

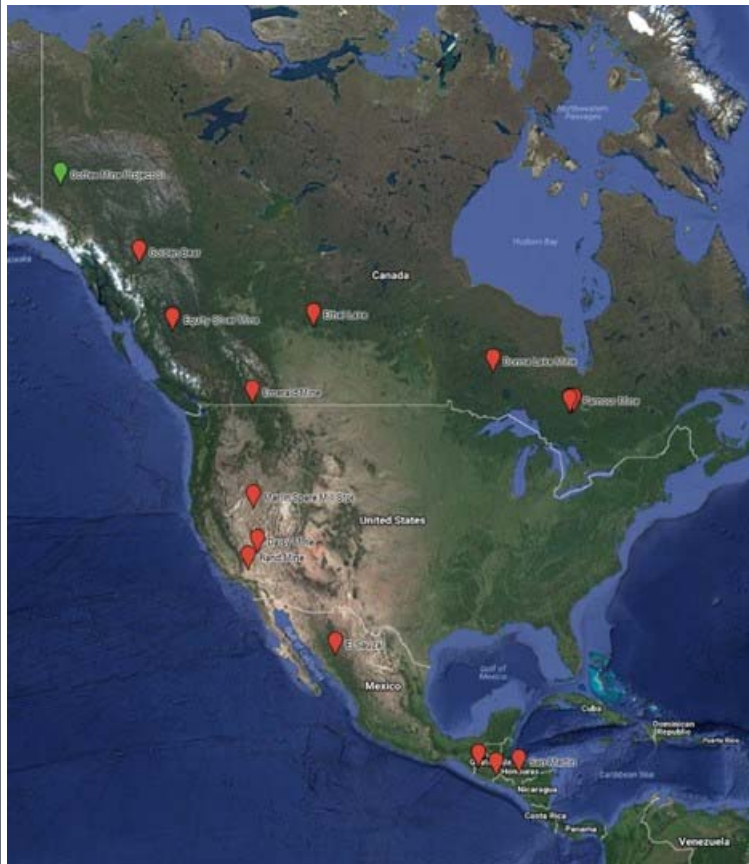


# Goldcorp Reclamation & Closure Best Practices

A case study into the social and environmental closure experience at Goldcorp's closed sites.

Northern Latitudes Mining Reclamation Workshop – Sept 12<sup>th</sup>, 2018

 GOLDCORP



- **Goldcorp currently has 33 closed sites under active reclamation, custodial care**
- **All 33 sites were acquired since 2006, Wheaton River, Placer Dome and Glamis acquisition and mergers**
- **Dedicated closure group created in 2015**
- **Focus on consolidated management and remediation throughout Goldcorp properties**

First impressions are important...

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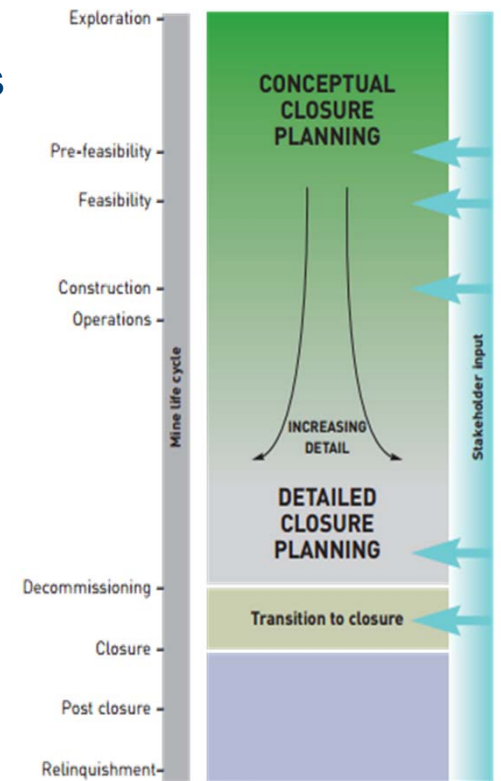


Reclamation integrated into all operations - Everyone involved / informed

Reclamation and Closure Planning, including cost estimating, is a fundamental aspect of meeting Goldcorp’s regulatory and social responsibilities and managing the financial health of the company.

Goldcorp will leave sites in a condition that is safe and stable, that minimizes environmental impacts, and considers long term social benefits.

Reasonable and accurate financial assurance is an important aspect of our social license to operate and must be updated annually.



## Goldcorp's Sustainability Excellence Management System (SEMS)

### Reclamation & Closure Planning at sites and projects;

- Will be integrated
- Will be prepared and maintained in LOM plan
- Will include terms of reference
- Will address chemical stability
- Will address physical restoration and stability
- Will include concurrent reclamation activities & costs
- Will develop and maintain a current "Best Estimate" of the total actual costs for the life-of-mine or project.



## Progressive Reclamation – A important first step to integration

- **Remediation over the life of the operation**
- **Supports long term performance monitoring**
- **Opportunity for ongoing research**
- **Informs final closure planning**
- **Land returns to productive use sooner**





- **Mine closed in Jan 2015**
- **Goldcorp completed the reclamation of El Sauzal in Oct 2016**
- **Working with the Ejido to monitor and re-vegetate in post closure**



## San Martin – A transition to post closure land use

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- **San Martin closed ~10 years ago**
- **Foundation established to manage the land and productive projects**
- **Goldcorp is finalizing design of a passive water treatment system**
- **Working to make foundation self sufficient by 2019 (business eggs & tilapia)**

1998

2007

2010

2017







- **Reclamation and natural recovery have fully reclaimed the site over the last 10 years**
- **End use planning and re-planning based on success**
- **Land is now being utilized for productive projects**
  - Tilapia fish harvesting
  - ~5-10,000 eggs per day
  - Lemons, limes
  - Raising pigs & testing cattle



# Coniaurum – commitment to closure



Dec 2011



Jan 2016



Mar 2017



Sep 2017



- **Marlin Mine's final production in 2017 after 12 years in operation**
- **Progressive reclamation occurred concurrently with operations**
- **Goldcorp committed to closure and post closure monitoring 2017 – 2026**
- **Development of a foundation for productive projects on the land ongoing**

## Reclamation Opportunities - tailings re-use



# Reclamation Opportunities - research into bio diversity – biosolids



# Reclamation Opportunities - turning a liability into a future



## Reclamation Opportunities – Social investment

- **Good technical closure is a start**
- **Good social closure is an investment**
  - Sustainable
  - Green energy
  - Infrastructure
  - Education / training
  - Healthcare
- **No one size fits all approach**
- **Fit to purpose**
- **Evolving and adaptive**





- **Daisy Mine post closure permit received in 2007**
- **Reclamation, monitoring and remediation continued on site**
- **In 2016, the US Government approved a full relinquishment of the project**



## Goldcorp Reclamation & Closure Best Practices

- **Closure needs to be integrated into your business**
- **Technical closure is a living plan**
- **Closure must be seen as an investment into your future**
- **No one size fits all approach, evolving and adaptive**
- **Be open, share and learn from our past to change our future**





THANK YOU  
QUESTIONS?

TOGETHER, CREATING SUSTAINABLE VALUE

 GOLDCORP