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April 4, 2016

Robert Holmes
Director of Mineral Resources
Department of Energy, Mines and Resources
P.O. Box 2703
Whitehorse, YT Y1A 2C6

Dear Mr. Holmes,

Please see the attached update to Minto Mine's Underground Ground Control Plan.
This update replaces the previous Underground Ground Control Plan submitted in September, 2015 (*Minto Mine Ground Control Plan—Underground* (rev. 1), Minto Explorations Ltd. June 2014.)

If you have any questions or concerns regarding the attached document, please do not hesitate to contact me at ryanh@mintomine.com / 604-759-4634, or Ron Light at rlight@capstonemining.com / 604-759-4639.

Regards,

Ryan Herbert
Environment Manager
Minto Explorations Ltd.

Attachments:
- *Ground Control Plan—Underground Operations* (2015-1), Minto Explorations Ltd. December 2015.

Revision 2015-1
Ground Control Plan
Underground Operations
Minto Mine, YT

Prepared by:
Minto Explorations Ltd.
Minto Mine
December 2015

Minto Mine Ground Control Plan—Underground Operations

First Issue: July 2013

REVISION INFORMATION

Rev. Number	Issue Date	Description & Location of Revisions Made
0	July 17, 2013	First issue
2014-1	June, 2014	Update of rock mass characterization. Revisions to ground support standards.
2015-1	December, 2015	Update of rock mass characterization with mapping data. Update of mine plan to exclude M-Zone and include the updated Area 118 underground.

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General Statement and Corporate Message

Capstone Mining Corp. Minto Mine maintains the Health and Safety of the people involved in activities at the mine as the primary value entrenched into everything we do. We strive for “Safe Production” by ensuring people clearly understand that no one is expected to work in substandard conditions, with substandard tools or put them self at risk in any way performing their duties at the Minto Mine. We maintain a Target: ZERO philosophy that believes all incidents are preventable and that every effort must be made to eliminate significant accidents and reduce minor incidents toward ZERO.

Introduction

The purpose of this Ground Control Plan—Underground Operations (GCP) is to provide a system for the management of the ground control strategy at Capstone Minto Mine Underground Operations. The Ground Control Plan shall:

- outline systems for evaluating, designing, maintaining, and monitoring excavation stability to prevent personal injury, damage to equipment or loss to process;
- present a structure that defines core responsibilities and accountabilities;
- develop and maintain a process for hazard identification and risk management with regard to ground control and geotechnical mine design; and
- introduce methods to effectively monitor and measure compliance to legislative regulations and corporate policy through audit and review processes.

The intent of the GCP is therefore to outline the strategies aimed at eliminating or minimising the risk of falls of ground or collapse in the underground operations which may result in fatalities, injuries, equipment damage or loss of production.

The GCP is a live document that will change continuously with new standards, technology, working procedures and annual reviews and applies to all personnel at the Minto Mine.

Document Layout

The GCP has three parts:

Part One: Design

This section discusses the processes undertaken to determine the excavation design parameters, support requirements, and proposed mining methods to be applied in the various underground areas. This includes a summary of the site geology, rock mass characterization, minimum ground support standards and practices to manage the predicted ground conditions.

Part Two: Implementation

This section discusses the procedures and systems for implementing the designed ground control program. This includes Safe Work Procedures for ground support installation, a hazard recognition program, ground control communication systems, workforce training and emergency response.

Part Three: Monitoring and Verification

This section outlines practices and procedures for verifying the ground control design. This includes inspections and data collection, quality assurance/quality control, and audits, updates and reviews of the Ground Control Plan.

Accountability and Responsibilities

Responsibilities for personnel involved with the underground operations include the following:

General Manager

The General Manager has the overall responsibility for the GCP. The General Manager shall ensure that:

- suitably trained and qualified persons are formally appointed to the following positions:
  - Mine Manager;
  - Chief Engineer;
  - Underground Safety/Training Coordinator; and,
  - Geotechnical Engineer.

Mine Manager

The Mine Manager shall ensure that:

- the GCP is implemented and all regulatory requirements are met;
- adequate resources are allocated and competent technical and operational personnel are appointed.

Chief Engineer

The Chief Engineer shall ensure that:

- the GCP is reviewed/updated at the required frequency;
- adequate training is given to the geotechnical engineers, geologists and mine engineers;
- SWPs are developed, reviewed, and modified when needed, in conjunction with the Health and Safety Department.

Geotechnical Engineer

The Geotechnical Engineer shall ensure that:

- major geotechnical aspects are adequately considered in relation to the mine design and planning;
- monitoring, auditing, and testing systems are developed and maintained;
- on-going mapping, data collection and inspections are carried out to identify variations in ground conditions; and

- ground control directives are issued for specific conditions/excavations not covered in this plan.

Underground Superintendent and Shift Supervisors

The Mine Superintendent and Shift Supervisors shall ensure that:

- the work sites and the travel ways are adequately supported through adherence to the ground control requirements set out in the layouts;
- suitable equipment is supplied and maintained to the specifications required for quality ground control;
- SWPs are implemented and monitored to ensure compliance;
- any unusual ground conditions are noted and brought to the attention of the engineering group;
- all personnel receive appropriate training;
- the designed support/ reinforcement is installed to the specified standards; and
- reports on ground falls, and variations to ground support standards are addressed and distributed as required.

All Operational Personnel

All operational personnel shall ensure that:

- no work is undertaken without an approved plan;
- only work in line with current competencies is undertaken;
- SWPs are followed;
- ground conditions are inspected in line with workplace inspections at every work site;
- ground conditions are monitored during the shift for the presence of loose or unstable ground;
- if any rock noise is heard or the ground being worked is unsafe, withdraw and barricade the area, then immediately notify the Shift Supervisor; and
- relevant information in relation to ground conditions/support is reported back to the Shift Supervisor and Geotechnical Engineer.

Mandatory Requirements

- NO PERSON IS TO ENTER UNSUPPORTED GROUND. Supported (secured) ground is deemed to be ground where a complete ground support system has been applied as per required standards.
- All man-entry excavations must conform to, or exceed the minimum ground control standards specified in this document.
- All ground control work must follow established SWPs.
- All personnel must inspect ground conditions and check the adequacy of ground control when entering an underground heading/access/work area.
- All personnel must immediately report uncontrolled falls of ground and ground control hazards to their immediate supervisor who will be responsible for follow up and documentation.
- All reports of conditions requiring actions outside of standard work will be recorded in the Ground Control Log Book and followed-up with a documented Workplace Inspection (WPI) to ensure the efficacy of the remedial action.

Part One: Design

The mine design is determined by the geological, geotechnical, and hydrogeological data collected to characterize the Minto ore bodies. Data collected for use in mine design, and the design processes are detailed in this section.

1 Description of the Mine

The Minto Mine is located in the Whitehorse Mining District in the central Yukon Territory. The property is located approximately 240 km northwest of Whitehorse, the Yukon capital. Open pit mining is currently taking place in the Minto North Pit, scheduled to be completed in Q3, 2016. Underground mining is taking place in the Area 118 Underground, accessed by the Area 118 portal.

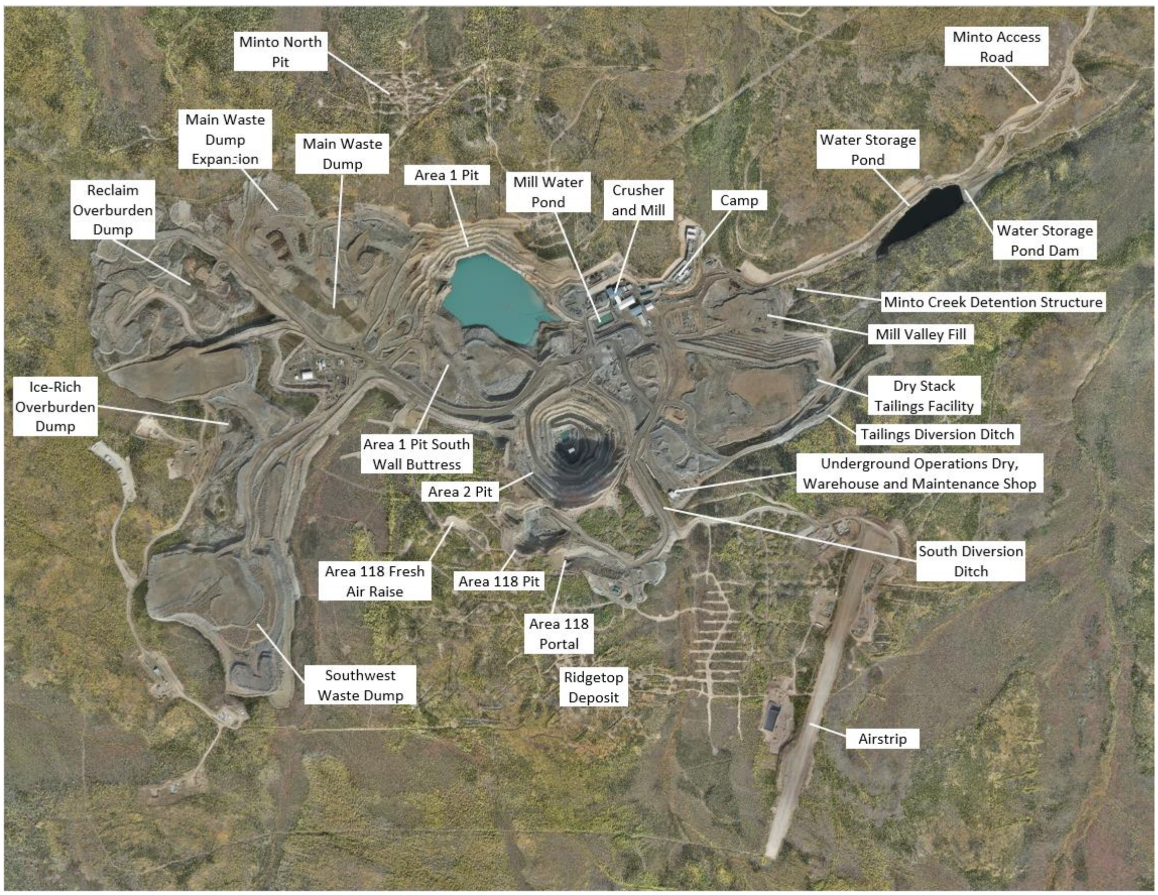


Figure 1-1: Plan view of Minto Mine (Oct.2014) — underground and open pit operations

2 Rock Mass Characterization

2.1 Geological Overview

Copper sulphide mineralization at Minto is hosted wholly within the Minto pluton, predominantly of granodiorite composition. Hood et al. (2008) distinguish three varieties of the intrusive rocks in the pluton:

- Megacrystic K-feldspar Granodiorite - gradually ranges in mineralogy to quartz diorite and rarely to quartz monzonite or granite, typically maintaining a massive igneous texture. An exception occurs locally where weakly to strongly foliated granodiorite is seen in distinct sub-parallel zones several metres to tens of metres thick.

- Quartzo-feldspathic Gneiss – composed of centimeter-thick compositional layering and folded by centimetre to decimetre-scale disharmonic, gentle to isoclinal folds (Hood et al., 2008).

- Biotite-rich Gneiss.

Minto geologists consider all units to be similar in origin and are variably deformed equivalents of the same intrusion; however, copper sulphide mineralization is found in the rocks that have a structurally imposed fabric, ranging from a weak foliation to strongly developed gneissic banding. For this reason all logging/mapping separates the foliated to gneissic textured granodiorite as a distinctly unit.

Other rock types, albeit volumetrically insignificant, include dykes of simple quartz-feldspar pegmatite, aplite; and an aphanitic textured intermediate composition rock. Bodies of all of these units are relatively thin and rarely exceed one metre core intersections.

2.1.1 Geologic Structure

Both ductile and brittle phases of deformation are found around the Minto deposits. As noted above, copper-sulphide mineralization is strongly associated with foliated granodiorite. This foliation is defined by the alignment of biotite in areas of weak to moderate strain and by the segregation of quartz and feldspar into bands in areas of higher strain, giving the rock a gneissic texture in very strongly deformed areas. The deformation zone forms sub-horizontal horizons within the more massive plutonic rocks of the region that can be traced laterally for more than 1,000 m. The horizons are often stacked in parallel to sub-parallel sequences.

Internally, the foliation exhibits highly variable orientations within individual horizons with the presence of small-scale folds. The foliation is often observed to be at a high angle to contacts with more massive textured rock units.

Late brittle fracturing and faulting is noted throughout the property. The boundary between Area 2 and Area 118 is an intermediate NE dipping fault with significant displacement of mineralization. The easiest zone to identify (based on mineralization and texture) is the “N” zone which has up to

66 m of vertical throw across the boundary fault. Other zones show changes in thickness and orientation, suggesting the presence of pure strain and block rotation.

2.2 Geotechnical Model

2.2.1 Rock Types

For the majority of the underground excavations completed at Minto, Granodiorite was the major intersected unit. As discussed in Section 1.1, mineralization typically occurs in foliated to gneissic variations of the host Granodiorite. Experience to date indicates the waste rock typically has slightly higher intact strength but more continuous fractures than ore, although both are variable and often influenced by fault zones.

2.2.2 Discontinuities

Extensive structural mapping has been carried out in the Area 2 pit, Minto North pit, Area 118 underground, and M-Zone underground, summarized in Table 1.

In general the sets results in conditions underground varying in waste rock from moderately blocky to very blocky and typically wedge-prone. Discontinuities in waste rock are typically very continuous, extending larger than the excavation size. In ore, the sets are less persistent and more widely spaced, resulting in only occasional blocky conditions. Few wedges have been observed in ore exposures to date.

Several faults have been observed in the underground development at various orientations. Most are relatively discrete structures with limited width and minor alteration of the wall rock; however, several have been intersected in the Area 118 underground that have several meters of weak, altered rock or are water-bearing indicating they are open and continuous. Fault orientations, summarized in Table 2, typically align with joint set J1.

Table 1: Major Joint Sets

Major Joint Set	Open Pit Mapped Orientation		Underground Mapped Orientation		Area Observed	Comments
	Average Dip	Average Dip Direction	Average Dip	Average Dip Direction		
J1	54	45	-	-	• Area 2 Pit • Area 118 Pit • Minto North Pit • **Area 118 UG**	Major fault orientation in Area 2 Pit ("320 Fault"). Fault orientation in Area 118 underground but not indicated as a major joint set.
J2	80	41	85	256	• Area 2 Pit • M-Zone UG • Area 118 Pit • **Area 118 UG**	Major set in Area 2 Pit. Major set in Area 118 underground with slightly different orientation.
J3	58	137	69	135	• Area 2 Pit • M-Zone UG • Area 118 Pit • **Area 118 UG** • Minto North Pit	Major set in all areas.
J4	78	163	74	163	• Area 2 Pit • M-Zone UG • **Area 118 UG**	Major set in most areas.
J5	40	322	-	-	• Area 2 Pit • Area 118 Pit • Minto North Pit	Minor set in open pits. Not observed underground.
J6	73	350	-	-	• Area 2 Pit • M-Zone UG	Moderate set in open pits. Observed underground as steeper dipping set in M-Zone underground.

Table 2: Major Structures

Structure Description	Average Dip	Average Dip Direction	Comments
Fault	66 (65-76)	35 (15-40)	Major fault intersected throughout Area 118 underground waste and ore development. Zone of up to several meters of altered, weak rock. Often water bearing.
Fault	64-74	40-50	Major fault zone in Area 2 Pit ("320 Fault) and regional fault orientation. Up to 5m zone of gouge, altered fractured rock.
Fault	60	160	Gouge filled fault in M-Zone underground.
Fault	59	292	Minor fault in Area 118 underground waste rock.

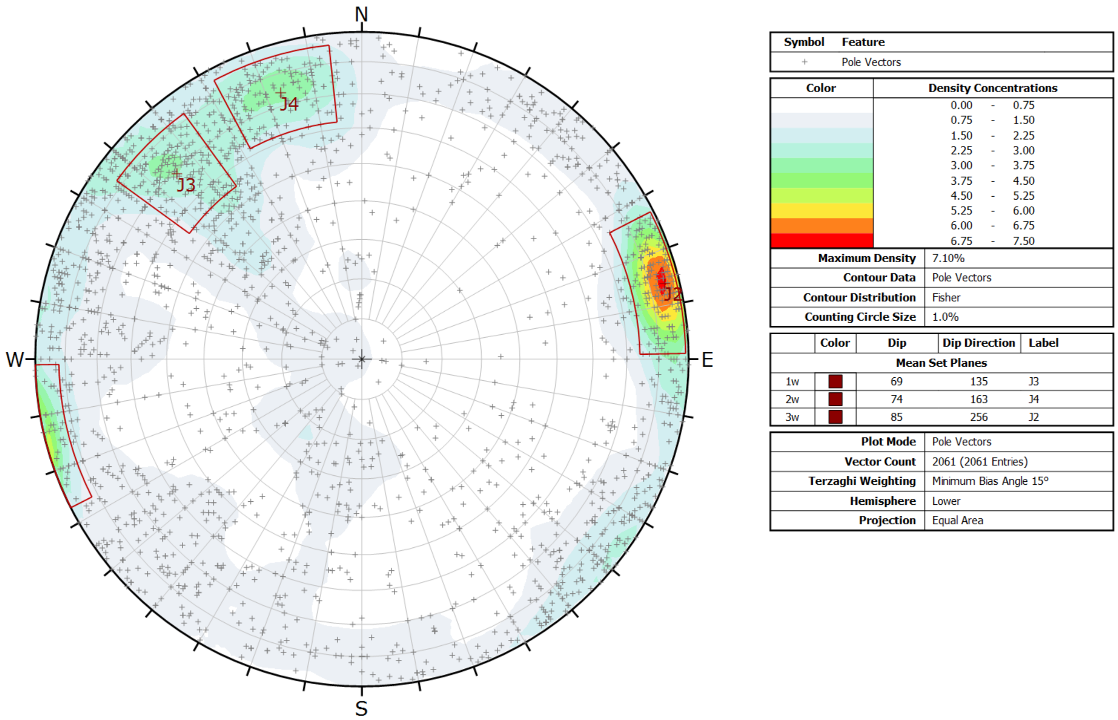


Figure 2-1: Area 118 Underground Mapping

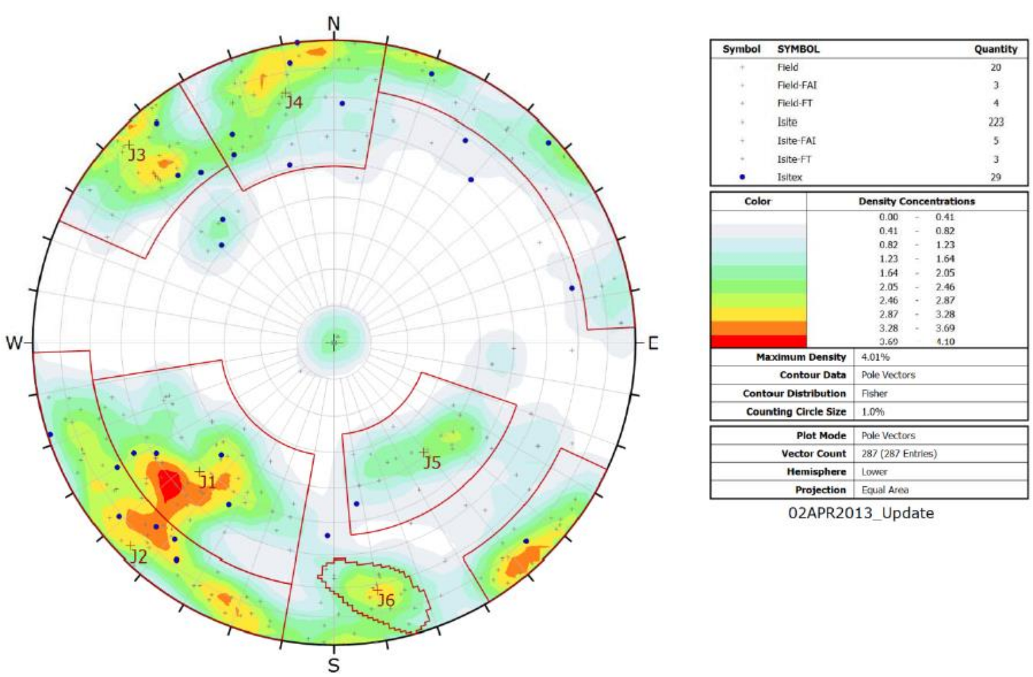


Figure 2-2: Area 2 Pit Mapping (SRK, 2013)

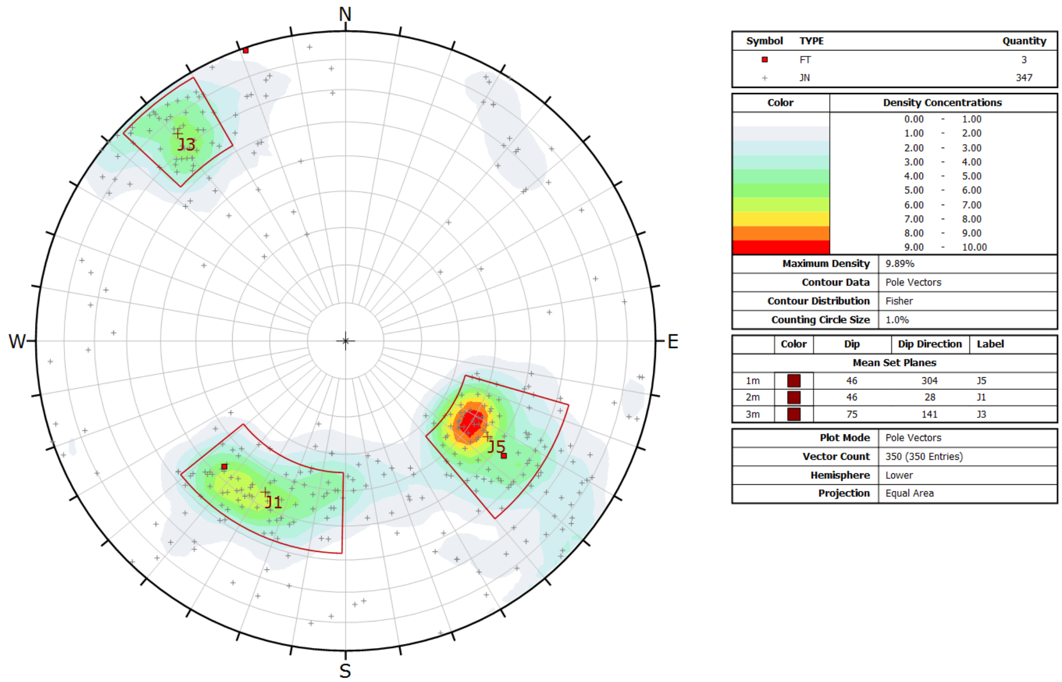


Figure 2-3: Minto North Pit Mapping

Direct shear testing on discontinuities was carried out in 2009 by SRK at the University of Arizona, summarized in Table 3.

Table 3: Direct Shear Strength Testing on Discontinuities

Area	Drillhole ID	Depth	Lithology	Friction Angle	Cohesion (kPa)
Area 2	C09-03	162.55	Foliated Granodiorite (fG)	33.7	10.0
Area 118	C09-01	49.87	Porphyroblastic Granodiorite (pG)	40.7	21.6
Area 118	C09-01	103.00	Porphyroblastic Granodiorite (pG)	35.0	20.5
Area 118	C09-01	212.15	Porphyroblastic Granodiorite (pG)	33.4	1.3
Area 118	C09-02	211.14	Porphyroblastic Granodiorite (pG)	32.9	5.7
			Average	35.1	11.8

2.2.3 Intact Rock Strength

Intact rock strength properties, summarized in the following tables, are based on the results on drilling and testing carried out in 2009 (SRK) and 2015 (Golder).

Table 4: Summary of Testing for Intact Strength Properties

Area	Lithology	Condition	UCS (MPa) (excluding invalid tests)				Young's Modulus (E) (GPa)	Poisson's Ration	Brazilian Tensile Strength (MPa)	Density (kN/m^3)
			tests	min	max	mean				
Area 2	Equigranular Granodiorite (eG)	Fresh	1	103	103	103	-	-	-	26.3
		Weathered	1	72	72	72	-	-	-	24.9
	Foliated Granodiorite (fG)	Fresh	1	104	104	104	47	0.23	7.6	26.5
	Porphyroblastic Granodiorite (pG)	Fresh	1	150	150	150	15	0.08	-	25.8
		Weathered	1	49	49	49	-	-	-	26.6
Area 118	Equigranular Granodiorite (eG)	Fresh	1	150	150	150	-	-	-	26.3
	Foliated Granodiorite (fG)	Fresh	8	86	165	125	67	0.30	-	26.6
	Porphyroblastic Granodiorite (pG)	Fresh	6	72	198	141	49	0.21	10.1	26.4
		Weathered	1	88	88	88	51	0.22	-	26.1

Table 5: Summary of Triaxial Testing

Area	Drill hole ID	Sample Depth (m)	Unit Weight (kN/m3)	Lithology	σ3 (MPa)	σ1 (MPa)
Area 2	07SWC201	28.9	25.6	Porphyroblastic Granodiorite (pG)	9.65	112.7
Area 2	07SWC201	180.00	26.6	Foliated Granodiorite (fG)	15.9	253.9
Area 2	07SWC196	126.40	26.2	Porphyroblastic Granodiorite (pG)	6.2	189.7
Area 2	07SWC196	210.30	26.3	Foliated Granodiorite (fG)	21.4	180.5
Area 118	09SWC424	59.88	26.4	Porphyroblastic Granodiorite (pG)	6.9	222.1
Area 118	09SWC424	153.30	26.2	Equigranular Granodiorite (eG)	17.2	276.8
Area 118	09SWC422	150.10	26.4	Porphyroblastic Granodiorite (pG)	10.3	213.8
Area 118	09SWC422	209.69	26.4	Porphyroblastic Granodiorite (pG)	13.8	294.1
Area 118	09SWC420	250.17	26.5	Equigranular Granodiorite (eG)	13.8	288.2

2.2.4 Rock Mass Properties

Rock mass properties, summarized in Table 6, are estimated from diamond drillhole data and geotechnical mapping. Mapping data appears to indicate higher rock quality than logging, and is considered more representative of conditions experienced underground to date.

Table 6: Rock mass parameter summary for underground mining areas

Area	Source	Type	Condition	Number of Samples	RMR			Q' Range		
					min	max	avg	min	max	avg
Area 2 Pit	Core Logging (SRK)	eG,pG,fG	Fresh	409 runs	29	82	60	-	-	-
			Weathered	162 runs	18	68	46	-	-	-
Area 2 (M-Zone)	Underground mapping	fG	Fresh	92 m	55	92	77	0.8	50.0	9.6
Area 118	Core Logging (SRK)	eG,pG,fG	Fresh	334 runs	22	81	58	-	-	-
			Weathered	59 runs	21	72	51	-	-	-
Area 118	Underground Mapping	fG	Fresh	147 m	59	89	79	1.4	150.0	17.7
		eG	Fresh	204 m	65	92	85	2.6	50.0	17.5

2.2.5 In-Situ Stress

No in-situ stress tests have been carried out on site. The magnitude and orientation of the assumed horizontal stresses are based on expected conditions in western North America, with the orientation of the maximum horizontal stress roughly perpendicular to the axis of the trend of the Dawson Range. The following assumptions have been used in geotechnical analyses (Golder, 2015):

- Vertical stress = depth * gravity * rock density (assumed to be average 2650 kg/m3)
- Maximum horizontal stress = 1.75 * vertical stress, oriented NE/SW
- Minimum horizontal stress = 1.5 * vertical stress, oriented NW/SE

2.3 Hydrogeology

Based on underground development in Area 118 to date (down to elevation 690 m), groundwater flow rates have been observed to be moderate with no grouting or major dewatering completed. Seeps and inflows (up to approximately 20 GPM) have been encountered in the main ramp, 740 level access, and along the western plunge contact in Area 118. The main inflows have been encountered in fault/fractured zones and near the footwall of the orebodies.

Several ungrouted diamond drill holes have been encountered in Area 118 which have produced inflows, typically draining and then drying up quickly from the back but flowing continuously from the floor at up to 20 GPM.

Based on experience in the underground and open pits to date, inflows into the remaining planned underground are expected to be manageable with the designed sump and pumping system.

Table 7 presents the rock mass permeability measurements completed by Golder (1974).

Table 7: Rock mass permeability values (Hatch, 2006 after Golder, 1974)

Lithology	Range (cm/sec)		Design Values (cm/s)
	Lower	Upper	
Highly weathered—near surface	9.0x10^6	1.5x10^4	5.0x10^6
Highly weathered—fault associated	5.3x10^6	7.0x10^6	6.0x10^6
Moderately weathered	4.7x10^6	8.4x10^6 (1)	6.0x10^6
Fresh rock	1.5x10^6	8.3x10^6 (1)	3.5x10^6

Note 1: Excludes results from shattered zones

3 Design Criteria

3.1 Design References

Underground design parameters for Area 118 were developed based on analyses and inspections outlined in the following documents:

- Area 118 Plunge Mining Stability Assessment Summary (Golder, 2015)
- Longhole Open Stope Stability Addendum – Revised Mining Heights (Golder, 2015)
- Ground Control Management Plan Review (Golder, 2015)
- Minto Mine Underground Reserve Update Geotechnical Input (Golder, 2015)
- Geotechnical Characterization of Existing and Proposed Longhole Open Stope Mining Areas (Golder, 2015)
- Minto 118-Zone – 3DEC/DFN Analysis (Itasca, 2014)
- Minto 118-Zone – FLAC3D Analysis of the Longhole Base Case Option (Itasca, 2014)
- Structural Stability Analyses at Minto Mine (Itasca, 2014)
- Itasca Site Visit of April 2014 at Minto Mine (Itasca, 2014)
- Kinematic Analysis-Underground Excavations (Internal, 2014)
- Itasca Site Visit of October 2013 at Minto Mine (Itasca, 2013)
- Itasca June 2013 Site Visit at Minto Mine (Itasca, 2013)
- Report on the Itasca Site Visit of 26-28 February 2013 at Minto Mine (Itasca, 2013)
- Report on the Itasca Site Visit of 16-19 October 2012 at Minto Mine (Itasca, 2012)
- Minto Phase VI Underground Geotech Evaluation –Draft (SRK, 2012)
- Prefeasibility Geotechnical Evaluation, Phase IV (SRK, 2009)

3.2 Underground Mining Methods

Underground mining methods, described in the following sections, were selected based on orebody geometries, grades and geotechnical conditions. All underground mining is currently being carried out by a mining contractor, Dumas.

The Area 118 ore body is mined using a longhole stope and pillar method (no backfill), identical to what was previously used successfully at Minto in the M-Zone. Stoping is carried out on three levels: 740 (now completed), 710, and 690 m (elevations). All stopes are mined on retreat and non-entry, with mucking by remote from the undercut drifts.

Area 118 geometry is summarized in Table 8 and planned excavation sizes are summarized in Table 9.

Table 8: Summary of Area 118 Geometry

Dimension	Minimum	Maximum	Average
Dip (degrees)	18	45	25
Elevation (m)	680	755	-
Depth (m)	150	200	-
Length along strike (m)	25	235	145
Thickness (m)	5	35	22

Table 9: Summary of Area 118 Excavation Dimensions

Excavation	Dimensions	Comment
Waste development headings	5.0m W x 5.0m H	Includes decline, level access, remucks
Ore development headings	6.0m W x 4.5 m H	-
Pillars	5.0m W x 5-35m H	-
Stopes	10.0m W x 5-35m H	-
Ventilation Raise/Escapeway	3.0m x 5.0m	70° dip

Typical stope configuration is shown in Figure 3-1, with the development drift and vertical holes along one wall and fanned holes to the other wall.

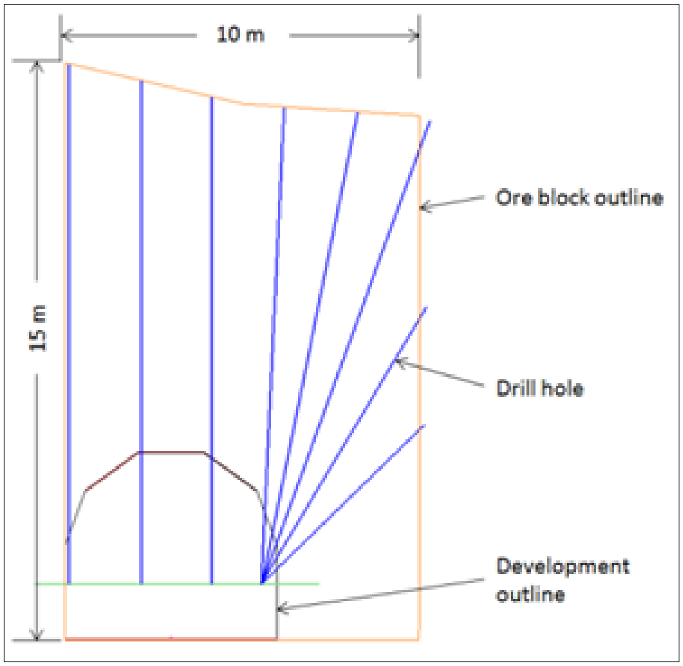


Figure 3-1: Typical Stope Configuration

Final, as-built development for Area 118 and stoping completed as of December, 2015 are shown in Figures 3-2 and 3-3.

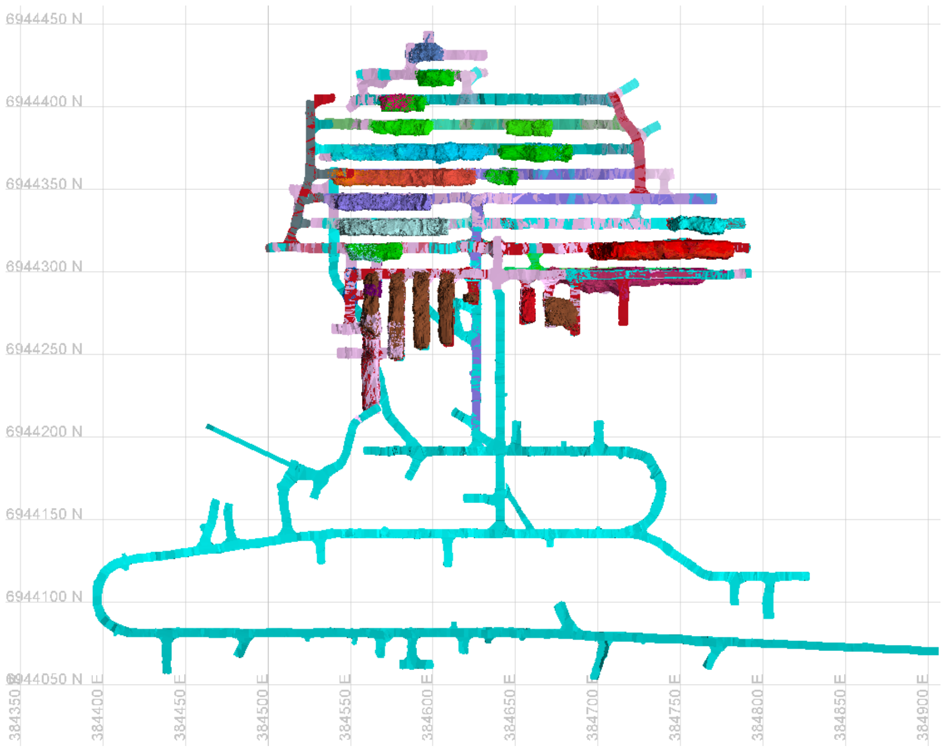


Figure 3-2: Area 118 Underground As-Built (Dec. 2015) Plan View

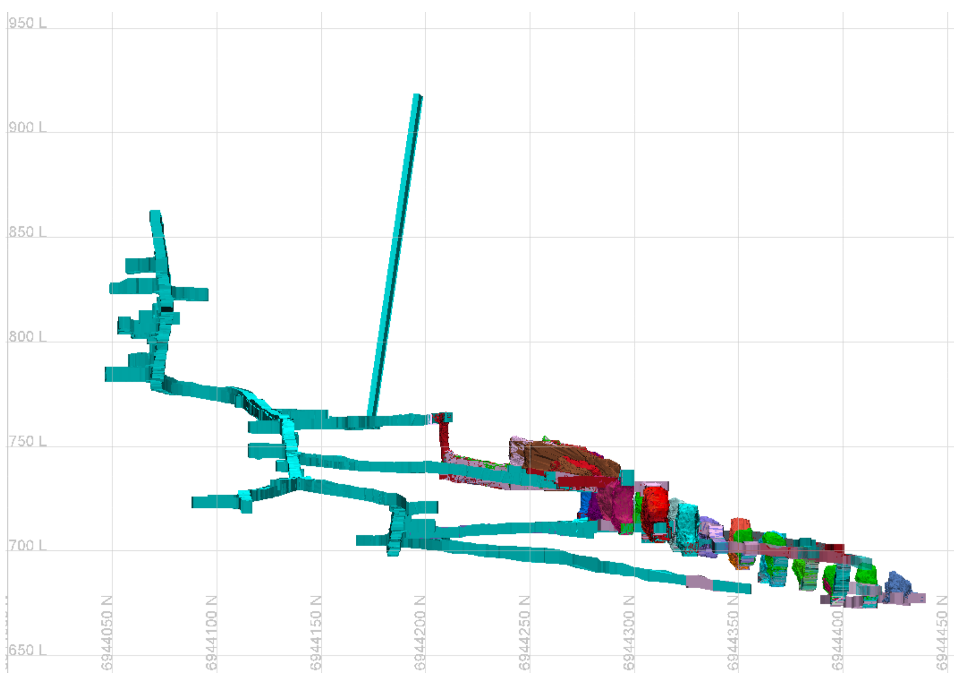


Figure 3-3: Area 118 Underground As-Built (Dec. 2015) Looking West

3.3 Ground Support Design

Ground support design was carried out using a combination of empirical and kinematic analyses, and experience to date at the Minto site.

3.3.1 Ground Support Elements

Details and specifications of ground support elements used in standard support patterns at Minto are listed below in Table 10.

Table 10: Ground Support Elements

Support Element	Description	Minimum Breaking (tensile) Strength	Comment
Bolts	#6 (20mm) (3/4") threaded rebar bolt w/ full column resin	13 tonnes	-
	#6 (20mm) (3/4") forged head rebar bolt w/ full column resin	18 tonnes	Used for raise development.
	Super Swellex (36 mm)	24 tonnes	-
	Standard Swellex (27 mm)	12 tonnes	Used for face bolting.
Plates	Domed - 15 x 15 cm (6" x 6"), 6 mm (1/4")	-	-
Resin	30mm x 610mm cartridge 30 second (fast) 180 second (slow)	-	-
Mesh	6 gauge welded wire mesh	~ 2-3 tonnes bag strength	Galvanized for permanent excavations. Bright for short-term excavations.
Straps	0 gauge welded wire mesh straps	-	Used for stope brow support.

3.3.2 Ground Support Standards

Support standards for development and production headings have been developed for two types of ground, as summarized in Table 11 below. Detailed ground support drawings are provided in Appendix A. Ground support for ventilation and escapeway raises is developed on a case by case basis and issued by the Geotechnical Engineer.

The ground support types outlined below are minimum standards - supervisors and workers installing the ground support should assess the conditions and place additional ground support over and above the stated minimums if conditions warrant.

Table 11: Minimum Ground Support for Development and Production Headings

Type		Span (m)	Primary Support (minimum)	Comment
1	**Development Drifts (typical ground conditions)** Figure A.1	5.0	2.4 m (8 ft.) rebar in back around perimeter of mesh sheets 1.8 m (6 ft.) rebar in back and walls to pin mesh at center 1.8 m (6 ft.) rebar in walls to 1.5 m above floor 1.5 x 1.5 m bolt spacing diamond pattern Galvanized welded wire mesh to 1.5 m above floor	Life of mine infrastructure in typical ground conditions.
2	**Production Drifts (typical ground conditions)** Figure A.2	6.0	2.4 m (8 ft.) rebar in back around perimeter of mesh sheets 1.8 m (6 ft.) rebar in back and walls to pin mesh at center 1.8 m (6 ft.) rebar in walls to 1.5 m above floor 1.5 x 1.5 m bolt spacing diamond pattern Bright welded wire mesh to 1.5 m above floor	Non-permanent development (e.g. stope undercut drifts) in typical ground conditions.
3	**Poor ground – fault zones** Figure A.3	≤6.0	2.4 m (8 ft.) rebar in back around perimeter of mesh sheets 3.6 m (12 ft.) Super Swellex to pin mesh at center 1.8 m (6 ft.) rebar in walls to 1.5 m above floor 1.5 x 1.5 m bolt spacing diamond pattern Bright/Galvanized welded wire mesh to 1.5 m above floor	Poor ground, typical in fault zones.
Intersection Secondary Support				
1,2,3	**Intersections** Figures A.1-A.3	≤9.5	To be installed in addition to primary support pattern outlined above: 3.6 m (12 ft.) Super Swellex in back and shoulders 1.8 x 1.8 m bolt spacing - Installed at least two rows past the intersection in each direction.	Intersection support to be installed prior to taking wall slash, as per MIN-OP-SWP-005 Underground Intersection Development and Ground Support

Intersections are preferentially located in areas of good ground conditions. If an intersection must be developed in an area of poor ground, a specific ground support design will be completed by the Geotechnical Engineer and issued as a Ground Control Directive.

Longhole stopes are pre-supported at the stope brows with secondary support in addition to the standard development support. Two types of brow support are outlined in Table 12. The Geotechnical Engineer will specify which support type to install for each brow; however, supervisors and workers installing the ground support should assess the conditions and place additional ground support over and above the stated minimums if conditions warrant.

Table 12: Minimum Ground Support Standards for Open Stope Brow Pre-Support

Type		**Drift Span (m)**	**Brow Pre-Support (minimum)**	**Comment**
A	**Open Stope Brow in Normal Conditions** Figure A.4	≤6.0	3.6 m (12 ft.) Super Swellex - 1 row at 1.8 m spacing 0-gauge welded wire mesh straps	Used in normal ground conditions.
B	**Open Stope Brow in Fractured/Fault Zone** Figure A.5	≤6.0	3.6 m (12 ft.) Super Swellex - 2 rows at 1.8 m spacing 0-gauge welded wire mesh straps on the brow row only	Used where continuous fractures, faults or highly fractured ground is encountered at the planned stope brow.

Part Two: Implementation

4 Ground Support Installation

All operators must be trained, qualified and authorized to use the ground support installation equipment. Ground support is installed according to the following procedures:

- Installing Tensioned Rebar (Dumas, 2011)
- SOP 0017 – Installation Swellex (Dumas, 2013)
- SOP 0007 – Screening with Mechanized Rock Bolter (Dumas, 2013)
- SWP - Underground Intersection Development and Ground Support Installation (Minto, 2013)

Ground support installation specifications are summarized in Table 13.

Table 13: Ground Support Installation Specifications

Support Element	Hole Diameter	Inflation Pressure	Comment
#6 (20mm) (3/4") threaded rebar	26 – 33 mm	-	Hole length 10cm (4") shorter than bolt length. Rebar are installed with torque tension (TT) shear pin nut to allow resin mixing and torqueing in the same direction. 6 ft. long rebar - 2 fast resin and 2 slow resin. 8 ft. long rebar - 2 fast resin and 3 slow resin.
Standard Swellex	32 – 38 mm	4350 psi (300 bar)	-
Super Swellex	43 – 52 mm	4350 psi (300 bar)	-
Welded wire mesh	-	-	Screen overlapped by 3 squares, with bolt placed in second square from the edge.

5 Scaling

Scaling will only be undertaken by individuals that have undertaken hazard recognition training and who have been trained and certified in scaling procedures.

Scaling is to be carried out in accordance with the following procedure:

- SOP 0004 - Scaling (Dumas, 2013)

Appropriate length scaling bars are available on specified machines and located where required.

5.1 Check Scaling Program

A formal check-scaling program is conducted to ensure all accessible areas underground are check scaled at least annually for all major travel ways.

Where it is found that an area contains considerable amounts of loose, the Geotechnical Engineer or designate is to inspect the area and ascertain if more frequent check scaling or rehabilitation is required.

6 Rehabilitation

Areas requiring rehabilitation are identified during regular inspections by the Mine Technical team, and by the workforce/supervisors who record the information in the Ground Control Logbook. A rehabilitation list is maintained by the Geotechnical Engineer and stored in the following location: X:\Mine Technical\33 - Ground Control Program\1 Underground - Ground Control Program\4 Groundfalls and Rehabilitation\Rehabilitation. The list is provided to Dumas supervision as part of weekly planning meetings.

7 Risk Assessment and Management

7.1 Hazard Recognition Training Program

Hazard recognition training is to be conducted on an annual basis for every person working underground at Minto. This training is mandatory and applies to new employees as a condition of employment. Specific training modules for scaling and ground support are presented at these sessions.

7.2 Hazard Recognition Responsibilities

The following sections are quoted directly from the Yukon Regulations Occupational Health and Safety Act (in effect from November 1, 2006).

Notice of hazards 15.12

> (1) Where there is a non-continuous shift operation at a mine or project, the on-coming shift shall be warned of any abnormal condition affecting the safety of workers.
>
> (2) The warning referenced in subsection (1) shall consist of a written record in a log book under the signature of the person in charge of the off-going shift and be read and countersigned by the person in charge of the on-coming shift before the workers are permitted to assume operations in the area indicated in the record.
>
> (3) The log book referred to in subsection (2) shall be available on request to a joint health and safety committee representative, if any, and to a safety officer.

Underground Support 15.48

> (1) Every adit, tunnel, stope, or other underground opening, where a worker may be exposed to the danger of rock fall or rock burst while working or passing through, shall be supported by wooden or steel support structures, casing, lining, rock-bolts or combination of any of these to make the openings secure and safe.

Potential rock burst

> (2) Where ground condition indicates that a rock burst or uncontrolled fall of ground may occur, the condition and the corrective action taken shall be recorded in writing in the daily log book and signed by the shift supervisor.

Work areas examined

> (3) A competent person shall examine all working sections of an underground mine or project at least once during each shift.

Non-work areas examined

(4) Non-working sections of an underground mine or project that are not barricaded or to which access is not prevented shall be examined at least once a month.

Scaling tools

(5) An adequate quantity of properly dressed scaling bars, gads, and other equipment necessary for scaling shall be provided in working sections.

7.3 Ground Control Communication

Communication of ground control issues and concerns among technical, operational and management staff, and between shifts takes place at several levels and includes:

- Shift boss log book;
- Ground control log book;
- Face to face meeting of the shift supervisors between shifts;
- Verbal communication by the crews at shift change;
- Daily production meetings, and weekly planning meetings, attended by the Underground Superintendent and Minto engineering and management staff; and,
- Ground control directives issued by the Geotechnical Engineer.

7.3.1 Review of Design Guidelines

Mine plans, including week plans, are reviewed by the Geotechnical Engineer (or designate) to assess expected geotechnical conditions and ground control aspects in the planned excavations, considering the geotechnical data and inspections/mapping carried out. Driving layouts of planned excavations with prescribed ground support are signed off on by the Geotechnical Engineer (or designate) prior to mining of the heading. Where significant geotechnical conditions are expected, e.g. fault zones, contacts, water-bearing zones, they are shown on the driving layouts.

7.3.2 Unusual Ground Conditions

The intent of the current Ground Control Standards as outlined in this document are that all potential ground conditions are addressed. In the event that conditions beyond those covered in the current version of the Ground Control Standards are encountered by an operator or anyone doing a routine inspection, the area shall be roped off immediately and brought to the attention of the Shift Supervisor. The Shift Supervisor shall notify the Geotechnical Engineer who will inspect the area and develop a path forward. The condition shall be noted in the Ground Control Log Book.

7.4 Incident Response and Emergency Preparedness

The Minto Mine Emergency Response Plan documents the incident response and emergency preparedness procedure. This plan is updated annually by the Minto Health and Safety Department and is stored at the following location: X:\Health & Safety\Safety Public\ERP.

7.4.1 Falls of Ground

All rock fall incidents are documented in the Ground Control Log Book. Reportable rock falls are considered unexpected falls greater than 50 tonnes within a man-entry excavation and are fully investigated, reported to Yukon Workers' Compensation Health and Safety Board (YWCHSB) and archived as per Minto incident response procedures.

Details of all reported falls of ground will be recorded electronically in a rock fall database, stored at the following location: X:\Mine Technical\33 - Ground Control Program\1 Underground - Ground Control Program\4 Groundfalls and Rehabilitation\Ground Falls. The following items are recorded:

- General information: location, date and time, injuries, damage
- Location: depth below surface, excavation type, distance from active face
- Excavation details: age of excavation, dimensions, excavation shape
- Geotechnical conditions: rock quality, structure, water inflows
- Ground support details: implemented support standard, rehabilitation, surface support
- Failure details: dimensions, failure mechanism, types of ground support failure
- Potential contributing factors: ground support, blasting, stress, ground condition, human factor
- Personnel exposure: time of occurrence, activity in area
- Possible preventative actions.

To date, no unexpected falls of ground have occurred in Minto underground development.

8 Workforce Training

Underground mining is currently being carried out by the mining contractor Dumas. As such, workforce training consists of a combination of Minto and Dumas safety training and Safe Work Procedures (SWPs).

8.1.1 Safe Work Procedures (SWP)

It is a requirement that employees and contractors be trained in the use of relevant safe work procedures (SWPs) that apply to their work environment. All SWPs required for the work are reviewed and signed off by the employees upon induction to the Minto mine site. SWPs are linked to and used in competency-based training programs. Employees are assessed in the workplace periodically on their understanding and compliance with SWPs through the use of Planned Job Observations (PJO's) performed by the supervisor. These are performed a minimum of once per week by Dumas.

All SWPs relevant to the work must be reviewed annually at a minimum by all employees.

8.1.2 Training of Workforce

Training is presented to the general underground workforce by the Underground Safety/Training Coordinator. This training is site specific and will include identification of ground types, structural features such as wedges and blocks, recognition of loose, scaling, minimum support standards and reporting unusual conditions.

8.1.3 Training of Supervision

Training is presented to underground supervisors by the Geotechnical Engineer or designate. This training is site specific and covers all areas pertinent from a supervisory point of view such as: selection of support types, dealing with unusual ground conditions and supervisory reporting requirements in addition to the general training to be provided to the mining workforce.

Part Three: Monitoring and Verification

9 General Practices and Procedures

9.1 Ground Inspections

All underground workers will inspect the ground conditions each time the workplace is entered as per the Minto 5 point safety card system. Unusual conditions such as falls of ground, excessive loose, adverse structures, signs of high stress, or ground support damage should be noted and reported to the supervisor.

Routine ground inspections will be conducted by the Geotechnical Engineer and Chief Engineer to assess the stability of mine openings, ground support performance and the quality of ground support installation.

9.2 Ground Control Log Book

The Ground Control Log Book is maintained as a live record of ground control related issues such as unusual conditions, falls of ground, incidents or accidents, remedial measures, etc. to ensure the transfer of information between shifts and Engineering/Technical staff. The Ground Control Log Book is to be updated and signed by both the finishing and oncoming shifter at each shift change and reviewed regularly by the Geotechnical Engineer.

9.3 Geotechnical Mapping

Geotechnical mapping for rock quality and rock structure is carried out to verify rock mass characterization assumptions (summarized in Section 2) used in the geotechnical design. This data is reviewed regularly to identify significant geotechnical features and is summarized and analyzed annually as part of the Ground Control Plan update.

9.4 Excavation Surveys

Regular surveys of all workings are carried out and transferred to as-built drawings. This provides an estimate of overbreak which may indicate poor ground conditions or poor drilling/blasting practices.

Cavity monitor surveys (CMS) are performed on all open stopes. Subsequent stopes are adjusted to achieve the designed pillar sizes.

9.5 Instrumentation

No instrumentation is currently installed in the Area 118 underground. Multi-point borehole extensometers (MPBX) and blast vibration monitors were used in the M-Zone underground and are available to be used where required.

10 Quality Assurance/Quality Control

10.1 Ground Support Testing

Testing of ground support elements is carried out when development is taking place according to Table 14. Only suitably trained personnel, typically the Geotechnical Engineer or designate who has been trained and signed off on the SWP, may carry out ground support testing.

Table 14: Ground support testing frequency and specifications

Element	Ultimate Strength (tonnes)	Yield Strength (tonnes)	Average Bond Strength (based on testing to date) (tonnes/m)	Testing Method	Number of bolts to be tested per month (during development)	Test Load (tonnes)
20mm threaded rebar w/ resin	13	9	42	Pull test—full column	3	9
				Pull test—short encapsulation	3	Until bolt slippage
Super Swellex	24	-	31	Pull test—full inflation	2	21
				Pull test—partial inflation	2	Until bolt slippage

10.1.1 Test Bolt Installation

Bolts for pull-testing are installed by the bolter according to the following guidelines:

- Installed and marked specifically for testing purposes and are not part of the regular ground support pattern.
- Installed in the lower wall to allow pull testing to be carried out from the floor.
- Installation locations are painted by the Geotechnical Engineer and preferentially located in safety bays or cut-outs to allow testing to be carried out safely away from equipment traffic.
- Installed in both ore and waste, and in varying rock type/quality.
- For bond strength tests (short encapsulation/inflation), the following specifications should be used:
  - Rebar – resin encapsulation length must be less than approximately 30 cm, installed at the toe of the hole. This requires only ½ stick of fast resin to be installed. The remainder of the hole is filled with sticks of inert test resin.

- Super Swellex – inflation length must be less than approximately 1m, inflated at the toe of the hole. The remaining length at the collar of the hole is sleeved to prevent inflation.

10.1.2 **Pull Test Procedure**

Pull tests are conducted according to the SWP ENG-SWP-010 Rock Bolt Pull Testing. If tests fail to meet the set criteria, further tests will be conducted to verify that the problem is not widespread. If the problem is widespread, the area will be shut down and an investigation will be carried out by Minto Mine Technical to ascertain the cause of the failures and develop rehabilitation/corrective actions.

10.1.3 **Documentation**

Records of all tests are documented in a master Excel spreadsheet: X:\Mine Technical\33 - Ground Control Program\1 Underground - Ground Control Program\7 Underground Monitoring, Geologic Mapping, Reporting\11.2 Underground Monitoring\Pull Testing. Information recorded includes bolt type, location, age, rock type, test result and description. A memorandum is issued monthly communicating test results and pertinent information to Minto Mine Technical and underground operations staff.

10.2 Ground Support Quality Assurance / Quality Control

10.2.1 Materials Management

Regular checks are required to ensure that all ground support materials are of a suitable standard and quality, fit for intended purpose, and are stored in accordance with manufacturers' recommendations.

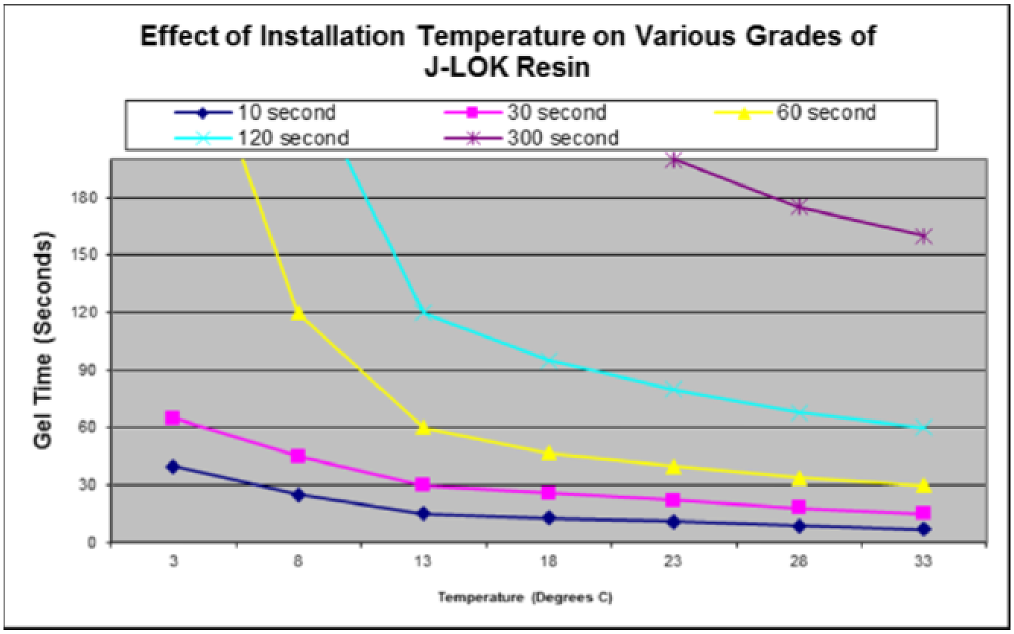
<u>Resin Storage and Handling</u>

The most sensitive ground support element is resin, which should be stored and handled with the following guidelines:

- Resin should be stored in a cool and dry location, avoiding direct sunlight and rain. Excessive heat reduces the shelf life of the resin.

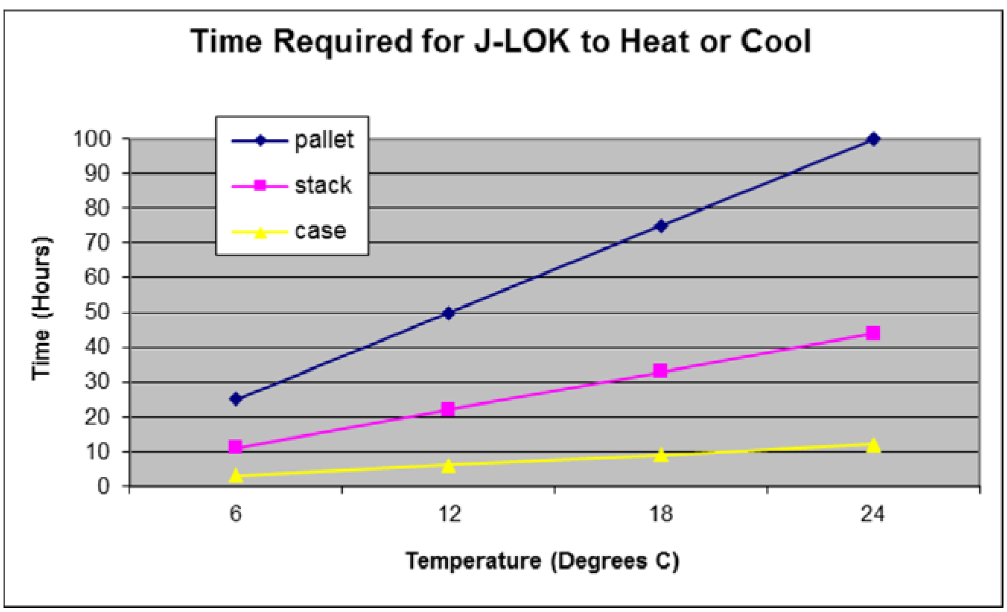
- Stock must be rotated. The resin that is first in should be first out. Out-dated resin should not be used. Resin typically has a one year shelf life, but 1-2 month inventories are the best way to manage resin.

- Resin performance is highly sensitive to installation temperature.



- Underground, resin boxes should be laid flat, not stood on end. The resin should be moved from storage directly to the machine.

- Frozen cartridges must be thawed before being used. Freezing and thawing does not affect the performance of the resin. Resin boxes should not be left on top of hot locations for extended periods.



- Wear gloves and glasses when working with resin products. Upon contact with skin, wash exposed area immediately. If there is contact with the eyes, flush thoroughly and seek immediate medical counsel and treatment.

10.2.2 Task Observation

Task observations will be carried out by the Mine Technical group on ground support installation on a regular basis (minimum one per month). When warranted, findings will be communicated through Ground Control Directives and/or the Ground Control Log Book. Typical verification checks may include:

- Confirm screen overlap is sufficient.
- Visual check of adherence to bolting pattern as per ground support standard.
- Check that adequate scaling is carried out prior to ground support installation.
- Check that bit size is within recommended size range.
- Check of Swellex pump pressures.
- Check that correct resin cartridges are being used (fast vs slow).
- Observe resin spin time and delay time prior to tensioning.
- Check of rebar tensioning torque.

11 Review of the Ground Control Plan

11.1 Review and Updates

The Chief Engineer will ensure a review of the Ground Control Plan at the following milestones/occurrences:

- Immediately following a ground control related injury to any employee/contractor/visitor;
- Immediately following a ground control related near miss incident;
- As soon as possible following any significant change in mine design, ground conditions or excavation stability; and,
- Annually.

The Chief Engineer will ensure that the review/update is carried out by a suitably qualified person.

Following a review of the Ground Control Plan, the Chief Engineer (or designate) will ensure the review outcomes are communicated to the workforce and the Ground Control documentation is updated in a timely manner.

11.2 Random Audits

Random audits of ground control are conducted by the Geotechnical Engineer, or nominee to monitor compliance with the requirements of the Ground Support Standards and Safe Work Procedures.

11.3 External Audits

An independent audit of the Ground Control Plan is required at least every two years. Initially this independent review is to include an external consultant, but later could be an internal consultant accompanied by an appropriate person that is familiar with the use of the GCP.

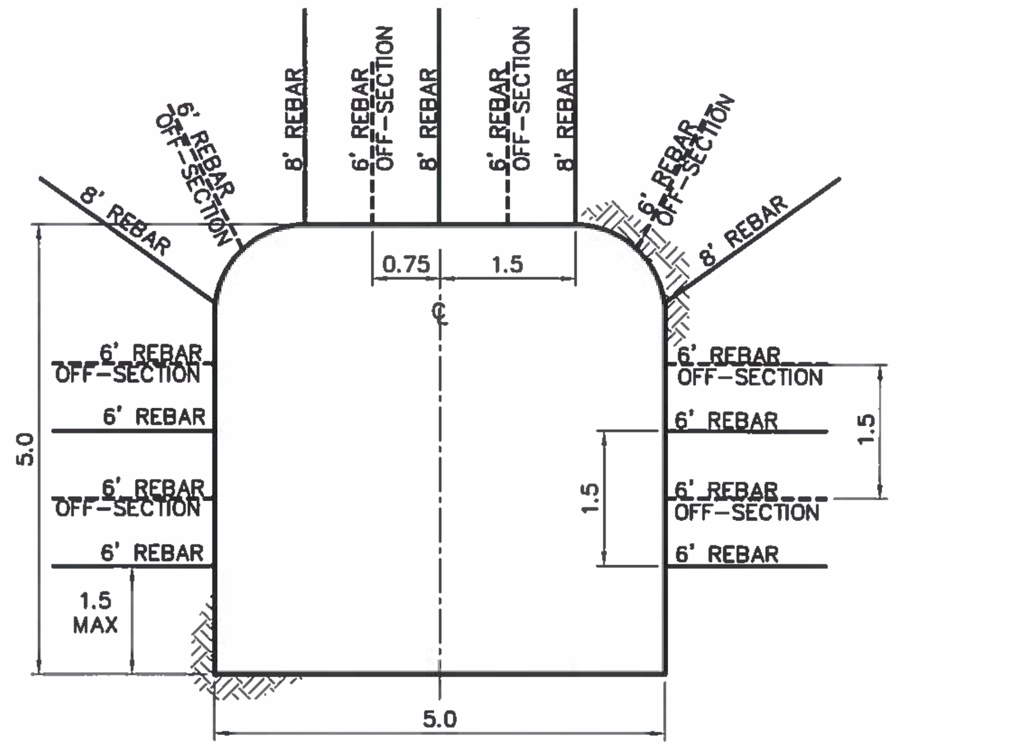
11.4 Conformance to Regulatory Requirements

The Geotechnical Engineer is to ensure that any new legislation or developments that affect best practice in ground control are taken into account and where relevant, incorporated into the revised GCP. Mining legislation requires emphasis on keeping track of new developments and design tools. This will involve liaison with internal and external consultants.

Appendix A

Ground Support Drawings

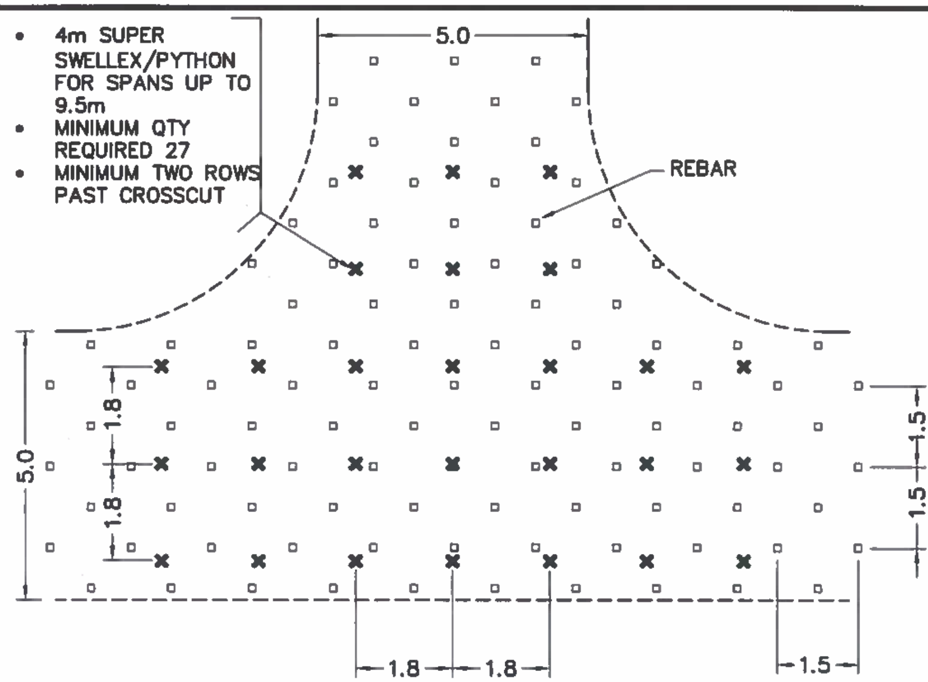
GROUND SUPPORT TYPE 1



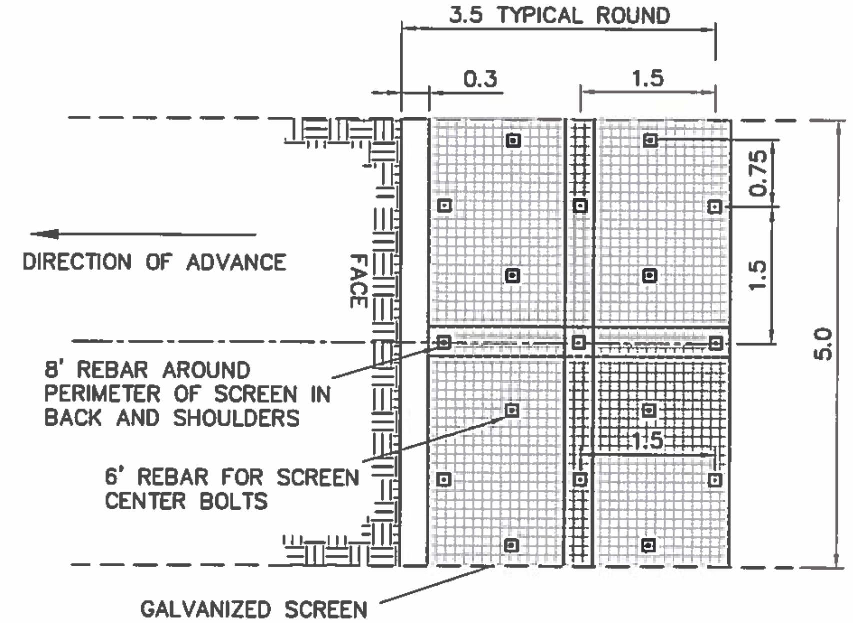
(EXCAVATIONS WITH 5m SPANS)
- 8' REBAR IN BACK FOR SCREEN PERIMETER BOLTS
- 6' REBAR IN BACK FOR SCREEN CENTER BOLTS
- GALVANIZED SCREEN BACK AND WALLS
- LAST ROW 6' REBAR MAXIMUM 1.5m FROM BASE OF RAIL
- 3 SQUARE OVERLAP OF SCREEN. BOLT IN SECOND SQUARE FROM EDGE.

5mX5m TYPICAL DEVELOPMENT OPENING

- 4m SUPER SWELLEX/PYTHON FOR SPANS UP TO 9.5m
- MINIMUM QTY REQUIRED 27
- MINIMUM TWO ROWS PAST CROSSCUT



5mX5m TYPICAL DEVELOPMENT INTERSECTION

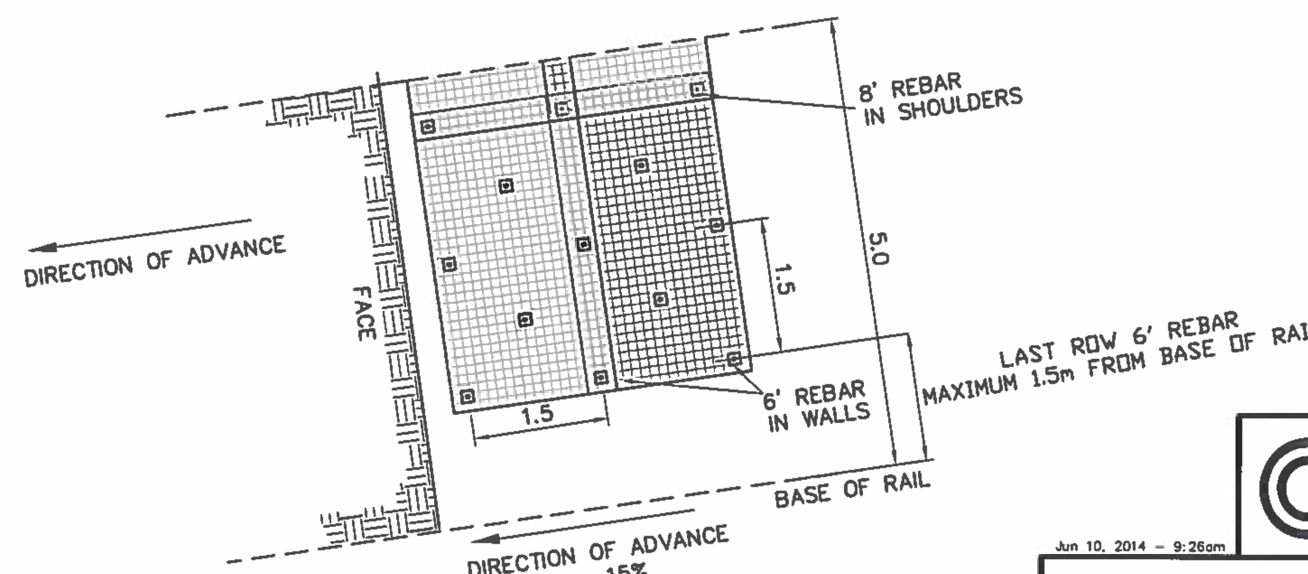


TYPICAL DRIFT – PLAN VIEW

QUANTITIES

TOTAL PER 3.5M ROUND
(8) 6' X 11' WELDED WIRE MESH
(15) 8' 20mm REBAR
(28) 6' 20mm REBAR

NOTE:
- REPORT ABNORMAL CONDTIONS
- MINIMUM STANDARD



TYPICAL DRIFT – SECTION ALONG WALL

0 1 2 METRES

CAPSTONE MINING CORP. MINTO MINE

Jun 10, 2014 – 9:26am

GROUND SUPPORT TYPE 1 PERMANENT DEVELOPMENT

PROJ. NO.	
SCALE: AS NOTED	
DESIGNED: KC	
DRAWN: KC	
CHECKED:	
APPROVED:	

UNDERGROUND
GROUND SUPPORT
STANDARDS – PERMANENT DEVELOPMENT
PLAN & SECTIONS

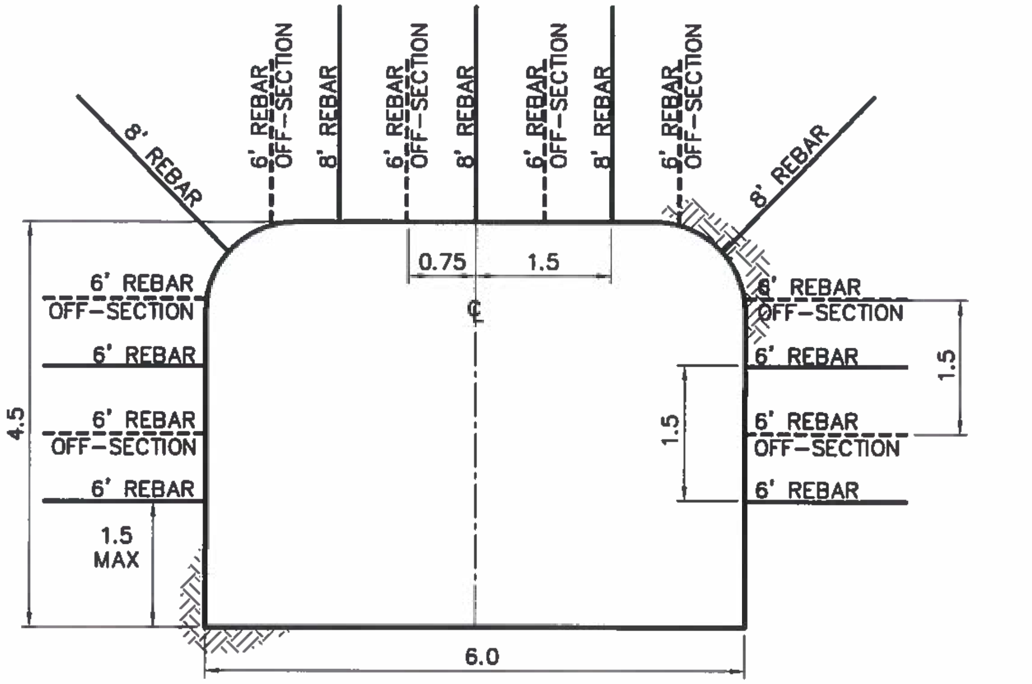
SIZE	DRAWING NUMBER	REV
D	MINTO-001RMP-GRD-TYPE1	0

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR CONSTRUCTION		KC

REVISIONS

Signatures: MINTO PROJECT MANAGER – June 9/14; MINTO PROJECT MANAGER – Jun 11, 2014; MINTO MINE SUPT – Jun 10/2014; GROUND CONTROL ENGINEER – 10-6-14; MINTO GEOLOGIST – June 10 2014

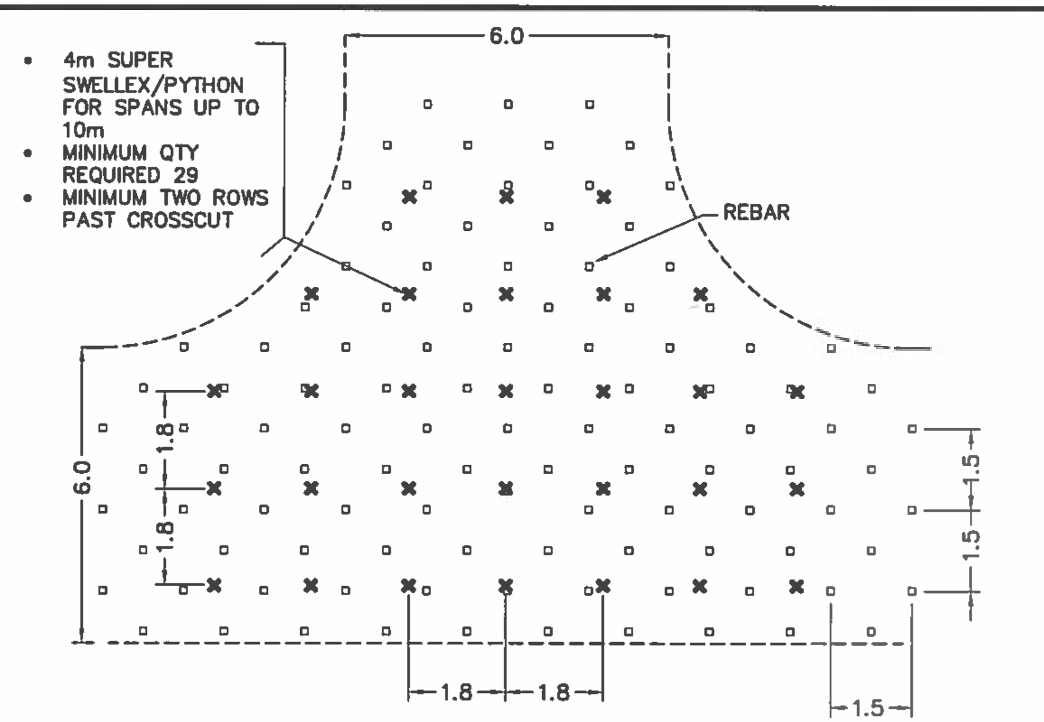
GROUND SUPPORT TYPE 2



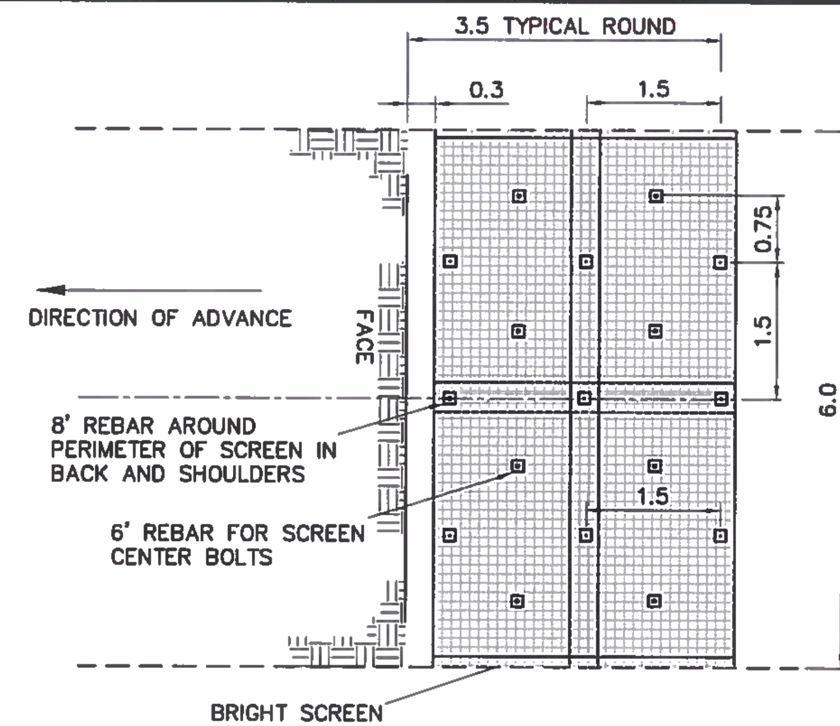
(EXCAVATIONS UP TO 6m SPANS)
- 8' REBAR IN BACK FOR SCREEN PERIMETER BOLTS
- 6' REBAR IN BACK FOR SCREEN CENTER BOLTS
- BRIGHT SCREEN BACK AND WALLS
- LAST ROW 6' REBAR MAXIMUM 1.5m FROM BASE OF RAIL
- 3 SQUARE OVERLAP OF SCREEN. BOLT IN SECOND SQUARE FROM EDGE.

6mX4.5m TYPICAL OPENING

- 4m SUPER SWELLEX/PYTHON FOR SPANS UP TO 10m
- MINIMUM QTY REQUIRED 29
- MINIMUM TWO ROWS PAST CROSSCUT



6mX6m TYPICAL INTERSECTION

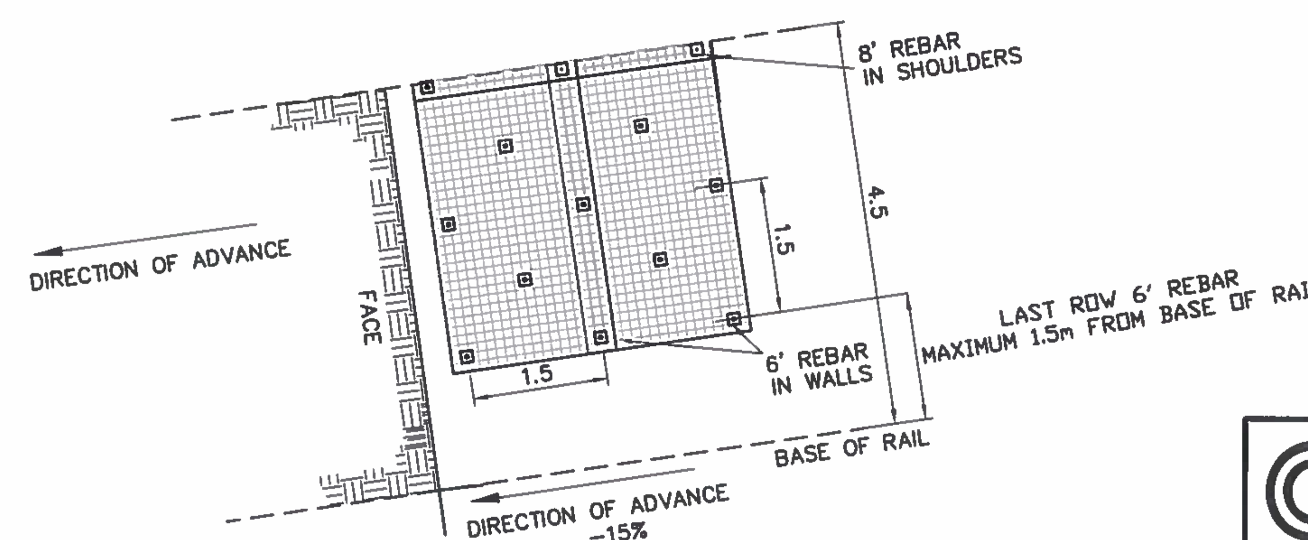


TYPICAL DRIFT – PLAN VIEW

QUANTITIES

TOTAL PER 3.5M ROUND
(8) 6' X 11' WELDED WIRE MESH
(15) 8' 20mm REBAR
(28) 6' 20mm REBAR

NOTE:
- REPORT ABNORMAL CONDTIONS
- MINIMUM STANDARD



TYPICAL DRIFT – SECTION ALONG WALL

0 0.5 1 2 METRES

CAPSTONE MINING CORP. MINTO MINE

Jun 10, 2014 – 9:45am

GROUND SUPPORT TYPE 2
NON-PERMANENT DEVELOPMENT
e.g. Stope/Level Access

CUMMAS PROJECT MANAGER	MINTO PROJECT MANAGER	MINTO OPS. REP.	GROUND CONTROL ENGINEER	MINTO GEOLOGY REP.

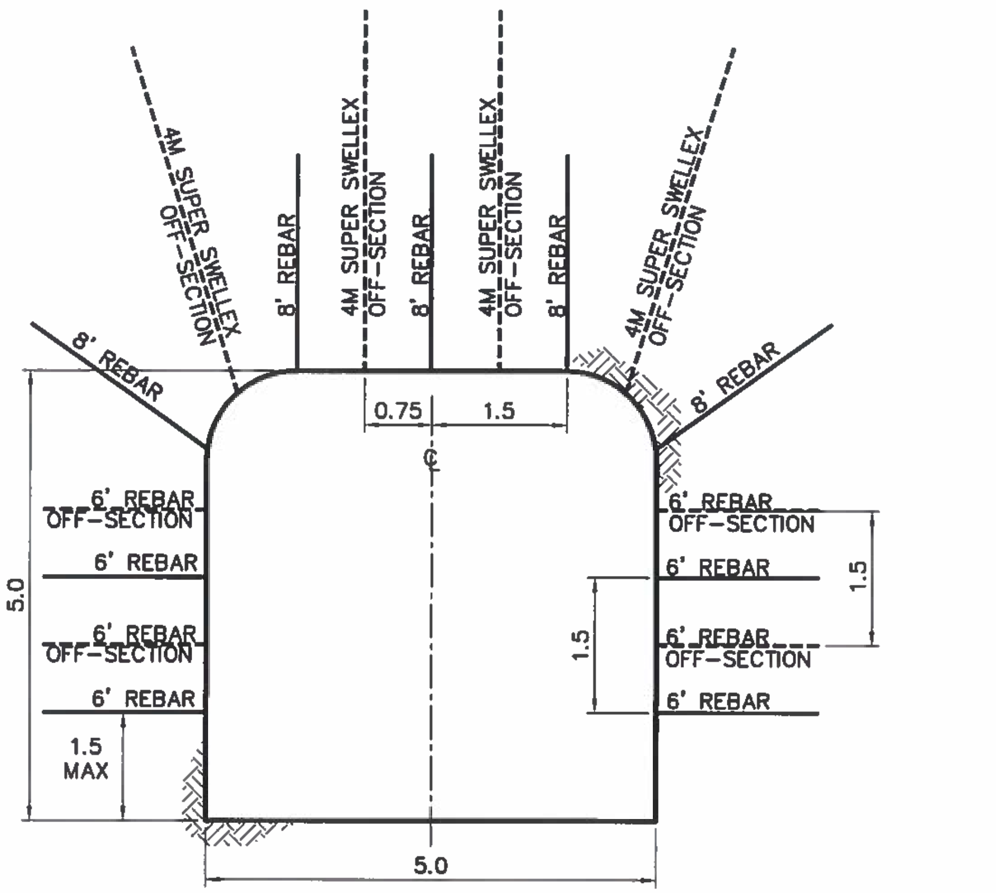
NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR CONSTRUCTION	10JUNE14	KC

REVISIONS

PROJ. NO. | SCALE: AS NOTED | DATE
DESIGNED: KC 10JUNE14
DRAWN: KC 10JUNE14
CHECKED: .
APPROVED: .

UNDERGROUND
GROUND SUPPORT
STANDARDS – NON-PERMANENT DEVELOPMENT
PLAN & SECTIONS

SIZE D | DRAWING NUMBER MINTO–001RMP–GRD–TYPE2 | REV. 0

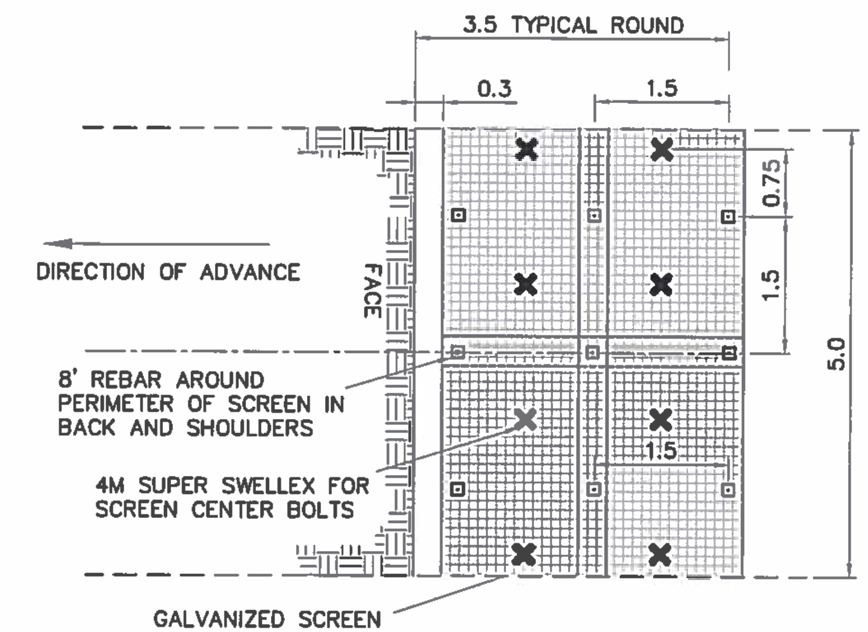


(EXCAVATIONS WITH 5m SPANS)
- 8' REBAR IN BACK FOR SCREEN PERIMETER BOLTS
- 4M SUPER SWELLEX IN BACK FOR SCREEN CENTER BOLTS
- GALVANIZED SCREEN BACK AND WALLS
- LAST ROW 6' REBAR MAXIMUM 1.5m FROM BASE OF RAIL
- 3 SQUARE OVERLAP OF SCREEN. BOLT IN SECOND SQUARE FROM EDGE.

5mX5m TYPICAL DEVELOPMENT OPENING

INTERSECTIONS WILL BE PREFERENTIALLY LOCATED IN HIGHER QUALITY GROUND. IF INTERSECTIONS ARE REQUIRED IN POOR GROUND CONDITIONS A GROUND CONTROL DIRECTIVE WILL BE ISSUED WITH SPECIFIC SUPPORT BY THE GEOTECHNICAL ENGINEER

INTERSECTIONS



TYPICAL DRIFT – PLAN VIEW

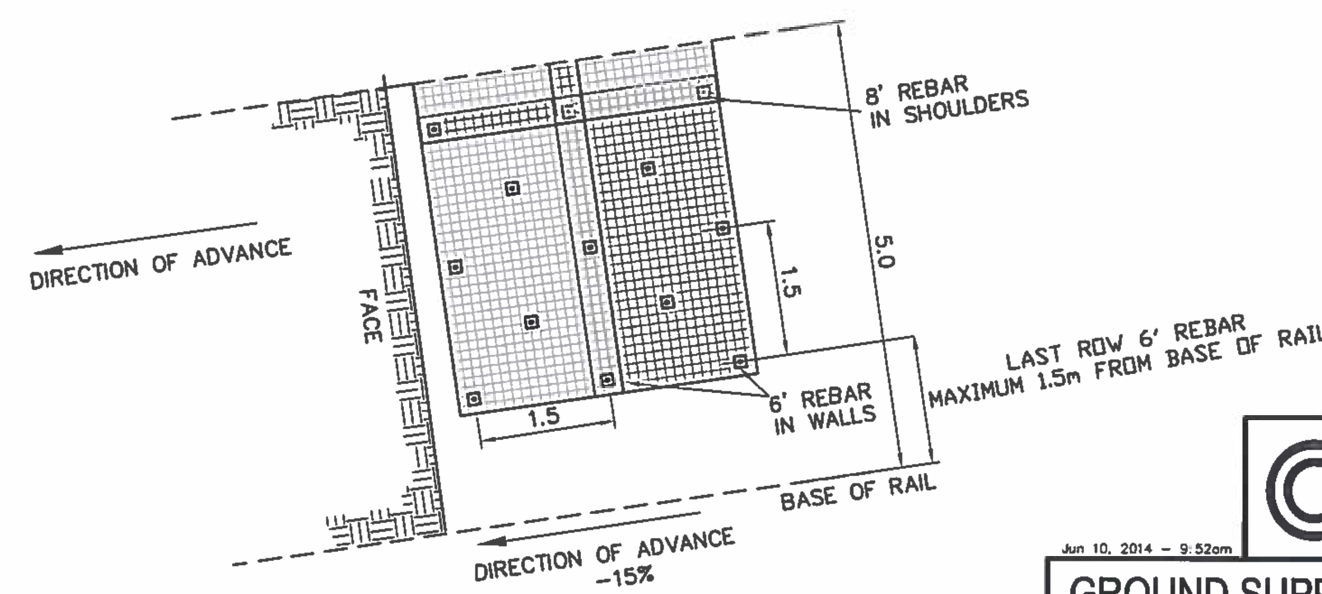
GROUND SUPPORT TYPE 3

POOR GROUND - UNDER DIRECTION OF MINE TECHNICAL

QUANTITIES

TOTAL PER 3.5M ROUND
(8) 6' X 11' WELDED WIRE MESH
(8) 4m SUPER SWELLEX
(15) 8' 20mm REBAR
(20) 6' 20mm REBAR

NOTE:
- REPORT ABNORMAL CONDTIONS
- MINIMUM STANDARD



TYPICAL DRIFT – SECTION ALONG WALL

0 1 2
METRES

CAPSTONE MINING CORP. MINTO MINE

Jun 10, 2014 – 9:52am

GROUND SUPPORT TYPE 3 PERMANENT DEVELOPMENT POOR GROUND

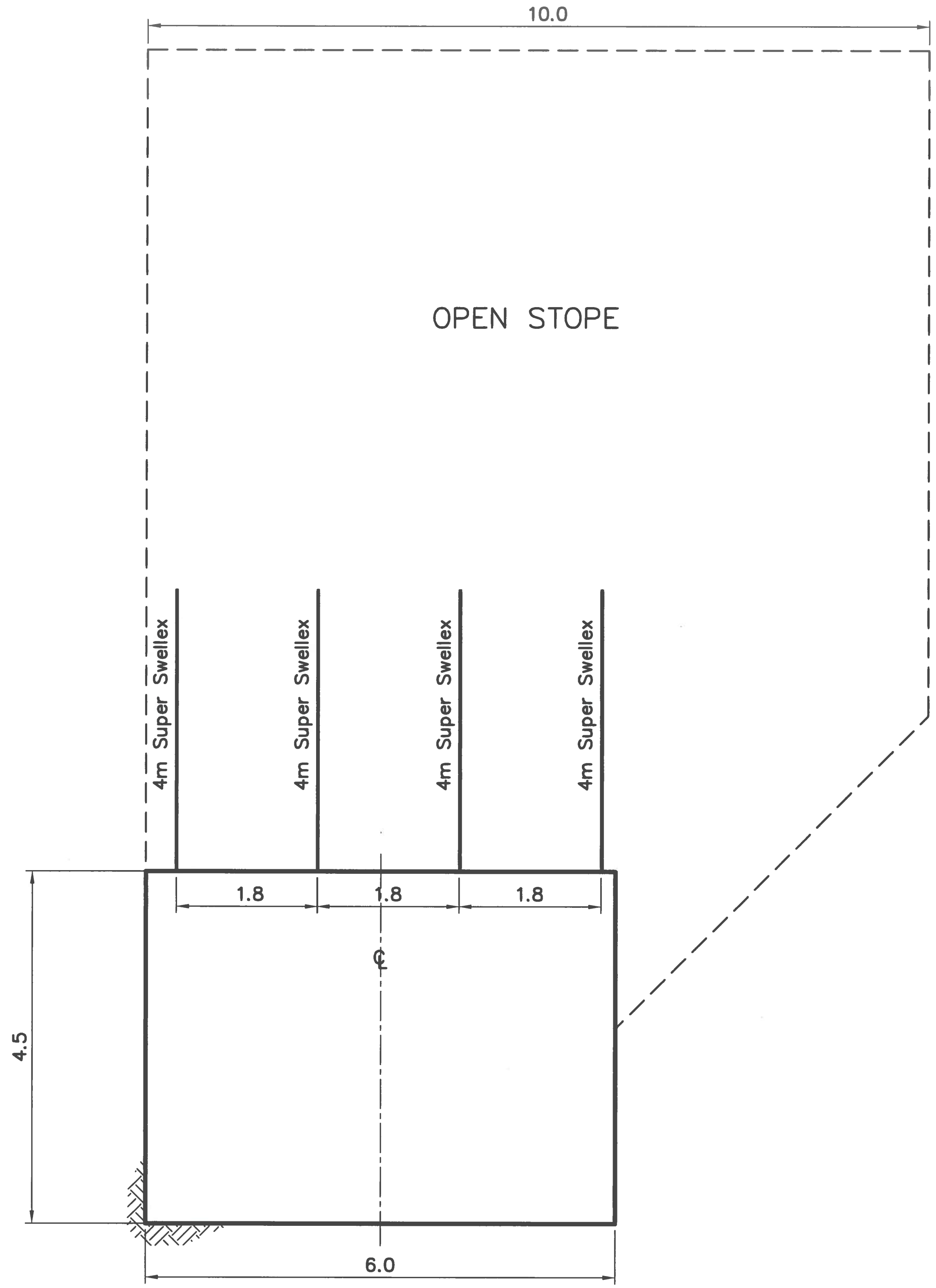
DUMAS PROJECT MANAGER	MINTO PROJECT MANAGER	MINTO MINE GM	GROUND CONTROL ENGINEER	MINTO GEOLOGIST	0 ISSUED FOR CONSTRUCTION	
					NO. DESCRIPTION DATE BY	
					REVISIONS	

PROJ. NO. | SCALE: AS NOTED | DATE | DESIGNED | DRAWN | CHECKED | APPROVED

UNDERGROUND GROUND SUPPORT STANDARDS – PERMANENT DEVELOPMENT PLAN & SECTIONS

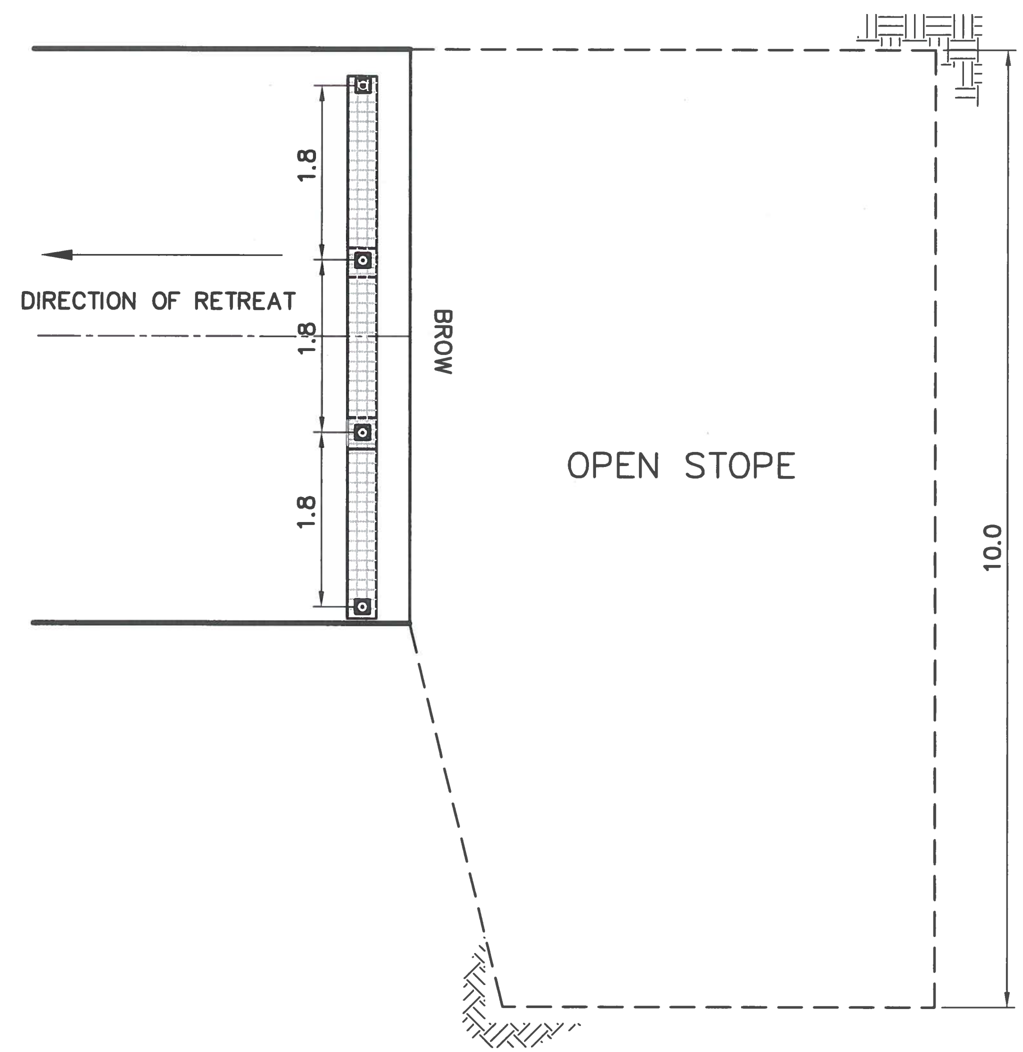
SIZE D | DRAWING NUMBER MINTO-001RMP-GRD-TYPE3 | REV. 0

STOPE BROW SUPPORT TYPE A



-ONE ROW OF 4m SUPER SWELLEX
-0-GAUGE STRAPS BETWEEN SUPER SWELLEX

CROSS SECTION



PLAN VIEW

QUANTITY

EXCAVATIONS UP TO 6M SPANS

TOTAL PER BROW

(3) 0-GAUGE MESH STRAPS

(4) 4M SUPER SWELLEX

NOTE:

- REPORT ABNORMAL CONDTIONS
- MINIMUM STANDARD

CAPSTONE MINING CORP.

MINTO MINE

Mar 12, 2015 - 4:43pm

FIGURE A.4

STOPE BROW PRE-SUPPORT - TYPE A

NORMAL CONDITIONS

0 0.5 1 2
METRES

DUMAS PROJECT MANAGER	MINE MANAGER	CHIEF ENGINEER	GROUND CONTROL ENGINEER	MINE PLANNER
[signature]	[signature] March 17, 2015	.	[signature] March 12 2015	[signature] 13 MAR 15

NO.	DESCRIPTION	DATE	BY
1	Decreased number of bolts from six to four	12MAR15	KC

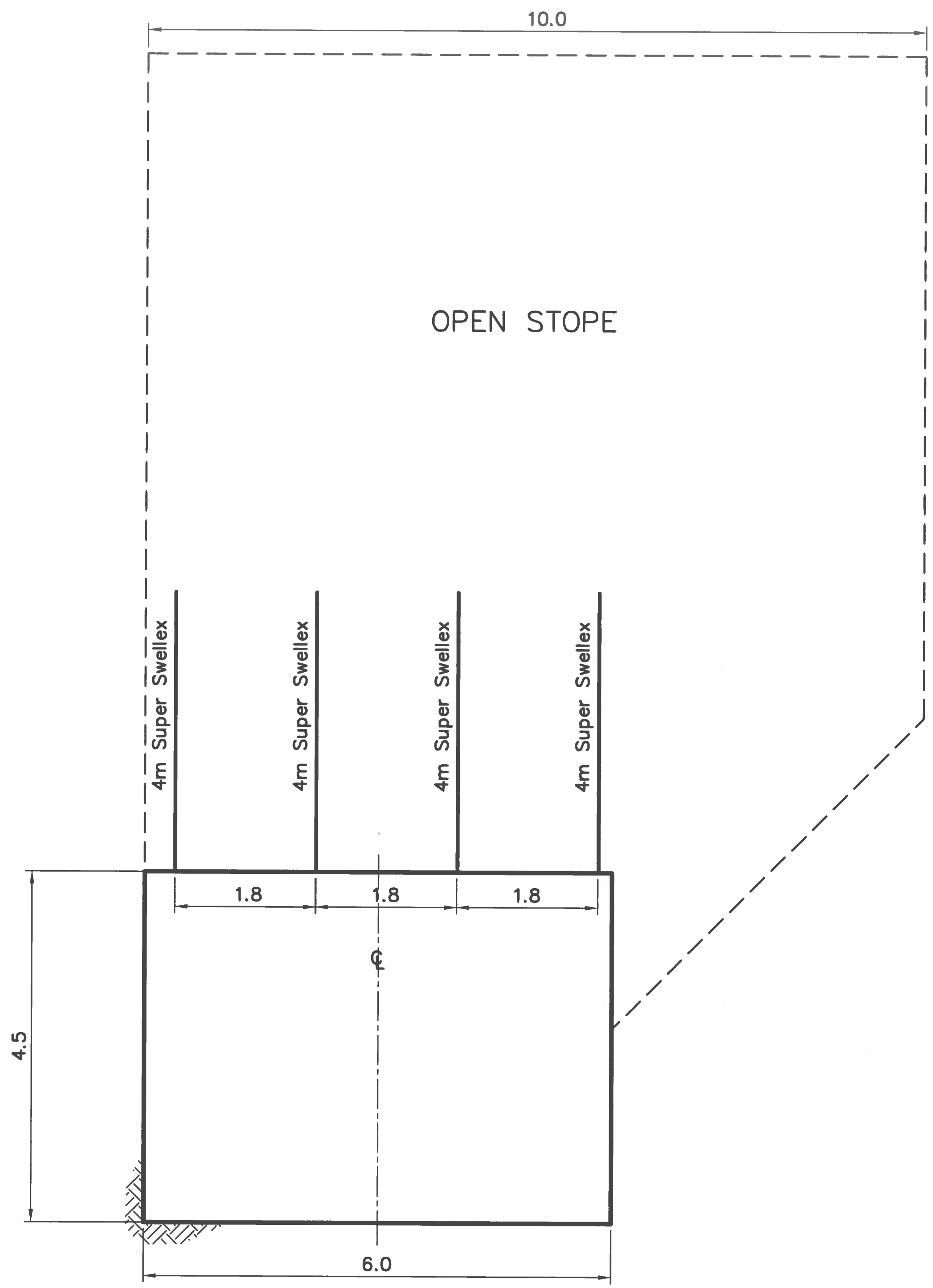
REVISIONS

PROJ. NO.
SCALE: AS NOTED | DATE
DESIGNED: .
DRAWN: KC | 09JUNE14
CHECKED: .
APPROVED: .

UNDERGROUND
GROUND SUPPORT
STOPE DEVELOPMENT UP TO 6M SPAN
SECTIONS

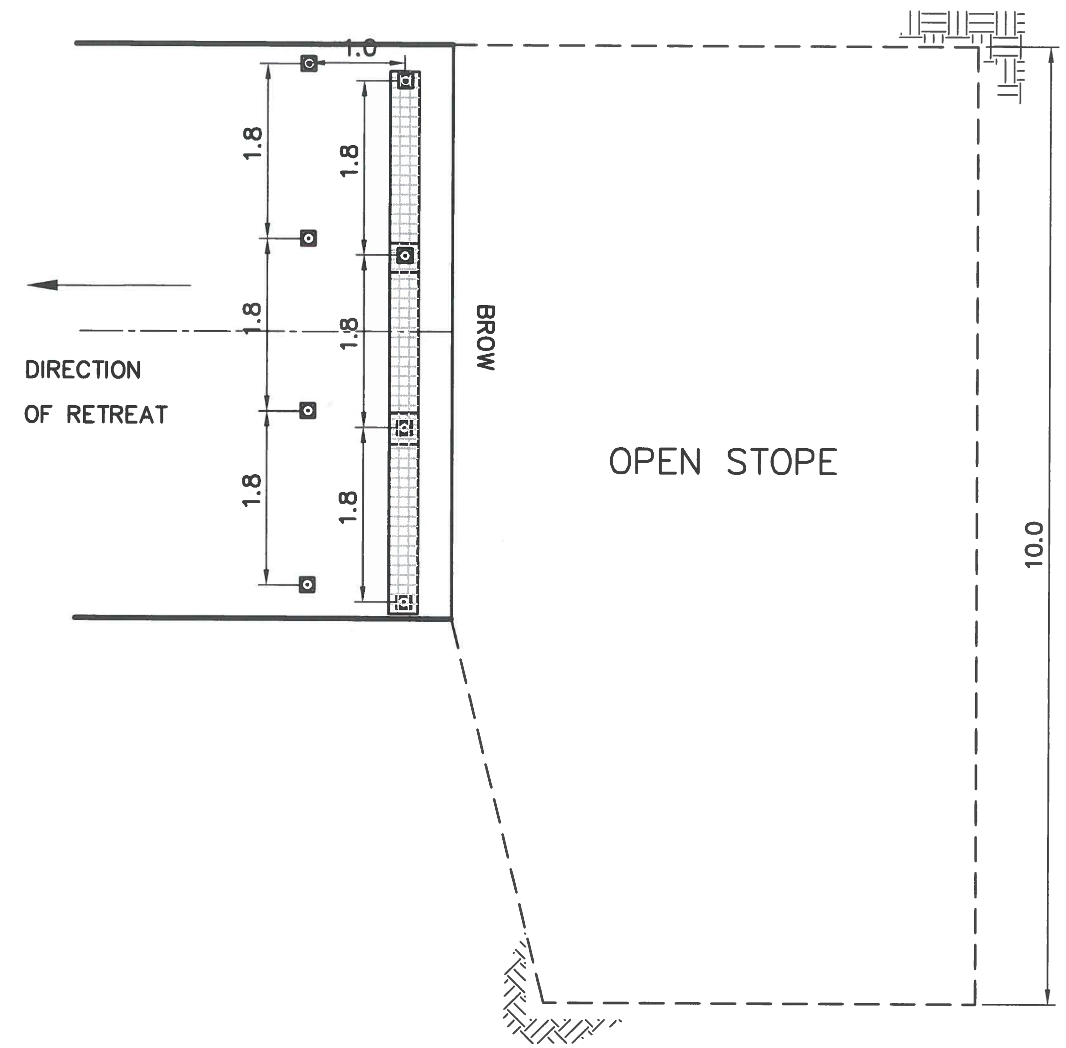
SIZE: D | DRAWING NUMBER: MINTO-001STP-GRD-BROW-TYPEA | REV. 0

STOPE BROW SUPPORT TYPE B



–TWO ROWs OF 4m SUPER SWELLEX
–0–GAUGE STRAPS BETWEEN FIRST ROW OF SUPER SWELLEX

CROSS SECTION



PLAN VIEW

QUANTITY

EXCAVATIONS UP TO 6M SPANS

TOTAL PER BROW

(3) 0–GAUGE MESH STRAPS

(8) 4M SUPER SWELLEX

NOTE:

- REPORT ABNORMAL CONDTIONS
- MINIMUM STANDARD

CAPSTONE MINING CORP. MINTO MINE

Mar 12, 2015 – 4:43pm

FIGURE A.5
STOPE BROW PRE-SUPPORT - TYPE B
NORMAL CONDITIONS

0 0.5 1 2 METRES

DUMAS PROJECT MANAGER	MINE MANAGER	CHIEF ENGINEER	GROUND CONTROL ENGINEER	MINE PLANNER
[signature]	[signature] March 12, 2015		[signature] March 12, 2015	[signature] 13 MAR 15

NO.	DESCRIPTION	DATE	BY
1	Decreased number of bolts from twelve to eight	12MAR15	KC

REVISIONS

PROJ. NO.		
SCALE: AS NOTED		DATE
DESIGNED:	.	.
DRAWN:	KC	09JUNE14
CHECKED:	.	.
APPROVED:	.	.

UNDERGROUND
GROUND SUPPORT
STOPE DEVELOPMENT UP TO 6M SPAN
SECTIONS

SIZE	DRAWING NUMBER	REV.
D	MINTO–001STP–GRD–BROW–TYPEB	0

\\MIN-DC-02X\Mine Technical\33 - Ground Control Program\1 Underground - Ground Control Program\2 Design and Analysis\1 Ground Support Standards\MINTO-001STP-GRD-BROW_TYPEB_rev1.dwg Mar 12, 2015 - 4:43pm