



# OceanaGold

## Didipio Mine Analyst Visit

### Day 1

November 10 2014

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Innovation  
Performance  
Growth

# Cautionary Notes

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## **Cautionary Notes - Information Purposes Only**

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## **Technical Disclosure**

The Mineral Resources for Didipio were prepared by, or under the supervision of, J. G. Moore, whilst the Mineral Resources for Macraes and Reefton were prepared by S. Doyle. The Mineral Reserves for Didipio were prepared under the supervision of M. Holmes, while the Mineral Reserves for Macraes and Reefton were prepared by, or under the supervision of, K Madambi. C. Bautista is Exploration Manager for the Philippines. M. Holmes, S. Doyle, K. Madambi, and J. G. Moore are Members and Chartered professionals with the Australasian Institute of Mining and Metallurgy and each is a “qualified person” for the purposes of NI 43-101.. C. Bautista is a member of the AIG and is a “qualified person” for the purposes of NI 43-101. Messrs Holmes, , Doyle, , Madambi, Moore and Bautista have sufficient experience, which is relevant to the style of mineralisation and type of deposits under consideration, and to the activities which they are undertaking, to qualify as Competent Persons as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves” (“JORC Code”).

The resource estimates for the El Dorado Project were prepared by Mr. Steven Ristorcelli, C.P.G., of Mine Development Associates, Reno, Nevada (who is an independent Qualified Person as defined in NI 43-101) and conforms to current CIM Standards on Mineral Resources and Reserves.

For further scientific and technical information (including disclosure regarding mineral resources and mineral reserves) relating to the Reefton Project, the Macraes Project and the Didipio Project please refer to the NI 43-101 compliant technical reports available at [sedar.com](http://sedar.com) under the Company's name. For further scientific and technical information (including disclosure regarding mineral resources and mineral reserves) relating to the El Salvador Project please refer to the reports publicly available on SEDAR ([www.sedar.com](http://www.sedar.com)) prepared for Pacific Rim.



# Didipio Overview





# Didipio Overview

First FTAA signed and in production



## Nominal Production

Gold: 100 koz

Copper: 14 kt

## P&P Reserves<sup>1</sup>

Gold: 1.77 Moz

Copper: 216.5 kt

## M&I Resources<sup>1</sup>

Gold: 2.08 Moz

Copper: 250.2 kt

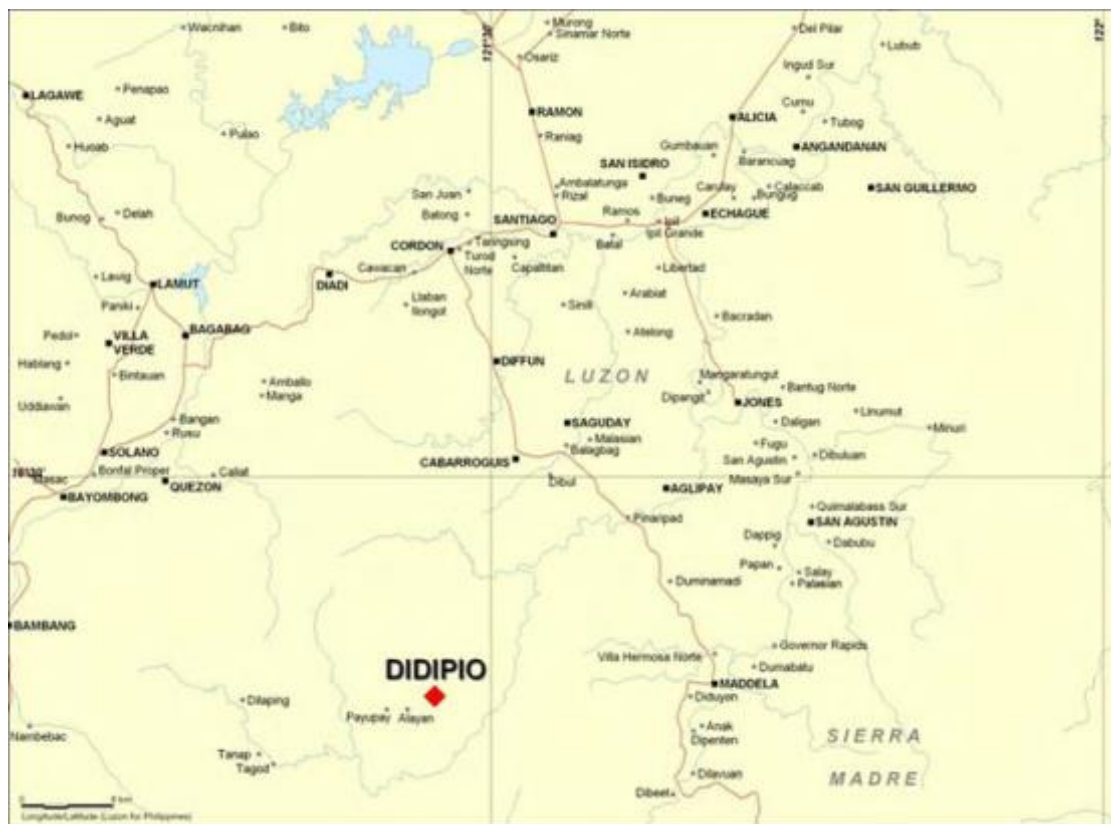
## Mine Life

OP: 2017

UG: 2028

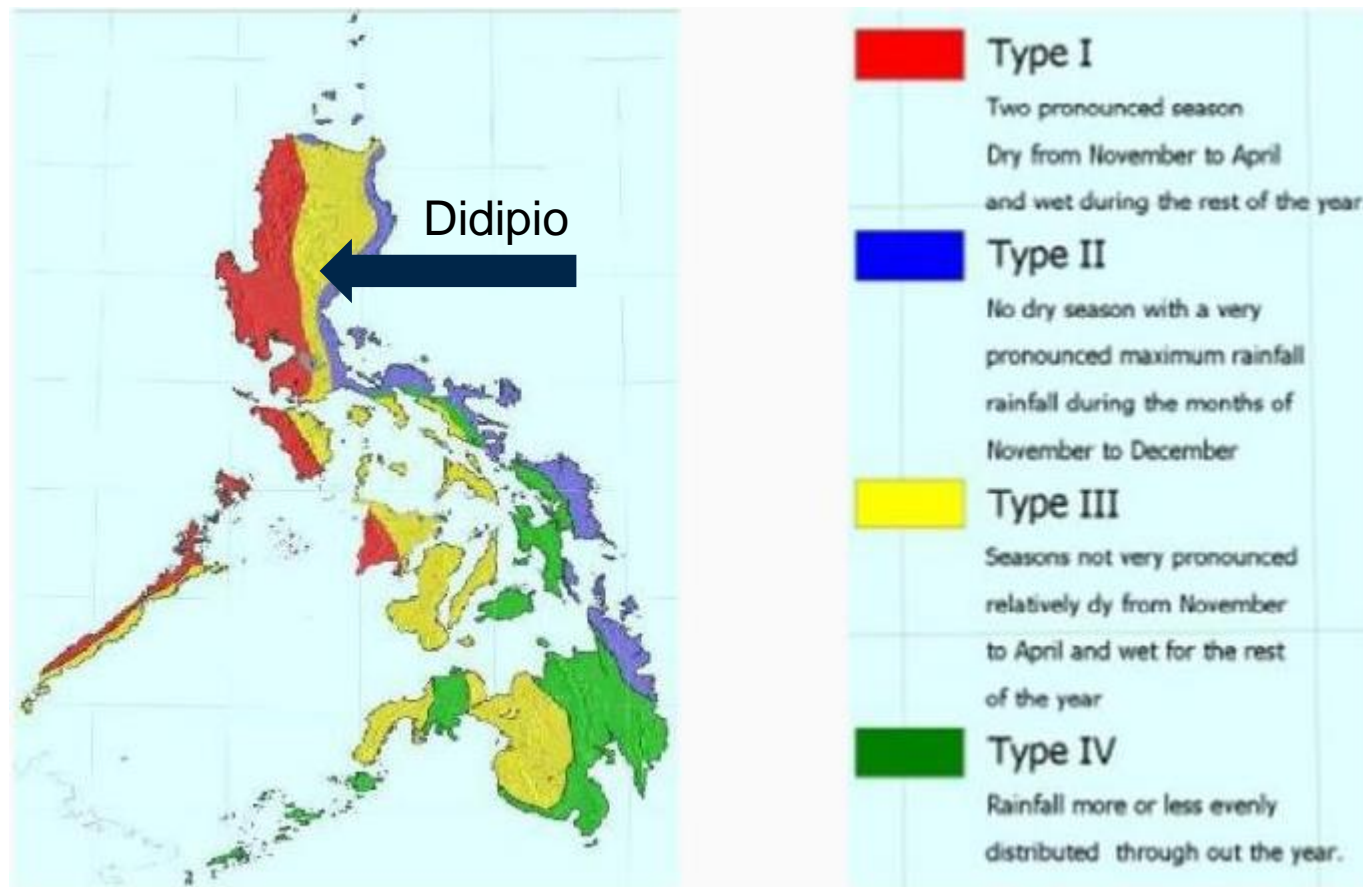
1. Reserves and Resources are based on the Didipio Technical Report dated 29 Oct 2014  
OceanaGold Corporation

# Didipio Overview



- Didipio straddles the provinces of Nueva Vizcaya and Quirino
- 270 km NNE of Manila
- 700 metres above sea level
- 22-km gravel all-weather access road to site

# Didipio Overview



- Didipio is located in a Type III – no pronounced maximum rainfall period
- Operations planned based on expected rainfall



# Site Overview



# Camp Management & Travel

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- Dicorp continue excellent delivery of catering and camp admin service
- Addition of full fitted gym with instructor and healthy eating programme to follow
- Alignment of Travel Team with Camp Admin Team to utilise synergies
- Contract services managed by OGPI to ensure consistency and support Dicorp on sustainable delivery and development
- Continue to build capacity within Dicorp which they can leverage off for development outside the camp



# 2014 Capex

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	Amount
Sustaining Capital (including debottlenecking)	\$10m to \$15m
TSF Construction	\$5m to \$10m
Open Pit Pre-Strip	\$15m
<b>Total 2014 Capex Budget</b>	<b>\$30m to \$40m</b>

# Didipio Safety





# Didipio Safety

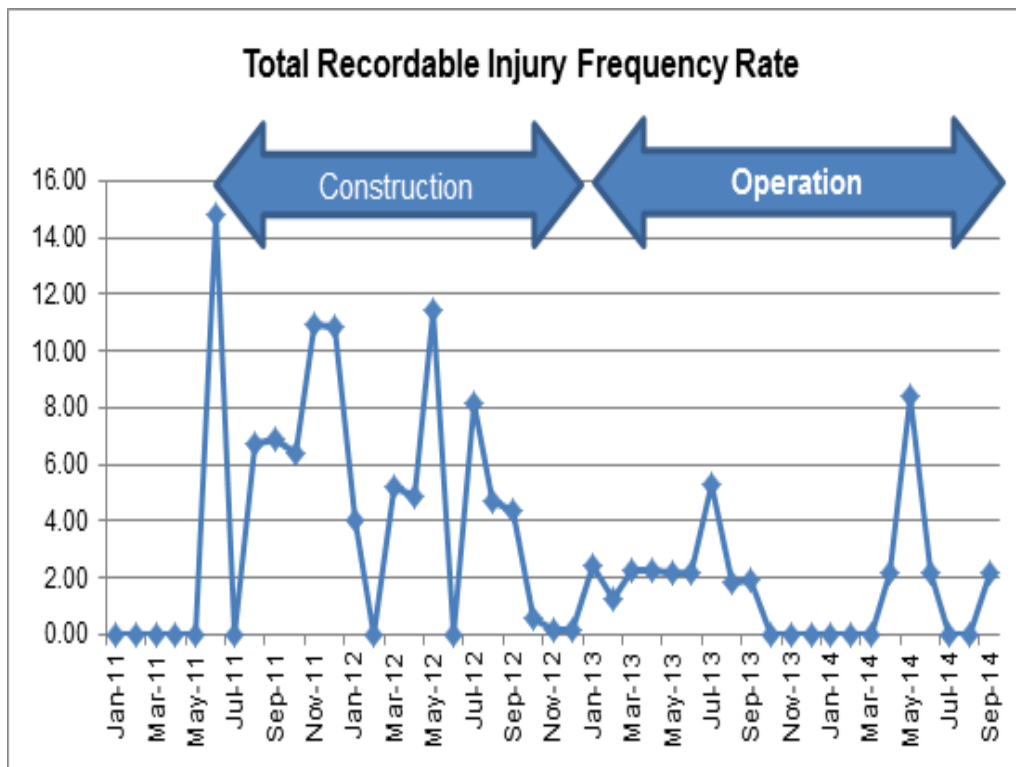


- 2.3 million man hours without a lost-time injury
- Achieved over 10 million man hours without a lost-time injury for nearly a two-year period
- Heavy focus on health & safety from day one
- Recognized for safety performance





# Strong Safety Performance



## Safety

No Lost time incidents since April 5, 2014

12 month moving average TRIFR=1.6

Last medical treatment injury was September 27, 2014

10 million manhours worked without a lost time injury hit last March 28, 2014

Established Didipio Academy – a TESDA accredited training institution for equipment operators

Increased focus on High Hazard Activities – Fatal Risk Register (Principal Hazard Management Plan)

# Safety Recognition

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- Didipio Training Academy won the National Kabalikat Awards bestowed by TESDA (Technology Skills Development Authority)
  - Besting Toyota and Coca Cola among others
- National News : Women in Mining: one runs 100-Ton truck
- “Typhoon Yolanda” Response
  - OGPI sent delegation to help victims on the typhoon
  - 3 weeks engagement
  - Regional recognition of ERT team

Note: TESDA is a government organization tasked to lead and produce skilled workers and develop private training organizations

# Didipio Training Academy

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- TESDA accredited Didipio Training Academy won the national Kabalikat Awards Besting Toyota and Coca Cola
  - Woman in Mining; one runs 100 ton truck

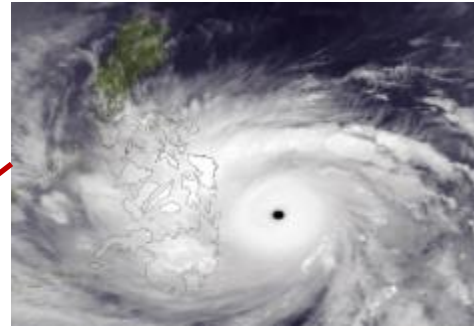


**Marina Bartolome, who stands 4'11", is dwarfed by the large-scale haul truck**

**When asked who was the better driver between her and her husband, Bartolome answered with a chuckle: "Me, sir. I drive the heavier vehicle."**



# Typhoon Yolanda “Haiyan”



- Three weeks volunteer work for Emergency Response Team
- Transporting Equipment to and from typhoon site
- Logistical challenge
- Psychological de-briefing



# Regional Recognition – Emergency Response





# Mining Operations





# Mining Operations

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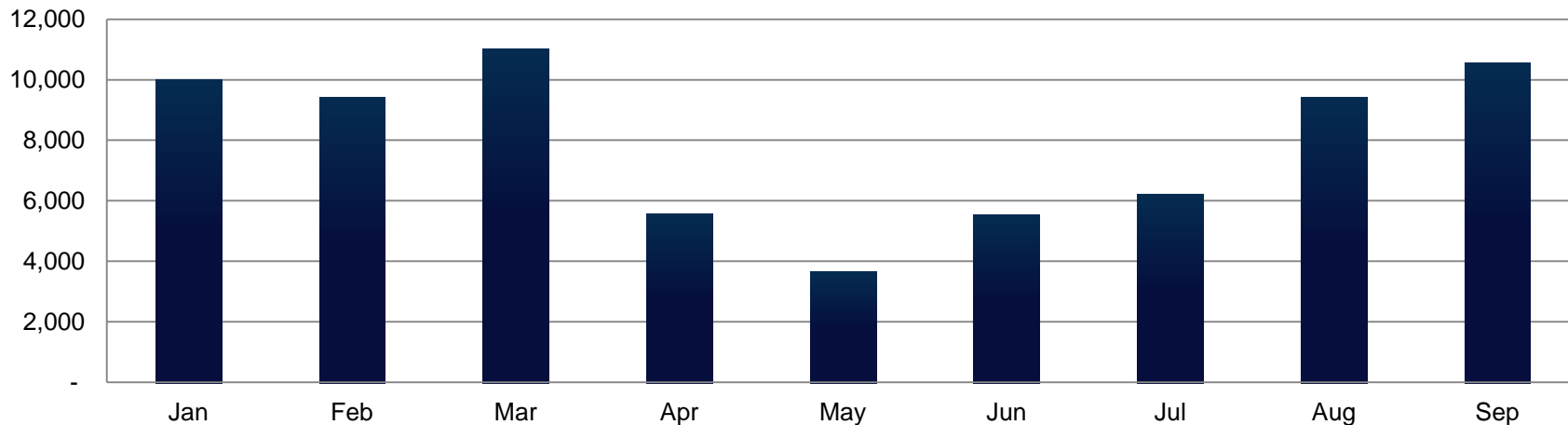
- Mining is carried out by Delta Earthmoving
- Contractor performing well and steady production achieved
- Explosives manufactured and supplied to hole by Orica
- Some Staff Seconded to Delta to Improve Safety, Training and Maintenance Performance
- Monthly Ore and Waste Movement 2.0-2.2 million tonnes
- Mining Cost: \$2.40 to \$2.50 / tonne
- Current Stockpiles
  - ROM and HG – 0.9Mt
  - Medium and Low Grade 10.76Mt
- Focus on Cost Reduction in 2015

# 2014 YTD Production *(as of 30 Sep 2014)*

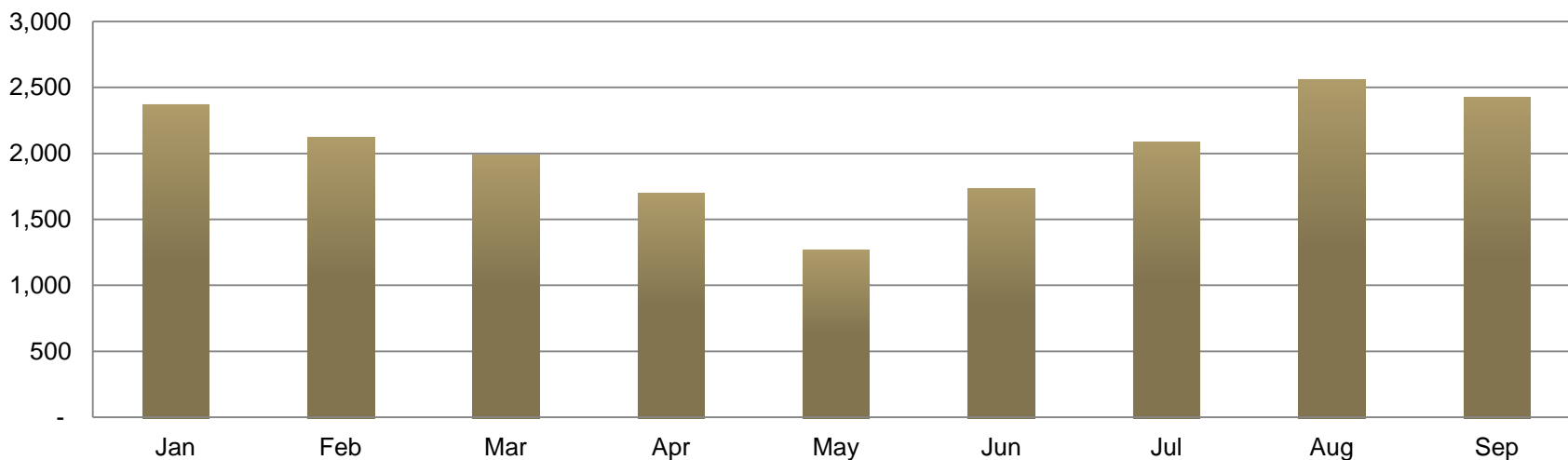
		YTD Stats
<b>Mining</b>		
Total Ore Mined	Mt	5.9
Waste Mined	Mt	12.9
Ore Au Grade	g/t	0.63
Ore Cu Grade	%	0.54
<b>Processing</b>		
Mill Feed	Mt	2.2
Au Grade	g/t	1.11
Cu Grade	%	0.87
Au Recovery	%	89.2
Cu Recovery	%	93.6
<b>Production</b>		
Gold	oz	71,473
Copper	t	18,263
<b>By-product Costs</b>		
Cash Costs	\$/oz	(480)
AISC	\$/oz	(166)

# 2014 YTD Production *(as of 30 Sep 2014)*

## Monthly Gold Production (ounces)



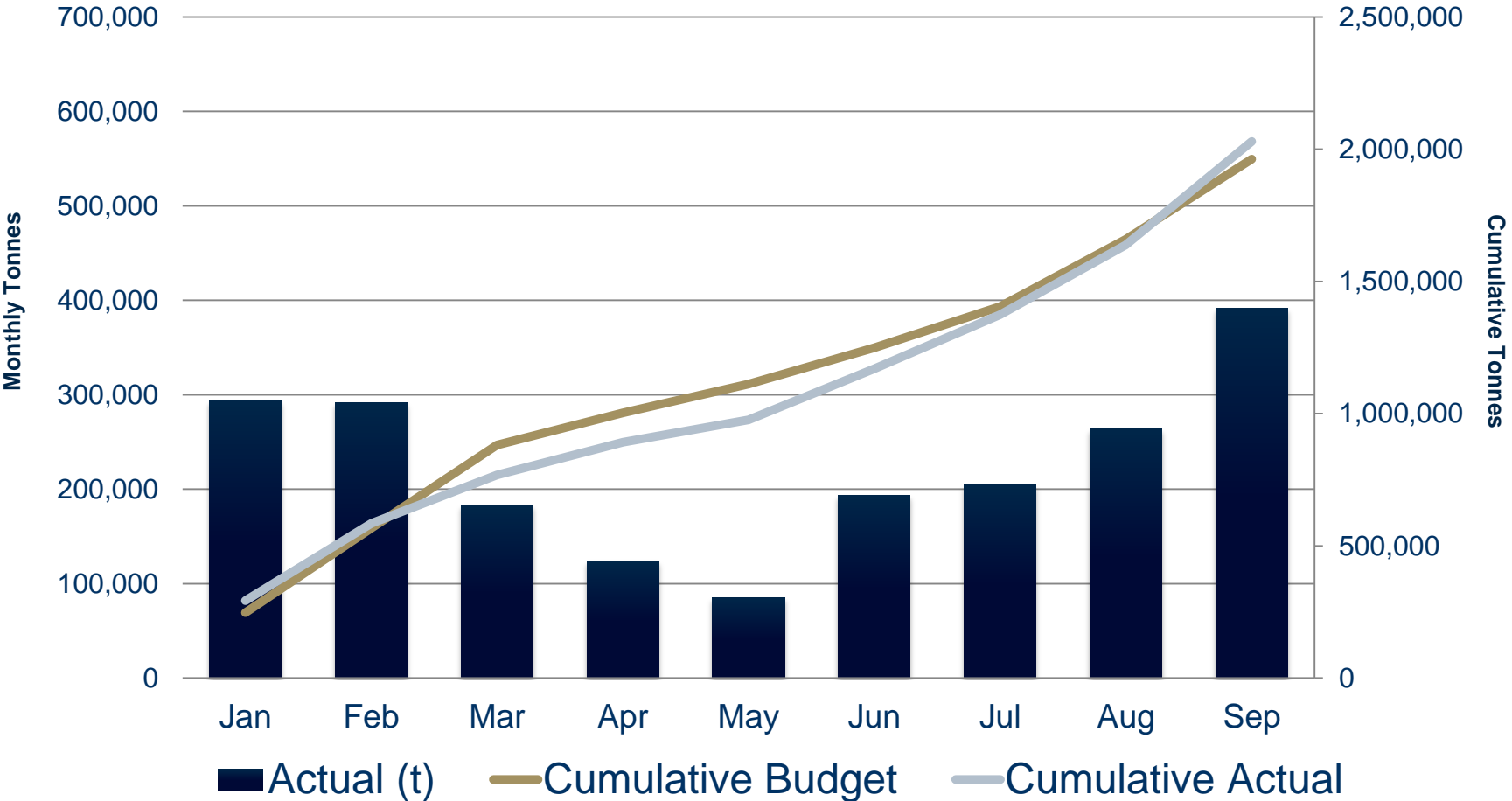
## Monthly Copper Production (tonnes)





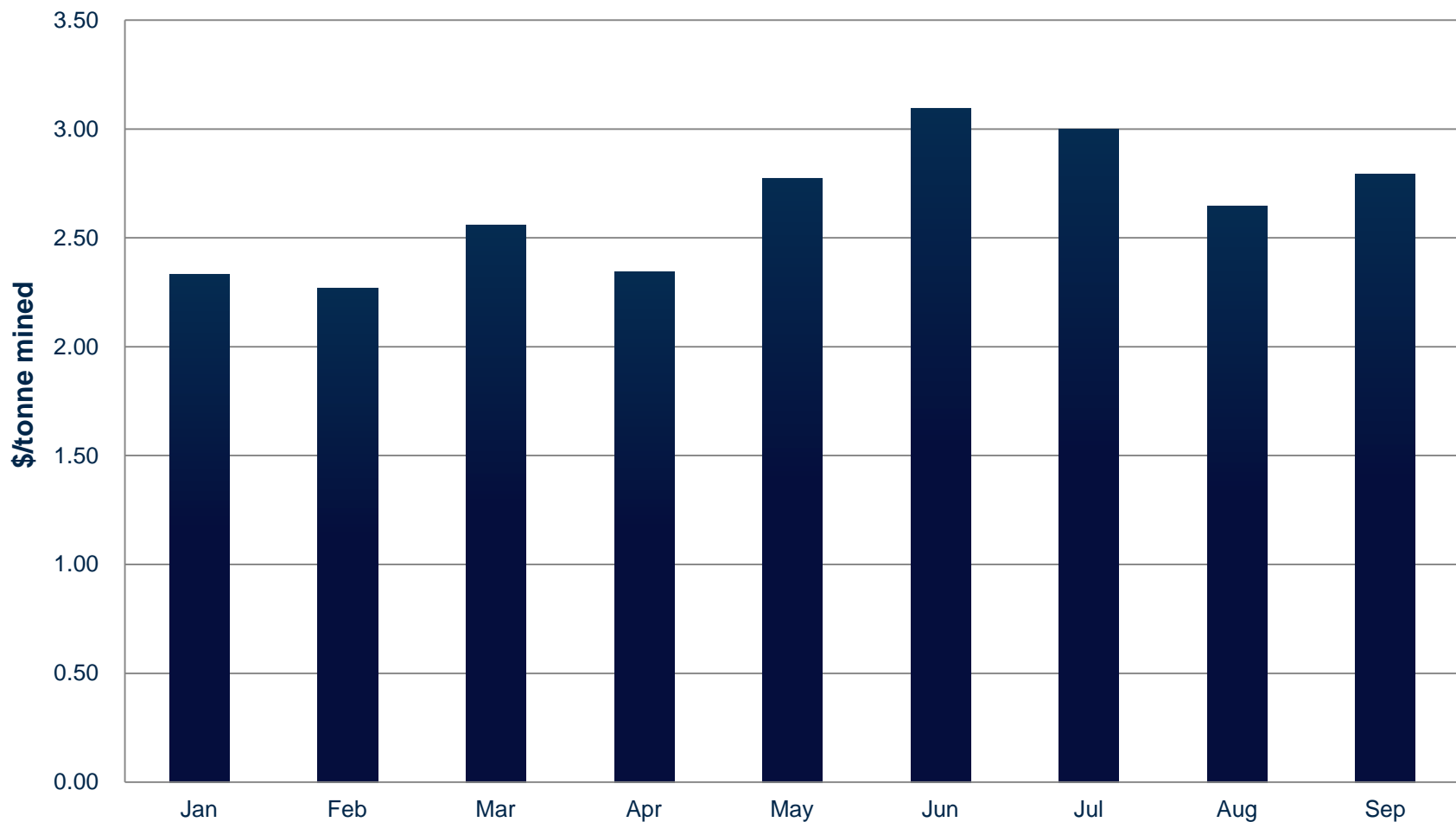
# ROM Ore Mined

## FY14 - Total ROM Tonnage



# 2014 Mining Cost Actuals

## Mining Cost (before pre-strip)



# Current Mining Operations



	Design Stripping ratio	Total tonnes (as of Aug 2014 Optimized Pit)	Au Oz	Cu t	Remaining Tonnes ( as of Sept 2014 actual surf)	Completion
Stage 3	0.26	2.95	95,801	11,792	2.20	1-Jul-15
Stage 4/5	2.62	31.45	248,035	41,137	29.72	1-Sep-16
Stage 6	3.04	46.88	332,052	45,758	46.81	1-Dec-17

- Actively mining stages 3 and 4
- Commencing stage 5 waste removal



# Tailings Storage Facility

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- Current height of the TSF wall: RL2780
- Ultimate level: RL2820 est. end of 2018
- Current capacity: 3,108,186 m<sup>3</sup>, ultimate capacity: 4,861,850 m<sup>3</sup>

## Robust design:

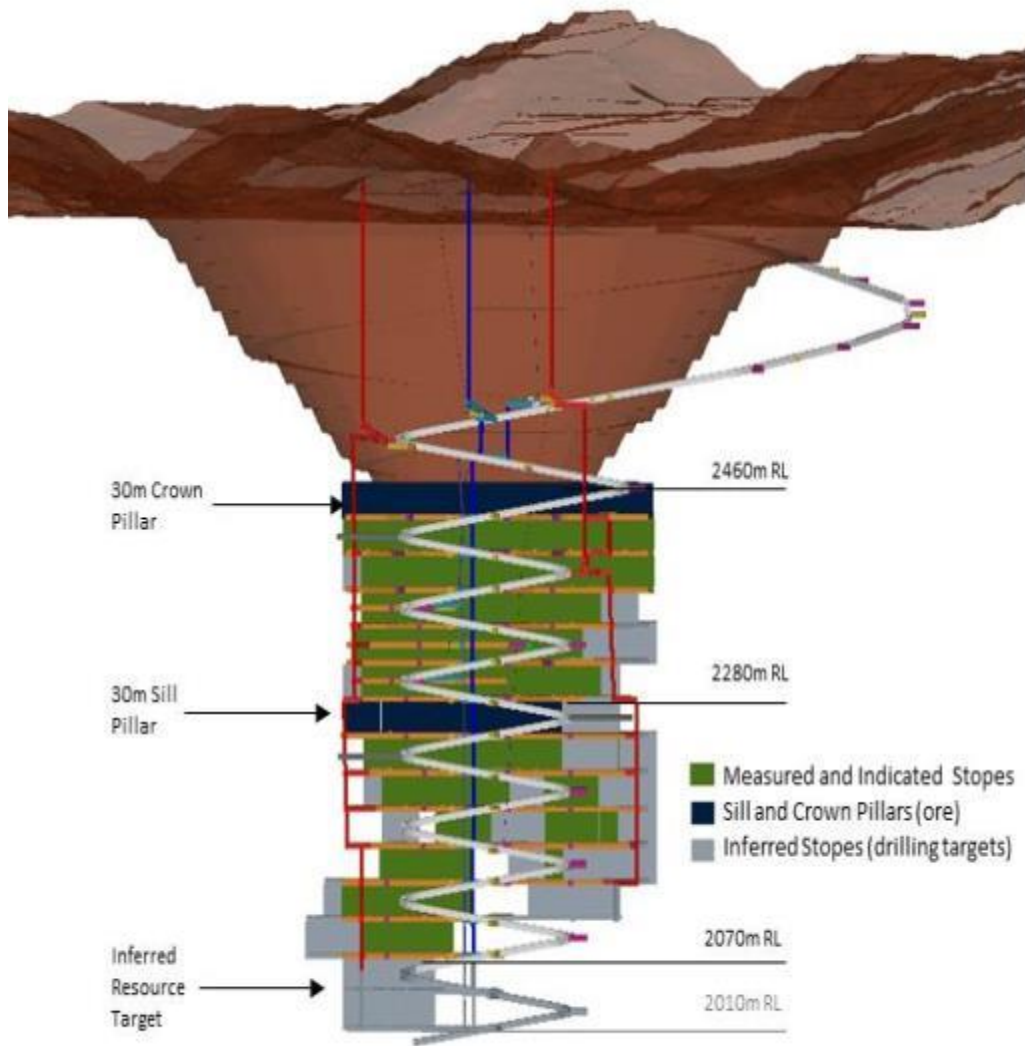
- The ability to construct a clay and flitter core Dam in a high / extremely high rainfall geographical area.
- Designed for 1 in 1,000 yr maximum rainfall event, Maximum Design Earthquake (MDE), 1:10,000 year stability return
- Flow through dam to reduce the risk of down stream flooding
- Design also keys in to natural ground buttress on the three sides of the construction walls

# TSF Flow Through

## Successful Design & Build



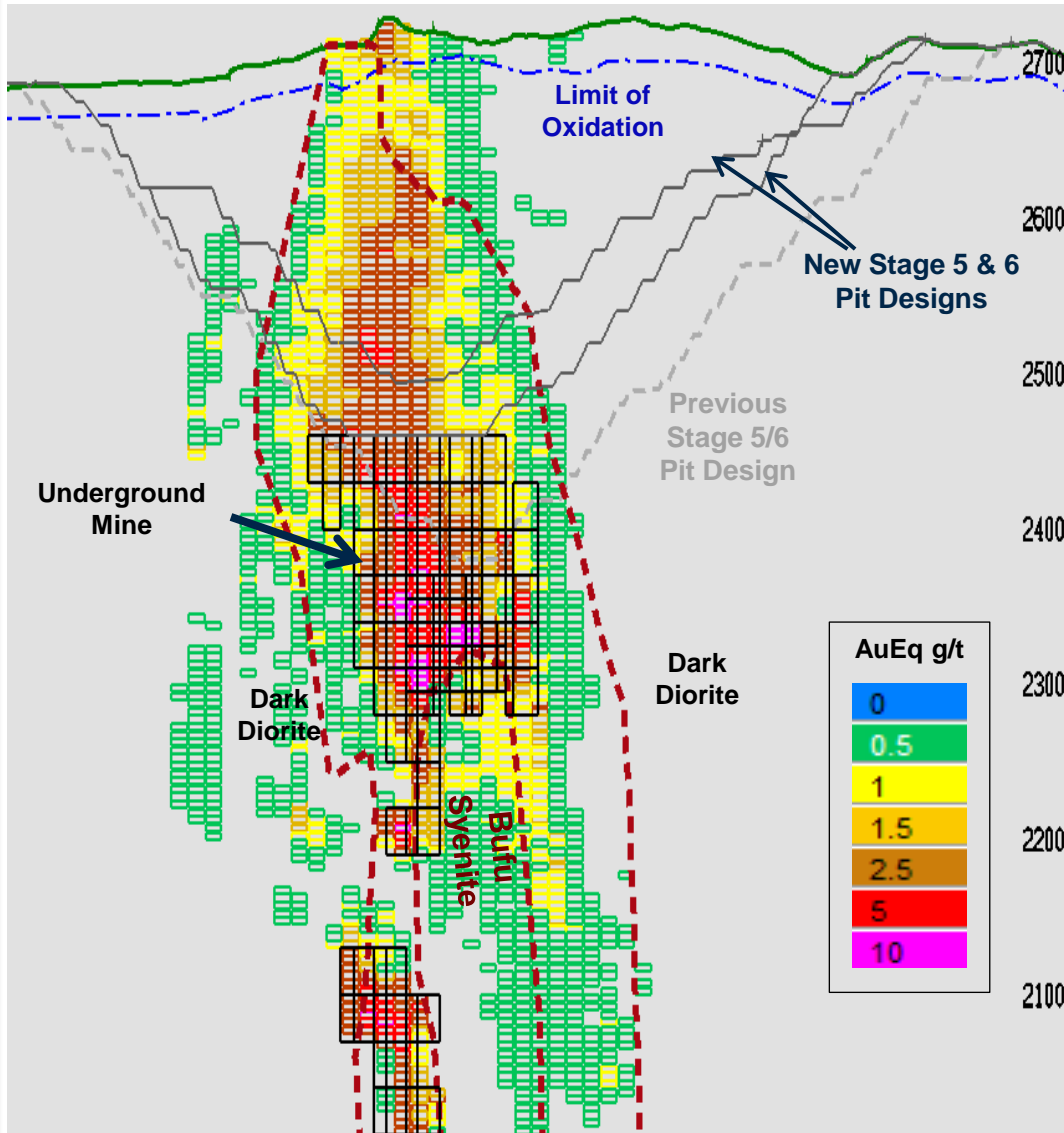
# Didipio Optimisation Study Highlights



- Underground development to commence 1 year earlier; now in Q1 2015
- Access to high grade material in late 2017; brought forward by 2 years
- Crown pillar moved higher by 80 m, underground extension to 2010mRL → two mining domains established.
- Increased U/G mining rate to 1.6 Mtpa by 2020 (previously 1.2 Mtpa)
- Optimised mine design resulting in 67 Mt less waste mined from the open pit
- Capex of \$116m for the underground over next 3 years - sustaining capex of \$75m over the following 10 years



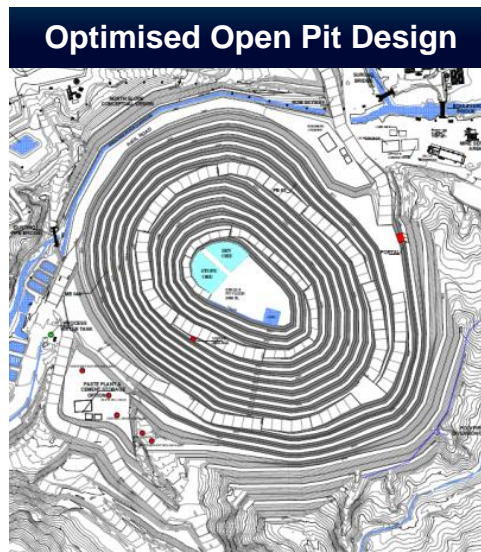
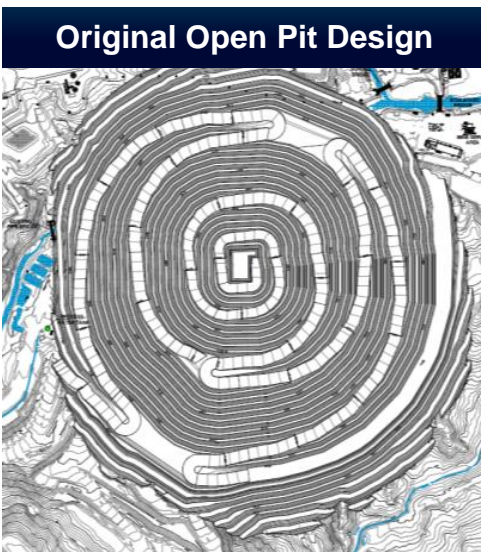
# Optimised Design



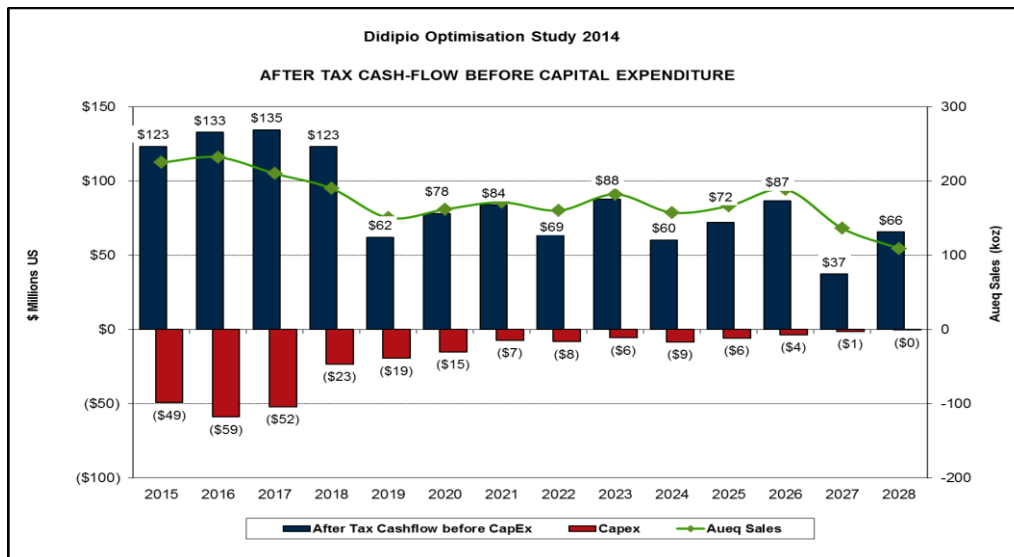
- Open pit redesigned to fit geological orientation of the ore body, improve ramp and lift crown pillar
- Open pit mining completed at the end of 2017
- Improved production profile through mining higher grades
- Stronger understanding of geotech and hydrology; revised designs
- Proven & Probable Reserve increased by 180,300 oz Au & 8,480 t Cu

Note: Not to scale.

# Enhanced Economics



- Earlier access to high grade underground feed + deferred mining costs → enhanced cash flow profile
- Smaller open pit → \$215 million in cost savings between 2018 and 2020
- Larger underground and higher mining rates → lower unit costs (\$34/t to \$27/t)
- Forecasted after-tax and capex cash flow of \$944 million over life of mine<sup>1</sup>



1. Based on \$1,300/oz gold, \$3.20/lb copper, See Technical Report for additional details  
OceanaGold Corporation

# Mining Operations Enhancements

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- Drill & blast review to optimize fragmentation and reduce wall damage;
  - Results are safer & stable walls
  - Increased crusher & mill throughput
- Increased the bench excavation heights;
  - Optimize digging fleet and bucket capacity
- Increased excavation production
- Cost Optimisation;
  - Excavation & load and haul
  - Continued drill & blast optimisation



# Mining Operations – Looking forward

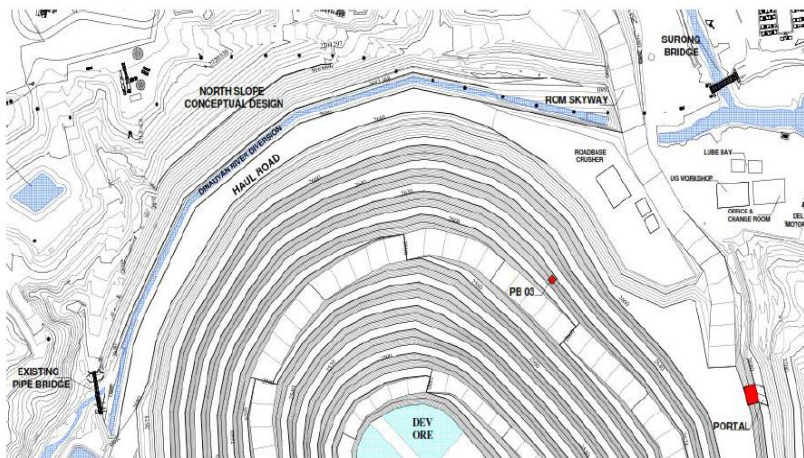
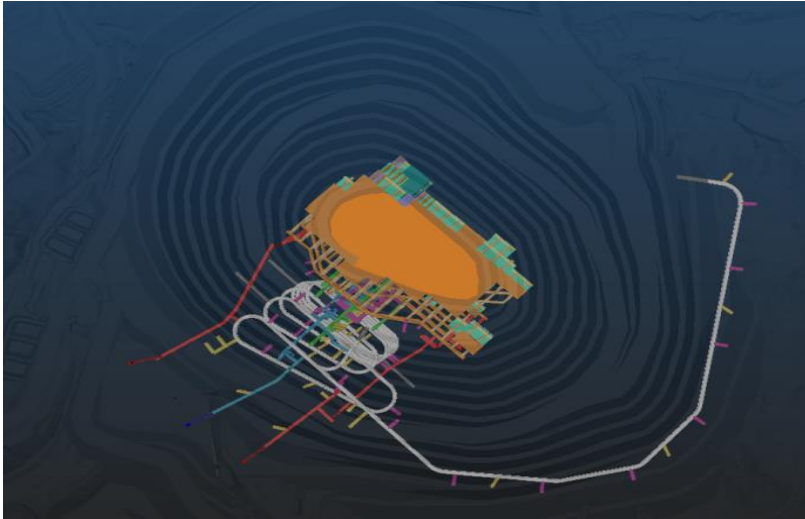


Figure 18-7: Dinauyan River Diversion relative to the final open pit design

- Optimisation study released for OC and UG;
  - Significant reduction in open pit strip ratio (1:4.5 to 1:2.7)
  - Operational optimisation and design improvements ongoing
- Underground expected to commence in Q1 2015
- Further optimisation of underground development

# Environment Management





# Environment Management Overview

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## Environment Management Initiatives

ISO Environmental Management System

Environmental Leadership & Capacity Building

Water Management

International RiverFoundation Partnership

Noise and dust abatement

Sound management of Tailings Storage Facility



# Cyanide Free Operation



# Environmental Management System (EMS)

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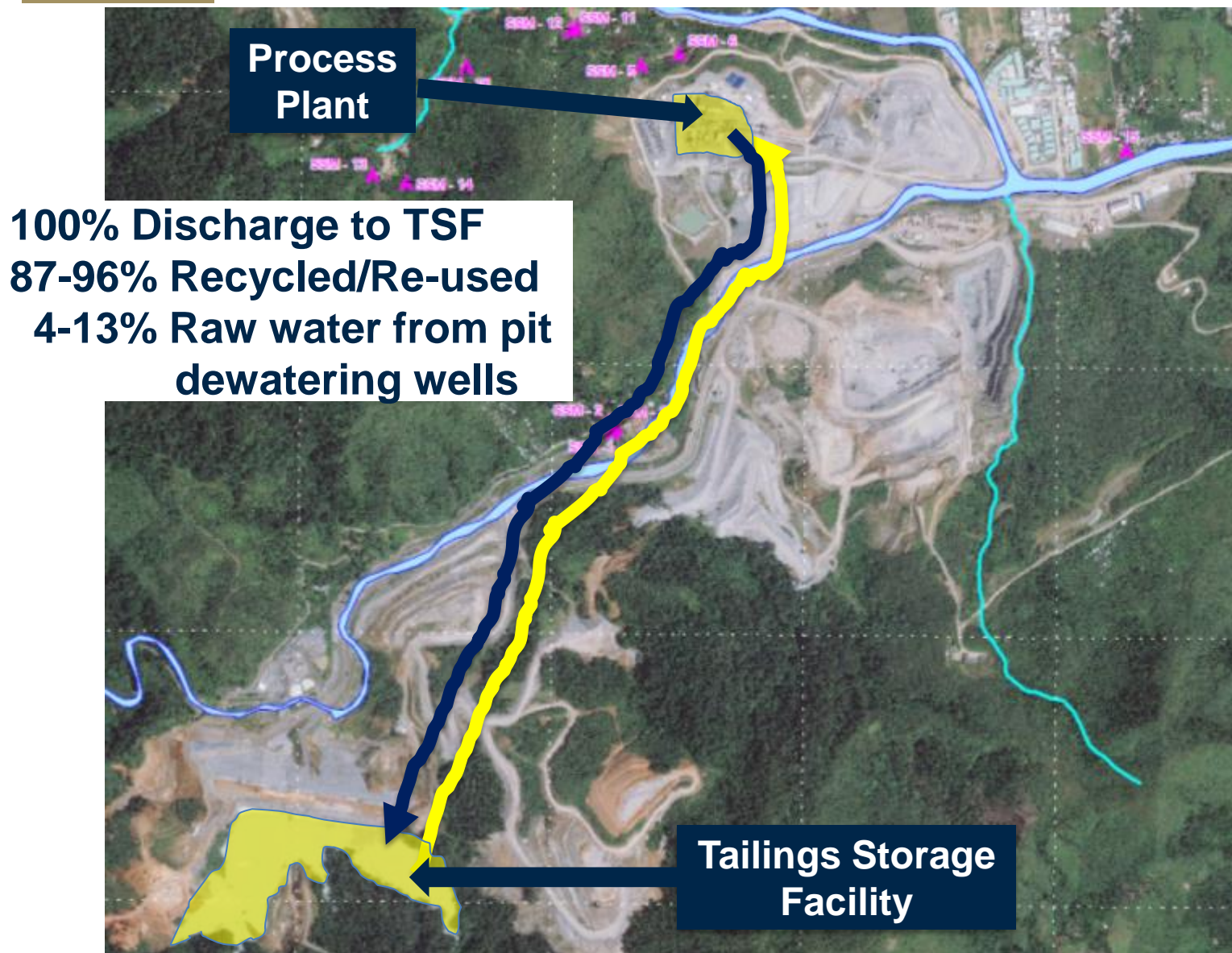
- The project is implementing an Environmental Management System compliant with ISO 14001:2004 Standards
- Target: ISO EMS Stage 2 certification scheduled on November 19-21, 2014
- Passed EMS Stage 1 audit in August w/
- Zero NC

**Note that EMS Focuses on the following:**

- 1. Prevention of pollution**
- 2. Compliance with applicable laws and regulations**
- 3. Continual improvement**



# Water Management





# Water Treatment Plant

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- Commissioned in August 2014 after 8-month completion
- Built and commissioned by Company workforce
- 34 metre diameter thickener
- 4,500 m<sup>3</sup> capacity
- 2,000 m<sup>3</sup>/hr throughput rate
- Water discharged cleaner than water extracted from river
  - Lower TSS level to < 70 ppm
  - DENR effluent standard is <150 ppm

# Guppy fish at TSF and Water Treatment Plant



# Open Pit Water Management

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- Dewatering boreholes at pit perimeter are used as clean-water supply for camp and processing plant
- Water used for dust suppression
- Regular water quality analysis
- Treatment of non-compliant water at Water Treatment Facility or pumped to TSF



# Erosion Control & Slope Stabilisation



**Coco coirs/mats and vetiver grass**





# Progressive Re-vegetation



**Before**



**After**



# Sewage Treatment Plant



- 5 units operational
- Daily TSS , weekly BOD, 3x a week
- Chlorine, and weekly coliform tests,
- Flowrate monitored on-line



# Regular Dust Suppression





# Air Quality Monitoring





# Noise and Vibration Monitoring





# Employee Environment Stewardship

## E-HERO PROGRAM



**YOU WANT THESE ??**

- Parker Pens
- Mag lite (flashlight)
- Planners
- Canisters
- Newaletter feature
- Citation certificate

  
**OCEANA GOLD**  
 DIDIPID OPERATIONS

**ENVIRONMENTAL HERO**

is hereby awarded to

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in recognition of his contribution towards  
Environmental Stewardship and Excellence

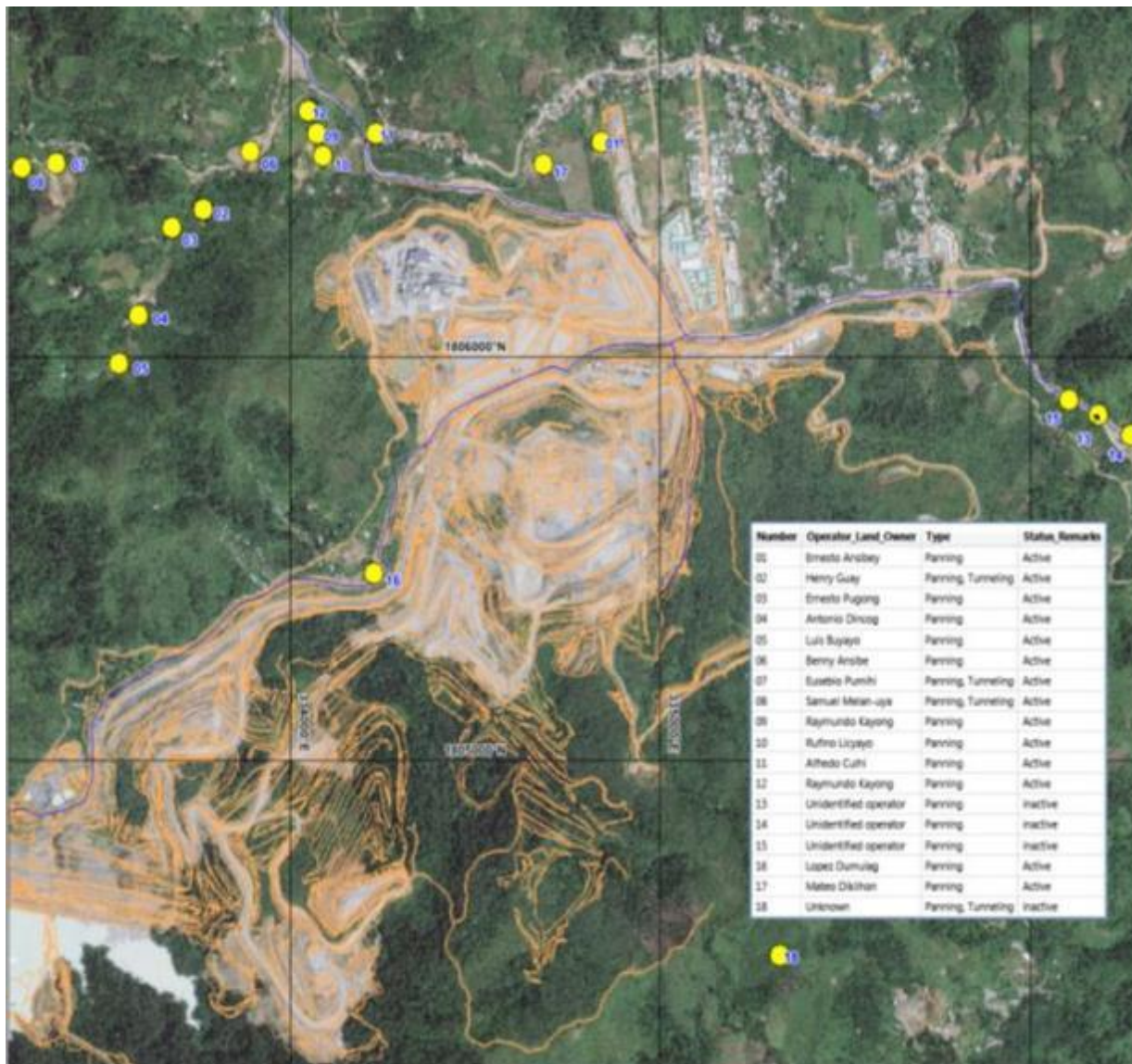
Given this 5<sup>th</sup> day of May, 2014 at OceanaGold Philippines Inc.,  
Ditipid, Kasibit, Nueva Vizcaya.

<b>REY M. BAUTISTA</b> Environment Supervisor	<b>MANUEL S. ORDOÑEZ, JR.</b> Environment Supervisor	<b>BRENNAN LANG</b> General Manager
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# Small Scale Mining Operations

**Small Scale Mining: A Legacy Community Environmental Issue**











Silted/Turbid

SSM

SSM

SSM

Clear Water











# Reforestation

- 100 trees per 1 tree fell/cut
- 656 hectares total area planted to date





# Reforestation

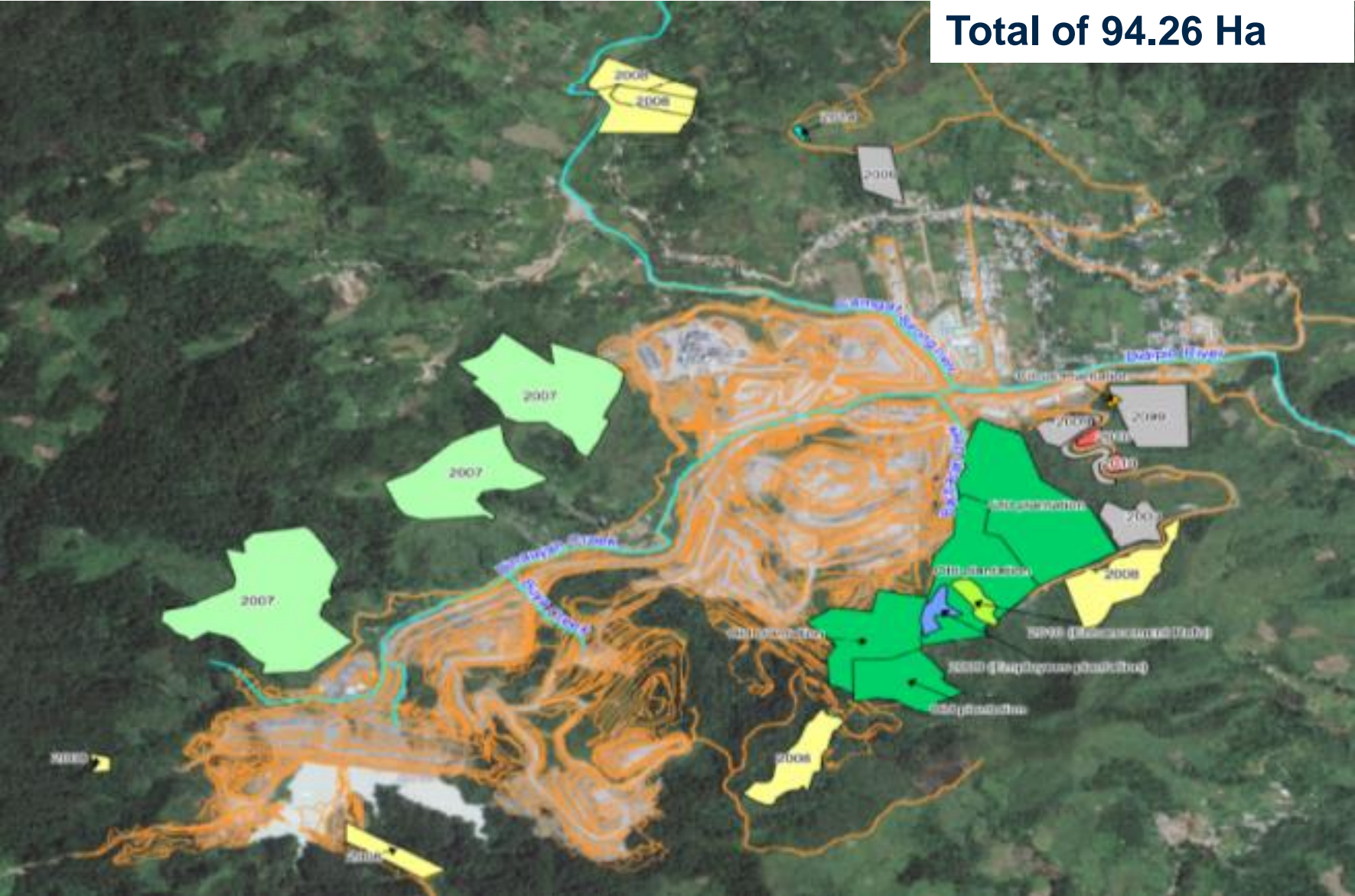
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# Reforestation

Total of 94.26 Ha





# Environmental Management

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July 2013 - Oceana Gold partnered with the International River Foundation, a Brisbane based environmental NGO that works in partnerships around the world to fund and promote the sustainable restoration and management of river basins. The IRF promotes long term relationships between developed and developing countries focusing on sustainable river system management globally.

Aim of partnership - **to create better environmental and social conditions** for the people relying on rivers for **agriculture**, for **drinking water** and **daily needs** and to further develop support for community and business partnerships across the Philippines.

**Ultimate Goal** - to qualify the Didipio catchment for the International River prize.





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Innovation  
Performance  
Growth

