

# Musselwhite Mine

FACT SHEET / SUMMER 2011



Musselwhite Mine

## DESCRIPTION

Musselwhite is an underground gold mine and associated processing plant that produces approximately a quarter-million ounces of gold annually. It began commercial production on April 1, 1997. The mine is located on First Nations traditional land, and Musselwhite's relationships and agreements with the local communities are recognized as best practice.

## LOCATION

The mine is a fly-in/fly-out operation situated in northwestern Ontario, Canada on the southern shore of Opapimiskan Lake. It is 480 kilometres by air, north of Thunder Bay.

## FUTURE

Exploration continues to test high-potential lateral targets and extension of existing gold structures. Added mining flexibility will enable increased ore tonnage throughput, which is expected to result in continued growth in gold production in 2011.



## KEY OPERATIONAL FACTS

Location	<b>Opapamiskan Lake, Ontario</b>
Workforce (including contractors)	<b>855</b>
Estimated mine life (reserves)	<b>18 years</b>
Mining type	<b>Underground</b>
Processing method	<b>CIP</b>
Power usage	<b>17 MW</b>
Milling/Processing capacity	<b>4,500 tpd</b>
2011 gold production estimate	<b>265,000 oz</b>

## GOLD RESERVES

Proven (oz)	<b>800,000</b>
Probable (oz)	<b>1,320,000</b>
Proven and Probable (oz)*	<b>2,120,000</b>

## KEY FACTS SUMMARY

	2010A	2009A	2008A
<b>Operating data</b>			
Gold produced (oz)	<b>258,700</b>	232,600	210,500
Gold sold (oz)	<b>257,200</b>	231,200	214,000
Ore milled/processed (t)	<b>1,446,800</b>	1,289,500	1,236,800
Gold grade (g/t)	<b>5.78</b>	5.93	5.56
Gold recovery (%)	<b>96%</b>	95%	95%
By-product cash costs (US\$/oz)	<b>\$625</b>	\$585	\$611
Realized gold price (US\$/oz)	<b>\$1,239</b>	\$975	\$862
Throughput (tpd)	<b>4,019</b>	3,582	3,436
Mining costs per tonne mined (US\$/t moved)	<b>\$65</b>	\$63	\$62
Processing costs per tonne milled (US\$/t milled)	<b>\$23</b>	\$23	\$20
<b>Financial data (US\$ millions)</b>			
Revenue	<b>\$318.9</b>	\$225.5	\$184.6
Depreciation and depletion	<b>\$37.1</b>	\$30.4	\$25.8
Earnings from operations	<b>\$111.3</b>	\$52.1	\$21.2
Expenditures on mining interests	<b>\$79.4</b>	\$78.9	\$31.2

\* Due to rounding, numbers may not add up.

## GEOLOGY

Musselwhite mine is located within the Weagamow – North Caribou Greenstone Belt of the Sachigo Subprovince, part of the Archean Superior Province. The stratigraphy in the immediate mine vicinity is dominated by mafic volcanics, chemical sediments and felsic volcanics. External to the supracrustal sequences are a series of undifferentiated gneisses and granitoids. All lithologies within the immediate mine area have been metamorphosed at mid to upper amphibolite facies. Although the mine scale deformation is considered to form part of a progressive deformation event, it is possible to differentiate four local deformation events.

Mineralization is predominantly hosted within meta-chemical sediments (banded iron formations) and in particular within garnet-magnetite-grunerite facies meta-banded iron formations (locally termed the Northern Iron Formation). The location of mineralization is controlled by the intersection of shear zones and folded meta-banded iron formations. These geological controls result in mineralized shoots, which plunge at approximately 15 degrees to grid north, have a down dip extent of up to 150 metres, down plunge continuation in excess of 1.5 kilometres, and across-lithology width of up to 10 metres. Mineralized zones are characterized by abundant pyrrhotite, quartz flooding and, rarely, visible gold.

## SETTING

The continental type climate can be extreme, with temperatures commonly ranging from -45°C in the winter to 30°C in the summer. The average annual precipitation is 760 millimetres occurring mostly as rain in the spring and summer.

## SAFETY INITIATIVES

Musselwhite is progressing with a behaviour-based safety program which empowers each employee to control the jobs and tasks in their work areas and identify high risk situations. The aim of the program is to provide a workplace that is “safe enough for our families”.



Musselwhite Mine



Barge with Drill Rig

## ENVIRONMENTAL STEWARDSHIP

Through the Environmental Working Committee, the mine consults with the local First Nations communities to address their concerns or suggestions related to mine planning, environmental monitoring and reclamation projects.

The mine works closely with the local First Nations and their consultants to monitor the surrounding waterways adjacent to the site and the First Nations communities downstream of the operation. This willingness to work with the First Nations and improve their understanding of the mining process has been mutually beneficial.

## COMMUNITY DEVELOPMENT

Musselwhite is signatory to the Musselwhite Agreement, which sets targets for First Nations training and employment opportunities at the mine, as well as business development that will benefit the area over the long term and beyond the life of the mine. There are three public liaison committees, each composed of a cross section of diverse interests from local communities. Through these committees, the mine is able to report its progress, receive feedback and hear concerns directly from local citizens on environmental, social and economic matters.

Gil Lawson  
Mine General Manager

