

TRIDENT



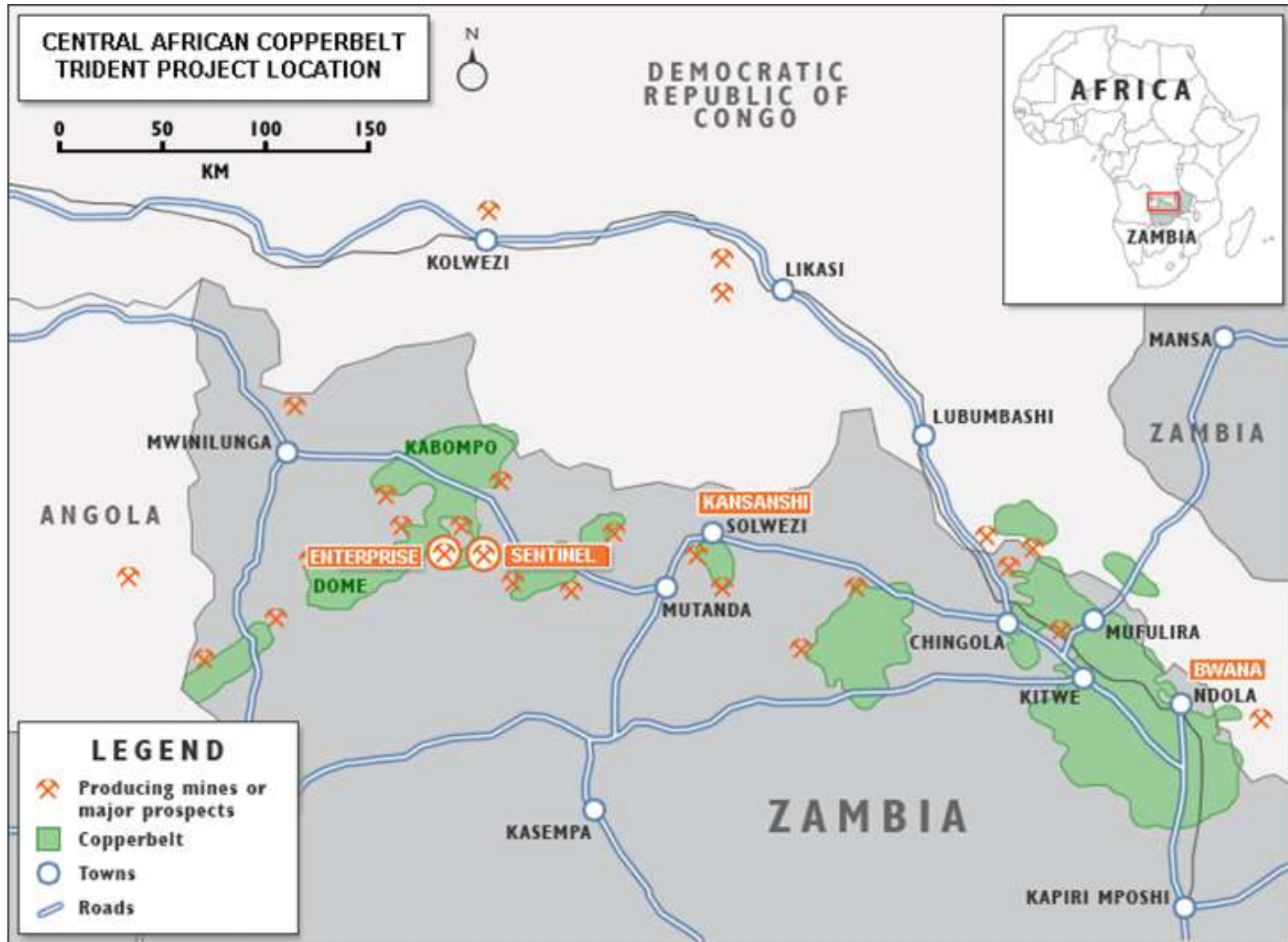
FIRST QUANTUM
MINERALS LTD.

Sentinel Mine & Enterprise Project

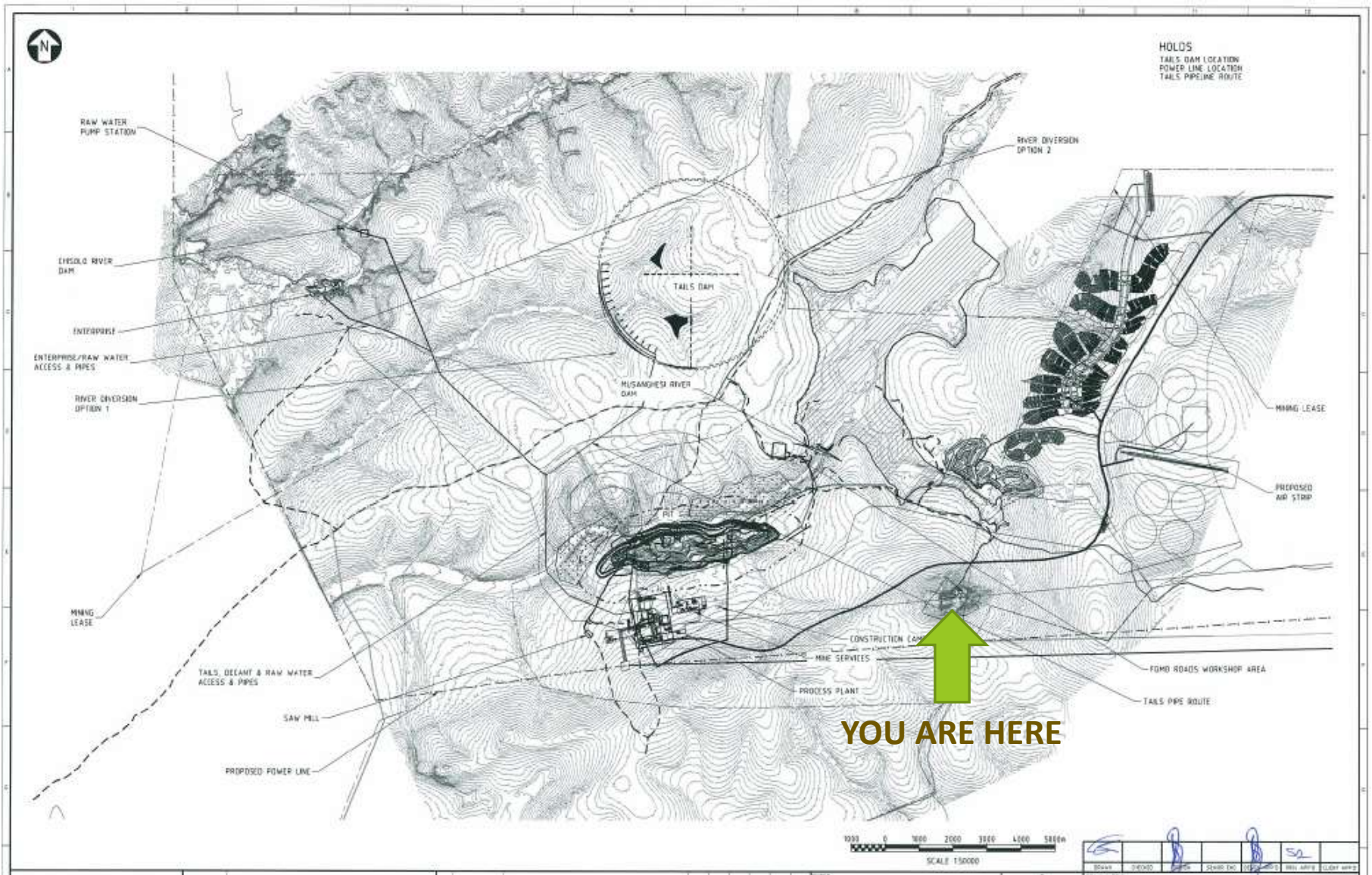
Analyst presentation – October 2015



Trident Project location



Orientation – project layout



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Sentinel Mine



Total Sentinel capex – \$2.1billion

Total Sentinel capex = approx \$7,500/t
of annualised Cu production

Project scope:

- 55Mtpa target throughput;
- 3 semi mobile in pit crushers;
- 100MW SAG/Ball milling;
- 265,000t of freight = 14,500 truckloads;
- 2 rivers diverted;
- Life of mine TSF;
- 600km of ZESCO 330kV transmission lines;
- 930 staff plus 630 resettlement houses;
- New town, clinic, 3 schools & airport.



PROJECT ACQUISITION – FEBRUARY 2010



FIRST ROUGH CONCENTRATE – DECEMBER 2014

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Sentinel Operations



Sentinel – mine planning

Resource statement published March 2012:

- Total measured & indicated resource : 1,027Mt @ 0.51% Cu
- Mineral reserve: 774 Mt @ 0.50% Cu
- Strip ratio 2.2 : 1

Operations:

- Up to 55mtpa to achieve economies of scale (overcome low grade);
- 280,000 – 300,000t Cu production per annum.

Cost efficient production depends on high volume throughput

Sentinel – production rampup

Status:

- Train 1 = crushing, milling + flotation operating (above design throughput for periods);
- Train 2 = milling + flotation operating;
- Concentrate optimisation = Concentrate deslime operating;
- Slow ramp up to date = Transitional ore metallurgy + power transmission limits.

Milestones:

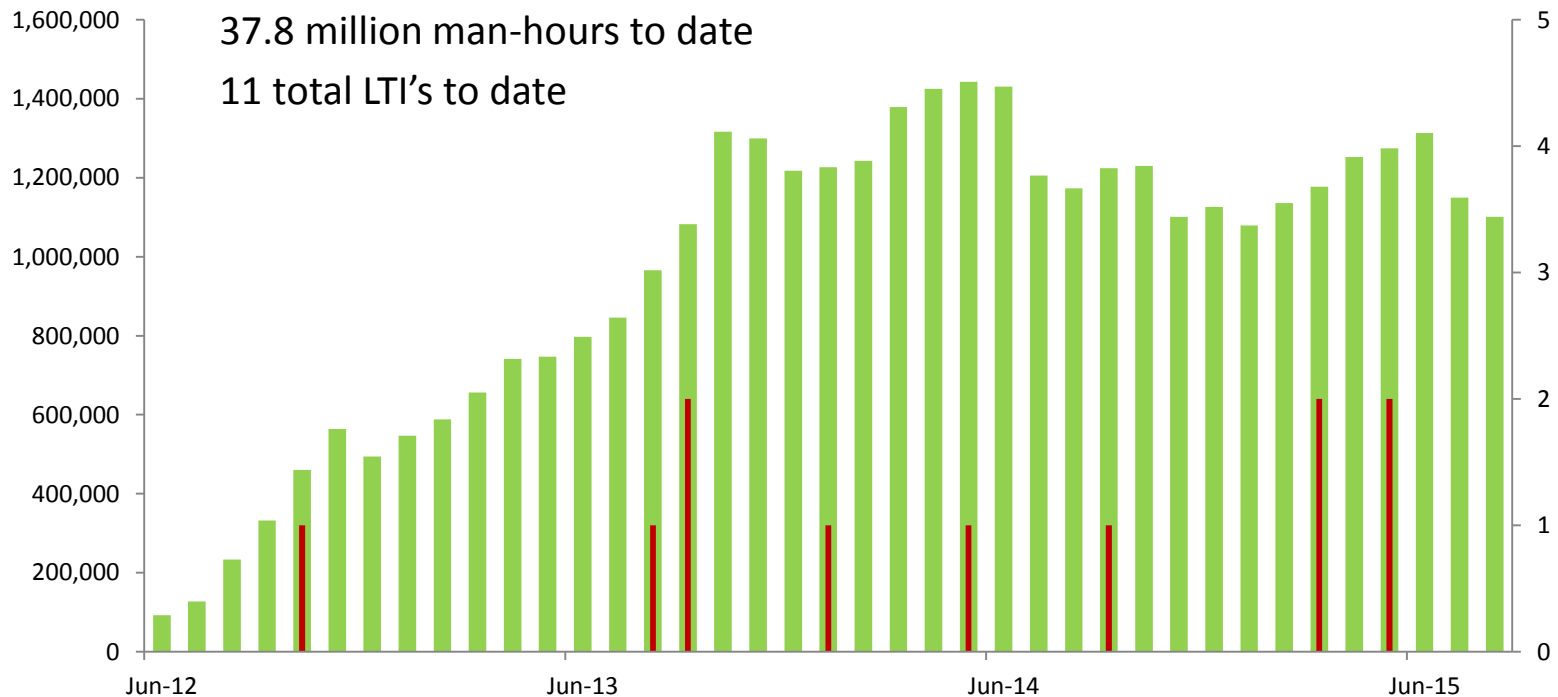
- Presidential opening = 28 Aug 2015;
- Crusher 2 walked into southern boxcut = 2 Sep 2015;
- Lusaka West transmission lines complete = 12 Sep 2015, awaiting energisation.

Production rampup:

- Power transmission + crushing for full operations end-Oct 2015;
- Recovery optimisation = SAG + Ball frontend deslime operations end-Nov 2015;
- Commercial production by end of 2015.

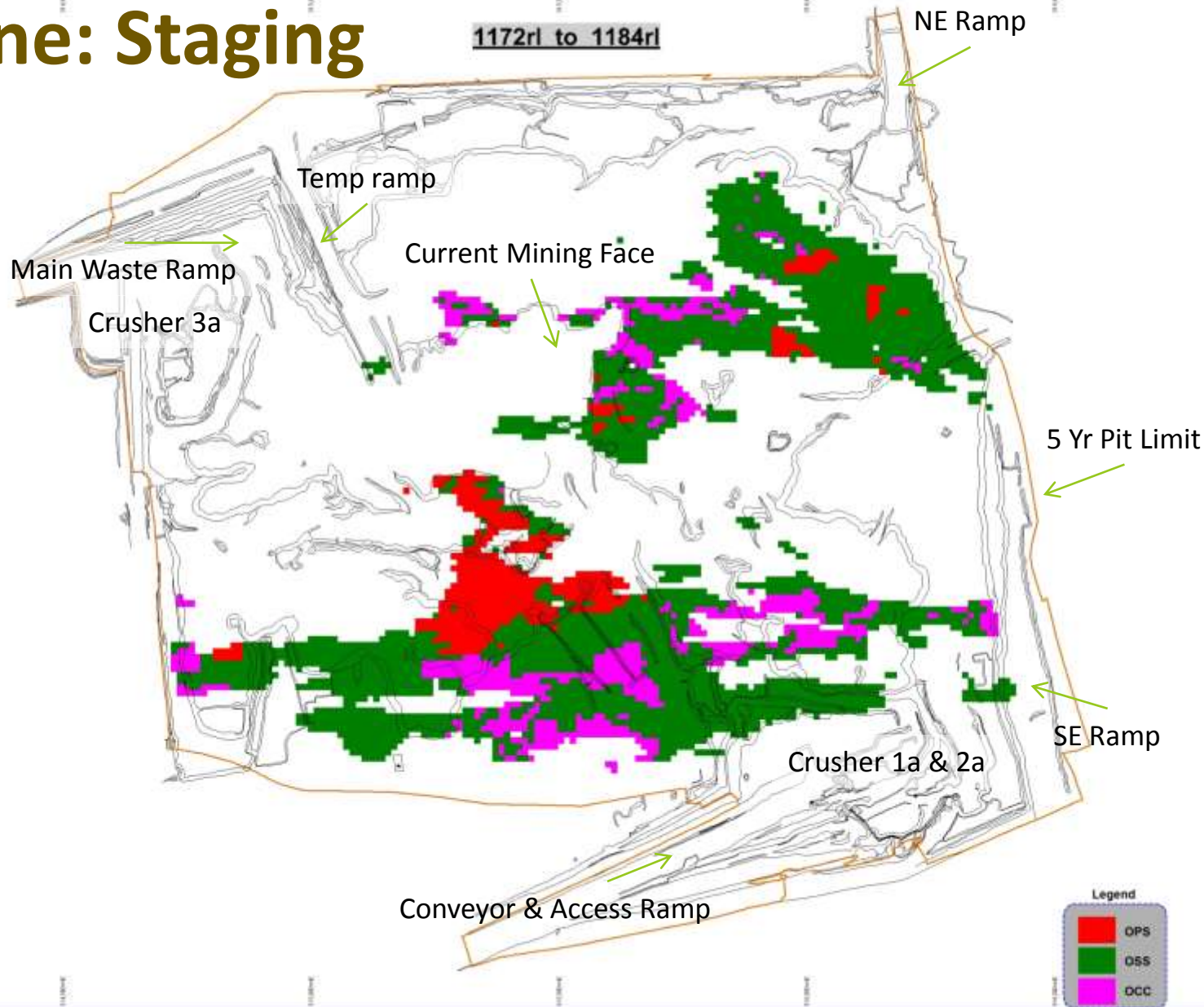
Sentinel – safety performance

Monthly manhours + Lost Time Incidents

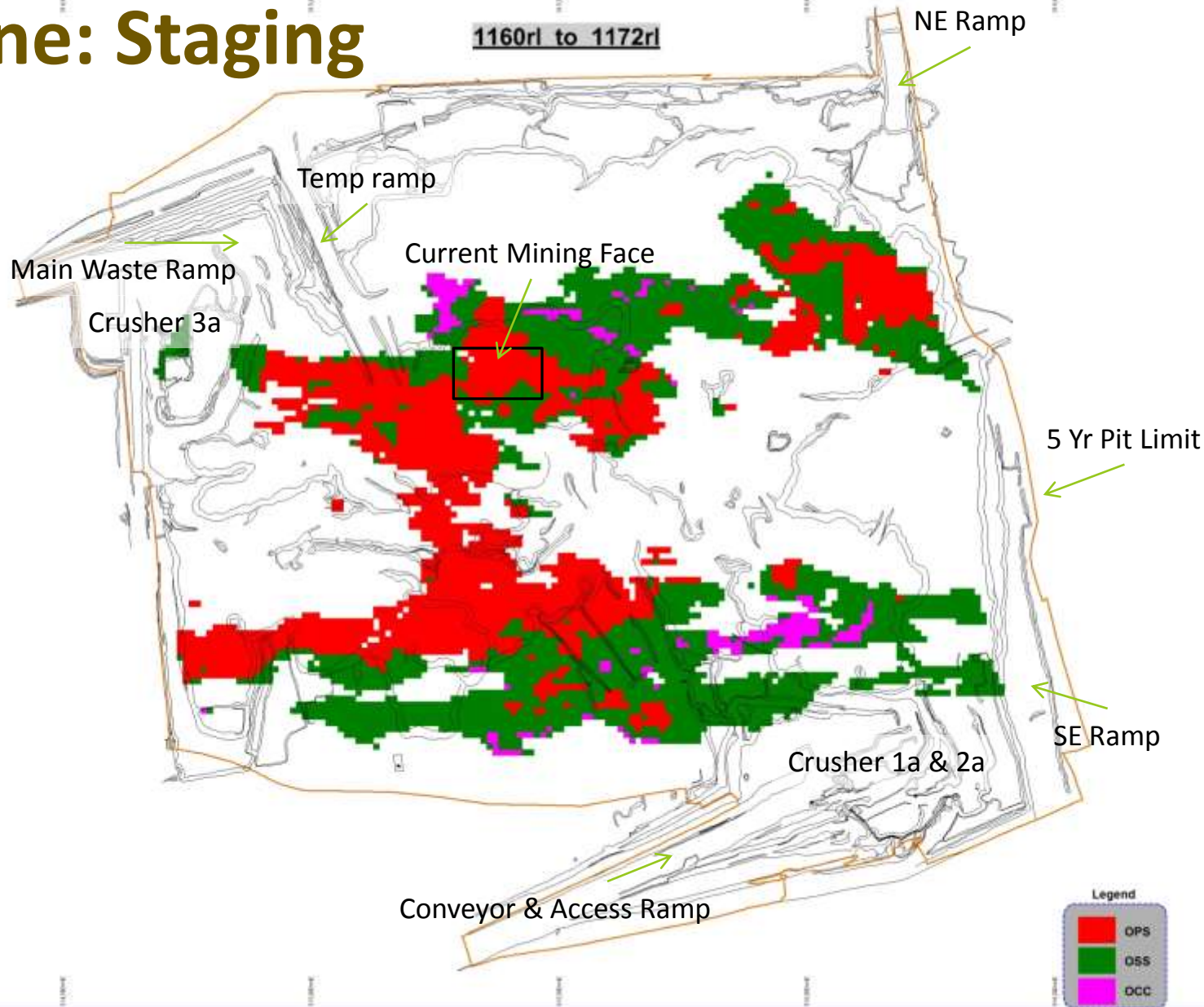


	Total	2012	2013	2014	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15
Manhours (million)	37.8	2.3	10.8	15.2	1.1	1.1	1.2	1.3	1.3	1.3	1.1	1.1
LTI Rate	0.058	0.087	0.061	0.049	0.048	0.046	0.057	0.055	0.064	0.062	0.060	0.058
Severity	4.09	5.04	1.51	1.03	0.99	0.96	4.76	4.58	4.51	4.34	4.21	4.09

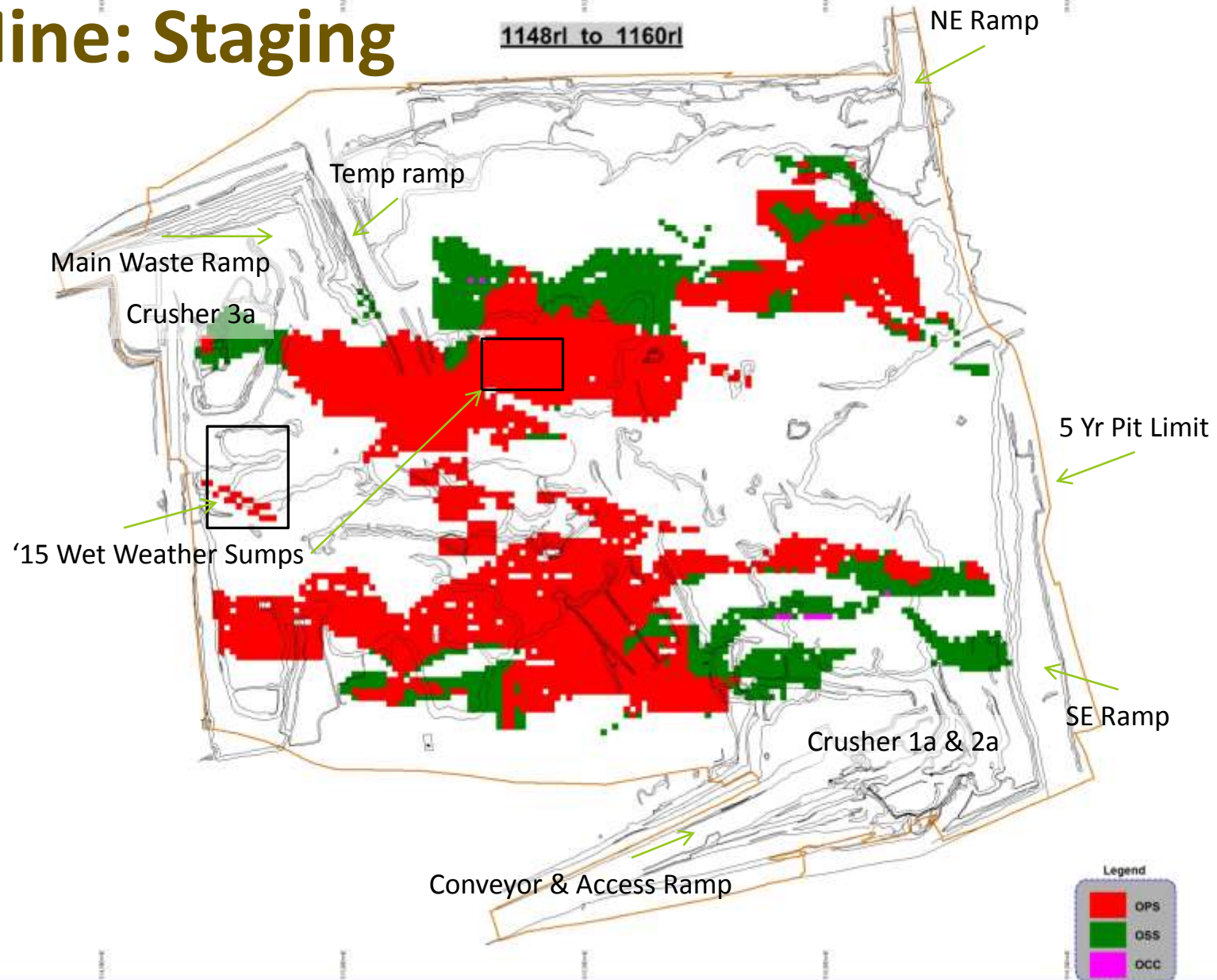
Mine: Staging



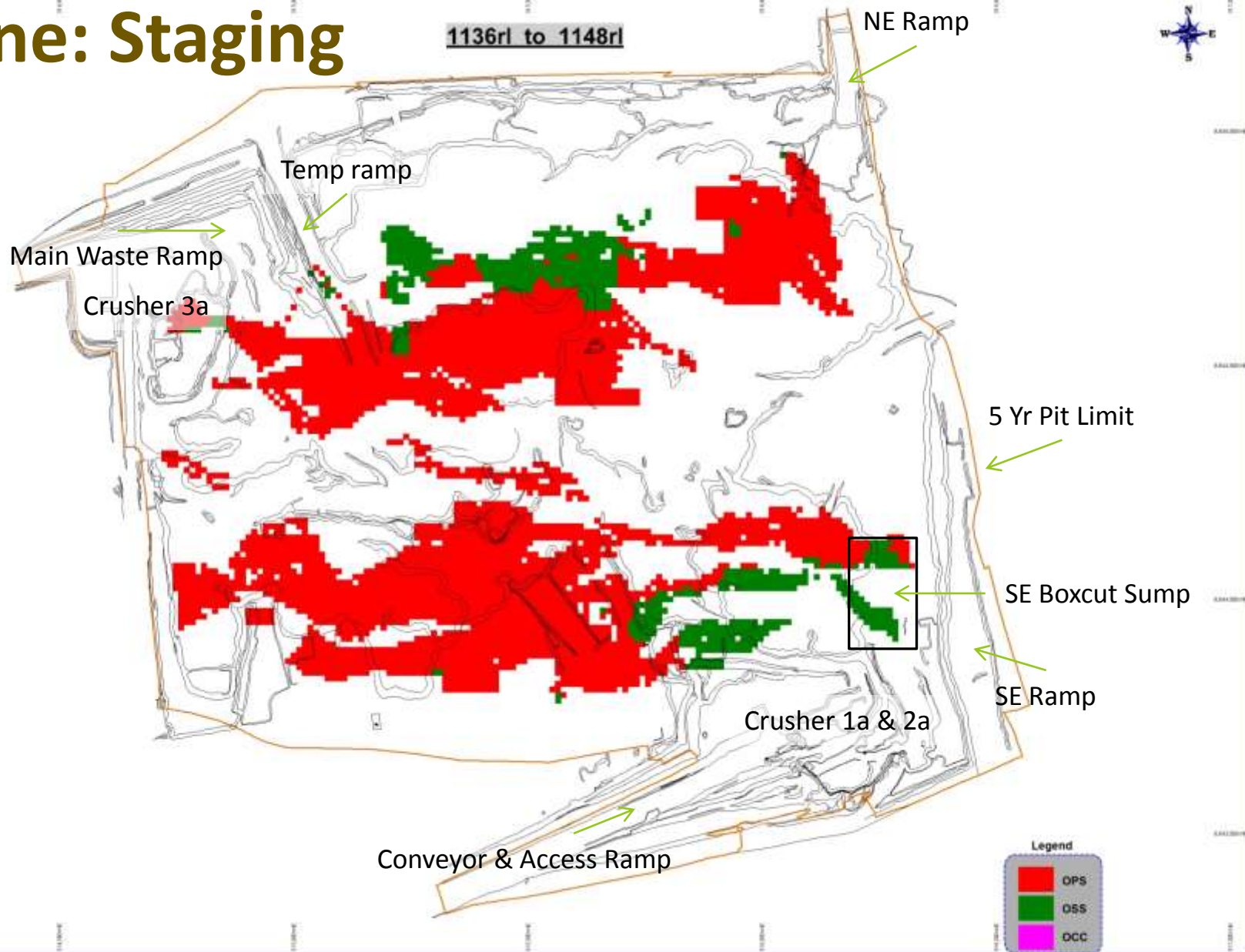
Mine: Staging



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Mine: Staging

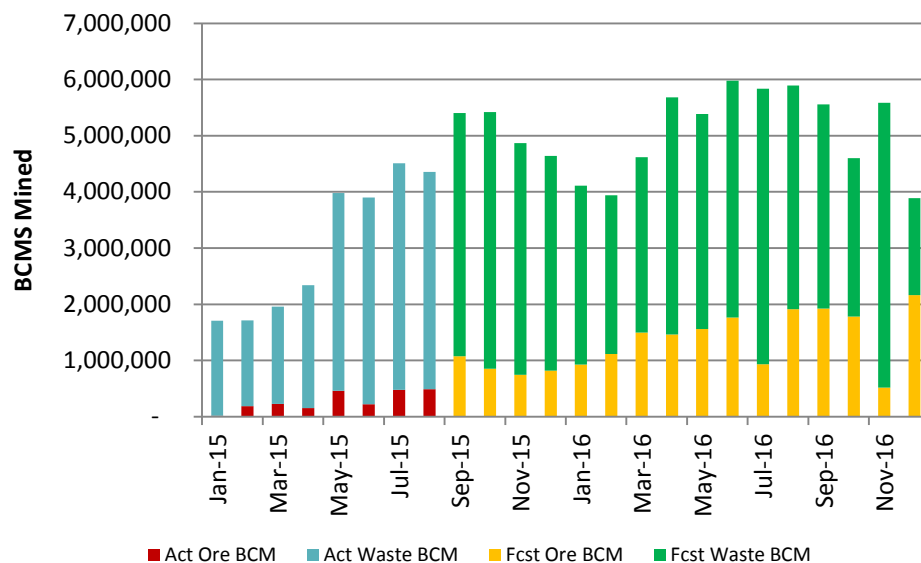


Mining Horizon as at End 2016

Progressing to 60 million BCM/annum

Mining – main fleet	Units
ThyssenKrupp 63-89 in pit crushers	3
Caterpillar MD6640 drills	7
CAT 7495HR rope shovels	3
Komatsu PC5500 face shovels	2
Komatsu PC5500 excavator	1
Komatsu 960E trucks (330 tonne)	15
Komatsu 860E trucks (250 tonne)	15
Komatsu HD1500 trucks (150 tonne)	10

Mining Production Volumes

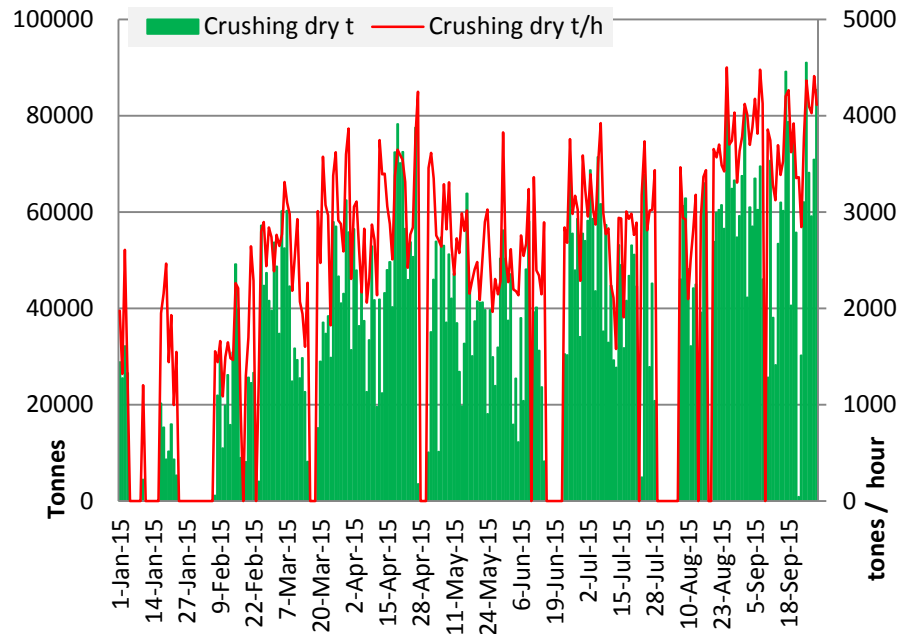


Consistency improvements and production rampup:

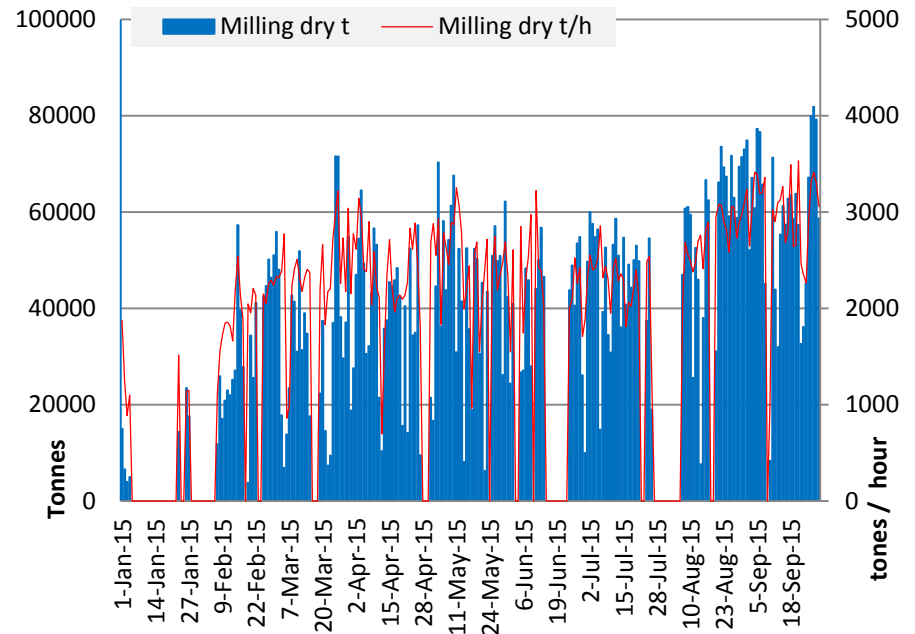
- Drill = Soft ground to date. Focus on training and consumable trials;
- Blast = Fragmentation improved via blast design, product densities + initiation;
- Load = Increased bench heights at deeper RLs. Moving to double side loading;
- Haul = Operator recruitment resolved. Mine dispatch in place;
- Overall = Productivity focus from planning, SIC, training, supervision + maintenance.

Plant: periods above design throughput

Crushing – Daily Volumes



Milling – Daily Volumes

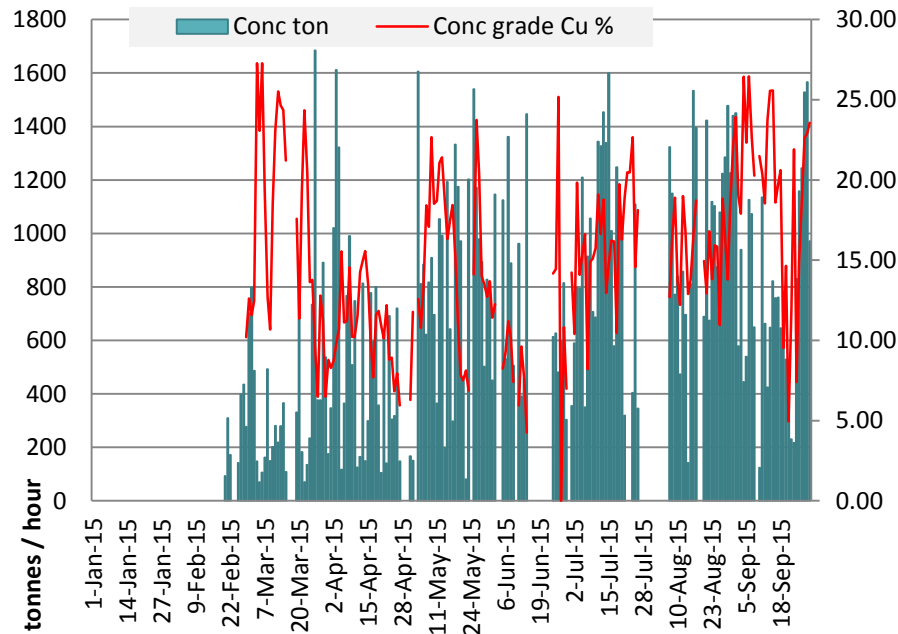


Consistency improvements and production rampup:

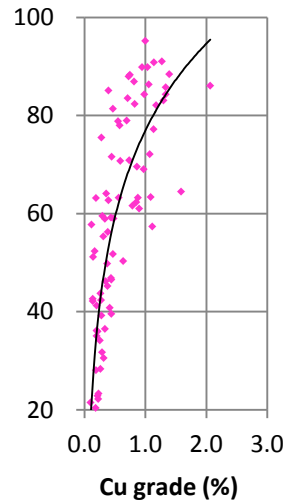
- Crushing = Conveying improvements, process debottlenecking + fragmentation.
- Milling = More consistent power supply, commissioning punch list, upgraded wear components + improved crushing.
- Pebble + Secondary crush = now being commissioned.

Concentrate production + feed to smelter

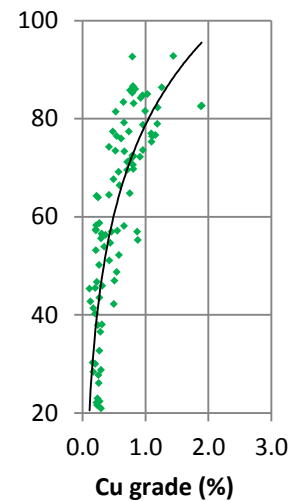
Concentrate – Daily Volumes



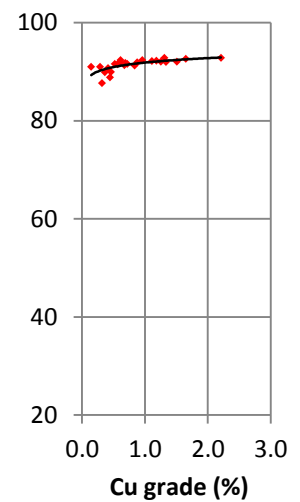
Cu Rec - OCC



Cu Rec - OSS



Cu Rec - Primary



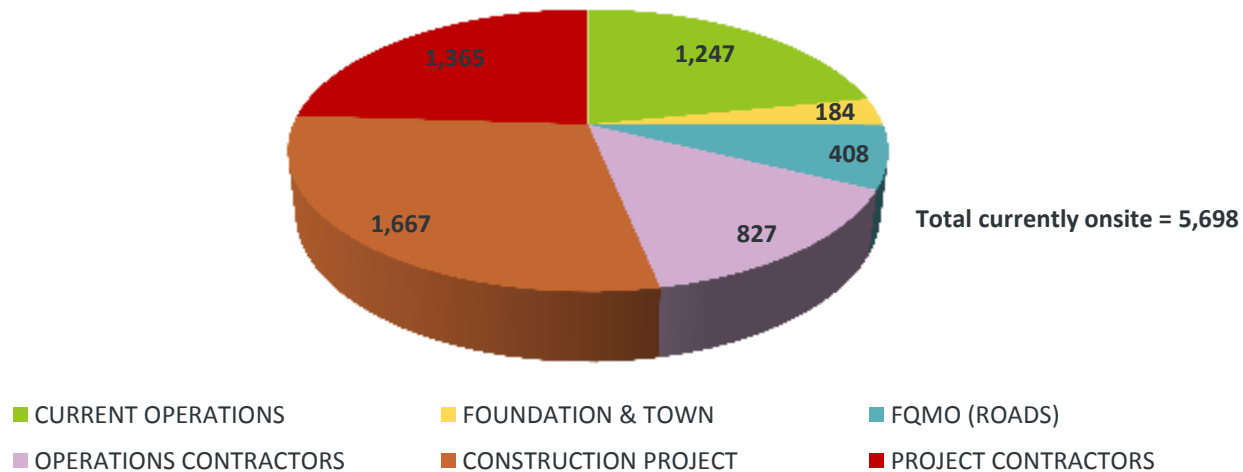
Consistency improvements and production rampup:

- Automation = Smart system focus on floatcams, OSA, PSI, laboratory etc;
- Concentrate = Backend deslime operating;
- Recovery optimisation = SAG + Ball frontend deslime operations end-Nov 2015;
- Overall = Productivity from training, supervision + maintenance.

Operations workforce

STEADY-STATE WORKFORCE	Total
Operations staff currently onsite	1,247
In recruitment	541
Approved operations positions	1,788
Ongoing indirect and contractor personnel	1,276
TOTAL	3,064

- Focus now on productivity and efficiency.
- Current site workforce of 5,698 will reduce with project demobilisation over next 2 months.



First Quantum Zambia cost reductions

\$100+ million targeted savings across KMP, KML and FQMO

Strategic contract reviews:

- \$40m targeted saving – 120 contracts (\$800m) identified + renegotiation teams allocated.

Rapid sourcing:

- \$10m targeted savings – 20 vendors. Procurement of \$100k to \$2m per annum.

Warehousing and logistics:

- \$40m targeted savings – inventory management, freight and logistics.

Bottom up cost savings:

- \$10m targeted savings – usage, optimisation + waste elimination initiatives from the shop floor.

Consolidation of support services between sites:

- Centres of excellence and back office functions.

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Enterprise



Enterprise Ni project - awaiting go ahead

Maiden resource published December 2012:

- Total measured indicated resource : 40.1Mt @ 1.07% Ni;
- Mineral reserve: 32.7 Mt @ 1.10% Ni;
- Potential to expand Resources at the Enterprise South West Zone

Operations:

- Potential 38,000 – 60,000t Ni production per annum;
- Construction approx 50% complete. Plant will commission on copper ore.

Project go ahead for Enterprise is contingent on nickel price and concentrate export levy

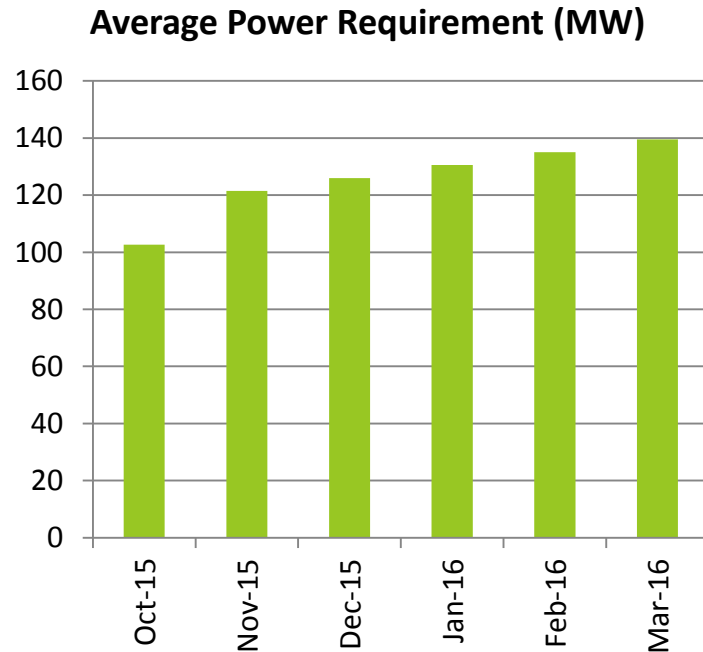
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Power Project



Power requirements for ramp-up

- 160MW required for full operations
- Softer ore reduces initial requirements



- First Quantum has formally offered support to ZESCO for augmenting supply



600km FQM/ZESCO 330kV powerlines Energising by end-October 2015



Lumwana – Kalumbila – Mumbwa

Contractor	Kalpataru
Distance (km)	68 + 394
Towers	164 + 872

Mumbwa – Lusaka West

Contractor	KEC
Distance (km)	134
Towers	298

Substations

Kansanshi, Lumwana, Kalumbila	ABB
Lusaka West, Mumbwa	NCC



ZESCO GRID 33kV to 330kV AND REGIONAL TRANSMISSION LINE INTERCONNECTORS

EXISTING TRANSMISSION LINES
PROPOSED TRANSMISSION LINES



Kisenga

KOLWEZI

D R CONGO

TANZANIA

ANGOLA

MALAWI

LILONGWE

MOZAMBIQUE

Zambezi

Tedzeni 90

NAMIBIA

BOTSWANA

ZIMBABWE

HWANGE 920+600

For more details see Drawing ZAM-GEN-DE-08-C-13033-ZESCO BARBONE GRID 88KV TO 330KV WITH ROUTES AND CORRIDORS



THIS DRAWING TO BE READ IN CONJUNCTION WITH ZAM-GEN-DE-08-C-13033-ZESCO BARBONE GRID 88KV TO 330KV WITH ROUTES AND CORRIDORS

Zambia power generation

Current situation:

- Kafue (960MW) and Victoria Falls (100MW) turbines not affected;
- Overuse of peaking turbines at Kariba (360MW peaking + 720MW baseload);
- Delays to new generation projects (300MW Maamba coal + 120MW ITTZ).

Kariba drawdown, if turbines run at full rate:

- Oct 2015 = ZESCO water allocation from Zambezi River Authority consumed;
- Dec 2015 = 10% live capacity remaining;
- Jan 2016 = seasonal recharge begins.

Management of supply + demand:

- Makeup Power imports from Mozambique (200MW from Jul + 148MW from Sept);
- ZESCO request for mines to use Makeup Power for 30% of load. Tariffs in discussion;
- Subsequent announcements of Mopani + Baluba mine closures (200-250MW);
- First Quantum has offered ZESCO support for Maamba + ITTZ grid connections.

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Town development



Why has FQM built a town?



1. Home ownership is a cornerstone of economic empowerment:

- Subsidised rent-to-own program – real economic empowerment starts at home:
 - Improves education;
 - Improves opportunities to start a business; and
 - Improves savings for retirement.

2. The town will be a significant multiplier on job creation:

- Sentinel will employ 3,064 direct and contractor personnel;
- A multiplier of between 4-8 is possible for service industries in the town.

3. Employee attraction and retention:

- KML seeks a well-rested workforce who live locally and develop the area in conjunction with the mine.

Potential to move off balance sheet – strong interest from pension funds

Progress – housing



Affordable Housing Layout



4-Bedroom House



3-Bedroom Housing



2-Bedroom House

Progress – commercial



Kalumbila Industrial Park



Guesthouse Serviced Apartments



Fuel Station



Banking Services

Progress – services



Town Clinic



Children's Playground and Sports Facilities



Frontier Affordable School



Supermarket and Market Area

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Community



Community development

- Education:
 - 5 GRZ schools refurbished in the Trident Project area;
 - Support with curriculum and textbooks.
- Healthcare:
 - 5 GRZ rural health centres refurbished in the Trident Project area;
 - HIV awareness and VCT programs, plus malaria intervention.
- Conservation farming:
 - Peak program expected over 2015/16 season of approx 1000 farmers.
- Sawmill and furniture factory:
 - Providing skilled employment and producing school and other furniture.
- Resettlement 99% complete.

2015 : community needs assessment for ongoing Trident Foundation CSR projects

The Trident Foundation



Education



Healthcare



Community Infrastructure



Conservation Farming



Livelihoods



Forest Conservation



Wildlife Conservation