Minto Explorations Ltd.

A SUBSIDIARY OF CAPSTONE MINING LTD.

General Site Plan – Stage II

September 2011

Contents

1. Background

This document serves as an updated General Site Plan for Phase IV of the Minto Mine's development. Its aim is to fully describe Minto's Phase IV surface mining plans and to provide a basic overview of the proposed underground workings. The Phase IV mine expansion refers to the mining activities assessed under the *YESAB Designated Office Evaluation Report – Minto Mine Phase IV Expansion – Project Assessment 2010-0198*, dated February 18, 2011.

This plan serves as a precursor to the full Mine Development and Operations Plan (MDOP), the requirements of which are laid out in QML-0001. Due to delays in the procurement of suitable mining equipment, Minto Explorations Ltd. (MintoEx) has not yet commenced the operation of the underground mine; it is therefore not yet possible to describe the underground portion of Phase IV in the level of detail required for the MDOP.

Where MintoEx has made modifications to certain aspects of the approved Stage 1 General Site Plan, primarily relating to waste management, the changes were informed by the YESAB evaluation report, decision documents, and conditions of the current QML.

2. Phase IV Open Pits

Phase IV will mine two open pits – Area 2 and Area 118. Area 2 is split into Stages 1 and 2, the latter being a pushback of the west wall created by Stage 1 and a deepening of the pit. Figure 1 illustrates the location of the two pits and their final design configuration.

2.1 Material Release and Ore Reserves

Expected release from these two pits, based on Minto's most current resource model, is presented below in Table 1. A more detailed breakdown of reserves for each pit, including ore tonnages and grades, is presented below in Table 2.

The grades in Table 2 are reported on an undiluted basis, and do not include a provision for ore losses, as Minto does not currently have a reliable characterization of these factors.

	BCM Ore	BCM Waste	BCM Overburden	BCM Total
Area 2 - Stage 1	822,000	4,469,000	1,288,000	6,579,000
Area 2 - Stage 2	878,000	3,446,000	992,000	5,316,000
Area 118	238,000	634,000	107,000	979,000
Total	1,937,000	8,549,000	2,387,000	12,873,000

Table 1: Material releases from the Phase IV open pits.

	Waste + Ovb (t)	Ore (t) *	Cu %	Au g/t	Ag g/t
Area 2 - Stage 1	14,446,000	2,228,000	1.54	0.58	5.88
Area 2 - Stage 2	11,117,000	2,408,000	1.45	0.50	4.43
Area 118	1,899,000	635,000	1.66	0.14	2.28
Total	27,462,000	5,271,000	1.51	0.49	4.79

* A cutoff grade of 0.56% for sulfide ore and 1.00% for partially oxidized ore is used in calculating the above reserves.

Table 2: Reserves mined in the Phase IV open pits.

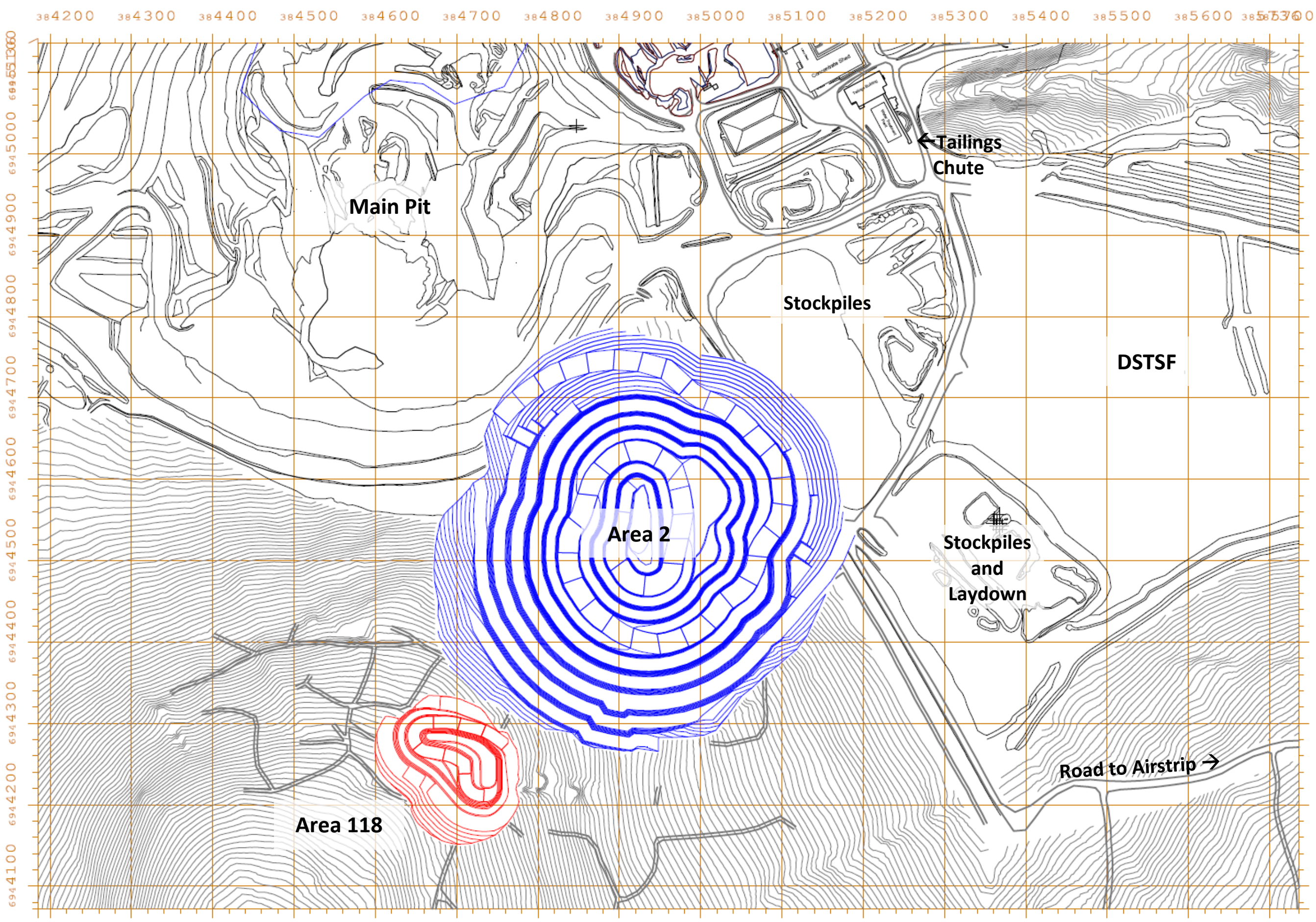


Figure 1: Site plan showing Area 2 (blue) and Area 118 (red) pits.

2.2 Material Release Schedule

Stage 1 of Area 2 will be mined first, followed by Stage 2 and Area 118 in parallel. As Area 118 pit is a small near-surface deposit, mining it in parallel with Stage 2 will allow for shared access roads.

The pit designs presented in this plan are based on those designed by SRK for the Phase IV pre-feasibility study. Minto will modify them before mining commences, particularly to combine Area 2 and Area 118 while optimizing the strip ratio of the latter. Minto's design modifications will remain within the geotechnical parameters established by SRK's study, and the final designs will be presented to EMR in an updated version of this report, or in the final MDOP, before mining commences.

Minto has determined that a mining rate of 12,000 BCM/day is sufficient to ensure reliable feed to the mill without prematurely milling low-grade stockpiles and thereby compromising the project's economics. The schedule is based on a start date of April 15, 2011, which reflects the actual date at which pre-stripping of Area 2 Stage 1 started. The production rate from April 15 to mid-September reflects the actual rate achieved during this period, which is 14,460 BCM/d. This production rate exceeds the proposed 12,000 BCM/d due to the high productivity enabled by short hauls to the South Wall Buttress, the construction of which is a high priority for geotechnical reasons.

At the aforementioned production rates, the start and completion dates for each pit in Phase IV are shown in Table 3, below.

Pit / Stage	Start Date	Completion Date
Area 2 Stage 1	April 15, 2011	September 2012
Area 2 Stage 2	September 2012	March 2014
Area 118	September 2012	February 2013

Table 3: Start and completion dates for Phase IV open pits.

A month-by-month schedule of the mine's material release, broken down by material type, is presented in Figure 2. A yearly summary table is presented in Table 4.

Mining Release – BCM	2011	2012	2013	2014
Overburden	1,029,166	564,129	793,954	0
Rock Waste	2,414,354	2,942,227	3,036,648	199,003
POX	46,151	179,460	123,779	0
Sulfide Ore	8,452	706,187	425,623	416,895

Table 4: Release schedule for Phase IV open pits, by year.

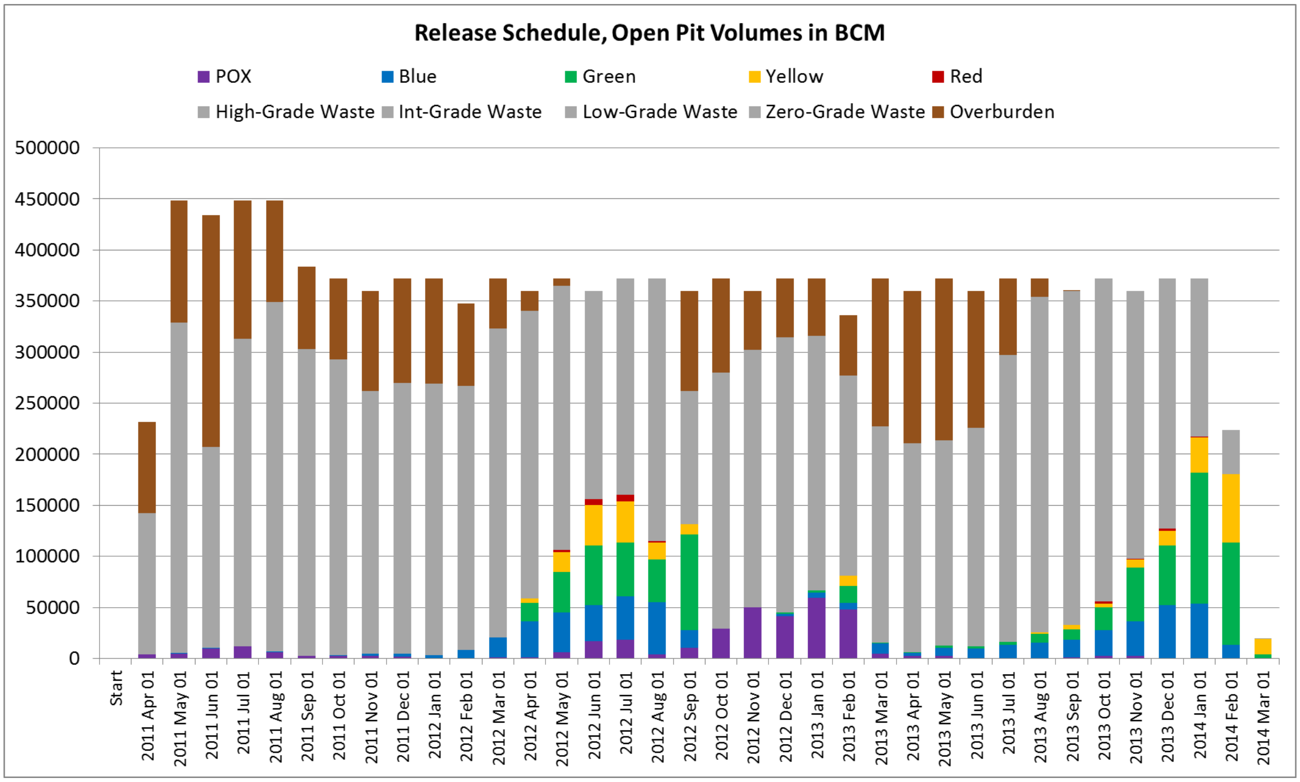


Figure 2: Release schedule for Phase IV open pits, by month, showing material types.

2.3 Blasting and Wall Control

Blasting practices have been carried over from the Main pit largely unchanged.

For production blasts, the mine uses mini-prill ANFO with a bulk density of 1050 kg/m^3 as its default product; it is used wherever ground conditions are dry or holes can be dewatered and lined. Failing that, a 70/30 emulsion/prill is used. The decision to switch to an emulsion blend is at the blaster's discretion in the field.

The mine continues to use 12m benches, drilled with 9 7/8" blastholes, in waste and overburden. Patterns are currently 7.0m equilateral and use 5.0m stemming and 1.0m subgrade, resulting in a powder factor of 0.82 kg/BCM. Grid spacing is varied in response to digging conditions.

For greater selectivity, the mine will use 6.0m benches in ore. These will be drilled using a smaller 6 3/4" hole size and a correspondingly tighter grid spacing.

Wall control consists of buffer and trim blasting techniques: where possible, wall blasts are 4-6 rows deep and the timing is delayed slightly to provide better relief and thereby reduce backbreak. The row of holes closest to the wall is drilled using to the smaller 6 3/4" diameter.

In addition, Minto will continue to use pre-shearing in the Area 2 pit. This is a technique in which closely-spaced small-diameter holes, drilled at an angle that follows the final contour of the wall, are loaded with decoupled charges (that is, a charge of small diameter than the hole into which it is placed). All holes are fired simultaneously, encouraging the formation of a fracture plane between them. A 40mm diameter packaged watergel product is used, and all holes in a pre-shear blast fire simultaneously.

Dyno Nobel will continue to supply the mine with explosives loading services “to the hole,” while the blasters-in-charge will continue to be personnel employed by Pelly Construction.

Explosives management and storage is further detailed in the Explosives Management Plan currently under review by EMR.

2.4 Services

The open-pit mine does not make use of electric power for heavy equipment operation. Some pumping equipment is electric; it is powered by portable trailer-mounted diesel generators. Electrical connection of this equipment is handled by electricians from the mill maintenance department.

The open pit mine operates an extensive network of ditches and pipelines for dewatering; these will be used in accordance with the conditions of the mine’s Water Use License (QZ96-006).

Diesel-powered light plants are used to provide illumination both at working faces in the pit, and at dumps.

Communication is via VHF radio, with all mine equipment on a common channel. A site-wide emergency channel is available.

3. Phase IV Underground

3.1 Material Release and Ore Reserves

Based on the reserves identified to date and the mine designs created around them, the volumes, tonnages, and grades presented in Table 5 will be produced over the life of the underground operation.

Ore volumes are reported at a cutoff grade of 1.20% and based on the stope designs prepared by SRK for the Phase IV Pre-feasibility Study. Dilution and loss has not been fully characterized; however, the reported tonnages do take into account the achievable extraction ratios for each stope, based on pillar dimensions. The volumes produced by the underground mine will grow as designs are refined to improve extraction ratios, additional resources are brought into the schedule, and improved efficiency lowers the cutoff grade.

	Volume (kBCM)	Mass (kt)	Cu %	Au g/t	Ag g/t
Ore	904	2,511	1.88	0.81	6.65
Waste	131	349			

Table 5: Material release for the underground portion of Phase IV.

3.2 Material Release Schedule

Figure 3 shows a month-by-month release schedule for ore and waste. This same information is presented, in more abbreviated form, in Table 6. These assume that development of the underground will commence in November of 2011; this is, however, subject to the availability of equipment and suitable skilled labor. The mine has experienced substantial delays on account of these factors.

The November start date thus represents an ideal scenario, while worst-case scenarios may see startup of the underground in Q1-2012. Regardless of start date, once begun, the schedule will proceed as described below.

The mine will produce at a rate of approximately 2,000 tonnes per day of ore, with month-to-month variations based on equipment scheduling constraints.

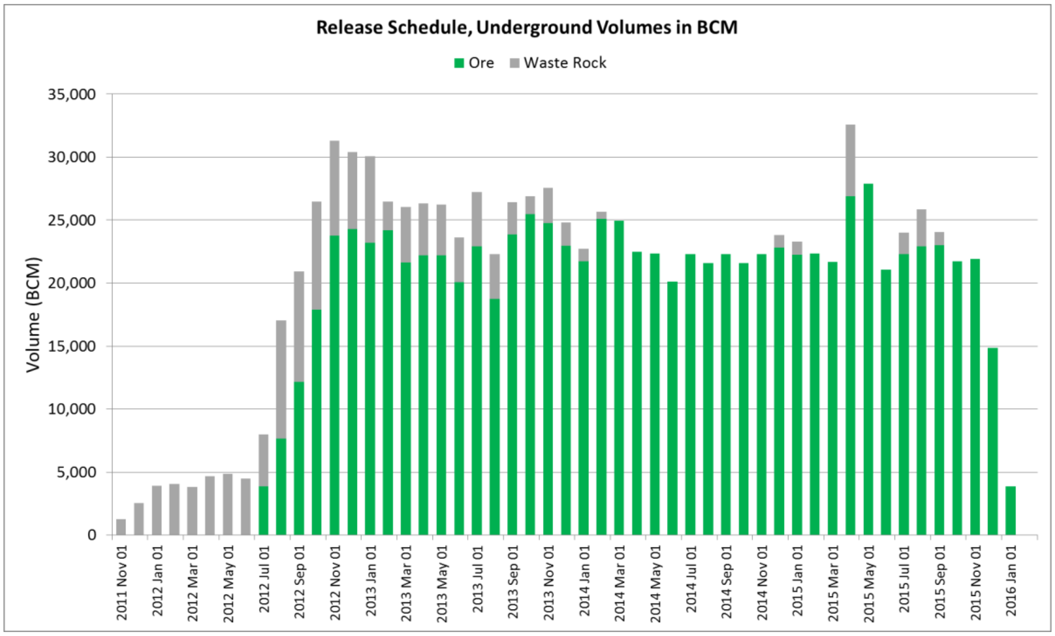


Figure 3: Release schedule, by month, for Phase IV underground mining.

Mining Release – BCM	2011	2012	2013	2014	2015	2016
Rock Waste	3,788	70,232	41,790	2,528	12,358	0
Sulfide Ore	0	89,636	272,147	269,640	268,882	3,888

Table 6: Release schedule, by year, for Phase IV underground mining.

3.3 Mining Methods

The underground mining method to be used will depend primarily on the thickness of the ore zone in a stope.

Minto will employ room-and-pillar mining without backfill for the portions of the underground deposit less than 10m thick, and post-pillar cut-and-fill for areas in which the ore zone is thicker.

3.3.1 Room and Pillar

Room and pillar (RAP) mining is a method in which tunnels are driven in an intersecting “checkerboard” pattern, leaving behind pillars of un-mined rock that serve to support the back. The geotechnical characteristics of the rock, as well as the thickness of the stope, are used to determine pillar spacing and sizes: higher stopes and less competent ground necessitate larger pillars with smaller spans between them. Pillar dimensions and spacing directly control the extraction ratio; the optimization of them will be essential to successful operation.

If the deposit is thicker than can be mined in a single pass (ie, greater than 7m), a hangingwall cut of approximately 3.5m height will be made first, the back supported, and then the bottom benched out to the full thickness of the mineralization. This sequence requires that the back be supported only once, simplifying mining and increasing productivity.

Some stopes may be backfilled with development waste as a means of lowering haulage costs, but otherwise, no backfill is needed.

3.3.2 Post-Pillar Cut-and-Fill

Stopes of greater than 10m height will be mined via post-pillar cut-and-fill (PPCF). Because the pillar dimensions required to ensure stability increase substantially as deposit height increases, RAP ceases to be economically viable at large stope heights. PPCF overcomes this problem by supporting the pillars at their bases using uncemented rockfill.

The method is similar to room-and-pillar in that a checkerboard pattern of tunnels is driven into the deposit and pillars are left behind to support the back. The first cut is at the bottom of the deposit rather than at the top, and when extraction of a level is completed, uncemented rock fill is used to provide confining support to the base of the pillars. In this way, pillar sizes can be kept small.

The primary drawback of the method is that, because mining starts at the bottom of the deposit (the footwall) and proceeds toward the top (the hangingwall), the back must be supported after each cut. This lowers productivity and increases mining costs, disadvantages that are weighed against the increased extraction ratio enabled by the method.

3.4 Portal and Decline

The underground mine will be accessed from a single portal. The design presented as Appendix C of the *Phase IV Project Proposal* featured a portal cut south of the Area 2 pit, with a dedicated road running up the hillside, from 810 to 853m elevation. Subsequent design work showed that a substantial savings in capital cost and fuel use could be achieved by locating the portal along the highwall of the Area 2 pit, at the 811 elevation, with access being achieved via a road running along a widened catch bench. This would also obviate the need for 20,200 m^2 of land disturbance and 81,000 BCM of overburden movement.

On June 17, 2011, MintoEx submitted to EMR an amendment to its General Site Plan that incorporated this design change; on July 27, this was approved.

The decline is to be driven at a -15% gradient, with its alignment being chosen such that it passes approximately 50 m away from the major known UG mineralized zones. The ramp will have a 5 m x 5 m profile, and round depth will be 4.0m using 4.3m holes.

3.5 Equipment

The heavy equipment ordered thus far is listed in Table 7.

Equipment Type	Make and Model	Status
Scissor Lift (Deck)	Walden M60, 4000 lbs	On site
Telehandler w/ manbasket	Caterpillar TH580B	On site
Jumbo Drill	Atlas Copco Boomer M2 C, 18' feed	On site
LHD, Secondary / Cleanup	Atlas Copco ST-710	Shipping
LHD, Primary Production	Elphinstone R2900G (2 units)	Both units being refurbished
Air Compressor, Portable	Sullair, 750 CFM, Diesel Powered	On site

Table 7: Underground equipment.

MintoEx will acquire additional equipment as the mine expands. The estimate from the pre-feasibility study indicates that the following equipment fleet will be needed:

Equipment	Quantity
Drilling Equipment	
Development / Production Jumbo (2 boom)	2
Rockbolter	2
Loading & Hauling Equipment	
Production / Development LHD, 5.4 m3 (10 t)	2
Haul Truck, 40 t	4
Service Vehicles	
Grader	1
Explosives Truck	1
ANFO Loader	2
Cassette Carrier	2
Personnel Cassette	2
Boom Cassette	1
Fuel / Lube Cassette	1
Mechanic's Truck	1
Scissor Lift	1
Supervisor/Engineering Vehicle	3
Electrician Vehicle - Scissor Lift	1
Shotcrete Sprayer	1
Transmixer	1
Forklift	1

Table 8: Projected equipment fleet requirement from the Phase IV Pre-feasibility Study.

3.6 Geotechnical Factors and Ground Support

In support of Phase V development, which is inclusive of Phase IV, SRK was commissioned to perform a geotechnical evaluation of slope stability for the proposed open pits, as well as an evaluation of the same data to determine maximum unsupported span width and pillar size requirements.

Depth (m)	Pillar Height (m)	Pillar Dimensions (m)	Room Dimensions (m)	Extraction Ratio
150	5	4x4	6x6	84%
150	10	5x5	6x6	79%
150	15	6x6	6x6	75%
200	5	4.5x4.5	6x6	79%
200	10	6x6	6x6	75%
200	15	7.5x7.5	6x6	69%
250	5	5x5	6x6	79%
250	10	7x7	6x6	71%
250	15	8x8	5x5	62%

Table 9: Recommended pillar dimensions as a function of depth and stope height.

The report concludes that a 6m span is possible, with support taking the form of pattern bolting with 2.4 m rebar on a 2 x 2 m grid.

Table 9 summarizes the report's recommendations for pillar sizing.

Ground support will be installed by jackleg and stoper from a scissor lift that has been purchased for this purpose.

MintoEx has ordered and received 6' and 8' rebar; it is the mine's intention to use resin rebar and welded wire mesh for support. The slow setting time of resin at cold temperatures makes its use potentially problematic in winter conditions. If its use is found to slow the development cycle to an unacceptable degree, Minto will transition to the use of Swellex bolts, which have been successfully applied in winter conditions at other operations in the Canadian North.

3.7 Backfill Methods

Minto will employ room-and-pillar without backfill for the portions of the underground deposit less than 10m thick. Some stopes may be backfilled with development waste as a means of lowering haulage costs.

Stopes of greater height will be mined via post-pillar cut-and-fill (PPCF), which will necessitate the placement of uncemented rockfill to provide pillar support after each level of mining is completed.

Backfill will be comprised of development waste from other areas of the underground or, where necessary, run-of-mine waste from the open-pit operation. Overburden material will not be used, and operations personnel, in consultation with the production geologist, will make a visual assessment as to the suitability of the waste rock.

3.8 Services

3.8.1 Electrical

Power will initially be supplied by a generator near the portal; MintoEx is currently renting a 300kW unit. This is intended to be a short-term solution; as development progresses, the underground mine will be linked to the site's power grid.

3.8.2 Ventilation

The following presents a conceptual overview of ventilation for the Minto underground mine, and is quoted from SRK's pre-feasibility study.

> A ventilation factor of 0.06 m^3/second/kW of operating diesel engine power is used as the baseline for the amount of ventilation required. The kW rating of each piece of underground equipment was determined and then utilization factors applied to estimate the amount of air required. Haul trucks and LHDs are the main drivers when determining ventilation air quantities due to their high utilization and comparatively high engine power ratings.
>
> For the decline it is estimated that 30 m^3/s of fresh air will be needed. During full production, a minimum of 100 m^3/s will be required, approximately 30 m^3/s per active stope and another 30 m^3/s for development ends and access ways.
>
> Variable pitch axial vane fans will be used for all ventilation in the mine. The UG ventilation will be a pressure system with the main fans located at the top of the ventilation raise blowing air into the mine. The main intake fans will be controlled by a variable frequency drive that will allow the fan pressure and volume to be adjusted through the stages of the mine life and during certain periods of the day, if desired. Vane angle adjustment will also be used to provide volume and pressure variances in the long term.
>
> Auxiliary fans will provide ventilation to each dead-end working face. For the initial decline development, a 100 kW vane axial fan will be used and located outside the portal. The fan will be set up as part of a

forced-air system that feeds air into flexible ventilation duct that discharges at the mining face(s). Approximately 30 m^3/s of ventilation air will be used depending on the size of the UG diesel equipment fleet.

Approximately halfway down the decline, a ventilation raise will be driven to surface and fresh air provided. The extension of the decline beyond the ventilation raise will continue to be ventilated with an auxiliary fan located “up-stream” of the vent raise and ventilation duct to the working face(s).

During production, the stopes will be connected by a series of ventilation drifts and raises that will complete the ventilation circuit, providing flow-through ventilation of the stoping areas and the decline up to the final access crosscut.

MintoEx is currently preparing designs for the permanent ventilation infrastructure described above, the installation of which need only occur after several months of decline development and the creation of a raise. The decline will be started with a Hurley 54” fan placed at the portal; 60” Hi-Strength MineVent tubing will carry fresh air into the mine.

3.8.3 Compressed Air

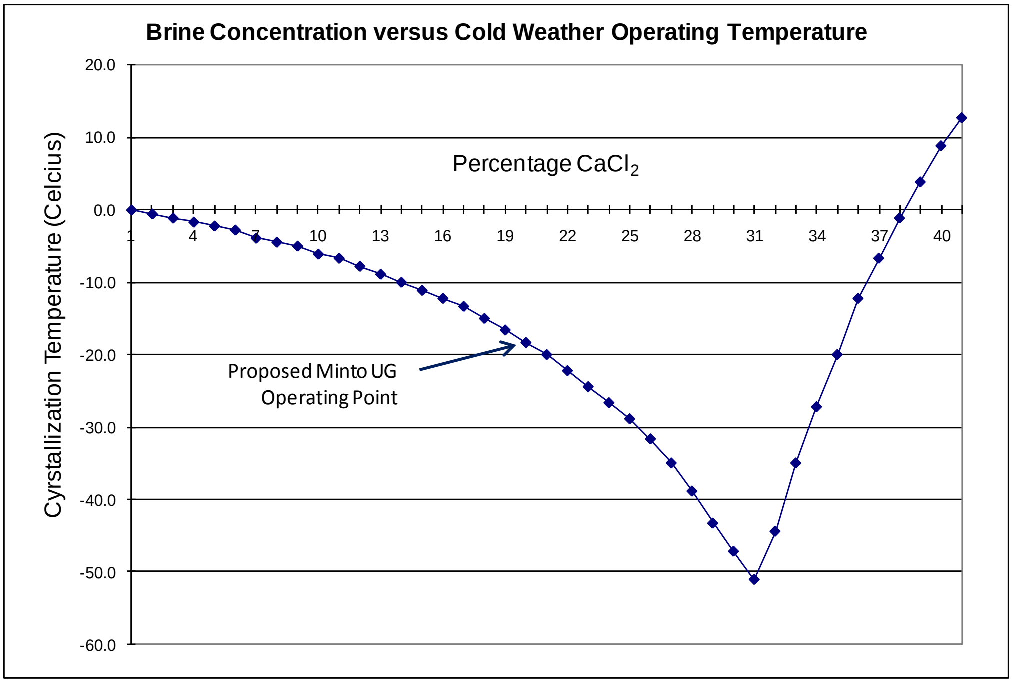
MintoEx is currently renting a Sullair 750 CFM diesel-powered compressor. This will be placed near the portal and supply compressed air to the mine via 6” steel pipe of 0.134” wall thickness in 21’ lengths. Shorter sections of pipe have also been purchased to use in servicing active headings: these are 10’ lengths of 2” diameter.

3.8.4 Water / Brine

The mine will not use an air heating system; instead, a brine system will keep the water used for drilling and dust control from freezing.

3.8.4.1 Brine Concentration

The following graph illustrates the capacity of the process water system with respect to cold weather conditions versus the concentration of brine, i.e., percentage of calcium chloride. As noted in the figure, the mine will use a 20% brine solution with a freezing point of -19° C.



The freezing point of -19° C is predicted to be sufficient during the cold weather period since the ventilation underground is heated by mobile equipment, underground infrastructure, and geothermal conditions. The brine concentration can be easily varied if further freezing point depression is found to be necessary.

It should be noted that this system is not required year round, i.e., it is predicted that $CaCl_2$ addition will initially commence at low concentrations in October and then cease at the end of February. While air temperatures in March and April are still below freezing, recycling of water will ensure that $CaCl_2$ remains in the system, albeit at steadily decreasing concentrations. Addition of $CaCl_2$ into the water system will be based on observed temperatures.

3.8.4.2 Brine Mixing and Recycling Infrastructure

Brine will be mixed to the desired concentration at a plant located on the surface near the underground portal and piped into the underground workings via pipes that will be installed in parallel with development. Brine will be used at the mining face in the following tasks:

- Drilling of both production blastholes and the smaller-diameter holes needed for ground support (brine is pumped into a hole during drilling to wash out cuttings and control dust);
- Scaling (spraying water to dislodge loose rock from the walls and back of the tunnel); and,
- Dust control (brine will be sprayed on to the pile of blasted rock to control dust during mucking).

Following use, brine will flow through the underground workings into purpose-built sumps. A pump will be used to move the brine from the sump to surface along a network of pipes installed for this purpose.

The brine will report to a sump on surface. The brine mixing plant will draw its water from this sump; thus, much of the brine used by the mine will be recycled. The main exception is the quantity of brine carried out of the mine with the ore: the ore may be sprayed continuously during mucking to control dust, and some of the brine sprayed on the pile will stay with the broken rock as it enters the mill circuit. Water from the surface workings may be added to the brine circuit through the existing surface water conveyance system. This proposed use of water is required to ensure a steady supply of brine solution at the desired 20% concentration during underground mining activities.

Based on groundwater characterization at Minto Mine (presented as part of the Phase IV Expansion project proposal that was reviewed by YESAB), it is anticipated that the amount of groundwater encountered in the underground mine workings at Minto will be low. Because structural features are difficult to predict, there is a potential that secondary porosity or permeability could be encountered through fracturing; if groundwater is encountered in the underground workings, brine will be diluted and the volume of water to be moved from the underground sumps will increase. In this scenario, diluted brine in excess of that required by the underground will be pumped into the existing surface water conveyance system.

3.8.4.3 Treatment of Effluent

MintoEx recognizes that, despite its operational objectives of meeting a receiving environment chloride water limit and controlling costs associated with brine use, the water conveyance system will not fully recycle $CaCl_2$. Calcium chloride could enter the surface water conveyance network through leaching from waste rock in the dumps or through the interaction of ore with processing water (which is also recycled as per the current Water Management Plan described in Water Use Application QZ09-094).

MintoEx is committed to the objectives of the current Water Management Plan to manage water appropriately and in accordance with the effluent standards. MintoEx is proposing a chloride limit in the receiving environment and as such, will monitor and treat water at site accordingly. MintoEx is collaborating with other mining proponents in Canada who have adopted brine use in underground mining in order to understand the challenges associated with it and how they've been addressed elsewhere.

MintoEx consulted with Bioteq Environmental Technologies Inc. (Bioteq) regarding the treatability of Minto Mine water for chloride. Bioteq is the contracted water treatment plant designer and operator for Minto Mine. Bioteq has confirmed the existence of technologies to remove chloride from water.

3.8.5 Dewatering

The mine will use Wilden T8 pumps connected to 2" diameter pipe that will carry used brine from an active mining face to a sump.

Used brine, potentially diluted by groundwater inflow, will be pumped from the sump through 4" steel pipe to the surface, where it will be discharged into a lined sump. The design for the sump will accompany the design for the brine mixing plant; detailed engineering will be presented in the Mine Development and Operations Plan.

3.8.6 Communications

Radio communication will be via a leaky feeder system. Options from Varis and Mine Site Technologies are currently being evaluated.

3.9 Mine Safety

Initially, when the working face is within 250 metres of the portal, emergency escape will be directly to the surface via the portal. Once the decline reaches 250 metres in length from the portal to the working face, a portable refuge station will be installed underground near the face.

Portable refuge stations will be used during the development phase of the mine. The refuge stations will be equipped with compressed air, potable water, first aid supplies, and emergency lighting. The refuge stations will be capable of being sealed to prevent the entry of gases.

Fire extinguishers will be provided and maintained in accordance with regulations and best practices at the underground electrical installations, pump stations and other strategic areas. Every vehicle will carry at least one fire extinguisher of adequate size and proper type. Underground heavy equipment will be equipped with automatic fire suppression systems.

A stench gas warning system will be installed on the main decline fans to alert underground workers in the event of an emergency.

In the long term, the stench gas system will be installed on the main intake raise and both the intake and exhaust ventilation raises will contain manway compartments.

Further information on mine safety for the underground mine is provided in the Emergency Response Plan.

4. Waste Rock Handling Procedures

Minto has prepared a *Waste Rock and Overburden Management Plan,* which is currently under review in accordance with the QML. Under the proposed plan, Minto will classify its waste rock as described in Table 10.

Grade Bin	Description
Zero-grade Waste	Waste grading less than 0.005% copper: can be utilized for construction projects and dumps located in sensitive areas.
Low-grade Waste	Waste below 0.10%Cu: not of significant concern at closure.
Mid-grade Waste	Waste from 0.10% - 0.36%Cu: copper leaching is a potential concern at closure: material must be handled separately, but has poor prospects for future milling.
High-grade Waste	The same disposal requirements apply as do for mid-grade waste, but there is a chance that, if mill throughput or metal prices increase substantially, this material will prove economic.

Table 10: Waste rock classification scheme for Phase IV.

4.1 Waste Rock Disposal Scheme

The Stage 1 Waste Management Plan submitted to EMR in support of its temporary permit stipulated that all waste rock grading more than 0.10% copper would be disposed of within the footprint of the main pit in what was termed the “Grade Bin Disposal Area (GBDA).”

The GBDA essentially covered the wide flat bench left at the 810m elevation above the south wall of the Main pit. This location was selected for its proximity to the pit, which would ensure that runoff water would report directly into it. A secondary benefit to the location was that it would have been relatively easy to eventually deposit the grade-bin waste into the flooded Main pit.

Shortly after this plan was created, it was obsoleted by the failure of the Main pit's south wall. The failure is translational in nature: the bulk of a 50m-thick silty / sandy overburden layer is sliding into the pit along a thin layer of ice-rich permafrost clay. After several months of slowly accelerating movement, this translational failure resulted in a substantial piece of the slope sliding into the pit, bounded at the back by a large tension crack. This created an over-steepened overburden face that has been undergoing a progressive failure since: the slope is essentially sloughing back to an angle of repose that has been estimated to be as low as eight degrees.

This has forced Minto to abandon the concept of the GBDA. The sloughing has seen a large portion of the bench lost; the footprint upon which the GBDA would have rested has been substantially reduced in size.

The sloughing is merely symptomatic of a larger creep failure extending several hundred meters back from the wall, necessitating the construction of a large buttress to stabilize it in the long term. This buttress has reduced the volume available in the main pit such that sub-aqueous disposal of waste rock is no longer feasible.

Instead, mid- and high-grade waste rock types (formerly called "grade bin waste") will be disposed of in dedicated areas of the Southwest Dump. By placing this material in contiguous and well-defined areas of the dump, it can be dealt with practically at closure. Mid- and high-grade waste rock will not be placed directly upon original ground: pads of low-grade waste will be constructed so that contact with subsurface water is minimized.

At closure, the mid-grade waste will be placed underneath a cover system that limits infiltration to a degree sufficient to ensure that post-closure water quality requirements are met, or it will be rehandled and disposed of within the flooded footprint of the Area 2 pit.

High-grade waste will be disposed of in the same manner, except that, if metal prices and plant operating costs permit, a portion of it may be milled.

A combination of these three options will be employed, the ratio between them being determined by the prevailing economic conditions at closure.

4.2 Field Classification Protocol for Ore and Waste – Open Pit Operations

Classification of material into one of the four types of ore or waste is based on blasthole assays. The following is a detailed description of the process.

1. Drill cuttings from every blasthole are sampled, bagged, tagged, and sent to the assay laboratory prior to blasting;
2. A representative sample of the cuttings is assayed using atomic absorption (AA) to determine the metal content. The assay laboratory, under the supervision of the chief assayer, has the ability to conduct copper, oxide, and silver assays;
3. The assay results are sent to the geology department for interpretation;
4. The geology department plots the results spatially, then draws polygons enclosing holes with similar assay results to identify regions of similar average grade;

5. After blasting, the aforementioned polygons are laid out in the field by the mine surveyor working with the production geologist in order to inform mine operations of where the materials within a polygon are to be taken;
6. Field layout is done using stakes and flags of various predefined colors;
7. Ore and waste are loaded out and dispatched to the appropriate locations based on the aforementioned flags; and
8. These locations are communicated to foremen and operators by the production geologist.

The protocol by which waste rock is sampled and dispatched is further detailed in the *Waste Rock and Overburden Management Plan* already submitted to EMR for review. This plan applies only to waste rock from the surface mining operation; the comparable protocol for underground waste rock is presented in the section that follows.

4.3 Field Classification Protocol for Ore and Waste – Underground Operations

Whereas surface mining operations can use blasthole assays as the means by which ore and waste are classified, underground mining presents unique challenges that necessitate a different approach. Accurate blasthole sampling is not possible, as holes are drilled horizontally and use water to flush out cuttings and control dust. The ore at Minto lacks any distinct property such as magnetism, radioactivity, or fluorescence that would enable electronic sensor-based downhole logging.

Briefly, the production geologist will dispatch material as waste or ore based primarily on a visual assessment. Material identified as ore will then be hauled to a remuck bay or to a stockpile on surface, sampled, and then rehandled to an ore stockpile based on grade. Waste rock will be treated as mid-grade and disposed of in the portion of the southwest dump dedicated to this type of waste. Given the small quantities of waste rock generated by underground workings (131,000 BCM) in relation to surface mining (8,549,000 BCM), there would be little benefit to classifying it further.

4.4 Dump Designs

Mid- and high-grade waste will be stored in expansions of the Southwest Dump. These expansions raise its height from 910 to 920m elevation at the south end, well away from the zone impacted by the south wall failure. Low-grade waste will continue to report to the portions of the Southwest Dump that have not yet reached their target elevation as per the approved design from 2008.

For a detailed treatment of the dump designs, including analyses of their geotechnical stability, please see the Waste Rock and Overburden Management Plan submitted for review on September 9, 2011.

5. Ore Handling Procedures

Phase IV ore will continue be handled as Main Pit ore was: it will be classified, based on copper grade, into the material types presented below in Table 11.

Ore from underground workings will be handled in the same manner. The cutoff grade within a stope will depend on the marginal cost of ore extraction, and may differ for the room-and-pillar and post-pillar cut-and-fill portions of the operation. SRK's Phase IV PFS estimated that the mine's cutoff grade would be 1.20% Cu, and this number was used to report material release in Table 5.

Material Type	Copper Grade Range
Blue Ore	0.54 – 1.00% Cu
Green Ore	1.00 – 2.00% Cu
Yellow Ore	2.00 – 4.00% Cu
Red Ore	>4.00% Cu

Table 11: Classification of ore by copper grade.

Any ore encountered during decline, access, or crosscut development would be subject to a lower cutoff grade based solely on the cost of rehandle and milling; the cutoff grade should be similar to open-pit ore.

5.1 Stockpiles

The footprint of the Area 2 pit will take out a portion of what is presently the Green Ore Stockpile; however, no new stockpiles are currently planned. Stockpile inventory will be drawn down substantially before Area 2 releases ore; therefore, ore storage needs should be met by stockpiles falling within the current footprint.

6. Conclusion

As MintoEx continues to refine its approach to implementing the Phase IV Expansion, additional detail will be added around the areas described in this plan. The company will continue to work with both the Minto Technical Working Group to incorporate feedback with the goal of preparing a comprehensive Mine Development and Operations Plan.