## **GBM Gold Ltd**

## AusIMM Central Victoria Branch Seminar

"Living on the Edge \_ Insights to Enhance Mine Performance"

# Bendigo Goldfield the remier Goldfield in Victoria

September 2016

www.gbmgold.com.au

Gill Reef – Bendigo Saddle Reef

**ASX: GBM** 

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- (iii) planned capital requirements, and
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The Company estimates its Mineral Resources and Ore Reserves in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 Edition ("JORC Code"), which governs such disclosures by companies listed on the Australian Securities Exchange.



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#### **Company Information**

**Trading Information** 

#### **Major Shareholders**

ASX Code	GBM	Silver Bright International Development Limited	18.6%
Number of shares on issue	1,075,784,944	Monex Boom Securities (HK) Ltd	13.1%
Share price at 1 September 2016	\$0.011	Chasen Holdings Ltd	7.0%
Market Capitalisation	\$11,833,630	JP Morgan Nominees Australia Limited	6.7%
Cash as at 31 July 2016	\$543,000	Silver Bright Investments Limited	6.0%

#### GBM performance chart 2014 to 2016

And International Party name



#### **About GBM Gold**

- GBM Gold Ltd
- 1. The Company, originally Greater Bendigo Gold Mines was founded in 1989.
- 2. GBM Gold has been based in Bendigo since listing on the ASX in April 2007.
- 3. Inglewood Gold Mine was the major asset, it was sold to MG Gold in 2014.
- 4. The sale of Inglewood gave the opportunity to purchase the Bendigo Gold Project.
- 5. The purchase was secured on 17 May 2016 with the payment of \$1.1 million to Unity, the first payment of four annual deferred bond payments totalling \$5.908 million to repay cash provided by Unity to meet the rehabilitation obligations at Bendigo.
- 6. GBM Gold now holds Unity's mining and exploration tenements, equipment and facilities, Kangaroo Flat Gold Plant, buildings and freehold land in the Bendigo area.



A clean-up of the Kangaroo Flat Gold Processing Plant to recover gold remaining in the mill produced a 62 ounce (1.94kg) gold dore bar.

#### **Kangaroo Flat Mine Assets**



Three tailings ponds, coarse sand, fine sand and flotation concentrate.

#### 600,000 tpa Gold Processing Plant

Decline – 18 km of underground development

Offices

GBM purchased assets that have been idle since 2011 Total investment in the project to date - \$350 million

#### **Kangaroo Flat Gold Plant**

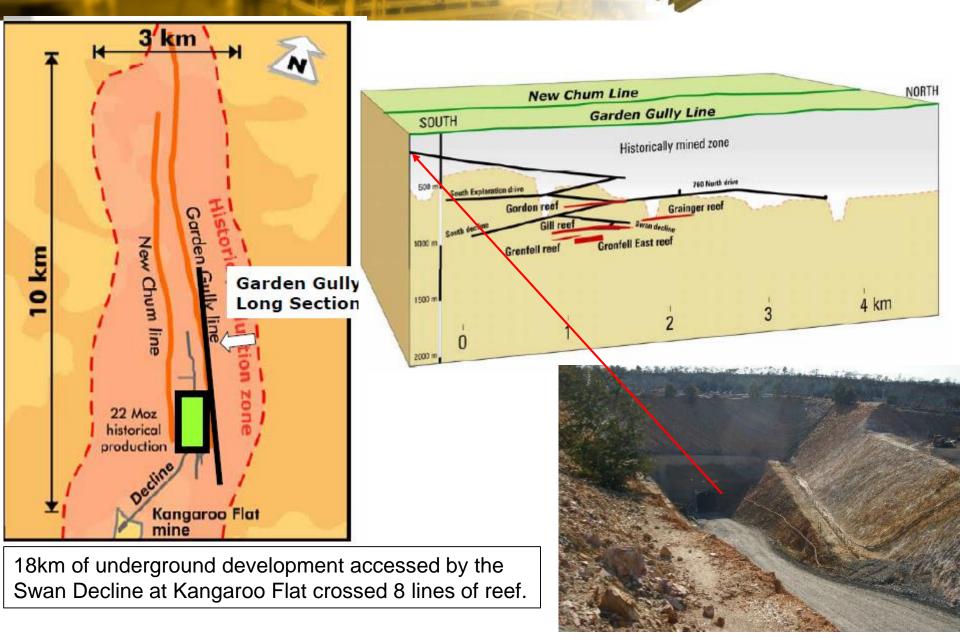


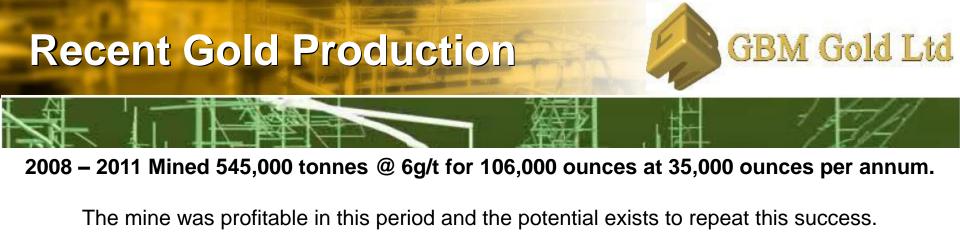
ABN: 38 147 300 418

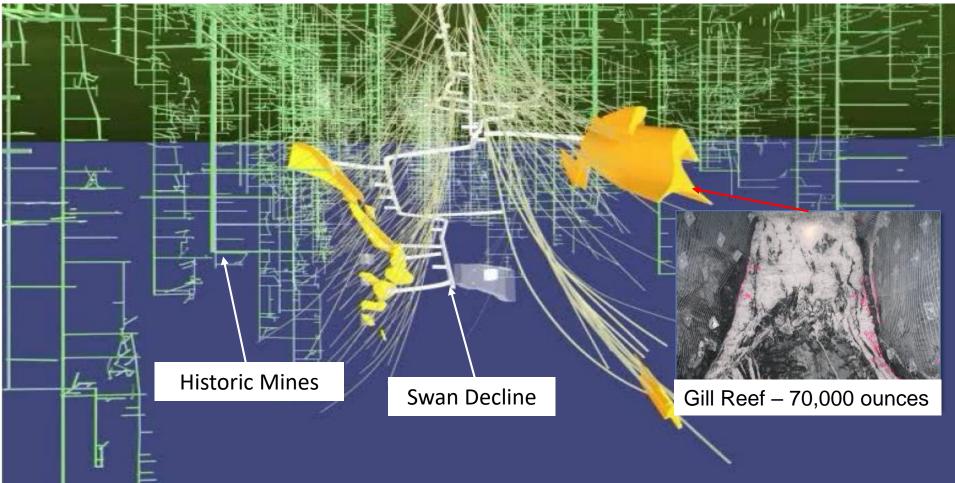
The 600,000 tpa plant cost \$64.4 million and has only processed 750,000 tonnes of ore.



#### \$190m Bendigo Development



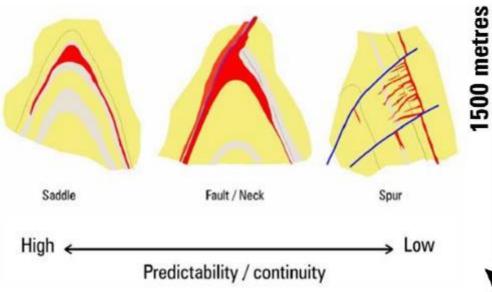




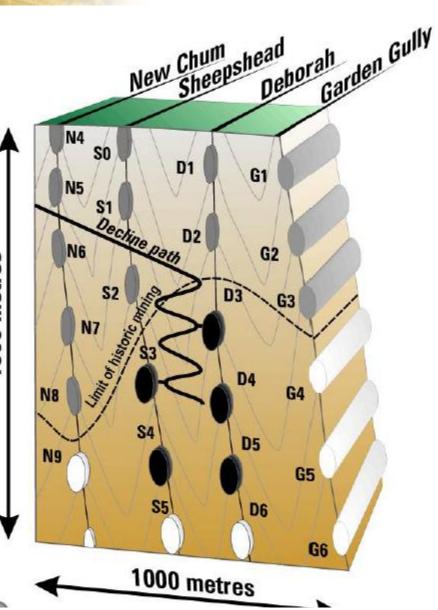
### **Bendigo Goldfield Geology**

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- Bendigo has repetitive geology and structure
- It is famous for its quartz saddle reefs
- These reefs form in favourable rocks or strata
- This strata has been correlated across the field
- \$30 to \$40 million invested in exploration
- Bendigo still has huge potential



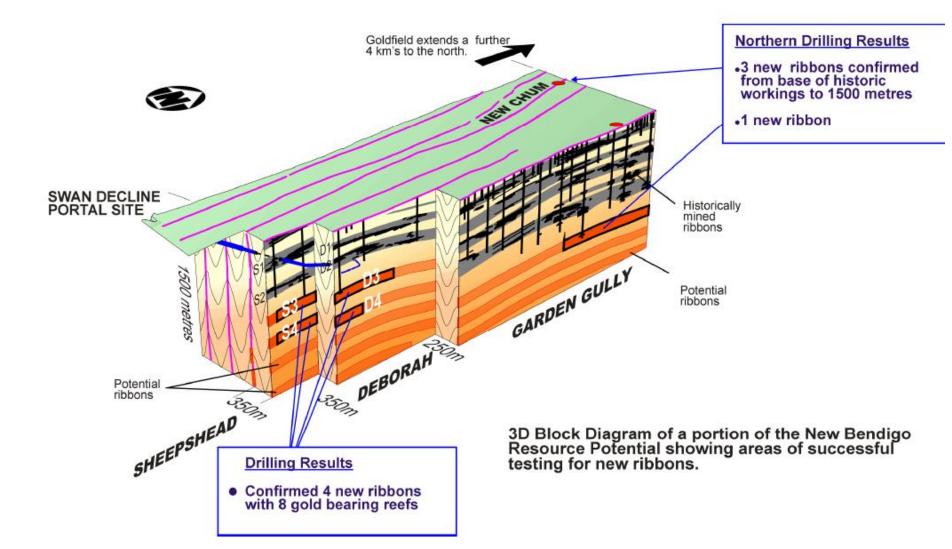
Three types of reef in the field Saddle Reefs have high predictability and continuity.



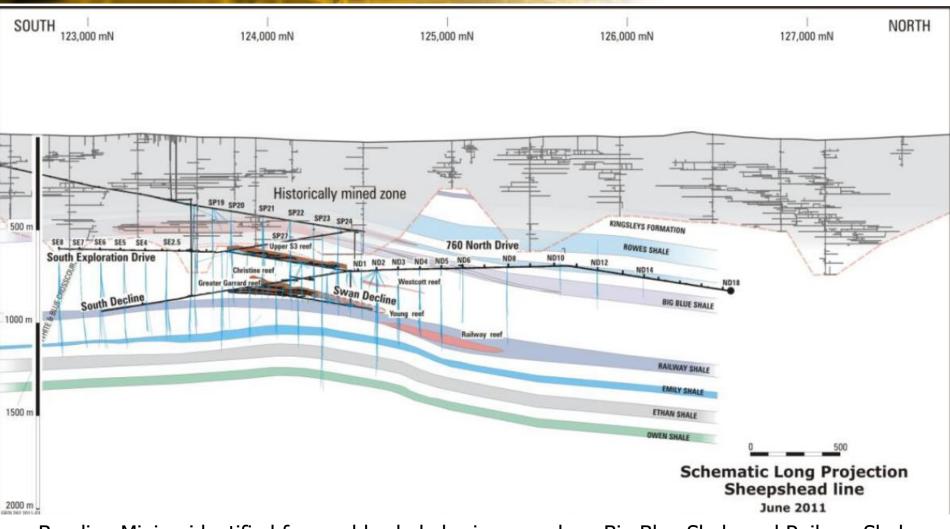
#### **Ribbon Repeat Model**



GBM considers that the ribbon-repeat model, originally postulated by Bendigo Mining, is essentially correct but the initial resource model overestimated contained gold and tonnage.



#### **Favourable Geological Horizons**

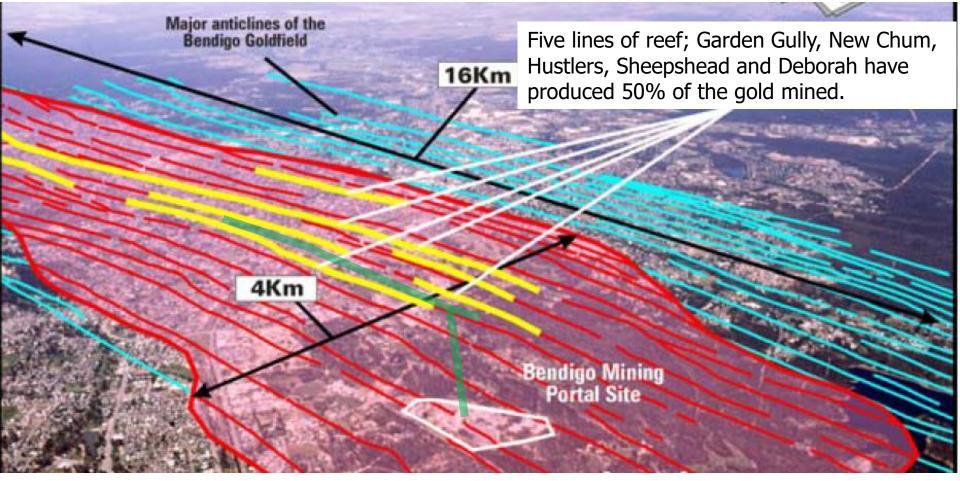


- Bendigo Mining identified favourable shale horizons such as Big Blue Shale and Railway Shale.
- North plunging horizons have also been found to be more favourable.
- This extensive geological database amassed by Bendigo Mining will be used to define exploration targets.

#### **Bendigo Exploration Targets**



- Initial scoping work by GBM has identified a number of areas of immediate interest.
- Detailed investigation of the Unity (Bendigo) Mining database will generate further targets.



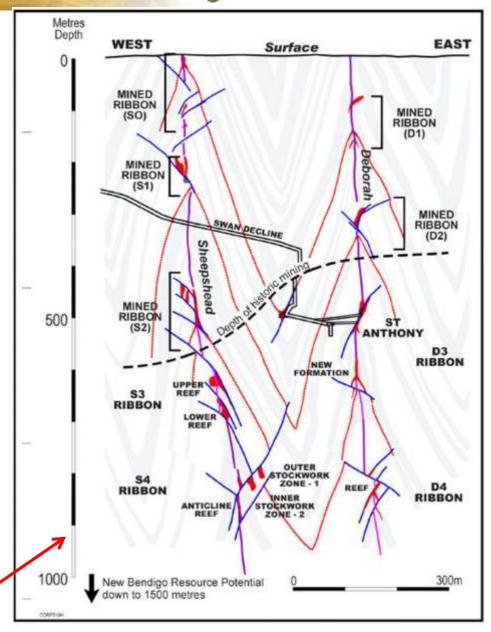
- Targets in under-explored areas will be generated from a three dimensional model of the field.
- GBM will evaluate known targets that are close to existing underground development that could be suitable for implementation of an early production strategy.

#### What is a Realistic Resource Target?

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- 1. Unity considered 500koz as minimum size of exploration target.
- 2. This has proven unlikely in any given favourable structural location.
- 3. The best of the historic mines usually only worked one or two 'bonanza' reefs; the rest were poor or unpayable. The experience of Unity Mining at the Kangaroo Flat Mine has essentially reinforced this statement.
- GBM considers a target of 150koz to 300koz is a reasonable expectation at any favourable location.
- 5. The entire field is unlikely to ever yield as prodigiously as it did in the past.

Cross section of Sheepshead and Deborah anticlines showing mined and unmined ribbons



#### **Areas of Immediate Interest**



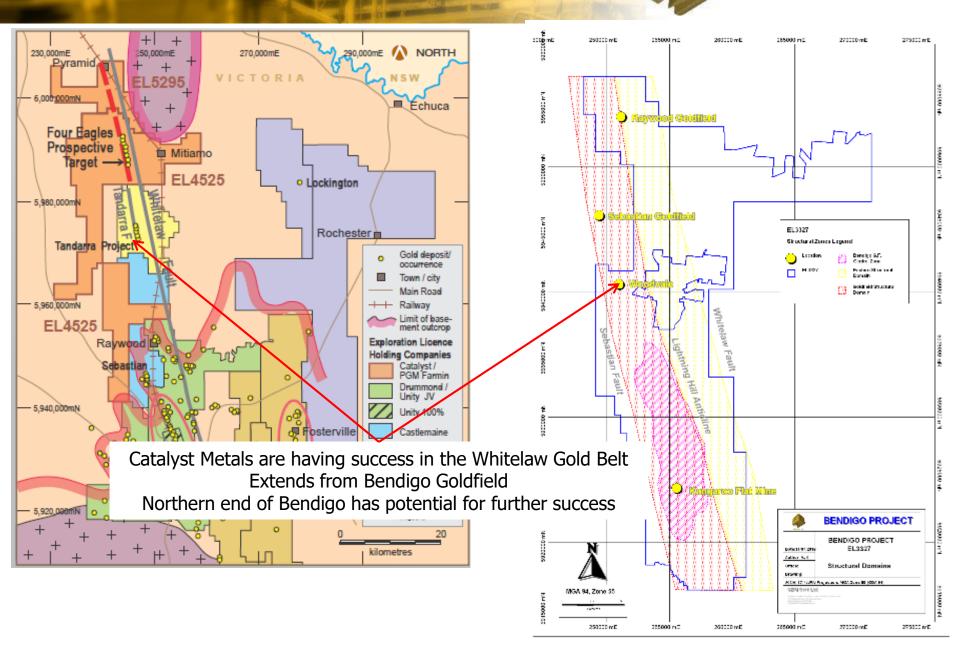
#### Big Targets (circa 300koz):

- 1. Hustlers Anticline between Great Extended Hustlers and Hustlers & Redan (discrete zone with comparatively low de-watering requirement, correct stratigraphy, prospective location on dome, prospective strike flexure and presence of cross-course faulting that is known to have resulted in localised enrichment).
- 2. New Chum Anticline between Belltopper Hill and Snobs Hill is another good, but deep, target area.
- 3. New Chum Deeps between New Chum Railway and Victoria Quartz has not been adequately tested.

#### Smaller Targets (circa 150koz):

- 1. GG Consolidated, Garden Gully Anticline, Spring Gully.
- 2. Langdon Group, Murray Sub-Fold of the Christmas Anticline, Kangaroo Flat.
- 3. Stafford Fault, Carshalton Anticline, Kangaroo Flat.
- 4. Hercules, Sheepshead Anticline, Long Gully.
- 5. Lightning Hill, Hustlers Anticline, Eaglehawk.
- 6. Goldfields Group, Nell Gwynne Anticline, Spring Gully.
- 7. Woodvale Area, northern portion of EL3327.

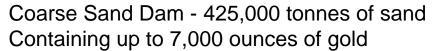
#### Whitelaw Gold Belt



#### **Kangaroo Flat Sand Dams**



GBM has identified an existing gold and sand resource in the Kangaroo Flat Coarse Sand Dam. It is progressing this project to mine and process the sand.





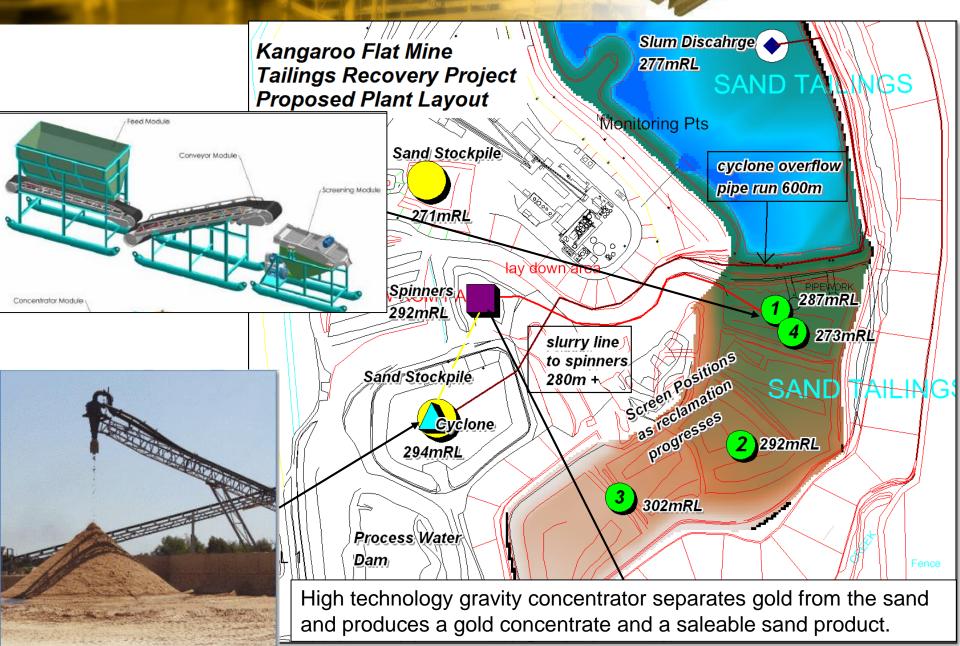
Processing the sand will produce a saleable sand product and recover gold.

#### Kangaroo Flat Coarse Sand Dam



- ✓ Analysed to define gold content and physical properties of the sand.
- ✓ The most significant gold result was 3m @ 1.78g/t Au from surface.
- ✓ Total estimated contained gold up to 7,000 ounces.
- ✓ Test work showed that the sand is suitable for use in the construction industry.

#### **Gold Recovery Process**

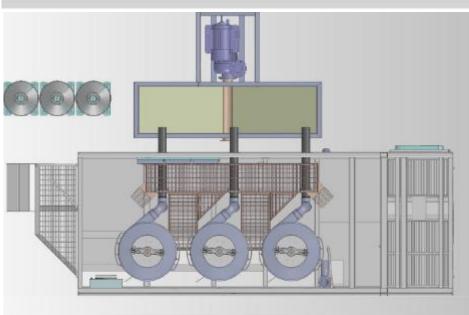


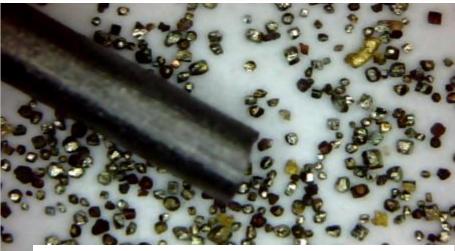
#### **Gravity Separation Process**



Mobile Gold Processing Plant – Gravity separation of heavy minerals no chemicals







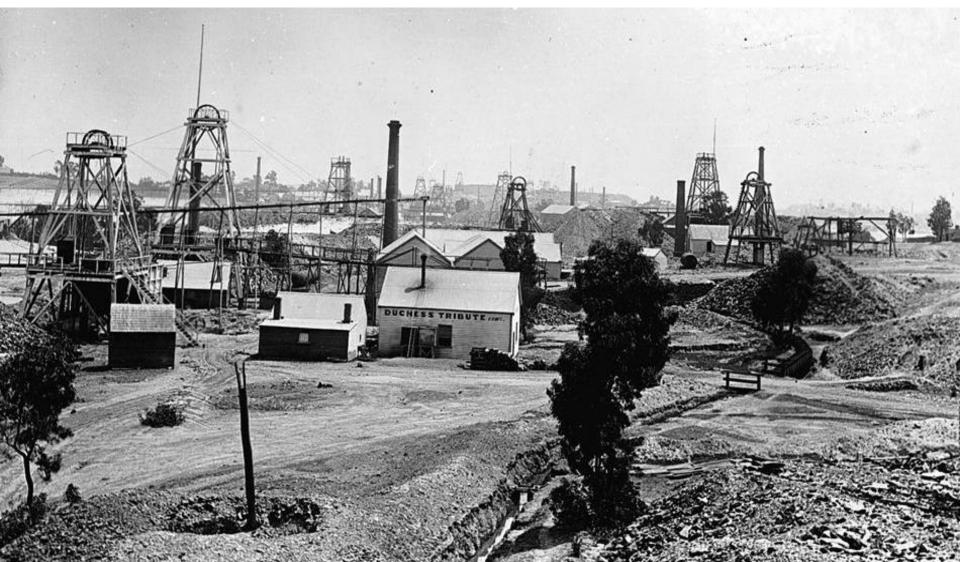
Captures gold and heavy metals down to 0.3 millimetres

#### **Bendigo Goldfield**



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It is estimated that five thousand shafts were sunk at Bendigo during the hundred year period of mining, from which more than 40 million tonnes of 'quartz reef' ore were extracted.



## **Bendigo Tailings**

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- The 40 million tonnes of 'quartz reef' ore was mined, producing an equivalent amount of tailings.
- In excess of 1.0 million tonnes of sand tailings remain containing gold, and construction sand

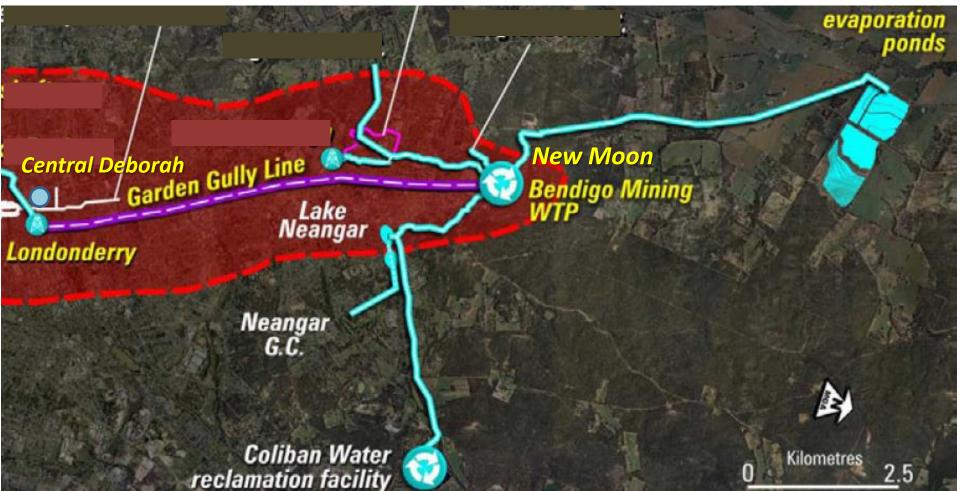


- During the 1980's and 1990's tailings dumps in Bendigo were reprocessed to extract remnant gold.
- It ceased when legislation gave tailings to mining licence holders.
- The City of Greater Bendigo are looking to a mine operator to clean up the tailings to provide more land for residential development.
- GBM plans to work with Council and the Bendigo Community to achieve this outcome.

### **Use of Redundant Assets**



- GBM has a Water Treatment Plant at its New Moon site.
- A five year lease agreement has been signed with Coliban Water for them to use the plant to dewater the goldfield.
- This will ensure groundwater is controlled and protects the operation of the Central Deborah Gold Mine and Bendigo in general.



### **Woodvale Evaporation Ponds**

- GBM has 179Ha of land at Woodvale that was developed into groundwater evaporation ponds.
- The implementation of the Coliban solution for Bendigo Groundwater makes this site redundant.
- GBM (as possessor of free-hold title) believes end-use should be productive agricultural land.
- GBM is implementing a rehabilitation program to achieve this end use.
- It may then dispose of the asset.



#### GBM Operations – Harvest Home Open Pit



An operational project with open pit and underground ore resources located near Dunolly



GBM is planning to mine the next stage of this pit when approvals are complete

#### Summary



- 1. GBM Gold has purchased the Bendigo Goldfield
- 2. It plans to implement environmental cleanup projects in Bendigo.
- 3. These projects will address the legacy of historical and modern mining.
- 4. There is also a plan to utilize or dispose of redundant assets.
- 5. These projects will generate cash flow.
- 6. GBM is developing an exploration model for Bendigo.
- 7. It will utilize the \$30 to \$40 million of exploration data already in place
- 8. If exploration is successful GBM would look to commence underground mining.

