4,611</b>	<b>\$5,081</b> </															

### **CASH FLOW ANALYSIS**

Considering the Project on a stand-alone basis, the undiscounted pre-tax cash flow totals \$519 million over the mine life, and simple payback occurs six years from start of production. After-tax cash flow totals \$310 million.

Net Present Value (NPV) at a range of discount rates is:

- Pre-tax,           5% = \$245 million  
                          8% = \$146 million  
                          10% = \$98 million
- After-tax,        5% = \$127 million  
                          8% = \$61 million  
                          10% = \$28 million

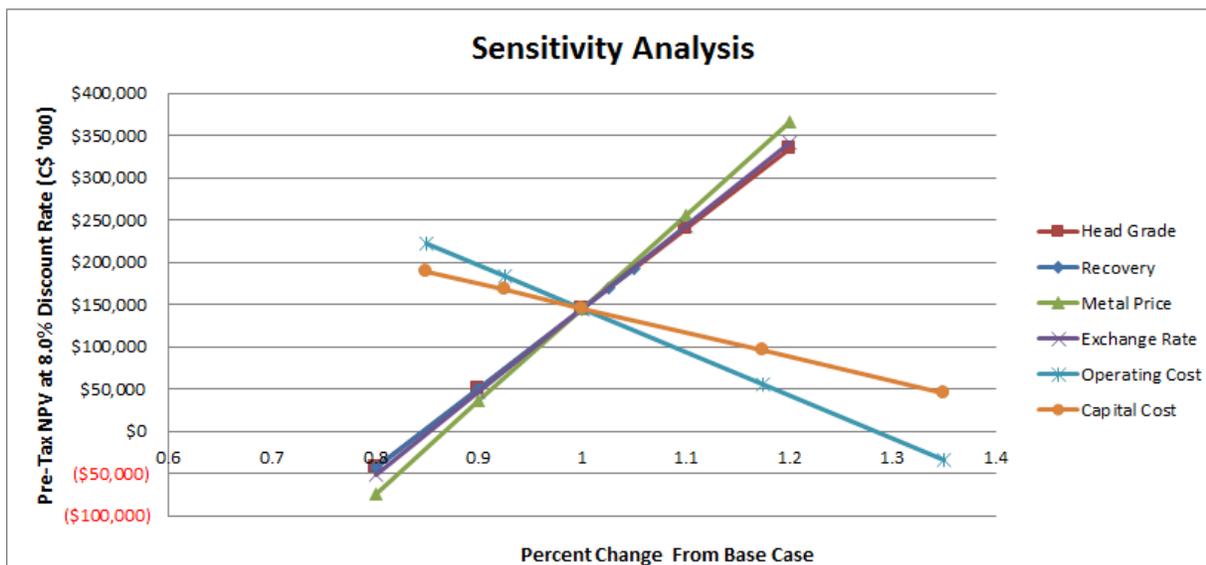
The pre-tax Internal Rate of Return (IRR) is 16.6%, after-tax is 12.3%.

### **EXPLORATION PROGRAM IMPACT**

The proposed underground exploration program is necessary to provide access for infill drilling to advance the Project, and would include ramp development that would, once completed, provide a head-start to construction. A Project cash flow that assumes that ramp is already in place shows an undiscounted pre-tax cash flow of \$568 million and an NPV at 8% discount rate of \$188 million with an IRR of 21.0%.

### **SENSITIVITY ANALYSIS**

A sensitivity analysis was completed by adjusting the following parameters by plus and minus 10% to 20%. Figure 1-1 indicates the sensitivity analysis and Table 1-4 provides details.

**FIGURE 1-1 SENSITIVITY GRAPH**

**TABLE 1-4 SENSITIVITY TABLE**  
**Yorbeau Resources Inc. – Scott Lake Project**

NPV (C\$000)	-20%	-10%	Base Case	10%	20%
Head Grade	(43,477)	51,083	145,643	240,203	334,763
Recovery	(43,477)	51,083	145,643	169,283	192,923
Metal Prices	(74,280)	35,681	145,643	255,604	365,566
Exchange Rate	(50,904)	47,369	145,643	243,916	342,190
Operating Cost	222,553	184,098	145,643	55,914	(33,814)
Capital Cost	188,726	167,184	145,643	95,378	45,114

Parameters	-20%	-10%	Base Case	10%	20%
Head Grade (% Zn)	3.31	3.72	4.14	4.55	4.96
Average Recovery (%)	49	56	62	63	65
Metal Prices (US\$/lb Zn)	1.30	1.46	1.63	1.79	1.95
Exchange Rate (US\$:C\$)	1.00	1.13	1.25	1.38	1.50
Operating Cost (C\$000)	907	987	1,067	1,254	1,440
Capital Cost (C\$000)	331,076	360,289	389,501	457,664	525,827

## TECHNICAL SUMMARY

### PROPERTY DESCRIPTION AND LOCATION

The Project comprises three non-contiguous claim blocks consisting of 129 complete or partial claim cells covering an area of approximately 6,337 ha located in the townships of Lévy, Scott, and Obalski in northwestern Québec.

As of the effective date of this report, the 129 complete or partial claim cells comprising the Project are in good standing. On October 21, 2014, Yorbeau announced that it had signed a letter of intent to purchase substantially all of Cogitore's exploration assets in the provinces of Ontario and Québec. The assets consisted of seven base metal exploration properties, including the Project. The consideration paid by Yorbeau for the transaction was 25 million common shares. On February 2, 2015, Yorbeau announced that the transaction had closed.

RPA is not aware of any environmental liabilities associated with the property. A Baseline Environmental Study of the property was commissioned by Cogitore and completed by Services d'Ingénierie STAVIBEL in 2012. RPA is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform work on the property.

With the exception of a network of secondary roads accessible from highway 113, there is no infrastructure on the property.

### HISTORY

Exploration work in Scott Township started in the 1930s at the same time as prospecting activities began in the Chibougamau camp. The work seems to have been limited until the mid-1950s due to difficult access, and exploration was carried out in the south and east parts of Scott Township, focusing on vein-hosted deposits within the Lac Doré Complex (as in the main Chibougamau camp) or in the Chibougamau Pluton. Exploration in Scott Township, and more precisely on Yorbeau's current Scott Lake Project, intensified in the mid-1970s after the discovery of a small but rich VMS deposit in Lemoine Township. It was suggested that the rhyolitic volcanic rocks hosting the Lemoine discovery (i.e., the Waconichi Formation) were also found in Scott Township.

In 2005, Cogitore optioned the property and carried out compilation of historical exploration data, airborne and ground geophysical surveys, and a number of drilling programs. In 2011,

RPA prepared a Mineral Resource estimate for the Project and a supporting NI 43-101 Technical Report based on the drilling information available to July 1, 2011. The RPA 2011 estimate is superseded by the current Mineral Resource estimate documented in this Technical Report.

## **GEOLOGY AND MINERALIZATION**

The Project is located on the north limb of the Chibougamau Anticline. From south to north, the property stratigraphy consists of a monoclinical sequence extending from the upper units of the Lake Doré Complex and the Chibougamau Pluton to basalts of the Gilman Formation, with remnants of felsic rocks of the Waconichi Formation caught in between. All units are metamorphosed to the greenschist facies. The Property consists of a number of mineralized zones that have all the features of VMS mineralization. VMS style mineralization at Scott Lake comprises distinct stratabound massive sulphide zones located mainly along or close to rhyolite-andesite/basalt contacts and adjacent stringer sulphide zones within altered rhyolite units.

## **EXPLORATION AND DRILLING**

Since acquiring the Project in 2015 until the end of 2016, Yorbeau has carried out drilling programs with a total of 17,341.5 m in 25 drill holes and wedged holes. This drilling resulted in the discovery of the Gap Massive Sulphide Zone and extension of the Scott Lake Stringer Sulphide Zone to the west and deeper than previously known.

## **MINERAL RESOURCES**

RPA has updated the Mineral Resource estimate with drill hole data up to the effective date of February 14, 2017 (Table 1-5). RPA reviewed drill core sampling procedures, and assaying and quality assurance/quality control protocols, and carried out data verification. RPA concluded that the drill hole database was acceptable for Mineral Resource estimation. The database included results from 424 drill holes totalling 158,868 m, of which 146 holes intersected mineralized wireframe solids. Forty-nine of the drill holes were completed subsequent to the RPA 2011 resource estimate.

RPA developed three-dimensional wireframe domains for the interpreted massive sulphide and stringer sulphide zones and lenses. Assays within the mineralized domains were composited to one metre intervals and used to interpolate grades of copper, zinc, gold, and

silver into blocks with dimensions of 5 m by 2 m by 5 m. Density weighting was used in the interpolation process which used the Inverse Distance Squared algorithm. Net smelter return values were calculated for each block based on the metal grades, assumed metallurgical recoveries, smelter terms and refining charges, and transportation costs. Mineral Resources were reported at NSR cut-off values of C\$65/t for sulphide stringer zones and C\$100/t for massive sulphide zones, which represents assumed total operating costs for a potential underground mine. The Mineral Resources are classified as Indicated and Inferred based on drill hole spacing and continuity of the mineralized zones and grades. Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves dated May 10, 2014 (CIM (2014) definitions).

**TABLE 1-5 MINERAL RESOURCE ESTIMATE AS OF FEBRUARY 14, 2017**  
**Yorbeau Resources Inc. – Scott Lake Project**

Category/Zone	NSR Cut-off (C\$/t)	Tonnes (Mt)	Copper (%)	Zinc (%)	Silver (g/t)	Gold (g/t)	NSR (C\$/t)
<b>Indicated</b>							
Stringer	65	2.39	0.78	2.25	30.5	0.19	119
Massive Sulphide	100	1.18	1.28	8.04	50.7	0.27	277
<b>Total Indicated</b>		<b>3.57</b>	<b>0.95</b>	<b>4.17</b>	<b>37.2</b>	<b>0.22</b>	<b>172</b>
<b>Inferred</b>							
Stringer	65	8.47	0.87	1.37	19.0	0.16	101
Massive Sulphide	100	5.81	0.65	6.57	27.1	0.32	195
<b>Total Inferred</b>		<b>14.28</b>	<b>0.78</b>	<b>3.49</b>	<b>22.3</b>	<b>0.22</b>	<b>139</b>

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are estimated using a C\$100/t net smelter return (NSR) cut-off value for massive sulphide zones and C\$65/t NSR cut-off value for sulphide stringer lenses.
3. Mineral Resources are estimated using a copper price of US\$3.25/lb, a zinc price of US\$1.20/lb, a gold price of US\$1,500/oz, a silver price of US\$22/oz, and an exchange rate of US\$0.80 to C\$1.00.
4. A minimum mining width of 2 m was used.
5. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
6. The numbers may not add due to rounding.

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

## MINING

The mining methods planned for use at the Scott Lake Project would include a combination of longitudinal longhole stoping (50%) where the structure is narrower (approximately 3 m to 10

m), transverse longhole stoping (29%) used where the width of the structure is beyond ten metres, and cut and fill mining (11%) where the structure is at a shallower angle (particularly in the Central Zone upper sections). The sublevel intervals are 20 m, as no geotechnical assessment is available to justify larger spacings. The stopes were designed with 0.5 m of dilution on the hanging wall and footwall of the stopes using Deswik Stope Optimizer (DSO) and an extraction factor of 90% was used.

## **LIFE OF MINE**

The Project LOM will span a period of 15 years with an average production rate of 2,200 tpd and a high of 2,500 tpd in Year eight of the LOM. Production will include approximately 10.4 Mt from stopes, including 6.0 Mt from longitudinal longhole stopes, 3.1 Mt from transverse longhole stopes, 1.3 Mt from cut and fill stopes, and 1.6 Mt from ore drift development to open up the stoping areas. Total processed ore during the LOM will amount to 12.0 Mt grading 4.14% Zn, 0.81% Cu, 26.59 g/t Ag, and 0.24 g/t Au. Concentrate production will total 855,000 wmt of zinc concentrate and 359,000 wmt of copper concentrate. Payable metal will include 367,800 tonnes of zinc, 79,300 tonnes of copper, 4.3 million ounces of silver, and 47,500 ounces of gold.

## **MINERAL PROCESSING**

Metallurgical testing has focussed on the development of a sequential copper-zinc flotation flowsheet. The preliminary process design is typical of a conventional copper-zinc concentrator.

The process plant will be designed to operate for 365 days per year at an average throughput of approximately 2,200 tpd of ore and will produce copper and zinc concentrates via selective flotation. The comminution circuit will consist of three stages of crushing. The crushed ore will be transferred to fine ore storage bins and distributed to the grinding circuit.

The grinding circuit will consist of a ball mill operating in closed circuit with hydrocyclones. The grinding circuit output will feed the magnetic separation circuit where the magnetic materials in the feed will be rejected. The non-magnetic material constitutes the feed to the flotation circuit.

The flotation circuit will consist of two stage “sequential” operations, to target copper flotation first, followed by zinc flotation. Copper flotation will consist of a conditioning circuit, conventional rougher, scavenger, regrind mill, and three stages of cleaner flotation.

The reject stream (copper rougher tails) from the copper flotation process will feed the zinc flotation circuit. Zinc flotation consists of a conditioning circuit, conventional rougher, scavenger, regrind mill, and three stages of cleaner flotation. The magnetic concentrate, zinc rougher tails, and zinc cleaner scavenger tails will be combined and diverted to the tailings dewatering circuit.

Concentrated flotation products and tailings will be sent to separate thickening and filtration circuits. Tailings will be dewatered and deposited in a tailings pond and/or returned underground as paste backfill. Approximately 65% of the available tailings was assumed to be used in making paste fill to provide ground support in the underground mine. The tailings area will be approximately 36.5 ha and will consider subaqueous deposition due to the sulphides content.

## **ENVIRONMENTAL CONSIDERATIONS**

Under the Quebec Environmental Quality Act, an Environmental and Social Impact Assessment (ESIA) will be required and a Certificate of Authorization (CA) will need to be obtained for the mining operations at the Project. In addition to the CA, Yorbeau will have to obtain permits, authorizations, approvals, certificates, and leases required from the appropriate authorities.

Preliminary environmental studies at the Project site began in October 2011 with field surveys for water quality, sediment quality, benthic invertebrates, archaeology, fish, vegetation, and wildlife. The land on which the Project site is located is “Category 3” land, as defined by Ministère des Ressources Naturelles et de la Faune, where Aboriginal people should retain exclusive hunting, fishing, and trapping rights for certain aquatic species and furbearers and the right to participate in the administration and the development of the territory. Consultations with the Indigenous people were carried out in the course of the environmental studies to obtain information on the wildlife in the Project area and vicinity.

The Project site is located within the territory of the Cree Nation, with the Cree community of Oujé-Bougoumou closest to the Project. An impact and benefit agreement (IBA) will most

likely be required between Yorbeau and Cree communities prior to commencement of any construction works.

A Rehabilitation and Restoration plan will need to be prepared in accordance with the provincial Guidelines for Preparing a Mining Site Rehabilitation Plan and General Mining Site Rehabilitation Requirements. This plan will include a monitoring program to be carried out during operations to assess noise levels, vibrations, surface and groundwater quality, etc., as well as a post-closure monitoring program, to monitor the physical stability of dams and waste rock or tailings facilities, water quality, and vegetation in the Project area for several years after completion of the restoration work.

## CAPITAL AND OPERATING COSTS

The capital costs for the Project are shown in Table 1-6.

**TABLE 1-6 CAPITAL COST SUMMARY  
Yorbeau Resources Inc. – Scott Lake Project**

<b>Item</b>	<b>Cost (C\$000)</b>
<b>Direct Costs</b>	
Mining	110,407
Processing	59,992
Infrastructure	15,785
Tailings	4,651
<b>Total Direct Cost</b>	<b>190,835</b>
EPCM / Owners / Indirect	46,552
<b>Subtotal Cost</b>	<b>237,387</b>
Contingency	35,912
<b>Initial Capital Costs</b>	<b>273,299</b>
Sustaining	113,203
Reclamation and closure	3,000
<b>Total</b>	<b>389,501</b>

The pre-production period is estimated at approximately 24 months.

Operating costs during the LOM are shown in Table 1-7.

**TABLE 1-7 OPERATING COST**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Item</b>	<b>Total (C\$/t Milled)</b>
Mining (UG)	54.14
Processing	27.49
G&A	7.40
<b>Total</b>	<b>89.02</b>

The operating costs are based primarily on labour sources within the local area with allowance for some room and board costs for highly experienced mining positions in the underground mine. Labour rates are comparable to those used in the region or equivalent.

## 2 INTRODUCTION

Roscoe Postle Associates Inc. (RPA) was retained by Yorbeau Resources Inc. (Yorbeau) to prepare an independent Technical Report on the Preliminary Economic Assessment (PEA) for the Scott Lake Project (the Project), located in northwestern Québec, Canada. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Yorbeau is a Montreal-based company formed in February 1984 and is a reporting issuer in Ontario and Québec. The common shares of Yorbeau trade on the Toronto Stock Exchange and the company is under the jurisdiction of the Autorité des marchés financiers of Québec. Apart from the Scott Lake Project, Yorbeau has several other base metal and gold properties in Québec. Yorbeau's wholly-owned subsidiary, Cancor Mines Inc., also has exploration properties in Québec and Algeria.

The Project consists of three non-contiguous claim blocks comprising 129 claims covering a total area of approximately 6,337 ha, located approximately 20 km southwest of the town of Chibougamau, Québec, and approximately 500 km north of Montreal, Québec. The property is accessible by a network of secondary roads extending from Highway 113. On February 2, 2015, Yorbeau acquired the Project from Cogitore Resources Inc. (Cogitore).

This report is considered by RPA to meet the requirements of a Preliminary Economic Assessment as defined in Canadian NI 43-101 regulations. The economic analysis contained in this report is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

The PEA is based on the Mineral Resource estimate prepared by RPA in February 2017 and documented in RPA's Technical Report dated March 28, 2017 (RPA, 2017).

### SOURCES OF INFORMATION

Site visits were carried out by Dr. William E. Roscoe, P.Eng., RPA Principal Geologist, on October 26 and 27, 2016 for preparation of the Technical Report on the Mineral Resource estimate (RPA, 2017). For the current PEA report, Mr. Normand Lecuyer, P.Eng., RPA

Principal Mining Engineer, and Ms. Brenna J.Y. Scholey, P.Eng., RPA Principal Metallurgist, completed a site visit on June 12 and 13, 2017, including a visit of the METCHIB facilities in Chibougamau, Québec.

Discussions were held with personnel from Yorbeau and from Metchib, Services Métallurgiques:

- Mr. Gérald Riverin, Ph D., P.Geo., President, Yorbeau Resources Inc.
- Mr. Sylvain Lépine, P. Geo., M.Sc., Project Manager, Yorbeau Resources Inc.
- Mr. Jonathan Lapointe, ing., President, METCHIB Services Métallurgiques
- Mr. Olivier Dion, ing., Métallurgist Jr., METCHIB Services Métallurgiques

Dr. Roscoe is responsible for Sections 4 to 12, 14 and 23 and parts of Sections 1, 2, 3, 25, 26, and 27. Mr. Lecuyer is responsible for Sections 13, 15 to 19, 20, 21, 22, and 24 and parts of Sections 1, 2, 3, 25, 26, and 27.

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

### LIST OF ABBREVIATIONS

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

a	annum	kWh	kilowatt-hour
A	ampere	L	litre
bbl	barrels	lb	pound
btu	British thermal units	L/s	litres per second
°C	degree Celsius	m	metre
C\$	Canadian dollars	M	mega (million); molar
cal	calorie	m <sup>2</sup>	square metre
cfm	cubic feet per minute	m <sup>3</sup>	cubic metre
cm	centimetre	μ	micron
cm <sup>2</sup>	square centimetre	MASL	metres above sea level
d	day	μg	microgram
dia	diameter	m <sup>3</sup> /h	cubic metres per hour
dmt	dry metric tonne	mi	mile
dwt	dead-weight ton	min	minute
°F	degree Fahrenheit	μm	micrometre
ft	foot	mm	millimetre
ft <sup>2</sup>	square foot	mph	miles per hour
ft <sup>3</sup>	cubic foot	MVA	megavolt-amperes
ft/s	foot per second	MW	megawatt
g	gram	MWh	megawatt-hour
G	giga (billion)	oz	Troy ounce (31.1035g)
Gal	Imperial gallon	oz/st, opt	ounce per short ton
g/L	gram per litre	ppb	part per billion
Gpm	Imperial gallons per minute	ppm	part per million
g/t	gram per tonne	psia	pound per square inch absolute
gr/ft <sup>3</sup>	grain per cubic foot	psig	pound per square inch gauge
gr/m <sup>3</sup>	grain per cubic metre	RL	relative elevation
ha	hectare	s	second
hp	horsepower	st	short ton
hr	hour	stpa	short ton per year
Hz	hertz	stpd	short ton per day
in.	inch	t	metric tonne
in <sup>2</sup>	square inch	tpa	metric tonne per year
J	joule	tpd	metric tonne per day
k	kilo (thousand)	US\$	United States dollar
kcal	kilocalorie	USg	United States gallon
kg	kilogram	USgpm	US gallon per minute
km	kilometre	V	volt
km <sup>2</sup>	square kilometre	W	watt
km/h	kilometre per hour	wmt	wet metric tonne
kPa	kilopascal	wt%	weight percent
kVA	kilovolt-amperes	yd <sup>3</sup>	cubic yard
kW	kilowatt	yr	year

### 3 RELIANCE ON OTHER EXPERTS

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

- Information available to RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by Yorbeau, and other third party sources.

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

RPA has relied on Yorbeau for guidance on applicable taxes, royalties, and other government levies or interests, applicable to revenue or income from the Scott Lake Project.

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

## 4 PROPERTY DESCRIPTION AND LOCATION

The Scott Lake Project is located in northwestern Québec, approximately 20 km southwest of the town of Chibougamau and 500 km northwest of Montreal (Figure 4-1). It is located in the townships of Lévy, Scott, and Obalski in the Administrative Region of Nord du Québec, within 1:50,000 scale NTS map sheets 32G/15 (Chapais) and 32G/16 (Chibougamau). The Project consists of three non-contiguous blocks. The largest block is located within Lévy and Scott Townships in NTS sheet 32G/15 and extends over a length of approximately 16 km in an east-west direction. It consists of 118 complete or partial claim cells covering an area of approximately 5,884.6 ha. Two smaller, separate claim blocks located within Obalski Township in NTS sheet 32G/16 consist of six claims covering approximately 247.0 ha and five claims covering approximately 205.5 ha, respectively. The centre of the main claim block is located at approximately 528,000 mE and 5,524,000 mN (NAD83, Zone 18). The centre of the currently delineated mineralization is located at approximately Latitude 49°51'42" N and Longitude 74°40'00" W.

### LAND TENURE

As of the effective date of this report, the Project consists of three non-contiguous blocks totalling 129 claims covering an area of approximately 6,337 ha (Figures 4-2). In Table 30-1, Appendix 1, all of the subject claims are listed along with the relevant tenure information for the claims including their designated number, registration and expiry dates, area, assessment work credits and work requirements for renewal. The claims are map-designated and have pre-established positions. No legal survey of the claims is required.

On October 21, 2014, Yorbeau announced that it had signed a letter of intent (the Agreement) to purchase substantially all of Cogitore Resources Inc.'s (Cogitore) exploration assets in the provinces of Ontario and Québec. The assets consisted of seven base metal exploration properties, including the Scott Lake Property. The consideration paid by Yorbeau for the transaction was 25 million common shares. On February 2, 2015, Yorbeau announced that the transaction had closed.

As of the date of this report, all the claims are in good standing and are registered in the name of Yorbeau. Assessment credits totalling \$188,435 and renewal fees totalling \$7,829.13 are

required in order to renew all of the Project claims upon their respective expiration dates. Assessment credits totalling \$8,573,587.27 are available.

## **MINERAL RIGHTS**

In Canada, natural resources fall under provincial jurisdiction. In the Province of Québec, the management of mineral resources and the granting of exploration and mining rights for mineral substances and their use are regulated by the Québec Mining Act, which is administered by the Ministry of Energy and Natural Resources (*Ministère de l'Énergie et des Ressources Naturelles*, or MERN). Mineral rights are owned by the Crown and are distinct from surface rights.

In Québec, a map-designated claim is valid for two years and can be renewed indefinitely subject to the completion of necessary expenditure requirements and payment of renewal fees. Each claim gives the holder an exclusive right to search for mineral substances, except sand, gravel, clay, and other unconsolidated deposits on the land subjected to the claim. The claim also guarantees the holder's right to obtain an extraction permit upon discovery of a mineral deposit. Ownership of the mining rights confers the right to acquire the surface rights.

## **ROYALTIES AND OTHER ENCUMBRANCES**

By virtue of an underlying agreement (the Thundermin Agreement) between Cogitore's predecessor company, Woodruff Capital Management Inc. (Woodruff), and Thundermin Resources Inc. (Thundermin), Cogitore announced on June 6, 2007 that it owned a 100% interest in the 74 claim Scott Lake Block, subject to certain provisional payments due upon commencement of commercial production. The Thundermin Agreement provides for annual advanced royalty payments of \$35,000, to be deducted from the provisional payments due upon production. On May 2, 2016, Yorbeau received notice from 1948565 Ontario Inc. that it had acquired by way of amalgamation all of the issued and outstanding shares of Thundermin and that all future notices and correspondence, including advanced royalty payments, in respect of the Thundermin Agreement be addressed to 1948565 Ontario Inc.

There is a pre-existing 1% net smelter return (NSR) royalty on the 16 claim Scott-Diagold part of the Project due to Exploration Diagold Inc. (Diagold). Yorbeau can buy out the Diagold royalty for \$750,000. This is not applicable to the Scott Lake Project in this report.

RPA is not aware of any other royalties, back-in rights, or other obligations related to the Agreement or any other underlying agreements.

### **SURFACE RIGHTS**

The Property is located on Crown land. Yorbeau has the first right to acquire the surface rights to the property by taking it to mining lease status. Under Québec Mining Legislation, the owner of the mining rights can make use of the timber on the leased property by paying a nominal fee if such timber is deemed to be of commercial value. The Property is also situated in Category III Lands which, according to the James Bay and Northern Québec Agreement, are public lands, but in which the Cree Nations have exclusive rights to trap certain species. According to Government maps, a trap line belonging to David Mianscum is located in parts of the property.

### **PERMITTING**

Minimal permitting is required to undertake the work program contemplated in this report. For drilling, however, Yorbeau will have to obtain certain permits and certification from relevant governmental agencies. This includes a timber permit (*Autorisation de coupe de bois sur un territoire du domaine de l'État où s'exerce un droit minier*) from the MRNF.

### **ENVIRONMENTAL LIABILITIES**

RPA is not aware of any environmental liabilities associated with the property. A Baseline Environmental Study of the property was commissioned by Cogitore and completed by Services d'Ingénierie STAVIBEL in 2012.

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

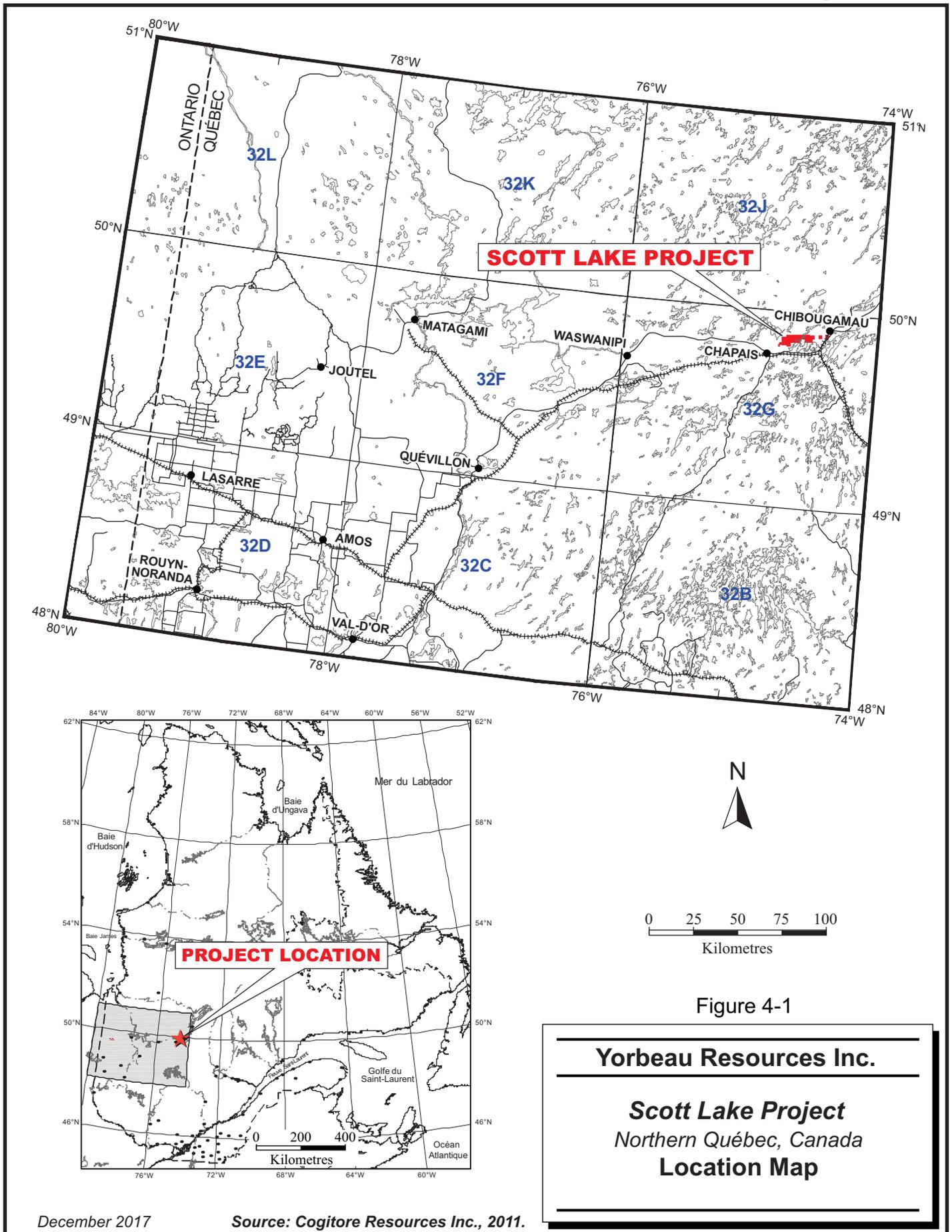


Figure 4-1

**Yorbeau Resources Inc.**

**Scott Lake Project**  
Northern Québec, Canada  
**Location Map**



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

## ACCESSIBILITY

The Property is accessed by driving along Route 113 to a point approximately 11 km east of the town of Chapais then turning north onto a series of logging roads for a distance of approximately 10 km.

## CLIMATE

The Property lies within the Abitibi Plains ecoregion of the Boreal Shield ecozone and is marked by warm summers and cold, snowy winters. The mean annual temperature is approximately 1°C. The mean summer temperature is 14°C and the mean winter temperature is -12°C (Marshall and Schutt, 1999). Table 5-1 illustrates the major climatic data for the two closest weather stations located at Chibougamau, approximately 20 km to the northeast, and Chapais, located approximately 12 km to the southwest.

**TABLE 5-1 SUMMARY OF CLIMATIC DATA  
Yorbeau Resources Inc. – Scott Lake Project**

Headings	Chibougamau	Chapais
Mean January Temperature	-18.8°C	-18.8°C
Mean July Temperature	16.4°C	16.4°C
Extreme Maximum Temperature	35.0°C	35.0°C
Extreme Minimum Temperature	-43.3°C	-43.3°C
Average Annual Precipitation	995.5 mm	995.5 mm
Average Annual Rainfall	684.4 mm	684.4 mm
Average Annual Snowfall	313.0 cm	313.0 cm

Source: Environment Canada

Despite the harsh winters, drilling and geophysical surveys can be performed year-round. Geological and geochemical surveys are generally restricted to the months from May to October.

## **LOCAL RESOURCES**

Various services are available at Chibougamau, a copper and gold mining town with a population of approximately 7,500 located approximately 20 km northeast of the Project. Services include temporary accommodations, emergency health services, 24-hour fuel (gas, diesel, and propane) station, building supplies, post office, police services, and restaurants. A greater range of services is available at Val d'Or, Québec, located approximately 300 km to the south of the Project. Val d'Or is a gold mining town with a population of approximately 35,000. Both Val d'Or and Chibougamau have daily flights from Montreal. Various services are also available from the village of Chapais (population approximately 1,600) located approximately 12 km southwest of the Project. Any mining development on the property would have access to hydroelectric power from the provincial transmission grid.

## **INFRASTRUCTURE**

With the exception of secondary roads that provide access, there is no permanent infrastructure on the property. A railway is located approximately 10 km south of the property.

## **PHYSIOGRAPHY**

The ecoregion is classified as having a humid, mid-boreal eco-climate. The topography is comparatively flat, with no hills rising more than 35 m in the immediate vicinity.

The region's mixed forest is characterized by stands of white spruce, balsam fir, birch, and aspen. Drier sites may have stands of jack pine or mixtures of jack pine, birch, and aspen. Wet sites are characterized by black spruce and balsam fir. The landscape is dominated by fine-textured, level to undulating lacustrine deposits. Domed, flat and basin bogs are the characteristic wetlands found in over 50% of the ecoregion. Gray luvisols and gleysols found on the clayey lacustrine and loamy tills are the dominant soils in the area.

The region provides habitat for moose, black bear, lynx, snowshoe hare, beaver, wolf, and coyote. Bird species include sharp-tailed grouse, black duck, wood duck, hooded merganser, and pileated woodpecker.

The Project is at the mineral resource development stage. RPA is of the opinion that, to the extent relevant to the mineral project, there is a sufficiency of surface rights and water.

## 6 HISTORY

The following is taken from RPA (2011).

### EXPLORATION AND DEVELOPMENT HISTORY

The history of exploration work at Scott Lake prior to Cogitore's involvement is largely taken from reports prepared by Selco Mining Corporation (Selco) and Thundermin (formerly Thunderwood Resources Inc. (Thunderwood) and Syngold Exploration Inc. (Syngold), more specifically reports by Jeffery (1988), Anderson (1989), Penno (1990, 1991 and 1992), and Mannard (1993).

Exploration work in Scott Township started in the 1930s at the same time as prospecting activities began in the Chibougamau camp. The work seems to have been limited until the mid-1950s due to difficult access, and exploration was carried out in the south and east parts of Scott Township, focusing on vein-hosted deposits within the Lac Doré Complex (as in the main Chibougamau camp) or in the Chibougamau Pluton. Exploration in Scott Township, and more precisely on Yorbeau's current Scott Lake Project, intensified in the mid-1970s after the discovery of a small but rich volcanogenic massive sulphide (VMS) deposit in Lemoine Township and following suggestion by government geologist Dr. Gilles O. Allard that the rocks hosting the Lemoine discovery (i.e., the Waconichi Formation) were also found in Scott Township.

Anderson and Downie (1980) relate that after a field visit in early 1975, Selco decided to conduct an INPUT survey across the general extent of the Waconichi Formation in Scott Township. The survey was completed in October 1975 and only one anomaly was detected alongside of a quartz porphyry. The INPUT anomaly was a discrete low-amplitude three-channel response and it was followed up with a horizontal loop electromagnetic (EM) survey at a coil separation of 125 m. The corresponding ground anomaly was found to be approximately 100 m in length but was considered to be sufficiently attractive to warrant drill testing and a hole was collared in April 1976. The conductor was identified as a massive sulphide zone assaying 0.91% Cu, 7.87% Zn, and 19 g/t Ag over a core length of 4.42 m.

A summary of all documented work completed from 1946 to 2014 on various parts of the property is presented in Table 6-1:

**TABLE 6-1 EXPLORATION HISTORY – 1946 TO 2014**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Period</b>	<b>Property Owner</b>	<b>Summary of work done</b>
1946	Gwillim Lake Gold Mines	Ground magnetic survey
1956-1957	Newlund Mines	Magnetic, resistivity and geological surveys Diamond drilling (2 holes)
1956	Sudbury Contact Mines	Resistivity and magnetic surveys Diamond drilling (2 holes in Chibougamau Pluton)
1956	Ungava Copper Mines	Resistivity survey (no follow-up)
1956	New Harricana Mines	Magnetic survey (no follow-up) Diamond drilling (2 holes in Chibougamau Pluton)
1956	Sturgeon River Mines	Diamond drilling (9 holes)
1975-1980	Selco Mining	Mark V INPUT survey Horizontal Loop EM Diamond drilling of 5,416 m in 28 holes (discovery of Selco-Scott deposit in April 1976). Resource estimation reported in 1980.
1981-1983	Camchib Resources	Magnetic and Max-Min surveys Drilling of 23 holes totalling 8,581 m
1986	Greenstone Resources	Acquired 100% ownership from Camchib and optioned this ground to Syngold Exploration Inc.
1987	Syngold	Combined airborne magnetic, EM and very low frequency (VLF) survey
1988	Syngold	Geological mapping and lithogeochemical sampling EM-37 survey Drilling of 2,979 m in 7 holes and deepening of 1 hole In-house resource estimation
1989	Thunderwood	Drilling of 1,527 m in 4 holes
1990	Thunderwood	Drilling of 18,212 m in 44 holes Geological mapping Borehole Pulse EM (PEM)
1991	Thunderwood	Geological mapping Drilling of 18,707 m in 30 holes Borehole PEM
1992	Thunderwood	Drilling of 1,344 m in 2 holes Borehole PEM
1993	Thunderwood	Drilling of 3,786 m in 7 drill holes Borehole PEM, surface PEM and Induced Polarization
1993-2005	Thundermin	No work done; Thunderwood Resources Inc. amalgamated with Joutel Resources Ltd. in 1998 to form Thundermin Resources Inc.
2005	Cogitore	Scott Lake property was optioned by Cogitore from Thundermin in June 2005. Cogitore compiled previous exploration data in a digital database Helicopter-borne versatile time domain electromagnetic (VTEM) survey flown over the entire property – no new conductors found in the vicinity of the known mineralization
2006	Cogitore	123 In-km of line cutting completed in anticipation of proposed ground geophysical surveys Historical drill holes located with respect to new grid Drilling of 11,497 m in 18 holes
2007	Cogitore	35.3 In-km of InfiTEM ground surveying in eastern part of property – no significant anomalies detected Drilling of 11,084 m in 29 holes

Period	Property Owner	Summary of work done
2008	Cogitore	50.7 In-km of InfiniTEM ground surveying in central part of property – no significant anomalies detected Drilling of 8,861 m in 21 holes
2009	Cogitore	Drilling of 8,886 m in 23 holes
2010	Cogitore	Mise-à-la masse borehole survey in the area of the Central Lenses – survey results were inconclusive Drilling of 10,494 m in 26 holes
2011	Cogitore	All drill holes systematically surveyed with borehole PEM Except for holes SC-64 to SC-67 (Central Lenses area) Drilling of 8,036 m in 20 holes
2012	Cogitore	Borehole PEM in 22 holes – well defined conductors identified related to two known mineralized horizons Drilling of 11,957 m in 26 holes

## HISTORICAL RESOURCE ESTIMATES

Prior to this Technical Report, a historical resource was estimated and reported for the original discovery referred to as the Selco-Scott deposit. The first mineral resource estimates were carried out by Selco and were reported as 680,000 tonnes at an “in place grade” of 0.55% Cu, 6.9% Zn, and 13.3 g/t Ag to a depth of approximately 300 m (Anderson and Downie, 1980).

After additional in-fill drilling, Thundermin’s predecessor Syngold prepared an “in-house” resource estimate of 777,000 (short) tons grading 6.87% Zn, 0.41% Cu, 0.34 oz/ton Ag, and 0.009 oz/ton Au to the 400 m level (Simmons, 1988). No minimum width or cut-off grade was used. This resource estimate was reported publicly in Thundermin’s 1990 Annual Report. Syngold also prepared an estimate using a cut-off grade of 5% Zn and a minimum width of six feet (1.83 m), which was 601,000 (short) tons grading 0.43% Cu, 8.15% Zn, 0.43 oz/ton Ag, and 0.01 oz/ton Au (Simmons, 1988).

These resources are historical in nature and RPA is not treating the historical estimates as current Mineral Resources verified by a qualified person, and the historical estimates should not be relied upon. RPA notes that the classification of this historical mineral resource does not follow the CIM Definition Standards for Mineral Resources and Mineral Reserves adopted by the CIM Council on May 10, 2014.

In January 2010, Scott Wilson RPA carried out a Mineral Resource estimation and a supporting NI 43-101 Technical Report for the West Lens, “34” Zinc Lens, Stringer Zone, and 800 Lens of the Scott Lake deposit using three-dimensional (3D) block modelling (Scott Wilson RPA 2011). Using a cut-off grade of \$80 NSR/t and based on the density of drilling and variography,

RPA estimated an Inferred Resource of 3.60 million tonnes grading 5.2% Zn, 1.1% Cu, 0.3 g/t Au, and 36 g/t Ag with an average NSR value per tonne of \$143.

In July 2011, RPA updated the January 2010 estimate to include the SC-30 Lens, Central Zone lenses, CFO Lens, and CFO Stringer Zone. RPA estimated that the deposit contained an Inferred Mineral Resource of 5.4 million tonnes at an average grade of 4.6% Zn, 1.2% Cu, 0.2 g/t Au, and 34.0 g/t Ag at an \$80 NSR per tonne cut-off grade. At this NSR cut-off, the average NSR value per tonne is \$140.

All of the previous estimates have been superseded by the current Mineral Resource estimate documented in this Technical Report.

## **PAST PRODUCTION**

There has been no past production from the property.

## 7 GEOLOGICAL SETTING AND MINERALIZATION

### REGIONAL GEOLOGY

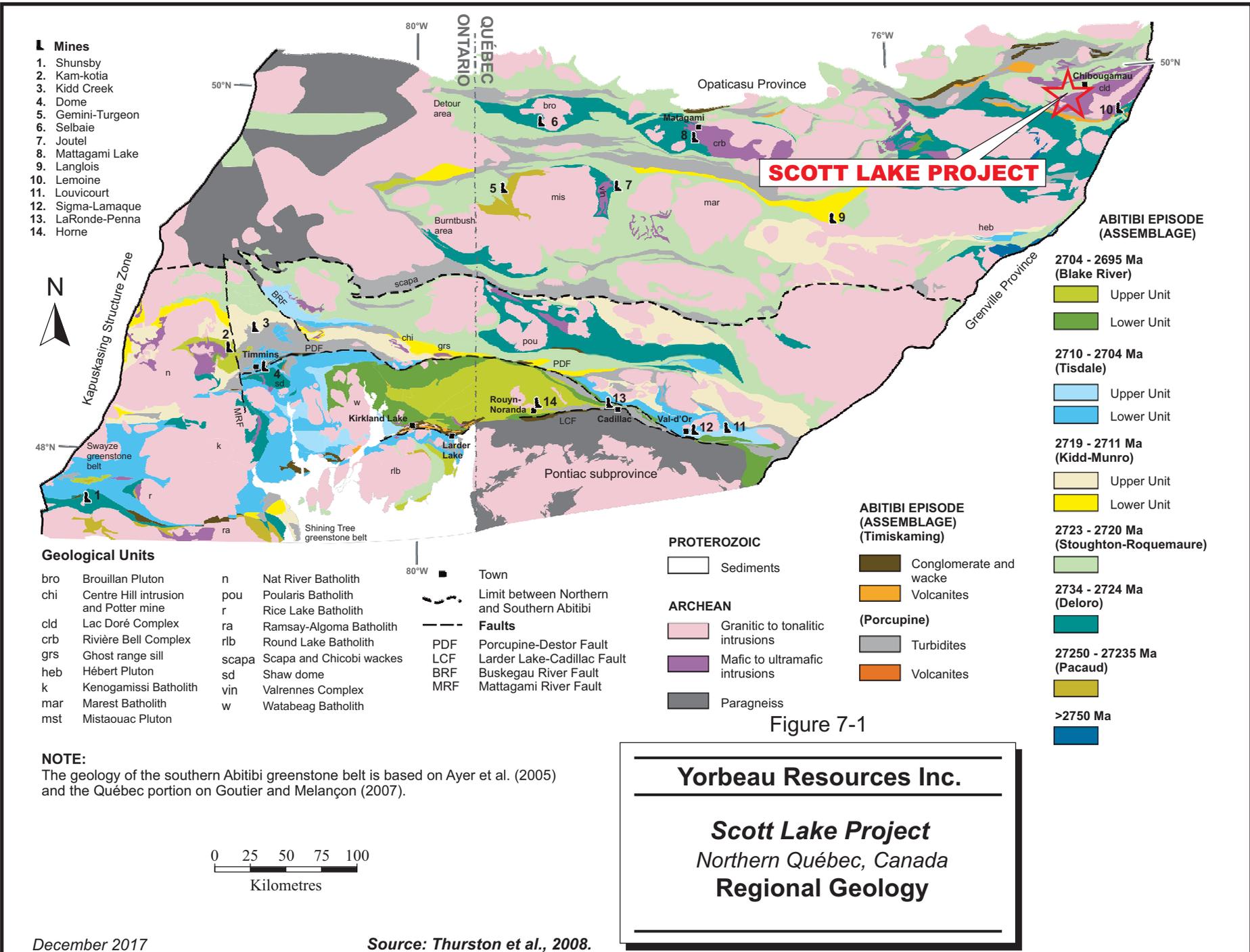
Rocks underlying the Scott Lake property occur near the eastern limit of the Abitibi greenstone belt in the Superior Province (Figure 7-1). The Grenville Front, which marks the end of the Abitibi belt, is located within 50 km from the Project.

The following is taken from Thurston et al. (2008).

The stratigraphy of the Abitibi greenstone belt at a large scale is seen as laterally continuous mafic and felsic volcanic units unconformably overlain by successor basins. In detail, however, mafic and felsic volcanic units lack laterally persistent marker horizons. Detailed mapping and petrographic, facies, and geochemical data indicate that many mafic volcanic units of the Abitibi greenstone belt represent individual overlapping shield volcanoes (e.g., Goodwin, 1979; Dimroth et al., 1982, 1983). Felsic volcanic units form lenses with limited lateral persistence (MER-OGS, 1984), commonly subdivided on the basis of eruption mechanisms (Mueller and Donaldson, 1992), geochemistry (Ayer et al., 2002), and stratigraphy (Scott et al., 2002). The only units with significant lateral persistence are the clastic and chemical sedimentary units at the top of mafic to felsic volcanic units (e.g., Ayer et al., 2005; Goutier and Melançon, 2007).

The stratigraphy of the Abitibi belt is autochthonous, based on (1) the lateral persistence of first-order lithologic and lithotectonic and/or stratigraphic units throughout the belt (MER-OGS, 1984, Heather, 2001; Ayer et al., 2005; Goutier and Melançon, 2007); (2) the presence of major folds with upward younging and upward structural facing at Chibougamau (Pilote, 2006) and between the Porcupine-Destor fault and the Larder Lake-Cadillac fault in Québec and Ontario; (3) the presence of crustal sections with outward-younging stratigraphy that are cored by batholiths, centered on the Chibougamau area (Pilote, 2006), the Mistaouac pluton (Fig. 2), the Poularies pluton (Mueller and Mortensen, 2002), the Round Lake batholith (Ayer et al., 2002a), and the Kenogamissi batholith (Ayer et al., 2002a); and (4) the presence of crosscutting, in situ geologic relationships between rock packages such as feeder dikes (Heather, 2001). The continuously upward-younging stratigraphic succession is also supported by the lack of evidence for any large-scale thrusting, based on (1) detailed reflection

seismic sections (Snyder and Reed, 2005, Snyder et al., 2008), (2) the small number of out-of-sequence rock units (i.e., older over younger: Ayer et al., 2005), and (3) other structural studies summarized by Benn and Peschler (2005).



7-3

## LOCAL GEOLOGY

The following is taken largely from RPA (2011).

Regional stratigraphy comprises two groups of Archean age, namely the Roy Group and the Opemiska Group (Daigneault and Allard, 1990) (Figure 7-2). The Roy Group comprises four volcanic formations related to two mafic-felsic volcanic cycles. The first cycle includes basalts of the Obatogamau Formation at the base, overlain by rhyolites of the Waconichi Formation. The latter hosts the former Lemoine orebody and the Scott Lake deposit, both of which are VMS deposits. The second cycle is defined by basalts of the Gilman Formation at the base, overlain by felsic and volcaniclastic rocks of the Blondeau Formation.

Lithologies of the first cycle are intruded by a large regional layered mafic intrusive of synvolcanic age known as the Lake Doré Complex (LDC). In turn, the LDC and the Roy Group were later intruded by the Chibougamau Pluton, which is approximately 10 million years younger than the LDC. The Opemiska Group, made up of sedimentary rocks of the Stella Formation and alkalic lavas of the Haüy Formation, is in discordant contact over the Roy Group, LDC, and the Chibougamau Pluton. All rocks of the Roy and Opemiska groups and associated intrusive rocks were finally deformed into a series of anticlines and synclines during the Kenorean orogeny.

The LDC is centred along the core of the Chibougamau Anticline and is the main host of the copper-gold deposits of the Chibougamau mining camp. It also hosts an important magmatic vanadium deposit located a few kilometres south of Chibougamau along the south limb of the Chibougamau Anticline. Black Rock Metals Inc.'s Lac Doré vanadium-iron-titanium deposit is presently undergoing various technical and economic studies to advance it toward production.

## PROPERTY GEOLOGY

The Property is located on the north limb of the Chibougamau Anticline (Figure 7-3). From south to north, it encloses a monoclinical sequence extending from upper units of the LDC and the Chibougamau Pluton to basalts of the Gilman Formation, with remnants of felsic rocks of the Waconichi Formation caught in between. All units are metamorphosed to the greenschist facies.

The Waconichi Formation constitutes the oldest volcanic unit on the property. Its stratigraphic base (i.e., to the south) is cut by various phases of the Chibougamau Pluton in the west sector of the property and directly by the LDC in the east half of the property. Regionally, the Waconichi comprises both porphyritic and aphyric rhyolites forming massive and lobe flows, possibly some domes, and also sills and dykes. Porphyritic textures dominate in the Waconichi, with both feldspar and quartz phenocrysts. Very little truly pyroclastic rocks have been formally identified in the Waconichi at Scott Lake, although blocky and crystal tuffs have been described outside of the Scott Lake property. A detailed description of the Waconichi Formation is available in Daigneault and Allard (1990).

At Scott Lake, the Waconichi Formation is represented at surface by a 600 m thick dome of quartz-phyric rhyolite that pinches out quickly to the west and seems to disappear more gradually to the east. This unit has been referred to as the Scott Rhyolite by Daigneault and Allard (1990). Drilling has shown that the distribution of rhyolite is quite complex and is probably controlled by very irregular and rugged original topography at the time of volcanic eruption. This original complex flow distribution may have been partly enhanced by later deformation and the intrusion of the Chibougamau Pluton, however, there is no evidence of strong deformation anywhere on the property, such as regional foliation or fold axes. An important feature of the property geology is that there is significantly more rhyolite at depth than indicated by the surface geology. In fact, while rhyolite at surface completely pinches out around section 200W, it can be traced by drilling to the west for at least an additional 1.8 km at depths ranging from 100 m to at least 700 m.

The Gilman Formation overlies the Waconichi Formation and the contact is generally sharp. Unlike what is observed in the south limb of the Chibougamau Anticline in the Lemoine mine area (Cloutier, 2004), there is no extensive cherty or sedimentary horizon directly on top of the Waconichi at Scott Lake. The base of the Gilman Formation, however, is generally marked by a dacitic unit known locally as “Dacite” or “Intermediate Volcanics”. This unit has a highly variable thickness ranging up to 250 m and is characterized chemically by silica in the range of low 60% and titanium content in the range of 0.7% TiO<sub>2</sub> to 0.8% TiO<sub>2</sub>. Except for this dacite unit, the Gilman Formation consists essentially of pillowed to massive basalts and andesites cut by numerous (synvolcanic?) mafic sills. Thin rhyolitic units (local domes?) and sulphide-rich cherty horizons have also been cut by drilling within the lower 200 m to 300 m of the Gilman Formation. Rocks of the Gilman Formation are generally unaltered, except in local

areas of limited extent, indicating that VMS-related hydrothermal activity had largely ceased at the time of eruption.

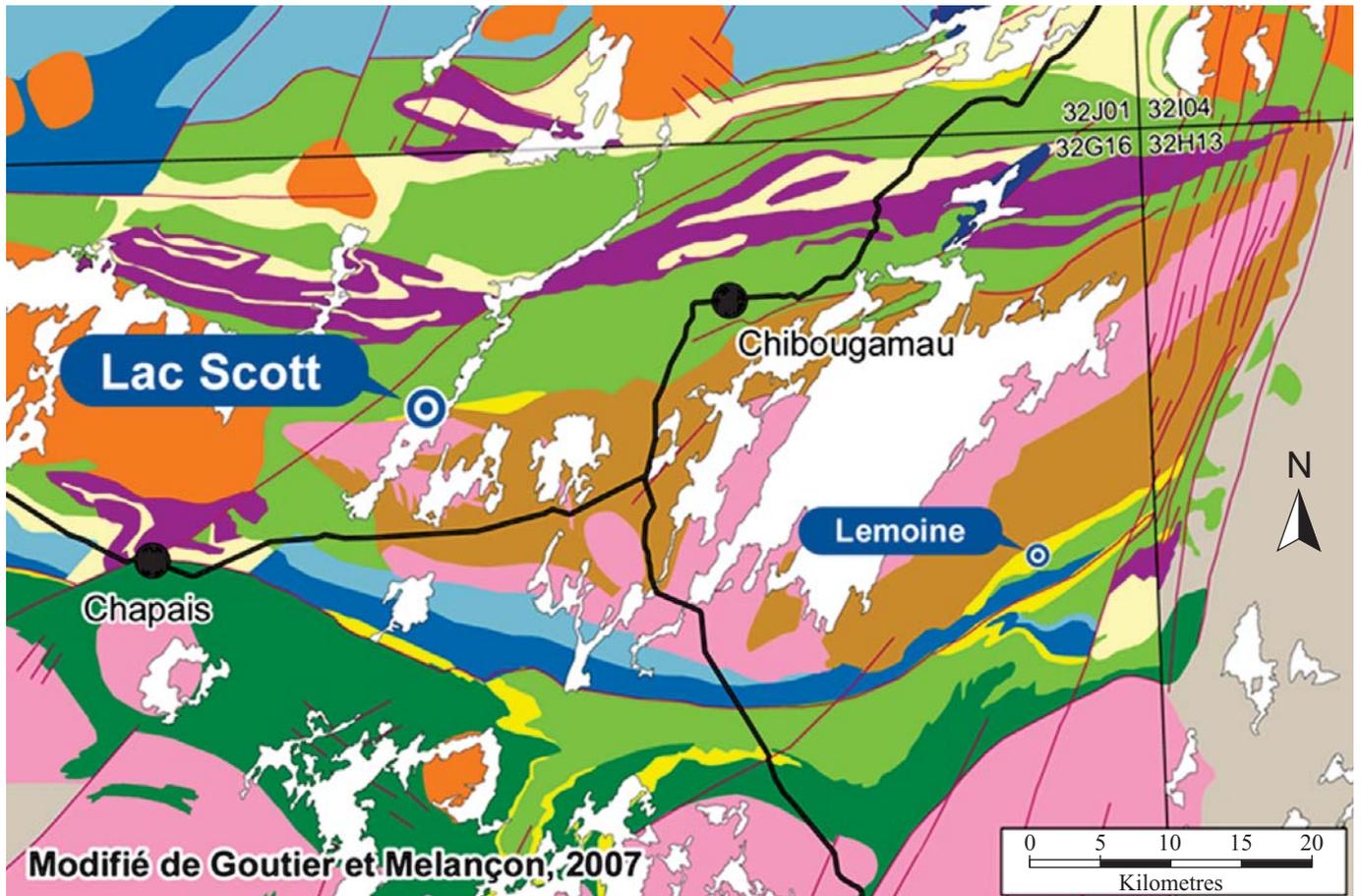
The only top indicators seen at Scott Lake consist of pillows that indicate stratigraphic tops either to the north or to the northwest, including one outcrop of pillowed andesite found south of the Scott Rhyolite. Consequently, the property geology is seen as a north-facing homoclinal sequence.

The regional northeast trending Gwillim Lake fault is interpreted to cross the western part of the Scott Lake property, however, no direct evidence of the fault has been found in any of the mapping done at Scott Lake. Its only expression consists of an abrupt termination of an east-west trending cluster of airborne EM anomalies located north of Lac Fleury and their apparent displacement to the northeast by approximately three kilometres. The regional magnetic map also shows a magnetic discontinuity that is consistent with the interpreted location of the Gwillim Lake fault.

Recent interpretation of recent drilling data, however, indicates that the Gwillim Lake fault has been intersected in the western part of the property where a steeply dipping northeast trending deformation zone with abundant gouge and strong deformation over a 10 m to 20 m wide corridor can be correlated from hole to hole on drill sections and level plans. This structure seems to mark the western limit of felsic volcanic rocks and mineralized zones. It appears that the northeast trending CFO mineralized lens and associated alteration may represent a structural “raft” caught within the deformation zone itself. It seems reasonable to interpret the deformation zone as the regional Gwillim Lake fault.

The Chibougamau Pluton marks the southern limit of volcanic rocks at Scott Lake and shows in detail a very irregular contact with much undulation, along with dykes or apophyses which extend into the surrounding volcanic rocks. There are also large xenoliths of volcanic rocks, some of which are mineralized, within the first 100 m of the pluton. Two main lithologies are recognized in the Chibougamau Pluton at Scott Lake: a pink coloured coarse grained tonalite to the south and a more mafic border phase composed of diorite, which is often referred to as “mélange” to account for the numerous recrystallized xenoliths of volcanics and the tonalitic patches or dykes in it. The pluton is in direct intrusive contact with massive or stringer sulphides at several locations, which leads to the possibility that rafts of massive sulphides may eventually be found floating in the Chibougamau Pluton.

All of the rocks of the property have undergone greenschist facies metamorphism. As well, rocks in contact with the Chibougamau Pluton sometimes contain traces of biotite and show evidence of at least some recrystallization, suggesting some contact metamorphism over a few metres. Sulphides in close proximity to the pluton are often “granular” or porphyroblastic, with grain sizes up to 10 mm, again suggesting some metamorphic recrystallization.



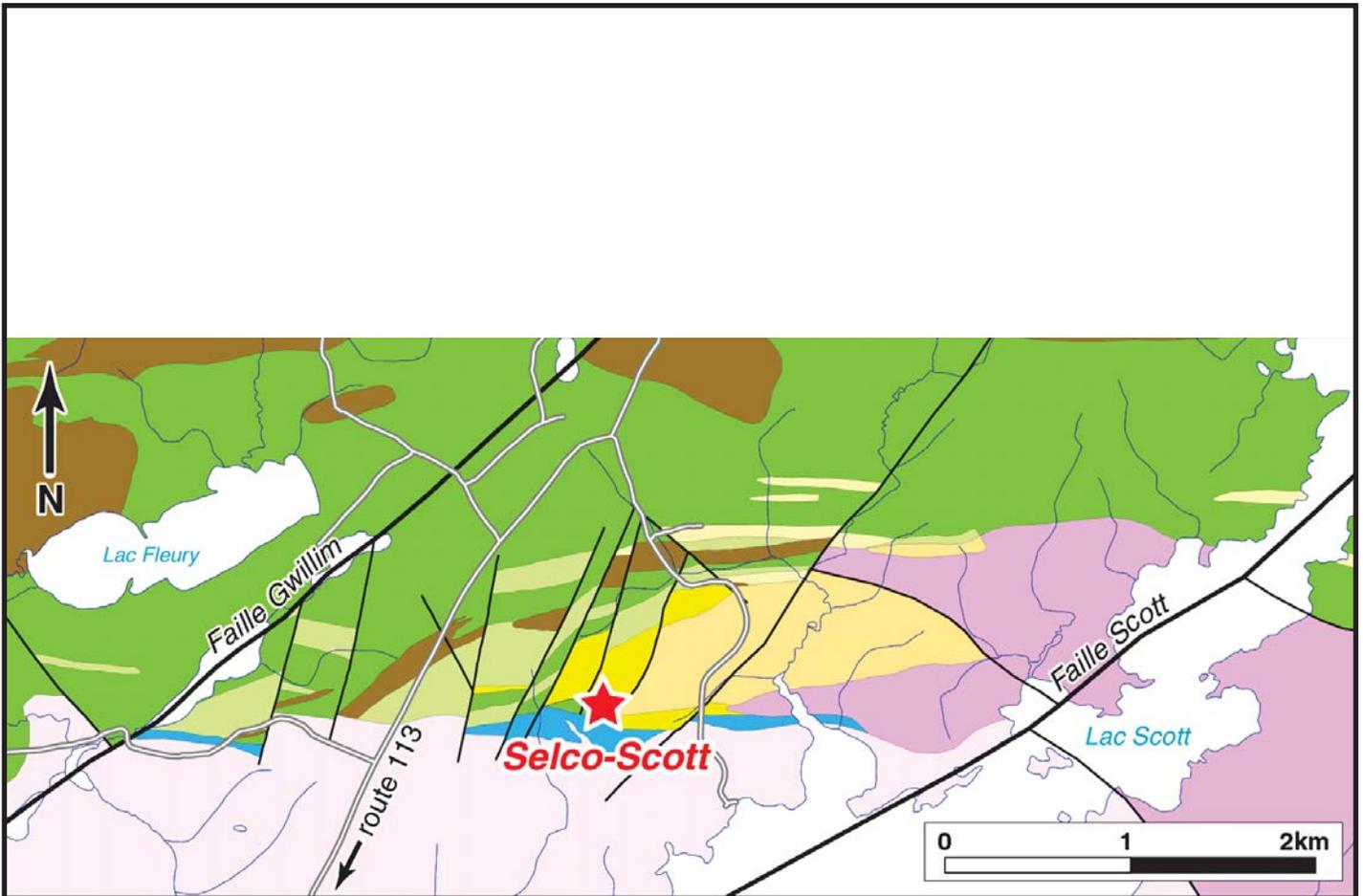
- |  |   |  |
|--|---|--|
|  Plutons tardifs  |  Fm. Haüy                  |  Fm. Gilman           |
|  Plutons précoces |  Fm. Stella et Chebistuan  |  Complexe du Lac Doré |
|  Gneiss           |  Complexe de Cummings      |  Fm. Waconichi        |
|  Fm. Chibougamau  |  Fm. Blondeau et Bordeleau |  Fm. Obatogamau       |

Figure 7-2

**Yorbeau Resources Inc.**

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**Scott Lake Project**  
Northern Québec, Canada  
**Local Geology**



**Pluton de Chibougamau**

- Granite, granodiorite
- Bordure (diorite, aplites, basalte)

**Complexe du Lac Doré ?**

- Tonalite, diorite à quartz

**Formation de Gilman**

- Rhyolite
- Andésite-dacite (volcanoclastique)
- Basalte, gabbro, chert, exhalite

- Gabbro type Gilman

**Formation de Waconichi**

- Porphyre à quartz de Scott
- Rhyolite de Scott

Figure 7-3

**Yorbeau Resources Inc.**

**Scott Lake Project**  
Northern Québec, Canada  
**Property Geology**

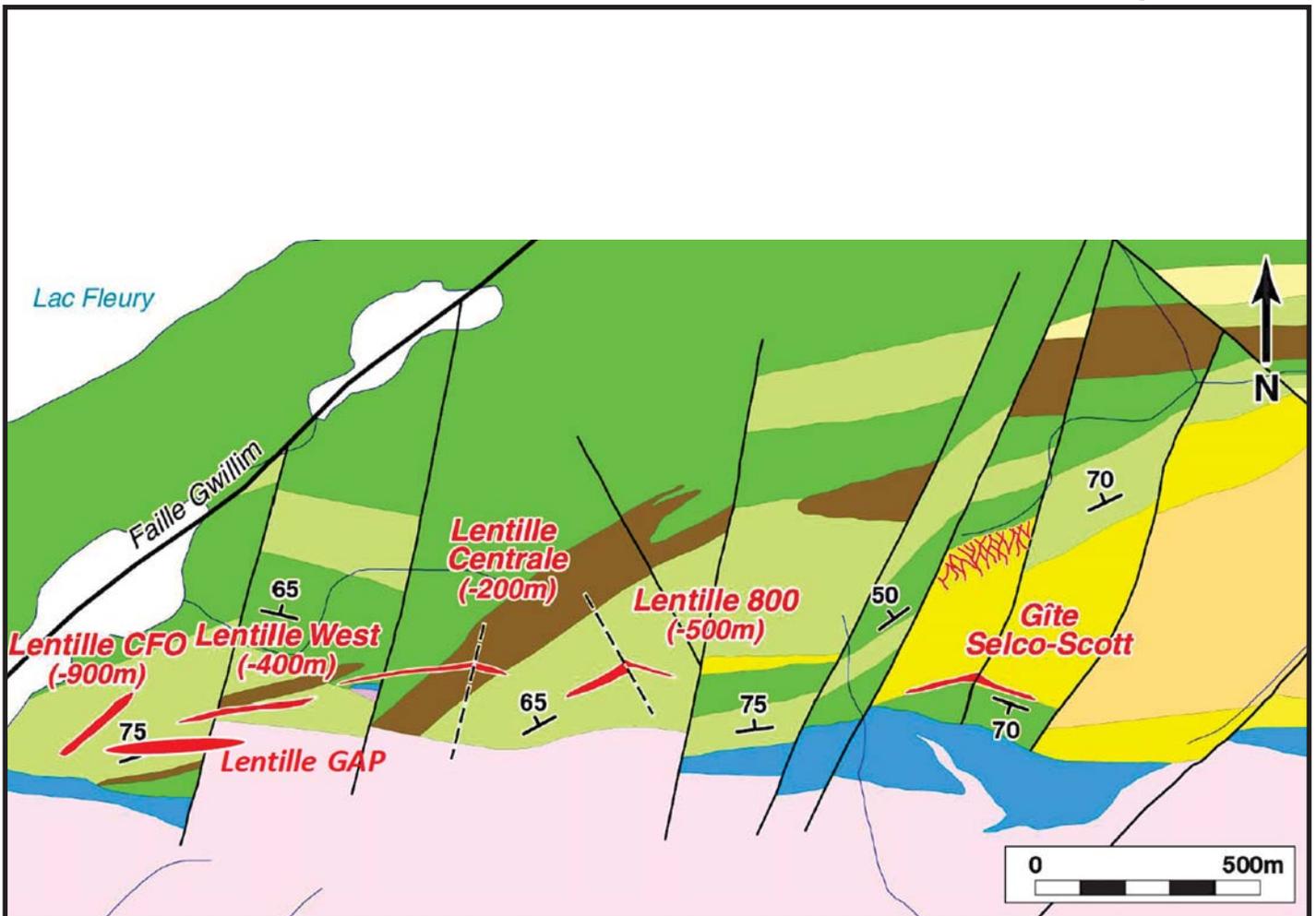
## MINERALIZATION

Several zones of copper and zinc bearing stringer and massive sulphides have been identified at Scott Lake since the discovery of a small massive sulphide deposit by Selco in 1976 (Figure 7-4). Discoveries made by Selco, Thundermin, Cogitore, and Yorbeau are summarized as nine distinct massive sulphides lenses as follows:

- Selco-Scott deposit
- 800 Lens
- Central Lenses
- 1750 Lens
- West Lens
- “34” Zinc Lens
- SC-30 Lens
- CFO Lens
- Gap Zone

The massive sulphide lenses contain typically 80% to 100% sulphides with fragments or blocks of altered and mineralized rhyolite or dacite. Such fragments range up to 30 cm to 50 cm in size and contribute to diluting the metal contents of massive sulphide intervals. Mafic (feeder?) dykes related to overlying mafic flows and diorite dykes related to the Chibougamau Pluton locally cut across the massive sulphides and also contribute to effectively diluting the overall grade of the massive sulphides envelopes. These dykes range from half a metre to several metres in width.

In addition to massive sulphides, widespread zones of stringer-type mineralization have also been identified at Scott Lake over a two-kilometre strike length within the Scott Rhyolite. The stringer-type mineralization is in general adjacent to massive sulphide zones.



**Pluton de Chibougamau**

- Granite, granodiorite
- Bordure (diorite, aplites, basalte)

**Complexe du Lac Doré ?**

- Tonalite, diorite à quartz

**Formation de Gilman**

- Rhyolite
- Andésite-dacite (volcanoclastique)
- Basalte, gabbro, chert, exhalite

- Gabbro type Gilman

**Formation de Waconichi**

- Porphyre à quartz de Scott
- Rhyolite de Scott

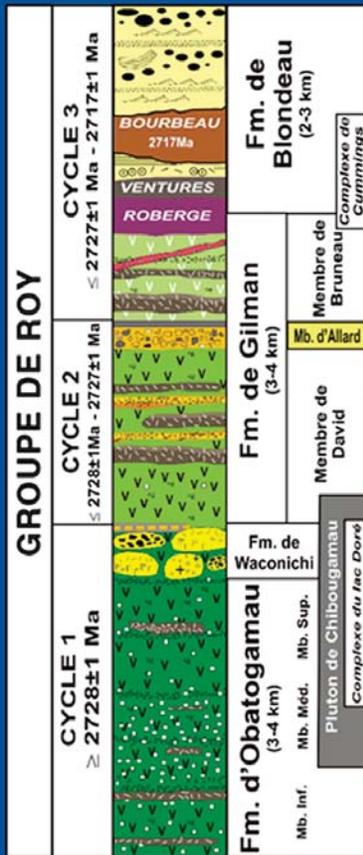
Figure 7-4

**Yorbeau Resources Inc.**

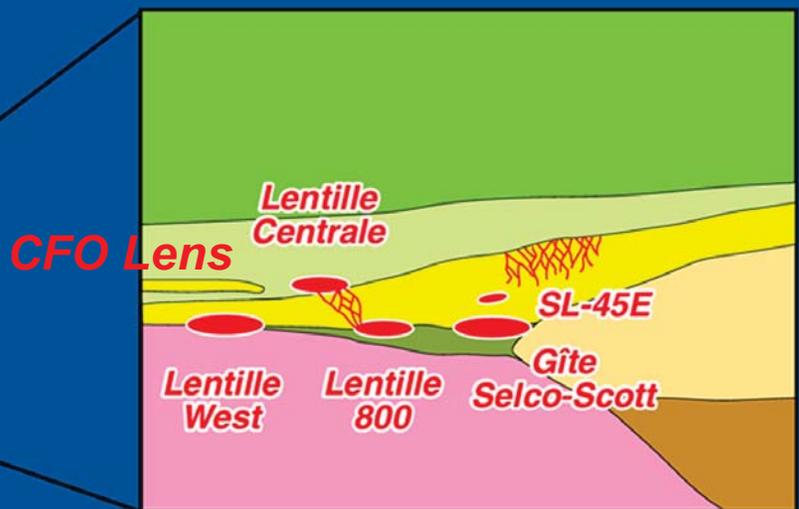
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**Scott Lake Project**  
Northern Québec, Canada  
**Mineralization on the Property**

Regional Stratigraphy



Stratigraphie Lac Scott



Modifié de Leclerc et al., 2007

Figure 7-5

Yorbeau Resources Inc.

**Scott Lake Project**  
Northern Québec, Canada  
**Stratigraphic Column**

## **SELCO-SCOTT DEPOSIT**

The Selco-Scott deposit occurs along the contact between altered rhyolites and mafic rocks to the south and a large quartz porphyry dome to the north. No unequivocal stratigraphic facing criteria have been recognized in the immediate vicinity of the deposit, but it is interpreted that the tops are to the north or northwest based on a pillowed andesite outcrop located on strike with and approximately 250 m to the west of the lens, and on pillowed basalt outcrops several hundred metres to the north of the deposit. The irregular intrusive contact between the Chibougamau Pluton and the volcanic rocks lies just south of the deposit and locally comes within 10 m of the sulphide lens. The Selco-Scott deposit has a general east-west strike, with a length of approximately 300 m at the subcrop diminishing to less than 200 m at depth. It dips to the south at approximately 70° to a depth of approximately 200 m where it steepens to near vertical. The massive sulphides narrow with depth and pinch out at a depth of approximately 450 m. The lens is stratiform and varies up to approximately six metres to seven metres in true thickness. It appears that a significant portion of the original deposit may have been removed by erosion.

The Selco-Scott deposit has been drilled on approximate spacing of 50 m to 75 m. The sulphides are reported to be typically massive and banding is not well developed in core samples. Crude layering defined by the relative abundance of pyrite and sphalerite occurs in certain holes. Pyrite is the most abundant metallic mineral in the deposit and typically constitutes 50% to 80% of the mineralization (Saunders and Allard, 1990). Sphalerite is the main mineral of economic interest and in places constitutes up to 25% of the deposit. Both red coloured and pale yellow coloured sphalerite has been observed at the Selco-Scott deposit.

## **800 LENS**

The 800 Lens is located along the south contact of the Scott Rhyolite approximately 600 m west of the Selco-Scott deposit and is centred on Section 800W. It was discovered by Cogitore while following up an off-hole anomaly detected in a hole drilled in 1990 by Thundermin. It starts at a vertical depth of 500 m and pinches out or disappears at approximately 800 m. It consists of 100% sulphides except for narrow internal diorite or mafic dykes. It has been intersected by only four holes spaced approximately 100 m apart. The sphalerite in the 800 Lens is pale grey to yellowish in colour, which makes it easy to underestimate zinc grades visually. Unlike at other lenses, the massive sulphides are located along a well-defined

stratigraphic contact between basalts to the south and altered rhyolite to the north. Sulphide stringers carrying low-grade copper and zinc values are developed in the rhyolite just to the north of the massive sulphides (i.e., presumably in the stratigraphic hanging wall if tops are to the north). Furthermore, the massive sulphides grade laterally into a well-bedded cherty tuff, which is common for VMS camps.

The reported grades range from 3.56% Zn and 0.47% Cu over 2.3 m (in hole SC-04) to 9.08% Zn and 0.36% Cu over 2.53 m (in hole SC-06). The best thicknesses were found in hole SC-05 where the combined length of massive sulphides and weakly mineralized mafics and internal barren mafic dykes totalled 23 m. Including all the internal dilution due to the dykes, the total 23 m interval averages 4.59% Zn, 0.51% Cu, 0.17 g/t Au, and 22.4 g/t Ag. Within this interval, however, the massive sulphides alone occur as four separate bands with better grades, totalling 11.8 m and grading 8.04% Zn, 0.93% Cu, 0.27 g/t Au, and 36.8 g/t Ag. The 800 Lens appears to be well closed off by drilling.

## **CENTRAL LENSES**

The massive sulphide Central Zone was first identified by Thundermin in the early 1990s with a number of thin moderate grade massive sulphide intersections. It was significantly extended by Cogitore in 2007 and during the spring 2011 drill program when it was realized that the bulk of the sulphide mineralization was hosted in mafic rocks just above the Scott Rhyolite and not at the north contact of the rhyolite. It stretches along a flat rake from sections 1000W to 1500W over a strike length of 400 m and at depths ranging from 200 m to 350 m. Unlike the Selco-Scott and 800 lenses, which are located along the south contact of the Scott Rhyolite, the Central Zone massive sulphides occur near the north contact of the rhyolite but mostly vertically above the Scott Rhyolite and are hosted essentially in mafic intrusives and/or flows. The most recent Cogitore drilling intersected massive sulphides over core lengths of up to 15 m. Massive sulphides in the Central Zone are typically coarse grained with grain sizes in the order of three to five millimetres. In hole SC-66, the coarse-grained sulphides are completely enclosed and bounded by mafic dykes and sills.

The current model for the Central Zone is that it formed initially as a thick massive sulphide lens sitting directly on top of the Scott Rhyolite from which it was subsequently disconnected and elevated above the Scott Rhyolite by mafic dykes or sills to form three separate massive sulphide slabs (Central 1, Central 2, and Central 3). The current model is that the sulphide zones are largely flat lying (like parts of the West Lens) and are separated from each other by

barren mafic dykes and sills. More drilling will be required to prove this interpretation since the attitude of the mafic intrusives is uncertain and it is possible that the sulphide slabs may be more steeply dipping.

The best intersections of massive sulphides in the Central Lenses occur in hole SC-64, with 5.0 m grading 3.0% Cu, 12.3% Zn, 0.3 g/t Au and 74 g/t Ag, and in hole SC-66, with 15.5 m grading 1.0% Cu, 6.8% Zn, 0.3 g/t Au and 38 g/t Ag. A fairly substantial stringer zone has been intersected in hole SC-15 located vertically below these massive sulphide intersections with a core length totalling 24.8 m at a grade of 1.10% Cu, 2.24% Zn, 0.2 g/t Au, and 35.7 g/t Ag.

### **1750 LENS**

The 1750 Lens massive sulphides were discovered by Cogitore in 2008 with hole SC-28. The lens is centred near Section 1750W at depths ranging from 400 m to 750 m. Although it was initially described as a separate massive sulphide lens located along the north contact of the Scott Rhyolite, it is now considered to be part of the West Lens mineralized envelope.

### **WEST LENS**

The West Lens was initially intersected by Thundermin with three holes but was significantly expanded by Cogitore as a result of further drilling, major geological reinterpretation of the area, and the discovery of high copper and zinc grades over substantial widths. The initial interpretation of the West Lens by Thundermin and Cogitore consisted of a simple sub-vertical sheet of zinc-rich massive sulphides at the base of the Scott Rhyolite (i.e., in the same mineralized horizon as the Selco-Scott and the 800 Lens deposits).

Cogitore drilling in late 2008 and early 2009 encountered wide intercepts of high-grade copper and zinc mineralization in holes SC-34 and SC-40. Based on core angles and a new structural interpretation, it was postulated that there may be a higher-grade pod of massive sulphides sitting sub-horizontally above a newly interpreted dome of the Scott Rhyolite. This new interpretation was validated with additional drilling in the fall of 2009, and by a study by RPA, formerly Scott Wilson RPA, in 2010. The current model, favoured by RPA and incorporated into the 2011 resource estimate (RPA 2011), involves an elongated east-west trending pod of massive sulphides at the top of a rhyolite ridge or dome, underlain by vertical zones of stringer and semi-massive sulphides. Stringer sulphides reach thicknesses of over 20 m horizontal.

Due to the lack of more detailed drilling data and the scarcity of outcrops, the volcanic history and structure of the area is not known well enough to determine the detailed geometry of the West Lens.

### **“34” ZINC LENS**

A high grade zinc pod was intersected just above the West Lens in hole SC-34, yielding 23.3% Zn over a core length of 17.9 m, including 34.9% Zn over 6.8 m. Initially interpreted as part of the West Lens, this small pod is now referred to as the “34” Zinc Lens. This zinc-rich zone may represent a distinct mineralized horizon stacked above the West Lens but, alternately, may also represent a raft that was initially connected to the West Lens and subsequently cut off from the underlying West Lens massive sulphides and moved above the West Lens by mafic dykes and sills, analogous to the separation of the Central Lenses from the underlying stringer zone. More drilling is required to resolve the geological interpretation.

### **SC-30 LENS**

Significant copper and silver mineralization was intersected in 2008 over a large interval on Section 1600W in hole SC-30 (25.1 m grading 2.0% Cu, 1.0% Zn, 0.17 g/t Au and 52.5 g/t Ag). Subsequently smaller but significant zinc and copper intersections were obtained in the same sector during the 2010 and 2011 drill programs. Although the mineralization is located very close to the south contact of the Scott Rhyolite, the bulk of it actually occurs as rafts “floating” within the border phases of the Chibougamau Pluton. Sulphides of the SC-30 Lens are coarse grained and are locally very high grade, however, because they are extensively mixed with barren mafic dykes or phases of the pluton, the resulting mineralization consists of moderate grade material typically over thicknesses of greater than 10 m. Drilling in late 2016 has extended the Gap Zone to the east so that it incorporates the former SC-30 Lens as its eastern part.

### **CFO LENS**

The CFO Lens was discovered in March 2010 by hole SC-53 which was drilled to test a conductor detected in 2008 after deepening a hole drilled initially in 1993. To the end of 2010, three massive sulphide intersections located approximately 100 m apart had been obtained in the new lens.

Discovery hole SC-53 contains 3.3 m of massive sulphides followed by 14.3 m of copper-rich stringers, while the other two intersections consist totally of massive sulphides. Hole SC-53 intersected a total of 17.6 m at 2.0% Cu, 1.8% Zn, and 17.9 g/t Ag. Hole SL 93-106W intersected 26.7 m of 2.1% Cu, 5.2% Zn, and 24.9 g/t Ag. Hole SL 03-106W3 intersected 8.4 m of 2.5% Cu, 4.2% Zn, and 72.3 g/t Ag.

Significantly, and unlike the West Lens and other mineralization at Scott Lake, this new lens is associated with the Tony Rhyolite, a rhyolite unit which is different from the Scott Rhyolite that hosts the West Lens and is located approximately 100 m further to the north. Strong chlorite alteration is associated with the CFO Lens, both in the Tony Rhyolite and in surrounding mafic fragmental rocks. As noted on page 17-6, recent structural interpretation suggests that the CFO Lens appears to be a structural “raft” caught within the Gwillim Lake fault corridor, and may have been dragged into the northeast trending fault corridor from an unknown source.

The vertical depths of the intersections range from 900 m to 1,013 m from surface. The CFO Lens is deeper than the rest of the mineralization at Scott Lake, but the mineralized intercepts obtained so far in the CFO Lens are almost double the overall average copper grade in the RPA (2011) estimate.

Although the immediate CFO Lens seems closed off by drilling, the host Tony Rhyolite unit has seen a lot less exploration than the Scott Rhyolite, and considerable drilling still remains to be done. Indeed, another copper-rich intercept along the same horizon was released in May 2011, with hole SC-61 yielding 2.8% Cu and 46.3 g/t Ag over 3.1 m at a depth of approximately 500 m.

Because of strong differences in nature, texture, metal content (copper vs. zinc), and density, the sulphide stringer portion of the CFO Lens is treated as a separate mineralized envelope for the purpose of resource estimation.

## **GAP ZONE**

Yorbeau discovered the Gap Zone in 2015 by drilling an untested area between the West Lens and the CFO Zone where geophysical conductor had been indicated. Discovery hole SC-53W4 intersected 22.9 m at 0.2% Cu, 7.9% Zn, and 25.7 g/t Ag. The Gap Zone has now been intersected by approximately 15 drill holes and is interpreted to incorporate the former SC-30 Lens.

### **STRINGER ZONE (SCOTT RHYOLITE)**

In addition to massive sulphides, widespread zones of stringer-type mineralization have also been identified at Scott Lake and more specifically over a two-kilometre strike length within the Scott Rhyolite. However, these stringer zones have not been given specific names and are grouped under the heading “Stringer Zone” for the purpose of resource estimation. Some of the stringer zones are in close proximity and are probably related to specific massive sulphide lenses, whereas other stringer zones do not have any clearly identified massive sulphides associated with them. Furthermore, particularly in the West Lens and Gap Zone areas, stringer sulphides may grade vertically or laterally into massive sulphides.

The Stringer Zone may contain significant copper, zinc, and silver over widths often exceeding 10 m and thus form mineralized envelopes of potential economic interest.

## 8 DEPOSIT TYPES

### VMS DEPOSITS

The Property hosts volcanogenic massive sulphide (VMS) style of mineralization.

In central and eastern Canada, VMS deposits are commonly found in Precambrian volcano-sedimentary greenstone belts (2,730 Ma – 2,650 Ma) in an extensional arc environment such as a rift or caldera. VMS deposits are synvolcanic accumulations of sulphide minerals that occur in geological domains characterized by submarine volcanic rocks. The associated volcanic rocks are commonly relatively primitive (tholeiitic to transitional), bimodal, and submarine in origin (Galley et al., 2005). The spatial relationship of VMS deposits to synvolcanic faults, rhyolite domes or paleo-topographic depressions, caldera rims or subvolcanic intrusions suggests that they were closely related to particular and coincident hydrologic, topographic, and geothermal features on the ocean floor (Lydon, 1990).

VMS deposits are exhalative deposits, formed through the focussed discharge of hot, metal-rich hydrothermal fluids on the sea floor. In many cases, it can be demonstrated that a sub-seafloor fluid convection system was apparently driven by a large, 15 km to 25 km long, mafic to composite, high level subvolcanic intrusion. The distribution of synvolcanic faults relative to the underlying intrusion determines the size and areal morphology of the camp-sized alteration system and ultimately the size and distribution of a cluster of VMS deposits. These fault systems, which act as conduits for volcanic feeder systems and hydrothermal fluids, may remain active through several cycles of volcanic and hydrothermal activity. This can result in several periods of VMS formation at different stratigraphic levels (Galley et al., 2005), which can result in stacking of VMS deposits.

The idealized, undeformed and unmetamorphosed Archean VMS deposit typically consists of a concordant lens of massive sulphides, composed of 60% or more sulphide minerals (Sangster and Scott, 1976). In the Matagami, Quebec mining camp, VMS deposits are dominated by pyrite, pyrrhotite, sphalerite, chalcopyrite and magnetite, and are stratigraphically underlain by a discordant stockwork or stringer zone of vein-type sulphide mineralization (pyrite, pyrrhotite, chalcopyrite, and magnetite) contained in a pipe-like body of hydrothermally altered rocks. The upper contact of the massive sulphide lens with hanging

wall rocks is usually extremely sharp while the lower contact is gradational into the stringer zone. A single deposit or mine may consist of several individual massive sulphide lenses and their underlying stockwork zones. It is thought that the stockwork zone represents the near-surface channel ways of a submarine hydrothermal system and the massive sulphide lens represents the accumulation of sulphides precipitated from the hydrothermal solutions, on the sea floor, above and around the discharge vent (Lydon, 1990).

The morphology of a single massive lens can vary from a steep-sided cone to that of a tabular sheet. The majority of cone-shaped deposits appear to have accumulated on the top or flanks of a positive topographic feature, such as a rhyolite dome, whereas the majority of sheet-like deposits appear to have accumulated in topographic depressions (Lydon, 1990). Judging from examples in undeformed areas, the original form of massive sulphide bodies was probably roughly circular or oval in plan, with dimensions parallel to bedding being several times greater than thickness (Sangster, 1972). A massive sulphide lens 250 m by 150 m by 15 m could have a mass of approximately two million tonnes.

Archean VMS deposits are typically grouped according to Cu-Zn or Zn-Cu content, and usually have modest gold and/or silver values and little or no lead content. Sangster (1977) determined that for Canadian Archean VMS deposits the most likely combined grade is approximately 6%, roughly in the ratio of 4:1:1 for Zn:Cu:Pb.

Most Canadian VMS deposits are characterized by discordant stockwork vein systems or pipes that, unless transposed by structural deformation or displacement, commonly underlie the massive sulphide lenses, but may also be present in the immediate stratigraphic hanging wall strata. These pipes, comprised of inner chloritized cores surrounded by an outer zone of sericitization, occur at the centre of more extensive, discordant alteration zones. The alteration zones and pipe systems may extend vertically below a deposit for several hundreds of metres or may continue above the deposit for tens to hundreds of metres as a discordant alteration zone (Ansil, Noranda). In some cases, the proximal alteration zone and attendant stockwork/pipe vein mineralization connects a series of stacked massive sulphide lenses (Amulet, Noranda; LaRonde, Bousquet), representing synchronous and/or sequential phases of ore formation during successive breaks in volcanic activity (Galley, 2005).

## 9 EXPLORATION

Work performed on the property prior to its acquisition in 2015 by Yorbeau is considered to be historical and is summarized in Section 6 of this report.

Since acquiring the property in 2015, Yorbeau has carried out significant diamond drilling, which is described in Section 10 Drilling.

## 10 DRILLING

Drilling carried out prior to Yorbeau's acquisition of the Project in 2015 is described in Section 6 History. Approximately 400 holes for over 140,000 m had been drilled on the property by previous owners.

Since acquisition of the Project, Yorbeau has completed 25 drill holes totalling 17,342 m, including two holes drilled to twin intersections on the Selco Lens drilled by Camchib Resources in 1981. Yorbeau focussed its drilling on a new target first identified by Cogitore and now referred to as the Gap Zone. Because the target area is deep and relatively high precision was needed, Yorbeau's technical strategy was to favour wedging off of original or pilot holes whenever possible. A total of 13 wedge cuts were completed after having set 97 deviation wedges to reach the various drill targets. Table 10-1 lists those holes completed by Yorbeau to January 2017, and Figure 10-1 illustrates the collar locations of Yorbeau's drilling. Table 10-2 lists the significant intersections achieved by Yorbeau. There has been no drilling at the Project since January 2017.

**TABLE 10-1 SUMMARY OF YORBEAU DRILLING**  
**Yorbeau Resources Inc. - Scott Lake Project**

Hole	UTM*		Attitude		Date	Date	From (m)	To (m)	Length (m)
	Easting	Northing	Azimuth	Dip	Started	Ended			
SC-31W	523677.31	5523056.13	180	-60	01/10/2015	27/10/2015	442.5	985.5	543.0
SC-31W2	523675.11	5522987.59	183	-48	29/10/2015	06/11/2015	555.5	945.0	389.5
SC-48	523359.66	5522925.97	125	-68	5/11/2009	04/12/2009	0	400.0	400.0
SC-48E	523489.83	5522832.74	127	-65	13/06/2015	20/06/2015	400.0	849.0	449.0
SC-53	523559.90	5523272.64	181	-70	21/02/2010	16/03/2010	0	1,104.0	1,104.0
SC-53W	523572.85	5523063.39	174	-63	27/02/2011	11/03/2011	525.0	1,044.0	519.0
SC-53W2	523567.31	5523124.24	178	-64	12/03/2011	28/03/2011	390.0	1,083.0	693.0
SC-53W3	523567.84	5523112.71	179	-61	06/05/2015	16/05/2015	415.5	1,092.0	676.5
SC-53W4	523567.75	5523066.56	183	-50	21/05/2015	02/06/2015	496.5	1,020.0	523.5
SC-53W5	523567.81	5523017.18	182	-41	04/08/2015	15/08/2015	566.5	1,011.0	444.5
SC-53W6	523567.56	5523039.91	180	-44	24/08/2015	06/09/2015	535.5	1,047.0	511.5
SC-82	523702.00	5523232.00	191	-62	16/09/2015	28/09/2015	0	900.0	900.0
SC-82W	523684.93	5523093.87	187	-54	19/11/2015	01/12/2015	274.5	852.0	577.5
SC-83	523600.00	5523273.00	180	-68	02/12/2015	10/02/2016	0	1,101.0	1,101.0
SC-83W	523600.88	5523080.20	181	-58	07/02/2016	20/02/2016	445.5	1,032.0	586.5
SC-84	523490.00	5523234.00	180	-76	22/02/2016	02/03/2016	0	1,281.0	1,281.0

Hole	UTM*		Attitude		Date		From (m)	To (m)	Length (m)
	Easting	Northing	Azimuth	Dip	Started	Ended			
SC-85	523490.00	5523234.00	180	-68	03/03/2016	23/04/2016	0	1,050.0	1,050.0
SC-85W	523505.65	5523020.32	181	-59	09/05/2016	21/05/2016	493.5	1,011.0	517.5
SC-86	523600.00	5523273.00	180	-61	25/05/2016	10/06/2016	0	921.0	921.0
SC-87	523755.10	5523362.92	181	-62	27/06/2016	18/06/2016	0	1,080.0	1,080.0
SC-87W	523759.63	5523154.42	179	-56	08/08/2016	23/08/2016	397.5	1,029.0	631.5
SC-87W2	523759.26	5523091.13	182	-45	20/09/2016	30/09/2016	493.5	1,029.0	535.0
SC-87W3	523755.66	5523029.14	187	-37	23/10/2016	11/10/2016	574.5	993.0	418.5
SC-88	523798.00	5523383.00	181	-58	22/10/2016	28/11/2016	0	1,032.0	1,032.0
SC-88W	523812.38	5523067.71	179	-46	29/11/2016	14/12/2016	533.5	990.0	456.5
									<b>17,341.5</b>

\* UTM NAD 83, Zone 18 East

**TABLE 10-2 YORBEAU SIGNIFICANT INTERSECTIONS**  
**Yorbeau Resources Inc. - Scott Lake Project**

Hole	Section	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)
SC-53W4	2000W	936.9	959.8	22.9	0.2	7.9	0.2	25.7
	incl.	939.4	944.3	4.9	0.4	14.4	0.1	36.9
	and	947.4	951.5	4.1	0.2	10.2	0.2	27.1
SC-53-W3	2000W	998.6	1,047.7	49.1	0.04	0.5	0.5	9.1
	incl.	998.6	1,000.6	2.00	0.1	6.4	0.2	26.8
SC-48E	1900W	767.3	799.5	32.20	0.3	3.0	0.3	30.4
	incl.	767.3	780.8	13.50	0.4	3.5	0.3	42.2
		792.0	799.5	7.50	0.2	4.7	0.7	29.7
SC-53W6	2000W	972.1	986.2	14.10	0.2	13.5	0.1	17.7
SC-82	1900W	607.5	611.1	3.60	1.6	27.9	0.4	20.2
		799.8	826.5	26.70	0.7	5.2	0.4	42.3
	incl.	799.8	815.0	15.20	1.1	4.9	0.5	59.2
	and	821.1	824.6	3.50	0.3	9.4	0.1	17.7
SC-31W	1900W	879.6	888.0	8.40	0.3	5.1	0.5	35.5
	incl.	879.6	882.7	3.10	0.3	9.2	0.3	30.3
		916.0	927.9	11.90	0.5	5.4	0.6	37.1
SC-82W	1900W	588.6	593.6	5.00	0.7	12.1	0.2	10.2
	incl.	588.6	589.3	0.70	3.6	22.2	0.6	26.3
SC-31W2	1900W	853.0	884.0	31.00	1.0	1.4	0.2	28.2
	incl.	853.0	859.4	6.40	1.8	0.9	0.1	48.7
	and	876.0	884.0	8.00	1.0	1.7	0.2	32.3
SC-83	1950W	988.2	996.0	7.80	0.1	9.9	1.0	30.8
	incl.	992.0	996.0	4.00	0.1	13.7	1.4	39.8
		1,033.0	1,039.4	6.40	0.3	17.4	0.6	28.5

Hole	Section	From (m)	To (m)	Length (m)	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)
SC-83W	1950W	940.5	948.7	8.20	0.2	4.1	0.6	46.8
		956.5	974.5	18.00	0.3	10.9	0.3	33.5
		957.5	965.0	7.50	0.4	14.3	0.4	37.3
		980.6	982.6	2.00		22.7		7.6
SC-85-W	2050W	944.7	949.2	4.50	0.2	19.4	0.2	31.0
SC-87W2	1800W	938.3	984.6	46.30	0.5	9.7	0.5	29.1
		955.0	961.0	6.00	0.6	17.3	0.2	38.3
		973.1	984.6	11.50	0.3	15.8	0.2	25.5
SC-86	1950W	859.7	871.5	11.80	0.3	4.3	0.1	20.3
		859.7	826.6	2.90	0.7	6.5	0.2	45.6
		868.1	871.5	3.40	0.3	9.2	0.1	23.5
SC-87W2	1800W	980.0	983.1	3.10	0.3	4.9	0.2	33.9
SC-87W3	1850W	927.7	948.3	20.60	0.7	5.9	1.0	50.9
		932.0	938.5	6.50	0.9	6.4	2.3	73.3
		939.0	948.3	9.30	0.6	7.1	0.5	35.6
SC-88W	1750W	929.0	944.3	15.30	0.8	7.2	0.2	34.6
SC-88W	1750W	863.8	874.5	10.70	0.4	3.2	0.5	34.1
		863.8	868.2	4.40	0.1	6.1	1.0	18.3

Yorbeau has adopted the core handling and logging, sampling, analytical and security protocols established by Cogitore, previous holder of the property from 2005 to 2015.

Diamond drill holes are planned (azimuth, dip, length) by geologists on vertical cross-sections and on surface plan views in order to intersect geological units relatively perpendicular to their strike and dip. This way, mineralized intersections are relatively close to their true thicknesses.

Drill hole collars are spotted in the field on cut grid lines with the use of modern surveying equipment. Front sights and back sights are identified with pickets. On a day-to-day basis, hole deviations (azimuth and dip) are measured with a Reflex Flexit survey instrument approximately every 30 m, which provides accuracy better than  $\pm 1^\circ$ . Once a hole is completed, collars are surveyed, and the entire hole is surveyed with a Reflex Multi-Shot instrument.

Drill core at Scott Lake is, generally, BQ-size (36.4 mm) in diameter for holes drilled prior to late 2009, for wedge cuts, and for older holes that were deepened. More recent drill holes, subsequent to SC-41, were drilled with NQ-size (47.6 mm dia.) core.

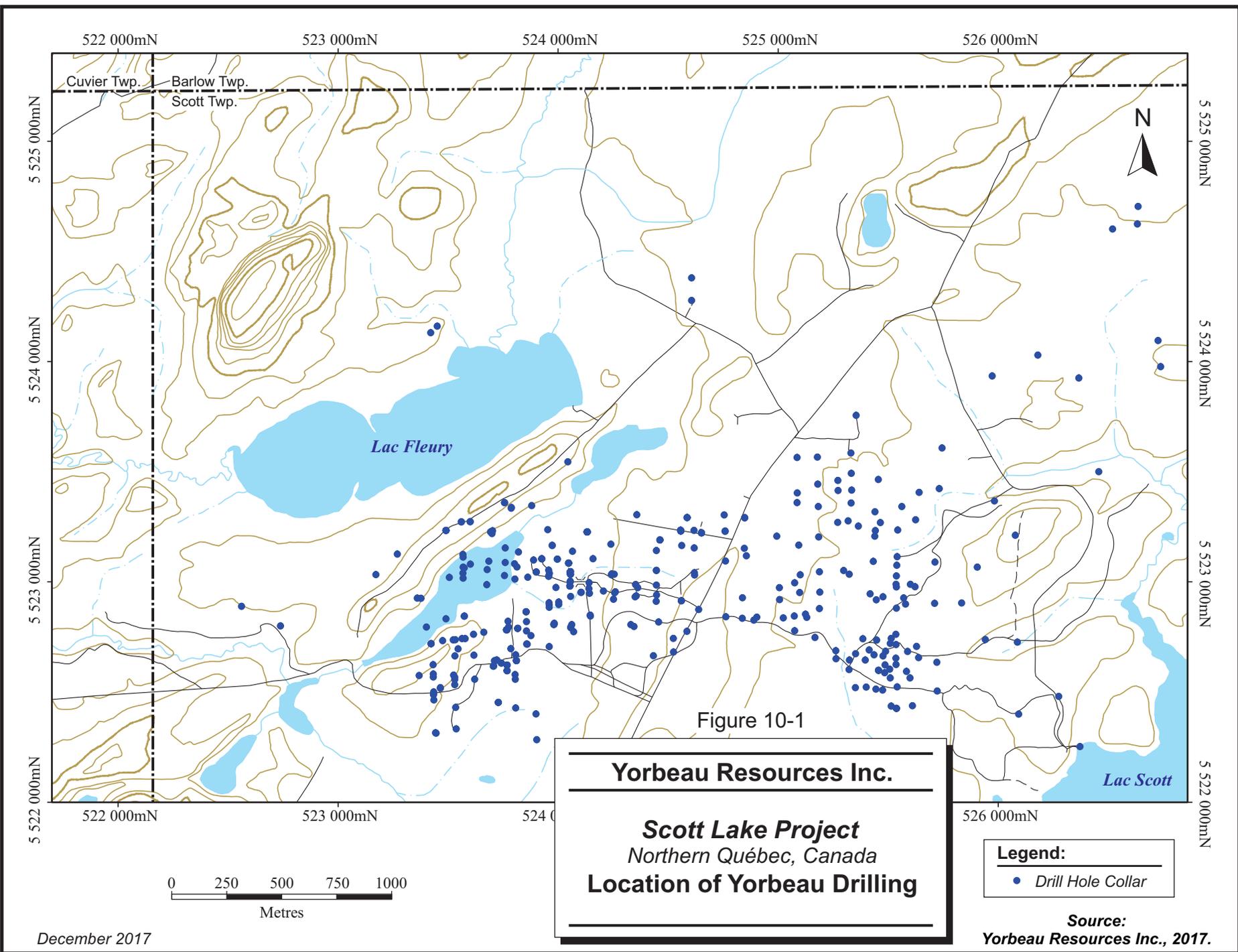
Once retrieved from the core barrel, the core is placed in sequential order in core boxes labelled with a hole number. Each run is identified by a wood block on which the depth of the hole is marked. Missing (not recovered) core, if any, is identified by a wood stick indicating the length of the missing section. At the end of each shift, core boxes are transported by the drillers to the core shack.

Upon receipt, core boxes are placed on tables and opened. Core is washed and checked for accuracy of depth measurement. Only mineralized intercepts are photographed. RPA is of opinion the entire core should be photographed.

Geological and structural data are described by geologists and entered into commercially available digital logging packages (Prolog, up to hole SC-43; and Géotac subsequently). Drill logs are recorded in French and have entries for hole parameters, core description, and sampling intervals. Magnetic susceptibility readings are noted when anomalous values are detected.

Core recovery is generally very good, nearly 100%, with the exception of short intervals within fault zones. Such intervals are generally marked during drilling and checked later by geology personnel for depth accuracy and missing sections. All core boxes from drilling are stored at the Yorbeau core shack facilities in Chibougamau.

RPA considers the Yorbeau drilling procedures at Scott Lake to be consistent with industry standards.



December 2017

## 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

No information is available on the procedures utilized for the drill campaigns conducted by Thunderwood, Syngold, Camchib, or Selco prior to Cogitore's acquisition of the Scott Lake Property in 2005.

Essentially the same sampling, analytical, and security procedures and protocols were used by Cogitore from 2005 to 2011 and by Yorbeau from 2015 to the present. The descriptions below apply to drilling programs since 2005.

### SAMPLE COLLECTION

Drill core was handled, logged, and sampled by Yorbeau personnel, and previously Cogitore personnel. Sample selection was done visually, according to geology and sulphide content. Sample lengths varied between 0.3 m and 1.5 m subject to rock type, alteration, and mineralization, but were generally 1.0 m in length or less in mineralized intervals. Sample positions were identified, and sample tags were placed under the core in the core boxes at the beginning of each sample. The beginning and end of each sample were also marked on the core. Core shack employees verified holes to be sampled.

Selected samples were split in half along their longitudinal axis with a hydraulic splitter or a rock saw. One half was placed in a plastic bag with the corresponding tag number. Bags were folded and sealed to prevent spillage during transportation to the laboratory. The other half core was placed back in core boxes with the corresponding tag placed at the beginning of the sampled core. Between samples, hardware such as the core saw, core splitter, and metallic pans was cleaned.

In RPA's opinion, core sampling procedures used by Cogitore and Yorbeau are consistent with industry standards and are adequate for the estimation of Mineral Resources.

## **SAMPLE PREPARATION AND ASSAY PROTOCOLS**

Bags of core samples were sent to the ALS laboratory in Val d'Or, Québec, an ISO/IEC 17025:2005 accredited facility, for analysis up to 2009. ALS, formerly Chimatec Bondar Clegg (2001) and ALS Chemex Chimatec (2002), is a component of a global company which provides analytical services for mining and exploration companies. A list of all samples was attached to the shipment, and a copy was faxed or emailed to the laboratory.

Starting in 2009, due to volume, Cogitore began to send samples to Lab-Expert of Rouyn-Noranda, Québec, a non-ISO/IEC 17025 accredited facility. RPA (2011) reviewed the Lab-Expert preparation and analytical procedures, and quality assurance and quality control (QA/QC) protocol, and considers them to be consistent, in general, with industry standards.

Following acquisition of the property in 2015, Yorbeau requested assaying for copper, zinc, lead, gold, and silver at Techni-Lab S.G.B. Abitibi inc. (Techi-Lab) and multi-element assaying and geochemical rock analysis (major oxides) at ALS, which was also used as an alternate assay laboratory, depending on availability. At Techni-Lab, when values were greater than 10,000 ppm for copper and zinc and 1,000 ppb for gold, a new analysis was carried out.

Samples sent to ALS by Yorbeau were assayed by Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP-AES; ME-ICP41 for 36 elements) including zinc, copper, and silver. All samples in which zinc and copper are greater than 10,000 ppm or silver is greater than 100 ppm are reanalyzed using four acid digestion with an ICP-AES finish (Zn-OG62, Cu-OG62, and Ag-OG62) with zinc and copper reported in percentage, and calibrated for higher levels of silver contained. Gold values are determined by Fire Assay Fusion with an Atomic Absorption Spectroscopy finish (AAS; Au-AA23). Any value over 1 ppm Au triggers a fire assay with gravimetric finish analysis (Au-GRA21).

Lithochemical sampling consists of selecting a three-metre interval for every 30 m to 50 m of a drill hole, from which up to a dozen pieces of core, each being 5 cm to 10 cm long, that are representative of the whole three metre interval, are collected.

RPA has identified no drilling, sampling, or recovery factors that could have materially impacted on the accuracy and reliability of the Mineral Resource estimate.

RPA considers the sampling method and approach by Cogitore and Yorbeau at the Scott Lake Project to be consistent with industry standards and are adequate for the estimation of Mineral Resources.

## RESULTS OF QA/QC PROGRAMS

Quality Assurance (QA) consists of evidence to demonstrate that the assay data has precision and accuracy within generally accepted limits for the sampling and analytical method(s) used in order to have confidence in Mineral Resource estimates. Quality Control (QC) consists of procedures used to ensure that an adequate level of quality is maintained in the process of sampling, preparing, and assaying the exploration drilling samples. In general, QA/QC programs are designed to prevent or detect contamination and allow assaying (analytical) precision (repeatability) and accuracy to be quantified. In addition, a QA/QC program can disclose the overall variability of the sampling-assaying methods used.

Industry standard QA/QC methods in general include:

- Verifying credentials of the analytical laboratories used
- Insertion of Certified Reference Materials (CRM) or standards into the sample stream to check for accuracy
- Insertion of blank samples into the sample stream to check for contamination
- Insertion of duplicate sample into the sample stream to check for precision
- Check analyses at a second laboratory to check for accuracy

No QA/QC results are available for programs prior to 2005. All results and discussion in this section relate to drilling campaigns from 2011 to the present. The reader is referred to the RPA 2011 Technical Report for a comprehensive overview of the QA/QC program by Cogitore in 2011 and prior years. For assays up to 2011, it was RPA's opinion that the QA/QC program at Scott Lake, as of 2011, was adequate and the assay results produced from the drilling were appropriate for use in Mineral Resource estimates (RPA 2011).

For the current Mineral Resource estimate, RPA reviewed the QA/QC results of Yorbeau's 2015-2016 drilling campaigns at Scott Lake as well as the 2011 drilling campaign by Cogitore. From 2011 to 2016, a total of 119 CRM/internal standards and 24 blanks were inserted into the sample stream. Yorbeau also collected 86 pulp duplicates and 86 reject duplicates for comparative analysis.

Yorbeau inserted CRMs or internal analytical standards and blank samples at the following rate:

- One CRM or standard for approximately every 25 samples.
- One or two CRMs or standard every 10 m in high grade mineralization (massive sulphides or potentially high grade stringers).
- Beginning in 2015, one blank control sample for every 25 samples.

Beginning in 2016, Yorbeau introduced pulp duplicates and for every 24 samples a duplicate analysis was completed on a pulp split at the primary laboratory. Pulp rejects from samples analyzed from 2012 to 2015 were also submitted to a single laboratory as part of the 2016 pulp duplicate program.

Yorbeau utilized two in-house analytical standards and several commercial CRMs. Although OREAS-134b was not used in sufficient numbers and results are not statistically significant, RPA elected to include the results. The expected grade values of the CRMs and internal standards are summarized in Table 11-1. Count is the number of analyses by Yorbeau of each CRM, standard, blank, and duplicate.

**TABLE 11-1 QA/QC – SCOTT LAKE ANALYTICAL STANDARDS AND BLANKS  
Yorbeau Resources Inc. – Scott Lake Project**

Reference Material	Count	Date Range	Cu		Zn		Ag		Au	
			Grade (%)	Std Dev (%)	Grade (%)	Std Dev (%)	Grade (g/t)	Std Dev (g/t)	Grade (g/t)	Std Dev (g/t)
COG-1 (in-house)	43	2011-2017	5.02	0.05	-	-	39.3	2.2	-	-
COG-2 (in-house)	52	2011-2017	-	-	5.79	0.06	16.8	0.8	-	-
OREAS 112 (CRM)	24	2011-2016	5.13	0.23	0.43	0.02	17.0	5.0	-	-
OREAS 134b (CRM)	9	2016-2017	0.135	0.01	18.03	0.755	209	9	-	-
Blanks	24	2015-2017	-	-	-	-	-	-	-	-
Pulp Duplicates	86	2012-2016	-	-	-	-	-	-	-	-
Reject Duplicates	86	2012-2016	-	-	-	-	-	-	-	-

RPA has reviewed the results of all QA/QC samples at the Scott Lake Project subsequent to the RPA 2011 Technical Report. Basic statistics, scatter plots, and Q-Q plots were generated to check the accuracy and precision of the QA/QC results. RPA makes the following observations.

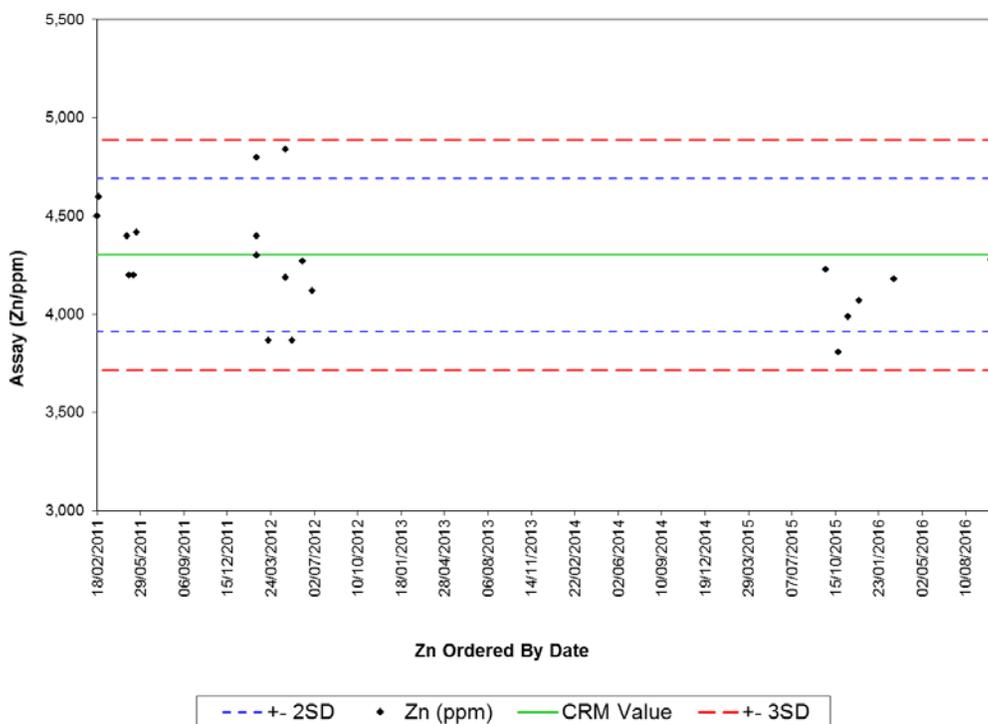
**INTERNAL STANDARDS (COG-01 AND COG-02)**

Results of the internal analytical standards COG-1 and COG-2 for all metals showed a large amount of scatter ( $>\pm 10\%$ ) and were generally lower than the expected values in Table 11-1. When preparing the internal standards, Yorbeau did not complete full round robin analyses, making them problematic to use as a reference material (see Section 13 in Scott Wilson RPA, 2010). It is RPA's opinion that the results of the internal standards are unreliable. RPA strongly recommends that Yorbeau only use commercial CRMs at the Scott Lake Project.

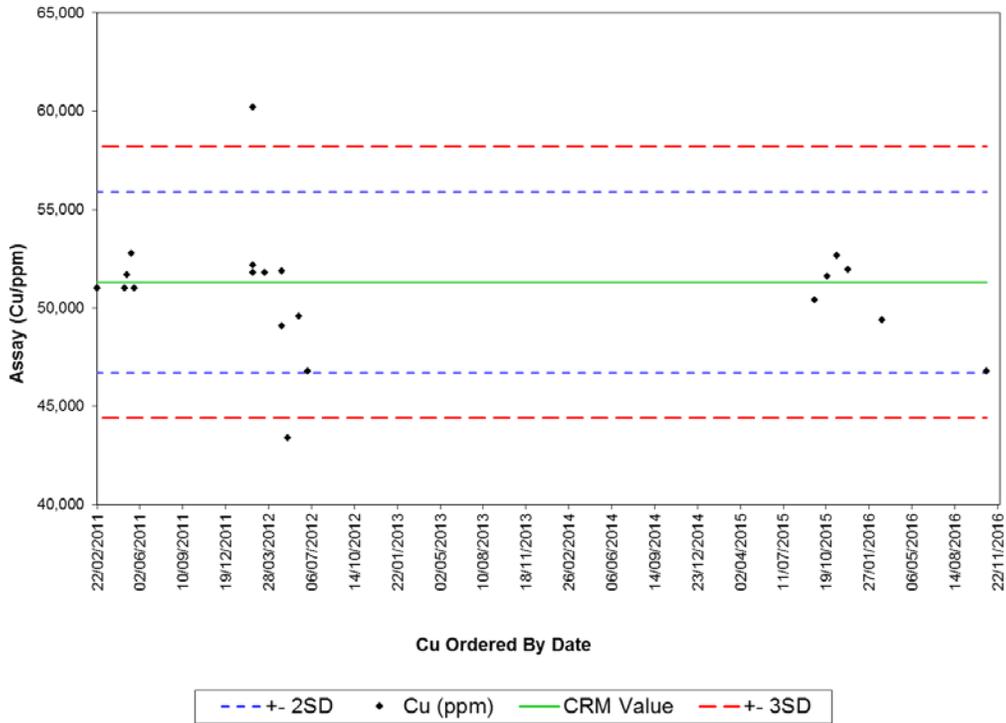
**COMMERCIAL CRMS (OREAS 112 AND OREAS 134B)**

For commercial CRMs, the acceptable assay range is defined by threshold limits three standard deviations above or below the expected means for all determinations. Values outside of these parameters are deemed to be failures. RPA reviewed the analytical results for zinc, copper, and silver for CRMs OREAS-112 and OREAS-134b and found the results acceptable. Scatterplots of zinc, copper, and silver for OREAS-112 are shown in Figures 11-1 to 11-3.

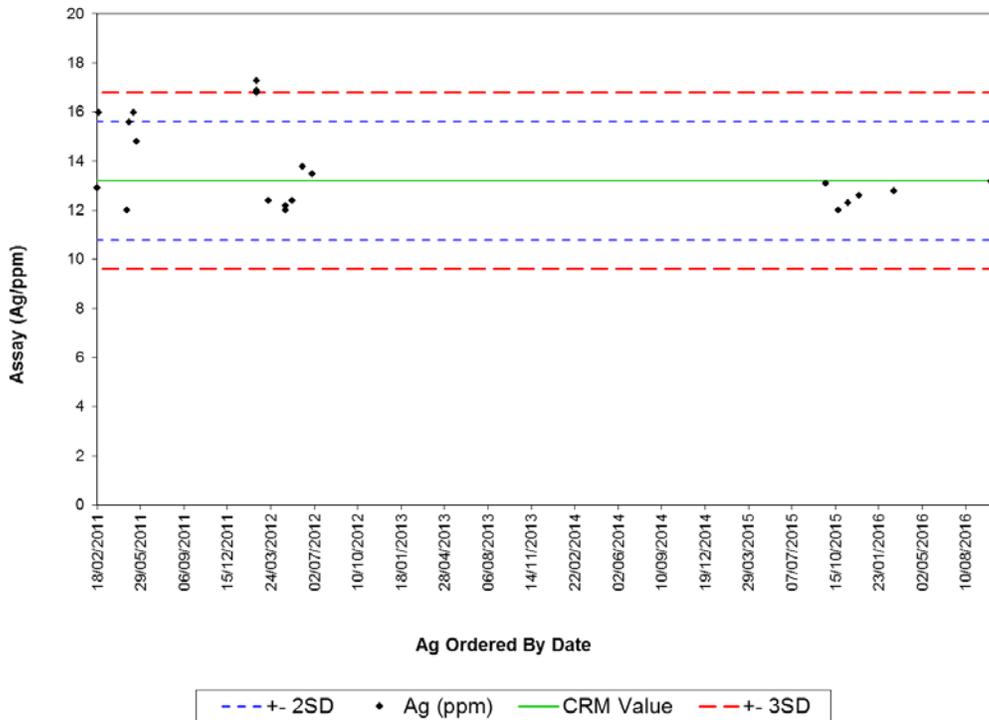
**FIGURE 11-1 CRM OREAS-112 SCATTERPLOT FOR ZINC**



**FIGURE 11-2 CRM OREAS-112 SCATTERPLOT FOR COPPER**



**FIGURE 11-3 CRM OREAS-112 SCATTERPLOT FOR SILVER**



**BLANKS**

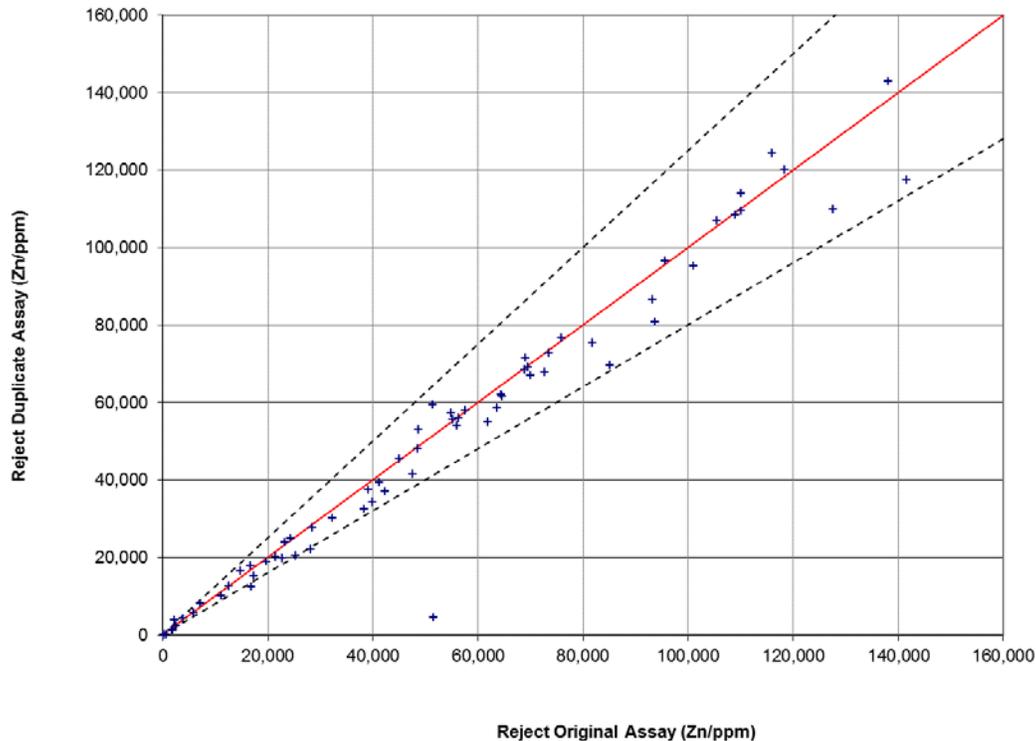
Beginning in 2015, Yorbeau used several sources for blank material, and included barren diabase collected in the Scott Lake area, crushed quartz, and bricks obtained from a local hardware store. The majority of the blanks inserted into the sample stream by Yorbeau comprised crushed brick, which is not devoid of zinc and copper. The values of both zinc and copper ranged from at or below detection limit to more than 100 times detection limit and it is not possible to determine if the high values are the result of low-level contamination. RPA strongly recommends that Yorbeau use certified blank reference material to test for possible contamination in future drilling programs at Scott Lake.

**DUPLICATES**

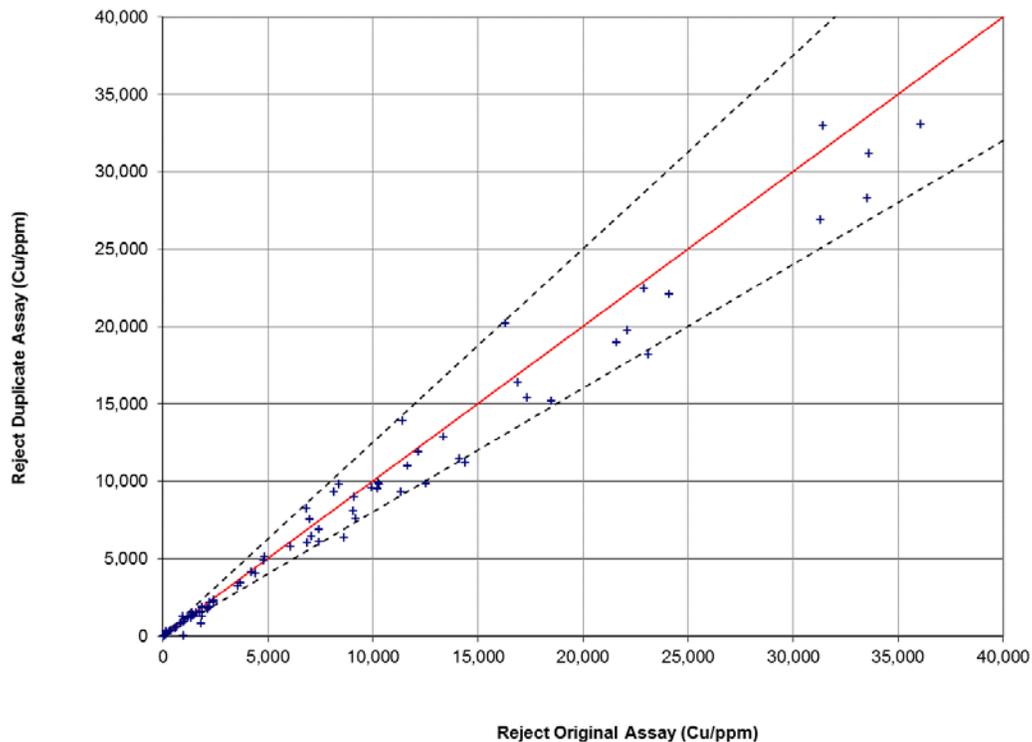
In 2016, pulp duplicate samples were collected from 86 samples initially analyzed by three separate laboratories from 2012 to 2016. Duplicate assays were analyzed by Accurassay Laboratories in Thunder Bay, Ontario as a single batch. A low bias is evident in all metals in the duplicate results from Accurassay. It is RPA's opinion that the duplicate results from Accurassay cannot be relied upon.

Reject duplicates of samples originally assayed from 2012 to 2016 were re-assayed in 2016 using the same laboratory and method. In RPA's opinion, results are adequate for zinc, copper, and silver, although more scatter is observed in the Ag results, which can be expected given the two acid digestion method used. Scatterplots are shown in Figures 11-4 to 11-6 for zinc, copper, and silver with dashed lines showing +/- 20% from the 1:1 correlation line.

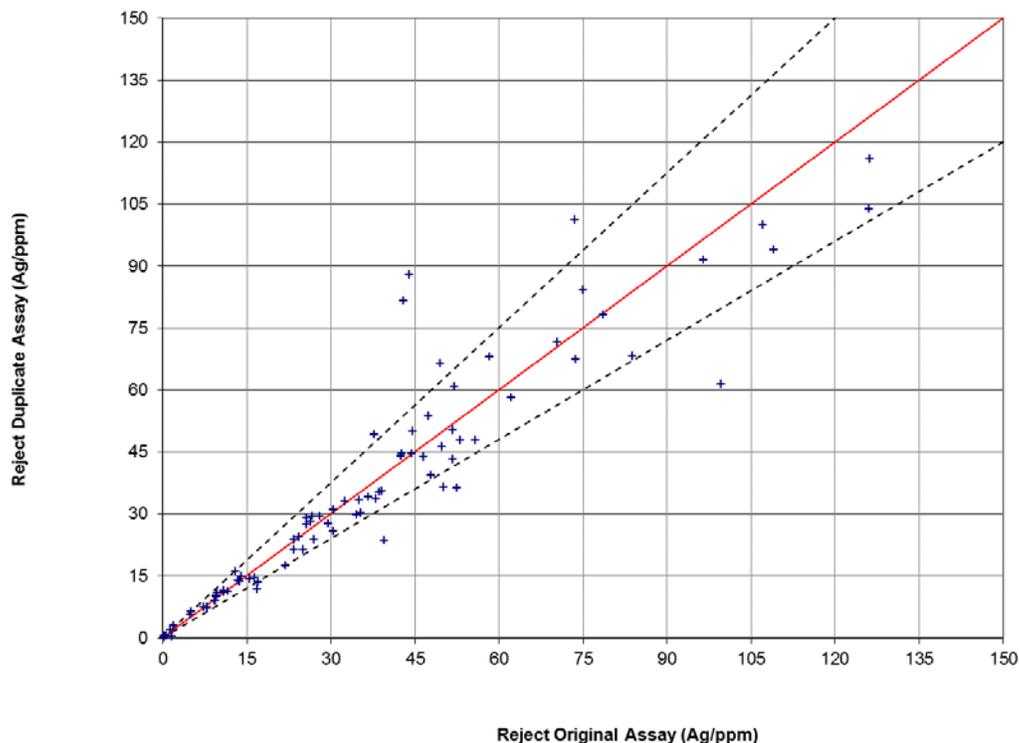
**FIGURE 11-4 REJECT DUPLICATE SCATTERPLOT FOR ZINC**



**FIGURE 11-5 REJECT DUPLICATE SCATTERPLOT FOR COPPER**



**FIGURE 11-6 REJECT DUPLICATE SCATTERPLOT FOR SILVER**



**RPA COMMENTS**

In RPA’s opinion, the QA/QC program as designed and implemented by Yorbeau for its 2015-2016 drilling is acceptable and the assay results within the database are suitable for use in a Mineral Resource estimate. Some suggested improvements include:

- Use only commercially available CRMs which cover the range of expected values for copper, zinc, silver, and gold
- Use certified blank reference material
- Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis

## 12 DATA VERIFICATION

### **CROSS SECTIONS, LONGITUDINAL SECTIONS, PLAN VIEWS**

RPA reviewed cross sections, longitudinal sections, and plan views, and found the geological interpretation of both rock types and mineralized zones to be well done and acceptable for Mineral Resource estimation.

### **CORE LOGS AND DATABASE**

In 2011, RPA carried out spot checks in the database and found minor errors that were diligently corrected prior to Mineral Resource estimation. RPA also reviewed several drill core logs and found that the original database was consistent with the drill core logs. The lithological codes used by Yorbeau in rock description are local names and are not those from the MERN.

### **ASSAY CERTIFICATES**

In 2011, RPA verified several historic assay certificates at the Cogitore offices in Rouyn-Noranda in paper format from previous drill campaigns while. No discrepancies were identified between assay values found on the certificates and assay values in drill core logs and in the database. In addition, electronic assay certificates from ALS and Lab-Expert were imported and checked against values in the database. For both laboratories, assay values for copper, zinc, lead, silver, and gold were compared. A total of 663 assays (3,315 determinations), or approximately 5% of the assay database, were checked and only minor errors were found. Specifically, one assay was assigned an improper sample number and there were five instances where gold assays were not updated in the database after the ICP-AES results exceeded 1,000 ppb and fire assay fusion with a gravimetric finish was done.

In 2017, RPA imported and checked electronic assay certificates from ALS for drilling completed in 2016. No errors were found.

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

## **SITE VISIT**

### **2011**

A site visit was conducted by RPA on June 20-21, 2011, with Francis Lefebvre, geo., Project Geologist, Cogitore. On June 20, RPA examined the drill site condition. At that time, there was no drilling being conducted. RPA found numerous drill hole casings at their expected position, azimuth, and dip.

Core from several holes was reviewed, including core from the Central Lenses (SC-50, SC-54, SC-57, SC-59, SC-60, SC-66, SC-67), the SC-30 Lens (SC-30W3), and the CFO Lens (SC53- SC-53W, SC53-W2, SL-93-106W).

RPA compared a sample of drill logs and assay sheets against drill core and confirmed that these documents reflected what RPA observed in the core. In RPA's opinion, the work was being conducted in a manner that is consistent with industry standard.

### **2016**

A site visit to the property was carried out by Dr. William E. Roscoe, P.Eng., Principal Geologist with RPA, on October 26 to 27, 2016. During the site visit, discussions were held with Dr. Gérald Riverin, President and Director of Yorbeau, and Sylvain Lépine, Director of Projects, Yorbeau. Drill hole logging and sampling procedures were reviewed with Yorbeau staff at the Yorbeau core logging facility. Drill core was inspected for several recent drill holes. The drill operating on the property was visited along with sites of several drill holes in the current Yorbeau and past Cogitore programs, and two drill sites at the Selco zone. Plans and drill sections were reviewed with Yorbeau staff.

# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

## INTRODUCTION

As previously reported, a total of 33 various metallurgical tests were completed on samples of one kilogram size from late 2011 to February 2013 under the direction of Cogitore (RPA, 2017). Most of the tests consisted of preliminary flotation tests conducted in open circuit. The laboratory work was performed by Metchib based in Chibougamau, Québec. This was complemented with a comprehensive mineralogical study completed by Chicoutimi based IOS Services Géoscientifiques Inc. in 2012, which involved 12 polished sections of various mineralized zones and also 14 samples of the various products from the metallurgical testing.

No final and comprehensive report was prepared on the preliminary Metchib tests, however, steps to maximize recoveries or to optimize the process were being carried out. Progress reports on preliminary test work indicated possibilities of producing commercial concentrates of both copper and zinc, however, in order to fully assess metal recoveries, additional locked cycle flotation tests needed to be undertaken.

In 2017, a metallurgical test program was undertaken by Metchib with assistance by SGS Lakefield and SGS Québec on a single composite sample from the Scott Lake deposit under the direction of Yorbeau (formerly Cogitore). The test work consisted of mineralogical characterization of the feed sample, magnetic separation, an EDTA extraction test, batch flotation testing and a single locked cycle test (Metchib, 2017). Information and results related to the 2017 metallurgical test program have been reviewed and referenced in this section, where applicable.

## METALLURGICAL SAMPLING

Yorbeau assembled a composite sample from coarse reject material weighing approximately 55 kg in total from several drill holes from all mineralized zones representing the deposit (with the exception of the Selco lens). RPA reviewed the information related to the drill hole locations of the individual samples and the representativeness of the metallurgical samples is

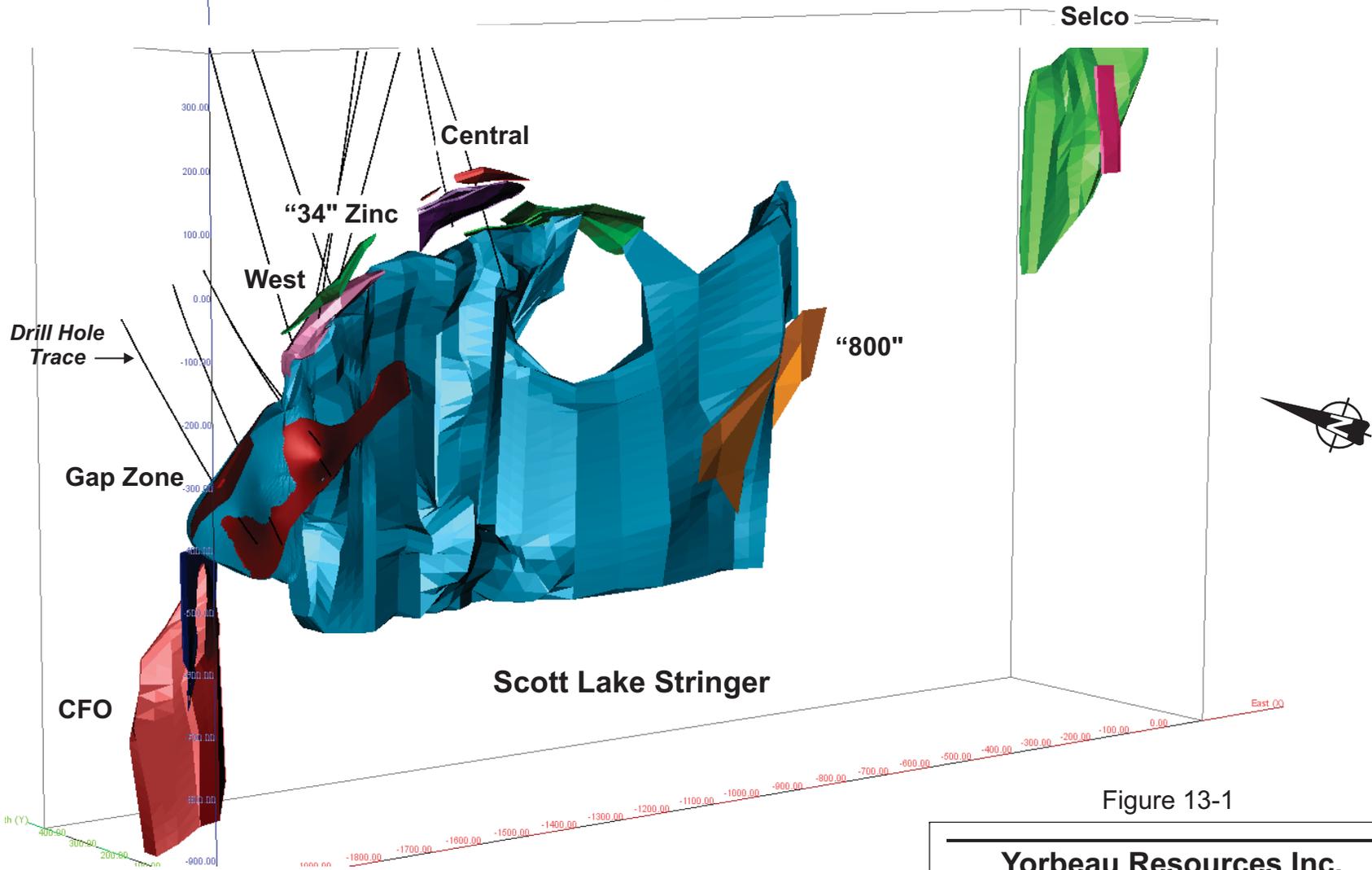
illustrated in Figure 13-1. Table 13-1 lists the proportion of mineralization-type based on the domain codes and data provided by Yorbeau.

Based on RPA's analysis, it appears that Yorbeau selected high-grade mineralization from within the stringer zone, which is reflected in the average grade of the samples taken, and is well above the average stringer zone grades for the deposit. It should be noted that the composite sample prepared for metallurgical testing is a blend of massive sulphide and stringer-type mineralization and the estimated proportions that can be economically mined and processed during the life of the mine may not be properly represented by this single composite sample and needs further evaluation. RPA recommends that samples of massive sulphide and stringer-type mineralization be segregated and tested individually to better understand the response of each type of sample to the proposed method of processing, before testing blends of the two types of mineralization.

**TABLE 13-1 2017 METALLURGICAL SAMPLING CAMPAIGN  
Yorbeau Resources Inc. – Scott Lake Project**

<b>Mineralization</b>	<b>Sample Weight (kg)</b>	<b>% Distribution</b>	<b>%Cu</b>	<b>%Zn</b>	<b>Au ppm</b>	<b>Ag ppm</b>
Massive sulphide	37.93	69	0.81	5.26	0.27	35.6
Stringer	16.99	31	1.32	1.32	0.28	55.4
<b>Total</b>	<b>54.92</b>	<b>100</b>	<b>0.96</b>	<b>4.63</b>	<b>0.27</b>	<b>42.0</b>

Looking Northeast



13-3

Figure 13-1

**Yorbeau Resources Inc.**

**Scott Lake Project**  
Northern Québec, Canada  
**Location of Drill Holes for  
Metallurgical Samples**

It is important to note that old drill core stored in uncontrolled conditions may have adverse effects in metallurgical test campaigns. The use of potentially oxidized samples will likely have a negative effect on flotation test work by giving false indications of expected concentrate grades, recoveries, and circuit sizing and performance.

RPA recommends that more attention to the rationale for metallurgical sample selection, collection, storage, and documentation be undertaken in future drilling campaigns.

## SAMPLE CHARACTERIZATION

### SAMPLE PREPARATION

The composite sample assembled by Yorbeau was delivered to Metchib for sample preparation. The sample was crushed to minus 6 mesh in size, homogenized, and split into two parts. Half of the sample was delivered to SGS and the remaining half was retained by Metchib. The samples were riffled into 1.2 kg lots for different flotation tests.

### ANALYSIS OF COMPOSITE SAMPLES

Head assays of the composite samples were determined separately by Metchib and SGS Québec (Metchib, 2017) and the results are shown in comparison to a composite sample from 2013 in Table 13-2. Details are not known regarding the representativeness of the 2013 composite sample.

**TABLE 13-2 HEAD ANALYSIS OF COMPOSITE SAMPLES  
Yorbeau Resources Inc. – Scott Lake Project**

	2013	2017 Metchib	2017 SGS
Cu grade (%)	1.25	0.94	0.89
Zn grade (%)	4.94	4.44	4.51
Ag grade (ppm)	50.3	--	35.2
Au grade (ppm)	0.40	--	0.25
Magnetic fraction (%)	9.7	18.6	20.7

The grades of all metals are noticeably lower and the magnetic fraction is higher in the 2017 composite, in comparison to the 2013 composite sample. The differences in the grades between Metchib and SGS are reasonable and are within acceptable tolerance with regards to variance in sample splitting.

## **MINERALOGICAL ANALYSIS**

High definition mineralogical analysis of the 2017 composite sample was conducted by SGS Lakefield using QEMSCAN (Quantitative Evaluation of Materials by Scanning Electron Microscopy) and the results are presented in Table 13-3. The main sulphide minerals in the blended ore are predominantly associated with pyrite, pyrrhotite, sphalerite, and chalcopyrite.

Metchib assumes that high pyrrhotite content (16.4%) suggests that most of the material is magnetic, however, there are differences in the magnetic fraction reported by Metchib (18.3%) and SGS (20.7%) in Table 13-2 indicating some inconsistency in the data. RPA notes that the amount of hexagonal pyrrhotite versus monoclinic pyrrhotite was not quantitatively determined in the 2017 composite sample, therefore, Metchib's assumptions that the majority of pyrrhotite is magnetic (monoclinic variety) needs to be confirmed.

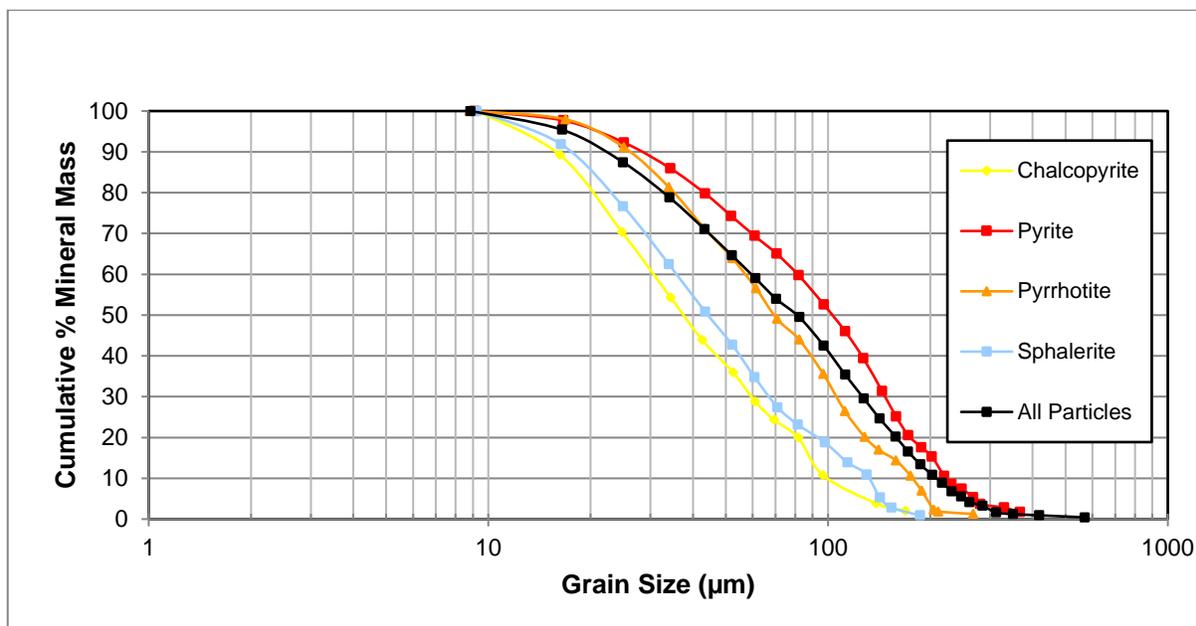
In RPA's opinion, the degree of economic mineral liberation should be assessed separately for the massive sulphide and stringer ore samples and compared to a blended ore sample in the proportions to be mined and processed. Since the 2017 composite sample is significantly different from the 2013 composite sample, greater mineralogical assessment needs to be performed on all samples and these analyses should also include the products from flotation testing. Size-by-size mineralogical analysis of Cu/Zn processing along with extensive flotation testing is needed to identify the behaviour of the two varieties of pyrrhotite (monoclinic and hexagonal) and to design an effective pyrrhotite rejection strategy in the flotation circuit.

**TABLE 13-3 MINERALOGICAL ANALYSIS**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Mineral</b>	<b>%</b>
Chalcopyrite	2.6
Pyrite	35.3
Pyrrhotite	16.4
Sphalerite	7.61
Galena	0.06
Other - Sulphides	0.16
Iron oxides	2.60
Other oxides	0.04
Quartz	18.7
Chlorite/Clays	6.94
Sericite/Muscovite	4.24
Biotite	0.10
Talc	0.15
Plagioclase	0.76
K-Feldspar	0.46
Amphibole/Pyroxene	2.11
Epidote	0.87
Titanite/sphene	0.13
Other Silicates	0.18
Calcite	0.29
Dolomite	0.05
Other - Carbonates	0.00
Apatite	0.14
Other	0.06
<b>Total</b>	<b>100.0</b>

Figure 13-2 shows the cumulative mineral mass as a function of grain size for each mineral present in the composite sample and that the grain size of the sphalerite is coarser than chalcopyrite. Based on the mineralogical results for the composite sample, a primary grind,  $D_{80}$ , of 55  $\mu\text{m}$ , a secondary grind of 25  $\mu\text{m}$  for the Cu cleaner circuit and a secondary grind of 30  $\mu\text{m}$  for the Zn cleaner circuit were determined to be appropriate by Metchib.

**FIGURE 13-2 CUMULATIVE MINERAL MASS VS. GRAIN SIZE**



## METALLURGICAL TESTING

### COMMINUTION

No comminution testing was performed on the 2017 composite sample, although batch flotation tests and a locked cycle flotation test were conducted. In 2012, a single Bond Ball Mill Work Index (BWi) test was performed resulting in 10.29 kWh/t (source of ore sample not identified).

In RPA’s opinion, the comminution testing completed to date is very limited and more testing needs to be performed on blended ore and waste in the Cu/Zn system to confirm ore hardness with depth. Future testing should focus on using fresh metallurgical drill core and samples for variability.

### MAGNETIC SEPARATION

The magnetic separation characteristics of the composite sample at different grind sizes was determined using a Davis magnetic tube concentrator (Davis Tube) in the laboratory. The apparatus is designed to separate a small sample of pulverized material into magnetic and non-magnetic fractions. For each test, material was ground in a 2 kg mill and a 20 gram sub-sample was magnetically separated at 100 strokes/min using 1 L/min of wash water. Davis

Tube tests were performed at grind sizes of 61  $\mu\text{m}$ , 45  $\mu\text{m}$ , and 41  $\mu\text{m}$  and a current setting of 1.5 amps. The results are summarized in Table 13-4. At a grind size of 61  $\mu\text{m}$  (test DT-2), the weight recovery to the magnetic fraction was 18.6% and metal recoveries to the magnetic concentrate were 6.5% for Cu and 5.7% for Zn.

**TABLE 13-4 DAVIS TUBE TEST RESULTS**  
**Yorbeau Resources Inc. – Scott Lake Project**

Test	Grinding Time (min.)	Calc. Sample Weight (g)	Concentrate Grade (non-magnetic)			% Recovery (non-magnetics)				
			Feed Size P <sub>80</sub> ( $\mu\text{m}$ )	%Cu	%Zn	%Fe	Weight	Cu	Zn	Fe
Head Sample			--	0.89	4.51	30.5	--	--	--	--
DT-1	60		45	1.07	5.21	25.1	79.3	92.8	92.7	63.7
DT-2	30		61	1.05	5.26	25.1	81.4	93.5	94.3	66.2
DT-3	90	18.7	41	1.05	5.35	25.2	72.7	85.4	85.5	57.6

### EDTA TEST

EDTA test results indicated that the natural activation of sphalerite may be attributed to the presence of Cu ions in the water. Natural sphalerite activation occurred with both Chibougamau tap water (Metchib) and Québec City tap water (SGS). It was recommended that tests be performed using water from the mine site.

### BATCH FLOTATION

Flotation was identified as the appropriate method for Cu/Zn separation and for the production of marketable Cu and Zn concentrates. Cu/Zn processing via concentrator plants are common in the mining industry due to the predictable behaviour of Cu/Zn ores and are considered relatively low risk.

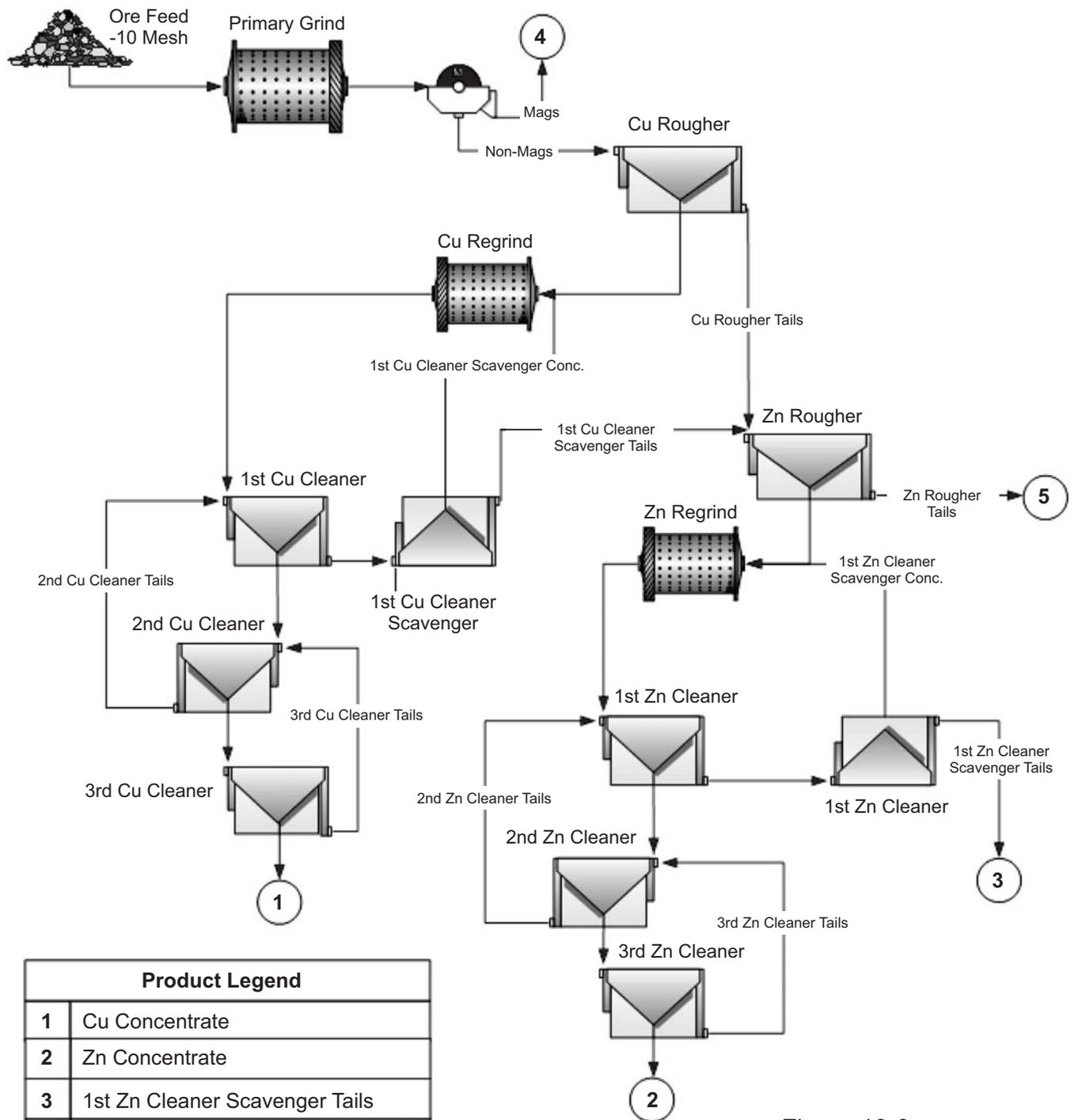
The flotation test work program for the Scott Lake Project was developed for a blend of Cu/Zn massive sulphide and stringer ore and then treatment evolved to include pre-treatment using magnetic separation for pyrrhotite rejection. In 2017, 11 batch flotation tests were performed prior to locked cycle flotation testing (LCT). Seven batch flotation test were performed by Metchib (tests YT1 – YT7) and four batch flotation test were performed by SGS Québec (tests F1 – F4). The 2017 flotation test results were then compared to the 2013 test results (test CT33). The key results from 2017 batch flotation testing are summarized below:

- The 2017 composite sample exhibited lower selectivity in flotation in comparison to the 2013 composite sample.
- The copper and zinc content was approximately 30% lower in the 2017 composite sample.
- The magnetic concentrate increased to 19.6% by weight from 9% observed in 2013.

In RPA's opinion, reagent addition does not appear to be optimized for the copper and zinc circuits in batch flotation, prior to locked cycle testing. Optimization of grinding and reagents should be performed prior to future locked cycle testing.

### **LOCKED CYCLE FLOTATION**

Based on the results of the batch flotation tests, LCT parameters and a flowsheet were developed. The flowsheet used for LCT is illustrated in Figure 13-3. A single LCT was performed by SGS Québec consisting of six cycles (A-F). The final tails consisted of a combination of the magnetic concentrate, zinc flotation tails and zinc cleaner scavenger tails. Table 13-5 lists the test parameters used during the LCT and the results are presented in Table 13-6. A SGS report detailing the aspects of the LCT was not provided to RPA for review.



Product Legend	
1	Cu Concentrate
2	Zn Concentrate
3	1st Zn Cleaner Scavenger Tails
4	Magnetics (Mags)
5	Zn Cleaner Tails

Figure 13-3

**Yorbeau Resources Inc.**

**Scott Lake Project**  
Northern Québec, Canada

**Flow Sheet for Locked Cycle Test (SGS)**

**TABLE 13-5 LCT PARAMETERS AND REAGENT CONSUMPTION (SGS)  
Yorbeau Resources Inc. – Scott Lake Project**

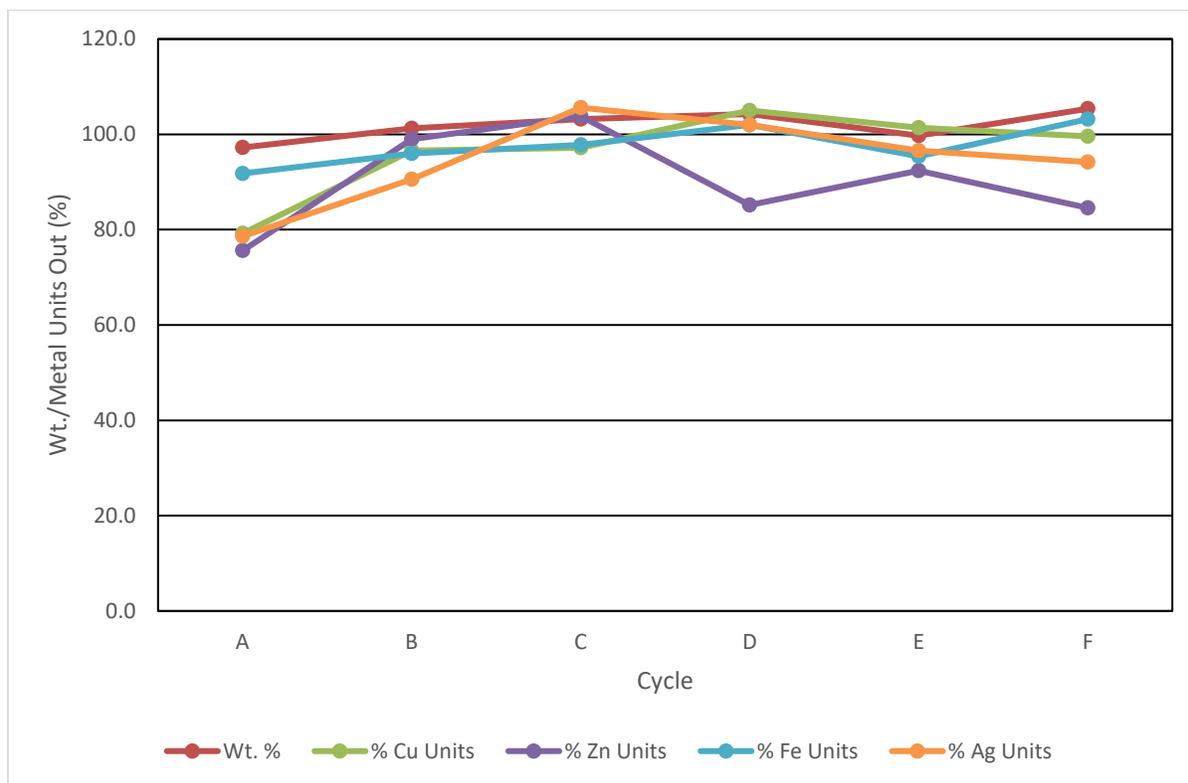
Stage	Reactive addition (g/t feed)						Time minutes			pH	Ep (mV)
	Ca(OH) <sub>2</sub>	SMBS	3418A			MIBC	Grind	Cond.	Froth		
Primary Grind	2500	1400	10	-	-	-	40			6.6	-175
<b><u>Magnetic Separation</u></b>	Recovery with a magnet directly in the cell. cleaning in a pan. return of the non-mag in the cell										
Magnetic Recovery								2		10	
<b><u>Aeration</u></b>	3030								10	10.1	-209
<b><u>Rougher Cu</u></b>											
Rougher Cu 1	420	-	-	-	-	15		1	3.0	10.1	-5
Rougher Cu 2	220	200	5	-	-	5		1	3.0	10.0	-10
<b>Cleaner Cu (Conc Rougher 1-2)</b>											Ep
	Ca(OH) <sub>2</sub>		3418A	NaCN	ZnSO <sub>4</sub>	MIBC	Grind	Cond.	Froth	pH	(mV)
Regrind	750		10	12.5	50	-	12			11.4	-45
Cleaner 1 Cu	40	-	-	-	-	10		1	4.0	11.5	-80
Scav Chnr 1 Cu	-	-	5	-	-	5		1	2.0	10.0	-70
<b>Tails Scav Chnr 1 Cu combined with tails rougher 2 Cu for the Zn circuit feed</b>											
Cleaner 2 Cu	190	-	5	-	-	5		1	3.0	11.6	-77
Cleaner 3 Cu	680	-	-	-	-	5		1	2.0	11.8	-90
<b>Total Cu</b>	<b>7830</b>	<b>1600</b>	<b>35</b>	<b>13</b>	<b>50</b>	<b>45</b>					
Stage	Ca(OH) <sub>2</sub>		3418A	CuSO <sub>4</sub>		MIBC	Grind	Cond.	Froth	pH	(mV)
<b><u>Zinc Circuit</u></b>											
Conditioning 1				350				4		9.3	84.5
Conditioning 2	3620		35			10		2		11.5	-112.3
<b><u>Rougher Zinc</u></b>											
Rougher Zn 1			-	-		15		1	3.0	11.5	-112.3
Rougher Zn 2	1250		35	-		5		1	3.0	11.5	-57.0
<b>Cleaner Zinc (Conc Rougher 1-2)</b>											Ep
	Ca(OH) <sub>2</sub>		3418A	CuSO <sub>4</sub>		MIBC	Grind	Cond.	Froth	pH	(mV)
Regrind	1000			100		-	15			11.7	-72.7
Cleaner 1 Zn	813		-	-		10		1	2.0	11.7	-85.7
Scav Chnr 1 Zn			5	-		5		1	1.0	11.7	-65.8
Cleaner 2 Zn	683		5	-		0		1	1.5	11.8	-83.8
Cleaner 3 Zn	433		-	-		5		1	1.0	11.8	-95.5
<b>Total Zn</b>	<b>7800</b>		<b>80</b>	<b>450</b>		<b>50</b>					

**TABLE 13-6 LCT TEST RESULTS (SGS)**  
**Yorbeau Resources Inc. – Scott Lake Project**

Product	Mass		Grade (% , g/t)				Distribution (%)			
	(g)	(%)	Cu(%)	Zn(%)	Fe(%)	Ag(g/t)	Cu	Zn	Fe	Ag
Conc. Nett 3 Cu A	21,8	0,3	27,4	4,56	28,3	662	10,6	0,4	0,3	5,8
Conc. Nett 3 Cu B	28,6	0,5	25,4	6,54	27,5	612	13,0	0,7	0,4	7,1
Conc. Nett 3 Cu C	34,7	0,6	21,5	8,11	26,0	546	13,3	1,0	0,5	7,7
Conc. Nett 3 Cu D	41,0	0,7	19,5	8,84	26,3	494	14,3	1,3	0,6	8,2
Conc. Nett 3 Cu E	44,4	0,7	17,6	10,8	26,8	457	13,9	1,7	0,6	8,2
Conc. Nett 3 Cu F	39,8	0,6	19,1	9,83	26,9	479	13,6	1,4	0,6	7,7
Rejet Nett 3 Cu F	9,1	0,1	5,05	14,1	27,2	187	0,8	0,5	0,1	0,7
Rejet Nett 2 Cu F	15,4	0,2	2,45	11,3	25,5	121	0,7	0,6	0,2	0,8
Conc Épuis. Nett 1 Cu F	14,1	0,2	1,35	16,8	22,9	105	0,3	0,9	0,2	0,6
Conc Nett 3 Zn A	57,4	0,9	0,59	53,3	11,9	63,6	0,6	11,1	0,4	1,5
Conc Nett 3 Zn B	76,2	1,2	0,67	47,2	16,7	69,6	0,9	13,0	0,7	2,1
Conc Nett 3 Zn C	74,8	1,2	0,87	47,8	15,5	84,4	1,2	13,0	0,6	2,6
Conc Nett 3 Zn D	60,8	1,0	0,69	52,9	11,4	72,8	0,7	11,7	0,4	1,8
Conc Nett 3 Zn E	67,3	1,1	0,56	49,9	14,0	67,5	0,7	12,2	0,5	1,8
Conc Nett 3 Zn F	53,3	0,9	0,60	50,0	13,6	65,4	0,6	9,7	0,4	1,4
Rejet Nett 3 Zn F	38,6	0,6	0,87	36,4	17,2	87,0	0,6	5,1	0,4	1,4
Rejet Nett 2 Zn F	59,4	0,9	0,83	10,2	29,3	58,9	0,9	2,2	0,9	1,4
Conc Épuis. Nett 1 Zn F	20,0	0,3	0,82	8,36	32,7	62,0	0,3	0,6	0,3	0,5
Rejet Épuis. Nett 1 Zn A	72,8	1,2	0,37	1,60	24,6	22,4	0,5	0,4	0,9	0,7
Rejet Épuis. Nett 1 Zn B	161,5	2,6	0,23	1,03	34,2	16,0	0,7	0,6	2,9	1,0
Rejet Épuis. Nett 1 Zn C	110,4	1,8	0,33	1,41	30,1	24,4	0,6	0,6	1,8	1,1
Rejet Épuis. Nett 1 Zn D	108,3	1,7	0,40	2,21	29,9	31,6	0,8	0,9	1,7	1,4
Rejet Épuis. Nett 1 Zn E	208,3	3,3	0,20	1,03	36,3	15,7	0,7	0,8	4,0	1,3
Rejet Épuis. Nett 1 Zn F	130,8	2,1	0,37	1,96	31,7	26,2	0,9	0,9	2,2	1,4
Mags A	190,6	3,0	0,19	0,88	54,5	34,2	0,6	0,6	5,5	2,6
Mags B	193,8	3,1	0,21	1,04	56,1	34,0	0,7	0,7	5,7	2,7
Mags C	187,5	3,0	0,18	0,95	56,9	28,2	0,6	0,6	5,6	2,1
Mags D	196,3	3,1	0,19	0,95	56,1	33,8	0,7	0,7	5,8	2,7
Mags E	197,1	3,1	0,19	0,98	56,9	34,9	0,7	0,7	5,9	2,8
Mags F	203,3	3,2	0,19	0,96	55,8	32,5	0,7	0,7	6,0	2,7
Rejet Degrossissage Zn A	629,8	10,0	0,078	0,37	24,8	<10	0,9	0,8	8,2	2,5
Rejet Degrossissage Zn B	552,4	8,8	0,089	0,40	21,9	<10	0,9	0,8	6,4	2,2
Rejet Degrossissage Zn C	624,3	10,0	0,069	0,35	24,3	17,7	0,8	0,8	8,0	4,5
Rejet Degrossissage Zn D	636,2	10,2	0,068	0,35	25,1	<10	0,8	0,8	8,4	2,6
Rejet Degrossissage Zn E	480,4	7,7	0,094	0,42	18,9	<10	0,8	0,7	4,8	1,9
Rejet Degrossissage Zn F	626,5	10,0	0,074	0,36	24,6	<10	0,8	0,8	8,1	2,5
Souche (calc.)	6266,7	100,0	0,90	4,40	30,2	39,4	100,0	100,0	100,0	100,0
(direct)			0,89	4,51	28,9	34,0				
Produits Combinés	Poids		Teneur (% , g/t)				Distribution (%)			
	(g)	(%)	Cu	Zn	Fe	Ag	Cu	Zn	Fe	Ag
Conc Nett 3 Cu A-F	210,4	3,4	21,0	8,6	26,8	525	78,7	6,5	3,0	44,7
Conc Nett 3 Zn A-F	428,3	6,8	0,69	48,7	14,3	73	5,3	75,7	3,2	12,6
Rejet Épuisage Nett. Zn A-F	792,1	12,6	0,30	1,45	32,3	21,5	4,2	4,2	13,5	6,9
Mags A-F	1168,5	18,6	0,19	1,0	56,1	33,0	4,0	4,1	34,6	15,6
Rejet Dégrossissage Zn A-F	3549,5	56,6	0,08	0,37	23,5	11,4	4,9	4,8	44,0	16,3

RPA's analyses of the single LCT results are summarized in Tables 13-7 and Figure 13-4. In RPA's opinion, the single LCT shows poor mass conservation and poor stability overall. In comparison to batch flotation tests, the LCT exhibited very high lime consumption (15,629 g/t in total). In LCT balancing, the weighted average assay for the final two to four cycles (e.g., Cycles C to F in LCT 1) is used if steady state has been achieved. The single LCT has not achieved steady state, therefore, any metallurgical projections based on these LCT results (or parts of these LCT results) are not valid and may present a process risk.

**FIGURE 13-4 MASS AND METAL OUTPUT BY CYCLE FOR LCT 1**



**TABLE 13-7 CU AND ZN CONCENTRATE DATA FROM LCT 1**  
**Yorbeau Resources Inc. – Scott Lake Project**

Cycle	Cu Concentrate		Zn Concentrate	
	Cu Grade (%)	Cu Recovery (%)	Zn Grade (%)	Zn Recovery (%)
A	27.4	80.28	50.0	82.31
B	25.4	81.07	49.9	83.05
C	21.5	81.90	52.9	82.60
D	19.5	81.89	47.8	74.19
E	17.6	82.19	47.2	74.47
F	19.1	82.18	53.3	72.67
<b>Matchib Target</b>	<b>25.0</b>	<b>84.00</b>	<b>55.0</b>	<b>87.00</b>

Matchib averages the test results from Cycles B and C for Cu and Zn concentrate grades and metallurgical projections. Yorbeau references test Cycle B as the basis for indicative Cu concentrate grade and references test Cycle F as the basis for indicative Zn concentrate grade. In RPA's opinion, the LCT did not achieve stability by Cycles B and C and the test parameters were not optimized. More metallurgical testing is warranted to verify that the estimated target Cu concentrate grade (25%), target Cu recovery to Cu concentrate (85%), target Zn

concentrate grade (55%), and target Zn recovery to Zn concentrate (87%) can be consistently demonstrated under optimized flotation test conditions.

## CONCLUSIONS AND RECOMMENDATIONS

The geometry and continuity of mineralization suggest that all material types must go through a common milling circuit followed by a sequential Cu and Zn flotation scheme for ore treatment.

Various programs of metallurgical testing have been performed on the Cu-Zn system for the Scott Lake Project, with results indicating that marketable concentrates can be produced, albeit with a fairly wide range of results. Until additional metallurgical test work is completed with a set of representative samples and under optimized test conditions, confirmation of the flotation performance of the Cu-Zn mineralization is not certain.

RPA has reviewed the concentrate grades and recovery results from the available metallurgical test data, and the proposed values to be used to assess NSR value for resource modelling. The target concentrate grades and recoveries have not yet been achieved through metallurgical testing, however, in RPA's opinion, further optimization is possible, and may improve the results.

Future metallurgical test work would be dependent on the following:

- Re-assessment of the mine plan and the associated schedule to mine Cu/Zn ore
- Availability of sufficient core samples to undertake a revised metallurgical test program in line with the updated mine plan.

A comprehensive comminution and flotation test program would need to be carried out on a range of average ore types and variability samples.

It is recommended that Yorbeau work closely with an experienced metallurgist and an accredited laboratory to develop the next phase of metallurgical test work for the Scott Lake Project. The metallurgist and lab can help in the selection and collection of additional representative ore samples for optimization and variability testing in comminution, flotation, and dewatering. As metallurgical test work progresses, the approach to the metallurgical test program should be periodically re-assessed.

## 14 MINERAL RESOURCE ESTIMATE

### SUMMARY

RPA estimated Mineral Resources for the Scott Lake Project using drill hole data available as of February 10, 2017. The current Mineral Resource estimate is based on an underground mining scenario using a \$100/t NSR cut-off value for massive sulphide zones and \$65/t NSR cut-off value for sulphide stringer zones. Mineral Resources as of February 14, 2017, are summarized in Table 14-1. Based on the density of drilling and variography, RPA has classified the Mineral Resources as Indicated and Inferred.

Indicated Mineral Resources are estimated to total 3.57 million tonnes averaging 0.95% Cu, 4.17% Zn, 37.2 g/t Ag, and 0.22 g/t Au. Inferred Mineral Resources are estimated to total 14.28 million tonnes averaging 0.78% Cu, 3.49% Zn, 22.3 g/t Ag, and 0.22 g/t Au.

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

**TABLE 14-1 MINERAL RESOURCE ESTIMATE AS OF FEBRUARY 14, 2017**  
**Yorbeau Resources Inc. – Scott Lake Project**

Category/Zone	NSR Cut-off (C\$/t)	Tonnes (Mt)	Copper (%)	Zinc (%)	Silver (g/t)	Gold (g/t)	NSR (C\$/t)
<b>Indicated</b>							
Stringer	65	2.39	0.78	2.25	30.5	0.19	119
Massive Sulphide	100	1.18	1.28	8.04	50.7	0.27	277
<b>Total Indicated</b>		<b>3.57</b>	<b>0.95</b>	<b>4.17</b>	<b>37.2</b>	<b>0.22</b>	<b>172</b>
<b>Inferred</b>							
Stringer	65	8.47	0.87	1.37	19.0	0.16	101
Massive Sulphide	100	5.81	0.65	6.57	27.1	0.32	195
<b>Total Inferred</b>		<b>14.28</b>	<b>0.78</b>	<b>3.49</b>	<b>22.3</b>	<b>0.22</b>	<b>139</b>

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are estimated using a \$100/t NSR cut-off value for massive sulphide zones and \$65/t NSR cut-off value for sulphide stringer lenses.
3. Mineral Resources are estimated using a copper price of US\$3.25/lb, a zinc price of US\$1.20/lb, a gold price of US\$1,500/oz, a silver price of US\$22/oz, and an exchange rate of US\$0.80 to C\$1.00.
4. A minimum mining width of 2 m was used.
5. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
6. The numbers may not add due to rounding.

RPA was provided with a drill hole database consisting of 424 holes, totalling 158,868 m, with 146 of the holes intersecting mineralized wireframe solids. Forty-nine additional drill holes were completed on the Project from the previous Mineral Resource estimate (RPA, 2011) to the effective date of the current Mineral Resource estimate.

The Project consists of two larger sulphide stringer zones and ten smaller massive sulphide zones. Three dimensional wireframes were constructed based primarily on lithology. RPA used cross sections, longitudinal sections, and plan views to validate the wireframes.

Assays were composited to 1.0 m lengths and variography was performed on the composites. Search ellipsoid dimensions and orientations were determined for the sulphide stringer zones, however, variography proved to be inconclusive for the massive sulphide zones. Block grade interpolation was carried out using Inverse Distance Squared (ID<sup>2</sup>) for zinc, copper, silver, gold, and density in all mineralized wireframes except the Gap Zone massive sulphide zone, where Inverse Distance Cubed (ID<sup>3</sup>) was used. The wireframe models were used as hard boundaries to constrain the grade and density interpolations.

The polymetallic sulphide mineralization at the Project contains significant values of zinc, copper, silver, and gold. To reflect the aggregate contribution of all metals, assays were converted into NSR values (\$ per tonne). The NSR values account for parameters such as metal price and US dollar exchange rate, metallurgical recoveries, smelter terms and refining charges, and transportation costs. For the purposes of developing an NSR cut-off value for a potential underground operation, a total operating cost of \$65/t milled was assumed for sulphide stringer zones and \$100/t milled for massive sulphide zones, which includes mining, processing, and general and administrative (G&A) expenses.

## MINERAL RESOURCE DATABASE

Forty-nine additional drill holes have been completed on the Project since the previous Mineral Resource estimate (RPA, 2011) to the effective date of the current Mineral Resource estimate. Table 14-2 summarizes the records in the Project drill hole database.

**TABLE 14-2 GEMS PROJECT DATABASE AS OF FEBRUARY 10, 2017**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Item</b>	<b>Record Count</b>
Drill Holes	425
Surveys	9,136
Zn (%)	14,653
Cu (%)	13,931
Ag (ppm)	12,084
Au (ppm)	9,554
Density	7,115
Lithology	4,338

Section 12, Data Verification, describes the verification steps undertaken by RPA. In summary, all minor discrepancies identified were resolved and RPA is of the opinion that the drill hole database is valid and suitable to estimate Mineral Resources for the Project.

## GEOLOGICAL INTERPRETATION AND 3D SOLIDS

The wireframe models of the mineralized domains were used to constrain block model interpretation. Prior to creating the mineralized wireframe domains for the Project, RPA validated the drill hole database by completing the following:

1. Checking the collar coordinates for unusual location and elevation discrepancies.
2. Checking for inconsistencies in drill hole dip directions.
3. Checking gaps, overlaps, and out-of-sequence intervals for both assay and lithology tables.

Seven drill hole records were removed from the database: five drill holes had new records with updated collar/survey entries which replaced the old records, and two drill holes had collar locations and survey data that was abnormal and could not be verified.

In 2017, two additional massive sulphide zones have been included in the Scott Lake Mineral Resource: the historical Selco Massive Sulphide Zone located approximately 450 m to the east of the Scott Lake Sulphide Stringer Zone, and the newly discovered Gap Massive Sulphide Zone. The SC-30 massive sulphide lens, which was included in the 2011 Technical Report, has been incorporated into the Gap Zone.

Original assays have been used for interpretation of mineralized envelopes of the sulphide stringer zones and the massive sulphide lenses. Zinc, copper, gold, and silver grades of each sample have been converted into dollar values based on the NSR values for each metal unit (see below). Both geology and NSR values were used for interpretation.

With the exception of the Gap Zone and parts of the Scott Lake Stringer Zone, mineralization for the 3D wireframe models was interpreted using GEOVIA GEMS 6.7.4 Desktop software (GEMS). The mineralization model for the Gap Zone and Scott Lake Stringer Zone (east of -1,875 E) was developed in Leapfrog Geo version 4.0 using geological controls and metal content of assays as a guide, and imported into GEMS prior to Exploratory Data Analysis (EDA) and further modelling.

Within GEMS, 3D wireframes of the mineralized zones were interpreted from drill holes projected on vertical cross-sections at every 50 m from elevation 150 m to -600 m, over a strike length of 2,300 m, using a minimum mining width of 2.0 m. Mineralized zones were created by adding tie lines to interpreted polylines on vertical cross-sections, honouring the drill hole assay data, and triangulated to build 3D wireframe solids. Mineralization in the sulphide stringer and massive sulphide zones has been categorized into rock codes according to Table 14-3. No mineralization wireframes intersected the bedrock surface.

**TABLE 14-3 ROCK CODES**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Mineralization Type</b>	<b>Solid Name</b>	<b>Rock Code</b>	<b>Volume (m<sup>3</sup>)</b>
Sulphide Stringer	Scott Lake Rhyolite Stringer	1003	55,838,457
	CFO Stringer	1061	3,859,937
Massive Sulphide	West	1001	136,653
	34 Zinc	1002	73,235
	800	1004	243,442
	Central 1	1051	36,726
	Central 2	1052	152,877
	Central 3	1053	157,054
	CFO MS	1060	111,912
	Selco	1011, 1012	300,981
	Gap	1070	746,187

A 3D isometric view of the mineralized zones is shown in Figure 14-1. Drilling completed by Yorbeau subsequent to the July 2011 Technical Report led to the discovery and delineation of the high grade Gap Massive Sulphide Zone and the extension of the Scott Lake Sulphide Stringer Zone to the west. The southern limb of the Gap Zone has been interpreted to extend along the southern margin of the Sulphide Stringer Zone, to include the small SC-30 Massive Sulphide Lens as its eastern limit. The Gap Zone and the Sulphide Stringer Zone are truncated to the west by the Gwillim Lake fault (Figure 14-2).

RPA noted in the July 2011 Technical Report (RPA 2011) that the interpretation of the lenses comprising the Central Zone presented a challenge, and proposed a program of additional vertical drill holes to determine whether or not the interpretation of sub-horizontal lenses is appropriate. Drilling carried out by Cogitore in 2012 on Section 1500W with holes SC-64W, SC-69, and SC-69W suggests that one of the Central Zone lenses, Central 02, dips at 50° to 55° to the north.

Looking Northeast

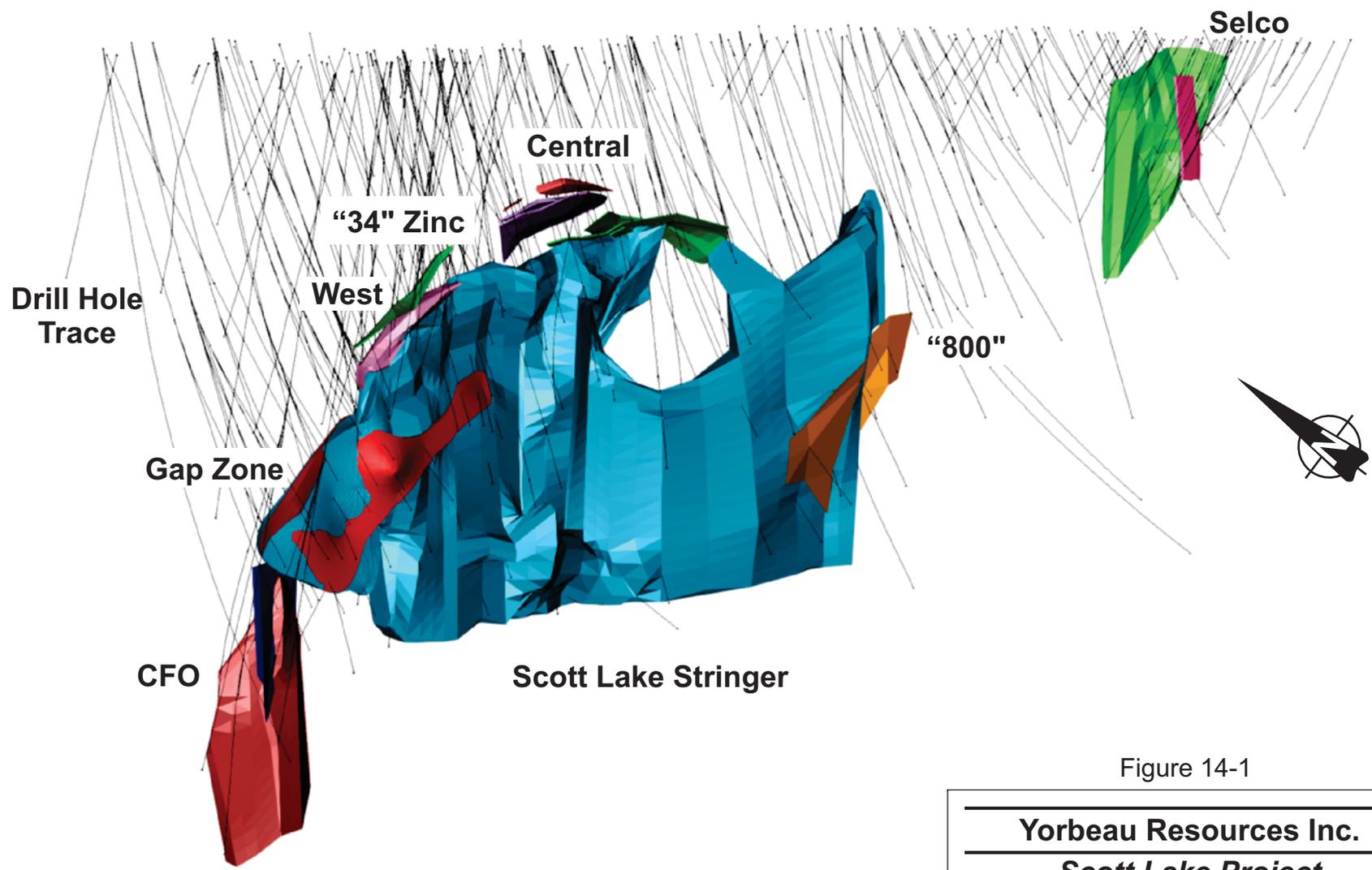


Figure 14-1

**Yorbeau Resources Inc.**  
**Scott Lake Project**  
*Northern Québec, Canada*  
**3D Isometric View of the**  
**2017 Scott Lake Mineralized**  
**Wireframe Zones**

14-6

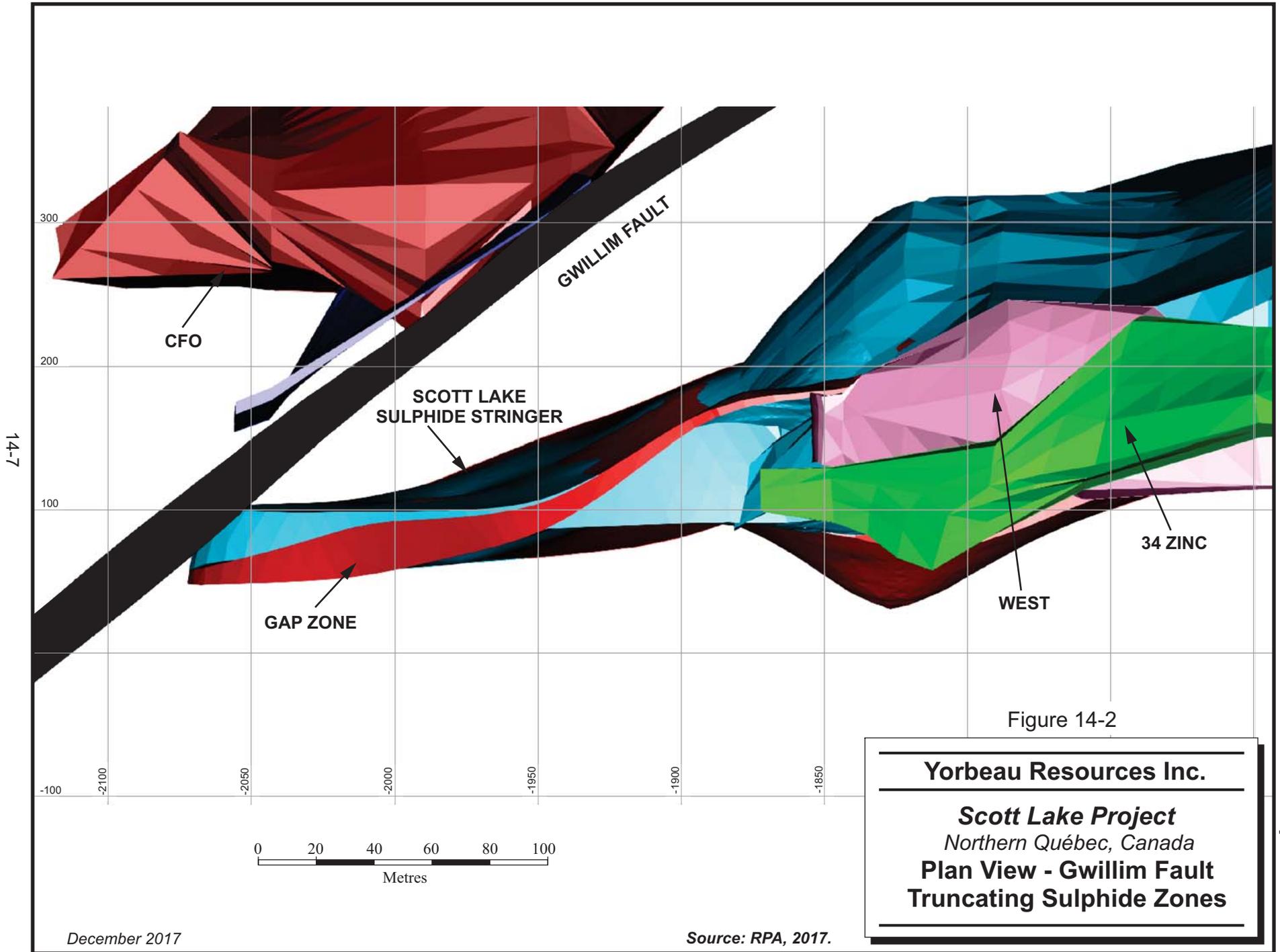


Figure 14-2

**Yorbeau Resources Inc.**  
**Scott Lake Project**  
Northern Québec, Canada  
**Plan View - Gwillim Fault**  
**Truncating Sulphide Zones**

Drilling density varies significantly throughout the mineralized zones and the drilling pattern is very irregular. The distance between holes ranges from 20 m to 50 m in the Central Zone lenses, the West Lens massive sulphide zone, and the 34 Zinc Lens areas, and from 75 m to 200 m elsewhere.

## CUT-OFF VALUE

An underground production scenario, assuming a production rate of 700,000 tonnes per annum, serves as the basis of estimating the NSR cut-off value for Mineral Resources. The polymetallic nature of the Scott Lake sulphide mineralization indicates that the best potential economic scenario is most likely to be achieved by the production of two base metal concentrates that will each contain precious metals. The mineralization at Scott Lake contains significant values for four metals: zinc, copper, gold, and silver. Lead is present but not in material quantities. Available data on other elements that may occur in polymetallic deposits of this type, such as cadmium, arsenic, mercury, and selenium, suggest insufficient concentrations to incur material smelter penalties.

It is RPA's opinion that an NSR cut-off value is the most appropriate method for estimating the Scott Lake Mineral Resources, and NSR factors were developed by RPA for the purposes of Mineral Resource reporting. NSR is the estimated value per tonne of mineralized material after allowance for metallurgical recovery and consideration of smelter terms, including payables, treatment charges, refining charges, price participation, penalties, smelter losses, transportation, and sales charges.

NSR calculations for the Scott Lake Project were prepared for zinc and copper-gold-silver concentrates, with no value assumed for lead in the mineralization, or penalties for other elements. Without metallurgical testing, the quality of concentrates was assumed to be analogous to those typically found in the Noranda and Val d'Or mining camps. In the absence of a formal quote from a smelter, no value or credit was given to potential precious metals in the zinc concentrates. No royalty was assumed.

The key assumptions and parameters of the NSR calculations are summarized in Table 14-4.

**TABLE 14-4 NSR CUT-OFF VALUE ASSUMPTIONS AND PARAMETERS**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Input Parameter</b>	<b>Unit</b>	<b>Value/Cost</b>
<b>Metal Recovery</b>		
Copper Concentrate	Cu	90%
	Au	75%
	Ag	70%
Zinc Concentrate	Zn	90%
<b>Concentrate Grade</b>		
Copper	Cu	25%
	Au	4.17 g/t
	Ag	544 g/t
Zinc	Zn	55%
<b>Treatment Charges</b>		
Copper Concentrate	US\$/dmt	100
Zinc Concentrate	US\$/dmt	200
<b>Transport</b>		
Copper Concentrate	C\$/wmt	75
Zinc Concentrate	C\$/wmt	105
<b>Refining</b>		
	Cu	US\$0.10/lb
	Au	US\$5.00/oz
	Ag	US\$0.70/oz
<b>Metal Price</b>		
	Zn	US\$1.20/lb
	Cu	US\$3.25/lb
	Au	US\$1,500/oz
	Ag	US\$22.00/oz
<b>Net Revenue by Metal</b>		
	Zn	47%
	Cu	40%
	Au	4%
	Ag	9%
<b>Operating Costs</b>		
Selective Mining (Massive Sulphide)	C\$/t mined	75
Bulk Mining (Sulphide Stringer)	C\$/t mined	40
Processing (0.7 M tpa)	C\$/t milled	16
G&A	C\$/t milled	9
<b>Total Operating Costs</b>		
Selective Mining	C\$/t mined	100
Bulk Mining	C\$/t mined	65
Total	C\$/t milled	79
Exchange Rate	US\$0.80 = C\$1.00	

Note: the resource NSR calculation pre-dates the LCT testwork.

The net revenue from each metal was calculated and then divided by grade to generate an NSR factor. These NSR factors represent revenue (C\$) per metal grade unit (per % Zn or g/t Au, for example), and are independent of grade. RPA used the following factors to calculate NSR: \$19.05 per % Zn, \$67.57 per % Cu, \$34.25 per g/t Au, and \$0.56 per g/t Ag.

The NSR factors were used to calculate an NSR value (C\$ per tonne) for each block in the block model, which was compared directly to unit operating costs required to mine that block. For the purposes of developing an NSR cut-off value, RPA assumed an underground bulk mining operation for sulphide stringer zones with a total operating cost of C\$65/t milled. A selective mining scenario was assumed for the smaller massive sulphide zones/lenses, with a total operating cost of C\$100/t milled. Total operating cost for both scenarios include mining, processing, and G&A expenses.

All classified resource blocks located within the sulphide stringer zones with NSR values greater than C\$65/t were included in the Mineral Resource estimate, and all classified resource blocks located within the massive sulphide zones with NSR values greater than C\$100/t were included in the Mineral Resource estimate.

In RPA's opinion, an NSR cut-off of \$65/t is suitable for a potential underground bulk mining scenario and an NSR cut-off of \$100/t is suitable for a potential underground selective mining scenario at Scott Lake.

## **STATISTICAL ANALYSIS**

Assay values located inside the wireframes, or resource assays, were tagged with mineralized zone domain identifiers (rock codes) and exported for statistical analysis. RPA compiled and reviewed the basic statistics into mineralization type for zinc, copper, gold, and silver, which are summarized in Table 14-5.

**TABLE 14-5 DESCRIPTIVE STATISTICS OF RESOURCE ASSAY VALUES**  
**Yorbeau Resources Inc. – Scott Lake Project**

	Length (m)	Zn (%)	Cu (%)	Au (g/t)	Ag (g/t)	Density (g/cm <sup>3</sup> )
<b>Sulphide Stringer</b>						
No. of Cases	4,580	4,580	4,580	4,580	4,580	1,647
Minimum	0.20	0.00	0.00	0.00	0.00	2.58
Maximum	10.85	40.37	16.60	14.50	540.50	4.79
Median	1.10	0.28	0.20	0.04	6.70	3.10
Arithmetic Mean	1.16	1.08	0.42	0.11	14.40	3.13
Standard Deviation	0.50	2.21	0.77	0.37	25.50	0.38
Coefficient of Variation	0.43	2.05	1.83	3.27	1.78	0.12
<b>Massive Sulphide</b>						
No. of Cases	1,081	1,081	1,081	1,081	1,081	814
Minimum	0.10	0.00	0.00	0.00	0.00	2.59
Maximum	2.35	49.64	30.56	11.79	471.00	5.06
Median	1.00	5.18	0.43	0.12	24.00	4.01
Arithmetic Mean	0.94	6.49	0.86	0.33	34.80	3.85
Standard Deviation	0.31	7.00	1.50	0.87	40.30	0.63
Coefficient of Variation	0.32	1.08	1.74	2.67	1.16	0.16
<b>Total</b>						
No. of Cases	5,661	5,661	5,661	5,661	5,661	2,461
Minimum	0.10	0.00	0.00	0.00	0.00	2.58
Maximum	10.85	49.64	30.56	14.50	540.50	5.06
Median	1.00	0.43	0.23	0.05	9.00	3.13
Arithmetic Mean	1.11	2.11	0.50	0.15	18.30	3.37
Standard Deviation	0.47	4.22	0.97	0.51	30.00	0.58
Coefficient of Variation	0.42	2.00	1.92	3.32	1.64	0.17

Where there was a sample interval but no metal value entered in the assay database, a zero grade was inserted.

## CAPPING HIGH GRADE VALUES

Where the assay distribution is skewed positively or approaches lognormal, erratic high grade assay values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers in order to reduce their influence on the average grade is to cut, or cap, them at a specific grade level. In the absence of production data to calibrate the capping level, inspection of the assay distribution can be used to estimate a first pass capping level.

RPA reviewed the statistical distribution of the original assays by plotting histograms, and log scale probability plots. For the current Mineral Resource, capping does not appear to be indicated and was not done. In future Mineral Resource estimates, a study should be carried out to determine whether or not capping is necessary.

## DENSITY

Prior to Yorbeau's acquisition of the Project, Cogitore began a systematic density measurement program at Scott Lake in 2005. Density determinations were carried out by the immersion gravimetric method on the remaining half-core split of selected mineralized intervals at ALS, Lab-Expert, or the Table Jamésienne de Concertation Minière (TJCM - James Bay Joint Action Mining Committee) laboratory in Chibougamau.

For the current Mineral Resource estimate, 7,115 density measurements were available, 2,461 (35%) of which are located within the mineralization wireframes. Approximately 43% of the resource assays had density determinations. RPA reviewed the descriptive statistics for density samples taken within the mineralization wireframes by mineralization type, and tested whether density weighting should be applied to compositing. There was a positive correlation between grade and density and RPA elected to density-weight assays during the compositing process (Table 14-6).

**TABLE 14-6 CORRELATION COEFFICIENTS FOR METALS AND DENSITY**  
**Yorbeau Resources Inc. – Scott Lake Project**

All Zones	Cu	Zn	Au	Ag	Density
Cu	1	0.15	0.18	0.77	0.22
Zn	0.15	1	0.09	0.28	0.54
Au	0.18	0.09	1	0.32	0.04
Ag	0.77	0.28	0.32	1	0.27
Density	0.22	0.54	0.04	0.27	1

For samples with no density determinations, which are primarily within the sulphide stringer zones, density was assigned prior to creating density-weighted composite samples. Based on previous work on the deposit in 2011 and 2012, RPA elected to derive assigned densities from the median density value by mineralization type:

- Sulphide Stringer Zones: 3.10 g/cm<sup>3</sup>
- Massive Sulphide Zones: 4.01 g/cm<sup>3</sup>

## COMPOSITING

Assay sample lengths range from 0.10 m to 10.85 m within the wireframe domains. Slightly more than half of the samples were taken at 1.0 m lengths (50.1%) and more than 80% were less than 1.5 m in length. The median assay length is 1.0 m, and mean assay length is 1.11 m. RPA determined that a composite length of 1.0 m was appropriate. Seventy-five composites measuring less than 0.25 m were not included during grade interpolation. The elimination of the small composites did not affect the overall integrity of the composited database.

Assays were density weighted in the compositing process, which is consistent with the previous Mineral Resource estimate reported in RPA (2011).

Table 14-7 summarizes statistics of the composite grades. When compared to Table 14-5 (original assays), the average grades are slightly lower, while the coefficient of variation values are also reduced.

**TABLE 14-7 DESCRIPTIVE STATISTICS OF DENSITY-WEIGHTED COMPOSITES**  
**Yorbeau Resources Inc. – Scott Lake Project**

	Zn (%)	Cu (%)	Au (g/t)	Ag (g/t)	Density (g/cm <sup>3</sup> )
<b>Sulphide Stringer</b>					
No. of Cases	4,811	4,811	4,811	4,811	4,811
Minimum	0.00	0.00	0.00	0.00	2.61
Maximum	20.68	12.77	11.79	423.90	4.70
Median	0.35	0.22	0.05	7.40	3.10
Arithmetic Mean	1.04	0.41	0.12	14.30	3.11
Standard Deviation	1.89	0.63	0.35	22.60	0.21
Coefficient of Variation	1.81	1.57	2.86	1.58	0.07
<b>Massive Sulphide</b>					
No. of Cases	1,025	1,025	1,025	1,025	1,025
Minimum	0.01	0.00	0.00	0.90	2.69
Maximum	48.43	11.11	11.79	393.40	4.85
Median	5.60	0.49	0.14	26.60	4.01
Arithmetic Mean	6.74	0.85	0.33	35.30	3.89
Standard Deviation	6.39	1.10	0.76	34.60	0.50
Coefficient of Variation	0.95	1.30	2.29	0.98	0.13

**Total**

	Zn (%)	Cu (%)	Au (g/t)	Ag (g/t)	Density (g/cm <sup>3</sup> )
No. of Cases	5,836	5,836	5,836	5,836	5,836
Minimum	0.00	0.00	0.00	0.00	2.61
Maximum	48.43	12.77	11.79	423.90	4.85
Median	0.52	0.26	0.06	9.80	3.10
Arithmetic Mean	2.04	0.48	0.16	18.00	3.24
Standard Deviation	3.85	0.76	0.46	26.40	0.41
Coefficient of Variation	1.88	1.57	2.87	1.46	0.13

## VARIOGRAPHY AND INTERPOLATION VALUES

Variography was carried out to determine the search ellipsoid dimensions for the Sulphide Stringer Zones and the Gap Massive Sulphide Zone. The range of the major axis was approximately 120 m to 125 m for copper and zinc, 100 m for silver, and 45 m for gold. Variography in other zones generated poor and/or inconclusive variograms due to either lack of data and/or the spatial configuration of data.

A sphere of 100 m radius was used in the West, 34 Zinc, and 800 lenses while search ellipsoids of variable azimuths and dips were used in the Rhyolite Stringer, Gap, Central, CFO, and CFO Stringer zones. Because the mineralization in the Rhyolite Stringer presents as narrow corridors of high grades and the zone is not sampled in every drill hole, the search ellipsoid used for that zone was thinner than the one used for other zones to avoid grade smearing. Interpolation parameters are summarized in Table 14-8.

Block grade interpolation was carried out in a single pass using ID<sup>2</sup> method, with the exception of the massive sulphide Gap Zone (see below). A minimum of 2 one-metre composites and a maximum of 8 one-metre composites were used to interpolate grades within each block. For the Selco Zone, a minimum of one composite sample was used, however, greater than 99.9% of the block values were interpolated using two or more samples. The maximum number of composites per hole was four.

Interpolation was constrained by the mineralized wireframe models, which were used as hard boundaries to prevent the use of composites outside of the zones. In the case of the Central Zone, however, three lenses were modelled and one-metre composites were coded accordingly to each lens. Because of the massive sulphide nature of the lenses and because the lenses are locally close to each other (20 m apart), “soft boundaries” were used for grade

interpolation. Soft boundaries allow composites from one lens to be used for grade interpolation of another lens.

For the Gap Massive Sulphide Zone, RPA elected to use ID<sup>3</sup> with two passes to interpolate the block grades. A more attenuated first pass search ellipse combined with greater sample restrictions was used to prevent grade smearing across the two sub-parallel lenses that form the Gap Zone. A minimum of three one-metre composites and a maximum of six one-metre composites were used to interpolate grades on the first pass, and the minimum was reduced to two composites for the second pass. The maximum number of composites per hole was two for both passes

Identical search parameters were used for zinc, copper, gold, and silver, and density for all mineralized zones for the Mineral Resource estimate.

**TABLE 14-8 BLOCK ESTIMATE ESTIMATION PARAMETERS**  
**Yorbeau Resources Inc. – Scott Lake Project**

Mineralization Type		Sulphide Stringer		Massive Sulphide						
		Scott Lake	CFO	Gap	West	34' Zinc	800	Central	CFO	Selco
Zone Name		1003	1061	1070	1001	1002	1004	1051/1052/1053	1060	1011/1012
Rock Code										
<b>Method</b>		ID <sup>2</sup>	ID <sup>2</sup>	ID <sup>3</sup>	ID <sup>2</sup>					
<b>Boundary Type</b>		Hard	Hard	Hard	Hard	Hard	Hard	Soft	Hard	Hard
<b>Min. No.</b>	<b>Pass 1</b>	2	2	3	2	2	2	2	2	1
<b>Comps.</b>	<b>Pass 2</b>	-	-	2	-	-	-	-	-	-
<b>Max. No.</b>	<b>Pass 1</b>	8	8	6	8	8	8	8	8	8
<b>Comps.</b>	<b>Pass 2</b>	-	-	3	-	-	-	-	-	-
<b>Max. Comps</b>	<b>Pass 1</b>	4	4	2	4	4	4	4	4	4
<b>Per Drill Hole</b>	<b>Pass 2</b>	-	-	2	-	-	-	-	-	-
<b>Range X (m)</b>	<b>Pass 1</b>	200	200	100	100	100	100	200	200	100
	<b>Pass 2</b>	-	-	200	-	-	-	-	-	-
<b>Range Y (m)</b>	<b>Pass 1</b>	20	40	10	100	100	100	40	40	100
	<b>Pass 2</b>	-	-	20	-	-	-	-	-	-
<b>Range Z (m)</b>	<b>Pass 1</b>	200	200	100	100	100	100	200	200	100
	<b>Pass 2</b>	-	-	200	-	-	-	-	-	-
<b>Rotation<sup>1</sup></b>	<b>Z</b>	0°	20°	+105°	0°	0°	0°	90°	20°	0°
	<b>X</b>	+7°	0°	0°	0°	0°	0°	90°	0°	0°
	<b>Z</b>	0°	0°	-90°	0°	0°	0°	-30°	0°	0°

Note: <sup>1</sup>Rotation around each axis (positive is counter-clockwise).

## BLOCK MODEL

A model of 26,565,000 blocks was built in GEMS. Blocks are 5 m by 2 m by 5 m with 460 columns, 210 rows, and 275 levels. RPA used these cell dimensions to reflect the narrow thickness of the mineralized envelopes. The model is not rotated and fully encloses the modelled resource wireframes. The extents and dimensions of the block model are summarized in Table 14-9.

**TABLE 14-9 BLOCK MODEL DIMENSIONS**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Description</b>	<b>Easting (X)</b>	<b>Northing (Y)</b>	<b>Elevation (Z)</b>
Minimum (m)	-2,175 m	20 m	-975 m
Maximum (m)	125 m	-400 m	400 m
Extents (m)	2,300	420 m	1,375 m
	<b>Column</b>	<b>Row</b>	<b>Level</b>
Block size (m)	5	2	5
Number of blocks	460	210	275

RPA built a whole block model with a single folder for all the mineralized zones, with attributes that included rock type, density, zinc, copper, gold, and silver grades, and NSR value (Table 14-13). The rock type model was created using majority rules with the main mineralization solids (Table 14-2). The block model contains the following information:

- Domain identifiers with mineralized rock type (see Table 14-3).
- Estimated grade of zinc, copper, gold, and silver within the wireframe models.
- NSR value.
- The mean distance to the closest composite used to interpolate the block grade.
- The number of composite used to interpolate the block grade.
- The resource classification of each block.

## BLOCK MODEL VALIDATION

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

1. Visual comparisons of block zinc, copper, gold, silver, and copper values versus composite values.
2. Statistical comparisons.

3. Comparison of the volumes of the wireframe models to the block model volume results.
4. Trend plots of block and composite zinc, copper, gold, silver, and NSR values by elevation and northings/eastings.
5. Comparison of block and composite grades in blocks containing composites.

Block model grades were visually examined and compared with composite grades in cross section and on elevation plans. RPA found grade continuity to be reasonable, and confirmed that the block grades were reasonably consistent with local drill hole assay and composite grades and that there was no significant bias.

Grade statistics for assays, composites, and resource blocks were examined and compared for the sulphide stringer and massive sulphide zones (Table 14-10). The comparisons of average grades of assays, composites, and blocks are reasonable in RPA's opinion.

**TABLE 14-10 COMPARISON OF METAL GRADE STATISTICS FOR ASSAYS,  
COMPOSITES AND RESOURCE BLOCKS  
Yorbeau Resources Inc. – Scott Lake Project**

Mineralization Type	Assays				1.0 m Composites				Block Model Grades			
	Zn (%)	Cu (%)	Au (g/t)	Ag (g/t)	Zn (%)	Cu (%)	Au (g/t)	Ag (g/t)	Zn (%)	Cu (%)	Au (g/t)	Ag (g/t)
<b>Sulphide Stringer</b>												
Number of Cases	4,580	4,580	4,580	4,580	4,811	4,811	4,811	4,811	942,568	942,568	942,568	942,568
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	40.37	16.60	14.50	540.50	20.68	12.77	11.79	423.90	14.45	6.94	8.28	257.72
Median	0.28	0.20	0.04	6.70	0.35	0.22	0.05	7.40	0.06	0.07	0.01	1.26
Arithmetic Mean	1.08	0.42	0.11	14.40	1.04	0.41	0.12	14.30	0.30	0.18	0.04	3.97
Standard Deviation	2.21	0.77	0.37	25.50	1.89	0.63	0.35	22.60	0.61	0.28	0.09	7.41
Coefficient of Variation	2.05	1.83	3.27	1.78	1.81	1.57	2.86	1.58	2.04	1.61	2.55	1.87
<b>Massive Sulphide</b>												
Number of Cases	1,081	1,081	1,081	1,081	1,025	1,025	1,025	1,025	45,396	45,396	45,396	45,396
Minimum	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.90	0.00	0.00	0.00	0.00
Maximum	49.64	30.56	11.79	471.00	48.43	11.11	11.79	393.40	35.43	8.57	8.49	213.35
Median	5.18	0.43	0.12	24.00	5.60	0.49	0.14	26.60	4.92	0.44	0.17	20.60
Arithmetic Mean	6.49	0.86	0.33	34.80	6.74	0.85	0.33	35.30	5.69	0.64	0.27	26.06
Standard Deviation	7.00	1.50	0.87	40.30	6.39	1.10	0.76	34.60	4.14	0.69	0.37	22.55
Coefficient of Variation	1.08	1.74	2.67	1.16	0.95	1.30	2.29	0.98	0.73	1.08	1.37	0.87
<b>All</b>												

Number of Cases	5,661	5,661	5,661	5,661	5,836	5,836	5,836	5,836	987,964	987,964	987,964	987,964
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	49.64	30.56	14.50	540.50	48.43	12.77	11.79	423.90	35.43	8.57	8.49	257.72
Median	0.43	0.23	0.05	9.00	0.52	0.26	0.06	9.80	0.07	0.08	0.01	1.46
Arithmetic Mean	2.11	0.50	0.15	18.30	2.04	0.48	0.16	18.00	0.55	0.20	0.05	4.98
Standard Deviation	4.22	0.97	0.51	30.00	3.85	0.76	0.46	26.40	1.56	0.33	0.13	9.85
Coefficient of Variation	2.00	1.92	3.32	1.64	1.88	1.57	2.87	1.46	2.85	1.66	2.75	1.98

To check for conditional bias, trend plots were created which compared the zinc, copper, gold, silver, and NSR block model estimates with the composite average grades. In RPA's opinion, there is no significant bias between the resource block grades and the composited assay samples when accounting for zero metal grades assigned to unsampled intervals during the interpolation process.

As a final check, RPA compared the volume of the wireframe models to the block model volume results. The estimated total volume of the wireframe models is 61,657,461 m<sup>3</sup> and the block model volume is 61,652,408 m<sup>3</sup>. The volume difference is -0.01%, which RPA considers to be an acceptable result.

Validation by RPA indicates that the block model is a reasonable representation of the tonnages and grades of the mineralized zones at Scott Lake.

## CLASSIFICATION

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

With the addition of the results of the 2011-2017 drilling programs, Mineral Resources at the Project have been classified into Indicated and Inferred categories. The classification is based on the mean distance of composites to block centres, on drill hole spacing (although it is rather

irregular), and on the number of holes that demonstrate continuity of the mineralized zones and grades. The general guidelines for classification are as follows:

Indicated:

- mean distance of composites to block centres less than 40 m
- drill holes on 25 m to 50 m apart cross-sections
- number of holes demonstrating continuity: four or more

Inferred:

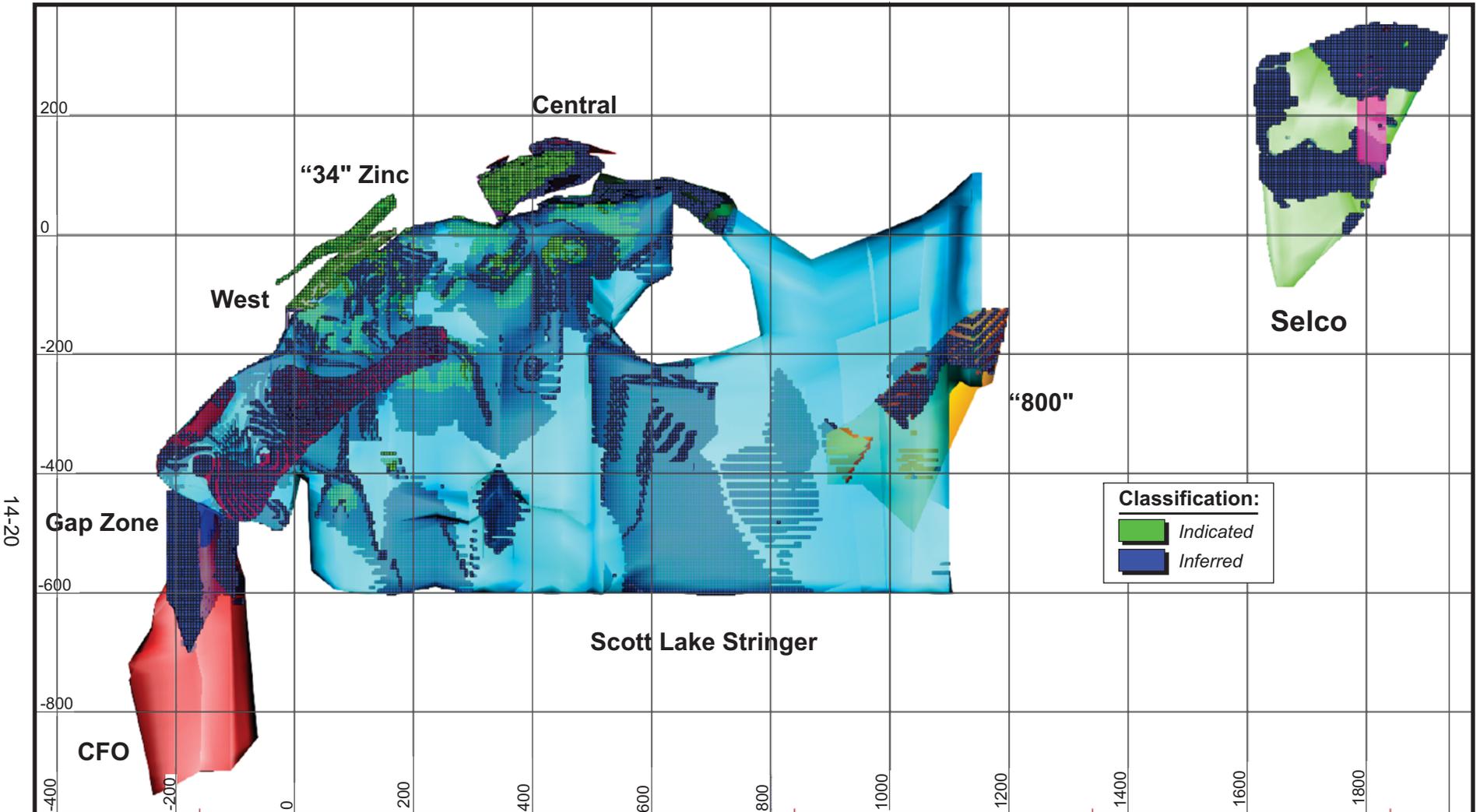
- mean distance of composites to block centres more than 40 m
- drill holes on cross-sections that are spaced more than 50 m apart
- number of holes demonstrating continuity : less than four

Based on the above rules, portions of the West, Central 2, and Sulphide Stringer zones and the whole of the 34 Zinc Lens are classified as Indicated Mineral Resources. All other mineralized zones are classified entirely as Inferred Mineral Resources. Figure 14-3 shows classified blocks above cut-off, and Figure 14-4 shows the NSR value of the same blocks.

It is RPA's opinion that the drilling density and the level of confidence in the data in the Scott Lake Project are not sufficient to classify any Mineral Resource as Measured.

RPA notes that the volume of mineralization in the Scott Lake Sulphide Stringer Zone is very important relative to the mineralization in the higher grade massive sulphide lenses. Approximately 67% of the current Indicated Mineral Resources and 76% of current Inferred Mineral Resources consist of stringer-type mineralization located in the Scott Lake Rhyolite.

Figure 14-5 shows the distribution of drill hole intersections in the Scott Lake Sulphide Stringer Zone used to estimate Mineral Resources. RPA recommends additional infill drilling where hole spacing is greater than 100 m, which is mainly in the eastern portion of the zone.



**Yorbeau Resources Inc.**

**Scott Lake Project**  
*Northern Québec, Canada*  
**Classified Blocks above NSR Cut-Off Value**

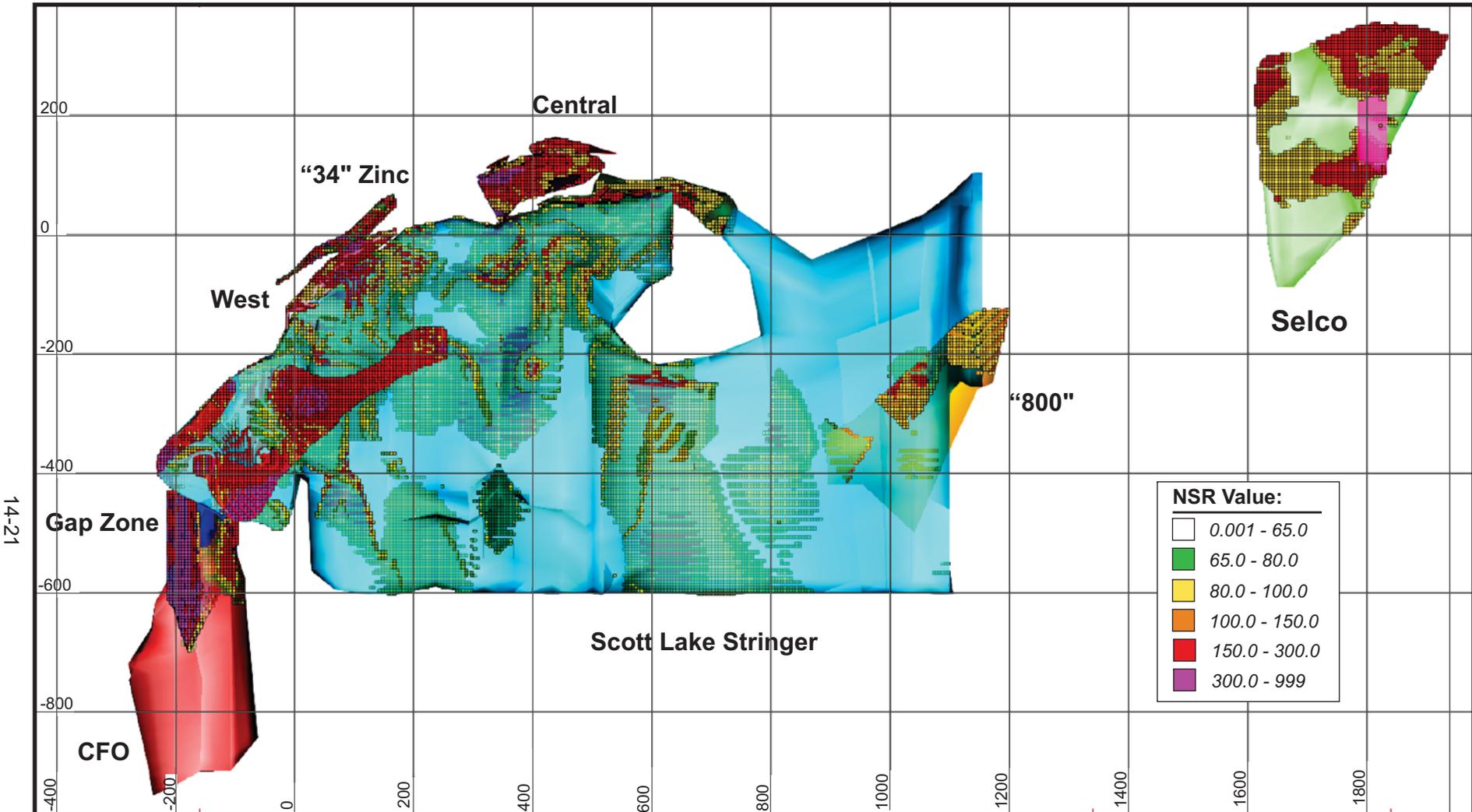
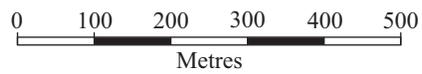


Figure 14-4



**Yorbeau Resources Inc.**

**Scott Lake Project**

*Northern Québec, Canada*

**NSR Value of All Classified  
Blocks above Cut-Off**

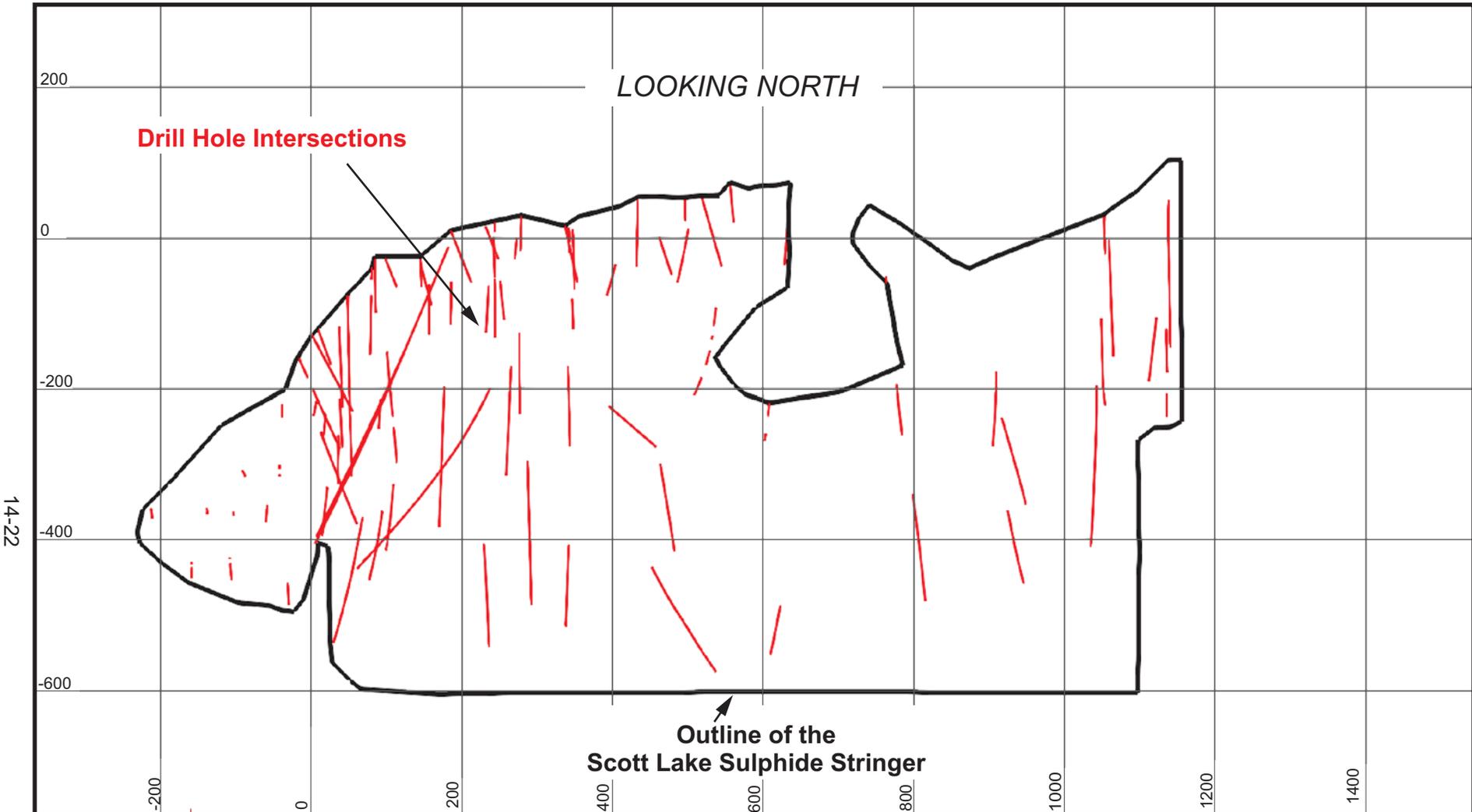


Figure 14-5

**Yorbeau Resources Inc.**

**Scott Lake Project**

*Northern Québec, Canada*

**Drill Hole Intercepts in Scott Lake Stringer Sulphide Zone**

## SUMMARY OF MINERAL RESOURCE ESTIMATE

RPA estimated Mineral Resources for the Scott Lake deposit using drill hole data available as of February 10, 2017. The current Mineral Resource estimate is based on a potential underground mining scenario using a \$100/t NSR cut-off value for massive sulphide zones and \$65/t NSR cut-off value for sulphide stringer zones. Based on the spacing of drill holes and interpreted continuity, RPA has classified the Mineral Resources as Indicated and Inferred.

Indicated Mineral Resources are estimated to total 3.57 million tonnes at 0.95% Cu, 4.17% Zn, 37.2 g/t Ag, and 0.22 g/t Au. Inferred Mineral Resources are estimated to total 14.28 million tonnes at 0.78% Cu, 3.49% Zn, 22.3 g/t Ag, and 0.22 g/t Au.

The Mineral Resources, by mineralization type and zone, effective February 14, 2017, are summarized in Table 14-11.

The Mineral Resources at various NSR cut-off values are shown as grade-tonnage curves in Figure 14-6. RPA notes that Mineral Resources at Scott Lake are sensitive to the cut-off grade, especially the stringer sulphide zones.

**TABLE 14-11 MINERAL RESOURCES AS OF FEBRUARY 14, 2017**

**Yorbeau Resources Inc. – Scott Lake Project**

Category	Zone	NSR Cut-off	Tonnes (000s)	Copper (%)	Zinc (%)	Silver (g/t)	Gold (g/t)	NSR (\$/t)
<b>Stringer</b>								
Indicated	Scott Lake	\$65	2,385	0.78	2.25	30.5	0.19	119
	Subtotal	\$65	2,385	0.78	2.25	30.5	0.19	119
Inferred	Scott Lake	\$65	8,260	0.85	1.38	19.1	0.16	100
	CFO	\$65	206	1.47	0.75	12.4	0.16	126
	Subtotal		8,467	0.87	1.37	19.0	0.16	101
<b>Massive Sulphide</b>								
Indicated	West	\$100	501	1.51	7.92	60.5	0.24	295
	34 Zinc	\$100	261	1.35	11.96	57.7	0.48	367
	Central 2	\$100	421	0.96	5.73	34.7	0.16	199
	Subtotal		1,183	1.28	8.04	50.7	0.27	277
Inferred	West	\$100	24	0.37	15.56	46.5	0.84	376
	800	\$100	614	0.47	6.20	19.5	0.14	165

Category	Zone	NSR Cut-off	Tonnes (000s)	Copper (%)	Zinc (%)	Silver (g/t)	Gold (g/t)	NSR (\$/t)
	Central 1	\$100	118	0.93	5.55	51.5	0.12	202
	Central 2	\$100	164	0.61	6.29	26.0	0.25	184
	Central 3	\$100	459	0.57	4.68	26.9	0.30	153
	CFO MS	\$100	410	2.39	4.42	44.5	0.32	282
	Selco	\$100	1,453	0.53	5.69	12.9	0.29	161
	Gap	\$100	2,573	0.50	7.82	33.1	0.39	214
	Subtotal		5,814	0.65	6.57	27.1	0.32	195
<b>Total Indicated</b>			<b>3,567</b>	<b>0.95</b>	<b>4.17</b>	<b>37.2</b>	<b>0.22</b>	<b>172</b>
<b>Total Inferred</b>			<b>14,281</b>	<b>0.78</b>	<b>3.49</b>	<b>22.3</b>	<b>0.22</b>	<b>139</b>

Notes:

1. CIM (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are estimated using a \$100/t NSR cut-off value for massive sulphide zones and \$65/t NSR cut-off value for sulphide stringer lenses.
3. Mineral Resources are estimated using a copper price of US\$3.25/lb, a zinc price of US\$1.20/lb, a gold price of US\$1,500/oz, a silver price of US\$22/oz, and an exchange rate of US\$0.80 to C\$1.00.
4. A minimum mining width of 2 m was used.
5. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
6. The numbers may not add due to rounding.

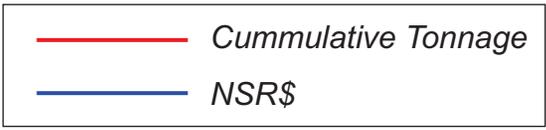
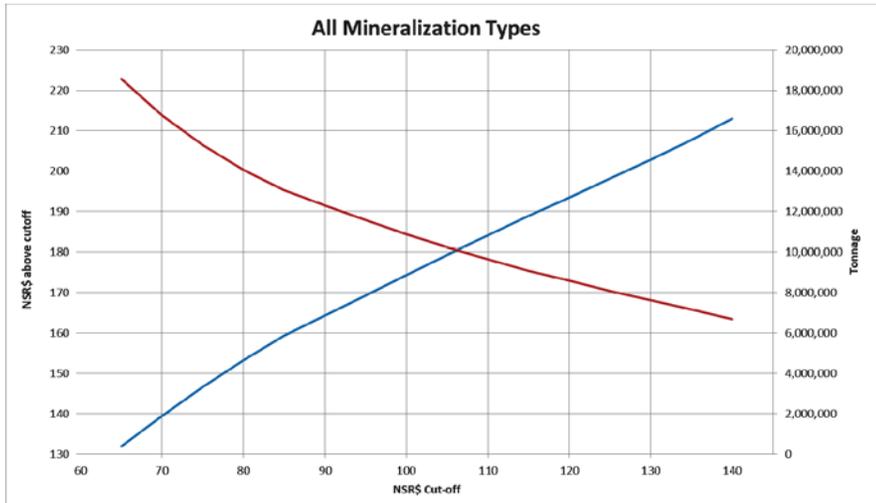
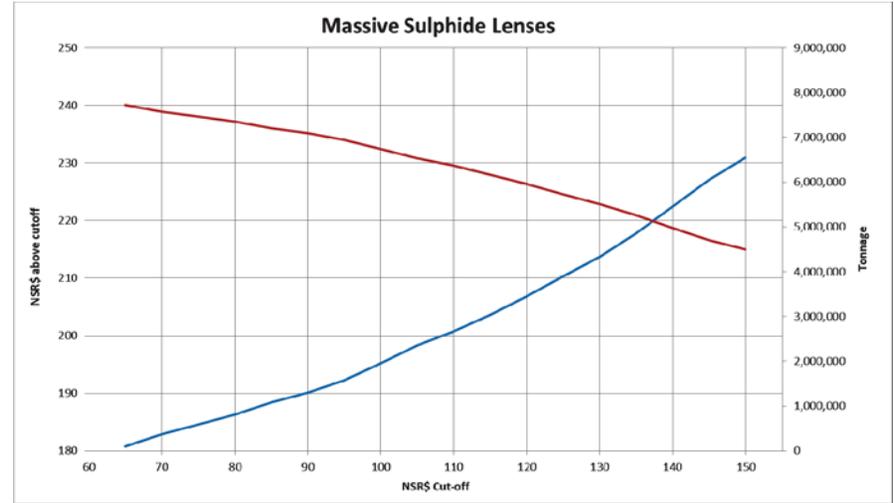
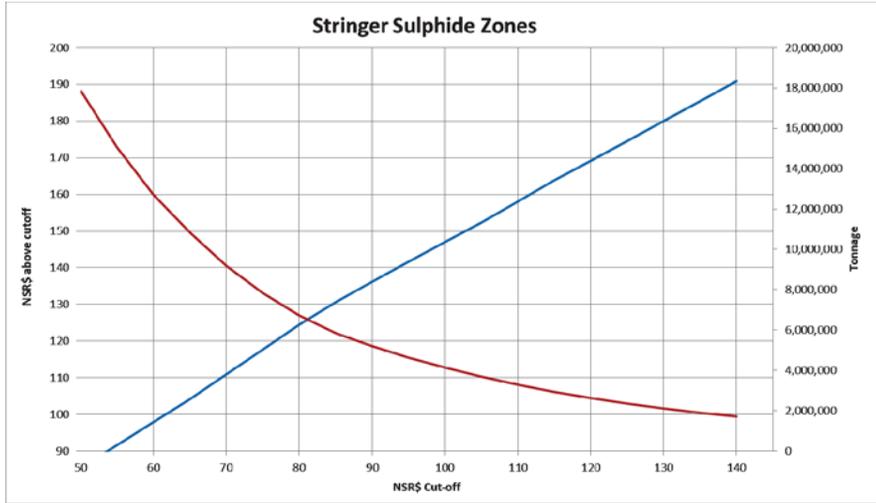


Figure 14-6

**Yorbeau Resources Inc.**  
**Scott Lake Project**  
 Northern Québec, Canada  
**Grade-Tonnage Curves**  
**By NSR Cut-off Value**

## COMPARISON TO PREVIOUS ESTIMATES

The Mineral Resource estimates for the Scott Lake Project reported in the 2011 Technical Report and in this report are compared in Table 14-12.

**TABLE 14-12 MINERAL RESOURCE COMPARISON – 2011 TO 2017**  
**Yorbeau Resources Inc. – Scott Lake Project**

Resource	Tonnage 000s	Zn (%)	Cu (%)	Au (g/t)	Ag (g/t)
<b>July 29, 2011 Mineral Resource (All Zones)</b>					
Indicated	-	-	-	-	-
Inferred	5,447	4.6	1.2	0.2	34.0
<b>February 14, 2017 Mineral Resource (All Zones)</b>					
Indicated	3,567	4.17	0.95	0.22	37.2
Inferred	14,281	3.49	0.78	0.22	22.3
<b>% Difference</b>					
Indicated	-	-	-	-	-
Inferred	+162%	-24%	-35%	0%	-34%

As a consequence of the 2012-2016 drilling program results, 3.56 million tonnes of Mineral Resources were upgraded to the Indicated category, and an additional 8.59 million tonnes of Mineral Resources were added to the Inferred category, albeit at lower Zn, Cu, Au, and Ag grades. Figure 14-7 illustrates the difference in the number of classified blocks in the Scott Lake Sulphide Stringer Zone above cut-off in 2011 (reported at an NSR cut-off value of \$80/t) versus 2017 (reported at an NSR cut-off value of \$65/t).

The increase in tonnage is a result of the following:

1. Discovery of the high grade massive sulphide Gap Zone.
2. The inclusion of the historical massive sulphide Selco Zone.
3. The westward extension of the Scott Lake Stringer Sulphide Zone.
4. The decrease in NSR cut-off value used to report Mineral Resources from the Stringer Sulphide Zones.
5. Change in exchange rate from US\$1.00=C\$1.00 in 2011 to US\$0.80=C\$1.00 used in the current Mineral Resource estimate.

The majority of the additional tonnage and the decrease in overall grade in the current Scott Lake Mineral Resource can be attributed to the decrease in the NSR cut-off value used for the Stringer Sulphide Zones, which are sensitive to changes in cut-off value (Figure 14-6).

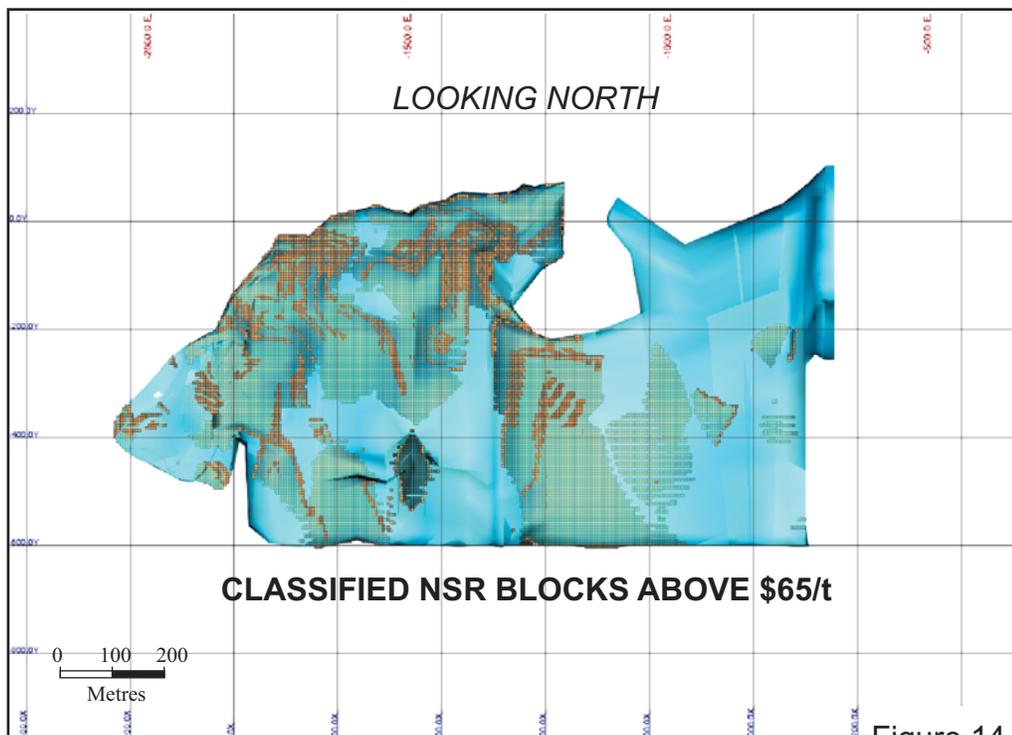
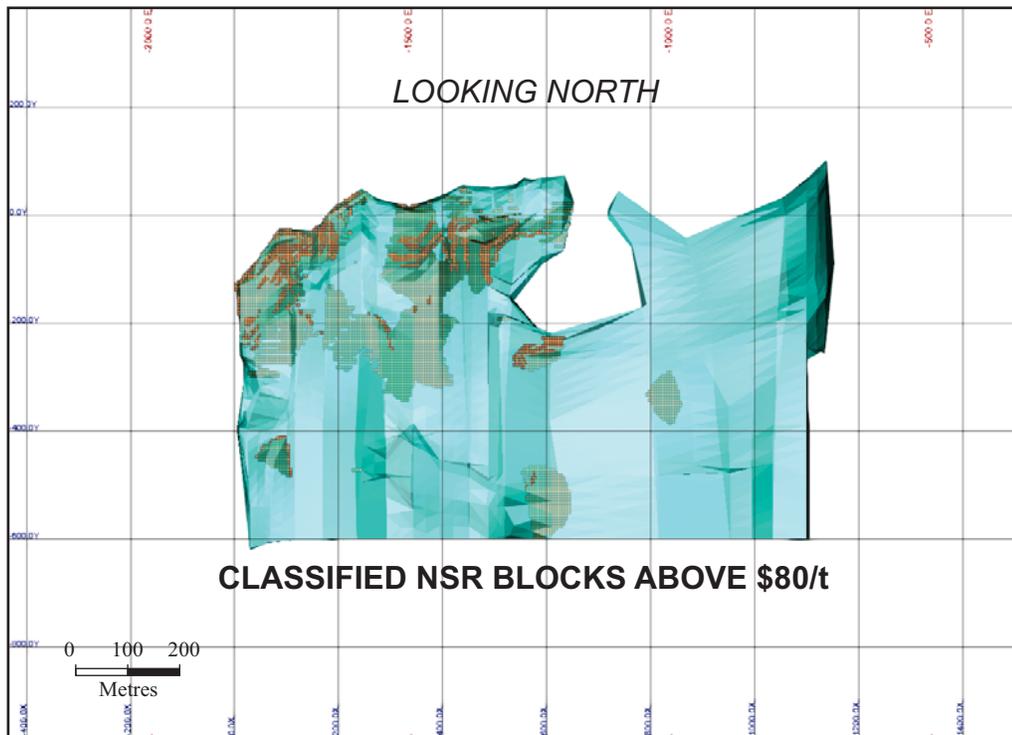


Figure 14-7

**Yorbeau Resources Inc.**

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**Scott Lake Project**  
Northern Quebec, Canada  
**Scott Lake Sulphide Stringer Zone**  
**Blocks vs 2011 Estimate**

## 15 MINERAL RESERVE ESTIMATE

There are currently no Mineral Reserves estimated for the Scott Lake Project.

## 16 MINING METHODS

The proposed mining methods for the Scott Lake deposit are mechanized drift and fill, transverse longhole, and longitudinal retreat mining. In the upper areas of the Central Zone and “34” Zinc Lens, the dip is too flat for open stope mining, therefore drift and fill mining will be used and will represent 11% of the total production of the mine. Below the flat area, the deposit is vertical and acceptable for open stope mining methods. Transverse longhole mining will be used in the areas where the thickness is over 10 m and continues vertically with that thickness to justify the development for transverse mining, and will represent 26% of the total deposit. The majority of the deposit is proposed to be mined using longhole retreat mining representing 50% of the production. The production development represents 13% of the production. The mine life is 15 years with an additional 16 months of pre-production development.

### MINE DESIGN

For the mine design, RPA considered both ramp and shaft modes of access. Initially the ramp would provide quicker access to Mineral Resources, however, the ultimate depth of the mineralization would intuitively warrant consideration for a shaft access to improve on the overall economics. The ramp access was selected for the initial evaluation and the shaft has been retained as an option that could be adopted based on the ongoing success of increasing Mineral Resources at depth.

### SHAFT OPTION

The shaft option considered is illustrated in Figure 16-1 and shows the special relationship to each zone. This option was costed and considered to be excessive in terms of pre-production costs compared to the ramp only option. Some variation of the shaft option that would provide, for example, only ore/waste hoisting could be considered, should operating circumstances warrant this approach.

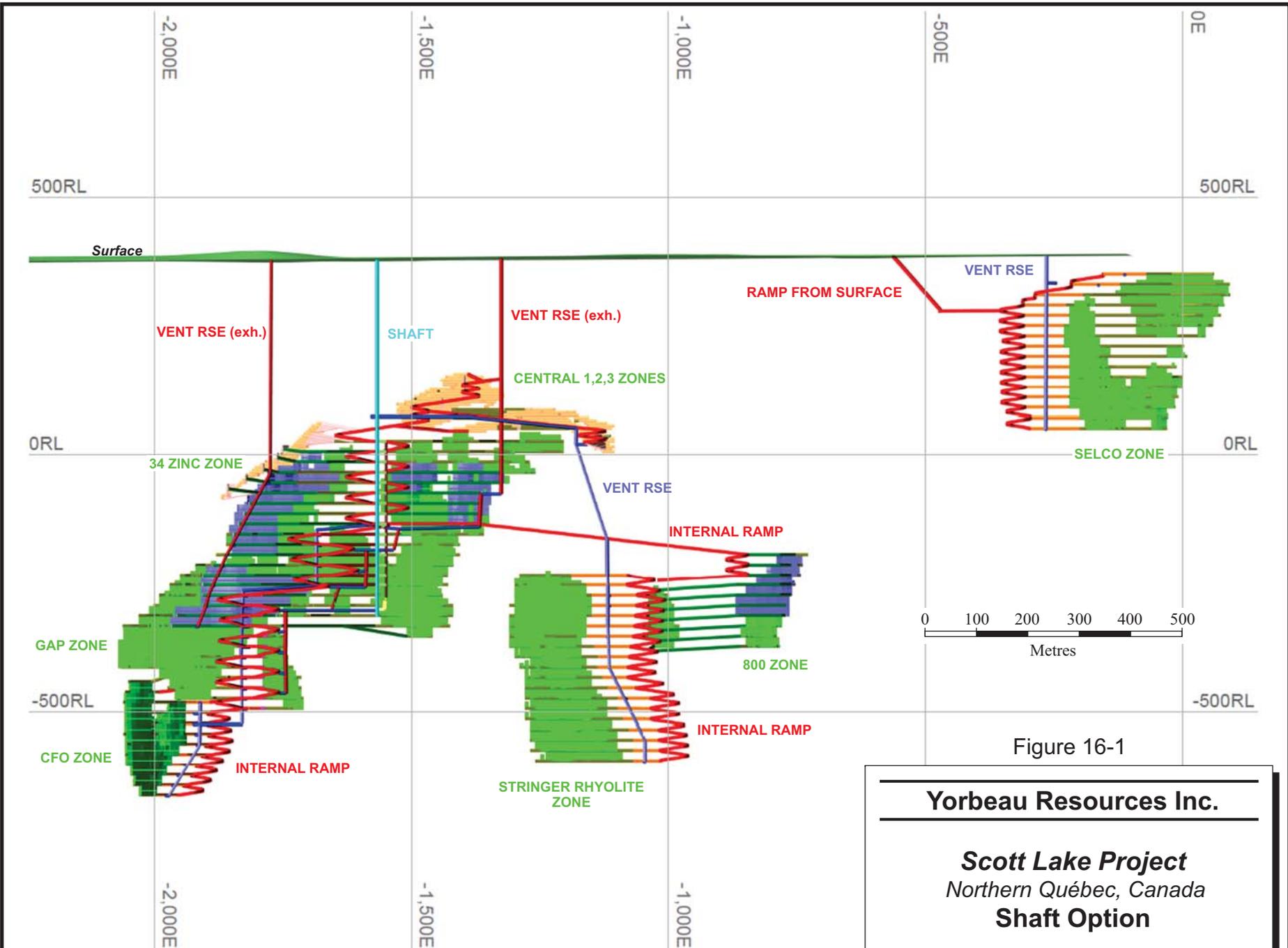


Figure 16-1

**Yorbeau Resources Inc.**

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**Scott Lake Project**  
 Northern Québec, Canada  
**Shaft Option**

## RAMP OPTION

The mine will be accessed with a 5 m by 5 m ramp driven at an average gradient of -15%, with a lesser gradient on the corners and for level accesses. The ramp will be initially ventilated with auxiliary fans installed in series until the first level access is reached, then the first ventilation raise will be driven through to surface. The main ventilation system will consist of a push pull system with a main downcasting fresh air raise (FAR) and supported by at least two upcasting return air raises (RAR) for contaminated air. Given the haulage distances that result from ramp only access, haulage will be completed using 50 tonne capacity electric haul trucks running off a trolley line. These units offer excellent, constant speed and are highly efficient. The speed advantages will allow the required hauling capacity to be achieved with fewer trucks, however, this will occur at a higher initial capital expenditure. The ramp option is shown in Figure 16-2.

The main ramp will start near the Selco zone, where a portal will be excavated on the surface. The main ramp will then turn to the west towards the main orebodies. Upon reaching the Central and Stringer zones, the ramp will run central to the mineralization. At the -135 level the ramp splits into two. One ramp will provide access to the 800 Lens and lower Stringer Zone, and the other will provide access to the Gap Zone and CFO Lens.

For stope production, a rate of 500 tonnes per day (tpd) was used which represents the entire mining cycle from drilling to backfilling. Development is 3.5 metres per day (mpd) for both lateral and vertical development and is considered by RPA to be reasonable. Ore development is scheduled at 4 m high x 5 m wide to satisfy the mine regulation for equipment clearances and operating efficiency. Capital and drift and fill development is 5 m high x 5 m wide. All raises for this project were sized at 3 m in diameter using a Raisebore machine or an equivalent sized (2.7 m x 2.7 m) Alimak raise.

Longhole stopes vary in thickness from hanging wall to footwall. The stopes are 20 m on strike by 20 m high.

The levels have a central truckload and remuck area. LHDs will stockpile muck in the remuck while the truck continues to the surface and the next truck arrives. The levels also have a fresh air and exhaust raise. In areas without an exhaust raise, the ramp will exhaust the air.

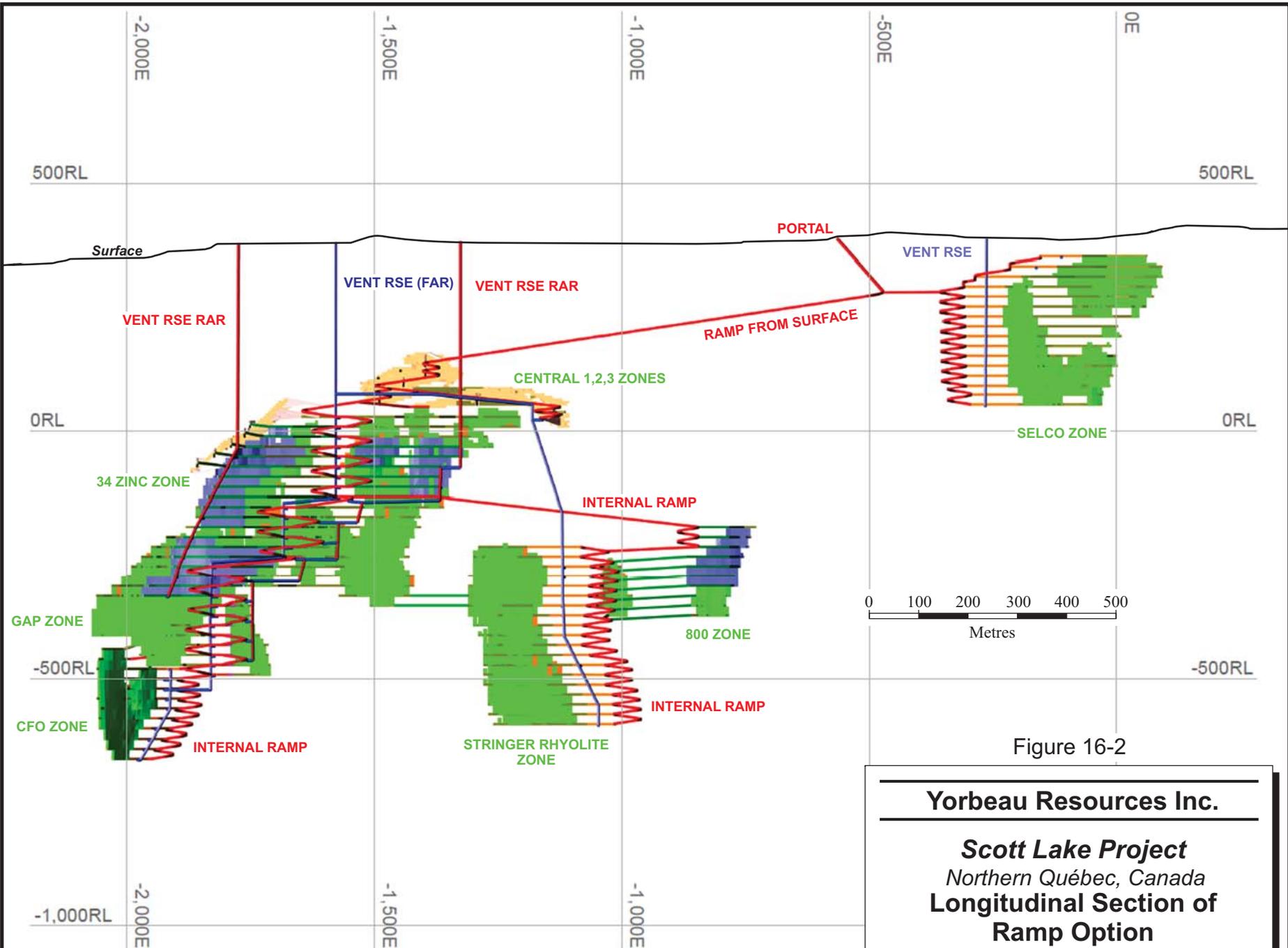


Figure 16-2

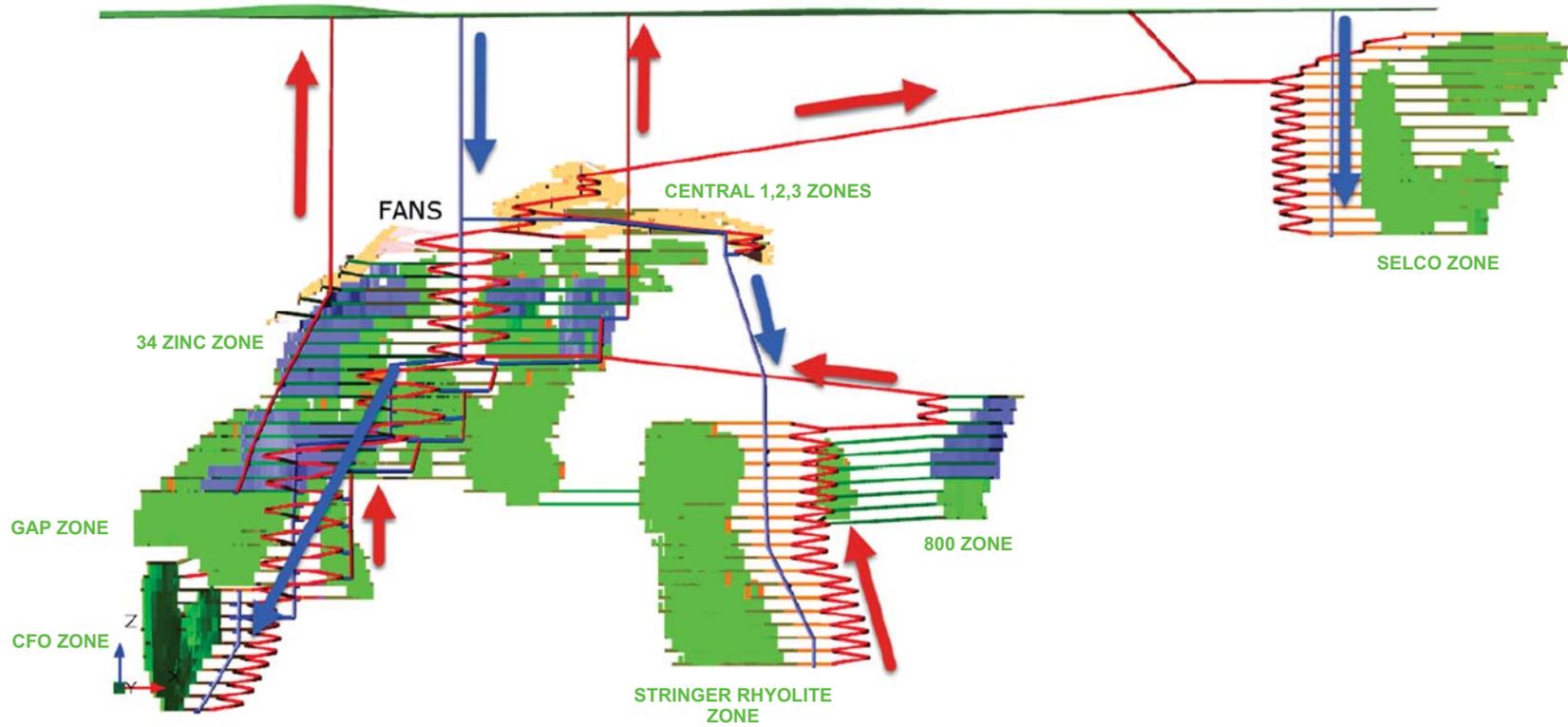
**Yorbeau Resources Inc.**

**Scott Lake Project**  
 Northern Québec, Canada  
**Longitudinal Section of Ramp Option**

## VENTILATION

The ventilation for Scott Lake will consist of a push-pull system, where fresh air will be downcasted via a FAR ventilation raise and exhaust air will return to surface via two RARs and upcasting the main ramp. Initial development in the ramp will consist of auxiliary fans in series until the first level is reached, after which, the system will be connected to surface via the main FAR. Connections will be made as the ramp continues towards the lower levels of the mine. Internal ventilation raises will be used in between levels to ensure flow through ventilation is provided. The ventilation circuit is shown in Figure 16-3. With the use of the 50 tonne electric trucks for main haulage, the ventilation requirements are estimated to be approximately 200 m<sup>3</sup>/sec, or 400 kCMF, to adequately ventilate the mine. Auxiliary ventilation fans will be required when driving access and other drift headings that are away from the main ventilation circuit. Refuge stations will also be provided at strategic locations throughout the mine to ensure safety for personnel in case of an emergency.

The mine air will require heating during the winter season, estimated at approximately 118 days per year. Propane will be used to heat the mine air and ensure that temperatures are above freezing to protect infrastructure (air lines, water lines, etc.) and for underground personnel. Heat recovery systems will be evaluated to help mitigate the costs associated with mine air heating. The main ventilation raise will also be equipped with an escapeway system to enable egress from the mine in case of an emergency. Mine services, including piping and electrical cables, will be installed in the main raise to help reduce the pressure losses and length of cables.



0 100 200 300 400 500  
Metres

Figure 16-3

**Yorbeau Resources Inc.**

**Scott Lake Project**  
Northern Québec, Canada  
**Longitudinal Section of  
Mine Ventilation Circuit**

## STOPE DESIGN

Stoping at Scott Lake will consist of 50% longitudinal longhole stoping, 26% transverse longhole stoping, 11% cut and fill (C&F), with the balance of 13% coming from the development drifting on ore. The stoping methods are illustrated in Figure 16-4.

Transverse longhole stopes will be used in the wider areas of the mine and predominantly in the 34 Zinc Lens and the upper part of the 800 Zone. Transverse stopes are driven from footwall to the hanging wall contact and will be 10 m wide by 20 m high. The Transverse stopes will be mined in a Primary and Secondary sequence, whereby consolidated paste fill will be used to fill the primary stopes and loose rock fill will be used to fill the secondary stopes. The average length of the stope is planned to be a maximum of 20 m to allow for the full length to be excavated prior to backfill being required. Should stope lengths increase significantly beyond this, the stope may need to be taken in two sequences with an interim backfill sequence required.

Longitudinal longhole stopes are planned with a strike length of 20 m and a 20 m stope height to enable good control of the ground and reasonable dilution during mining. The actual drilling height will be approximately 16.5 m which will offer good control on production drill hole deviation. Most of the longitudinal longhole stopes will progress in retreat towards the main access to reduce the amount of waste development required for drawpoints. Areas of lower grade or waste material can be left as pillars and the stope can be “re-slotted” to continue mining the stope. The average stope width will be approximately 3 m, hence a stope will produce 150 tonnes per horizontal metre of advance. Production drilling will be 62.5 mm diameter longholes and blasting will be completed using ANFO product or emulsion, where required.

C&F stoping will occur predominantly in the upper portion of the Central Zone due to the flatter dip of the mineralization. This method will consist of Overhand C&F, where the full length of stope is taken with a drifting method followed by a fill cycle prior to the ensuing lift. The lifts will be 4 m to 5 m in height as the ground will dictate with the round length of 3.65 m producing approximately 175 tonnes per round. Backfilling will be either paste fill or waste fill, as the case requires.

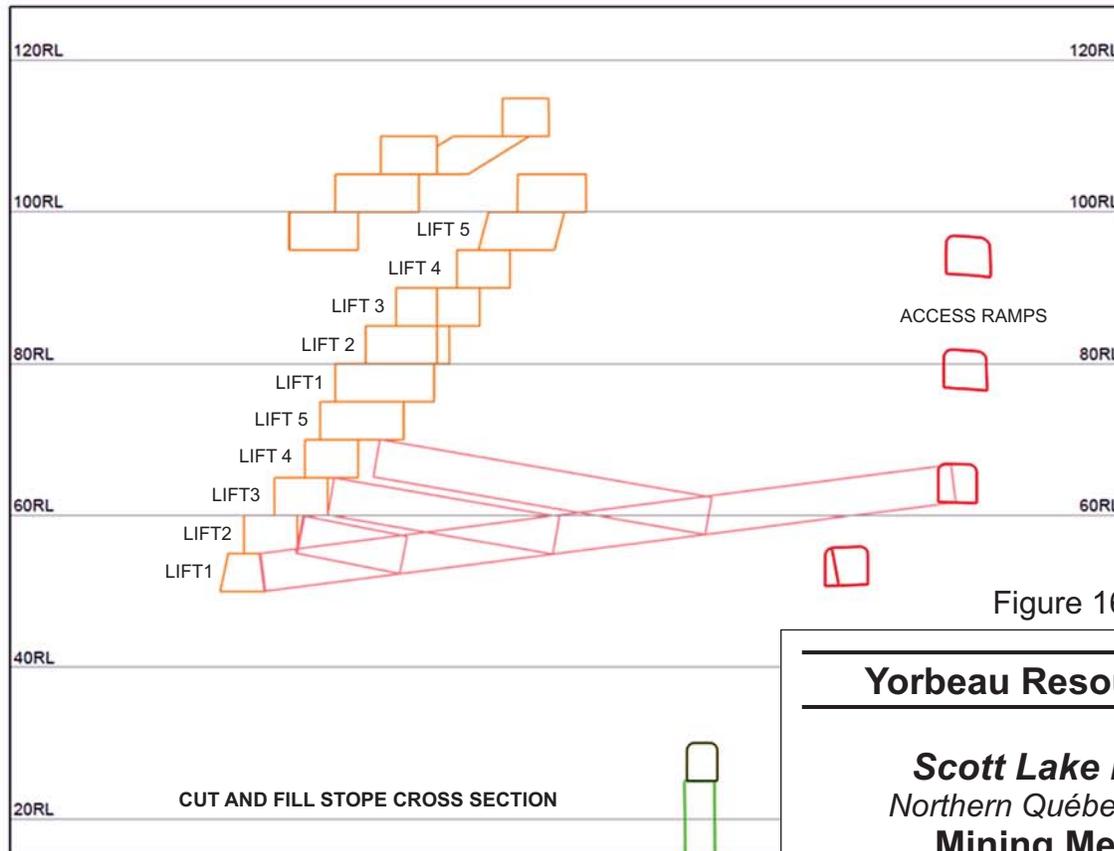
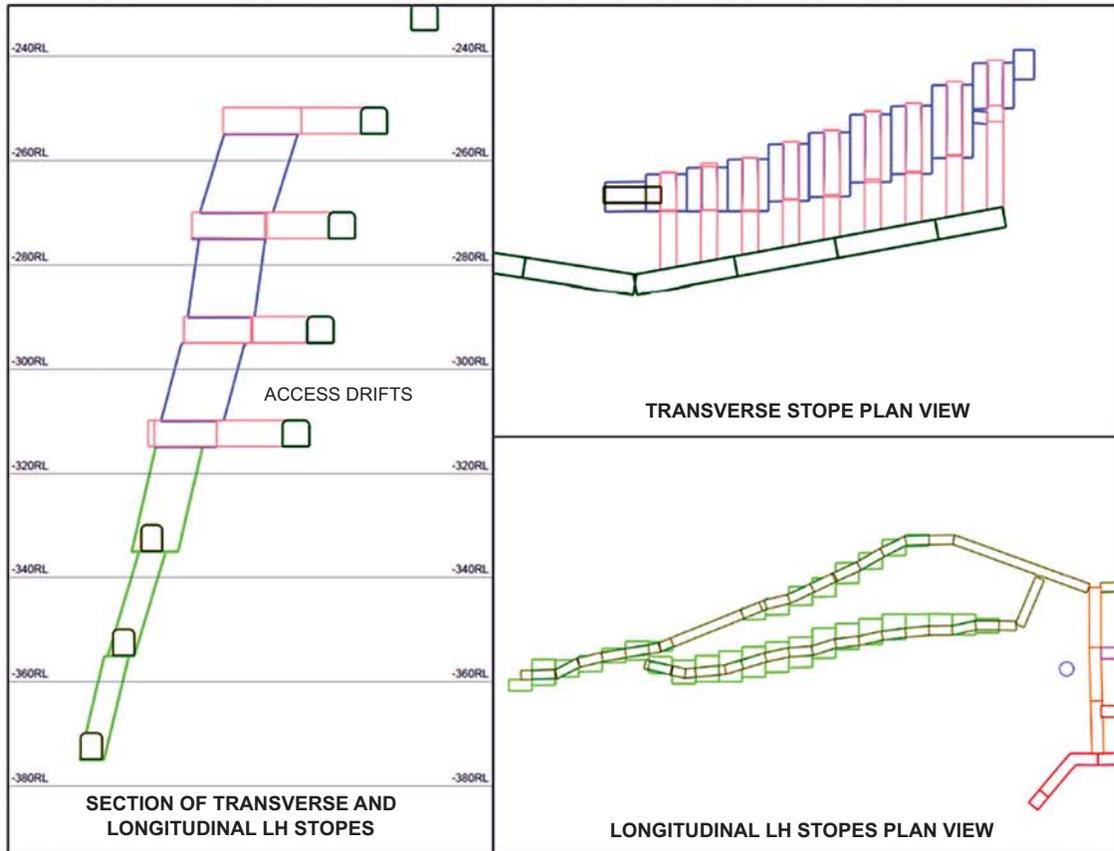


Figure 16-4

**Yorbeau Resources Inc.**

**Scott Lake Project**  
Northern Québec, Canada

**Mining Methods**

## **DILUTION AND EXTRACTION**

The stopes were designed with 0.5 m of dilution on the hanging wall and footwall of the stopes using Deswik Stope Optimizer (DSO). An extraction factor of 90% was used.

## **GEOMECHANICS**

Due to a lack of geotechnical information, the level spacing was set at 20 m. Once further geotechnical work is completed, there may be an opportunity to increase the level spacing and reduce waste development costs.

## **GROUND SUPPORT**

For the purposes of this report, it is assumed a standard 1.2 m x 1.2 m bolting pattern will be used with screen to support the ground. Shotcrete and cable bolting will be used as required. Stopes will be backfilled with paste fill and rock fill to minimize waste rock haulage to surface.

## **PRE-PRODUCTION SCHEDULE**

Establishment of the collar will begin 18 months ahead of the planned start of production which will allow for a couple of months to secure the portal and set up infrastructure. There will be 16 months of pre-production development to establish development to the Selco zone and top of the Central Zone. During that time the FAR in the Selco zone and the east exhaust raise to surface of the main zone will be established.

## **LIFE OF MINE PLAN**

The LOM plan has 16 months of pre-production followed by 15 years of production (Table 16-1). In the first five years, production is ramped up from 1,500 tpd to 2,400 tpd. The development getting ahead of the development is the most difficult part of achieving the production schedule. Over the 15-year mine life, the mine will produce 12.02 Mt of ore with an average zinc grade of 4.14% and a copper grade of 0.81%, with precious metal credits.

Waste development during the LOM will average approximately 12 m/day or 600 tpd while ore development will average 5 m/day or 300 tpd or approximately 14% of the processing tonnage.

**TABLE 16-1 LIFE OF MINE PLAN**  
**Yorbeau Resources Inc. – Scott Lake Project**

	Units	Total	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Operating Days	days	5,455	122	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365
Processing	tpd	2,204			1,474	1,621	1,961	2,114	2,407	2,270	2,339	2,493	2,446	2,356	2,370	2,339	2,342	2,283	2,252
Production Tonnes	'000	12,024			538	592	716	772	879	829	854	910	893	860	865	854	855	833	777
Au Grade	g/t	0.24			0.18	0.23	0.25	0.28	0.19	0.20	0.20	0.20	0.27	0.32	0.26	0.28	0.28	0.28	0.14
Ag Grade	g/t	26.59			21.90	22.81	22.20	22.00	33.70	37.84	39.58	26.21	26.24	28.57	24.94	25.39	22.51	18.86	21.54
Cu Grade	%	0.81			0.56	0.62	0.62	0.68	0.95	0.99	1.11	0.82	0.61	0.68	0.45	0.84	0.94	0.90	1.20
Zn Grade	%	4.14			5.05	5.54	4.99	5.70	2.81	3.64	3.20	2.68	5.47	4.48	6.02	5.11	4.16	2.66	1.33
Waste Tonnes	'000	3,587	23	247	186	152	158	252	279	373	168	260	147	336	374	213	127	252	40
Total Tonnes Moved	'000	15,341			724	744	874	1,024	1,158	1,201	1,022	1,170	1,040	1,196	1,239	1,067	981	1,085	817
Tonnes Ore+Waste	tpd	2,812			1,983	2,038	2,394	2,804	3,172	3,291	2,799	3,204	2,848	3,277	3,395	2,922	2,689	2,974	2,367

## INFRASTRUCTURE

The proposed mine has the following underground infrastructure...

- Ventilation
- Pumping
- Communication
- Electrical
- Safety
- Haulage track for trucks
- Shops

## VENTILATION

The ventilation in the mine will be a push pull system. The fresh air system will provide more air than the exhaust fans can handle, as a result the excess air will exhaust the portal, as shown in Figure 16-3. The mine will require approximately 500,000 cfm to adequately ventilate the mine during operations. The quantity of air required is slightly reduced due to both the utilization of electric haulage trucks that require significantly less ventilation and the heat load to the mine environment.

The fresh air fan for the Selco zone will be located on the surface while the fresh air fans for the main orebodies will be located underground on the 75 level where the ventilation splits. Exhaust fans will be located on surface. The heaters for the intake fans will be located on surface. Mine air heating will be supplied via propane supply lines with a heating period of approximately 120 days per year.

Auxiliary fans with silencers and vent ducting will be used to ventilate the ore headings. Where the headings are longer, metal or ridged ducting will be used to reduce friction.

## PUMPING

Sumps will be located near the main access to the level. Pumps will then move the water to main pump boxes located in the ramp which will then pump the water to a surface sedimentation collection pond to allow for the suspended solids to settle out. From there, the water will go to the water treatment plant and any deleterious materials will be removed, producing a final effluent that can be discharged into Lac Fleury located nearby. Any available

water will be recirculated to the process plant for reuse. Main level sumps will have a clean water area for drill water use. If necessary, the water will be separated using a weir and flocculant.

## **COMMUNICATION**

Communication underground will be done using radios and a leaky feeder, or similar technology, type system. This will allow continuous communication to the various areas of the mine with the exception of newer headings being developed.

## **ELECTRICAL**

The electricity for the mine will be provided from surface via the ramp and ventilation raises with power delivered at 4.16 Kv to the underground substations. The substation secondary at 600 volts will be used to distribute the electricity to equipment in the working headings. It is estimated that substations will be required approximately every 60 vertical metres or the equivalent of three level intervals.

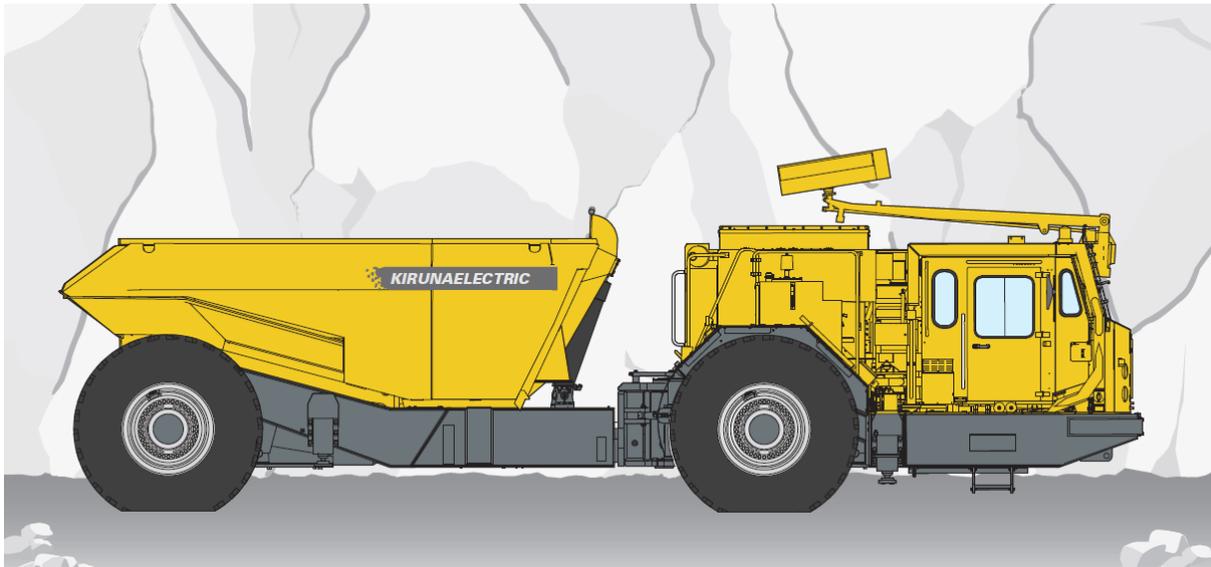
## **SAFETY**

Portable refuge stations will be located in the accesses to the FARs. The stations will be located and sized according to the demands of the workforce. Permanent refuge stations will be located in strategic locations throughout the mine.

The FARs will serve as the secondary egress from the mine. Manways will be used in the raises. The raises will be broken through on every operating level providing access to a “fresh-air base” within a short distance of any workplace.

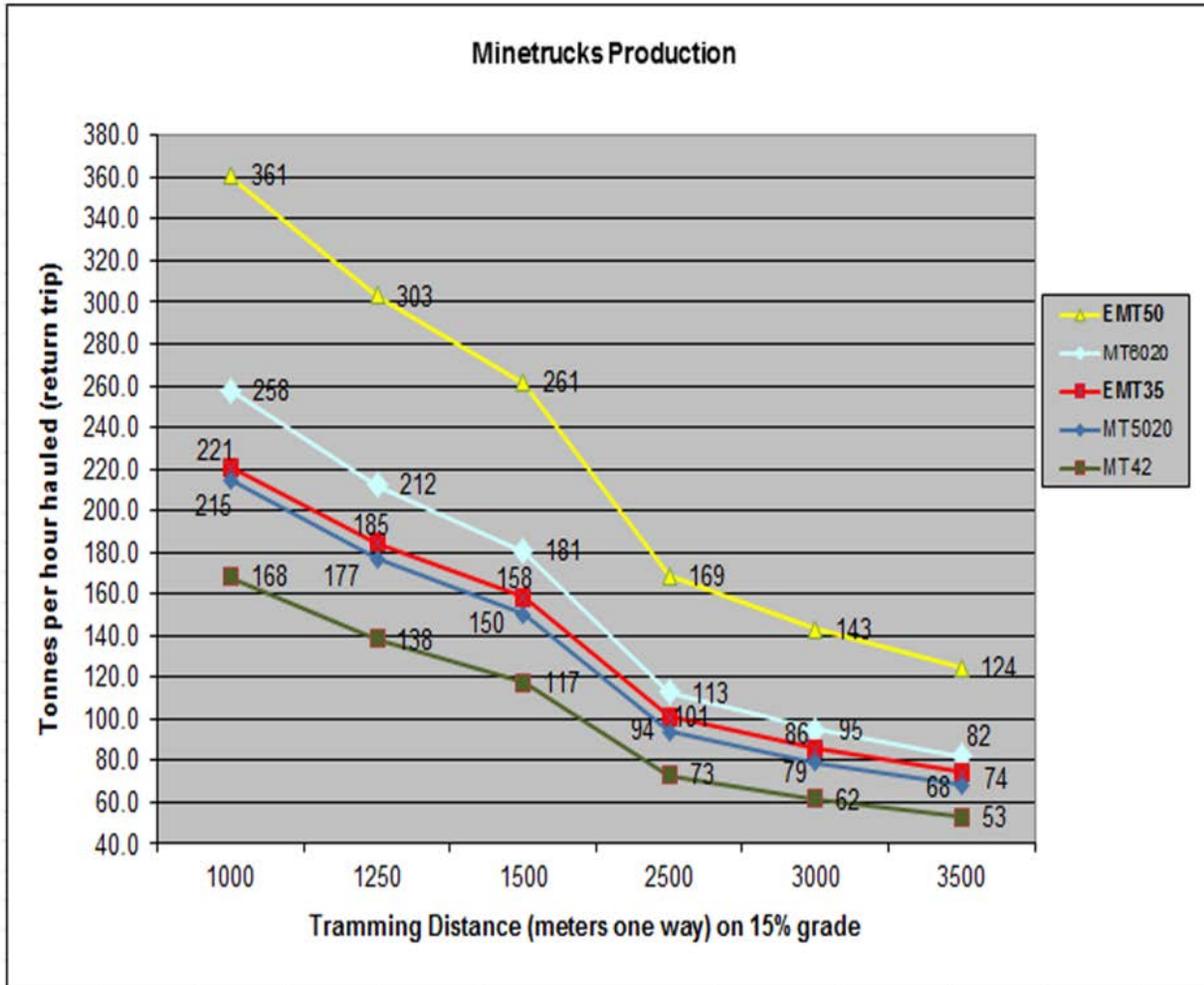
## **HAULAGE TRUCKS**

The mine will be using 50 tonne capacity electric/diesel Kiruna trucks to move the muck in the mine to the surface or other areas. The trucks use a track system on the ramps and can maintain a constant speed of travel, making these units superior to the diesel trucks. Some diesel units will be required in advancing headings until the electrical system can be installed to service these trucks. The truck is shown in Figure 16-5.

**FIGURE 16-5 EM50T ELECTRIC MINE TRUCK**

The comparison of speed with the EMT50 is shown in Figure 16-6. The gain in productivity versus the diesel type units is evident in the graph. This increased productivity also means a reduced fleet size as the mine deepens and haulage distance continue to increase. It is estimated that an additional three diesel units would be required to match the output of the electric units considered, which would add to the overall maintenance costs, ventilation requirements, and inventory necessary to service the units.

**FIGURE 16-6 EM50T MINE TRUCK SPEED PROFILE**



### SHOPS

The main shop for the mine will be located on surface. On the -135 level there will be an electrical and mechanical shop to service vehicles. A fuel station and lube bay will also be located on this level. Production on the -135 level occurs early on in the mine life, so once mining is completed the shops and bays will be on an isolated ventilation system.

### MINING EQUIPMENT

Table 16-2 lists the mining equipment selected for use underground in the mine.

**TABLE 16-2 MINING EQUIPMENT**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Item</b>	<b>Unit Cost (\$)</b>	<b>Quantity</b>
Trucks-EMT50T Haulage	3,600,000	5
Trucks-30T Backfill c.w. Push Plate	875,000	2
Jumbos-(M2D-2-Boom or Equiv.)	1,285,000	3
Jumbo-(1Boom Elec./Hyd.)	750,000	1
LH Drills - DL311-7 (3.5"Hole)	880,000	3
LH Drills - CMAC P-LH Pneu.	245,000	1
Grader 12 ft blade	312,500	1
Rockbreaker Mobile	150,000	1
LHD-11Yd. Scoops	1,800,000	2
LHD-8Yd. Scoops	1,300,000	5
LHD-3.5 Yd. Scoops	825,000	2
Scissor lift-(for Bolting)	455,000	2
ANFO Truck	515,000	2
Shotcrete Truck Unit	590,000	1
Tractors (Kubotas-59HP)	150,000	4
Boom truck (Hiab)	536,000	1
Fuel & Lube Truck	425,000	1
RBM-Bolting Unit	1,013,625	2
Service Vehicle (Jeep)	65,000	3
Personnel Carrier	390,000	2

# 17 RECOVERY METHODS

## INTRODUCTION

Metallurgical testing has focussed on the development of a sequential copper-zinc flotation flowsheet. The preliminary process design is typical of a conventional copper-zinc concentrator.

The process plant will be designed to operate for 365 days per year at an average throughput of approximately 2,200 tpd of ore and will produce copper and zinc concentrates via selective flotation. The comminution circuit will consist of three stages of crushing. The crushed ore will be transferred to fine ore storage bins and distributed to the grinding circuit.

The grinding circuit will consist of a ball mill operating in closed circuit with hydrocyclones. The slurry for grinding will be conditioned using slaked lime or  $\text{Ca(OH)}_2$ , Aerophine 3418-A (a collector), and sodium metabisulphite (SMBS, a depressant).

The grinding circuit product will feed the magnetic separation circuit where the magnetic materials in the feed will be rejected. The non-magnetic material constitutes the feed to the flotation circuit.

The flotation circuit will consist of two stage “sequential” operations, to target Cu flotation first, followed by Zn flotation. Copper flotation will consist of a conditioning circuit, conventional rougher, scavenger, regrind mill, and three stages of cleaner flotation.

The reject stream (Cu rougher tails) from the Cu flotation process will feed the Zn flotation circuit. Zinc flotation consists of a conditioning circuit, conventional rougher, scavenger, regrind mill, and three stages of cleaner flotation. The magnetic concentrate, zinc rougher tails, and zinc cleaner scavenger tails will be combined and diverted to the tailings dewatering circuit.

Concentrated flotation products and tailings will be sent to separate thickening and filtration circuits. Tailings will be dewatered and deposited in a tailings pond and/or returned underground as paste backfill.

Due to the limited metallurgical testing performed to support process design, the preliminary process design parameters for the copper-zinc separation circuit have been estimated using proprietary data from RPA's database of project information. The process design is strictly preliminary based on available test work data for the Project, proprietary information from other studies, and RPA's previous experience on similar projects. Table 17-1 lists the sources of information used to obtain or to estimate the design criteria. Table 17-2 presents the nominal design throughput and key plant design criteria for the proposed concentrator.

**TABLE 17-1 DESIGN CRITERIA SOURCES**  
**Yorbeau Resources Inc. – Scott Lake Project**

Source Code	Description
A	As instructed or determined by the client
B	Standard industry practice
C	Selected, based on metallurgical testwork results
D	Criteria from process calculations
E	Engineering handbook data
F	Assumption
G	Information not available or to be determined

**TABLE 17-2 KEY PLANT DESIGN CRITERIA**  
**Yorbeau Resources Inc. – Scott Lake Project**

Area/Parameter	Value	Units	Source
<b>Feed Characteristics</b>			
Ore Grade			
Cu	0.81	%	C
Zn	4.15	%	C
Fe	30.00	%	F
Ag	26.66	g/t	C
Au	0.24	g/t	C
Moisture	8.0	%	F
Bond Work Index	10.3	kWh/t	C
<b>Operating Schedule</b>			
Run-of-mine (ROM) ore delivered (dry)	772	ktpa	A
Scheduled operating days	365	d/y	B
Crushing circuit availability	75	%	F
Grinding/Flotation plant availability	92	%	F
<b>Crushing and Screening</b>			
Production Target (dry)	772	ktpa	A
Fine Ore Screen (P <sub>80</sub> )	10	mm	F
<b>Grinding</b>			

Area/Parameter	Value	Units	Source
Slaked Lime	1,000	g/t	F
Aerophine 3418A	10	g/t	C
SMBS	1,400	g/t	C
pH	6.6		B
Primary grind size	55	µm	C
Primary grind density	50	% solids	C
<b>Magnetic Separation</b>			
Magnetic Concentrate to Tails	145.2	ktpa	D
Non-Magnetics to Cu Conditioning	627.2	ktpa	D
<b>Cu Conditioning</b>			
pH	10		C
Residence time	7.5	min	F
<b>Cu Rougher Flotation</b>			
Aerophine 3418A	5	g/t	C
SMBS	200	g/t	C
MIBC	20	g/t	C
pH	10		C
Residence time	25	Min	B
<b>Cu Regrind Mill</b>			
Slaked Lime	150	g/t	F
Aerophine 3418A	10	g/t	C
ZnSO <sub>4</sub>	50	g/t	C
NaCN	12.5	g/t	C
pH	11.4		C
Feed size, P <sub>80</sub>	55	µm	C
Product size, P <sub>80</sub>	25	µm	C
<b>1<sup>st</sup> – 3<sup>rd</sup> Cu Cleaner Flotation</b>			
	3	-	C
Feed size, P <sub>80</sub>	25	µm	C
Aerophine 3418A	10	g/t	C
MIBC	25	g/t	C
pH	11.5 - 11.8		C
Residence time per cleaner stage	20	min	F
<b>Zn Conditioning</b>			
Slaked Lime	5,000	g/t	F
Aerophine 3418A	35	g/t	C
MIBC	10	g/t	C
CuSO <sub>4</sub>	350	g/t	C
pH	9.3 – 11.5		C
Residence time	10	min	F
<b>Zn Rougher Flotation</b>			
Aerophine 3418A	35	g/t	C
MIBC	20	g/t	C
pH	11.5		C
Residence time	25	Min	B
<b>Zn Regrind Mill</b>			

Area/Parameter	Value	Units	Source
Slaked Lime	2,500	g/t	F
CuSO <sub>4</sub>	100	g/t	C
pH	11.7		C
Feed size, P <sub>80</sub>	55	µm	C
Product size, P <sub>80</sub>	30	µm	C
<b>1<sup>st</sup> – 3<sup>rd</sup> Zn Cleaner Flotation</b>	3	-	C
Feed size, P <sub>80</sub>	30	µm	C
Aerophine 3418A	10	g/t	C
MIBC	20	g/t	C
pH	11.7 – 11.8		C
Residence time per cleaner stage	20	min	F

## PROCESS FLOWSHEET AND DESCRIPTION

The selected process plant flowsheet and design are based in part on the LCT flowsheet shown in Section 13. A simplified Block Flow Diagram (BFD) for the proposed processing facility is shown in Figure 17-1. The information contained in this section has been used for preliminary estimation of capital and operating costs in Section 21. A summary description of key process unit operations in the conceptual block flow diagram is provided below.

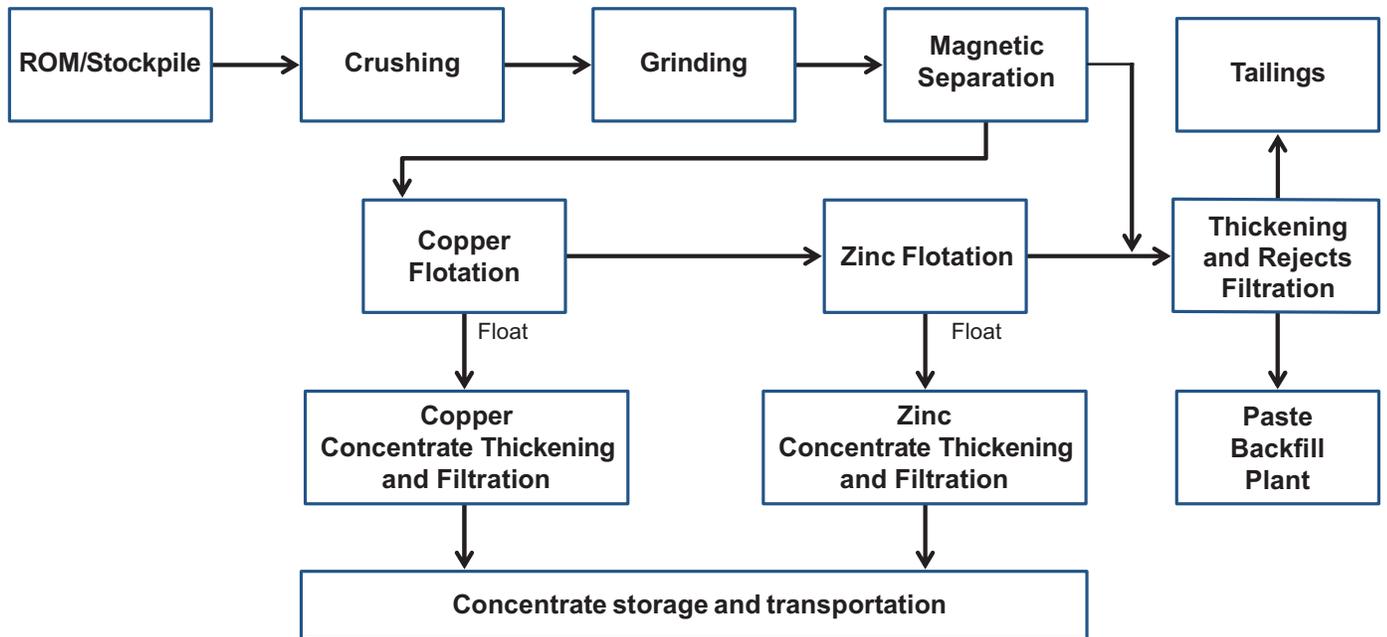


Figure 17-1

**Yorbeau Resources Inc.**

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**Scott Lake Project**  
Northern Québec, Canada

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**Simplified Process Flow Sheet**

## **CRUSHING AND GRINDING**

The crushing, grinding, and flotation circuits have been designed to support the treatment of an average of 802,000 tpa feed in the first 15 years of the operation.

The ROM mineralized material will be transported to a stockpile receiving area. In the receiving area, the material will either be fed directly into the primary crusher feed hopper or onto separate stockpiles, by mineralization type. Each mineralization type will be independently fed into a three-stage crushing circuit and crushed to less than 10 mm. Crushed mineralized material will be ground to a particle size of 80% passing ( $P_{80}$ ) 55  $\mu\text{m}$  in a typical ball mill grinding circuit operating in closed circuit with hydrocyclone classifiers.

## **MAGNETIC SEPARATION**

The hydrocyclone overflow will feed the magnetic separation circuit where the magnetic materials in the feed (e.g., pyrrhotite) will be rejected to tailings. The non-magnetic material constitutes feed to the flotation circuit.

## **FLOTATION**

The copper flotation circuit will consist of a conditioning stage and rougher and scavenger stage to generate concentrates and tailings. The rougher and scavenger concentrates will be combined and reground to a  $P_{80}$  of 25  $\mu\text{m}$  in a regrind mill (e.g., Stirred Media Detritor or SMD) in closed circuit with hydrocyclone classifiers. The reground copper concentrate will be cleaned in three stages of cleaner flotation. Lime is added to maintain a pH of approximately 11.0 in the regrind mill and  $\text{ZnSO}_4$  and NaCN will be added as depressants for pyrite and sphalerite. The primary copper collector is Aerophine 3418A and methyl iso-butyl carbinol (MIBC) will be used as a frother.

Tailings from the copper circuit are thickened to recover water for reuse in the ball mill grinding circuit. The thickened copper tailings will be fed to the zinc flotation circuit. The thickened copper tailings are pumped to a zinc conditioning circuit and combined with diluted water recovered from the downstream zinc tailings thickener.

The primary zinc circuit consists of rougher and scavenger flotation. The rougher and scavenger concentrates will be combined with the second zinc cleaner tails and reground to a  $P_{80}$  of 30  $\mu\text{m}$  in a regrind mill in closed circuit with hydrocyclone classification prior to cleaner

flotation. Additional lime is added to the regrind mill to increase the pH to 11.5. Copper sulphate is added to the regrind slurry to activate sphalerite for flotation. The reground zinc concentrate will be cleaned in three stages of cleaner flotation. Aerophine 3418A is used as the collector for the zinc minerals and MIBC is used as the frother.

### **CONCENTRATE DEWATERING**

Target concentrates grades are 25% copper and 55% zinc respectively. The copper and zinc concentrates will be dewatered with high capacity thickeners and filter presses in separate circuits. After dewatering, the concentrate filter cakes will be shipped to smelters for further processing. The type and size packaging for the copper and zinc concentrates will be dependent on customer requirements.

### **WASTE TREATMENT**

Final tailings material from the flotation circuit will be combined with the magnetic concentrate and thickened in a high capacity thickener. The thickened solids slurry will be pumped to a tailings treatment facility for further processing. The processed tailings solids will be transferred to a tailings storage facility for final disposal or used as paste back-fill underground. Further studies are required to determine the quantities and characteristics of the waste streams (zinc flotation tailings and magnetic concentrate) for handling and disposal.

### **REAGENTS**

Grinding media, flotation reagents, and flocculant will be delivered and stored on site. Reagents that will be delivered, stored, mixed, and distributed within the processing facilities include the following:

- Lime
- ZnSO<sub>4</sub>
- NaCN
- Sodium metabisulphite (SMBS)
- Aerophine 3418A
- CuSO<sub>4</sub>
- Methyl Isobutyl Carbinol (MIBC)
- Flocculants

## **PLANT UTILITIES**

### ***WATER SYSTEMS***

The water circuit will be configured to minimize use of fresh water. A fresh water system is required in order to store and to distribute fresh water to various areas of the mill and Project site. Fresh water will be used for potable water feed, reagent preparation, and general use. Fresh water is also used to supplement the fire water required for on-site fire suppression purposes.

Water recovered in the tailings pond (reclaim water) will be delivered to a service water tank for storage and use.

Process water will be stored in a process water tank and will be fed by the service water tank overflow and by fresh water, if required. Process water will be used in grinding, flotation, and thickening.

A potable (domestic) water system will be installed on site and will be designed to local drinking water guidelines. The system will include multimedia filtration for reduction of turbidity, followed by ultraviolet disinfection for primary disinfection, and the addition of sodium hypochlorite for secondary disinfection. Treated water will be distributed to serve all potable water users in all facilities. Main users of potable water include the change house, maintenance shop, administration building, and washrooms and will be distributed to washrooms and emergency showers throughout the process plant.

## **ENERGY, WATER AND PROCESS CONSUMABLES**

### ***ENERGY***

Total motive power for the process plant has been estimated to be approximately 48,960 kW/day.

### ***WATER***

Insufficient information is available at this time to prepare a detailed water balance for the entire process flowsheet and to determine the following:

- Fresh water make-up
- Process water make-up
- Filtered water requirements
- Reclaim water to plant

**PROCESS CONSUMABLES**

The consumption of major supplies and reagents has been estimated and is shown in Table 17-3. Consumption of grinding media has been estimated and would need to be determined based on additional comminution testwork.

**TABLE 17-3 MAJOR PROCESS CONSUMABLES  
Yorbeau Resources Inc. – Scott Lake Project**

<b>Description</b>	<b>Units</b>	<b>Consumption</b>
Ball Mill Liners	kg/t feed	0.325
Ball Mill Media	kg/t feed	0.550
Regrind Mill Liners	kg/t feed	0.130
Regrind Mill Media	kg/t feed	0.270
Hydrated Lime	g/t feed	8,850
ZnSO <sub>4</sub>	g/t feed	50
SMBS	g/t feed	1,600
NaCN	g/t feed	12.5
Aerophine 3418A	g/t feed	115
CuSO <sub>4</sub>	g/t feed	450
MIBC	g/t feed	95
Flocculant	g/t feed	38

## 18 PROJECT INFRASTRUCTURE

The Project infrastructure is shown in Figure 18-1.

### PORTAL

The main ramp portal will be located in an outcrop area to provide for easy construction of the portal (less overburden removal) and is also located strategically to access the Selco Zone in a short time and then branch off towards the Central Zone which is located approximately 300 m from the portal collar elevation. A drill platform can be established near the Selco Zone to enable definition diamond drilling to upgrade the Selco Zone resource. The portal location also allows for the appropriate -15% ramp gradient to be maintained towards the Central Zone located deeper. There will be a laydown area cleared near the portal location to allow the contractor to install some temporary storage facilities, locate the mine air heating system as required and other services for the pre-production ramp and other development required to prepare the mine for the production phase.

### ACCESS ROADS

The access roads to the site are all existing roads and would need a simple upgrade to ensure large transports can access the site adequately during the construction phase. A few culverts may be required, however, all major roads are in place.

### MINE-MILL COMPLEX

The mine-mill complex will consist of a building that can contain services for the mine and the mill installations, plus maintenance facility, warehouse facility, mine-mill laboratory, and the required office spaces. The mill will be located on one end to keep it independent of the other facilities, however, access to all facilities will be provided within a single building complex. The mine-mill complex will be located in an area of high ground providing for adequate location for solid foundation preparations and good drainage away from the building complex.

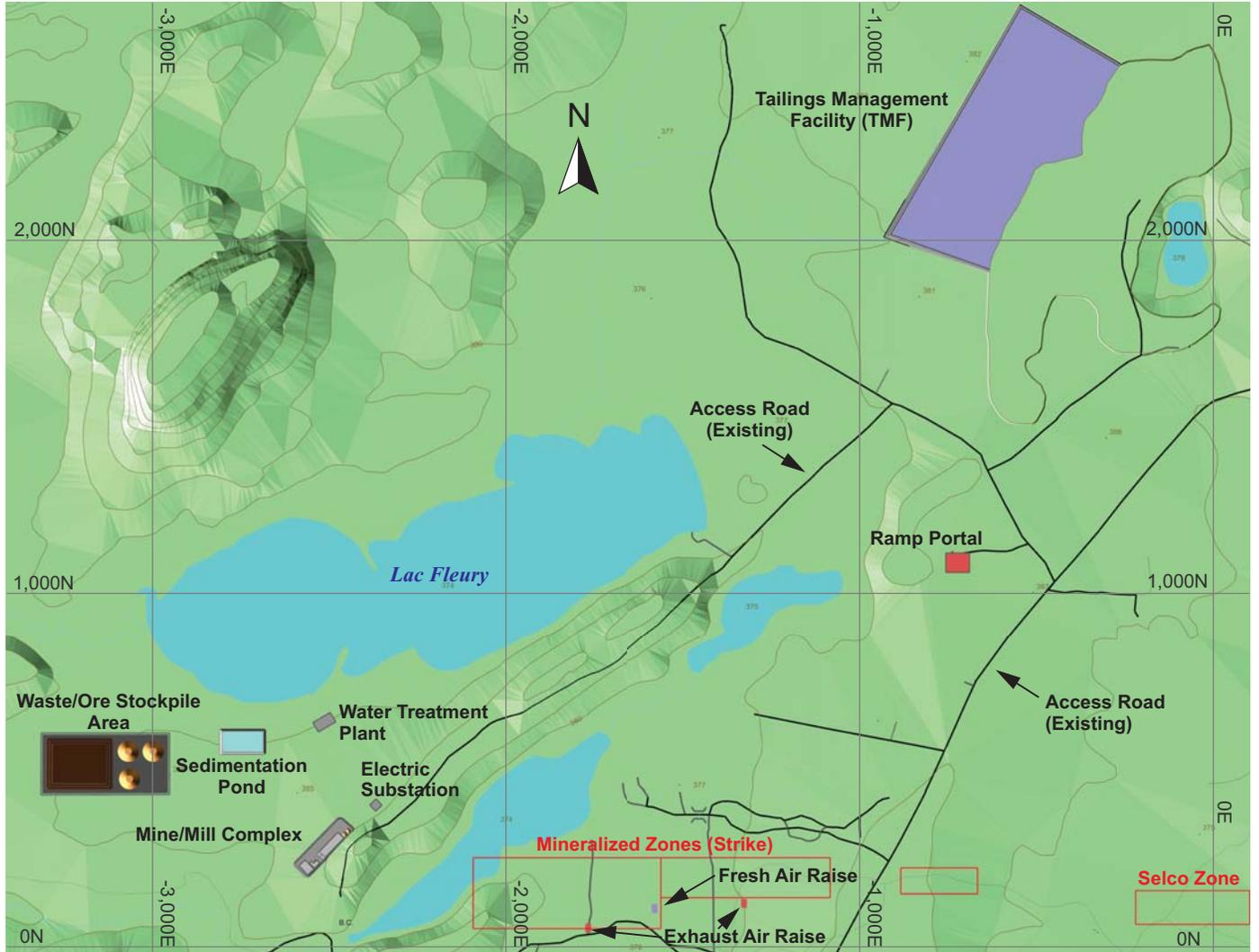
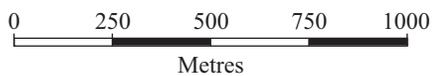


Figure 18-1



**Yorbeau Resources Inc.**

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**Scott Lake Project**  
Northern Québec, Canada  
**Surface Infrastructure**  
**Plan View**

## **RAISE COLLARS**

The collars of the main fresh air “down-casting” raise or FAR and the RAR for used air are also shown. A main fan will be located on the FAR with exhaust fans on the RAR raises providing the required flow into and out of the underground workings. The FAR will be equipped with a mine air heating system providing the required heat via propane fired heaters and propane reservoirs located nearby. The FAR will also be equipped with an escape manway for personnel in the case of an emergency situation underground.

## **STOCKPILES**

Both ore and waste stockpiles will be located near the main building complex to allow for easy access and transfer of ore/waste material as required. The ore stockpile will be contoured with ditches to retain any run-off that can be sent to the water treatment plant or WTP prior to discharge as final effluent or recycled to the process plant for use. The sedimentation pond or basin will receive water pumped from the underground to provide for settling out of suspended solids prior to sending to the WTP or mill as recycle. Although not confirmed at the time of writing, it is intended to have the final effluent discharge to Lac Fleury nearby.

## **MAIN SUB-STATION**

The main mine sub-station will be supplied via a high voltage line from the Hydro Québec grid, anticipated to be supplied at the nearby junction of the Barrette-Chapais forest product location near the Scott Lake mine operation. This will be approximately 14 km from the main highway 113. The mine power consumption is estimated to be between 5 MW and 6 MW. A sub-station will be constructed on site near the mine-mill complex to receive the power line installed by Hydro Québec. PEA power costs are based on a Medium Power “M” contract. The average power costs are estimated at \$0.058/kWh.

## **TAILINGS MANAGEMENT FACILITY**

The tailings management facility (TMF) as shown in Figure 18-1 indicates an area of 37.5 ha or approximately 500 m by 750 m. The depth of the tailings was assumed at ten metres. The size of the TMF is based on the assumption that approximately 50% of the tailings material will be disposed of underground as paste fill, using a tailings density of 1.8 t/m<sup>3</sup>.

# 19 MARKET STUDIES AND CONTRACTS

## MARKETS

The principal commodities at Scott Lake are freely traded, at prices that are widely known, so that prospects for sale of any production are virtually assured. RPA used a metal prices of \$1,500 per ounce for gold, \$23 per ounce for silver, \$3.50 per pound for copper, and \$1.30 per pound for zinc for the Base Case.

## CONTRACTS

Comment on terms of contracts, arrangements, rates, or charges for:

- Mining
- Concentrating
- Smelting & Refining
- Transportation & Handling
- Sales, Hedging, Forward Sales

For the study, the smelter facilities were assumed to be the Glencore's Noranda Smelter for the copper concentrate and the Canadian Electrolytic Zinc Refinery in Valleyfield facility for the zinc concentrate. Transportation, treatment, and refining costs are typical current costs for the industry and are not based on specific negotiated contracts.

## **20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

### **ENVIRONMENTAL AND SOCIAL SETTING**

The Project is located in the Chibougamau-Chapais Region of Quebec, 20 km west of the town of Chibougamau and 17 km east of Chapais, in the administrative region of James Bay. The Project is located within the Canadian Shield at an elevation of 380 MASL. The area is located on two sub-watersheds; one draining towards Scott Lake to the southeast and the other draining towards an unnamed lake to the west. These two sub-watersheds are part of the Nottaway River watershed which flows out to James Bay.

The regional climate for the area is wet and humid. The total annual precipitation is 659.7 mm in rain and 301.7 mm in snow. The average annual temperature is 0°C. The average temperature range for the area in a year ranges from -18.8°C to 16.3°C.

The Project site is located in the physiographic region of the Canadian Shield Forest Lands. This physiographic region is vast, covering the majority of Quebec. The two ecological area types found at the site are RE2, associated with wet black spruce forest with mosses or Eriaceae and RS2 which is associated with dry-fresh black spruce and balsam fir forests. The area includes bog with peatlands. As such, Beaver ponds and active lodges exist on the site which influence the areas and frequency of flooding on the site.

Northern Quebec has diverse wildlife habitat and is home to 237 species of birds, 20 species of furbearers, and numerous species of fish. These resources are very important to the culture and livelihoods of Indigenous people. They also support hunting, fishing, trapping activity, and tours related to wildlife observations.

The Project site is located within the territory of the Cree Nation, which occupy the immense territory called Eeyou Istchee, the limits of which are defined in the James Bay and Northern Québec Agreement (JBNQA) of 1975. The JBNQA, the Paix des Braves (Agreement Respecting a New Relationship between the Cree Nation and the Government of Quebec) and the Agreement Concerning a New Relationship between the Government of Canada and the Cree of Eeyou Istchee constitute the legal, political, and administrative framework. The total

population of the Cree Nation of Eeyou Istchee is currently estimated to be approximately 17,000 persons, the majority of which speaks English. The settlements of Chibougamau, Chapais, and the Cree village of Oujé-Bougoumou are located nearest the Project site.

Hunting, trapping, and fishing are an important part of the Cree way of life. According to the document *Portrait territorial, Northern Quebec* written by the MRNF (2010), the land on which the Project site is located is considered to be “Category 3” land, for which Aboriginal people retain exclusive hunting, fishing, and trapping rights for certain aquatic species and furbearers and the right to participate in the administration and the development of the territory.

## ENVIRONMENTAL STUDIES

Preliminary environmental studies at the Project site began in October 2011 with field surveys for water quality, sediment quality, benthic invertebrates, archaeology, fish, vegetation, and wildlife. Table 20-1 below shows the environmental studies completed to date (Stavibel Service D’Ingénierie, 2012).

**TABLE 20-1 ENVIRONMENTAL BASELINE STUDIES  
Yorbeau Resources Inc. – Scott Lake Project**

Environmental Component	Studies Completed to Date
Surface Water	Surface water sampling was completed between October 9 and 17, 2011 at the same time as the benthic community sampling was being completed. Depth and water temperatures were recorded. Water samples were analyzed for the following parameters: Alkalinity; Conductivity; Total nitrogen; Temperature; Ammonium; Dissolved organic carbon; Nitrites and Nitrates; Solid totals dissolved; Chlorides; BOD5, COD; Sulfates; Suspended matter; Total phosphorus (P); Dissolved oxygen; Mercury; Hardness; pH. Metals (Al, Sb, Ag, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Sn, Fe, Mg, Mn, Mo, Ni, Pb, K, Se, so, Na, Te, Ti, V, and Zn);

Environmental Component	Studies Completed to Date
Groundwater	Groundwater in the vicinity of drilling sites was sampled and analyzed for the following parameters: Alkalinity; Conductivity; Total nitrogen; Temperature; Ammonium; Dissolved organic carbon; Nitrites and Nitrates; Solid totals dissolved; Chlorides; BOD5, COD; Sulfates; Suspended matter; Total phosphorus (P); Dissolved oxygen; Mercury; Hardness; pH. Metals (Al, Sb, Ag, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Sn, Fe, Mg, Mn, Mo, Ni, Pb, K, Se, so, Na, Te, Ti, V, and Zn);
Sediments	Lake sediments were sampled and analyzed for the following parameters: Dissolved organic carbon (COD); Sulfur; Total organic carbon (LECO); pH; C10 C50 petroleum hydrocarbons; Mercury; Metals (Al, Sb, Ag, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Sn, Fe, Mg, Mn, Mo, Ni, Pb, K, Se, so, Na, Te, Ti, V, and Zn); Grain size.
Soils	Soils were sampled from former drilling sites in order to ensure that there was no contamination from exploration activities. Soil samples were analyzed for the following parameters: Petroleum hydrocarbons pH; Sulfur; Sulphides; Total phosphorus (P); Metals (Al, Sb, Ag, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Sn, Fe, Mg, Mn, Mo, Ni, Pb, K, Se, so, Na, Te, Ti, V and Zn).
Archaeology	No archaeological studies have been completed.
Noise and Vibration	No noise and vibration studies have been completed.
Benthic Invertebrates	The benthic community survey work was completed on all the lakes on the Project site. Six stations were sampled and samples were sent to a laboratory for identification.
Fish	Fish community studies were completed on four lakes (Scott Lake, Fleury Lake, Lac San Nom-1, Lac San Nom-2) by using multi-panel gill nets, minnow traps and seine nets. In Scott Lake, only seine nets were used as there was no boat access to the lake. The fish habitat was characterized to identify presence of obstacles, nature of the banks, description of the vegetation and sediment quality. Mercury levels in fish tissue were also analyzed.

Environmental Component	Studies Completed to Date
Vegetation	No field studies of vegetation communities or flora have been completed. According to Centre de Données sur le Patrimoine Naturel du Québec (CDPNQ or the Natural Heritage Data Centre of Quebec), no threatened, vulnerable plant species (or likely to be so designated) are located in the area. However, this has not been verified through field studies.
Wildlife (including birds)	<p>No field studies for wildlife or birds have been completed. Only incidental observations of wildlife species during exploration activities have been noted. A request for information was submitted for the Atlas of amphibians and reptiles of Quebec (AARQ) and the file EPOQ (study of the bird populations in Quebec). The following species could potentially be located on site if suitable habitat is found.</p> <p>The blue spotted salamander (<i>Ambystoma side</i>);  The two lines salamander (<i>bilineata</i> blind salamander);  The American Toad (<i>Anaxyrus (Bufo) americanus</i>);  The Spring Peeper (<i>Pseudacris crucifer</i>);  The Green Frog (r. (<i>Rana</i>) <i>clamitans</i>);  The Northern Leopard (r. (<i>Rana</i>) <i>septentrionalis</i>);  The Wood frog (r. (<i>Rana</i>) <i>sylvaticus</i>);  Eastern Garter Snake (<i>Thamnophis sirtalis</i>).</p> <p>None of these species are found on the list of wildlife species that are considered “at risk” or “vulnerable”.</p> <p>The Project site is located within Management Unit 87 for furbearing animals (UGAF).</p>

In the course of completing the environmental studies described above, attention was given to the presence of Indigenous people and their local knowledge. A meeting of a Cogitore representative with Mr. David Mianscum, a tallyman and resident of the community of Oujé-Bougoumou, was carried out on January 31, 2012, to obtain information on the wildlife in the Project area and vicinity. Mr. Mianscum’s camp is located near the Scott Lake property.

Mr. Mianscum noted that there was various wildlife species found on the site. Mr. Mianscum was informed about the discovery of a trail of Wolverine found near Unnamed Lake 2. He stated that he had never observed such traces on the site and he showed no interest in this species for trapping. Mr. Mianscum had no specific comment on the fact that exploration operations were underway in the territory.

## **PROJECT PERMITTING**

The legal framework for the development of mine projects is a combination of provincial, federal, and municipal policies, legislation, regulations, and guidelines. The key components of this framework are outlined in the following sections.

### **GOVERNMENT OF QUEBEC**

#### ***QUEBEC MINING ACT***

The Quebec government is responsible for mining activities in the province. This Project is subject to the Mining Act which defines Ownership of the right to mineral substances (claims, mining exploration licences, mining leases, mining concessions, etc.) and the rights and obligations of the claim holder or other mining right granted by the State. Key provisions of the Mining Act that govern mining rights are summarized in Table 20-2.

**TABLE 20-2 MINING ACT PROVISIONS GOVERNMENT MINING RIGHTS  
Yorbeau Resources Inc. – Scott Lake Project**

Section 100 – Mining Act Mining Lease	According to Section 100 of the Mining Act: “No person may mine mineral substances, except surface mineral substances, petroleum, natural gas and brine, unless he has previously obtained a mining lease from the Minister or a mining concession under any former Act relating to mines”. In order to obtain a mining lease, a claim holder must establish the existence of the presence of an economic deposit. Applications must be submitted to the Registrar’s Office or to the regional office. The initial term of a mining lease is 20 years. The lease can then be renewed every 10 years for the duration of the mining operation. The procedure for obtaining a mining lease is described in the MERN’s online publication “Mining Leases and Concessions”.
Section 109 – Mining Act Non-Exclusive Lease for the Mining of Surface Mineral Substances	According to Section 109 of the Mining Act: “A lessee or a grantee may use, for their mining activities, sand and gravel that is part of the domain of the State except where the land that is subject to the lease is already subject to an exclusive lease to mine surface mineral substances in favour of a third person”. The mining of sand and gravel located outside of mining leases requires a non-exclusive lease for the mining of surface mineral substances, under Section 140 of the Mining Act which reads as follows: “No person may extract or mine surface mineral substances unless he has obtained a lease to mine surface mineral substances from the Minister”. The information to provide in the application for a non-exclusive lease is listed under Sections 46 to 50 of the Regulation respecting mineral substances other than petroleum, natural gas and brine. The applicant must complete the form “Demande de bail non exclusif (BNE) pour l’exploitation des substances minérales de surface” and send it to the MERN. A Certificate of Authorization under Section 22 of the Environment Quality Act (EQA) will have to be obtained from the Department of Sustainable Development, Environment and the Fight to Climate Change (MDDELCC) in order to operate a borrow pit, except if the material is used for the construction or the maintenance of a road.
Section 239 – Mining Act Section 47 - Act respecting the Lands in the Domain of the State Lease for the Occupation of the Domain of the State	According to Section 239 of the Mining Act: “The holder of mining rights or the Owner of mineral substances may, in accordance with the Act, obtain that public lands be transferred or leased to him to establish a storage site for tailings, or a site for mills, shops or facilities necessary for mining activities”. If the project is located on public lands, the land in question will need to be leased under Section 47 of the Act respecting the Lands in the Domain of the State which reads as follows: “The Minister may lease any land under his authority and any building, improvement and movable property thereon which forms part of the domain of the State, on the conditions and at the price he determines in accordance with the regulations of the Government to that effect”. The request must be sent to the MERN.

The Quebec Mining Act was substantially amended in 2013. Key amendments include requirements for:

- consultation with aboriginal communities and requirement that the Minister consult aboriginal communities separately if the circumstances so warrant;
- the mining lease holder or mining concession holder to report (on each anniversary date of a lease or concession) on the quantity of ore extracted during the previous year,

its value, the duties paid under the Mining Tax Act during that period and the overall contributions paid;

- prior approval of a rehabilitation and restoration plan and the issuance of a General Certificate of Authorization (CA) under the Environment Quality Act (EQA).

With regard to the environment, the Quebec Mining Act (Chapter IV, Division III), specifies that the holder of mining rights has the responsibility to rehabilitate and restore the lands on which exploration and/or development activities have been carried out. This work must be completed in accordance with the restoration plan pre-approved by the MERN. The regulations under the Quebec Mining Act outline certain procedural requirements regarding the information and documents to be provided to the MERN on restoration measures and locations established to store mine tailings. The regulations also set rules concerning the financial guarantees required for the restoration of mining sites.

The regulations also require mining project proponents to establish, within 30 days following the issuance of the mining lease, a monitoring committee to facilitate the participation of the local community in development activities.

Under the Mining Act, the Quebec Regulation Respecting Environmental Impact Assessment and Review require that an environmental impact assessment be undertaken for all metal ore processing plant construction projects, and all metal mine openings and operation projects where the processing or production capacity of the plant or the mine is 2,000 tonnes or more per day. Regardless, as described below, under the JBNQA, all mining projects are subject to the environmental impact assessment process, as outlined in the following section.

#### **QUEBEC ENVIRONMENTAL QUALITY ACT**

Under the Quebec EQA, an Environmental and Social Impact Assessment (ESIA) will need to be completed and a CA will need to be obtained for the Scott Lake Project. Section 154 of the EQA specifies that:

*“No person may undertake or carry out any project which is not automatically exempt from the assessment and review procedure, unless*

- *a Certificate of Authorization has been issued by the Minister, after the application of the assessment and review procedure; or*
- *an attestation of exemption of the project from the assessment and review procedure has been issued by the Minister.”*

The environmental assessment procedures established for northern projects vary depending on the location of the project south or north of the 55th parallel. The Project is located within the territory described in the EQA as being south of the 55th parallel, also referred to as Eeyou Istchee/James Bay Region, or Eeyou Istchee for the Cree First Nation. All mining developments, including the additions to, alterations, or modifications of existing mining developments are automatically subject to the ESIA and review procedure.

The first step in the ESIA process involves the proponent gathering preliminary information on the Project. The proponent must submit a Project Notice to the government administrator along with this preliminary information. The Administrator sends this preliminary information to an Evaluation Committee (COMÉV) which is responsible for defining the nature and extent of the ESIA. The COMÉV formulates guidelines for the preparation of an ESIA by the proponent. The proponent then prepares the ESIA document in accordance with the administrator's guidelines.

Directive 019 is the tool used by the authorities to analyze mining projects requiring the issuance of a CA. Directive 019 is not a statutory instrument, but an orientation text that provide with expectations from the Department of Sustainable Development, Environment and the Fight to Climate Change (MDDELCC) pertaining to mining projects. The MDDELCC uses this Directive within the scope of powers it has by the EQA. The Directive defines tailings characteristics (low risk, acid-generating, leachable, etc.) and whether leak proofing measures are required when soils do not meet criteria for the protection of groundwater (see Section 20.1.1c). Directive 019 contains similar requirements to the Canadian Metal Mining Effluent Regulations (MMER) regarding the quality of mining effluent.

In addition to the CA, the proponent must obtain the permits, authorizations, approvals, certificates and leases required from the appropriate authorities as described in Table 20-3.

**TABLE 20-3 KEY POTENTIAL PROVINCIAL PERMITS AND AUTHORIZATIONS  
Yorbeau Resources Inc. – Scott Lake Project**

Permit	Description
Section 22 – EQA Certificate of Authorization	<p>One or more CAs may be required from the MDDELCC under Section 22 of the EQA. For mining activities, CA applications must comply with the Directive 019 requirements. They must also include the information specified under Section 7 of the Regulation respecting the application of the Environment Quality Act as well as in the form “Formulaire de demande de certificate d’autorisation (art. 22 de la LQE) ou d’autorisation (art. 31.75, 32 et 48 de la LQE et art. 128.7 de la LCMVF)” and in the guide “Guide explicatif – Projet industriel – Demande de certificat d’autorisation ou d’autorisation”.</p> <p>Projects involving discharges into the aquatic environment are required to attach a list of applicable effluent discharge objectives to the CA application. The CA application forms and all required documents must be sent to the MDDELCC’s Northern Quebec regional office.</p>
Section 31.75 – EQA Authorization for the withdrawal of surface water or groundwater	<p>Projects that involve the withdrawal of surface water or groundwater for drinking water and/or processing will require an authorization if the volume of the groundwater withdrawal is likely to be higher than 75 m<sup>3</sup>/d. The authorization application must contain the information listed under Section 7 of the Water Withdrawal and Protection Regulation as well as the form entitled “Formulaire de demande d’autorisation pour un prélèvement d’eau assujetti à l’article 31.75 de la Loi sur la qualité de l’environnement”.</p>
Section 32 – EQA Authorization for Waterworks, Sewers and Water Treatment	<p>Projects that involve the establishment of waterworks, installation of water purification appliances, sewers or the installation of devices for the treatment of waste water will require an authorization. The authorization application must contain the information described in the guide “<i>Présentation d’une demande d’autorisation pour réaliser un projet assujetti à l’article 32 de la Loi sur la qualité de l’environnement</i>” as well as the form entitled “<i>Formulaire de demande d’autorisation pour réaliser un projet assujetti à l’article 32 de la Loi sur la qualité de l’environnement</i>”</p> <p>In the case of industrial wastewater treatment, the authorization application must include the information specified in the form “<i>Formulaire de demande de certificat d’autorisation (art. 22 de la LQE) ou d’autorisation (art. 31.75, 32 et 48 de la LQE et art. 128.7 de la LCMVF)</i>” as well as in the guide “<i>Guide explicatif – Projet industriel – Demande de certificate d’autorisation ou d’autorisation</i>”.</p>
Section 48 – EQA Authorization to Install an Apparatus or Equipment to Prevent, Reduce or Cause the Cessation of the Contaminants Release into the Atmosphere	<p>Projects involving the installation of apparatus or equipment to prevent, reduce or cause the cessation of the issuance of contaminants into the atmosphere, must obtain an authorization. The authorization application must include the information specified in the form “<i>Formulaire de demande de certificat d’autorisation (art. 22 de la LQE) ou d’autorisation (art. 31.75, 32 et 48 de la LQE et art. 128.7 de la LCMVF)</i>” and in the modules (section 8) concerning dust collectors and air quality, as well as in the guide “<i>Guide explicatif – Projet industriel – Demande de certificat d’autorisation ou d’autorisation</i>”.</p>

Permit	Description
Section 31.16 – EQA Depollution Attestation	<p>According to Section 31.16 of the EQA: “Every operator of an industrial establishment shall submit an application to the Minister for a depollution attestation within the time and in the manner and form prescribed by regulation”. This certificate, which is renewable every 5 years, identifies the environmental conditions that must be met by the industrial establishment when carrying out its activities. The certificate gathers together all of the environmental requirements relating to the operation of an industrial facility. The depollution attestation differs from the certificate of authorization issued under Section 22 of the EQA. The latter is a statutory document issued prior to the implementation of a project or activity, whereas the former applies strictly to the operation of an industrial facility. The operator of an industrial facility which is subject to an order in council must apply to the Ministry for a depollution attestation within 30 days following the issuance of the Certificate of Authorization issued under Section 22 of the EQA for the operation of its mine project. This application must be made using the form provided by the Ministry that identifies all of the required information. The operator is responsible for requesting a renewal of its depollution attestation at least six months before it expires. The original certificate will remain in effect until a new certificate is issued.</p>
Sections 240 and 241 – Mining Act Approval for the Location of the Process Concentration Plant and Mine Tailings Management Facility	<p>Projects involving the operation of a mill for the preparation of mineral substances, a concentration plant, a refinery or a smelter require an authorization. In addition, Section 241 of the Act states, “Every person responsible for the management of a concentration plant, refinery or smelter shall, before commencing activities, have the site intended as a storage yard for tailings approved by the Minister. The same applies to every holder of a mining right, Owner of mineral substances or operator who intends to establish a mine tailings site”. Consequently, a request for approval must be submitted to the MERN before the activities begin at the Mine. For the site used for the storage of mine tailings, the request must include the information and documents as set out in Sections 124 and 125 of the Regulation respecting mineral substances other than petroleum, natural gas and brine.</p>
Section 213 – Mining Act Section 73 – Sustainable Forest Development Act Forest Management Permit	<p>Mining projects that involve the cutting of timber on State lands for which mining rights are held are subject to the rules set forth in the Sustainable Forest Development Act (chapter A-18.1) and Regulations. Prior to proceeding with its timber cutting operations, the holder of mining rights must submit a written request to the proper MFFP forest management unit in order to obtain a permit. It is important to note that the holder of a forest management permit must scale all timber harvested in public land according to the standards prescribed by the Government regulation and as specified in Section 75 of the Sustainable Forest Development Act. The holder is responsible for paying the prescribed duty as stipulated in the Regulation respecting Forest Royalties.</p>

Permit	Description
Section 120 – Safety Code High-Risk Petroleum Equipment Operating Permit	<p>The Owner of a petroleum equipment installation that includes at least one component that is considered “high-risk petroleum equipment” must obtain a permit for the use of all the high-risk petroleum equipment situated at the same address, until the equipment is removed from its respective place of use. “High-risk petroleum equipment” is defined in Chapter VIII of the Construction Code.</p> <p>The form “Demande de permis d’utilisation pour des équipements pétroliers à risque élevé” must be completed and submitted to the local Régie du Bâtiment (Building management). This application must include all of the information and documents identified in Section 121 of the Safety Code, including the statement of compliance signed by recognized verifiers. A permit is valid for 24 months. The issuance and renewal of a high-risk petroleum equipment permit are subject to compliance and performance monitoring under the provisions of the Construction Code and the Safety Code.</p>
Act respecting Explosives - Explosives Permit	<p>Projects involving the possession, storage, sale or transport of any explosives require a permit for such purpose. Depending on the intended usage, several permits may be required for the possession of explosives for industrial or commercial purposes. Division II of the Regulation under the Act respecting Explosives describes the different types of permits that are required. A general explosives permit entitles the holder to have explosives in his possession. Solely the holder of a general permit can obtain a magazine, sale or transport permit. A magazine permit entitles the holder of a general permit to purchase and store explosives in a container or a building that complies with the regulations. A transport permit entitles the holder of a general permit to transport explosives. In order to obtain these permits, the “Application for a General Explosives Permit” and the “Application for a Sales, Magazine or Transport Permit” forms, which are available from the Sûreté du Québec (SQ), must be completed. The required documents and fees must be submitted to the SQ. Permits are valid for a period of five years.</p>
Section 19 – Regulation respecting the water property in the domain of the State Lease of a part of the water property	<p>Projects that involve the lease of water property require an authorization according to Section 19 of the “Regulation Respecting the Water Property in the Domain of the State”. For example, it may be necessary to obtain this kind of lease in order to install water intake or outfall pipes, or effluent discharge pipes in a water body.</p>
Eeyou Istchee / James Bay Regional Government (“EIJBRG”) Certificate of non-infringement to the municipal by-law Construction Permits	<p>In January 2014, the former Municipality of James-Bay was replaced by a new regional government made up of 11 Cree representatives and 11 representatives from the surrounding non-aboriginal communities in the Eeyou Istchee/James Bay region, namely the EIJBGR. Under Section 8 of the Regulation respecting the application of the EQA, “A person who applies for a certificate of authorization shall also submit to the Minister a certificate attesting that the project does not contravene any municipal by-law (i.e., a local municipality, an unorganized territory, of a regional county municipality). Finally, it will be necessary to obtain a global construction permit from the EIJBGR before the beginning of construction work.</p>

**GOVERNMENT OF CANADA**

**CANADIAN ENVIRONMENTAL ASSESSMENT ACT, 2012**

Under the Canadian Environmental Assessment Act, 2012 (CEAA 2012), only projects identified in the Regulations Designating Physical Activities, SOR/2012-147 require a Federal

EA. Pursuant to Section 16 of the regulations, the Scott Lake Project may be considered a “Designated Project” if it involves the construction, operation, decommissioning and abandonment of a new

- 16 (a) metal mine, other than a rare earth element mine or gold mine, with an ore production capacity of 3,000 tpd or more; and/or
- 16 (b) metal mill with an ore input capacity of 4,000 tpd or more.

The Canadian Environmental Assessment Agency (the Agency) is responsible for the overall administration of the federal EA process and conducts EAs for metal mining projects such as the Project.

For any “Designated Project”, a Project Description will need to be prepared and submitted to the Agency. This Project Description will need to contain sufficient site-specific and design information to confirm that an EA under CEAA 2012 is required. This Project Description is subject to a 30 day public review period. Following the public comment period and the Agency’s determination that an EIS is required, the Agency would prepare draft Guidelines that would direct the completion of an Environmental Impact Statement (EIS) document. These draft Guidelines are also subject to a 30 day public comment period. Stakeholders may have access to participant funding to assist with their review of the Draft EIS Guidelines.

CEAA 2012 focuses on potential adverse environmental effects that are within federal jurisdiction, including:

- Fish and fish habitat;
- Other aquatic species;
- Migratory birds;
- Federal lands;
- Impacts that will or could potentially cross provincial or international boundaries;
- Impacts on Aboriginal peoples, such as land use and traditional resources;
- Impacts that are directly linked or necessarily incidental to any federal decisions about a project.

An EA will consider a comprehensive set of factors that include any cumulative effect, mitigation measure and comments received from the public.

The Agency will take into account the legislative requirements under CEAA 2012, the general public’s comments, including comments made by Aboriginal groups and federal ministries

before providing the proponent with its final “Guidelines for the Preparation of an Environmental Impact Statement”. These final Guidelines define the scope of the project, the factors to be considered in the EA including the factors listed in subsection 19(1) of CEAA 2012, and the scope of those factors. The EIS would be prepared by the project proponent in accordance with the final EIS Guidelines.

The proponent then has to submit to the Agency an EIS document (s) identifying the environmental effects of the project and propose measures to mitigate these effects, while accounting for the Agency’s final EIS Guidelines.

Following the submission of the EIS to the Agency, the Agency will ensure its conformity to the final EIS Guidelines, including overall its relevancy and accuracy. The Agency may require that the proponent provide further clarifications or additional information to better understand the potential environmental effects and the proposed mitigation measures. Following the completion of its analysis, the Agency prepares a preliminary version of the EA report, which includes the Agency’s conclusions on the potential environmental effects of the project, the proposed mitigation measures, the significance of the residual adverse environmental effects of the project and the requirements of the monitoring program. The Agency then invites the public to comment on this preliminary report before finalizing it and submitting it to the Minister of Environment and Climate Change Canada. After which, the Canadian Minister of Environment and Climate Change Canada decides if the project is likely or not to cause any significant adverse environmental effects, and sets out a Decision Statement with relevant Terms and Conditions of approval. The terms and conditions contained in the Decision Statement become legally enforceable under the compliance and enforcement provisions of CEAA 2012.

#### ***ENVIRONMENTAL PERMITTING***

Regardless of whether the project underwent an EA and was formally authorized to proceed under CEAA 2012, the project is still subject to other federal laws and regulations. The key potential federal permits and authorizations are described in Table 20-4. This is not an exhaustive list and specific permits and authorizations will depend on the project design.

**TABLE 20-4 KEY POTENTIAL FEDERAL PERMITS AND AUTHORIZATIONS  
Yorbeau Resources Inc. – Scott Lake Project**

Permit	Description
Section 35(1) – Fisheries Act Authorization	<p>The Fisheries Act is administered by the Fisheries and Oceans Canada (DFO). The Act was established to protect fish and fish habitat by prohibiting work or the deposition of a deleterious substance that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such fishery unless the work is completed in accordance with prescribed conditions within a DFO authorization.</p> <p>Should DFO determine that serious harm to fish is likely, DFO will undertake a project review and determine if an authorization is required. Residual serious harm to fish will need to offset in accordance with an approved offsetting plan. DFO requires all information stated in Schedule 1 of the Fisheries Act to begin a Fisheries Act review. An EIA under CEAA 2012 cannot be approved until there is a Fisheries Act authorization.</p>
Metal Mining Effluent Regulations (MMER) Environmental Effects Monitoring Program (EEMP)	<p>An EEMP is a requirement for regulated mines in accordance with the MMER under the authority of the Fisheries Act. The objective of the EEMP is to evaluate the effects of mine effluents on fish, fish habitat and the use of fisheries resources by humans. The EEMP examines the effectiveness of the environmental protection measures directly in the aquatic ecosystems, (i.e. downstream of the final discharge point). The EEMP consists of biological monitoring and effluent and water quality monitoring.</p> <p>The effluent quality is monitored through sub-lethal toxicity testing. For metal mines, an effluent characterization and water quality monitoring studies are also required. The requirement of an EEMP is to be reviewed as more information is collected and when a better assessment of the impact of effluents on the aquatic environment is available.</p>
Section 7(1) a) – Explosives Act License for Explosives Factories and Magazines	<p>A license issued by the Minister of Natural Resources Canada is required for the operation of explosives plants and magazines in Canada. According to section 2, the term “magazine” excludes: “a place where an explosive is kept or stored exclusively for use at or in a mine or quarry in a province in which provision is made by the law of that province for efficient inspection and control of explosives”. In Quebec, the Act respecting Explosives provides for the issuing of permits, the inspection and the control of activities associated with explosives.</p>
Section 3 – Environmental Emergency Regulations Notice to the Minister of Environment for the Storage of Substances Likely to Explode	<p>According to Section 3(1) of the Environmental Emergency Regulations: “Any person who owns or has the charge, management or control of a substance set out in column 1 of Schedule 1 that is located at a place in Canada, must submit to the Minister a notice containing the information requested in Schedule 2 for each such place in either of the following circumstances: (a) the substance is in a quantity that at any time is equal to or exceeds the quantity set out in column 3 of Schedule 1 for that substance; or (b) the substance is in a quantity that is greater than zero and is stored in a container that has a maximum capacity equal to or exceeding the quantity set out in column 3 of Schedule 1 for that substance.”</p>

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## SOCIAL OR COMMUNITY REQUIREMENTS

The towns of Chibougamau and Chapais as well as the Cree community of Oujé-Bougoumou are the closest communities to the Site.

- Chibougamau has a population of about 7,500 people. The timber industry and mines are a major and important part of their economy. Chibougamau was created as a campsite during the advent of mines in the region.
- Chapais has a population of 1,500 people. It was created by the company Opémiska Copper Mine Limited in 1955 to provide lodging for its employees. At that time, the mining company was responsible for the community's administration, construction of streets, houses, schools, churches and the water pipelines. After the closing of the mine, the town has reoriented revenue through natural resources and tourism.
- Oujé-Bougoumou has a population of 740 people who reside on the outskirts of Lake Opémiska.

Information pertaining to local demographics, economic development, land use, traditional use of lands and resources, cultural heritage and archaeology, health and social services, and infrastructure will need to be collected in order to develop a comprehensive profile the communities likely to be affected, their needs and priorities and to determine the adverse and beneficial effects of the proposed Project. This will require a proponent to consult with local communities and, in most cases, to gather traditional knowledge from Indigenous peoples.

The federal Crown has a duty to consult Indigenous communities potentially affected and to address their concerns and accommodate any infringements on their rights and interests. The matters that are the subject of the federal Crown's duty to consult will vary according to the circumstances but all consultations must:

- Demonstrate good faith.
- Have the intention of substantially addressing the concerns of the Indigenous communities as they are expressed.
- Understand that there is no obligation to reach an agreement.
- Not frustrate the efforts made in good faith by the Crown.

There is also a duty to consult under Section 22 of the James Bay and Northern Quebec Agreement it states that "A special status and involvement for the Cree people over and above that provided for in procedures involving the general public through consultation or representative mechanisms wherever such is necessary to protect or give effect to the rights

and guarantees in favour of the Native people established by and in accordance with the Agreement”.

Several proponents of mining projects south of the 55th parallel have signed impact and benefit agreements (IBA) with Cree communities and the Cree Nation Government. Moreover, the Agreement Concerning a New Relationship Between le Gouvernement du Québec and the Crees of Québec, the so-called Paix des Braves, encourages “agreements between promoters and the Crees concerning remedial works, employment and contracts in respect to any future mining activities in the Territory, including exploration.” Similarly, one of the cornerstones of the Cree Nation Mining Policy is “mining and sustainable practices,” that is, “the Crees believe that mining activities shall be done in a manner that is compatible with Sustainable Development, and appropriate existing governance tools such as social and economic agreements, and environmental assessment and remediation processes should accompany all forms and all phases of mining activities.” (Review Committee (COMEX), 2015. Whabouchi Project Development and Operation of a Spodumene Deposit Nemaska Lithium Inc., Environmental and Social Impact Assessment Report, July 2015).

As such, it is likely that an IBA(s) will need to be established between the proponent and Cree communities and the Cree Nation Government. The nature and scope of these agreements will need to be negotiated prior to commencement of any construction works or activities, but preferably prior to the completion of the EA process.

In addition to the legislative framework governing mining projects, more and more proponents are adhering to programs that promote responsible practices. One such program is the Mining Association of Canada’s Towards Sustainable Mining (TSM) initiative. The TSM is a set of tools and indicators to drive performance and ensure that key mining risks are managed responsibly. Mining companies that participate in the TSM measure and report their performance against 23 indicators annually. The indicators are associated with six protocols: Tailings Management, Aboriginal and Community Outreach, Biodiversity Conservation and Management, Energy and GHG Emissions Management, Safety and Health, and Crisis Management. This process provides local communities with information on how mining operations are performing. Participation in the TSM initiative is mandatory for all MAC members for their Canadian operations (Review Committee (COMEX), 2015. Whabouchi Project Development and Operation of a Spodumene Deposit Nemaska Lithium Inc., Environmental and Social Impact Assessment Report, July 2015)

## MINE CLOSURE REQUIREMENTS

Section 232.1 of the Mining Act states that:

*“The following persons must submit a rehabilitation and restoration plan to the Minister for approval and carry out the work provided for in the plan:*

- 1. every holder of mining rights who engages in exploration work determined by regulation or agrees that such work be carried out on the land subject to his mining rights;*
- 2. every operator who engages in mining operations determined by regulation in respect of mineral substances listed in the regulations;*
- 3. every person who operates a concentration plant in respect of such substances;*
- 4. every person who engages in mining operations determined by regulation in respect of tailings.*

*The obligation shall subsist until the work is completed or until a certificate is issued by the Minister under section 232.10.” As stated in section 101, “the [mining] lease cannot be granted before the rehabilitation and restoration plan is approved in accordance with this Act, and the CA mentioned in section 22, 31.5, 164 or 201 of the EQA (chapter Q-2) has been issued.”*

A Rehabilitation and Restoration plan will have to be prepared as part of the project in accordance with the provincial Guidelines for Preparing a Mining Site Rehabilitation Plan and General Mining Site Rehabilitation Requirements (1997).

The main objective of mine site rehabilitation is to restore the site to a satisfactory condition by:

- Eliminating unacceptable health hazards and ensuring the public safety;
- Limiting the production and circulation of substances that could damage the receiving environment and trying to eliminate long-term maintenance and monitoring;
- Restoring the site to a condition which is visually acceptable to the community;
- Reclaiming the areas where the infrastructure are located (excluding the accumulation areas) for future use.

Specific objectives are to:

- Restore degraded environmental resources and land uses;
- Protect important ecosystems and habitats of rare and endangered flora and fauna, which favours the re-establishment of biodiversity;
- Prevent or minimize future environmental damage;

- Enhance the quality of specific environmental resources;
- Improve the capacity of eligible organizations to protect, restore and enhance the environment; and
- Undertake resource recovery and waste avoidance projects and prevent and/or reduce pollution.

The general guidelines of a rehabilitation plan include:

- Favouring a progressive restoration to allow for a rapid re-establishment of biodiversity;
- Implementing a monitoring and surveillance program;
- Maximizing recovery of previous land uses;
- Establishing new land uses;
- Promoting habitat rehabilitation using operational environmental criteria;
- Ensuring sustainability of restoration efforts.

The mine site rehabilitation plan focuses on land reclamation, including reclamation of tailings area, water basins, and surface drainage to prevent erosion. The successful completion of a rehabilitation plan will ensure that the Project will result in a minimum of disturbance. Site inspections will be carried out before the property is returned to the Government.

With respect to the Scott Lake property's mining infrastructure:

- Waste rock and tailings management facilities will likely be covered with a layer of top soil/overburden and revegetated in a progressive manner.
- Haul roads would be scarified and revegetated.
- No mine building would be left in place. Whenever possible, buildings should be sold with the equipment they contain, completely or partially. During dismantling works, beneficiation/recycling of construction material should be maximized. Remaining wastes shall be disposed of in an appropriate licensed facility. All equipment and machinery should be disposed of or recycled off-site.
- An explosives magazine, if any, and related facilities would be dismantled.
- The drinking water supply and domestic wastewater treatment facilities would be dismantled.
- Infrastructure relating to electricity supply and distribution would be dismantled with the exception of Hydro-Québec requirements.

- All underground services (power lines, pipelines, water and sewer pipes, etc.) could either remain in place or can be removed.
- Underground workings would be stabilized.
- All openings and access to such underground facilities and infrastructures (e.g., pipelines) would be sealed.

With respect to environmental matters:

- Where possible, the surface water drainage pattern would be re-established to a condition similar to the original hydrological system.
- During the site construction, overburden and topsoil should be stored separately and used for revegetation purposes. Slopes of the overburden storage area and flat surfaces will ultimately need to be seeded and revegetated using native species.
- Waste materials would be decontaminated (if required), recycled when cost-effective; and disposed at a licensed facility.
- Facilities containing petroleum products, chemicals, solid waste, hazardous waste, and/or contaminated soil or materials would be dismantled and managed according to regulatory requirements. All hazardous waste would be managed according to existing laws and regulations and will be transported off site.

The Land Protection and Rehabilitation Regulation under the EQA defines the term “land” to include groundwater and surface waters. The regulation sets limit values for a range of contaminants, and specifies the categories of targeted commercial or industrial activities. Mining activities are subject to the regulation.

For mining activities, the regulation requires the completion of a “Site Characterization Study” within six months following the termination of mine operations. In cases where the contamination were to exceed the criteria set for in the regulation, a rehabilitation plan specifying the environmental protection measures to be undertaken must be submitted to the MDDELCC for its approval. The characterization study will need to address the areas that are likely to have been contaminated by human activities, specifically the handling of petroleum products.

A monitoring program during operations and a post-closure monitoring program will be required. According to Directive 019, a Monitoring Program will have to be implemented during the mine operation to account for all the requirements specified in that Directive, especially with regards to noise levels, vibrations, surface and ground waters.

The physical stability of dams and of any waste rock or tailings management facilities will need to be inspected and assessed on an annual basis for a minimum of five years following mine closure.

Environmental monitoring of the water quality (surface and groundwater) will need to continue for a minimum of five years after the completion of the restoration work.

An agronomic monitoring program will need to be designed and implemented to evaluate the effectiveness of revegetation efforts. The agronomic monitoring program will need to be undertaken following the establishment of a vegetative cover on the areas subject to the progressive restoration program. This monitoring will need to be conducted annually for three years following the revegetation efforts. Reseeding or revegetation would need to be carried out, as required, in areas where revegetation is found unsatisfactory.

## KEY ISSUES AND RECOMMENDATIONS FOR FUTURE WORK

The following Table 20-5 describes the key issues and the suggested recommendations.

**TABLE 20-5 KEY ISSUES AND RECOMMENDATIONS**  
**Yorbeau Resources Inc. – Scott Lake Project**

Area of Study	Key Requirements
Archaeology	<ul style="list-style-type: none"><li data-bbox="641 1220 1406 1465">• In the event where activities, regardless of their nature, are considered in sectors with strong potential (A), we recommend that the areas directly affected by the work to be inspected by an archaeologist and are, if the inspection of the condition of the premises and potential are confirmed, inventoried in a systematic way so that the presence of archaeological sites is detected and mitigations or protection measures should be considered.</li><li data-bbox="641 1501 1406 1654">• Given the importance of the projected impacts and in the event that they may be disrupted by possible adjustments, we recommend areas of medium potential (B) to be initially inspected visually and if the context justifies it, a few exploratory surveys are made.</li><li data-bbox="641 1690 1406 1808">• For areas of low potential (C) or no (D) we make no specific recommendation, notwithstanding the fact that a chance discovery put us in touch with obvious cultural elements. Some surveys may then be required.</li></ul>
Social	<ul style="list-style-type: none"><li data-bbox="641 1837 1406 1927">• Information pertaining to local demographics, economic development, land use, cultural heritage, health and social services, and infrastructure will need to be collected in order</li></ul>

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<b>Area of Study</b>	<b>Key Requirements</b>
	<p data-bbox="682 210 1408 304">to provide a snapshot of the communities' needs and priorities and to determine how current conditions may be affected by the proposed mining operation.</p> <ul data-bbox="633 325 1408 525" style="list-style-type: none"><li data-bbox="633 325 1408 399">• IBA(s) will need to be established between the proponent and Cree communities and the Cree Nation Government.</li><li data-bbox="633 420 1408 525">• Community stakeholder meetings and interviews should be held to gain a better understanding of the potential effects of the Project on the communities.</li></ul>
Environment	<ul data-bbox="633 546 1408 735" style="list-style-type: none"><li data-bbox="633 546 1408 735">• Updated field surveys should be completed as the most recent surveys occurred in 2011 and were limited. Field surveys for water quality, sediment quality, benthic invertebrates, archaeology, fish, vegetation, wildlife, and noise and vibration are recommended to be completed during the most suitable seasons for the surveys.</li></ul>
Mining Plans and Permits	<ul data-bbox="633 756 1408 949" style="list-style-type: none"><li data-bbox="633 756 1408 829">• A Rehabilitation and Restoration Plan is required prior to a lease being granted.</li><li data-bbox="633 829 1408 892">• A Water Management Plan is required to demonstrate how water on-site will be managed.</li><li data-bbox="633 892 1408 949">• To date, no permits have been obtained. Refer to Table 20-3 for the list of permits required.</li></ul>

## 21 CAPITAL AND OPERATING COSTS

### CAPITAL COSTS

The total capital cost for the project is approximately \$390 million (Table 21-1). The pre-production cost is \$215 million, that covers the two years of pre-production mine development costs, process plant construction costs, surface infrastructure, tailings facility and the EPCM and contingency amounts. The sustaining capital totals \$116 million and covers the life of the mine and closure costs.

**TABLE 21-1 CAPITAL COST SUMMARY**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Direct Costs</b>	<b>Cost (C\$000)</b>
Mining	110,407
Processing	59,992
Infrastructure	15,785
Tailings	4,651
<b>Total Direct Cost</b>	<b>190,835</b>
EPCM / Owners / Indirect	46,552
<b>Subtotal Cost</b>	<b>237,387</b>
Contingency	35,912
<b>Initial Capital Costs</b>	<b>273,299</b>
Sustaining	113,203
Reclamation and closure	3,000
<b>Total Capital Cost</b>	<b>389,501</b>

### PRE-PRODUCTION CAPITAL

The pre-production cost are summarized in four main categories, mining, processing, infrastructure, and tailings as shown in Table 21-2. The mining costs consist of initial equipment purchases, and development of the main ramp to the Selco and Central Zones for initial ore development. Pre-production processing cost, consist of the construction of the process plant and infrastructure costs include installation of power, water, surface buildings including the maintenance and office complex. The tailings cost covers the initial site clearing, liner, and dam.

**TABLE 21-2 PRE-PRODUCTION COST SUMMARY**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Item</b>	<b>Year -2 (C\$000)</b>	<b>Year -1 (C\$000)</b>	<b>Total (C\$000)</b>
Mining	3,185	49,394	52,579
Processing	13,153	46,839	59,992
Infrastructure	0	15,785	15,785
Tailings	1,163	3,488	4,651
<b>Total Direct Cost</b>	<b>17,501</b>	<b>115,506</b>	<b>133,007</b>
EPCM/Indirect	6,125	40,427	46,552
Contingency	4,725	31,187	35,912
<b>Total</b>	<b>28,351</b>	<b>187,120</b>	<b>215,471</b>

### **SUSTAINING CAPITAL**

The sustaining capital consist of the capital development for the mine, including the ramp development, level development not related to ore, and raise development. Other costs include equipment rebuilds and replacement.

### **DIRECT COSTS**

The capital direct cost for the Project are summarized into four categories, including mining, processing, infrastructure, and tailings.

Mining cost consist of equipment for both surface and underground, development in the pre-production years, mine ventilation equipment, pumps, and tools. Once the mine reaches production the capital development becomes sustaining capital.

Processing cost consist of the construction of mill and labs including critical spares.

The infrastructure costs consist of the mine site buildings, roads, ore and waste pads, site mobile equipment, power infrastructure and administrative costs (software, vehicles, computers, etc.).

The tailings cost account for the construction and equipping of the tailings facility.

## OTHER COSTS

The other costs consist of EPCM, owner's costs, and indirect costs. To account for these costs, a factor of 35% of the direct costs was applied.

## CONTINGENCY

A contingency of 20% was applied to the sum of the direct cost plus the EPCM cost.

Exclusions from the capital cost estimate include, but are not limited to, the following:

- Project financing and interest charges.
- Working capital.
- Escalation during construction.

## OPERATING COSTS

The operating cost for the mine is estimated at \$89/t milled, with a total operating cost of \$1,070 million. The operating cost are distributed between mining, processing and G&A. The cost per tonne milled is shown in table 21-3.

**TABLE 21-3 OPERATING COST**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Units</b>	<b>Total (C\$)</b>
Mining (Underground)	54.14
Processing	27.49
G&A	7.40
<b>Total Operating Cost</b>	<b>89.02</b>

The mining cost is attributed to the three mining methods used including drift and fill, longitudinal longhole stoping and transverse longhole stoping and is summarized in Table 21-4. The mining cost are associated with the stope development and production.

**TABLE 21-4 OPERATING COST SUMMARY**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Cost Operating (Materials)</b>	<b>C\$/t mined</b>	<b>Total (C\$)</b>
Transverse Longhole	1.14	3,543,682
Longitudinal Longhole	2.81	16,820,323
Cut & Fill	4.50	5,844,750
Backfill Costs	2.72	28,294,920
Power	2.77	33,329,920
Maintenance Cost (Equip. operating)	17.46	181,458,160
Total Stoping Cost	25.91	269,291,755
Operating Development Cost	7.22	75,088,236
<b>Sub-Total Mining</b>	<b>33.14</b>	<b>344,379,991</b>
Mining Cost/t processed	28.64	344,379,991
Processing	22.66	272,435,934
G&A	4.59	55,181,466
Labour Cost	33.14	398,451,030
<b>Total Operating Cost/t processed</b>	<b>89.02</b>	<b>1,070,448,422</b>
<b>Labour Cost</b>		
Mine Labour		306,568,909
Processing Labour		58,064,037
G&A Labour		33,818,084
Mine	54.14	650,948,900
Process	27.49	330,499,971
G&A	7.40	88,999,551
<b>Total Cost</b>	<b>89.02</b>	<b>1,070,448,422</b>

The processing cost are associated with the operation of the mill and backfill plant. Cost include chemicals and supplies, materials, and operation of the mill. The G&A cost is comprised of site services costs, and general and administrative costs.

## MANPOWER

The manpower list for the Scott Lake Project is shown in Table 21-5.

**TABLE 21-5 PROJECT MANPOWER  
Yorbeau Resources Inc. – Scott Lake Project**

<b>Department</b>	<b>On Shift</b>	<b>On Site</b>	<b>Total</b>
Administration	14	14	14
Mining	62	94	162
Processing	18	22	28
Maintenance	27	39	39
Human Resource	7	9	9
<b>Total</b>	<b>128</b>	<b>178</b>	<b>252</b>

The manpower shown in Table 21-5 is an average loading over the mine life with an initial build up to the full contingent early in the Project. The mine is located within short driving distance of local population centres:

- Driving distance from Chapais – 22 km
- Driving distance from Oujé-Bougoumou – 29 km
- Driving distance from Chibougamau – 44 km

Mine staff will be sourced locally and work a typical work week with the weekends off. The less demanding work within the mining crews, such as truck drivers, scoop operators and maintenance, will be sourced locally. Consideration has been made for sourcing some key skilled positions such as jumbo drill operators, production drillers and direct mine development crews from wider areas within the province or country. For these employees, an allowance has been made for fifty men requiring room and board services in town.

In RPA's opinion, the location of the Project relative to established population centres with a history of mining is a clear advantage.

## 22 ECONOMIC ANALYSIS

The economic analysis contained in this report is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this Preliminary Economic Assessment is based will be realized.

An after-tax Cash Flow Projection has been generated from the Life of Mine production schedule and capital and operating cost estimates, and is summarized in Table 22-1. A summary of the key criteria is provided below.

### ECONOMIC CRITERIA

#### PHYSICALS

- Pre-production period of approximately 24 months.
- Mine Life of 15 years.
- The LOM plan is shown in Table 16-1.
- Total processing of 12.0 million tonnes grading 4.14% Zn, 0.81% Cu, 26.59 g/t Ag and 0.24 g/t Au.
- Mill recovery averaging 87% for zinc, 85% for copper, 45% for silver and 63% for gold.

#### REVENUE

- Copper concentrate averages 96% payable for copper, 92% payable for silver, and 82% payable for gold, net of minimum deductions. Zinc concentrate averages 85% payable for zinc and 2% payable for silver, net of minimum deductions.
- Metal prices used are US\$1,500/oz for gold, US\$23/oz for silver, US\$3.50/lb for copper, and US\$1.30/lb for zinc with an exchange rate of US\$1.00=C\$1.25.
- Revenue is recognized at the time of production.

#### COSTS

- Pre-production capital expenditure is C\$215 million
- Total LOM capital expenditures are C\$390 million
- Average operating cost over the LOM is C\$89/tonne processed.

- No IBA costs included in the operating costs.

**TAXES**

- Quebec Mining Tax, on a sliding scale based on profit margin, starting at 16%.
- Federal Income Tax of 15%.
- Provincial Income Tax of 11.9%

TABLE 22-1 LOM CASH FLOW SUMMARY  
Yorbeau Resources Inc. - Scott Lake Project

INPUTS			UNITS	TOTAL	Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17		
<b>MINING</b>																										
Underground	Operating Days	365	days	5,455		122	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	365	345	-	
	Tonnes milled per day		tonnes / day	2,204				1,474	1,621	1,961	2,114	2,407	2,270	2,339	2,493	2,446	2,356	2,370	2,339	2,342	2,283	2,252			-	
Production	Au Grade		'000 tonnes g/t	12,024	538	592	716	772	879	829	854	910	893	860	865	854	855	833	833	855	833	833	777	-	-	
	Ag Grade		g/t	0.24	0.18	0.23	0.25	0.28	0.19	0.20	0.23	0.27	0.32	0.38	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.14	-	
	Ag Grade		%	26.59	21.90	22.81	22.20	22.00	33.70	37.84	39.58	26.21	26.24	26.27	24.94	26.39	22.51	26.39	22.51	26.39	22.51	26.39	18.86	21.54	-	
	Cu Grade		%	0.81	0.56	0.62	0.62	0.68	0.95	0.99	1.11	0.82	0.61	0.68	0.45	0.84	0.94	0.90	1.20	0.94	0.94	0.90	1.20	1.20	-	
	Zn Grade		%	4.14	5.05	5.54	4.99	5.70	2.81	3.64	3.20	2.68	5.47	4.48	6.02	5.11	4.16	2.66	1.33	6.02	5.11	4.16	2.66	1.33	-	
	Waste		'000 tonnes	3,387	186	152	168	252	279	313	168	260	147	336	374	213	12	252	40	336	374	213	12	252	-	
	Total Moved		'000 tonnes	15,341	724	744	874	1,024	1,158	1,201	1,022	1,170	1,040	1,196	1,239	1,067	981	1,085	981	1,067	981	1,085	981	1,085	-	
	Tonnes per day O+Q		'000 tonnes	2,812	1,963	2,038	2,394	2,804	3,172	3,291	2,799	3,204	2,848	3,277	3,204	2,848	3,277	3,204	2,848	3,277	3,204	2,848	3,277	3,204	-	
<b>PROCESSING</b>																										
Mill Feed	Au Grade		'000 tonnes g/t	12,024	538	592	716	772	879	829	854	910	893	860	865	854	855	833	833	855	833	833	777	-	-	
	Ag Grade		g/t	0.24	0.18	0.23	0.25	0.28	0.19	0.20	0.23	0.27	0.32	0.38	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.14	-	-	
	Cu Grade		%	26.59	21.90	22.81	22.20	22.00	33.70	37.84	39.58	26.21	26.24	26.27	24.94	26.39	22.51	26.39	22.51	26.39	22.51	26.39	18.86	21.54	-	
	Cu Grade		%	0.81	0.56	0.62	0.62	0.68	0.95	0.99	1.11	0.82	0.61	0.68	0.45	0.84	0.94	0.90	1.20	0.94	0.94	0.90	1.20	1.20	-	
	Zn Grade		%	4.14	5.05	5.54	4.99	5.70	2.81	3.64	3.20	2.68	5.47	4.48	6.02	5.11	4.16	2.66	1.33	6.02	5.11	4.16	2.66	1.33	-	
	Contained Au		oz	92,018	3,110	4,413	5,774	6,923	5,232	5,237	5,389	5,739	7,778	8,933	7,276	7,588	7,695	7,494	3,398	7,588	7,695	7,494	3,398	3,398	-	
	Contained Ag		oz	10,277,820	378,820	433,794	510,774	545,772	952,057	1,008,058	1,086,435	766,747	753,230	789,937	693,601	696,836	616,571	503,330	537,958	696,836	616,571	503,330	537,958	537,958	-	
	Contained Cu		tonnes	97,207	3,020	3,672	4,427	5,268	8,324	8,218	7,440	5,445	5,876	3,910	7,214	8,060	7,514	9,323	9,323	8,060	7,514	9,323	9,323	9,323	-	
	Contained Zn		tonnes	497,371	27,155	32,784	35,705	44,009	24,678	30,186	27,335	24,365	48,864	38,506	52,079	43,645	35,567	22,163	10,330	43,645	35,567	22,163	10,330	10,330	-	
Recovery	Cu Concentrate	Recovery #2	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Au	63%	%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	-	
	Ag	45%	%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	-	
	Cu	85%	%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	-	
	Zn	5.0%	%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	-	
	Zn Concentrate	Recovery #3	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Au	5.5%	%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	-	
	Ag	13.1%	%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	-	
	Cu	5%	%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	-	
	Zn	87%	%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	87%	-	
	Net Recovery		%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Au	69%	%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	-	
	Ag	58%	%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	58%	-	
	Cu	90%	%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	-	
	Zn	92%	%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	-	
	Total Average Recovery		%	60%	61%	61%	61%	61%	59%	60%	59%	60%	61%	60%	61%	60%	61%	61%	61%	61%	61%	60%	59%	59%	-	
Recovered Amount	Cu Concentrate	Recovery #1	oz	58,155	1,965	2,789	3,649	4,375	3,307	3,341	3,406	3,627	4,915	5,646	4,598	4,795	4,663	4,730	4,598	4,795	4,663	4,730	4,598	4,730	-	
	Ag		oz	4,638,603	170,970	195,781	230,523	246,319	429,684	454,959	490,332	346,049	339,949	356,471	313,037	314,497	279,174	228,066	242,792	314,497	279,174	228,066	242,792	242,792	-	
	Pb		tonnes	82,626	2,567	3,121	3,763	4,478	7,076	6,985	8,071	6,324	4,628	4,994	3,324	6,132	6,851	6,387	7,924	4,994	3,324	6,132	6,851	6,387	7,924	-
	Zn		tonnes	24,907	1,360	1,642	1,788	2,204	1,236	1,512	1,369	1,220	2,447	1,928	2,608	2,186	1,781	1,110	517	1,928	2,608	2,186	1,781	1,110	517	-
	Zn Concentrate	Recovery #2	oz	5,061	171	243	318	381	290	291	296	316	428	491	400	417	423	412	412	417	423	412	412	412	412	-
	Au		oz	1,347,574	49,669	56,877	66,970	71,569	124,829	132,171	142,448	100,632	98,760	103,569	90,941	91,366	81,104	66,256	70,534	91,366	81,104	66,256	70,534	70,534	-	
	Cu		tonnes	5,042	157	190	230	273	432	426	493	386	282	395	203	374	418	390	484	395	203	374	418	390	484	-
	Pb		tonnes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Zn		tonnes	432,713	23,624	28,522	31,063	38,288	21,470	26,262	23,781	21,198	42,512	33,500	45,309	37,971	30,944	19,282	8,987	37,971	30,944	19,282	8,987	8,987	-	
Grades in Concentrate	Cu Concentrate		dmt	330,505	10,288	12,484	15,052	17,912	28,303	27,941	32,285	25,297	18,512	19,978	13,295	24,527	27,404	25,549	31,698	24,527	27,404	25,549	31,698	31,698	-	
	Au grade in concentrate		g/t	5.47	5.95	6.95	7.54	7.60	3.63	3.72	3.28	4.46	8.26	8.79	10.76	6.08	5.52	5.76	2.11	10.76	6.08	5.52	5.76	2.11	-	
	Ag grade in concentrate		g/t	437	517.90	487.80	476.34	427.72	472.20	506.45	472.39	425.47	571.17	554.99	732.35	398.82	316.86	277.65	238.24	732.35	398.82	316.86	277.65	238.24	-	
	Cu grade in concentrate	25.0%	%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	-	
	Zn grade in concentrate		%	7.5%	13.2%	13.2%	11.9%	12.3%	4.4%	5.4%	4.2%	4.8%	13.2%	9.7%	19.6%	8.9%	6.5%	4.3%	19.6%	8.9%	6.5%	4.3%	1.6%	1.6%	-	
	Concentrate Moisture	8%	wmt	359,244	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	-	
	Cu Concentrate		wmt	11,161	11,161																					



## CASH FLOW ANALYSIS

Considering the Project on a stand-alone basis, the undiscounted pre-tax cash flow totals \$519 million over the mine life, and simple payback occurs six years from start of production. After-tax cash flow totals \$310 million.

Net Present Value (NPV) at a range of discount rates is:

- Pre-tax,           5% = \$245 million  
                      8% = \$146 million  
                      10% = \$98 million
- After-tax,        5% = \$127 million  
                      8% = \$61 million  
                      10% = \$28 million

The pre-tax Internal Rate of Return (IRR) is 16.6%, after-tax is 12.3%.

## EXPLORATION PROGRAM IMPACT

The proposed underground exploration program is necessary to provide access for infill drilling to advance the Project, and would include ramp development that would, once completed, provide a head-start to construction. A Project cash flow that assumes that ramp is already in place shows an undiscounted pre-tax cash flow of \$568 million and an NPV at 8% discount rate of \$188 million with an IRR of 21.0%.

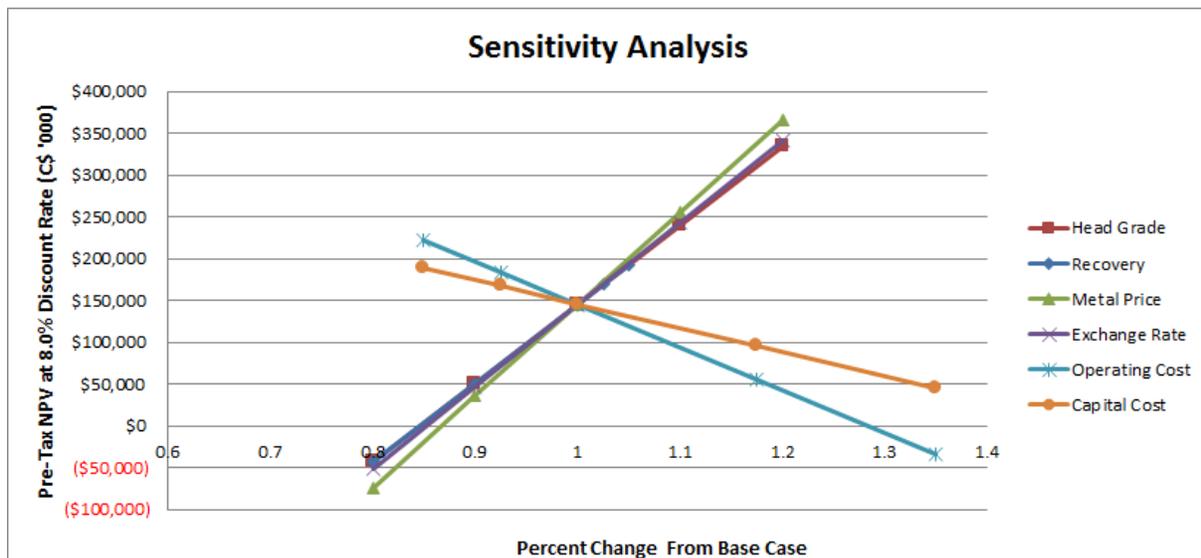
## SENSITIVITY ANALYSIS

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

- Metal prices
- Exchange rate
- Head Grades
- Recovery
- Operating costs
- Capital costs

Pre-tax NPV sensitivity over the base case has been calculated for -20% to +20% variations. The sensitivities are shown in Figure 22-1 and Table 22-2.

**FIGURE 22-1 SENSITIVITY GRAPH**



**TABLE 22-2 SENSITIVITY TABLE**  
Yorbeau Resources Inc. – Scott Lake Project

NPV (C\$000)	-20%	-10%	Base Case	10%	20%
Head Grade	(43,477)	51,083	145,643	240,203	334,763
Recovery	(43,477)	51,083	145,643	169,283	192,923
Metal Prices	(74,280)	35,681	145,643	255,604	365,566
Exchange Rate	(50,904)	47,369	145,643	243,916	342,190
Operating Cost	222,553	184,098	145,643	55,914	(33,814)
Capital Cost	188,726	167,184	145,643	95,378	45,114

Parameters	-20%	-10%	Base Case	10%	20%
Head Grade (% Zn)	3.31	3.72	4.14	4.55	4.96
Average Recovery (%)	49	56	62	63	65
Metal Prices (US\$/lb Zn)	1.30	1.46	1.63	1.79	1.95
Exchange Rate (US\$:C\$)	1.00	1.13	1.25	1.38	1.50
Operating Cost (C\$000)	907	987	1,067	1,254	1,440
Capital Cost (C\$000)	331,076	360,289	389,501	457,664	525,827

## 23 ADJACENT PROPERTIES

The Scott Lake Property is contiguous with claims held by various companies and individuals. None of the adjacent claims are known to host mineralized zones comparable to the Scott Lake deposit. No reliance was placed on any information from adjacent properties in the estimation and preparation of the resources reported in this technical report. Adjacent properties are therefore not deemed material to this report.

## **24 OTHER RELEVANT DATA AND INFORMATION**

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

## 25 INTERPRETATION AND CONCLUSIONS

In RPA's opinion, consideration of an Underground Exploration Program, consisting of ramping, development of drill platforms, and infill drilling, is merited.

The Project represents an opportunity to develop an operating mine located within close proximity to the town of Chibougamau, Québec, a typical northern mining environment, offering the advantages of living facilities and availability of equipment and materials required to develop and operate the Project. The Project site has existing access and can be serviced with available hydroelectric power from the provincial grid located nearby.

RPA offers the following conclusions by area.

### **GEOLOGY AND MINERAL RESOURCES**

- The Project consists of a number of mineralized zones that have all the characteristics of volcanogenic massive sulphide (VMS) mineralization, comprised of distinct stratabound massive sulphide lenses located mainly along or close to rhyolite-andesite/basalt contacts. In addition to the massive sulphides, separate zones of VMS-style disseminated and stringer sulphides, which may or may not be connected with massive sulphide lenses, have been found over a strike length of at least two kilometres.
- The following mineralized zones and lenses have been outlined by drilling at Scott Lake to date:
  - Selco Scott deposit;
  - West Massive Sulphide Lens;
  - 34 Zinc Massive Sulphide Lens, which is stacked above the West Lens;
  - Scott Lake Sulphide Stringer Zone, which lies below the West Lens;
  - 800 Massive Sulphide Lens;
  - Massive Sulphide Central Zone including three lenses, which have been interpreted as stacked above the Sulphide Stringer Zone;
  - CFO Lens, which is located west of and at depth from the West Lens;
  - CFO Stringer Zone, located beside and underneath the CFO Lens;
  - Gap Zone that was recently discovered between the West Lens and the CFO Lens and at the western extent of the Sulphide Stringer Zone. Its eastern extent incorporates the former SC-30 lens.
- The discovery of the massive sulphide and sulphide stringer zones associated with rhyolitic volcanic rocks indicates the potential for other discoveries and extensions of known zones along the two- to three-kilometre strike length of favourable lithologies that hosts the Scott Lake zones.
- Core sampling procedures used by Cogitore and Yorbeau are consistent with industry standards and are adequate for the estimation of Mineral Resources.

- RPA reviewed cross sections, longitudinal sections, and plan views, and found the geological interpretation of both rock types and mineralized zones to be well done and acceptable for Mineral Resource estimation.
- The drill hole database including drill logs, density determinations, and assay results are appropriate for use in the estimation of Mineral Resources. RPA notes, however, that the following should be added to the current procedures:
  - Rock Quality Designation (RQD) measurements
  - Photographing of all drill core
  - Insertion of Certified Reference Materials at one per 20 samples
  - Insertion of certified blank material at one per 20 samples
  - Insertion of duplicate samples at one per 20 samples
- RPA estimated Mineral Resources for the Scott Lake Project using drill hole data available as of February 10, 2017. Indicated Mineral Resources total 3.57 Mt, at grades of 4.17% Zn, 0.95% Cu, 37 g/t Ag, and 0.22 g/t Au. Inferred Mineral Resources total 14.28 Mt, at grades of 3.49% Zn, 0.78% Cu, 22 g/t Ag, and 0.22 g/t Au. The Mineral Resource estimate is based on a C\$100/t net smelter return (NSR) cut-off value for massive sulphide zones and C\$65/t NSR cut-off value for sulphide stringer zones.
- RPA is of the opinion that the Yorbeau drilling programs carried out from 2015 to date have increased confidence in the continuity of the mineralization and have shown that there is potential for other discoveries. The discovery of the massive sulphide Gap Zone and the extension of the Scott Lake Stringer Sulphide Zone to the west are good examples, and have contributed most of the significant increase in tonnage in the current Mineral Resource estimate from the previous estimate completed by RPA in 2011. Continued exploration, primarily by underground diamond drilling, is abundantly warranted for the property.
- Potential exists to increase Mineral Resources and, based on the significant amount of drilling already done on the Scott Lake deposit, the main areas of potential for increasing resources are thought to be:
  - At depth below, current resources blocks:
    - Western Scott Lake Sulphide Stringer Zone from approximately -1,800 mE to -1,850 mE, and below the 800 Lens.
    - Gap Lens down-dip from hole SC-83 where borehole geophysics modelling clearly suggests extension of more than 50 m down-dip.
  - West of the Gwillim Lake fault, at depth:
    - Recent structural interpretation suggests that the CFO Lens may in fact be a structural “raft” caught within the fault corridor, and which may have been dragged into the northeast trending fault corridor from an unknown source.
    - If this is the case, and considering that the Gwillim Lake fault is a reverse left-handed fault, then the primary source of those rafts may be located at depth, west of the fault, and south of the known Scott mineralized corridor.

**MINING**

- The mining at Scott Lake will consist of a combination of bulk and conventional methods.
- Stopping methods will include: Longitudinal Longhole stopping (50%); Transverse Longhole (26%), Cut and Fill (11%) with the balance of the Life of Mine (LOM) tonnage or 13% from ore development.
- Both paste backfill and waste rock backfill will be used in the stopping process. An estimated 50% to 60% of the tailings will be used for paste fill (approximately 1,000 tpd) which will provide for a smaller tailings facility footprint requirement.
- Lateral development in waste will average 12 m per day with a high of 18 m per day in Year six of the LOM, while ore development will average 5 m per day.
- A shaft access option was evaluated, however, capital costs were restrictive with the current Mineral Resources. Due to the depth of the deposit, continued review of shaft alternatives as further studies are developed is warranted.
- Haulage of material (ore and waste) was evaluated using 50 tonne electric trucks that provide a more efficient haulage speed/productivity profile than diesel units and also reduce the capital cost for haulage units.
- Contractor services were considered for the pre-production phase of the LOM.

**PROCESSING AND TAILINGS**

- Processing will average 2,200 tpd over the LOM with a high of 2,500 tpd in Years eight and nine of the LOM.
- Preliminary metallurgical testing has indicated very high lime consumption, which is reflected in the process operating cost.
- Concentrates are assumed to be shipped to local areas such as Noranda and Valleyfield for the copper and zinc concentrates respectively.
- Preparation of paste backfill for the mining operation was considered, with an estimated 65% usage of the mill tailings or approximately 1,150 tpd.
- Use of the tailings for paste fill will reduce the tailings management facility footprint.
- Preliminary metallurgical test results at a bench scale level were obtained through batch flotation tests and a single locked cycle flotation test (LCT), however, the estimated target Cu concentrate grade (25%), target Cu recovery to Cu concentrate (85%), target Zn concentrate grade (55%), and target Zn recovery to Zn concentrate (87%) need to be demonstrated under optimized flotation test conditions.
- Ore samples for metallurgical test work should be representative of the different zones and proportions of massive sulphide and stringer sulphides to be processed during the LOM plan.

- Ore variability need to be investigated through detailed mineralogical analysis.
- A comprehensive comminution and flotation test program is required on a range of average ore types and variability samples.
- The target concentrate grades and recoveries have not yet been achieved through metallurgical testing, however, further optimization is possible, and may improve the results.
- Further improvements in process design, performance, and cost estimation are to be expected with advanced levels of study.

### **INFRASTRUCTURE**

- The Project is close to established infrastructure for access, power, and transport of materials and concentrates. Consumables are also readily available from the local communities, as are emergency services and health care services.
- The location of the Project relative to established population centres with a history of mining is a clear advantage.

### **ENVIRONMENT AND PERMITTING**

- A full Environmental Baseline Study was completed by Stavibel Service D'Ingénierie in 2012.
- Permitting will be required from both the Provincial Government and the Federal Government that have established permit requirements. The Project is subject to the Québec Mining Act. The Federal permits and authorizations include fisheries and metal mining effluent regulations (MMER) that must be met as well as those related to explosives and explosives produces.
- The towns of Chibougamau and Chapais as well as the Cree community of Oujé-Bougoumou are the closest communities to the Project site. Social and community involvement with these localities/groups will be of major importance in sourcing manpower, materials, equipment and cooperation to ensure smooth operations are established and maintained throughout the mine life. Discussions with the local First Nations people is of high importance in ensuring the Project development, control, and highest environmental standards pre and post operation are met. As well discussion of an Impact Benefit Agreement (IBA) with the First Nations people should be made a priority.
- The Québec Mining Act also outlines requirements for the mine closure plan that need to be addressed early in the process and certain financial guarantees provided by the mine operator. Preparation of a Mine Site Rehabilitation Plan will be required. An allowance of three million dollars has been allocated for mine closure in this study.

### **ECONOMICS**

- The PEA base case pre-tax net present value at an 8% discount rate ( $NPV_{8\%}$ ) of \$146 million, with a net pre-tax cash flow of \$519 million representing a Project internal rate of return (IRR) of 16.6%.

- There is a pre-existing 1% NSR on the 16 claim Scott-Diagold part of the property due to Diagold which Yorbeau can buy out for \$750,000. This is not applicable to the Scott Lake property.
- The Project is most sensitive to metal prices, exchange rate, recovery, and head grade.
- As a sensitivity, RPA considered a case where the Underground Exploration Program has been completed, and considered as a sunk cost. With ramping in place, capital costs and construction schedules would be reduced. Project economics improve to a pre-tax NPV<sub>8%</sub> of \$188 million, with a pre-tax cash flow of \$568 million and a Project IRR of 21%.

## 26 RECOMMENDATIONS

RPA recommends that a program of surface exploration drilling and metallurgical testing be carried out, followed by development of an Underground Exploration Program.

In addition, RPA offers the following recommendations by area:

### **GEOLOGY AND MINERAL RESOURCES**

- RQD measurements on drill core should be carried out in future drilling programs.
- All drill core should be photographed prior to logging and sampling in future drilling programs.
- With respect to quality assurance/quality control (QA/QC) on Scott Lake sampling and assaying, RPA recommends the following:
  - Acquire suitable CRMs for insertion at a rate of one every 20 samples.
  - Use a duplicate insertion rate of not less than 5% in future exploration programs. Continue with the current re-assaying program at a second laboratory to supplement the current program.
  - Insert certified blank material into the sample stream, to test for possible contamination in the sample preparation phase, at a rate of 5% of the total assays.
  - Implement a QA monitoring system used to detect failed batches, and in turn, identify sample batches for reanalysis.
- Density determinations should be continued for both mineralized and non-mineralized rock types.
- For the current Mineral Resource, no outliers were capped, however, a future Mineral Resource update should include a detailed statistical analysis for each mineralized zone to determine if capping is required.
- A structural model of the Scott Lake deposit area should be developed to assist in interpretation of the mineralized zones and to guide future drilling.
- Additional drilling in the Gap Zone, West Lens, and the eastern part of the Scott Lake Sulphide Stringer Zone should be carried out in order to understand the structural controls that constrain grade continuity and to upgrade the Mineral Resources from Inferred to Indicated. Specifically, in order to upgrade the Inferred Mineral Resources to Indicated Mineral Resources, RPA recommends that the Stringer Sulphide Zone be drilled on a 50 m by 50 m pattern, and the West, 34 Zinc, and Central Lenses be drilled on a 25 m by 25 m pattern. Such drilling patterns will allow better shape definition of the lenses.
- The extent and continuity of the mineralization of the Gap Zone warrants exploration below -500 m elevation by diamond drilling. Additional drilling is also recommended in

the eastern portion of the Stringer Sulphide Zone where drill hole spacing is greater than 100 m.

#### **MINING**

- Carry out a geotechnical study to assist in mine design and verification for a crown pillar above the Selco Zone.
- Review level spacing for the longhole stoping to evaluate if a 30 m spacing can be utilized which would result in reduced development requirements.
- Design a ramp and drill platforms for the Underground Exploration Program.

#### **PROCESSING AND TAILINGS**

- Assess the required drill holes to prepare samples of both the massive and stringer sulphide zones to be used for continued metallurgical sampling.
- Verify construction materials (quarries, borrow pits, etc.) that can be used for the tailings facility construction.
- Verify potential for use of tailings to prepare paste fill for the underground mine and assess characteristics, and paste fill system design requirements.
- Confirm the tailings deposition modelling to confirm the deposition plan for subaqueous deposition.
- Retain a metallurgist and an accredited laboratory to carry out a metallurgical test work optimization program using drill core representative of the different zones of massive sulphides and stringer sulphides.
- Perform greater comminution and ore variability testing.
- Carry out detailed mineralogical analysis of the feeds and products in beneficiation.
- Carry out analysis and characterization of all waste streams and determination of the appropriate methods of disposal.
- Complete detailed energy and water balance for the entire process flowsheet.

#### **INFRASTRUCTURE**

- Develop a preliminary schedule for the infrastructure installation (buildings, portals, tailings facility, stockpiles).
- Assess the requirements and costs for a substation facility to receive power from the Hydro Québec grid.

**ENVIRONMENT**

- Assess the Project permitting critical path with the timeline for the various phases of the pre-production and production phases of the Project, including the Underground Exploration Program.
- Continue to assess requirements for environmental aspects with the Provincial and Federal authorities and the local municipalities.
- Prepare a detailed site layout of the ore and waste stockpiles and complete a water management plan to confirm the requirement for pollution control ponds and other related infrastructure.
- Prepare a Rehabilitation and Restoration plan as part of the project in accordance with the provincial Guidelines for Preparing a Mining Site Rehabilitation Plan and General Mining Site Rehabilitation Requirements (1997).

**FIRST NATIONS AND COMMUNITY RELATIONS**

- Continue to engage and enhance the relations with local First Nations and communities.
- Engage the local First Nations with discussions on a proposed IBA.

**PROJECT EXECUTION**

- Carry out the Project planning to advance the underground exploration program as the next phase of the Project development.

**BUDGET**

A two-phase surface and then underground exploration budget is presented below to enable upgrading the resource classification, improving the metallurgical information, and providing a head start on the mine development pre-production phase of the Project.

**TABLE 26-1 EXPLORATION BUDGET (SURFACE)  
Yorbeau Resources Inc. – Scott Lake Project**

Item	Cost (C\$000)
Head Office Expense	25
Project Management/Staff Cost	200
Diamond Drilling (7,000 m)	910
Misc. (Assay/Shipping/etc.)	50
Metallurgical Testing	55
<b>Sub-Total</b>	<b>1,240</b>
Contingency (25%)	310
<b>Total</b>	<b>1,550</b>

**TABLE 26-2 EXPLORATION BUDGET (UNDERGROUND)**  
**Yorbeau Resources Inc. – Scott Lake Project**

<b>Item</b>	<b>Cost (C\$000)</b>
Head Office Expense	50
Project Management/Staff Cost	350
Exploration Development (3,000 m)	19,500
Diamond Drilling (15,000 m)	1,950
Misc. (Assay/Shipping/etc.)	150
<b>Sub-Total</b>	<b>22,000</b>
Contingency (25%)	5,500
<b>Total</b>	<b>27,500</b>

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## 28 DATE AND SIGNATURE PAGE

This report titled “Technical Report on the Preliminary Economic Assessment for the Scott Lake Project, Northwestern Québec, Canada” and dated December 6, 2017 was prepared and signed by the following authors:

**(Signed and Sealed) “Normand L. Lecuyer”**

Dated at Toronto, ON  
December 6, 2017

Normand L. Lecuyer, P.Eng.  
Principal Mining Engineer

**(Signed and Sealed) “William E. Roscoe”**

Dated at Toronto, ON  
December 6, 2017

William E. Roscoe, Ph.D., P.Eng.  
Principal Geologist

## 29 CERTIFICATE OF QUALIFIED PERSON

### NORMAND L. LECUYER

I, Normand L. Lecuyer, P.Eng., as an author of this report entitled “Technical Report on the Preliminary Economic Assessment for the Scott Lake Project, Northwestern Québec, Canada” prepared for Yorbeau Resources Inc. and dated December 6, 2017, do hereby certify that:

1. I am Principal Mining Engineer with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of Queen’s University, Kingston, Canada, in 1976 with a B.Sc. (Hons.) degree in Mining Engineering.
3. I am registered as a Professional Engineer in the provinces of Ontario (Reg. #26055251) and Québec (Reg. #34914). I have worked as a mining engineer for a total of 40 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a consultant on numerous exploration and mining projects around the world for due diligence and regulatory requirements.
  - Vice-President Operations for a number of mining companies.
  - Mine Manager at an underground gold mine in Northern Ontario, Canada.
  - Manager of Mining/Technical Services at a number of base-metal mines in Canada and North Africa.
  - Vice-President Engineering at two gold operations in the Abitibi area of Quebec, Canada.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Scott Lake Project on June 12 and 13, 2017.
6. I am responsible for Sections 13, 15 to 19, 21, 22, and 24 and parts of Sections 1, 2, 3, 25, 26, and 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have had no prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Dated this 6<sup>th</sup> day of December, 2017

**(Signed and Sealed) “Normand L. Lecuyer”**

Normand L. Lecuyer, P.Eng.

**WILLIAM E. ROSCOE**

I, William E. Roscoe, Ph.D., P.Eng., as an author of this report entitled “Technical Report on the Preliminary Economic Assessment for the Scott Lake Project, Northwestern Québec, Canada” prepared for Yorbeau Resources Inc. and dated December 6, 2017, do hereby certify that:

1. I am a Principal Geologist with Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
2. I am a graduate of Queen’s University, Kingston, Ontario, in 1966 with a Bachelor of Science degree in Geological Engineering, McGill University, Montreal, Quebec, in 1969 with a Master of Science degree in Geological Sciences and in 1973 a Ph.D. degree in Geological Sciences.
3. I am registered as a Professional Engineer (No. 39633011) and designated as a Consulting Engineer in the Province of Ontario. I hold a temporary permit to practice Engineering in the Province of Québec (No. TP01989). I have worked as a geologist for a total of 50 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Thirty-five years experience as a Consulting Geologist across Canada and in many other countries
  - Preparation of numerous reviews and technical reports on exploration and mining projects around the world for due diligence and regulatory requirements
  - Senior Geologist in charge of mineral exploration in southern Ontario and Québec
  - Exploration Geologist with a major Canadian mining company in charge of exploration projects in New Brunswick, Nova Scotia, and Newfoundland
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Scott Lake Project on October 26 to 27, 2016.
6. I am responsible for Sections 4 to 12, 14 and 23 and portions of Sections 1, 2, 3, 25, 26, and 27 of the Technical Report.
7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
8. I have prepared a previous Technical Report dated March 28, 2017 on the property that is the subject of the Technical Report.
9. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Dated this 6<sup>th</sup> day of December, 2017

**(Signed and Sealed) “William E. Roscoe”**

William E. Roscoe, Ph.D., P.Eng.

## **30 APPENDIX 1**

### **PROPERTY DESCRIPTION**

**TABLE 30-1 SCOTT LAKE PROJECT CLAIMS**  
**Yorbeau Resources Inc. - Scott Lake Project**

Claim	NTS Sheet	Registration Date	Expiry Date	Renewal Date	Area (ha)	Titleholder	Excess Credits	Work Required	Fees
2188441	32G16	15/09/2009	14/09/2017	15/07/2017	39.85	Yorbeau Resources Inc.	1,017.69	1,170.00	64.09
2188442	32G16	15/09/2009	14/09/2017	15/07/2017	41.70	Yorbeau Resources Inc.	2,217.69	1,170.00	64.09
2188443	32G16	15/09/2009	14/09/2017	15/07/2017	42.03	Yorbeau Resources Inc.	1,017.69	1,170.00	64.09
2188444	32G16	15/09/2009	14/09/2017	15/07/2017	38.77	Yorbeau Resources Inc.	2,217.69	1,170.00	64.09
2188445	32G16	15/09/2009	14/09/2017	15/07/2017	42.74	Yorbeau Resources Inc.	1,017.69	1,170.00	64.09
2188446	32G16	15/09/2009	14/09/2017	15/07/2017	41.94	Yorbeau Resources Inc.	2,217.70	1,170.00	64.09
2188451	32G16	15/09/2009	14/09/2017	15/07/2017	41.20	Yorbeau Resources Inc.	0.00	1,170.00	64.09
2188452	32G16	15/09/2009	14/09/2017	15/07/2017	43.50	Yorbeau Resources Inc.	0.00	1,170.00	64.09
2188453	32G16	15/09/2009	14/09/2017	15/07/2017	36.93	Yorbeau Resources Inc.	0.00	1,170.00	64.09
2188454	32G16	15/09/2009	14/09/2017	15/07/2017	42.53	Yorbeau Resources Inc.	0.00	1,170.00	64.09
2188455	32G16	15/09/2009	14/09/2017	15/07/2017	41.33	Yorbeau Resources Inc.	0.00	1,170.00	64.09
2317209	32G15	12/10/2011	11/10/2017	11/08/2017	55.52	Yorbeau Resources Inc.	0.00	780.00	64.09
2317210	32G15	12/10/2011	11/10/2017	11/08/2017	55.51	Yorbeau Resources Inc.	0.00	780.00	64.09
2317211	32G15	12/10/2011	11/10/2017	11/08/2017	55.51	Yorbeau Resources Inc.	0.00	780.00	64.09
2330391	32G15	15/02/2012	03/04/2019	01/02/2019	55.51	Yorbeau Resources Inc.	115,040.64	1,625.00	64.09
2330392	32G15	15/02/2012	03/04/2019	01/02/2019	55.51	Yorbeau Resources Inc.	111,440.64	1,625.00	64.09
2330393	32G15	15/02/2012	03/04/2019	01/02/2019	55.51	Yorbeau Resources Inc.	115,040.64	1,625.00	64.09
2330394	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	115,019.17	1,625.00	64.09
2330395	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	111,419.17	1,625.00	64.09
2330396	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330397	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330398	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330399	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330400	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	108,682.40	1,625.00	64.09
2330401	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330402	32G15	15/02/2012	03/04/2019	01/02/2019	55.51	Yorbeau Resources Inc.	115,040.64	1,625.00	64.09
2330403	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	113,394.17	1,625.00	64.09
2330404	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09

Claim	NTS Sheet	Registration Date	Expiry Date	Renewal Date	Area (ha)	Titleholder	Excess Credits	Work Required	Fees
2330405	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330406	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	113,394.17	1,625.00	64.09
2330407	32G15	15/02/2012	03/04/2019	01/02/2019	55.51	Yorbeau Resources Inc.	113,415.64	1,625.00	64.09
2330408	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	113,394.17	1,625.00	64.09
2330409	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330410	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330411	32G15	15/02/2012	03/04/2019	01/02/2019	16.54	Yorbeau Resources Inc.	33,207.11	650.00	32.77
2330412	32G15	15/02/2012	03/04/2019	01/02/2019	16.56	Yorbeau Resources Inc.	33,250.04	650.00	32.77
2330413	32G15	15/02/2012	03/04/2019	01/02/2019	16.58	Yorbeau Resources Inc.	24,292.98	650.00	32.77
2330414	32G15	15/02/2012	03/04/2019	01/02/2019	16.53	Yorbeau Resources Inc.	33,185.64	650.00	32.77
2330415	32G15	15/02/2012	03/04/2019	01/02/2019	55.52	Yorbeau Resources Inc.	72,691.94	1,625.00	64.09
2330416	32G15	15/02/2012	03/04/2019	01/02/2019	55.52	Yorbeau Resources Inc.	84,498.23	1,625.00	64.09
2330417	32G15	15/02/2012	03/04/2019	01/02/2019	54.61	Yorbeau Resources Inc.	36,283.75	1,625.00	64.09
2330418	32G15	15/02/2012	03/04/2019	01/02/2019	55.51	Yorbeau Resources Inc.	113,415.64	1,625.00	64.09
2330419	32G15	15/02/2012	03/04/2019	01/02/2019	55.51	Yorbeau Resources Inc.	55,110.13	1,625.00	64.09
2330420	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	229,319.36	1,625.00	64.09
2330421	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	959,543.61	1,625.00	64.09
2330422	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	329,584.61	1,625.00	64.09
2330423	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	121,368.82	1,625.00	64.09
2330424	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	131,541.84	1,625.00	64.09
2330425	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	113,179.48	1,625.00	64.09
2330426	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	113,394.16	1,625.00	64.09
2330427	32G15	15/02/2012	03/04/2019	01/02/2019	55.50	Yorbeau Resources Inc.	113,394.16	1,625.00	64.09
2330428	32G15	15/02/2012	03/04/2019	01/02/2019	55.28	Yorbeau Resources Inc.	112,921.87	1,625.00	64.09
2330429	32G15	15/02/2012	03/04/2019	01/02/2019	52.15	Yorbeau Resources Inc.	106,202.57	1,625.00	64.09
2330430	32G15	15/02/2012	03/04/2019	01/02/2019	13.75	Yorbeau Resources Inc.	27,217.69	650.00	32.77
2330431	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	209,014.44	1,625.00	64.09
2330432	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,947.16	1,625.00	64.09
2330433	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	193,802.85	1,625.00	64.09
2330434	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09

Claim	NTS Sheet	Registration Date	Expiry Date	Renewal Date	Area (ha)	Titleholder	Excess Credits	Work Required	Fees
2330435	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	174,547.09	1,625.00	64.09
2330436	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330437	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330438	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330439	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330440	32G15	15/02/2012	03/04/2019	01/02/2019	55.49	Yorbeau Resources Inc.	113,372.70	1,625.00	64.09
2330441	32G15	15/02/2012	03/04/2019	01/02/2019	23.39	Yorbeau Resources Inc.	47,912.29	650.00	32.77
2330442	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330443	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330444	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330445	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330446	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330447	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330448	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330449	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330450	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	111,780.58	1,625.00	64.09
2330451	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330452	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	113,351.23	1,625.00	64.09
2330453	32G15	15/02/2012	03/04/2019	01/02/2019	11.25	Yorbeau Resources Inc.	21,850.85	650.00	32.77
2330454	32G15	15/02/2012	03/04/2019	01/02/2019	11.31	Yorbeau Resources Inc.	0.00	650.00	32.77
2330455	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	78,681.35	1,625.00	64.09
2330456	32G15	15/02/2012	03/04/2019	01/02/2019	55.48	Yorbeau Resources Inc.	0.00	650.00	32.77
2330457	32G15	15/02/2012	03/04/2019	01/02/2019	55.18	Yorbeau Resources Inc.	52,727.25	1,625.00	64.09
2330458	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,083.23	1,625.00	64.09
2330459	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,083.23	1,625.00	64.09
2330460	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,426.70	1,625.00	64.09
2330461	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,491.10	1,625.00	64.09
2330462	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,684.31	1,625.00	64.09
2330463	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,813.12	1,625.00	64.09
2330464	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,813.12	1,625.00	64.09

Claim	NTS Sheet	Registration Date	Expiry Date	Renewal Date	Area (ha)	Titleholder	Excess Credits	Work Required	Fees
2330465	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,448.17	1,625.00	64.09
2330466	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,169.09	1,625.00	64.09
2330467	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	52,061.76	1,625.00	64.09
2330468	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	51,997.35	1,625.00	64.09
2330469	32G15	15/02/2012	03/04/2019	01/02/2019	55.47	Yorbeau Resources Inc.	29,520.97	1,625.00	64.09
2330470	32G15	15/02/2012	03/04/2019	01/02/2019	0.80	Yorbeau Resources Inc.	67.40	650.00	32.77
2331715	32G15	08/03/2012	03/02/2019	04/12/2018	46.44	Yorbeau Resources Inc.	886.49	1,625.00	64.09
2331716*	32G15	08/03/2012	03/02/2019	04/12/2018	55.29	Yorbeau Resources Inc.	1,411.42	1,625.00	64.09
2331717*	32G15	08/03/2012	03/02/2019	04/12/2018	53.52	Yorbeau Resources Inc.	1,474.44	1,625.00	64.09
2331718*	32G15	08/03/2012	03/02/2019	04/12/2018	55.50	Yorbeau Resources Inc.	1,638.86	1,625.00	64.09
2331719*	32G15	08/03/2012	03/02/2019	04/12/2018	53.34	Yorbeau Resources Inc.	1,459.49	1,625.00	64.09
2331720	32G15	08/03/2012	03/02/2019	04/12/2018	53.15	Yorbeau Resources Inc.	1,443.71	1,625.00	64.09
2331721	32G15	08/03/2012	03/02/2019	04/12/2018	15.02	Yorbeau Resources Inc.	9.80	650.00	32.77
2331722	32G15	08/03/2012	03/02/2019	04/12/2018	47.66	Yorbeau Resources Inc.	987.81	1,625.00	64.09
2331724	32G15	08/03/2012	03/02/2019	04/12/2018	11.54	Yorbeau Resources Inc.	0.00	650.00	32.77
2331725*	32G15	08/03/2012	03/02/2019	04/12/2018	55.49	Yorbeau Resources Inc.	1,638.03	1,625.00	64.09
2331726*	32G15	08/03/2012	03/02/2019	04/12/2018	55.49	Yorbeau Resources Inc.	1,185.88	1,625.00	64.09
2331727*	32G15	08/03/2012	03/02/2019	04/12/2018	55.49	Yorbeau Resources Inc.	1,638.03	1,625.00	64.09
2331728*	32G15	08/03/2012	03/02/2019	04/12/2018	55.49	Yorbeau Resources Inc.	1,638.03	1,625.00	64.09
2331729	32G15	08/03/2012	03/02/2019	04/12/2018	55.49	Yorbeau Resources Inc.	1,638.03	1,625.00	64.09
2331730	32G15	08/03/2012	03/02/2019	04/12/2018	24.10	Yorbeau Resources Inc.	763.82	650.00	32.77
2331731	32G15	08/03/2012	03/02/2019	04/12/2018	12.37	Yorbeau Resources Inc.	0.00	650.00	32.77
2331733	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,637.19	1,625.00	64.09
2331734	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,637.20	1,625.00	64.09
2331735*	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,144.36	1,625.00	64.09
2331736*	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,229.07	1,625.00	64.09
2331737*	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,163.45	1,625.00	64.09
2331738*	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,637.20	1,625.00	64.09
2331739	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,637.20	1,625.00	64.09
2331740	32G15	08/03/2012	03/02/2019	04/12/2018	55.48	Yorbeau Resources Inc.	1,637.20	1,625.00	64.09

Claim	NTS Sheet	Registration Date	Expiry Date	Renewal Date	Area (ha)	Titleholder	Excess Credits	Work Required	Fees
2331741	32G15	08/03/2012	03/02/2019	04/12/2018	54.06	Yorbeau Resources Inc.	1,519.28	1,625.00	64.09
2331742	32G15	08/03/2012	03/02/2019	04/12/2018	54.68	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331743	32G15	08/03/2012	03/02/2019	04/12/2018	55.47	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331744	32G15	08/03/2012	03/02/2019	04/12/2018	55.47	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331745*	32G15	08/03/2012	03/02/2019	04/12/2018	55.47	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331746*	32G15	08/03/2012	03/02/2019	04/12/2018	55.47	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331747*	32G15	08/03/2012	03/02/2019	04/12/2018	55.47	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331748*	32G15	08/03/2012	03/02/2019	04/12/2018	29.83	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331749	32G15	08/03/2012	03/02/2019	04/12/2018	30.32	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331750	32G15	08/03/2012	03/02/2019	04/12/2018	30.85	Yorbeau Resources Inc.	0.00	1,625.00	64.09
2331751	32G15	08/03/2012	03/02/2019	04/12/2018	30.06	Yorbeau Resources Inc.	0.00	1,625.00	64.09

\* 1% NSR royalty due to Exploration Diagold Inc.