



Aureus Mining
New Liberty Project
Plant Build and Construction

February 2014



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New Liberty Overview – Key Metrics

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Mining		
		DFS
Ore mined	Mt	8.5
Total material mined	Mt	140
Average strip ratio	waste / ore	15.5
Head grade	g/t	3.4
Ore milled	Mt	8.5
Contained gold	koz	924
Recovery	%	93
Recovered gold	koz	859
Financial		
		DFS
Initial capex	US\$ M	136
Cash cost	US\$	668
Pre-tax NPV	US\$ M	230
Pre-tax IRR	%	28.5
Post-tax NPV	US\$ M	165
Post-tax IRR	%	23.8
*DFS gold price of US\$ 1,400 / oz flat used		



Final DFS – Key Points

- **Reserves** – Pit redesigned, optimised solution, 924koz at 3.4g/t
- **Mine design** – Wrap around Waste Rock Dump, Plant located south of pit, TSF in topographic bowl to the South East and in close proximity to plant.
- **Pit design** – Slope angles steepened, Additional drainage berm and 15m geotechnical berm added, Factor of Safety on slopes increased, design revised with ramps on south.
- **Surface water management** – Water flow controls designed, pit dewatering solution designed, settlement ponds recommended, Marvov Creek Dams designed.
- **Groundwater** – Pumping tests completed, additional monitoring holes drilled, groundwater model developed.



Final DFS – Key Points

- **Geotechnical** – Additional holes drilled, more geotechnical data collected and data quality improved, revised slopes designed, impact of groundwater on face stability assessed, confidence improved, stability of weathered zones under TSF and WRD areas assessed.
- **Process design** – 24hr leach residence time, gold recovery dependent on grind size, cyanide addition reduced to 0.65kg/t, Optimum pH = 10 in CIL circuit, SO₂/Air detox effective, ferric chloride dosage added to remove arsenic from tails.
- **Metallurgy** – kinetic test work undertaken on tailings and waste rock, encouraging results received, no ARD on waste rock.
- **TSF** – Tailings dam design finalised and detailed drawings produced.
- **Project schedule** – Detailed schedule and critical elements identified.
- **Plant design** – Detailed engineering designs produced and drawings in progress.

Project Financing: Secured US\$100m Facility



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- South African Banks Nedbank and RMB approve credit of US\$88 million debt facility under the ECIC scheme (LIBOR +4.3% pa, including ECIC premium)
- RMB mandated for subordinated debt facility of US\$12 million (LIBOR +7.5%p.a, 11.1 million warrants)
- Overall cost of funding c.6% p.a
- Small gold hedge contemplated (up to 100,000 ounces at a minimum of US\$1,400/oz nearer to production)
- First draw-down in H1 2014
- Draw-down not contingent on hedge
- Aureus raised equity finance of US\$80m of in November 2012 and US\$16m in October 2013

New Liberty Gold Mine: Capital and Operating Costs

- Initial capital expenditure of US\$136 million (excluding contingency)
- US\$40 million of initial capital expenditure incurred to date
- Construction schedule is on time and on budget
- Operating cash cost:

	US\$ / oz
Mining costs	383
Processing costs	223
General and administrative	62
Operating cash costs	668

- All-in cash cost:

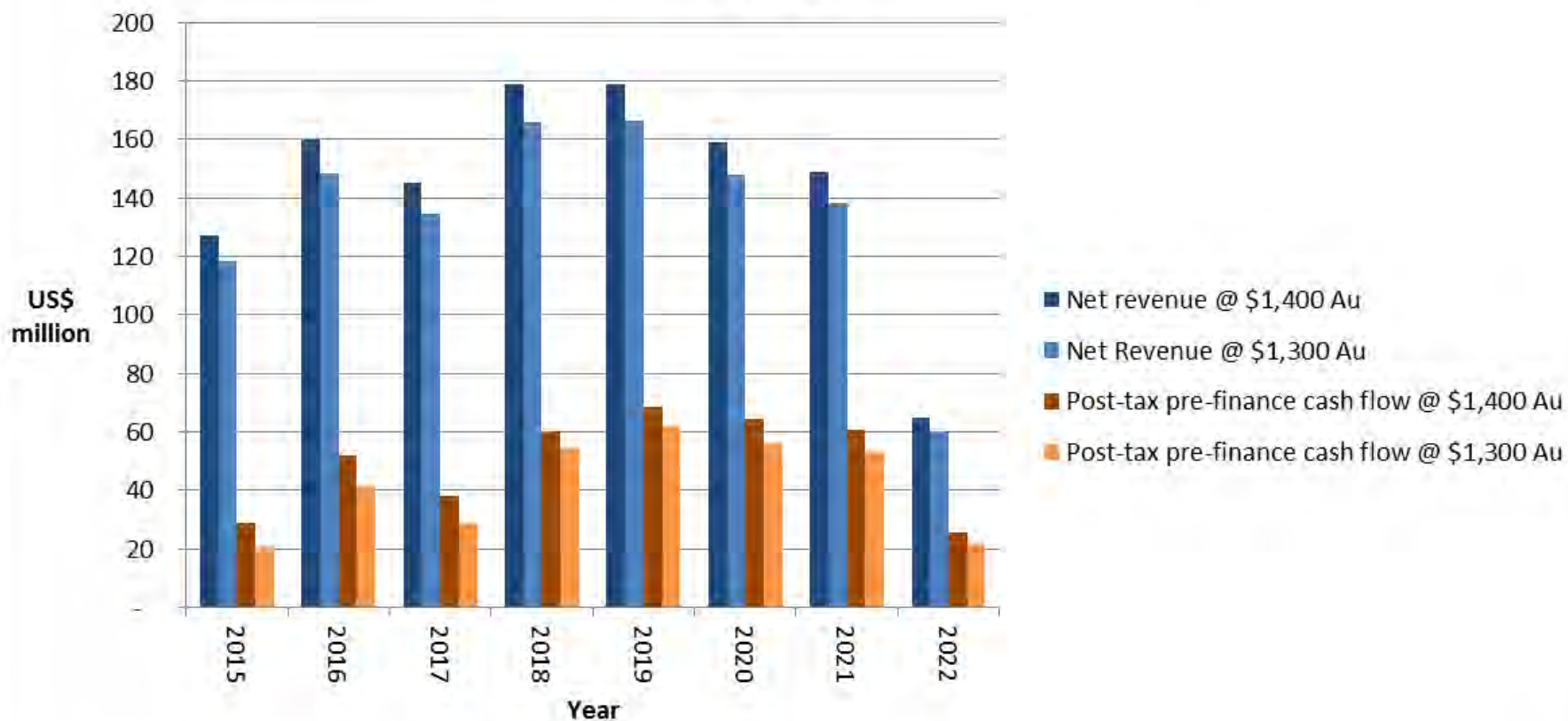
	US\$ / oz
Operating cash costs	668
Deferred capital and lease costs	116
Royalty/freight & refinery	43
Finance costs	32
Taxation	49
All-in cash cost	908

New Liberty Gold Mine: Cash Flows



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New Liberty Revenue and Free-Cash
per DFS



New Liberty Construction Update



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	% Complete	Forecast
Bridges & Road construction	75%	Feb-14
Temporary relocation	50%	Mar-14
RAP Complete	50%	Jun-14
MCDC	75%	Apr-14
MCDC Dam walls 1 & 2	30%	May-14
TSF	25%	Aug-14
Engineering & Detailed Design	85%	Mar-14
Procurement	80%	Apr-14
Fabrication & Manufacture	20%	Oct-14
Delivery	2%	Jan-15
Plant Construction	15%	Apr-15
Plant Commissioning	0%	Mar-15
First Gold Pour	0%	Mar-15
Plant handover	15%	Jun-15



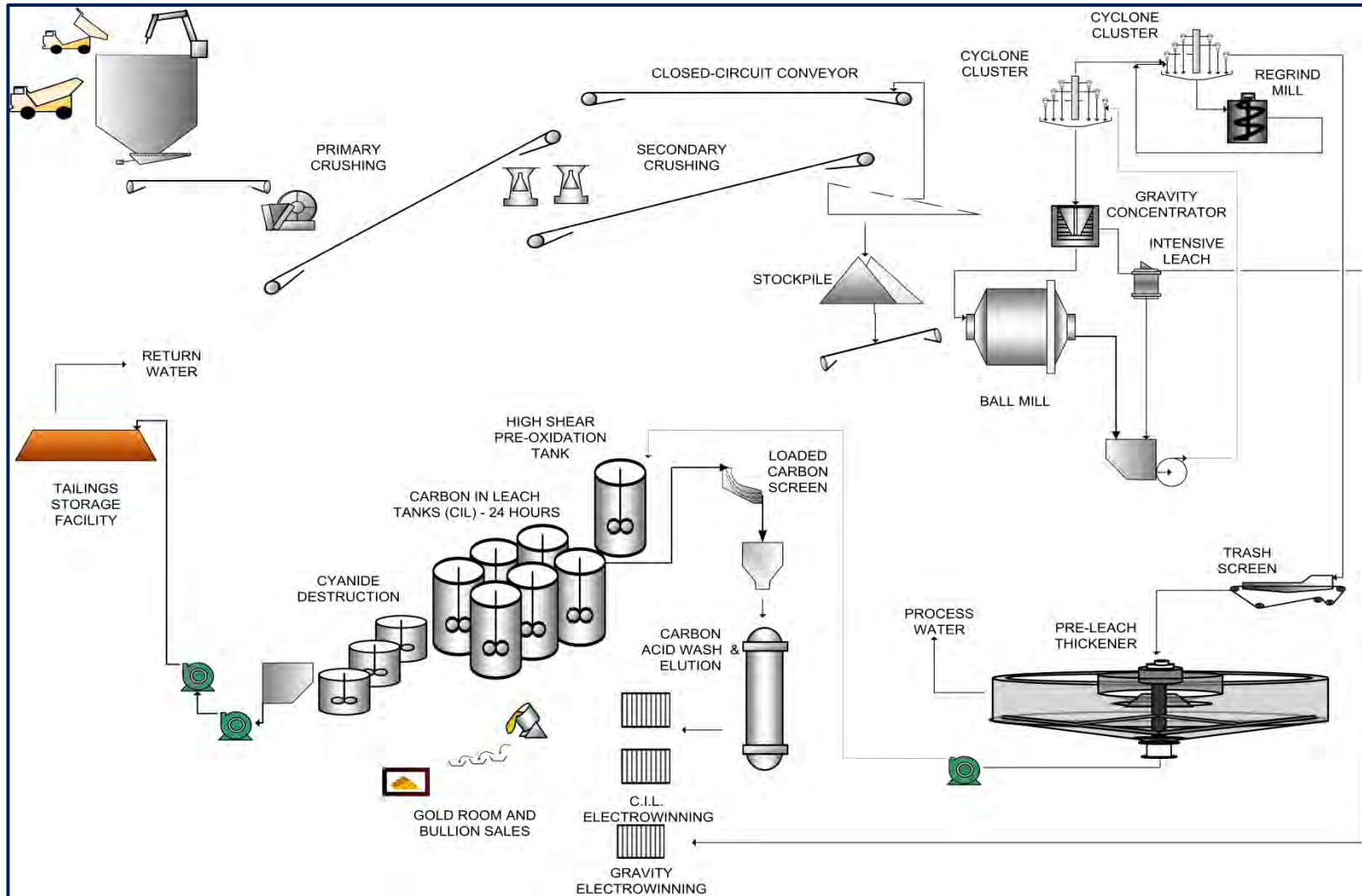
Metallurgy – Key Factors

- Free-milling ore with coarse and fine grained gold
- Fine grain sizes were fine to extremely fine (25-625 μm^2)
- Gold is normal free gold with a low silver content
- Gold is associated with both silicates and sulphides (mainly pyrrhotite).
- Good gravity gold recovery (50-60% recovery)
- Target grind of 80% passing 45 μm to give 93% recovery
- 24 hour Leach-CIP process with a residence time of 24hrs
- Recovery improved by addition of high shear oxygen
- Optimal pH control regime is pH of 11 prior to pre-oxidation and pH at 10 in the CIL circuit, resulting in a lime addition requirement of 1.48 kg/t
- Cyanide destruction process – sodium metabisulphite addition reduced to 0.5kg/t
- Ferric chloride precipitates Arsenic and improves tailings



Optimised Process FlowSheet

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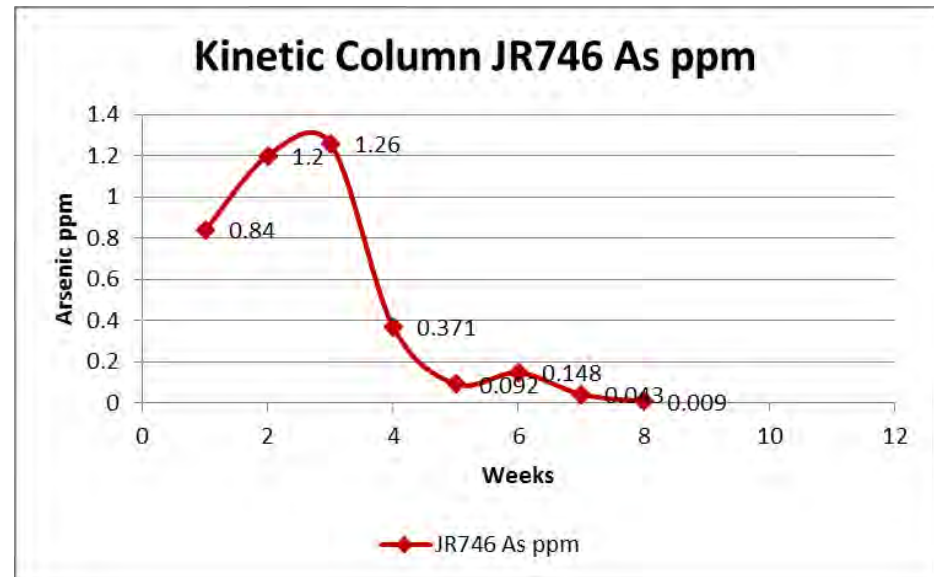




Leach Tests on Tailings

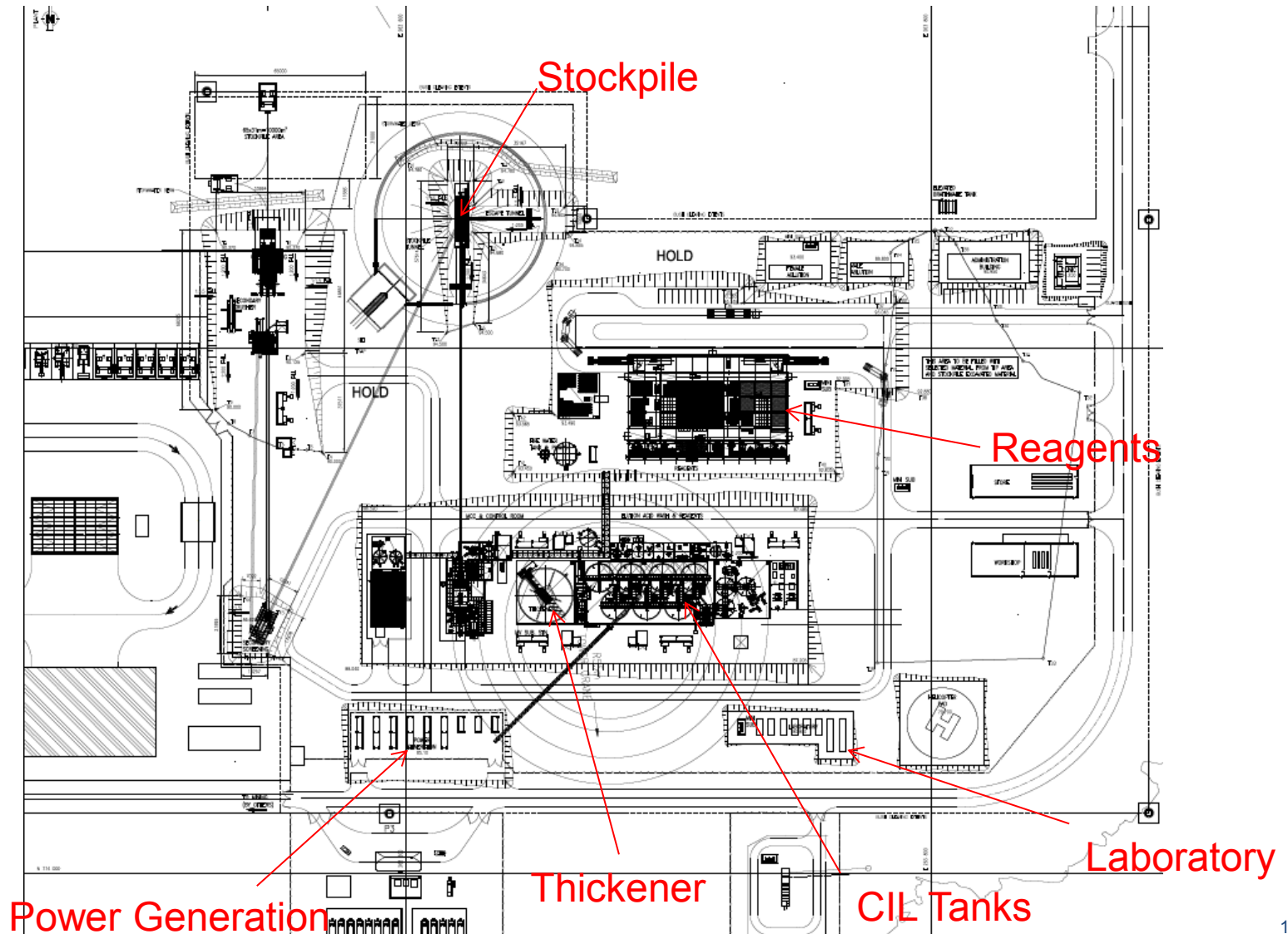
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- Leach tests conducted on tailings by ALS (Australia)
- Aim is to control the arsenic levels in tails.
- 26 week tests undertaken on prepared tailings samples
- Samples subjected to plant process (grind, pre-oxidation, leach, detox)
- Tests on sample treated with ferric chloride before and after the cyanide leach show sharp drop after 3 weeks to low levels of arsenic in the leach.
- Kinetic testwork is ongoing





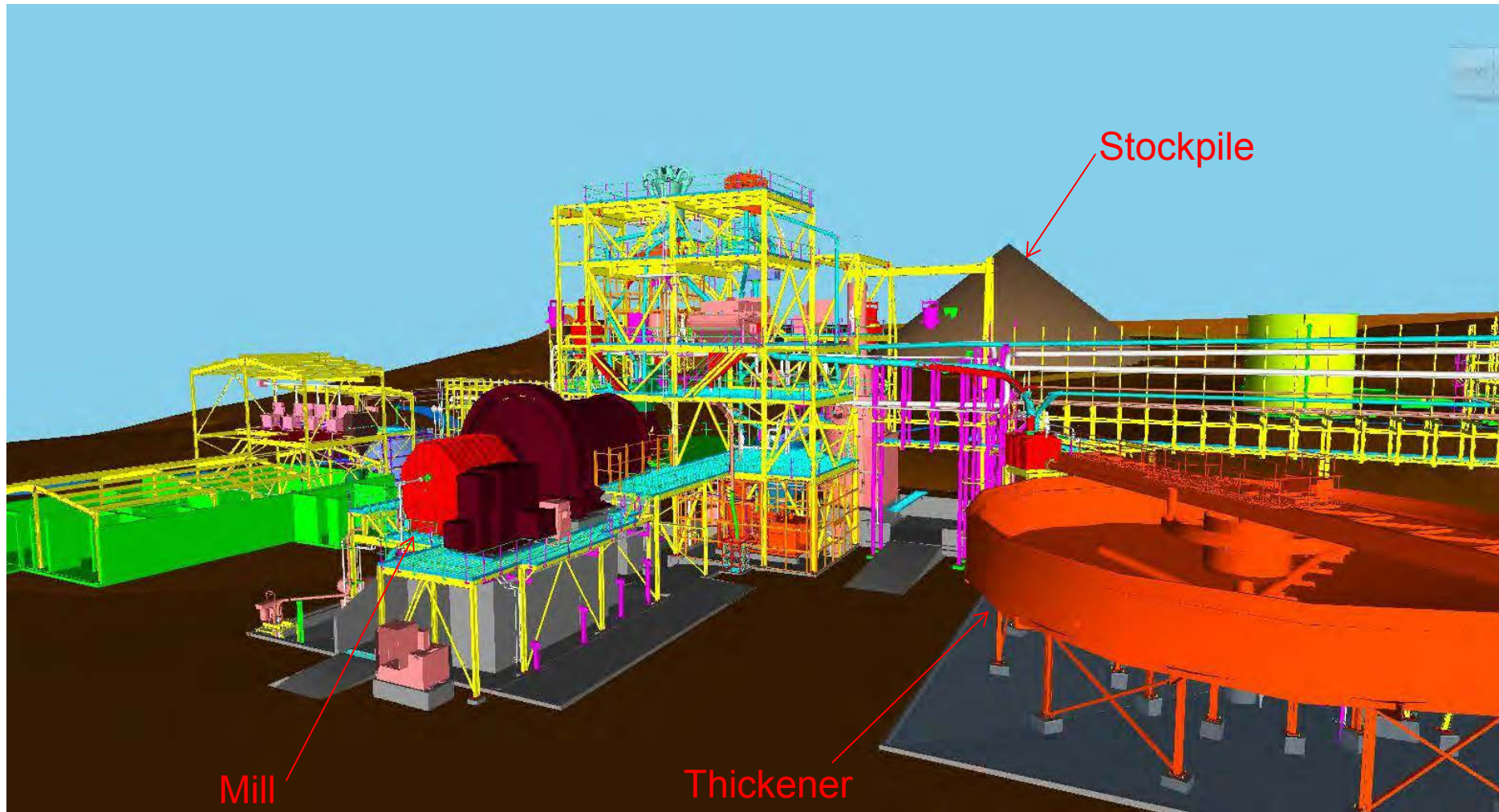
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Plant Layout

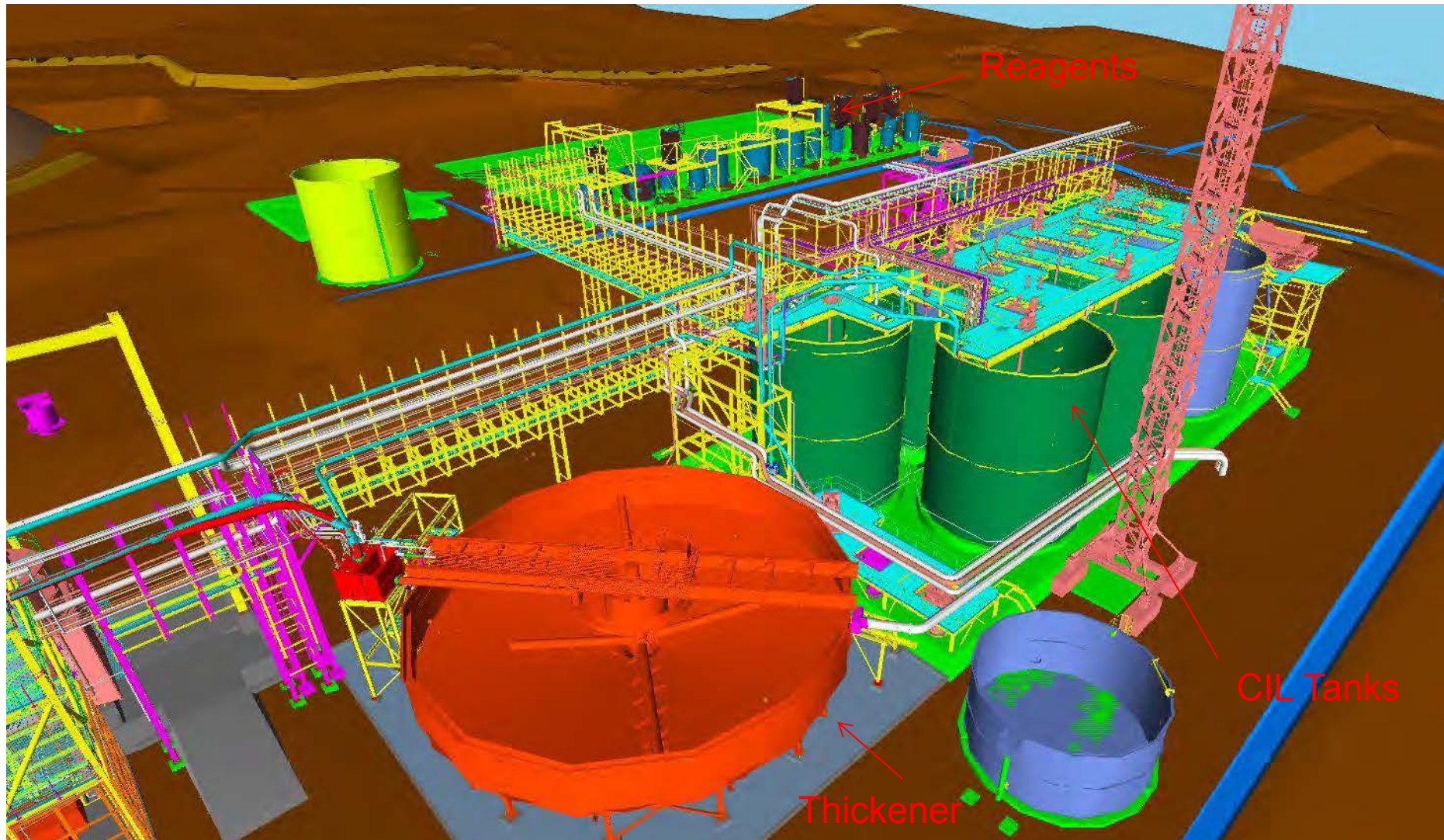
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Plant Layout

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Plant Build

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1 Primary crusher

Throughput: 228tph

Selected crusher: Metso C125, 160kW

2 Screening

Throughput: 479 tph

Selected screen: Joest 2.4m x 6.1m
double deck, 45kW

3 Secondary crusher

Throughput: 251tph

Selected crusher: Metso HP500, 375kW

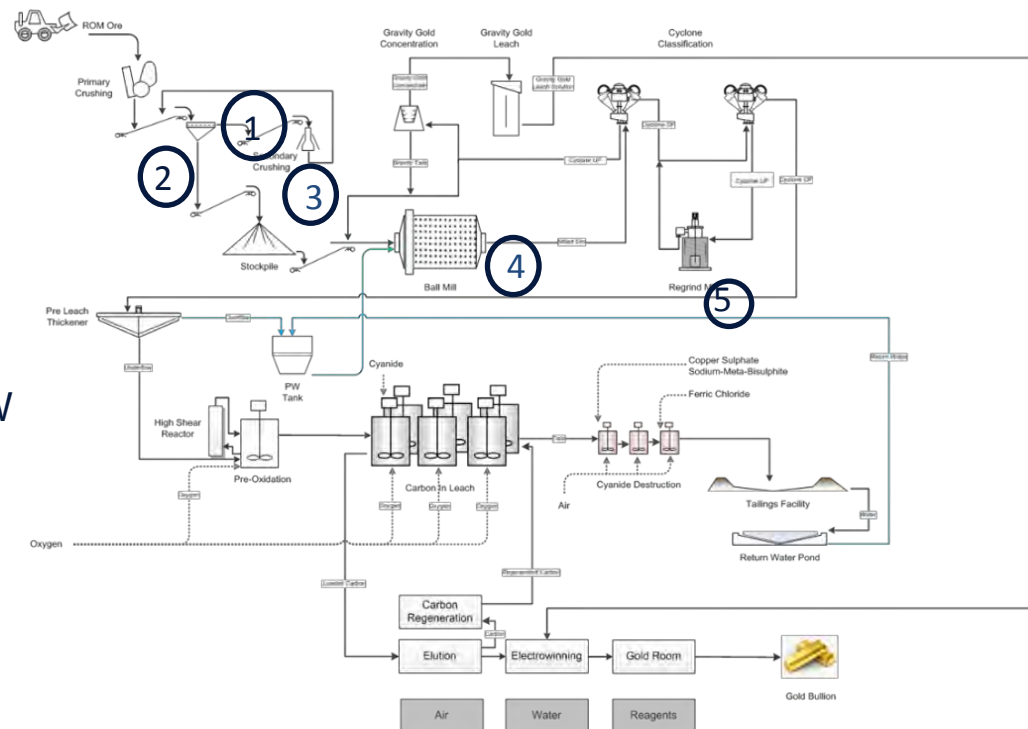
4 Primary Milling

Throughput: 146 tph

Selected mill: effective diameter 17.5ft
by effective grinding length 22ft, grate
discharge, 3 250kW

5 Secondary Milling

VTM 1500 VertiMill, 1 120kW





Plant Build

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6 Gravity Recoverable Gold Circuit
Falcon SB 1350 and Acacia CS 2000

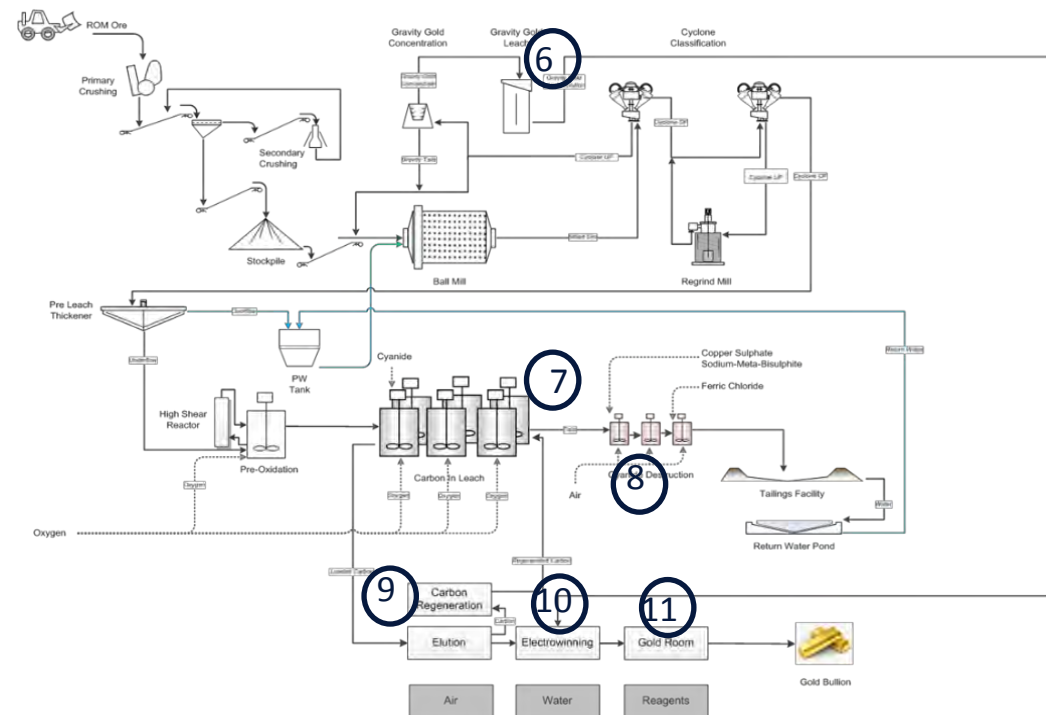
7 Carbon-In-Leach
Pre-Leach tank followed by six CIL tanks with 1 000m³ live volume each and pumping interstage screens

8 Cyanide Detoxification
Technology: INCO process,
Capacity: three 260m³ tanks

9 Elution & Carbon Regeneration
Technology: Split AARL
5t carbon per batch
300kg/hr Carbon Regeneration Kiln

10 Electrowinning
4 Cells
Atmospheric sludging

11 Gold Room
TPX 400 Diesel fired furnace





Plant Build

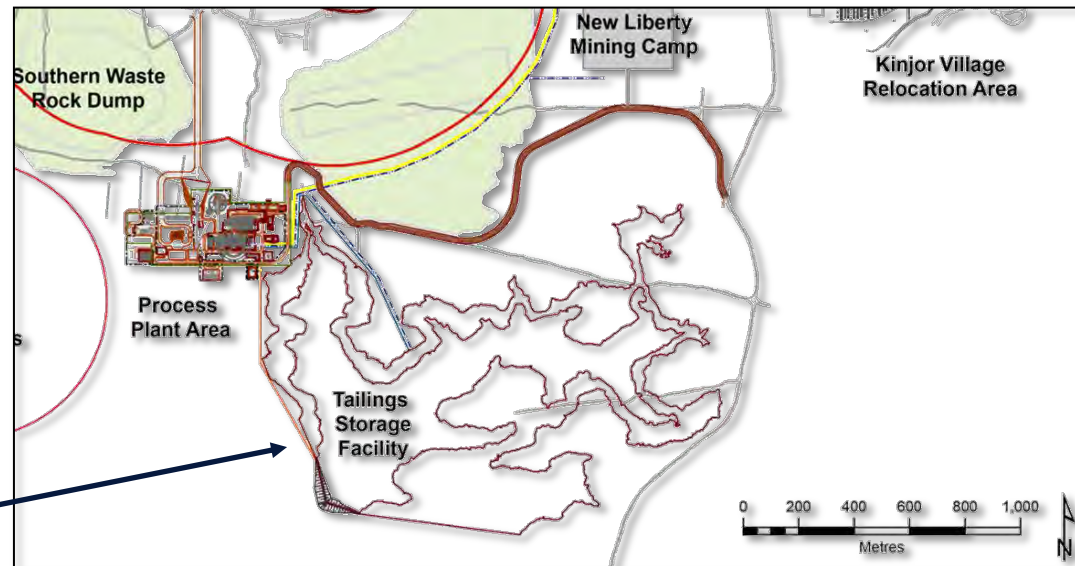
Reagents

Storage and Make-Up Building for:

- Cyanide
- Caustic
- Lead Nitrate
- Sodium Metabisulphite
- Copper Sulphate
- Flocculant
- Lime
- Hydrochloric Acid
- Ferric Chloride

Tailings

TSF Basin Area: 1 150 000m²
Unlined



Water Services

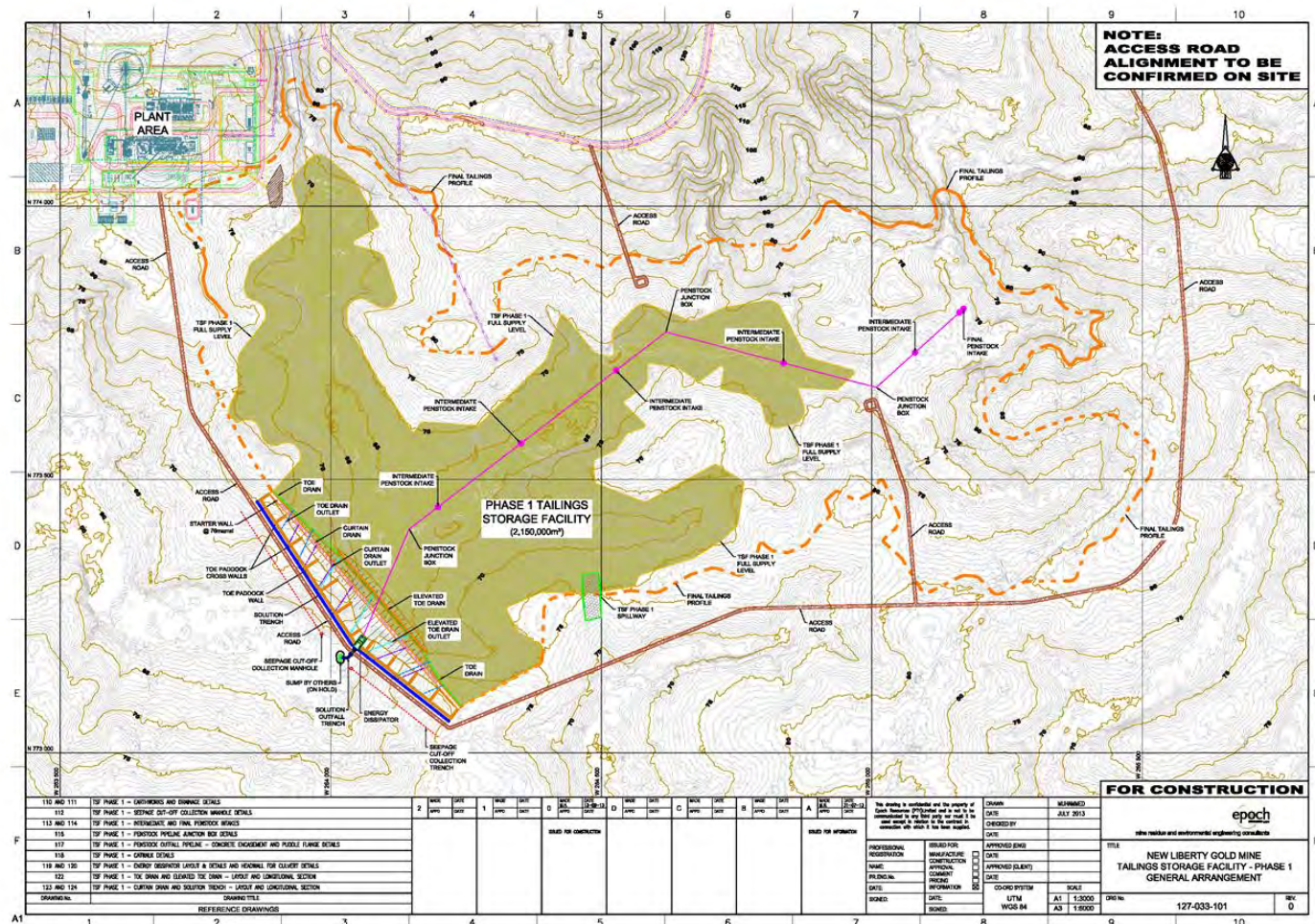
Process Water: Tailings Return Water System
Raw and Top-Up Water: Marvov Creek Dam 1

Air and Oxygen Services

Plant Compressors and a PSA Oxygen generator

TSF

- Situated in a topographic bowl south of the process plant
- Unlined
- Penstock design
- Paddocking system





Construction

- Earthworks is 90% complete in the plant areas, with TSF and Diversions dams on track for completion Q3 2014
- Plant Civil works is at 20%, with the first foundations ready to accept steel in the Secondary Screening area.
- SMPP contractor to site establish Feb 2014, with first steel expected on site in March.
- Major contracts signed include EPCM, Earthworks and Civils, SMPP supply and long lead capital items.



Power Generation - Jozi Power

- Proposal based on a 6-year Build, Own, Operate and Transfer (BOOT) term
- Site will be manned by operator 24/7 by two expatriate operators
- The Jozi Power genset package contains a combination of hardware from the following world class manufacturers, packaged in a robust and mobile modified 12m shipping container, specifically designed for heavy industrial and mining conditions:
 - Engine – MTU (Germany) Some of the most fuel efficient engines in their class.
 - Alternator – Stamford Newage (UK)
 - Control system – DEIF (Norway)
- Key components:
 - Power plant and equipment supplied by JOZI POWER out of South Africa
 - Jozi Power specializes in supplying power to mines in African environments
 - Jozi Power are experienced operators in West and Central Africa
 - Build, Own, Operate and Transfer (BOOT) contract over a six year lease term
 - Jozi Power supplies personnel and skills to run and maintain the power plant
 - Aureus supplies diesel at going rate. (\$1.13/litre from TOTAL Liberia)



Power Generation Overview

- Design Criteria:
 - Installed capacity: 9MW
 - Operational demand : 5.5MW on average.
 - 5 x 1.8MW power generator sets housed in shipping containers.
 - Low fuel consumption is key focus as 80% of electrical power cost is fuel
 - Power cost: \$0.319/kWhr
 - Reliable units with low emissions.
 - System is flexible - provision can be made for additions if required later
- Long term plans:
 - Medium term – explore HFO option with Total.
 - Longer term – evaluate hydropower option from nearby rivers as well as tapping into WAPP power grid should that become reality.



Camp David – Mine Accommodation

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- Accommodation for approximately 600 people during construction.
- Consists of temporary and permanent accommodation.
- Temporary accommodation to be dismantled after mine build is complete.
- Target date for completion of phase one is February 2014, in time for G5 first phase mobilization.





Construction Progress

Construction Phase Underway

- Infrastructure improvements
 - 20km of laterite road upgraded, with four new bridges being installed. Road drainage improved.
- Plant site earthworks completed and civil construction works in progress
- Village relocation project ongoing
- Long-lead items ordering commenced with Ball Mill construction in progress

Plant Site – Mill Stock Pile Foundations



RAP Village – New House Building





RAP and Village Relocation.

- RAP was approved by the Government in March 2013.
- New Kinjor village is built approximately 3km East of the current village, closer to the plant site to accommodate people travelling to work.
- A community centre, market place, shops, mosque, church, two school buildings, communal ablution facilities and 159 duplex units are being built for the affected community.
- Land has been set aside in New Kinjor for people who arrived in Kinjor after the initial census and who would thus not directly benefit from the RAP.
- Aureus has 20 drilled water wells, installed hand pumps, is busy constructing communal ablution facilities and will assist with building materials for 265 traditional houses for these families. This assistance is being undertaken without obligation and as a sign of good faith towards the community.
- Building of a temporary relocation area consisting of traditional houses close to the project is underway to enable the community to live closer to the employment site and already completed infrastructure. Work contracted out to house owners and Kinjor villagers.
- 20 Water wells have been drilled and hand pumps installed. Communal ablution facilities are being built. In perspective, the current village has two hand pumps and no ablution facilities.



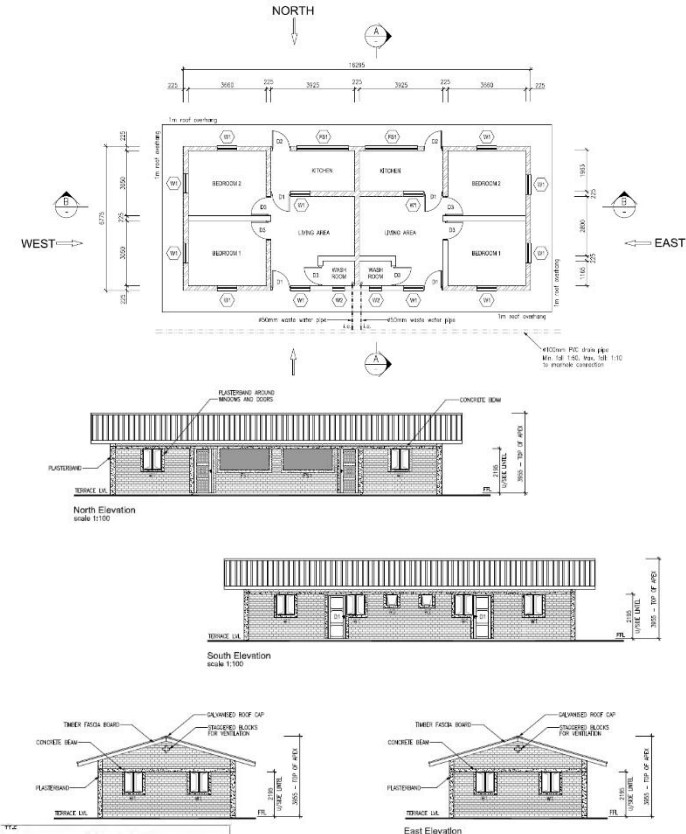
RAP Continued

- The RAP program is unique in that it has the CDP integrated into the construction phase of the RAP.
- The community has been trained and are actively engaged and earning money in building the New Kinjor village whilst learning new skills sets.
- Industries created to date:
 - Brick making – Hydraform brick making machines out of RSA.
 - Building – Infrastructure construction.
 - Carpentry – Manufacturing & supplying of roof trusses, doors and windows.
 - Furniture manufacturing – school, church and furniture for Camp David.
- In order to provide sustainable job opportunities after the completion of the RAP, the following will be put in place:
 - Brick making machines to be turned over to the community co-operative and assistance provided with transporting and marketing of bricks and building contract work.
 - The RAP area makes provision for farmland where vegetables for consumption at New Liberty will be grown. Any excess will be sold in the local market or further afield.
 - The new community centre will house a sewing shop where local women will manufacture overalls for the mine, school uniforms and other clothes.
 - New Liberty logistics provider will assist in transporting all local produce and goods to markets along the route to Monrovia.

RAP Layout



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RAP LAYOUT

NEW LIBERTY GOLD MINE

2009

Borehole locations

status

abandoned

completed

planned

water

RAP Fibers

RAP Roads

Contours

Timber

Permanent reinforcement

Temporary reinforcement

RAP Buildings

Type

Church

Community Centre

House

Market

Mosque

School one

School two

Shop

Toilet

Wood Workshop



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