

1.0 Introduction

The Mining Employment Timeline comprises of eleven (11) tabs:

- The “Summary Sheet”, which illustrates the cumulative employment projections named;
- Nine (9) tabs for each individual project investigated for the report;
- The “Figures” sheet that automatically generates figures for the report based on entered data. These figures automatically update with any edits to the model data.

The cumulative data throughout these 11 tabs are summarized in a printable version within the first tab “Summary Sheet”

1.1 Simple Edits to Existing Projects – Changing Project Timelines

At the bottom of the “Summary Sheet” tab, Individual Project Information can be viewed. Most of the user edits to this timeline will be done through this table.

Mine	Mining Company	Mine Type	Construction Start Year	Construction Duration	Production Start Year	Mine Life
Rainy River (Intrepid Zone inclusive)	New Gold	Gold - Underground	2020	2	2022	14
Goliath Gold	Treasury Metals	Gold - Open pit then underground	2020	2	2022	13
Greenstone Gold	Greenstone Gold	Gold	2019	2	2021	15
Albany Graphite	Zenyatta Ventures	Graphene	2026	2	2028	10
Eagles Nest	Noront Resources	Copper/ Nickel - Open Pit	2021	2	2023	11
Springpole Lake	First Mining Gold Corp	Gold - Open Pit	2022	2	2024	12
Madsen Gold	Pure Gold	Gold - Underground	2019	2	2021	14
PAK Lithium	Frontier Lithium	Lithium - Open Pit and Underground	2023	2	2025	16
Separation Rapids	Avalon Advanced Materials	Lithium - Open Pit	2024	2	2026	10

First Year in Model	2019
---------------------	------

	Rate	Date updated
\$US to \$Cad conversion rate	1.34	08-Apr

This model has been designed to allow the user to easily shift projects as news of each investigated mining project emerges. As such, the user can easily update the inputs for:

- Construction Start Year;
- Construction Duration;
- Production Start Year; and
- Mine life.

- First year in model
- \$USD to \$CAD conversion rate

All of these inputs can be edited without unlocking the spreadsheet. It should be noted that all items, aside from this above table is password protected to prevent corruption of the model.

1.2 Other Changes to Existing Projects

Each of the nine (9) investigated projects include the following Table at the top of the page:

Model Category	Input	Source	Model Approach
Mine Type	Open Pit	2016 Technical Report	
Construction Start Date	2019	Projection	
Production Start Date	2021	Projection	
Duration	14	2016 Technical Report	
Employment requirements (Construction)	800	2016 Technical Report	The 2018 Hardrock Project Update Presentation indicates a peak construction workforce of 950 over the 24 month construction period. A more conservative estimate of 800 will be used.
Employment requirements (Operation)	450	2018 Hardrock Project Update presentation	544 positions is described as the peak construction workforce in the Technical Report, however, 450 is expected to be the average across the operations period. Project PEA outlined general project staffing requirements, and was used as a base to calculate total hiring requirements
Capital Expenditure (in \$Million CAD)	\$1,200	2016 Technical Report	Capital Expenditure has been Broken down by WBS. This breakdown will dictate distribution of construction job, most of which will be done through external contractors and not direct mine hires. A factor of is applied to these capital expenditures to determine approximate material/labour breakddwon
Operational Expenditure	\$804.00	2016 Technical Report	
Mine output (oz/Year)	288,000	2016 Technical Report	

In these tables, as required, changes can be made to:

- Employment Requirements (construction);
- Employment Requirements (operation);
- Capital Expenditure;
- Operational Expenditure; and
- Mine Output.

It should be noted that the process for generating employment projections is not uniform from project to project, and assumptions have been driven by the best available information for the respective project. This means that a combination of each of the above inputs in many cases contribute to the resulting employment projections. Due to the complexity in these relationships, each individual project sheet is password protected.

Unlocking Sheets

To unlock any sheet in this Workbook:

- Click the “Review” tab on the Excel ribbon,
- Click on “Unprotect Sheet”; and
- Enter password – “mining”