

To: P. Mohseni
 From: P. Rostami
 J. Jodouin
 Capstone Mining Corp. Stantec Consulting

File: Minto, 118 Orebody, Ventilation
 Conceptual Design 740 Level
 Production and 710 Level
 Development Date: August 28, 2014

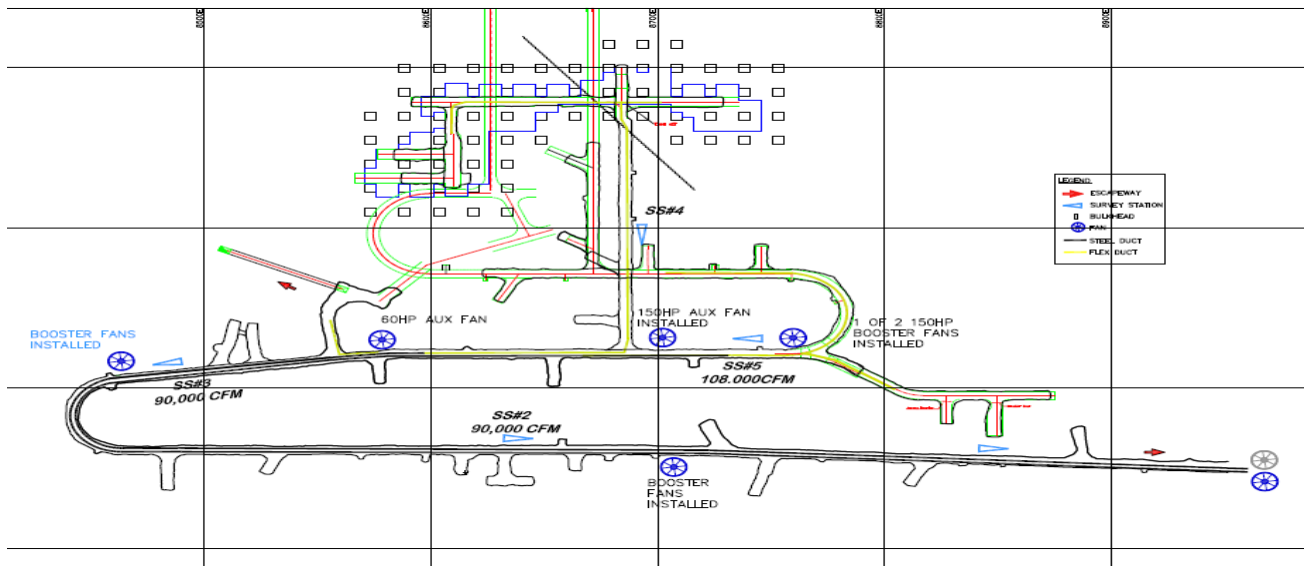
Reference: Capstone Mining Corp., Minto 118 Orebody, Ventilation Conceptual Design 740 Level Production and 710 Level Development

Please find below a conceptual ventilation design for Minto's 118 OB 740 Level production and simultaneous development on the 710 Level.

1.0 Overview

The Minto 118 Orebody is accessed from a main surface decline. Figure 1 demonstrates the current ventilation system installed within the 118 Orebody access ramp. Capstone has indicated to Stantec that the current system configuration delivers 108 000 cfm to the current ramp face location just below the 710 Level access.

Figure 1. Current 118 OB Ventilation System



Reference: Capstone Mining Corp., Minto 118 Orebody, Ventilation Conceptual Design 740 Level Production and 710 Level Development

2.0 Conceptual Design Scope

Stantec's battery limits are to establish a suitable ventilation design from the existing surface portal ventilation, to enable production from the 740 Level, while simultaneously ventilating ongoing development crews on the 710 Level for future production (Figure 2).

Figure 2. Ventilation Concept, 740 and 710 Levels.



3.0 Airflow Determination

The air volume requirements were calculated using Capstone provided information regarding proposed diesel equipment fleet and CanMet approved diesel engine certification data.

It is anticipated that underground production will begin on the 740 Level while the 710 Level is being simultaneously developed.

At any given time, it is estimated that two scoops will be working on the 740 and 710 Levels, with one haulage truck to be shared between the levels.

Reference: **Capstone Mining Corp., Minto 118 Orebody, Ventilation Conceptual Design 740 Level Production and 710 Level Development**

The equipment ventilation requirements based on Capstone's diesel equipment fleet and CanMet approved diesel engine certification data are 18,800 cfm per scoop and 50,000 cfm per haulage truck totaling 68,800 cfm.

Accounting for auxiliary support equipment and leakage, the total required airflow for the working face per level was rationalized at 80,000 cfm. This will enable the utilization of both an LHD and haulage truck on the level.

4.0 Ventilation Concept

4.1 Ramp

Ramp supply air will remain as currently provided, fresh air is forced into the ramp development heading by axial fans installed in series within two runs of ducting to deliver 108,000 cfm to the 740 Level.

4.2 Main Vent raise and Main Vent Fan

Capstone has indicated to Stantec that the installation and commissioning of the main vent system has been delayed until sometime next year and is not available for this stage of mine life.

4.3 740 and 710 Level Auxiliary Ventilation

The auxiliary ventilation system level design is proposed as a positive or "push" system based on delivering a minimum 80,000 cfm to both the 740 and 710 levels.

During development and full production, the fresh air will be supplied down the main ramp via the existing twin duct lines to the 740 level. A separate set of twin steel ducts, 48" in diameters, will carry the fresh air from the 740 access down the ramp to the 710 level. Near the working face (150-200ft from the face), flexible ducts, connected to the main twin steel ducts, will carry the air to sweep the face. Figures 4.3.1 and 4.3.2 show the main ventilation arrangements and ducting system.

Reference: Capstone Mining Corp., Minto 118 Orebody, Ventilation Conceptual Design 740 Level Production and 710 Level Development

Figure 4.3.1. Overall existing ventilating arrangements, and proposed ducting systems.

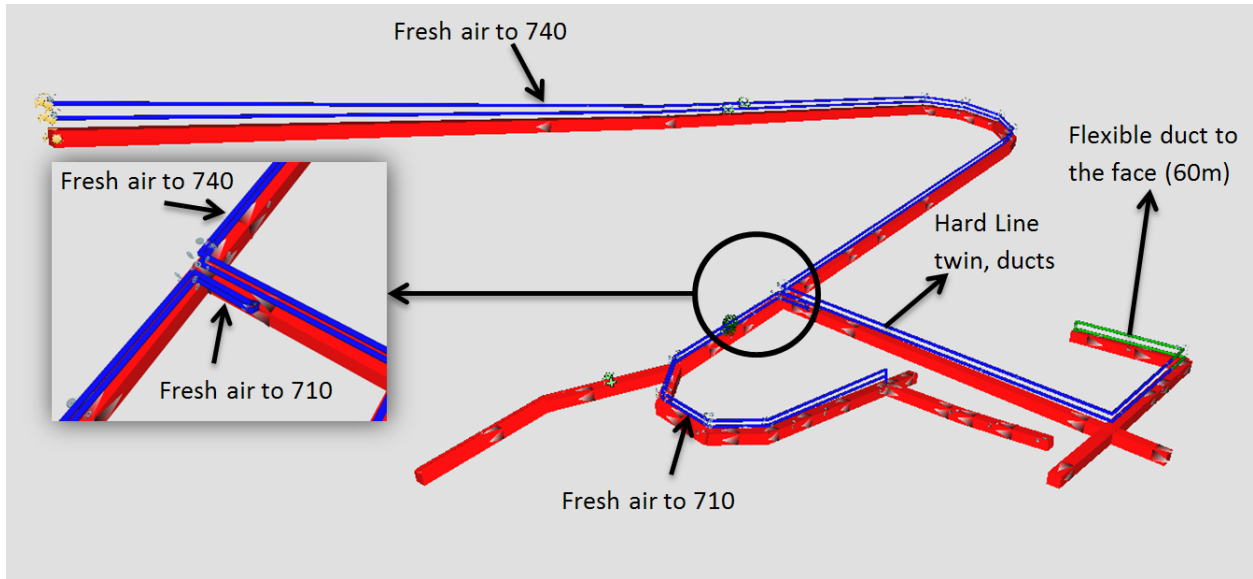
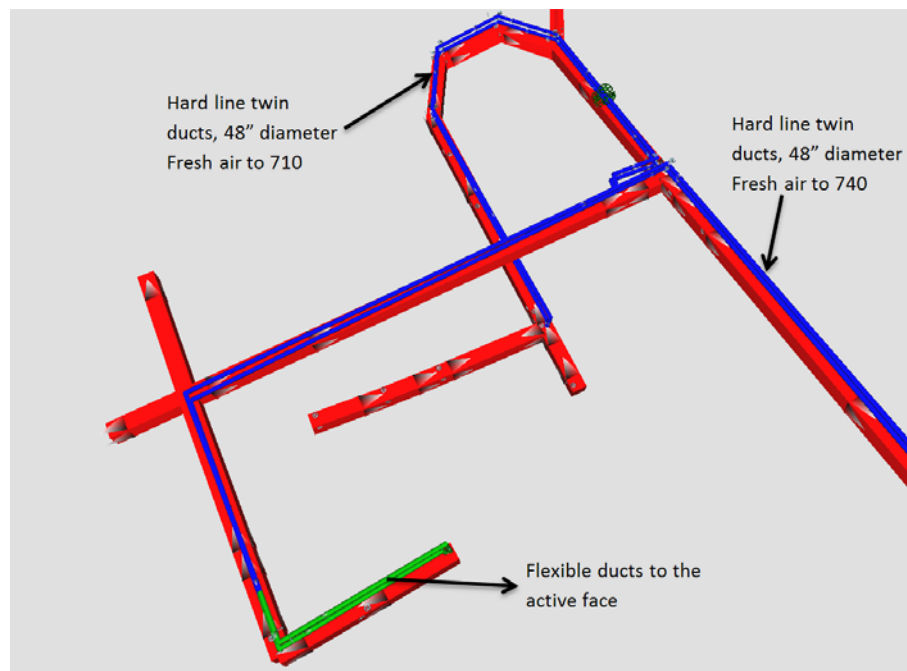


Figure 4.3.2. Ventilation arrangements at 740 and 710 levels.



Reference: **Capstone Mining Corp., Minto 118 Orebody, Ventilation Conceptual Design 740 Level Production and 710 Level Development**

The proposed arrangement and ducting requirements for the 740 and 710 levels are described in Table 1.

Table 1. Duct Requirements for the 740 and 710 Levels.

Level	Duct Quantity and Size	Duct Diameter	Duct Material
740 (Main Push)	2 x 996m (3268 ft.)	48"	Steel
740 (face)	1 x 60 m (200 ft.)	48"	Flexible Line
710 (Main Push)	2 x 251 m (821 ft.)	48"	Steel

Table 2 summarizes the fan requirements for the development at 710 level, while using the existing arrangements to ventilate the 740 level.

Table 2. Fan Requirements for ventilation of 740 and 710 levels.

Development pull system fan (operating point at 40 000 cfm for each 48" duct)			Required Fan Specs		Proposed VFD Fan	
	Level	Quantity	in.W.g	HP	in.W.g	HP
	710	2	9	100	10	100
	740	Current arrangements and fans setup will be used		150		