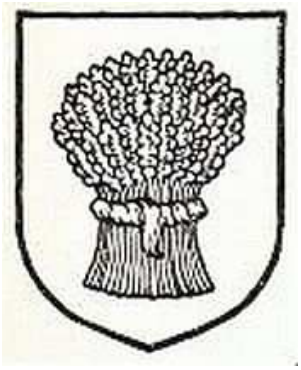
Tuesday, April 24, 2018



HALLGARTEN & COMPANY

Initiation of Coverage

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Panoro Minerals

(TSX-V: PML, BVL: PML, FSE: PZN, OTC: POROF)

Strategy: LONG

Key Metrics	
Price (CAD)	$0.345
12-Month Target Price (CAD)	$0.70
Upside to Target	103%
12 mth high-low	$0.15 -$0.475
Market Cap (CAD mn)	$90.46
Shares Outstanding (millions)	262.2
Fully Diluted (millions)	288.7

Panoro Minerals

Projects Highly Leveraged to Copper's Upside

- + Panoro has a series of Copper projects in a much sought-after region of Peru
- + The Cotabambas and Antilla projects are the type of projects needed to fill the decidedly thin "pipeline" of upcoming Copper projects to meet demand in the 2020s and beyond
- + Both projects are moving forward towards advanced development studies
- + Copper has awoken after several years of torpor and is now in strong demand again with the price breaking definitively through the $3 per lb mark
- + An impressive share register has both HudBay and Resource Capital on board
- + Financial position including Streaming deal with Wheaton Precious Metals covers foreseeable exploration costs at Cotabambas for next few years
- + Our outlook is for the Copper price to move closer to $4 per lb over the next couple of years
- ✘ The strategy decision to find a buyer for the projects means the company is somewhat at the mercy of corporate development decisions at larger players which are outside its control
- ✘ The capital markets are not financing new producers with the gusto that they did in the Supercycle era

Waiting to be Plucked

Panoro has dedicated itself to the task of being a cultivator of major new copper projects. In this it hopes that the right parties will come along and pluck these sizeable blooms, paying a pretty price for them in the process. Cotabambas and Antilla, both in South-Central Peru are shaping up (in fact have already shaped up) as sizeable new projects which, with a modicum of extra mine planning, could be pushed into the increasingly bare pipeline of upcoming Copper projects of size.

Notwithstanding their asset sale endgame, Panoro's two projects do present an interesting potential for staged development. The Antilla Project's smaller scale together with the potential to add a manageable capex oxide heap leach at the Cotabambas Project provides a potential alternative to the asset sale strategy.

Usually we eschew the "build (a resource) and they will come" school of explorers however Panoro is an interesting case. In this research piece we shall review the projects and their progress, the outlook for copper and the probabilities of success.

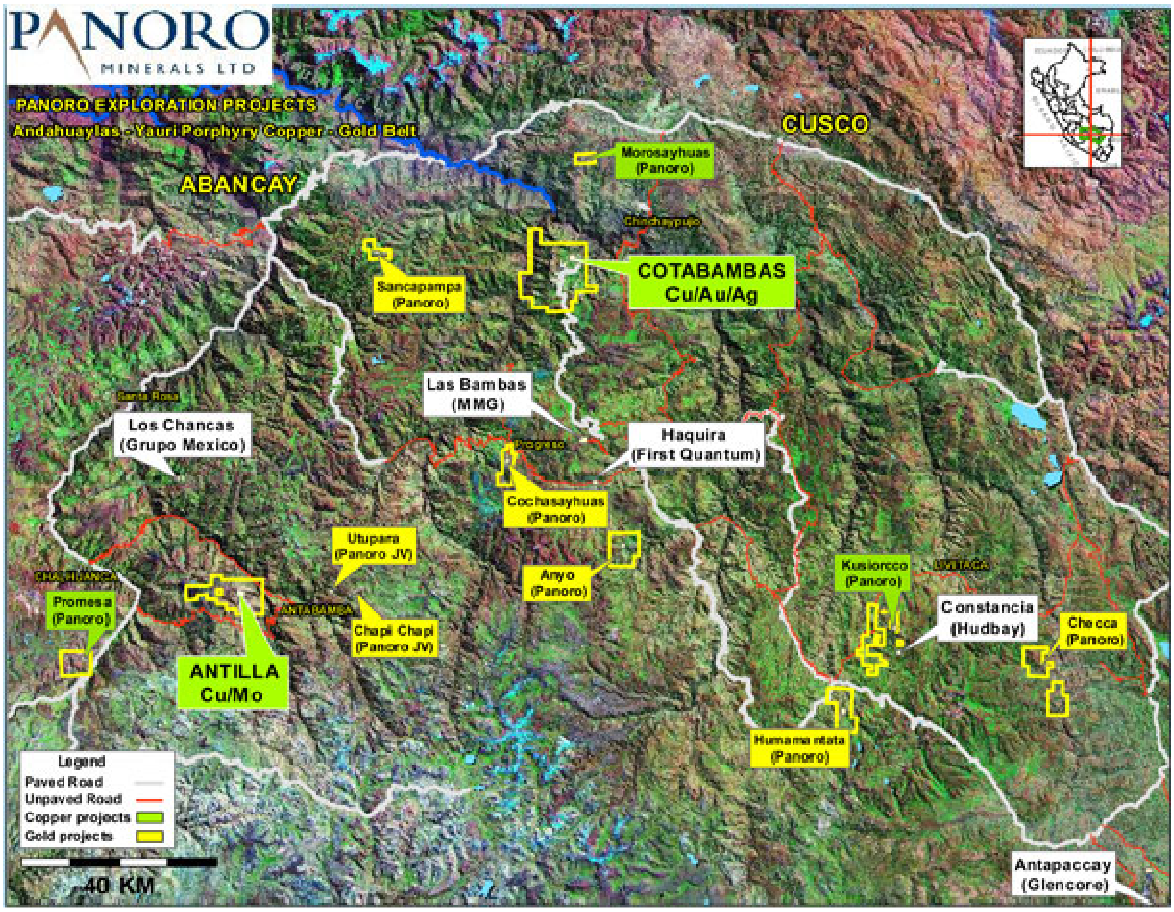
Some Back Story

It is important to know something of the history of Panoro to understand where its asset base came

from. The genesis of the current portfolio is a transaction way back in March 2007 when Panoro acquired all outstanding shares in Cordillera de las Minas S.A. (CDLM), a Peruvian corporation, from CVRD International S.A. and El Tesoro (SPV Bermuda) Limited, a subsidiary of Antofagasta PLC.

Antofagasta and Companhia do Rio Vale Doce (CVRD) had originally formed CDLM as a joint venture company in 2002, and transferred ownership of several groups of exploration concessions in southern Perú to CDLM.

Concurrently with Panoro's acquisition of CDLM it began quoting on the Lima stock exchange and Panoro acquired it for US$16.6mn. The consideration consisted of US$13mn in cash and the remaining amount in common shares of Panoro. As a result of this deal Panoro acquired 13 properties, including Antilla and Cotabambas.



The Company It Keeps

The zone of South Central Peru where Panoro is working is literally crowded with other heavyweights. Its zone (shown on the map above) is highly prospective being in close proximity to the massive Las Bambas mine of MMG, HudBay's Constancia mine and other mines and mine-builds by First Quantum,

Grupo Mexico and Glencore.

The company's argument goes that "the smart guys will buy us" but then again after looking around the mining space one sees that smart guys are in short supply and moreover somewhat rarer amongst the heights of mining space (i.e. amongst the bigger stocks that would be likely predators). One scenario though is for a major already in the zone to bulk up their pipeline to maximize value from their existing processing facilities by bolting on one of Panoro's projects.

Panoro has a great asset (indeed, a basket of assets) and has dressed them up with a bow for a buyer. The main two projects are the very substantial Cotabambas property and the smaller (though still decently sized) Antilla project. Both are advanced on the resource and economics fronts to the extent that there is not much left to do which would aid in making an investment decision.

Regional Geology

The deposit is hosted in the Andahuaylas–Yauri belt, which is dominated by the Andahuaylas–Yauri batholith which is exposed for approximately 300 km between thetowns of Yauri in the southeast and Andahuaylas in the northwest, and Mesozoic to Early Cenozoic clastic and marine sediment sequences.

Cotabambas

This is a 100%-owned porphyry copper-gold-silver project. The Project is located 545 km southeast of Lima, the capital city of Perú, 50 km southwest of Cusco, 60 km east of Abancay, capital of Apurimac Region, and 1 km south of the village of Ccalla and 500 m to the northwest of the town of Cotabambas.

Geology

The Cotabambas Project is located in mountainous terrain of the high Andean Cordillera. Elevations on the property vary between approximately 3,000 and 4,000 masl. The region is characterized by deeply incised river valleys and canyons such as the Apurimac River valley that is 2,000 m below the Cotabambas Project area. The project's physiography is dominated by northeast-trending ridges, separated by *quebradas* or ravines.

The Ccalla and Azulccacca zones of the Cotabambas deposit are considered to be examples of porphyry copper deposits. The two host porphyries cover an area about2.5 km long and 1.5 km wide.

Mineralization occurs in hypogene, supergene enrichment and oxide zones within the host porphyries and surrounding diorites. A well-developed leached cap hosts theoxide mineralization. Sulphide mineralization occurs below the base of the leached cap.

Hypogene mineralization in the Project area has been intersected at depths from approximately 20 m from surface to depths of over 500 m from surface. Mineralization occurs as disseminated chalcopyrite and pyrite, pyrite-chalcopyrite stringers or veinlets and quartz–chalcopyrite–pyrite veinlets.

Supergene zones occur at Ccalla and Azulccacca and are characterized by high chalcocite content, correspondingly high cyanide-soluble copper assay grades and total copper grades that are >1%.

Oxide mineralization occurs in the leached cap of the Ccalla and Azulccacca zones. Iron oxides and oxy-hydroxides replace pyrite, and oxide copper–gold mineralization occurs as patches of green copper oxides, typically chrysoscolla, malachite and broncanthite. Copper oxides occur as coatings on disseminated chalcopyrite grains and as fill in fractures and veinlets.

Oxide gold mineralization has been defined in a lens in the Azulccacca area, but has also been intersected in short, isolated 1m to 5 m intervals in other parts of the leached cap of the deposit.

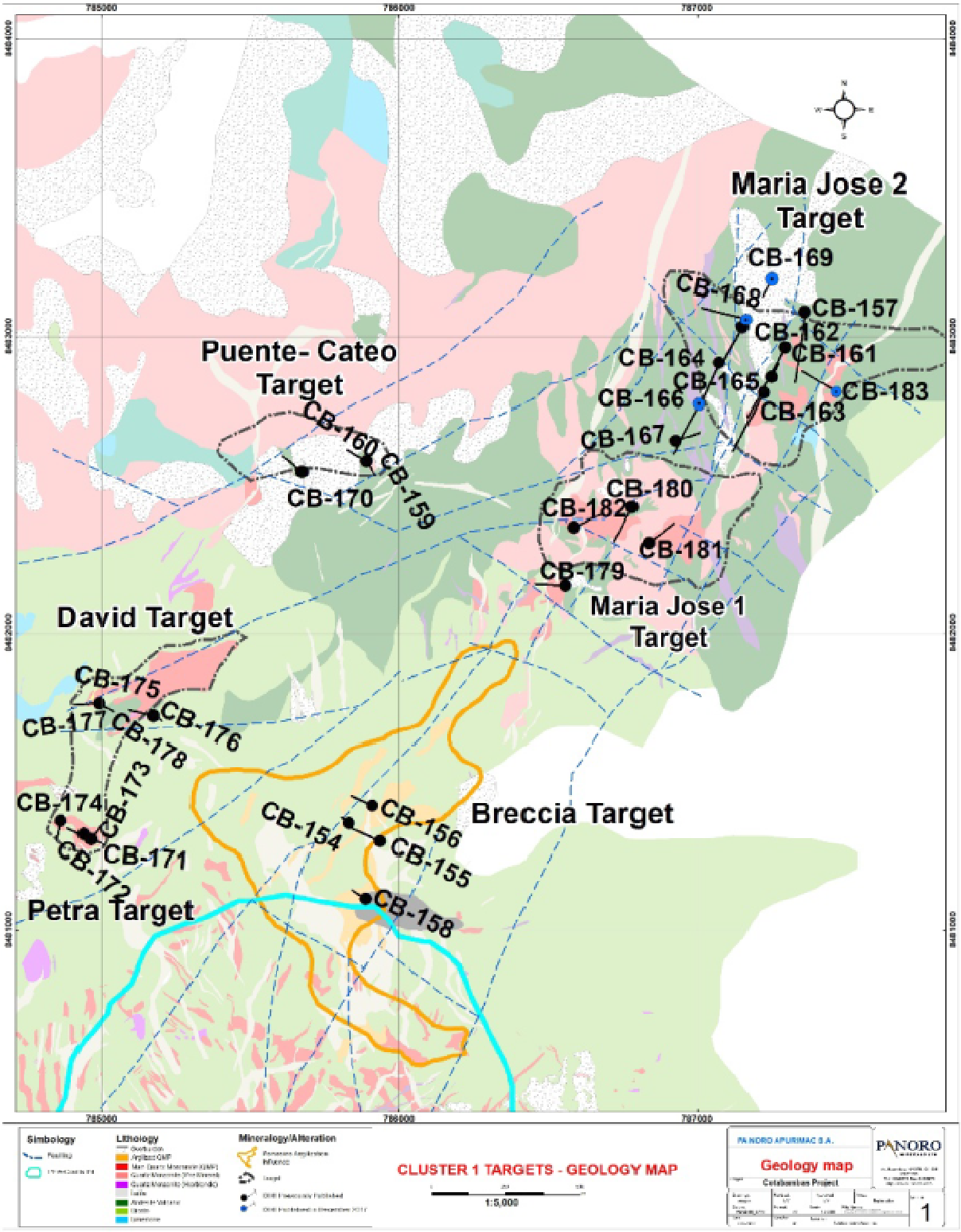
Exploration

Antofagasta in its period in control of the asset drilled 24 holes for a total of 8,538 metres. From 2002 to 2006, CDLM carried out additional mapping, surface rock and soil geochemical sampling, induced polarization (IP) surveying, magnetometer surveying, and diamond drill testing of previously identified geological, geochemical, and geophysical anomalies. In total, 10 drill holes totalling 3,252 metres were drilled.

Company	Year	Drill Holes	Metres
Antofagasta	1995 to 2002	24	8,538
CDLM	2002 to 2007	10	3,252
Panoro	2007 to 2012	29	17,785
Panoro	2012 to 2013	81	40,467
Panoro	2013 to 2014	11	4,946
Panoro	2017 to 2018	29	7,000
Total		**134**	**81,988**

From 2011 to present, Panoro completed additional mapping, surface rock and stream sediment geochemical sampling, IP surveying, and magnetometer surveying. Panoro also conducted diamond drill testing of geological, geochemical, and geophysical anomalies in Ccalla and Azulccacca deposits. In total, 100 drill holes (or 70,198 m) have been completed by Panoro.

It is worth highlighting the 2017 campaign because that involved work in areas that are not covered by the extant resource estimates and yet show that the potential at Cotabambas could be a quantum greater than currently indicated. Drilling in 2017 consisted of 30 holes for a total of 6,300 metres. The result was the identification of a new Cu-oxide zone and a new Copper primary sulphide zone.


Maria Jose 2
Target
CB-169
CB-168
CB-157
CB-162
CB-161
CB-164
CB-165
CB-183
CB-166
CB-163
CB-167
Puente- Cateo
Target
CB-160
CB-159
CB-170
CB-180
CB-182
CB-181
CB-179
Maria Jose 1
Target
David Target
CB-175
CB-177
CB-176
CB-178
CB-173
CB-174
CB-171
CB-172
Breccia Target
CB-154
CB-156
CB-155
CB-158
Petra Target
785000
786000
787000
Simbology
Lithology
Mineralogy/Alteration
CLUSTER 1 TARGETS - GEOLOGY MAP
1:5,000
PANORO APURIMAC S.A.
Geology map
Catabambas Project
PANORO
1

The map on the preceding page shows the main new target areas, all roughly to the north of the main pit (the light blue line at the bottom. Maria Jose is some 1km north of the pit, Petra-David is 400metres north-west and Breccia extends from within the pit area to some 800 metres outside. The latter produced a discovery of a Gold oxide zone at CB-158 with 4.3m of 0.9 g/t Au, 1.1 g/t Ag, 0.01% Cu, including 2.4m of 1.52 g/t Au, 0.8 g/t Ag, 0.01% Cu.

Resource

Mineral Resources were estimated in 2009 and updated in 2012 and 2014. The most recent estimate prepared by Tetratech is shown here:

Project	Resource Classification	Million Tonnes	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)
Cotabambas Cu/Au/Ag	Indicated	117.1	0.42	0.23	2.74	0.001
	Inferred	605.3	0.31	0.17	2.33	0.002

@ 0.20% CuEq cutoff, effective October 2013, Tetratech

The PEA

Panoro, in mid-decade, commissioned Amec Foster Wheeler and Moose Mountain Technical Services to prepare a preliminary economic assessment (PEA) report on the Cotabambas deposit. As mentioned earlier, there had been several resource estimations done prior to the PEA. The document was published in September of 2015.

The results showed strongly improved economics compared with PEA results announced in April 2015, mainly due to an optimized mine plan and processing cut-off grade strategy along with associated improvements to waste rock and tailings management.

The throughput selected for the PEA is 80,000 t/d. The proposed Cotabambas mine has a mine life of 18 years, comprised of one year of pre-stripping followed by 17 years of mill feed.

In the pit optimization process, Amec Foster Wheeler defined an area beneath the town of Cotabambas (population around 2,000), which is

Cotabambas CapEx

Item	Cost USD mns
Mine Equipment	236.0
Mine Development	127.0
Mine Infrastructure	17.0
Tailings Starter Dams	4.0
Tailings Disposal System	73.0
Process Plant	505.0
Site Infrastructure	67.0
Off Site Infrastructure	27.0
Mine Closure	50.0
Subtotal	1,106.0
Owners Cost	40.0
Indirect Costs	152.0
Subtotal	1,298.0
Contingencies	235.0
Initial Capital Cost	1,533.0

500 metres east of the pit, that could not be mined. As a result, the blocks below this area are not considered in the nested pit process.

Pit optimization considered the following metal prices:

- US$3.25/lb for copper
- US$1,300/oz for gold
- US$20.5/oz for silver

Despite the fact that it was three years ago that this came out the prices mainly approximate the current situation utilizing the prices of copper at $3.00/lb, gold at $1,250/oz and silver at $18.50/oz. As a result the after-tax economic metrics came out as:

- NPV (at a discount rate of 7.5%) of US$683.9mn
- IRR of 16.7%
- Payback of 3.6 years
- The revised PEA decreased the average direct cash costs (C1) to $US1.22 per pound of copper, net of by-product credits

The emerging copper and copper concentrate supply shortage narrative is driving the outlook towards copper prices sustainably higher than the $3..00/lb used in the PEA. The projects economics are highly leveraged to copper price which hold out the potential to further enhance the potential value of the project,

The average annual payable metal was estimated at:

- Copper 155.1 million lbs
- Gold 95,100 ozs
- Silver 1,018,000 ozs

The capex came out at $1.533bn, thus limiting the number of potential acquirers that could eventually play in this sandbox. The mine-life is 17 years.

The Peruvian government currently levies a sliding-scale royalty on gross sales from mining operations that ranges between 1% and 12%, and which is imposed on operating mining income. Panoro considers that a minimum royalty of 1% of mining sales would be applicable to the Cotabambas project.

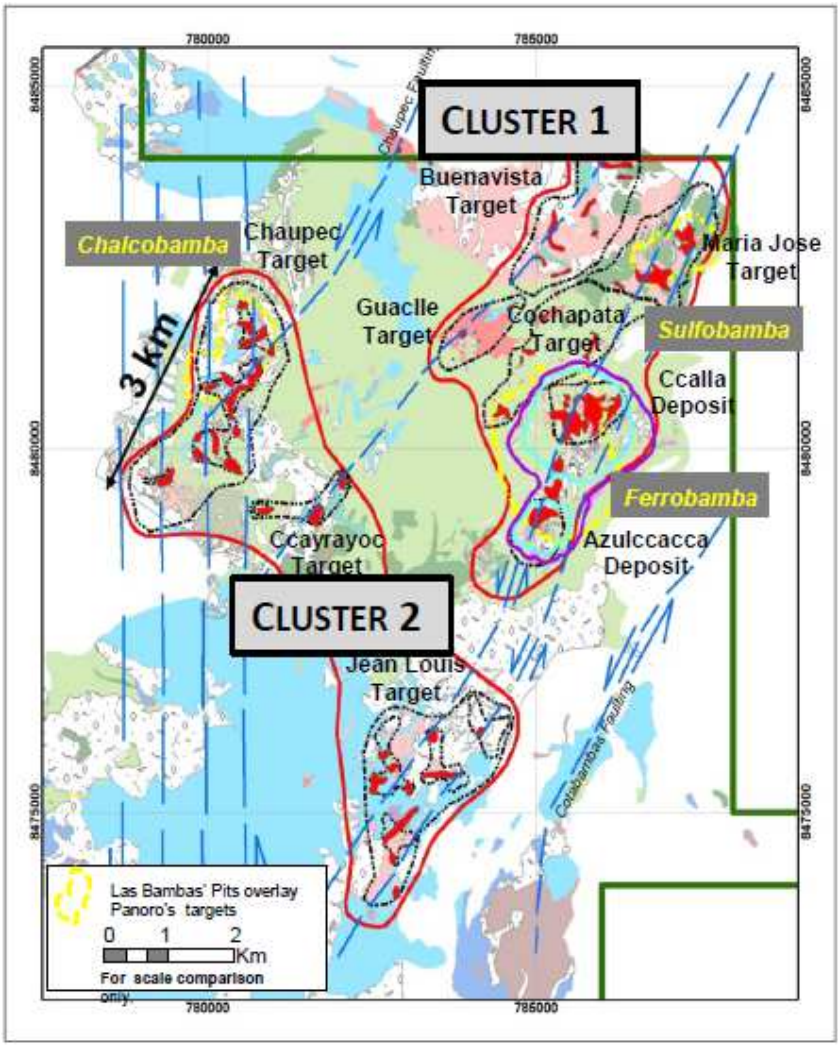
The Streaming Deal

Back in January of 2016 the company announced that it had entered into a precious metals purchase agreement with Silver Wheaton (Caymans) Ltd., a wholly-owned subsidiary of Silver Wheaton Corp. (now Wheaton Precious Metals), under which the streamer pays Panoro upfront cash payments of US$140mn for 25% of the payable gold production and 100% of the payable silver production from the

Cotabambas project. In addition, Wheaton will make production payments to Panoro of the lesser of the market price and US$450 per payable ounce of gold and US$5.90 per payable ounce of silver delivered to Silver Wheaton over the life of the Cotabambas project.

Panoro is entitled to receive US$14 million spread over up to nine years as an early deposit with payments to be used to fund corporate expenses related to the Cotabambas Project. The financing includes provisions to accelerate these payments through Silver Wheaton's matching, up to certain limits, any third party financing by Panoro targeted for exploration at the Cotabambas Project. The acceleration could result in early deposit payments of up to US$7 million being made to Panoro in the first two years of the agreement. The balance of the US$140 million is payable in instalments during construction of the Cotabambas Project.

It is important to note that the precious metals stream represents only 8% of total revenue of the Cotabambas Project based on the assumptions utilized in the PEA. In addition, following a change of control, there is a one-time option to repurchase 50% of the precious metals stream. So for some potential buyers of the project the pre-existence of a streaming deal would be an attraction and for those not interested it can be repurchased and removed from the equation.



Future Exploration

The drilling plan for 2018 is to focus on the so-called Clusters (shown in the map below). Together the investment will be around $7mn with 5,000 metres planned for both Cluster 1 and Cluster 2. The company feels that there are similarities between Cluster 2 and Las Bambas. An updated resource estimates for Cotabambas is not currently planned for 2018, this will be

reviewed as drilling proceeds.

Antilla

This beast is much more bite-sized. The Antilla Copper-Molybdenum project is located 140 km southwest of the City of Cusco in the Apurimac Region of Southern Peru. The project is accessed via the main Cusco to Nazca highway and the unpaved main access road to the small village of Antilla. The project was acquired by Panoro in 2007 (to be discussed further along) and is 100%-owned by Panoro.

The property consists of 12 concessions (Table 4.1 and Figure 4.3), and covers a total land area of 7,500 ha. The mineral rights are held by Panoro Apurimac S.A., a wholly owned subsidiary of Panoro.

Geology

The Antilla deposit is located in the Andahuaylas-Yauri belt of the high Andes of southern Peru. The geology of the belt is dominated by the Andahuaylas-Yauri batholith which is exposed for approximately 300 km between the towns of Yauri in the southeast and Andahuaylas in the northwest, and Mesozoic to Early Cenozoic clastic and marine sediment sequences. The batholith is ranges from 25 km wide at the east end to 130 km wide near Abancay and is composed of early mafic to intermediate intrusives with cumulate textures, grading to intermediate intrusive rocks with equigranular to porphyritic textures. The batholith intrudes Precambrian to Palaeozoic basement rocks which are exposed to the northeast.

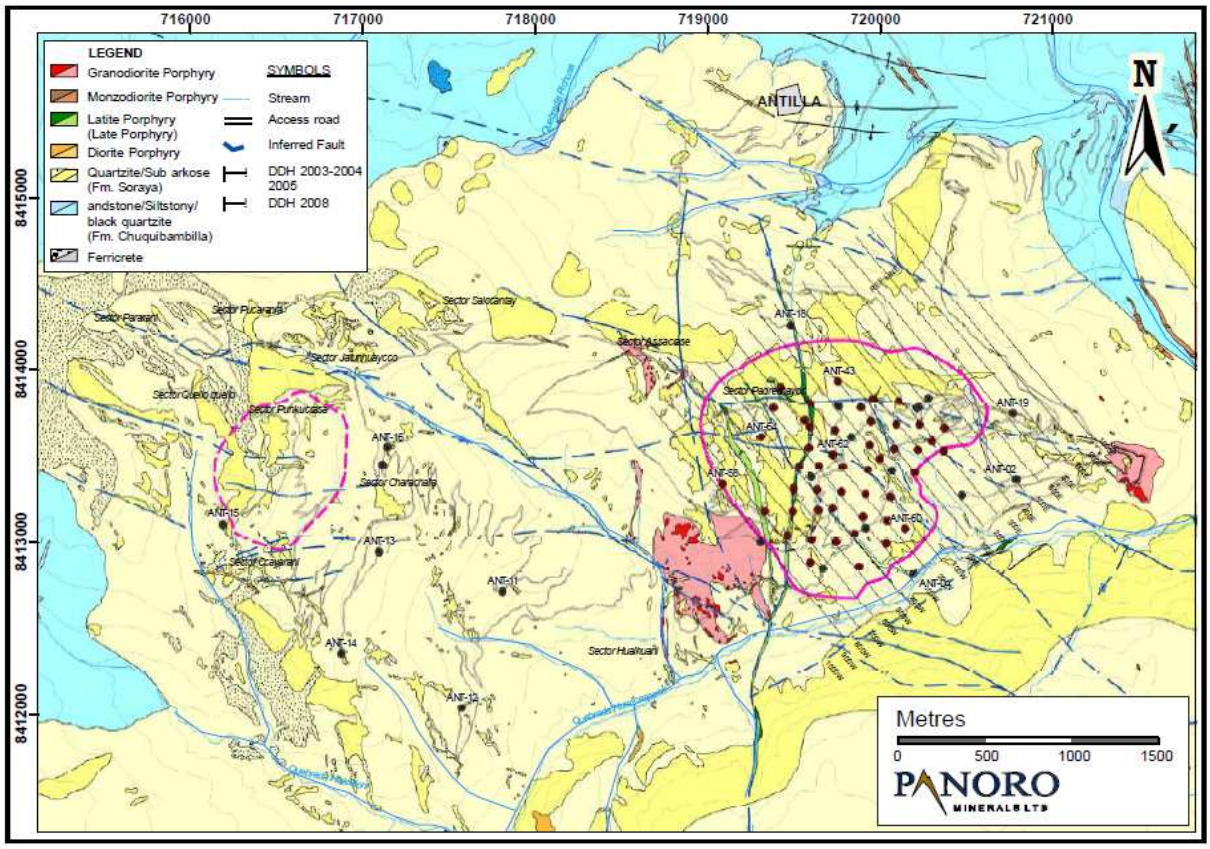
Major mineralization styles in the region include porphyry copper (+molybdenum+gold), iron-copper skarn, and minor epithermal vein-style mineralization. Since the commissioning of the Tintaya mine by BHP in 1999 at the southeastern end of the belt, major copper deposits have been brought to feasibility at Antapaccay, Las Bambas, and Los Chancas. Fifteen to twenty other copper deposits, including Antilla, are currently being explored by Peruvian and multinational mining and exploration companies.

The Antilla deposit occurs along the regional Mollobamba thrust fault in the south western part of the Andahuaylas-Yauri belt (Figure 7.1). Two important regional-scale reverse faults are associated with the Mollobamba fault, the north-east trending Piste Fault, west of the deposit, and the east trending Matara fault south of the deposit. These regional scale faults are interpreted to control the emplacement of the Main Porphyry, responsible for the hypogene mineralization on the Property, and the Late Porphyry which cuts the mineralization.

The most important mineralization on the property is a tabular body of fracture-controlled and disseminated chalcocite and chalcopyrite with minor molybdenite-coated fractures overlain by a barren, leached zone of variable thickness. The tabular zone strikes 050° and dips -20° to the east over an area 1.2 km long and 1.2 km wide. The supergene chalcocite mineralization has a true thickness of 40 to 80 m. Chalcocite is restricted to the secondary sulphide enrichment zone. Molybdenite occurs in fine fractures and as grains within sub-centimetre wide quartz veinlets in the primary sulphide, secondary

sulphide and Main Porphyry.

Copper grades increase three-fold from the primary sulphide zone to the secondary sulphide zone. The leached zone has copper grades of approximately one third of those from the primary sulphide zone and an order of magnitude less than the secondary sulphide zone. The genetic model involving the removal of copper from primary mineralization in what is now the leached zone and re-deposition as chalcocite in the secondary sulphide zone is well supported, given the distribution of copper grades among the mineralization zones. The Main Porphyry is weakly mineralized with copper, and the Late Porphyry contains little or no copper.



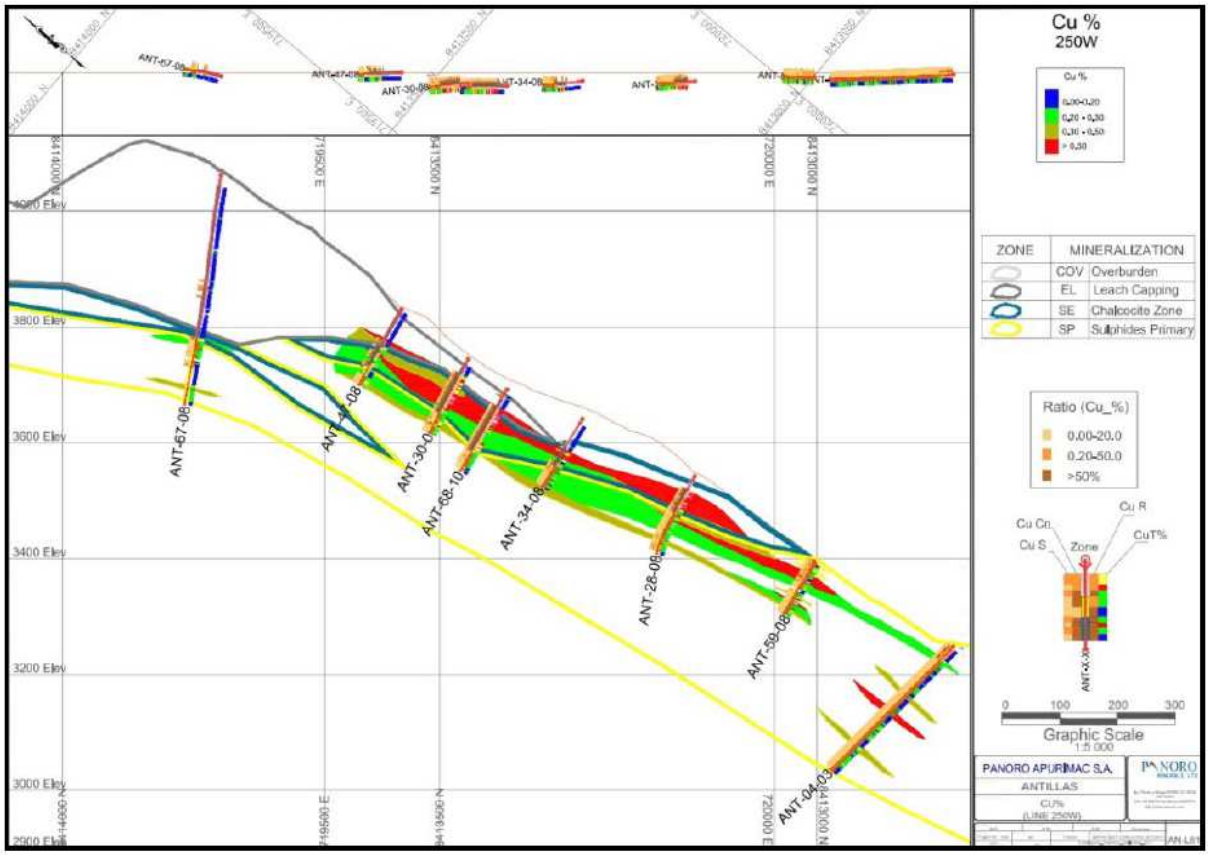
The map above shows the different mineralisation on the Antilla deposit.

Molybdenum grades do not vary significantly between the primary sulphide, secondary sulphide, and leached zones, demonstrating the relative immobility of molybdenum in molybdenite during supergene processes. The highest concentrations of molybdenum occur in the Main Porphyry.

A discontinuous veneer of gravel, sand, talus, and colluvium overlies the deposit. Overburden ranges in thickness from 0m to 53m, averaging 12m. Panoro's geologists are of the opinion that the mineralization identified on the property is consistent with a supergene enrichment blanket associated with an

Andean-type copper/molybdenum porphyry system.

Below can be seen a cross-section at 250W, looking Northeast, showing Copper grade distribution (mainly below the leach cap).



To say that the Antilla mineralisation is complex is somewhat of an understatement.

Resource Estimate

The PEA was based on a Mineral Resource model prepared by Tetra Tech, and published in December 2013. Copper equivalent (CuEq) cut-offs were used to report the mineral resource. The metal prices used were:

- copper - US$3.00/lb
- molybdenum – US$9.00/lb

Metallurgical recoveries were copper at 90% and molybdenum at 80%. The strip ratio of the conceptual pit shell used to constrain the mineral resource is reduced to 1:1.

During the 2016 PEA, Tetra Tech reclassified the mineral resources and also revised the pit shell used to

constrain the mineral resource for reporting, using more current pit optimization parameters. The estimation parameters for the 2015 mineral resource model were identical that of 2013.

The updated Mineral Resource is below.

Project	Resource Classification	Million Tonnes	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)
Antilla Cu/Mo	Indicated	291.8	0.34	-	-	0.01
	Inferred	90.5	0.26	-	-	0.007
	@ 0.175% CuEq cutoff, effective May 2016, Tetratech					

The revised reporting methodology for the 2015 Mineral Resource statement resulted in a positive and significant net redistribution of material from Inferred to Indicated compared to the 2013 mineral resource statement. Primary reasons for the change include a revised pit shell used to constrain mineral resource reporting, a drop in reporting cut-off grade from 0.20 CuEq% to 0.175CuEq% and the unique distribution of grade within the deposit.

The latest resource estimate utilized all drill and assays results available to June 2013 comprised of 9,130 meters of drilling by Panoro (49 drill holes) and 5,162 meters of drilling (39 drill holes from drilling by others).

The Antilla PEA

The PEA for Antilla dates from May 2016, so of relatively recent vintage. Project economics were estimated on the basis of long term metal price forecasts of copper at $3.00/lb, and molybdenum at $12.00/lb using conventional open pit mining and flotation processing. The economics could be summarized as:

- Pre-tax NPV (at a discount of 7.5%) is US$ 491mmn, IRR is 22.1% and payback is estimated at 3.3 years
- After-tax NPV (also at 7.5%) is US$225mn, IRR is 15.1% and payback is estimated at 4.1 years
- Design throughput of 40,000 tonnes per day with an operational life of mine of 24 years

Antilla CapEx

Item	Cost USD mns
Mine Equipment	$51
Mine Development	$55
Process Plant	$187
Tailings Storage Facility	$18
Infrastructure	$85
Subtotal	$396
Owners Cost	$28
Indirect Costs	$82
Subtotal	$506
Contingencies	$97
Total Initial Capital Cost	$603

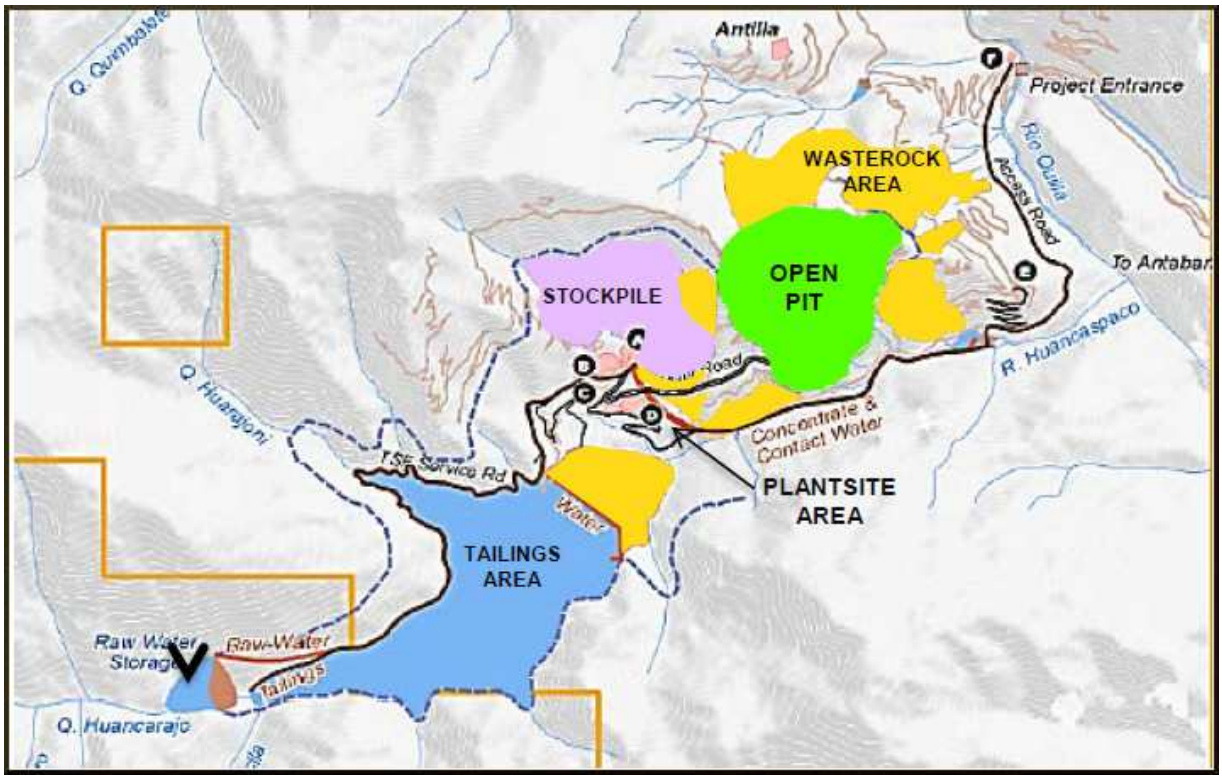
- There is a low waste to mill feed ratio of 0.85:1
- Average annual payable copper of 81 million pounds
- Average annual payable molybdenum of 1.9 million pounds
- Average direct cash costs (C1) of US$1.83 per lb of payable copper (net of by-product credits)
- Initial project capital costs of US$603mn, including contingencies

With sizeable annual production and a 24-year LoM, Antilla in itself would be a company-maker.

The PEA incorporated an open pit mining operation using conventional truck and shovel methods. It is worth noting that the PEA envisaged a pit that would target both the secondary sulphides and the underlying primary sulphides. There is no oxide component to the Antilla mineralisation.

The estimated 24-year life of mine includes 350 million tonnes of mill feed plus 297 million tonnes of waste rock resulting in an average waste:mill feed ratio of 0.85:1. The average life of mine mill feed grade is 0.31% copper and 0.009% molybdenum. The mill throughput is planned at 40,000 tonnes per day through the processing plant that will be located approximately 1 km to the West of the Antilla ultimate pit limit.

Approximately half of the wasterock will be used for construction of the Tailings Storage Facility (TSF) with the remaining wasterock placed in storage areas around the pit limit and within the pit.



An updated PEA is currently in the works at Antilla which should be published in April or May of 2018. This should differ substantially from the hitherto envisioned evolution of the mineplan. The revised scenario looks for a shift to leaching over flotation to capture more of the value in the secondary sulphides. This should result in:

- A substantially shallower pit (around 140 metres deep compared to the previous 250 metres deep)
- Commensurate reduced movement of over-burden
- Increased average mine grade
- Opex reduced by up to 50%
- Reduction of up to 50% in some of the key components of CapEx (in mine build, equipment, processing plant & infrastructure)
- Capex savings of US$150mn or more

The resource from October 2015, shown below, is broken down by the layers in the deposit and it is evident that the Supergene has the bulk of the Copper resource and at the highest grades.

Domain	Quantity	Grade		
	'000 tonnes	Cu %	Mo %	CuEq%
Indicated				
Overburden/Cover	5,600	0.25	0.01	0.28
Leach Cap	13,400	0.25	0.01	0.27
Supergene	168,900	0.41	0.01	0.42
Primary Sulphides	103,900	0.24	0.01	0.26
Total Indicated	**291,800**	**0.34**	**0.01**	**0.36**
Inferred				
Overburden/Cover	500	0.22	0.009	0.24
Leach Cap	13,400	0.21	0.008	0.22
Supergene	25,900	0.34	0.008	0.36
Primary Sulphides	50,700	0.24	0.007	0.25
Total Inferred	**90,500**	**0.26**	**0.007**	**0.28**

At the current time there is no new drilling planned at Antilla with the focus turning to metallurgical testing, specifically related to column leach tests.

The Economics – Highly Leveraged to the Upside

The table on the following pages summarises the economics of the two principal projects. The table shows two scenarios. The first is as per the prices used in the PEA: Cu = $3.00/lb, Au = $1,250/oz, Ag = $18.50/oz, Mo = $12.00/lb, while the second uses the spot prices (shaded in green) as of October 16, 2017 using: Cu = $3.22/lb, Au = $1,299/oz, Ag = $17.30/oz, Mo = $7.26/lb.

With Copper having retraced in recent weeks the PEA's values look somewhat more apt for calculating

returns, however Copper can "turn on a dime" and be back at $3.20 in little time.

METRICS		Cotabambas	Antilla
Mill Feed - Life of Mine	tonnes mns	483.1	350.4
Mill Feed - Daily	tonnes	80,000	40,000
Strip Ratio - Life of Mine		1.25:1	0.85:1
After Tax @ PEA prices			
NPV - 7.5%	USD	$683mn	$225mn
IRR	%	16.7	15.1
Payback	Years	3.6	4.1
After Tax @ Spot Prices			
NPV - 7.5%	USD	$914mn (+34%)	$297mn (+32%)
IRR	%	19.4% (+16%)	17.3% (+15%)
Payback	Years	3.2 yrs (-11%)	3.8 yrs (-7%)
Annual Average Payable Metals			
Cu	tonnes	70,500	36,800
Au	Ozs	95,000	
Ag	Ozs	1,018,000	
Mo	tonnes		900
Initial Capital Cost	USD	$1,533mn	$603mn

More interesting though is that both projects have virtually the same move in their NPV and IRR when prices move and that the sheer size of the move in economics to what was in fact a price difference in Copper of less than 7% shows how supercharged the NPV of both would be in a context of Copper prices rising meaningfully above $3.20 per lb.

Our Take on Copper

The global crisis of 2008 was a seminal year for the copper market. It was not that the metal went down. All metals did. It was that up until that time the global copper market had been in the hands of the major miners. While the prices did not always work out for them in the way they wanted they had quite a large degree of control over the stock of copper that was "seen" in the markets.

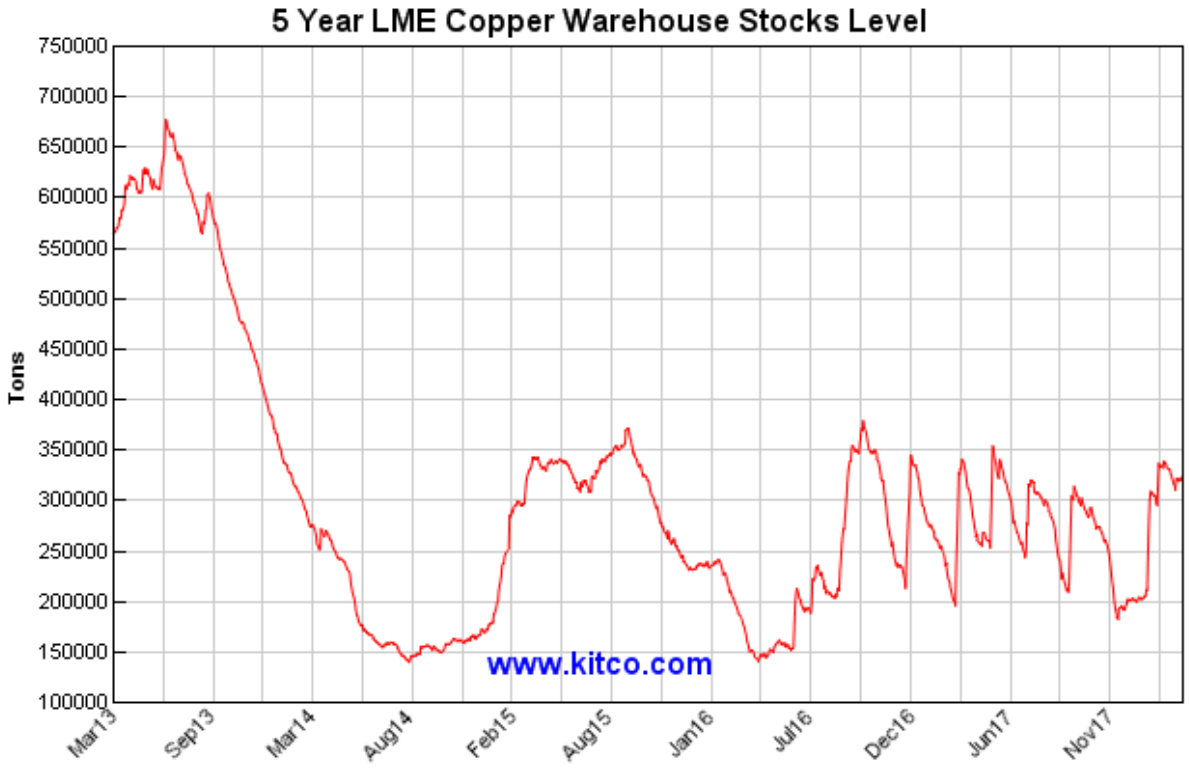
The wrenching effects of the crisis enabled the Chinese with trillions of dollars in accumulated reserves to devote some small part of the financial firepower to start to accumulate sizeable copper stockpiles in unmeasured warehouses and port facilities. Having substantial undisclosed" stockpiles meant that the Chinese could then add or subtract from exchange warehouses at will and pour cold water on the copper price when it was getting too overheated for Chinese purposes.

This new “nine-tenths of the iceberg one cannot see” provided the opportunity for scamsters on more than one occasion this decade to use the vagaries of stockpile sizes to borrow against supposed collateral with the likes of Standard Bank and Citibank falling prey to the ruse.

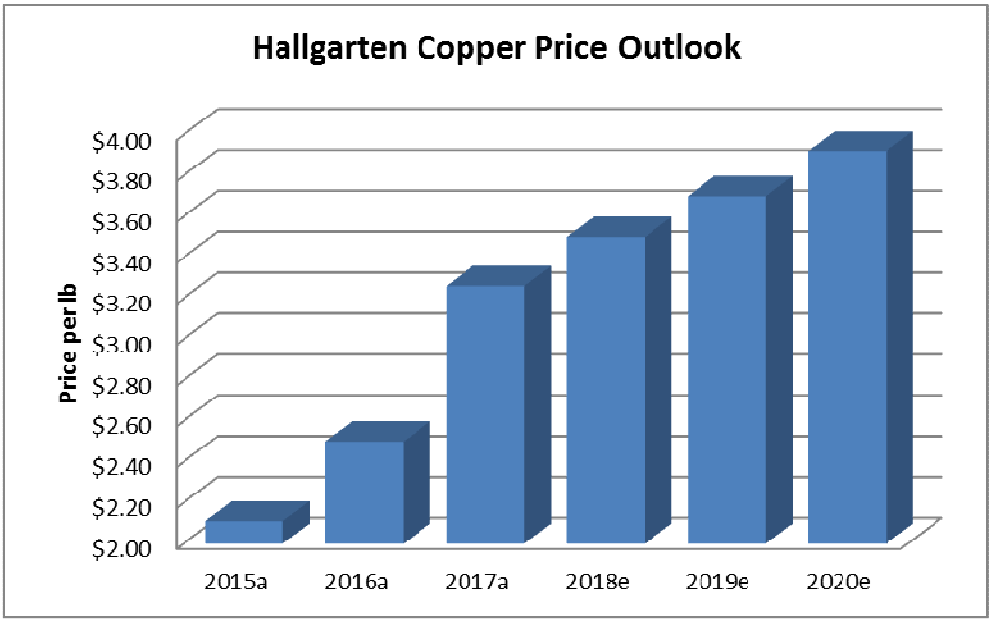
Some would dismiss this as mere conspiracy theory. However this period of Chinese control of the Copper price happens to have coincided with the depressed period of the mining sector in general (in a somewhat chicken-and-egg fashion) with the result that the Chinese have been able to position themselves in some of the most sizeable Copper assets under development such as Tenke Fungurume and Las Bambas. Funny that…

As the chart on the preceding page shows the price started to pull out of its swoon in late 2016. It started a virtually unchecked march higher until it breached the $3 per lb level. It briefly hit $3.20 and has retraced towards $3 in recent weeks.

Below can be seen the LME warehouse stocks. This shows an interesting seesaw action in recent times. Anyone would think that the trend is down and someone keeps moving in stocks to make it look like a stock build and then it gets slapped down again.



Unlike metals like Zinc/Lead and Nickel, there was some copper development during the downtime (e..g. Las Bambas, Constanica etc) but this is likely not sufficient to replace mines that have exited or reduced production and deal with even conservative forecasts of growth in consumption.



As the chart on the proceeding page shows we are looking for gradualism in our price projections from here through to 2020. We see resistance at US$4 per lb, not so much from the general marketplace, but from the Chinese. They do not want to be at the mercy of "Western" miners again in this metal. How the pushback might manifest itself is not clear, but the Chinese firepower is considerable and should not be underrated.

In any case, the Copper price lingering between the current levels and where we see the price in 2020 is a good place to be for copper miners and it ensures that mines with fair grades and CapEx numbers "within the ball park" will be seen as doable and desirable.

The Strategy

Panoro's stated goal is a certain strategy that replicates the end-goals of many Vancouver explorers however it is a pursuit with mixed results since the end of the Supercycle in 2011. The idea that there is a buyer lurking behind every corner was put out to pasture. Chesapeake Gold, that we have covered in the past, seemed to have a destiny as a target for Goldcorp and yet the years have gone by and Goldcorp has done a string of "other deals" and the target on CKG has faded. We perceive the investor community are now dividing into two camps with a majority looking for producing assets and a smaller set still prepared to bet on potential acquirers taking out explorers.

In recent weeks two transactions must have gladdened the heart at Panoro's management. There was OZ Minerals' AUD$444 million agreed bid for Avanco Resources (ASX:AVB). Avanco's Antas mine in Brazil produces about 14,000 tonnes a year of copper in concentrate, with improvement in production, grades and costs expected. Avanco also holds the Centro gold project, which has a 2.2mn ounce gold resource.

Then there was the JV deal that Lumina Gold Corp. (TSXV:LUM) entered into with Anglo American plc on Lumina's Pegasus A and B concessions in Ecuador. Under the terms of the deal, Anglo American, through a joint venture company, would have the right to earn a 60% ownership interest in the properties if it invests an aggregate amount of US$50mn and makes US$7.3mn of cash payments to Lumina over a seven-year period.

Recently the company has been musing out loud about the possibility of selling Antilla to get cash to develop Cotobambas's economics further.

An Alternative Strategy

Companies in the copper space can comfort themselves that the price of the metal is on the up again. However that happened also in the 2005-2008 and 2009-2012 periods and then was sawn off at the knees. Many of those companies that had not found a buyer, when the long mining drought set in, never recovered and others were picked off by carrion-eaters.

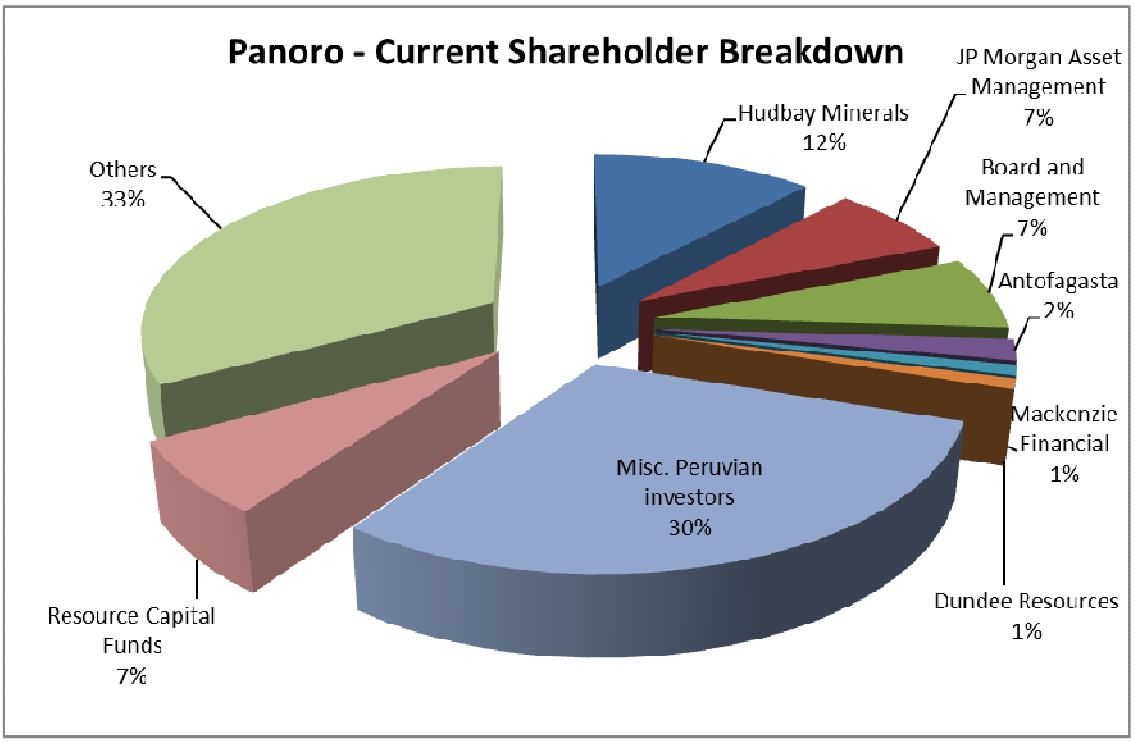
Depending on how "the fish are biting" the company may be tempted to move towards a position where it uses a "divide and rule strategy" for these assets. For a start it could restructure into different listed entities to reflect potential different strategies or buyer profiles. It is this thought that has prompted us initially to add this company to our Model Mining Portfolio.

In our view the company could (at least) be split into two vehicles with one (probably Antilla) moving towards production and the other (Cotobambas) being worked into a larger resource/mine plan for sale. With the upcoming PEA on Antilla likely to show a significantly reduced capex, we would regard a sale of Antilla for anything less than US$150mn (i.e. nearly double the whole company's current market cap) as being a giveaway. Better to divide and rule and fire the starting gun on Antilla's race to production. Investors then could make up their own mind which horse to bet on (or maintain their exposures to both).

The Share Register

The share register of the company is very impressive and possibly gives an indication of how things might evolve further down the track. Antofagasta remains a small holder from its sale of CDLM over a decade ago. HudBay though is a significant holder with 12%, while Resource Capital Funds came in a financing in recent times.

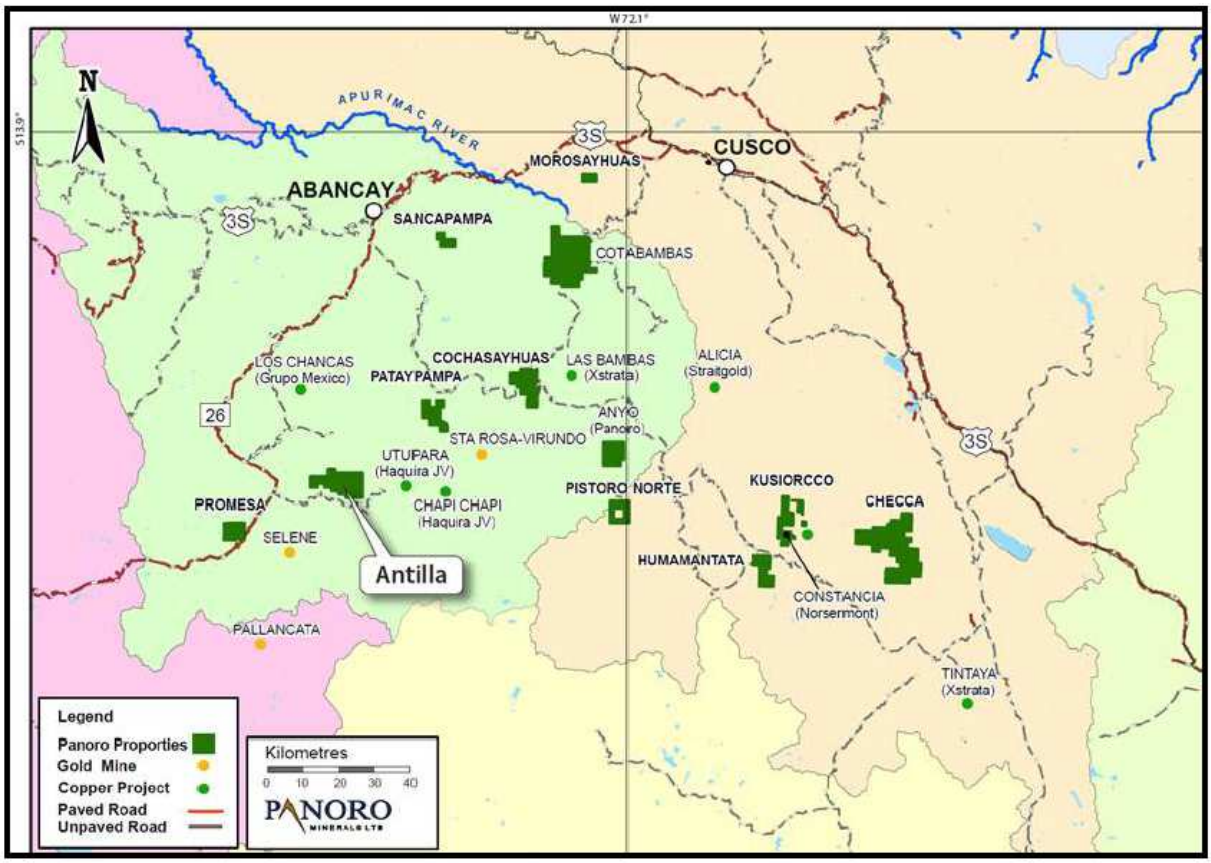
The percentage of Peruvian shareholders is impressive and shows the merits of a Lima listing. Institutions hold nearly ten percentage points. This is a number that management would like to see boosted. Board and management are also well-positioned with over 7%.



Panoro's Other Projects

As noted earlier the acquisition of Cordillera de las Minas S.A. (CDLM) was a seminal moment for Panoro

projecting its efforts onto a larger stage with larger projects. As a result of this deal Panoro acquired 13 properties, including Antilla and Cotabambas. The projects in the portfolio are shown in the map below:



Some of these projects were not deemed worth maintaining and others have been realized to generate funds and narrow the company's focus onto the best targets. Those outside Antilla and Cotabambas that still have the company's focus are:

Promesa – is comprised of three concessions covering 3,000kms located at an elevation between 3,800m to 4,400m asl. It is approximately 360kms by road from Cusco on paved highway along the Lima-Nazca highway where it turns off to the property for a further 7.2km of rugged road. The topography in the area is generally gentle with deep valleys. The company undertook geophysics, geochemistry and geological mapping on this target back in 2014.

El Rosal – this property predates the purchase of CDLM and is a Cu-Zn skarn. It has seen drilling of nine holes in two campaigns in 2000 and 2004, which together with other data indicates the presence at depth of a porphyry (+ skarn) system. This project includes the La Ramada Polymetallic (Ag-Zn-Pb) target - a Silver-rich Zn-Pb carbonate replacement deposit (CRD) similar to deposits in Central Peru. The work by Panoro intercepted approximately 200 meters of a porphyry copper mineralized intrusive. Both the CRD and the porphyry copper mineralization were discovered during the 2008 exploration program.

Cochasayhuas – this deposit is a low-sulphidation type epithermal gold deposit and contains associated base metals minerals such as chalcopyrite, galena and sphalerite. The property extends to 5,836 hectares and is located at the centre of the properties constituting Panoro's portfolio. The property contains the historical San Fernando mine which was in continuous production from 1912 to 1952 and produced 401,000 ounces of gold and 480,000 ounces of silver. Production came only from one vein system, the Cochasayhuas vein, although there are two other main vein systems, those being the San Fernando vein and the San Lucas vein. It was mined along a strike length of 1.1 km length to a depth of 400 meters. Its known strike length is 3 kms and extends outside of the property. San Fernando was traced for a total of 3.5 kms within the property though no production was reported from the San Fernando vein.

A site reconnaissance and inspection was carried out by Panoro in 2009 to validate the sampling done by CMH. Samples from known mineralized outcrops confirmed grades of up to 4.7 g/t of gold on a 2 meter sample on Cochasayhuas vein and 2.2 g/t gold on a one meter sample taken across a quartz stockworks zone on San Fernando.

Kusiorcco - porphyry copper-skarn mineralization – in January 2018, Panoro announced the sale of this project to Hudbay Minerals for up to US$5mn plus a 2% NSR Royalty.

Board & Manangement

Luquman Shaheen, President, CEO, Director, has led Panoro Minerals since 2008 and has been a shareholder since 1996. He has raised over $300mn of financing and directed the growth of the company's mineral resources from 90mn tonnes to 1.1bn tonnes and the completion of economic assessments demonstrating over US$900mn of value. Luquman has distinguished himself by guiding Panoro through the global financial crisis from 2008-2010 and through a long copper bear market from 2012-2016 while growing and advancing Panoro's key projects. Luquman is a Professional Engineer, has an MBA and over 28 years experience in the mining sector worldwide, 22 years of which was dedicated to Peru. Prior to taking over as CEO of Panoro, he spent two years with PanAmerican Silver, eight years with Wood (formerly AMEC) and 8 years with Klohn Crippen Berger.

Bill Boden, the Chairman, is a Chartered Accountant with more than 30 years of experience as a manager of risk capital investments. He was founder and President of the CW Funds group of companies, affiliated with Ventures West Management Inc., for which he structured and raised financings totaling $130mn, primarily from overseas investors. He was a founding director of Landex Petroleum Corp. and a founder of First Coal Corporation for which he served as Chairman and CEO. The two companies were acquired for over $450mn.

Augusto Baertl, a non-executive director, is a pivotal figure in the Peruvian mining and corporate landscape. He is an experienced mining executive with over 50 years of experience in the Peruvian and international mining sectors. His career began with the San Cristobal Mining unit of the Cerro de Pasco Corporation followed by Compañía Minera Milpo where he rose to the role of President & CEO. He was also President & CEO of Compañía Minera Antamina where he led the $2.25bn development of one of the world's largest copper/zinc mines from exploration to start-up. He is a past member of the Board of Directors of many mining companies including Milpo, Atacocha, Huaron, Chungar, Corporacion Minera

Castrovirreyna and Norsemont Mining in addition to serving on the boards of banking, engineering, construction and contract mining companies in Peru. He is a former Chairman of the SNMPE, IIMP, Petroperu, the Canada Peru Chamber of Commerce and the Peru Chapter of the Latin American Business Council. He has recently been appointed as Chairman of the Board of Directors of Graña y Montero, Peru's largest engineering and infrastructure company (which is also NYSE-listed). He is also currently a member of the Board of Directors of Chinalco International, Alturas Minerals, Fima and Stevia One.

Ronald Hall, a director, holds a BSc. in Metallurgy from Cardiff University in the UK and has over 40 years' experience in the management, operation, evaluation and design of mining projects globally. Over his career he has worked and lived in the UK, South Africa, Botswana, Canada, Australia, China and elsewhere where he has advanced mining projects from early stages through feasibility and into development and operation. From 2004 to 2011, he lead the growth of Wardrop Engineering's mining business in Vancouver, B.C. and internationally, including the establishment of offices in the UK, China, Chile, Brazil, Hong Kong and Australia, prior to the acquisition of Wardrop by TetraTech Inc. He is currently an independent director of Chinalco Mining Corporation International (CMCI), listed company on the Hong Kong stock exchange, which operates the Toromocho Copper project in Peru.

Anthony Laub, a non-executive director, is a leading lawyer in Peru. He has held a number of senior leadership positions in several companies of the Peruvian energy sector, having been Chief Legal Counsel of Electroperú, Director of Distriluz, SEAL, Electro Sur Este, Empresa de Generación del Centro and Electro Sur Medio, as well as a member of the Special Privatization Committee CEPRI Oroya-Carhuamayo-Paragsha-Antamina Electrical Power Line. He also has experience in the public sector, having served in many positions within the Ministry of Energy and Mines, including Secretary General, Director-General of Legal Counsel, Advisor to the Ministerial Office and Chief of the Ministry of Energy and Mines' General Bureau of Electricity's Legal Department.

Christian Pilon, is both the Executive Director Peru and a main board director, resides in Lima. He has over 30 years of experience in applied geophysics in mining, civil engineering, environmental and water resource projects. He is currently president of Geoline S.A., a Peruvian company dedicated to the sales and rental of engineering instrumentation and to specialized geophysical surveys and consulting.

Christiaan F. Staargaard, a non-executive director, he holds a B.Sc. in Geology from The Pennsylvania State University and an M.Sc. in Geochemistry from Queen's University. Initial employment with a number of major and junior mining companies was followed by the development of a successful independent consulting practice. He has served as a director with a variety of publicly traded companies with advanced, international mineral projects since 1990 and recently left InZinc Mining Ltd. after fourteen years as President and CEO. He has over forty years of experience in all facets of mineral exploration in a wide variety of geological environments throughout North, Central and South America as well as China, the Southwest Pacific, Africa, Europe and Madagascar.

Lorne Torhjelm, a non-executive director, is currently President of L.C.T. Management Corp., a private real estate and financial investment company. Since 1995, he has worked for numerous public companies, all in the resource sector, holding positions of CEO, President, Director and CFO.

Risks

There are a number of potential risks that should be taken into consideration:

- Global economic conditions deteriorate due to a rising interest rate scenario or slowing growth or both
- That the Copper price loses upward momentum
- Political risk in Peru that makes mining more difficult
- Financing difficulties for larger projects
- A predator makes a move on Panoro before it is in a position to maximize value
- No predator makes a move

The main dangers for Panoro relate to its waiting game. The copper market is on the move but the company can only really capitalize upon this by being taken out. If the wait is too long and cyclical pressures come to bear on the copper price or new sources of production arise to adequately meet demand then the company risks riding into another price downturn without having secured a suitor.

The hope is that insufficient projects will appear to satisfy demand, thus extending the cycle and making a takeout more likely. At the moment this looks the most likely scenario.

Conclusion

One does not need to be a subscriber to apocalyptic views of shortages caused by the EV revolution to be nevertheless bullish on copper. The metal has not been an underinvested in recent times as say, Zinc, but the long period of quiescence in mining markets meant exploration was minimal and development to mining status was largely in the hands of the Chinese, (e.g. MMG at Las Bambas). While it is not said out loud in public “Peak Copper” in Chile is a real threat.

The company feels the stock might have a five-fold uplift from where it is to where it gets “taken over”. The company may decide in the meantime to make its own opportunities. One scenario to conjure with might be a demerger of Antilla (and the other projects) from Cotobambas would set the ball rolling and most likely produce a one plus one equals three type outcome in the stockprice.

Having survived the grim years of the mining downturn, Panoro has reemerged onto the sunny uplands (dare we say, Altiplano) with two projects at an advanced stage, with little in the way of competing offers with such a short trajectory to production.

We added Panoro as a **Long** position to the Model Mining Portfolio several months ago with a 12-month target price of 70cts.


CA:PML Daily
4/23/18
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
Volume
©BigCharts.com
3
2
1
0
Millions
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
18
Feb
Mar
Apr

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