



Gold : Alto Metals Limited (AME)

By : Eagle Research (Keith Goode)	JUNE 2017 VISIT TO SANDSTONE IN WA	25 July 2017
Year Low/High:	\$0.066 - \$0.155	Recommendation
Diluted No. Shares	151.9m	Share Price
Diluted Mkt Cap :	A\$12m	Target Price
Net Cash (31 March 2017)	\$1.6m	> A\$0.15
36m performance shares & investments ~\$0.6m	www.altometals.com.au	T: +618 9381 2808

Alto Metals Limited (AME) – Applying a Systematic Approach Resulting in Discoveries and Turning them into Account as SMPs

- **Similar to a number of junior gold companies, Alto Metals (AME) intends to self-fund its exploration through the development of a number of SMPs (small mining projects) in its almost wholly-owned Sandstone Goldfield, except that Alto intends to use SAU's Cannon-style model in which AME explores and starts the approval process over a project area [such as the recent ML Applications over Lord Henry & Lord Nelson in the Lords Project Area]. And then Alto approaches a company with an operating hard rock plant (there are possibly ~10 within a radius of ~200km) to mine, truck and treat the ore on a 50/50 profit-share basis.**
- **The advantage of the "Cannon-financing model" is that operating costs are at cost and no toll treatment charges (which can range from \$20/t to \$50/t or more) are incurred. The operating company incurs all the mining and treatment costs and then deducts them from the realised revenues, after which the profits are split 50/50 with monthly payments to the explorationist (AME or in the "Cannon" model, SAU). (In the SAU/WGX agreement a loan was also made to SAU to explore & that was also deducted from the initial profit shares).**
- **Fortunately for Alto, Troy never spent any money on converting the front end of their aging plant (now owned by MDI) to treat hard rock, so it remained an oxide plant and consequently the pits stopped when hard rock was encountered (such as Oroya, the Lords, Bull Oak (Hancocks) & Bulchina). In areas where hard rock is nearer to surface (often < ~20m), exploration was not undertaken by Troy because the ore could not be treated, so vast areas are unexplored in the ~35km x 35km goldfield such as Bull Oak South, Sandstone North, Hacks/Black Range, Maninga Marley and Vanguard.**
- **There are possible oxide resources such as at Vanguard and Indomitable which Troy were unable to geologically unravel due to Troy mostly drilling E/W (towards the west), which has resulted in the two Alto discoveries reported on 20 June 2017 of high grade (>10g/t in 4m composites) at Vanguard North & >300m on strike at Indomitable. Vanguard North has since advanced further with >15g/t intercepts over 1m, and potential similarity to Oroya.**
- **Alto has ~7 primary project areas within its Sandstone Goldfield, each with a diameter or elliptical long axis length of up to ~5km, of which the most advanced is the Lords Project (consisting of Henry, Nelson and Maninga Marley/Havilah), and on which AME expected to progress as an SMP, while focusing on Vanguard and then possibly Bull Oak South.**
- **It can easily be seen from the drone pictures how Vanguard could have been misinterpreted as it has a number of stopes and old shafts that strike E/W (similar to the northern part of the field and against the earlier mapped NW/SE strike there), while Bull Oak South has the largest untouched mullock heaps around old shafts that ERA has seen.**

Other Key Points:

- **What sets Alto apart from other junior companies is that it wholly owns almost a ~35km x 35km complete historically worked goldfield that was once only 2nd to Kalgoorlie.**
- **Infrastructure appears to be very good for Alto's Sandstone Project, with established dirt haul & main roads, fresh water, proximity to Sandstone, and operating plants.**
- **Alto's mid to long-term view is targeting material >1moz ore resources, which theoretically should exist at Sandstone given its relatively shallow historical drilling depths.**
- **Additional open-cut possibilities may occur once the slime areas have been removed and treated elsewhere, as they would openly reveal the underlying ground.**

Corporate Overview

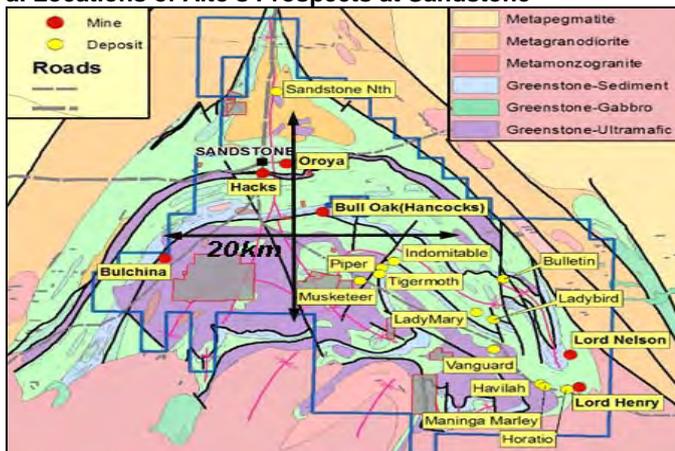
This is ERA's first updated report on Alton Metals Ltd (AME) following our initial report dated July 2016 (which is available on www.altometals.com.au or www.eagleres.com.au). AME placed 7.41m fpo shares @ 13.5c in October 2016 to raise \$1m for exploration which increased the number of issued shares to 151.9m. There are still 25m performance shares payable to the vendor (to June 2021) to be issued when a gold equivalent resource of >500koz has been delineated, plus a 2% gross revenue royalty, and a right to fossick for minerals and gold nuggets up to 2m below the surface.

AME still holds 25.5m Antipa (AZY) shares worth ~\$0.6m (at the current ~2c) and 2.5m Enterprise Metals (ENT) shares worth \$75k (at the current ~3c – in June 2017, ENT rose to ~5c and back down on the basis of SFR (Sandfire diamond drilling a DHEM conductor near Homestead in the 75/25 farm-in to a JV). AME also still has its ~4 ENU Uranium prospects in Australia, which have been excluded in this report.

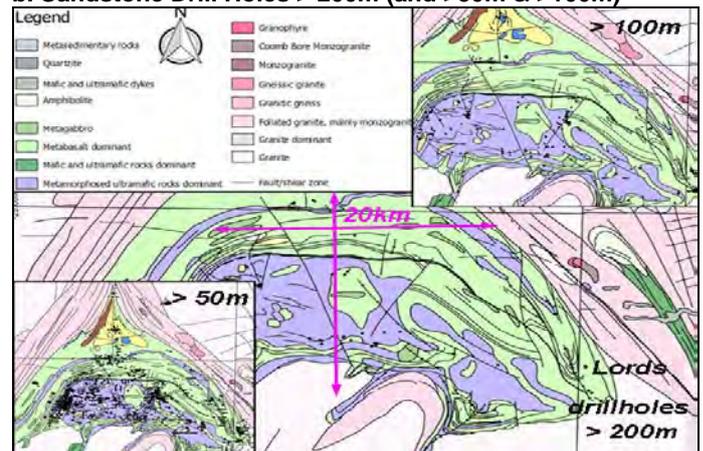
This report has been based on visiting some of Alto's Sandstone prospects in June 2017, such as Indomitable, Vanguard, the Lords (Henry & Nelson), Maninga Marley, Bull Oak South and Sandstone North, as shown in Figure 1a, building on the knowledge of our visit in June 2016. Alto has been compiling databases of information, one of which highlighted the lack of drilling >100m and little >200m as in Fig 1b.

Figure 1. Locations of Alto's Prospect Areas at Sandstone, Sandstone Drill Holes > 200m (>50m & >100m)

a. Locations of Alto's Prospects at Sandstone



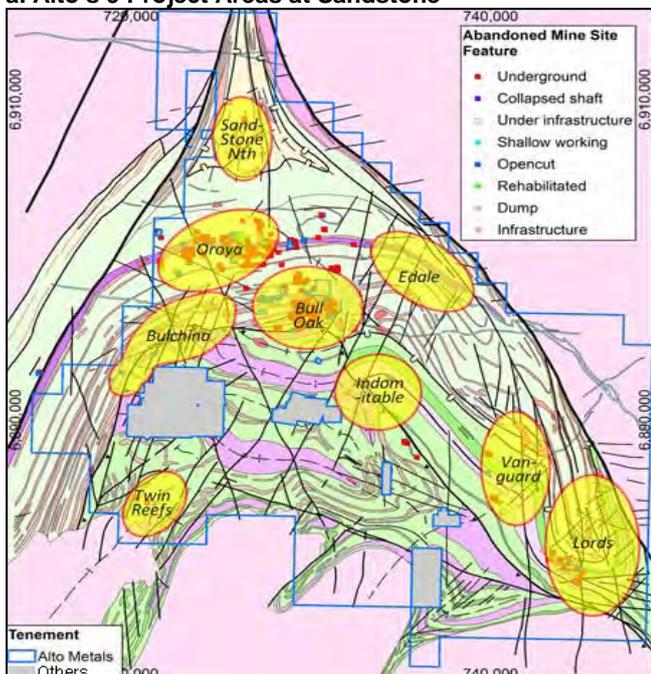
b. Sandstone Drill Holes > 200m (and >50m & >100m)



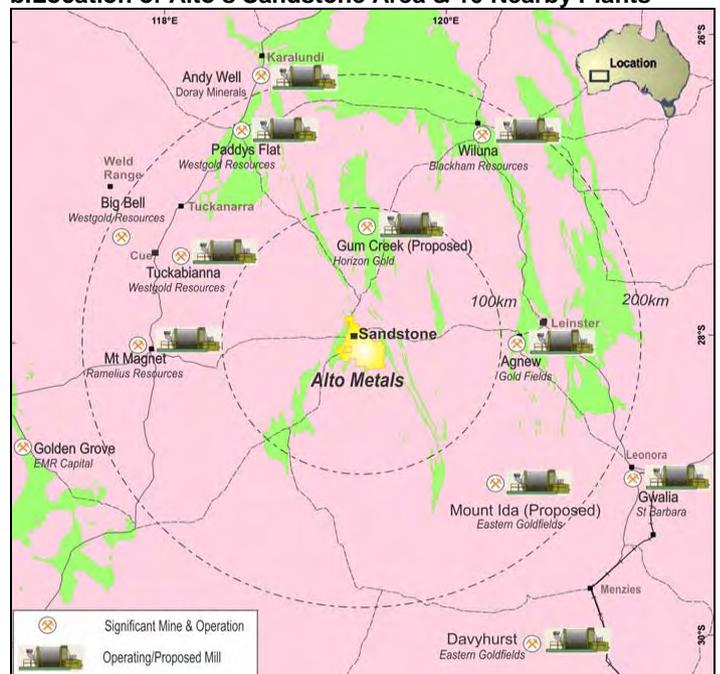
Alto has formed ~9 Project areas being 7 primary [Lords, Vanguard, Indomitable, Bulchina, Bull Oak, Oroya, and Sandstone North] and 2 secondary [Edale & Twin Reefs], within its almost wholly owned Sandstone Goldfield as shown in Figure 2a. Each primary project has a diameter or elliptical length of up to ~5km, of which the most advanced is the Lords Project (consisting of Henry, Nelson and Maninga Marley), on which AME has begun progressing forward as its first SMP (small mining project), by applying for MLs over the previous open-cuts of Lord Henry and Lord Nelson. The aim is to enter into a 50/50 profit sharing agreement with one of possibly ~10 operating plants within a radius of ~200km shown in Fig 2b.

Figure 2. Alto's 9 Project Areas at Sandstone, and Location of Alto's Sandstone Area & 10 Nearby Plants

a. Alto's 9 Project Areas at Sandstone



b. Location of Alto's Sandstone Area & 10 Nearby Plants



Alto's intention behind its SMP's is to follow Southern Gold's very successful "Canon-financing model", in which AME explores and starts the approval process over a Project Area. And then Alto approaches a company with an operating hard rock plant (there are possibly ~10 within a radius of ~200km as shown in Figure 2b of which two propose to be operational by 2019, being Horizon Gold's [HZNs] Gum Creek and Eastern Gold's [EGS'] Ida plant) to mine, truck and treat the ore on a 50/50 basis. (Note : MDI's aging plant has not been considered as in ERA's opinion, it appears to need major work, apart from being an oxide [ideally no hard-rock] plant).

Note : ERA's first report on Alto in July 2016 (available on www.altometals.com.au or www.eagleres.com.au) contains a wealth of historical detail on the Sandstone Area and its Project Areas, which has not been repeated in this report.

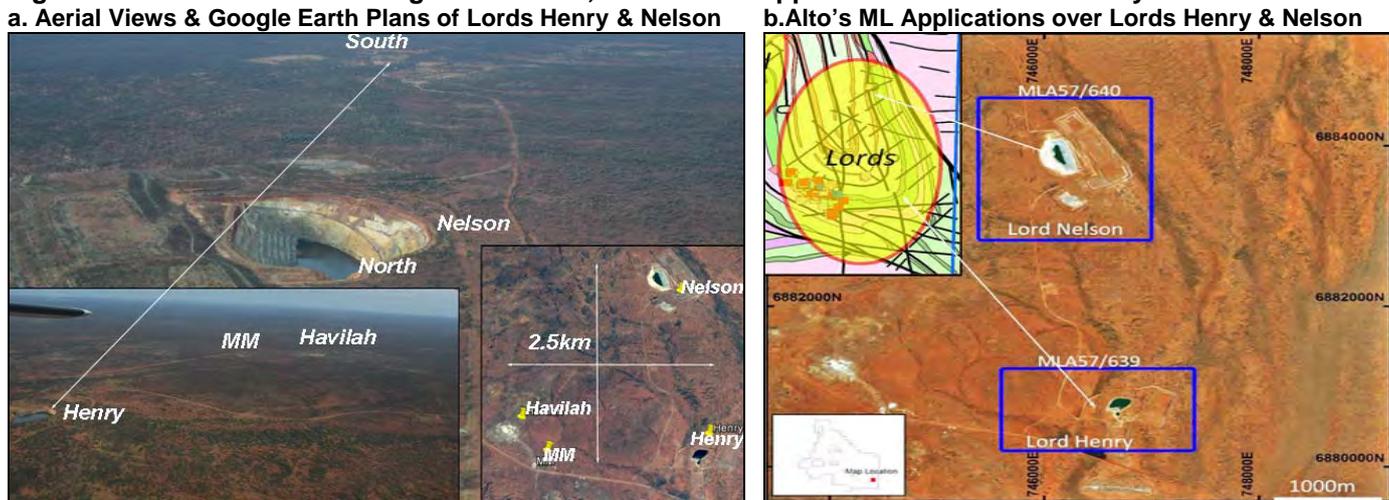
AME has two main objectives, namely in the shorter term to define shallow ore resources such as Indomitable and Vanguard North plus the Lords on which SMPs (small mining projects) can be undertaken through one of the nearby plants shown in Figure 2b. And in the medium to longer term, discover ideally >1moz orebodies that could potentially supply a standalone production facility.

AME's 7 Primary Project Areas

1. Lords Project

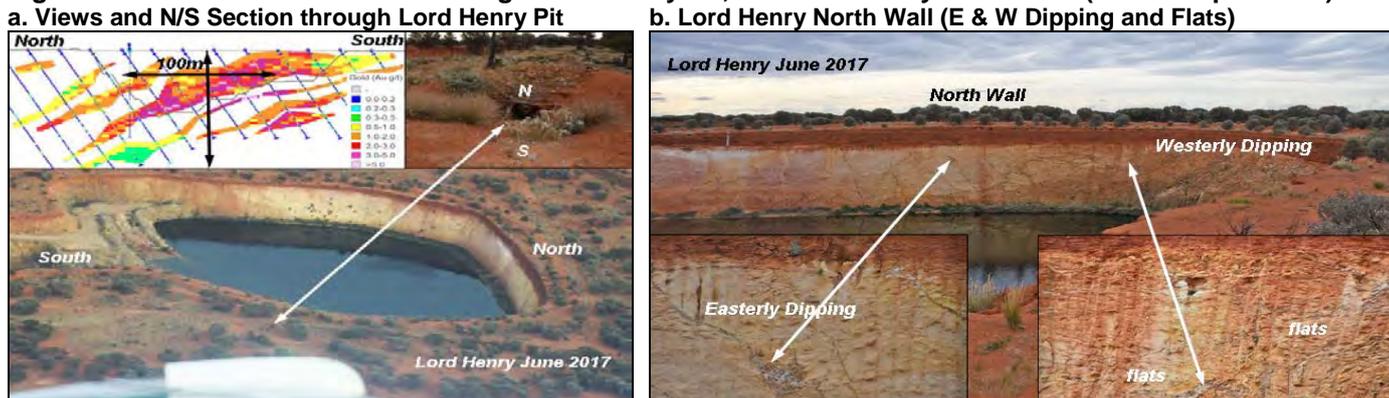
The Lords Project covers the ~3km diameter area that includes **Henry** in the south, **Nelson** in the north and **Maninga Marley/Havilah** to the west as shown in Fig 3a. Considering that many sizeable orebodies >1moz are <1.5km long (eg GOR's >5moz Gruyere), the Lords Project could theoretically have contained a pre-mining resource of >500koz, especially if the lack of drilling >200m is considered as in Figure 1b. On 21 July Alto reported that it had pegged and lodged ML Applications over Lord Henry & Lord Nelson as shown in Figure 3b, and were seeking interest from possible profit-sharing operating companies.

Figure 3. Aerial Views and Google Earth Plan, & Alto's ML Applications over Lords Henry and Nelson



Historically >307koz has been mined from the area being Maninga Marley: 48.5koz (68kt@22g/t), Lord Nelson: 207.4koz (1.45mt@4.4g/t) & Lord Henry: 48koz (413kt@3.6g/t). Over DQ98 and MQ99 Herald treated ~210kt @ 0.97g/t of slimes from the Maninga Marley area with a ~90% recovery for ~2.7koz at a cash cost of ~A\$290/oz. What was mined from Lord Henry and Lord Nelson before Troy is not known, but the old timers didn't miss much near surface and the veins in the pits can be seen close to surface, plus there is an old shaft adjacent to the east of the Lord Henry pit on an unmined parallel structure in Fig 4a.

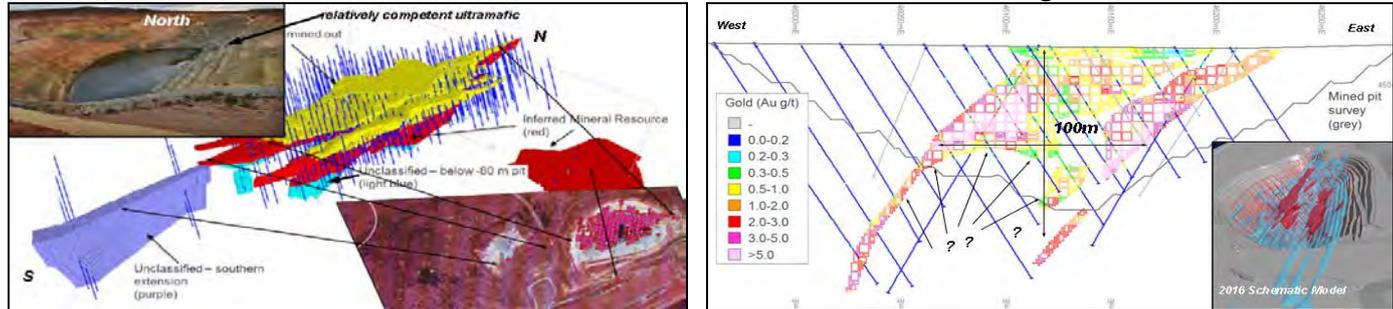
Figure 4. Views and N/S Section through Lord Henry Pit, and Lord Henry North Wall (E & W Dip & Flats)



AME reported indicated and inferred ore resources at Lord Nelson: 68koz (980kt @ 2.2g/t) in November 2016 and Lord Henry: 69koz (1.3mt @ 1.6g/t) in May 2017. Mineralisation has been drawn inset in Figure 4a as plunging north at **Lord Henry**, although there are visible E/W veins and flats in the North Wall and a possible white palaeochannel appears to extend north into the wall, as shown in Figures 4a & 4b.

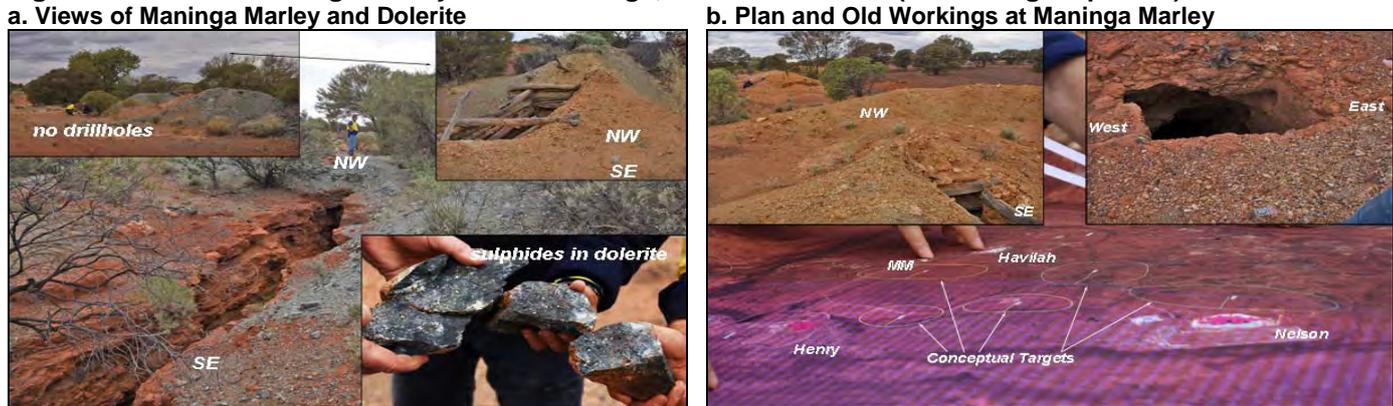
The ultramafic footwall of the **Lord Nelson** pit has actually held up remarkably well as shown in Figures 3a and 5a, being little changed from 2016. Although ~207koz has been mined from the pit, Lord Nelson is **thought to have more upside potential** than Lord Henry, due to the delineated extensions to the south with its unclassified southern extension and unclassified below the pit >80m, added to which its floor has not been drilled (because being hard the ore could not have then been treated in the plant, and until the pit has been dewatered, it is difficult to drill it) as shown by the section in Figure 5b.

Figure 5. Views, Plan & Schematic Model of Lord Nelson, and Block Model Section through Lord Nelson



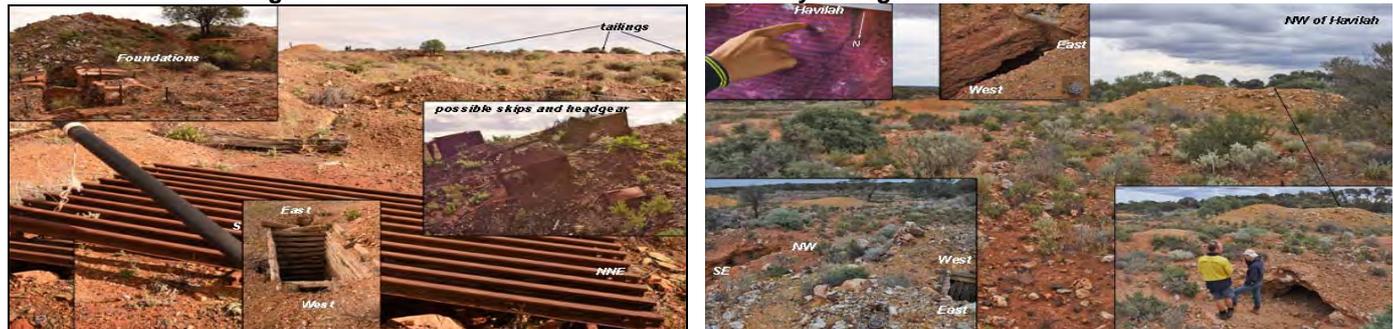
The historical **48.5koz** of production mined from **Maninga Marley (MM)** and Havilah has been regionally grouped together, and the area consists of a series of old workings with some tailings. There appeared to be very few signs of modern exploration around MM probably because the ground was too hard to go through the plant, as can be seen of the dolerite ridge and workings extending for ~100m as shown in Figure 6a. It could be seen that the old workings strike both NW/SE and E/W as in Figure 6b.

Figure 6. Views of Maninga Marley's Old Workings, Plan and Dolerite (containing sulphides)



Troy recorded in 2009 that grab sampling of the tailings on a 6m x 8m grid resulted in (non-JORC) estimated tailings resources of 22.5kBCM averaging 0.93g/t at Havilah (for possibly 1koz of gold) and 6kBCM averaging 1.90g/t at MM (for possibly 0.5koz gold), and designed a possible pit at Havilah, but possibly because the ground was expected to be hard, did not proceed. As shown in Figure 7a, the workings at **Havilah** appear to be quite extensive and were fairly serious as they appear to have contained foundations, headgear, skips, rail etc (historical production records were notoriously scant). While there was a NNE/SSW striking shaft, **most of the shafts appear to strike E/W** on more than one structure there, and hence would have been mostly missed by Troy's conventional easterly drilling.

Figure 7. Views of Old Workings at Havilah, and Mostly Variegated Quartz at Havilah North



There are simply so many old workings in the Sandstone goldfield (at one stage it was apparently only 2nd to Kalgoorlie). As shown in Figure 7b, NW of Havilah does not seem to feature greatly on the map (there are actually a number of old worked areas in Google Earth), yet has an extensive area of laminated and variegated coloured quartz (apparently not assayed but could range up to 3g/t, based on what ERA has seen similarly elsewhere). Yet again the primary strike direction appeared to be E/W, but also with some NW/SE stopped structures.

2. Vanguard Project

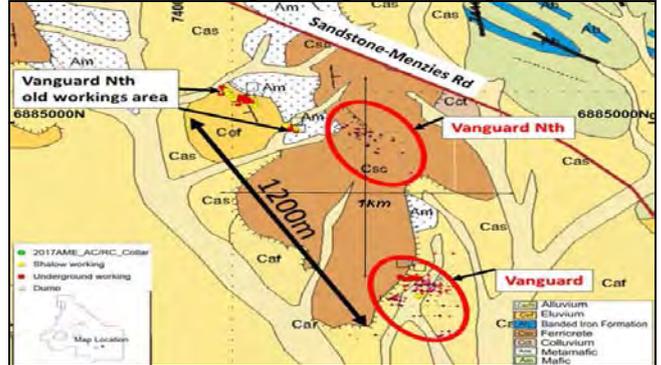
The Vanguard Project lies west of the Lords Project as shown in Figure 8a and covers Vanguard, Vanguard North (& Vanguard East), being an area ~3km diameter, however, extending the ellipse northwards to the Ladybird area, increases it to ~5km. Alto's announcements in June & July 2017 focused on an area east of Vanguard North & adjacent SW of a laterite gravel pit as shown in Figures 8a and 8b. Figure 8b highlights the 1.2km gap between Vanguard Nth & Vanguard as due to <15m thick laterite cover, hence not historically worked or barely explored (it could not have been treated through the plant).

Figure 8. Google Earth Plans of Vanguard, and Vanguard & Vanguard Nth's Drilling Locations of 2017

a. Google Earth Plans of Vanguard and its Project Area



b. AME's 2017 Drilling at Vanguard & Vanguard Nth



Troy did report some intercepts in shallow RAB at Vanguard North such as 5m @ 4.5g/t from 10m & 5m @ 3.9g/t from 30m, and followed up with E/W and minor N/S drilling. However, Troy **didn't continue** probably because it is **hard rock close to surface so it could not have been treated in their old plant**, and as Troy **mostly drilled E/W**, they would have missed the E/W structures shown clearly in the drone images of Figures 9a and 9b at Vanguard. The laterite would also have been too hard for the plant, as shown by the possible 2-3g/t laterite bund wall & higher grade laterite under the waste dump at Bulchina.

Figure 9. AME Using a Drone for Mapping at Vanguard Prospect, & Comparison v Surface Views (NE/SW)

a. AME using a Drone for Mapping at Vanguard Prospect



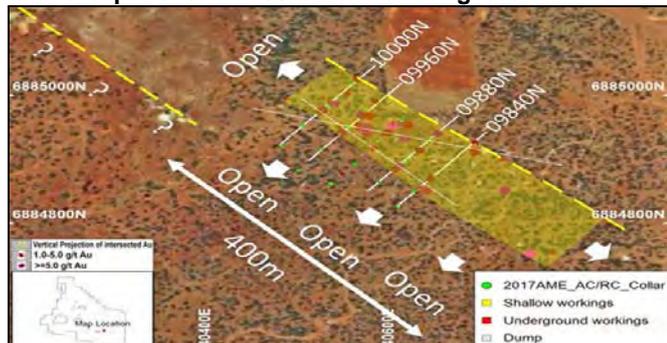
b. Comparison v Surface Views at Vanguard (NE/SW & E/W)



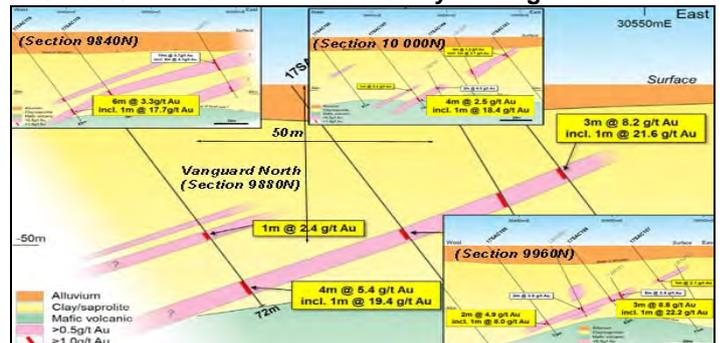
The Alto intersections at Vanguard North showed in Figure 10a that there may be two trends for the >5g/t higher grades, namely WNW/ESE and NW/SE, while in Figure 10b regular shallow dipping mineralisation can be seen across the sections for >200m on strike with >5g/t, 4m composite intercepts reported in June 2017 such as @ : **13.2g/t, 12.1g/t, 9.1g/t, 8.1g/t, 6.8g/t & 5.8g/t**, with follow-up assay detail in July showing **1m @ 22.2g/t, 21.6g/t, 19.4g/t, 18.4g/t & 17.7g/t**, contained in larger intercepts of 3m to 6m.

Figure 10. Intercepts over a >200m trend, & Cross-Sections of AME's Discovery at Vanguard Nth

a. Intercepts over a >200m trend at Vanguard Nth



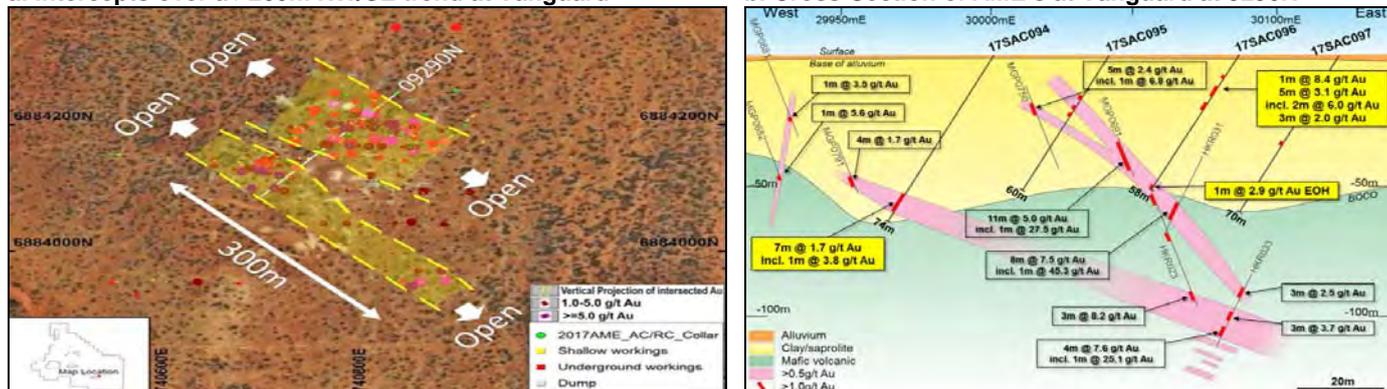
b. Cross-Sections of AME's Discovery at Vanguard Nth



As part of the June and July reported programmes, AME also drilled for a NW/SE structure immediately east of Vanguard as shown in Figure 11a, and achieved some encouragement such as 4m @ : **6.4g/t, 4.3g/t, 4.1g/t, 3.0g/t** etc, which re-assayed as reported in July 2017 as shown in Figure 11b with 1m @

9.7/t, 12.6/t, 8.5/t, 6.1g/t, 8.0g/t & 9.5g/t. Herald Resources undertook RAB and RC drilling around the old Vanguard workings in 1999, and estimated a mineral resource of 330,000t at 1.57g/t Au for 16,657oz in 1999 which was little changed (in the form of indicated and inferred resources) in the Troy 2007 NI-43101 report based on JORC 2004. In the Herald results in AME's 21 July announcement were intercepts of 3m @ 8.2g/t from 105m, 1m @ 45.3g/t from 72m & 1m @ 25.1g/t from 122m, while shallow <60m drilling by Troy recorded 1m @ 5.6g/t, 6.8g/t & 27.5g/t.

Figure 11. Intercepts over a >200m NW/SE trend at Vanguard, and Cross-Section of Vanguard at 9290N
 a. Intercepts over a >200m NW/SE trend at Vanguard
 b. Cross-Section of AME's at Vanguard at 9290N



Due to the encouraging intersections, Alto expected to conduct a **follow-up RC drilling programme at Vanguard North** and possibly Vanguard, and may (logically) aircore the adjacent laterite area which appeared to be the pisolitic (resembles peas) form as compared to the secondary re-deposited form.

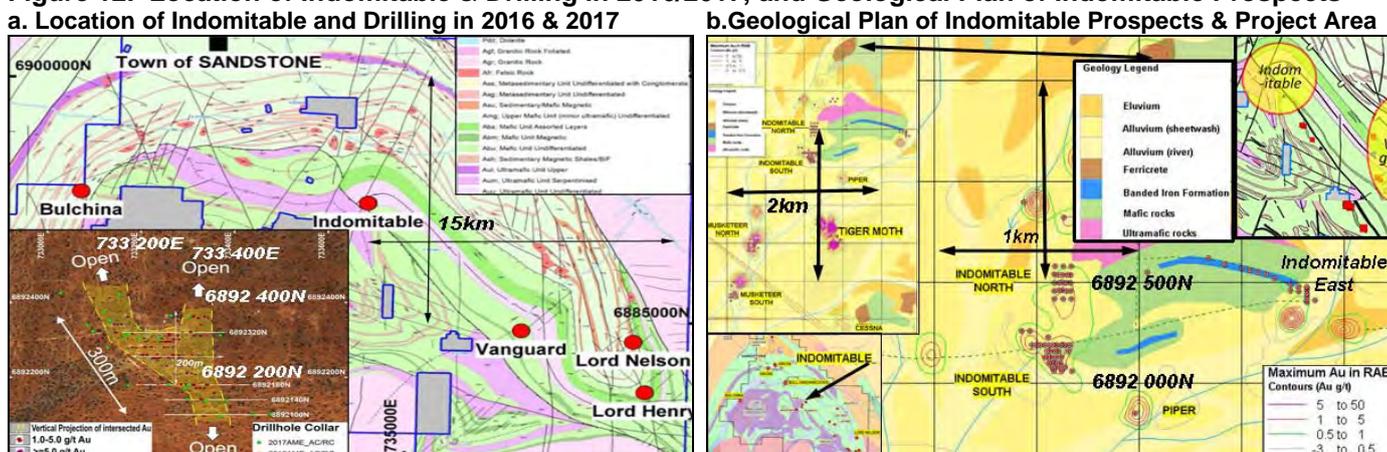
Alto also commented that the host lithology (of metabasalt and dolerite) structure and nature of the mineralisation at Vanguard North and Vanguard show a strong similarity to the top 50m to 75m of the Oroya-Sandstone reef. Oroya is covered in more detail on page 9 of this report, but the Oroya (Black Range) Mine located adjacent east of the Sandstone township treated 312kt @ 15.7g/t for 157koz between 1906 & 1913, followed by mostly 462kt @ 13.9g/t for 206koz between 1913 and 1925 and only to a depth of ~140m.

The Sandstone Reef was >1km on strike, and mined to a depth of 140mbs (~350m down dip), in a series of branches, of which the reefs were mostly 1m to 3m wide comprised of quartz, quartz-carbonate, brecciated quartz and carbonate altered mafic rock., within sheared country rock. (The multi-direction veining at Vanguard bears similarity to one other mine that ERA has seen, namely Jundee, but it is far too early to make that call).

3. Indomitable Project

AME's Indomitable Project is contained within an ~3km diameter circle located in a central position amongst AME's tenements shown in Figure 12a, and includes the areas of Indomitable and Indomitable East (~1.5km away), Piper, Musketeer and Tiger Moth as shown in Figure 12b (from ERA's 2016 report).

Figure 12. Location of Indomitable & Drilling in 2016/2017, and Geological Plan of Indomitable Prospects

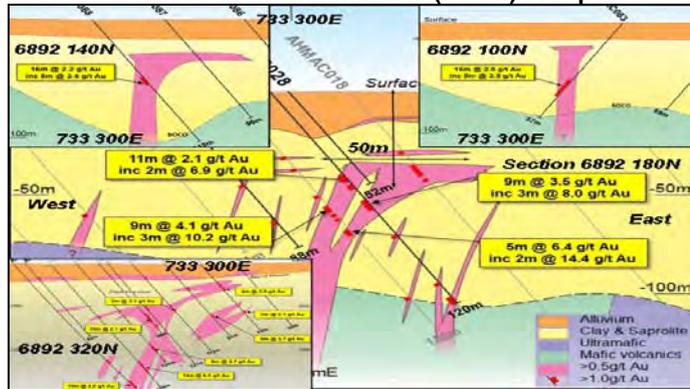


In June 2017, Alto reported encouraging progress at Indomitable with its deep weathering profile of oxidised ore as shown in Figure 13a, with a number of intercepts in the 2 to 4g/t area that include higher grades of 14.4g/t, 10.2g/t, 8.0g/t & 6.9g/t over 2m - 3m.

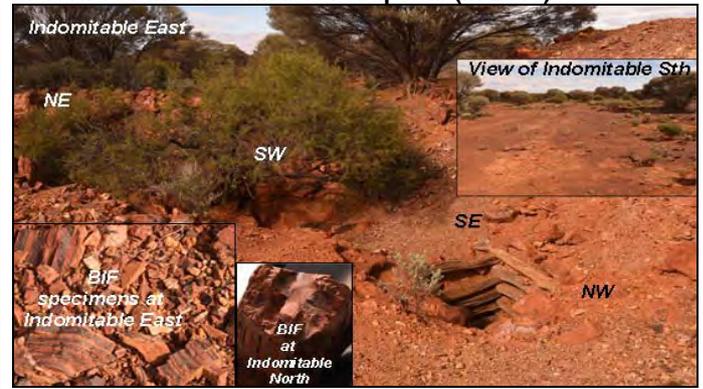
However, the mineralisation while open at depth, appears to narrow vertically to only ~10 to 15m wide going south & with depleted cover of up to ~50m **may place the project into a lower priority** at this stage in AME's life. AME also commented that the hard jasper-banded BIF had restricted drilling beyond ~70m down hole at Indomitable East (see Figure 13b).

Figure 13. Cross-Sections of the Indomitable Prospect, and Views of the Indomitable Prospects (in 2016)

a. Cross-Sections of the Indomitable (South) Prospect



b. Views of the Indomitable Prospects (in 2016)

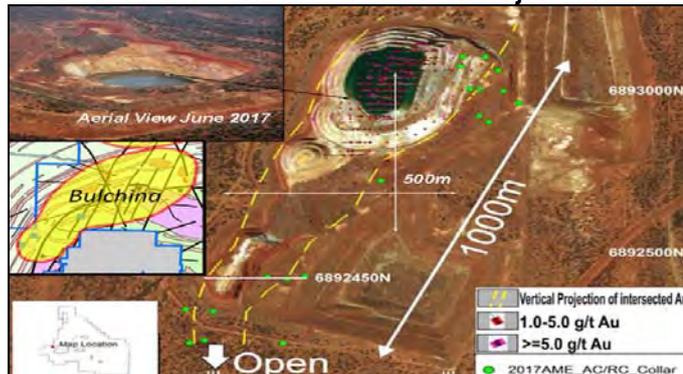


4. Bulchina Project

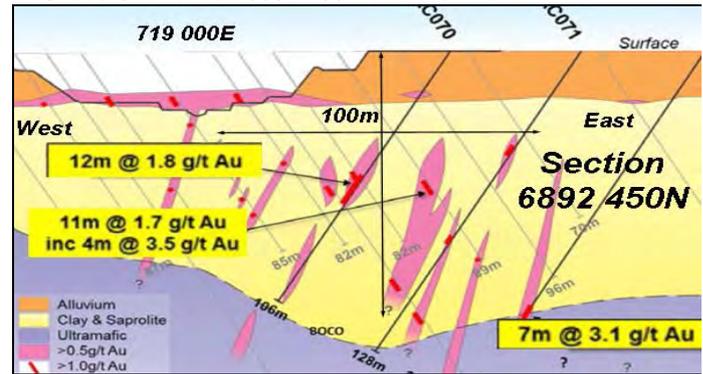
Bulchina was a logical early target for Alto, with ~230koz (~2mt @ 3.6g/t) treated by Troy between 1999 and 2004, as shown in Figure 14a. AME drilled two target areas: being under the eastern laterite (which contained reasonable intercepts) east of the main pit and a possible southern / easterly extension.

Figure 14. Plan and Aerial View of Bulchina & Its Project Area, and Cross Section on 6892 450N at Bulchina

a. Plan and Aerial View of Bulchina & Its Project Area



b. Cross Section on 6892 450N at Bulchina



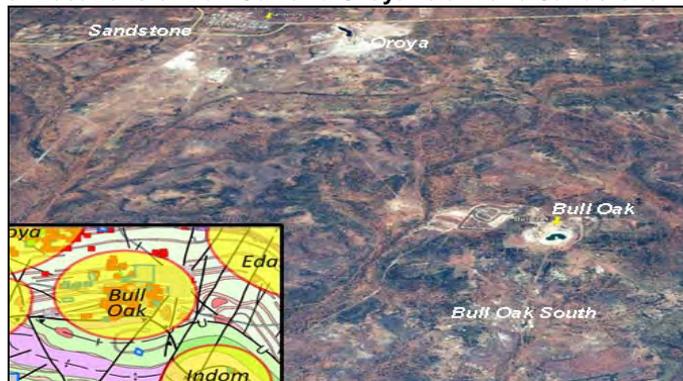
However, as reported in June 2017, there was negligible mineralisation under the laterite and relatively low grade in the south as shown in Figure 14b. While there is the Phoenix palaeochannel trending parallel and east of Bulchina, the Project has been understandably **relegated to a lower priority position**.

5. Bull Oak Project

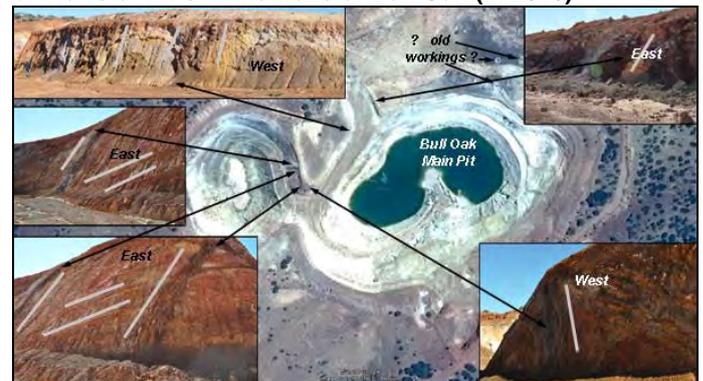
The Bull Oak Project is located ~5km SE of Sandstone as shown in Figure 15a over what was originally the historic Hancock's Mining centre, which over its 1904 to 1943 production history had 48 individual mines and 82 leases, for its official recorded gold production of 36.5kt @ 33.5g/t for 39.3koz. Herald renamed the old Hancocks area as Bull Oak (based on one of the original mines), and both Herald and Troy mined open-cuts there, resulting in the two joined pits and western mini-pit shown in Figure 15b.

Figure 15. Locations of Bull Oak and Oroya relative to Sandstone, and Views of Bull Oak (in 2016)

a. Locations of Bull Oak and Oroya relative to Sandstone

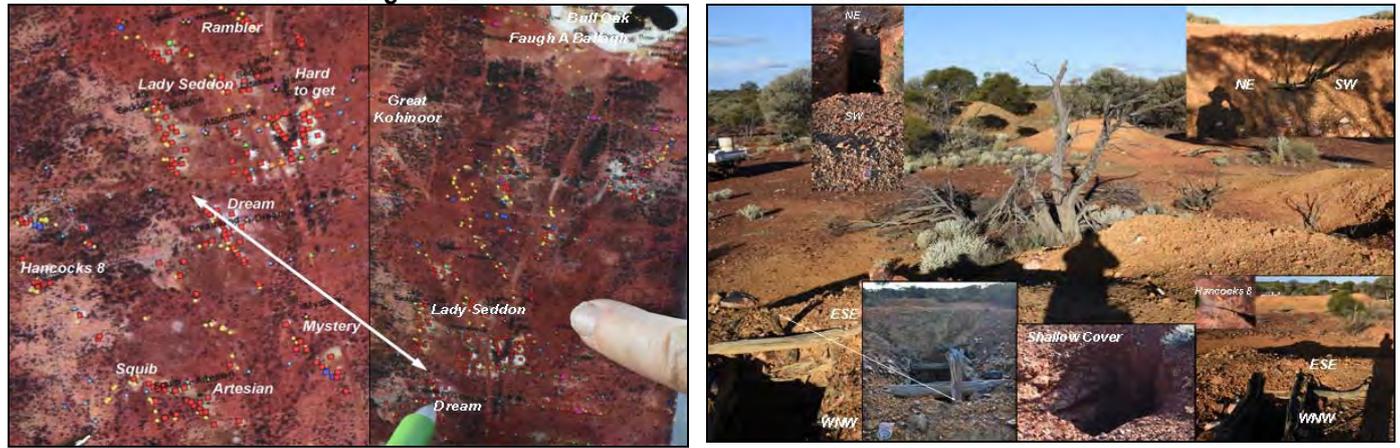


b. Views of BIFs in the walls of Bull Oak (in 2016)



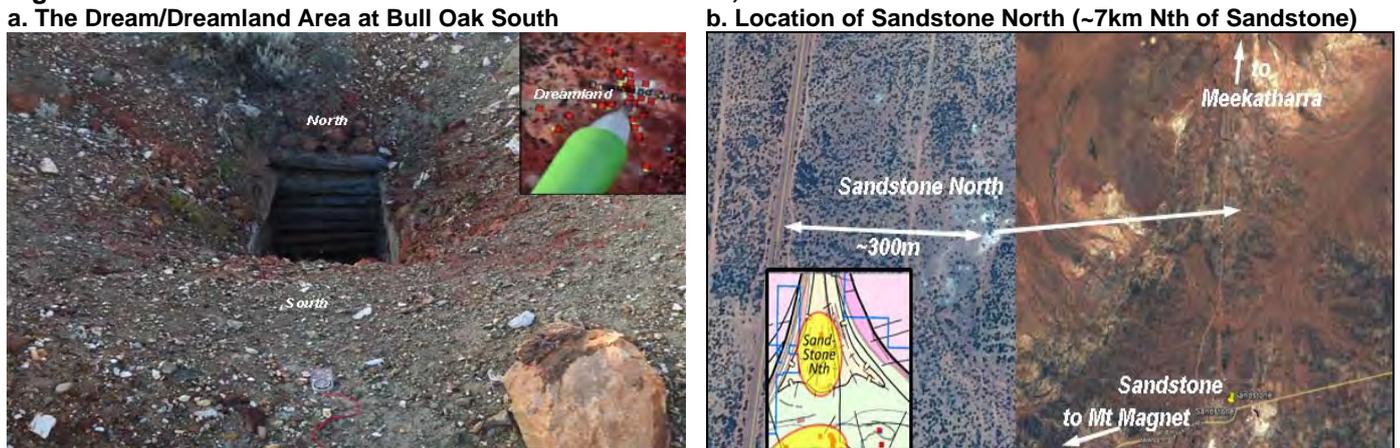
On ERA's June 2017 visit, the historical worked areas south of Bull Oak were also examined, initially at Artesian, then south of Hancocks 8 and later at Dream as shown in Figure 16a. Historically Artesian only officially recorded 165t treated at 32.7g/t for 174oz (plus 647oz dollied), but yet it has some of the largest mullock/spoil heaps ERA has ever seen as shown in Figure 16b, with most of the shafts striking ~E/W and some NE/SW (not NW/SE). It could be seen that the rock is "hard" close to surface and hence would not have gone through the plant, **so perhaps that is why there are so few signs of modern exploration**.

Figure 16. Locations of Historical Workings at Bull Oak South, & Views of Old Workings at Bull Oak South



The Dream/Dreamland area as shown in Figure 17a, contained extensive amounts of quartz (and would hence have not gone through the mill), which was possibly (yet again) why there were very few (if any) signs of drillholes. Interestingly, the long axis of the shaft (this time) was striking almost due N/S. Follow-up exploration has been planned for some of the Bull Oak South areas.

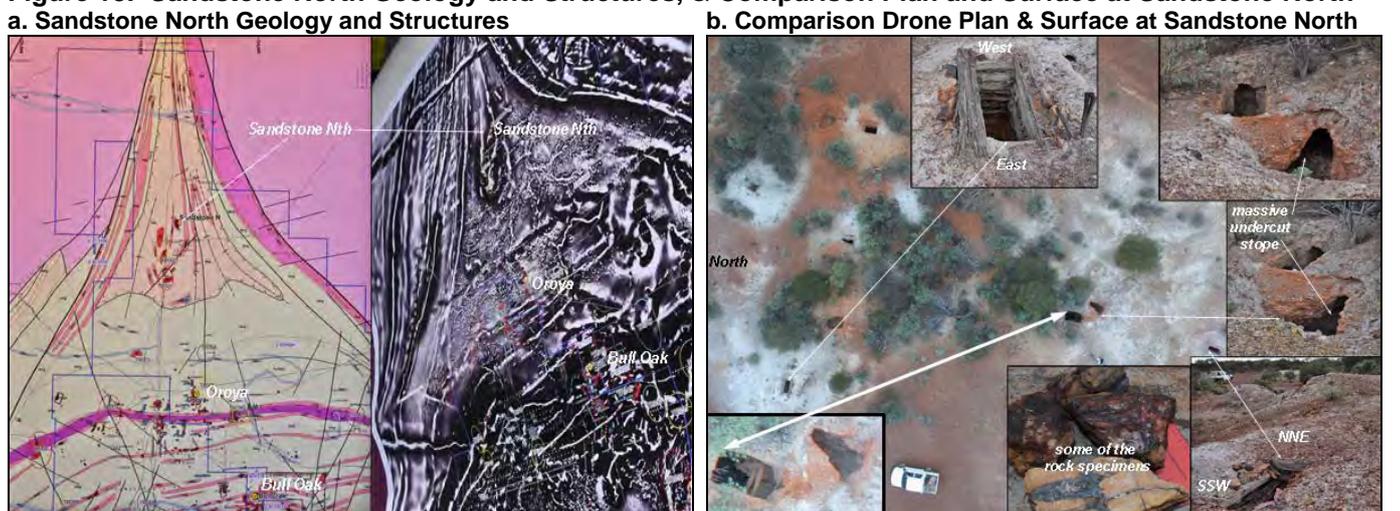
Figure 17. The Dream/Dreamland Area at Bull Oak South, and Location of Sandstone North



6. Sandstone North Project

ERA also visited Sandstone North this time (June 2017) based on the perception that it appeared to have been historically overlooked, being ~7km north of Sandstone and away from the main activity areas south of the town, although it is only ~300m east of the main N/S road as shown in Figure 17b.

Figure 18. Sandstone North Geology and Structures, & Comparison Plan and Surface at Sandstone North



As can be seen in the plans in Figures 1a and 18a, the Sandstone North Area appears to have different geology to the rest of the Sandstone goldfield (south of the road), and there are ridges of BIF plus iron-rich areas of hematite, and of goethite. The old timers appeared to have focused on the salt & pepper (S & P) quartz veins (white quartz with various degrees of iron discolouration), although dolerites are also present, (ie the ingredients for possible mineralisation were present [quartz, dolerite, BIF/iron]).

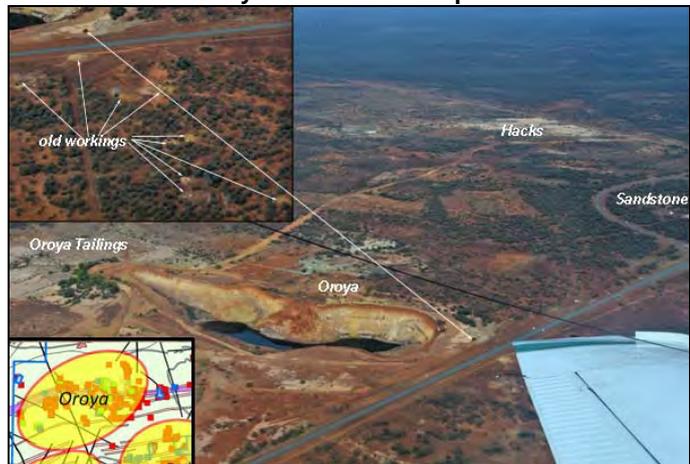
There appeared to be a very clear N/S striking S & P quartz vein between two of the old shafts with a drillhole located east of the vein and drilled eastwards, which hence would have missed the vein. As shown in Figure 18b, the main strike directions at Sandstone Nth appeared to be NNE/SSW, N/S & E/W. Hence drilling towards the east would have missed the E/W structures and depending on location, possibly the N/S ones too.

7. Oroya Project

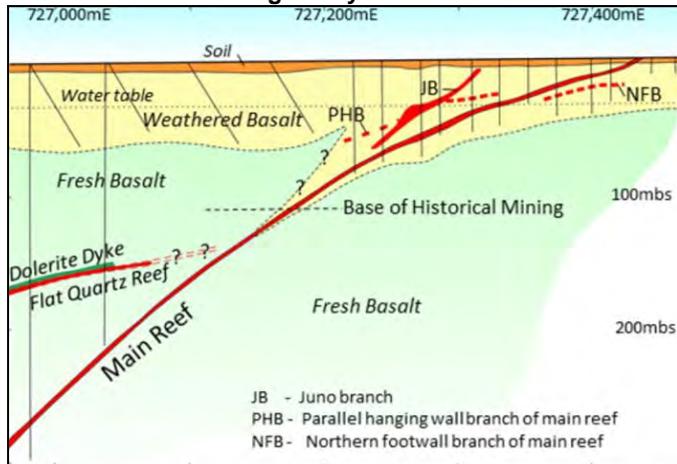
The Oroya Project includes the areas of Oroya and Hacks (Black Range) as shown in Figure 19a.

Figure 19. Aerial View of Oroya and Hacks Prospects, and Cross-section through Oroya

a. Aerial view of Oroya and Hacks Prospects



b. Cross-Section through Oroya



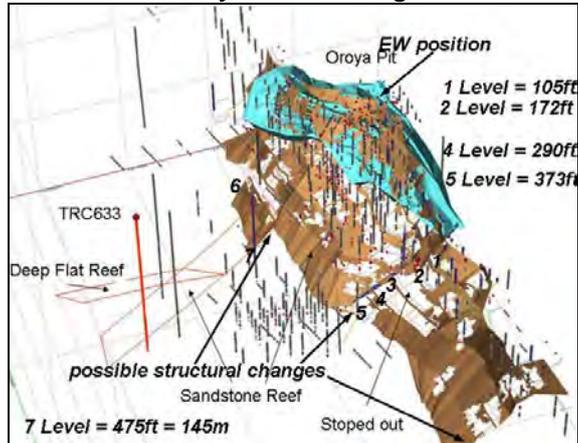
Oroya was mined as an open-cut by Herald, and was apparently not considered as an ore source by Troy (it was believed that Herald only mined the oxide because that was all the plant could process). Oroya was a significant underground operation from which ~364koz were mined being 312.1 kt @ 15.7g/t for 157.3koz (1906-1913), followed by 461.8kt @ 13.9g/t for 206koz (1913-1925). So despite the old workings (including the stope fill), Oroya appears to have only been sparsely drilled as shown in ERA’s June 2016 report, and as further evidenced by the cross-section of Figure 19b.

It can be inferred aerially that the Oroya structure extends north across the main road as identified by the line of old workings shown inset in Figure 19a. As commented in ERA’s 2016 report, **Hacks** appeared to lie mostly under the extensive tailings with some of its mines extending along the eastern edge of the tailings. Some ~160koz were officially mined from Hacks being 250.6kt @ 19.8g/t (1907-1916). As stated in June 2016, Hacks was probably not explored because it has little cover, ie hard ground near surface.

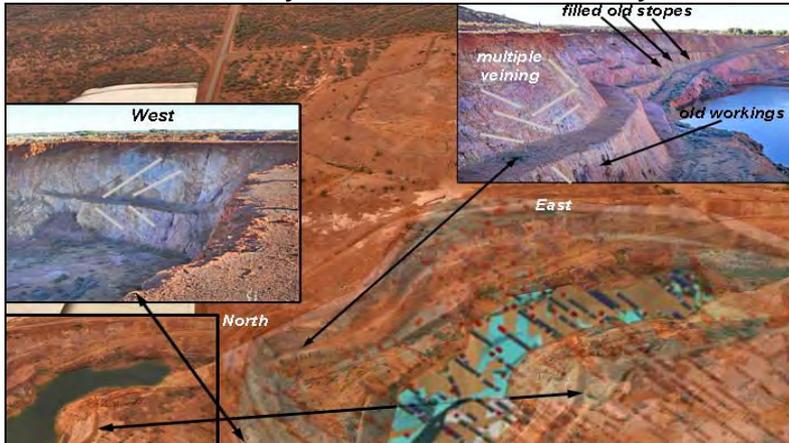
The 3d model of Oroya’s old workings as supplied by Troy and contained in ERA’s June 2016 report are shown in Figures 20a and overlain in Figure 20b, where the brown shaded areas were not mined, and the workings appear to have been relatively shallow with 7 Level at 475ft or only ~145m below surface, and apparently fairly extensively not mined – perhaps due to the higher grade pay limit that applied then.

Figure 20. 3d Model of Oroya Showing the Pit, and Aerial View of the Oroya Pit with the 3d model overlay

a. 3d Model of Oroya also Showing the Pit



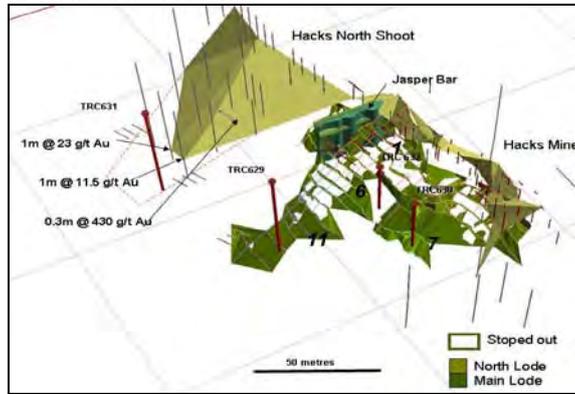
b. Aerial View of the Oroya Pit with the 3d model overlay



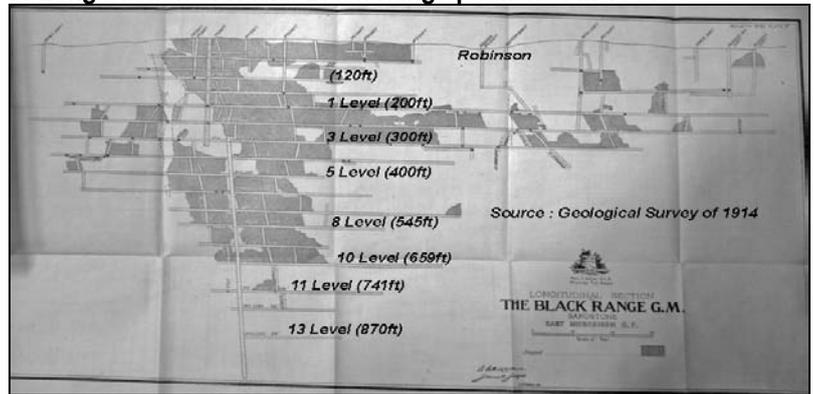
While at Hacks as shown in the model in Figure 21a (note the green areas are those not yet stoped/mined), a recently discovered (State Library of NSW) long section by ERA, shows in Figure 21b what levels and depths the stoped out areas conformed too, namely the main lowest being 10 level (659ft or ~200m below surface). It can be seen that the underground appears open on strike.

Figure 21. 3d Model of Hacks, and Long Section of Hacks Black range published in 1914

a. 3d Model of Hacks



b. Long Section of Hacks Black Range published in 1914



However, the tailings would probably require removal as part of any considered open-cut.

8. Project 8 – Surface Resources (Tailings and Mullock Dumps)

It is quite amazing that at the end of Troy’s life at Sandstone, that they did not follow Herald’s example and treat some of the tailings dams through the oxide plant; such as from Hacks and south of Oroya. As commented on page 4 of this report, Troy did grab sample on a 6m x 8m grid and examine the tailings at Maninga Marley and Havilah identifying them as grading 1.90g/t and 0.93g/t respectively (which is similar to the 0.97g/t [@ ~ 90% recovery] reported as mined by Herald from Maninga Marley in DQ98/MQ99).

Figure 22. Aerial Views of the Tailings Dams at Maninga Marley / Havilah, & Hacks and Oroya

a. Aerial Views of Maninga Marley/Havilah Tailings Dams



b. Aerial Views of Oroya and Hacks’ Tailings dams



Based on the plastic (liners, pipes etc) contained in the tailings dams, the Hacks tailings do appear to be of similar vintage (possibly some of the Oroya south ones are older) to those at Havilah and Maninga Marley, and hence may be of similar grade (0.9g/t ?). Visually the quantity of tailings at Oroya and Hacks are significant compared to those at Maninga Marley / Havilah as shown in Figures 22a and 22b.

There are also extensive mullock heaps throughout the goldfield, some of which have been treated before and after Troy by various prospectors (with or without the required permits) – all material that Troy chose not to put through its oxide plant. Grades are unknown but most of them would have been hand-sorted for visible gold or to some degree dollied, and that variegated quartz field in Figure 7b on page 4 probably needs grab sampling and assaying. Both tailings dams and mullock heaps would have to come into the possible classification of “low hanging fruit”.

Other Sources and Possible Targets

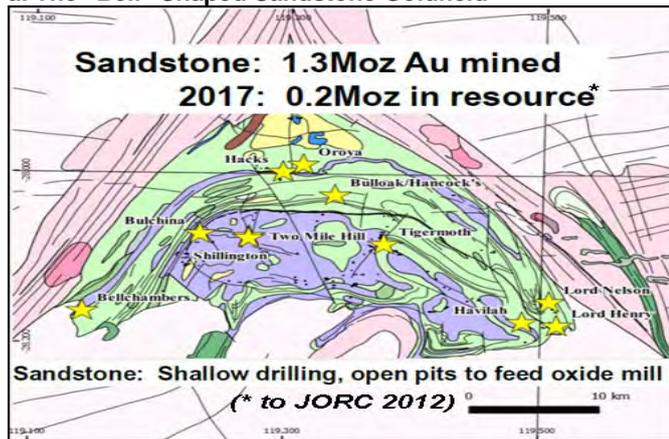
The **regional geology** has been described as a broad gabbro and ultramafic package sandwiched east and west by granodiorites into a pressure shadow at the northern end of an anticlinal granitic complex. There are sediments, often metamorphosed and BIFs (banded iron formation) sequences. The mineralisation at Bulchina and the Lords has been mostly described as thin quartz+carbonate+pyrite veins in brittle-ductile shear zones, often hosted in granodiorite, and close to ultramafics. Although examining some of the pits shows metamorphosed sediments and possibly the granodiorite has injected from depth.

Figure 2a shows **2 other target Project areas, being Twin Reefs and Edale**, that are partly based on the 54 targets identified by a consultant examining the Sandstone Goldfield according to: an in depth analysis of interpreted geology of the field, ground gravity, aeromag and radiometrics, CET (Centre of Exploration Targeting), an identified split structure between the northern and southern halves of the belt, orogenic controls, known orebody styles in the field, the geology of the existing pits already mined, 8 target characteristics and a detailed 1 to 4 ranking of the individual targets.

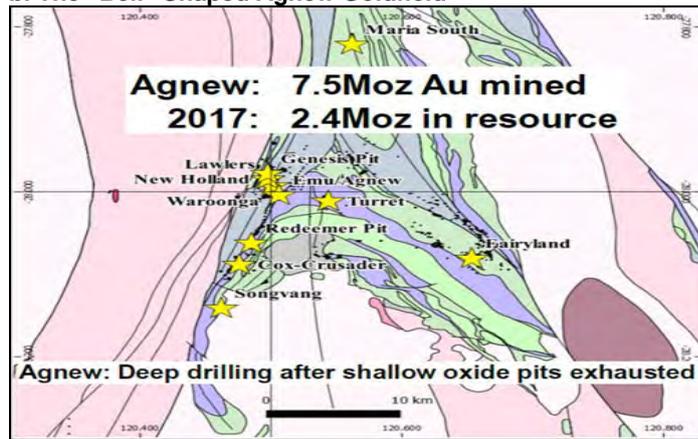
In some of Alto's presentations, a comparison has been drawn between the Sandstone and Agnew "bell-shaped" goldfields with similar host rocks as shown in Figures 23a and 23b (especially with the lack of drilling >100m or >200m in the Sandstone Goldfield, as shown in Figure 2b).

Figure 23. Comparison Between Sandstone and Agnew Goldfields, in shape and rock types

a. The "Bell" Shaped Sandstone Goldfield



b. The "Bell" Shaped Agnew Goldfield



What ERA has observed based on visits to the old worked areas in the Sandstone Goldfield in June 2016 and 2017, is the regularity of inferred E/W striking vein structures as shown in Table 1, which may have been missed by Troy's mostly E/W drilling towards the east.

Table 1. ERA Observed Strike Directions of Mineralisation in the Sandstone Goldfield (based on old workings)

Project	Strike Direction :	N/S (0°E)	NNE/SSW (23°E)	NE/SW (45°E)	ENE/WSW (67°E)	E/W (90°E)	WNW/ESE (67°W)	NW/SE (45°W)	NNW/SSE (23°W)
Bulchina	Bulchina		X			X ?			
Bull Oak	Bull Oak			X				X	
	Bull Oak South (Artesian)			X					
	Bull Oak South (Dream)	X				X			
	Bull Oak South (Lady Seddon)	X						X	
Hacks	Hacks / Black Range	X							
Indomitable	Indomitable East			X				X	
	Indomitable (South)	X							
Lords	Havilah		X			X			
	Havilah NW					X		X	
	Lord Henry	X			X				
	Lord Nelson								X
	Maninga Marley					X		X	
Oroya	Oroya	X				X			
Vanguard	Vanguard			X		X		X	
	Vanguard Nth						X	X	
Sandstone Nth	Sandstone Nth	X	X			X			
Total	(number of x's)	7	3	4	1	7 to 8	1	7	1

The gold mineralisation in fact appears to be **multi-directional, which often can be the hallmark of a major goldfield.**

Upside Potential

The Sandstone goldfield produced ~1.3moz, and by 1945 had closed 128 mining operations in 245 leases, but yet there are only 5 small open-cut areas in Alto's part of the ~35km x ~35km district, largely because production was limited to treatment through an old oxide plant, as in pits stopped and areas were not explored if the rock was too hard. Consequently, because of the hardness issue, the open-cuts stopped prematurely, and there have been no new underground mines at Sandstone for over 100 years, **which has resulted in numerous exploration targets and significant upside potential.**

The issue for Alto of course is prioritising an order of exploration amongst the numerous prospects and currently identified targets, which the SMP Project route should be able to provide, and consequently Alto have applied for MLs over Lord Henry and Lord Nelson in its Lords Project area as its first SMP.

Financial Considerations

The financial pathway to development is of course an issue, as material exploration is required to delineate the potential brownfields and greenfields orebodies. However, if Alto can secure the Southern Gold (SAU) financial model approach of undertaking a 50/50 JV with a mining company that has its own operating hard rock plant, then Alto could reap rewards through SMPs (small mining projects), **especially if AME are able to apply the full "Canon" model and secure loan finance from a plant operator** to continue exploration. Under that model, the loan was repaid out of the 50% profit share owed to SAU.

By subdividing its mostly wholly owned Sandstone goldfield into a number of project areas, Alto could explore the other projects that are not part of the operating SMP (or SMPs) – which is analogous to what Gold Road (GOR) has achieved in developing its Yamarna Greenstone Belt.

Management

Board of Directors

Dr Jinbing Wang - Non-Executive Chairman since 2016. Dr Wang is a geologist with over 30 years' experience in mineral exploration and mining. Dr Wang was Executive Director of China Nonferrous Metals Resource Geological Survey from 2003 to 2015, and has been President of the Beijing Institute of Geology for Mineral Resources since 2002, and has a track record of discovering major deposits around the world. Dr Wang holds and has held other directorship positions in listed and unlisted resource companies.

Dermot Ryan – Managing Director since 2012. Dermot is a geologist with almost 40 years' experience in the discovery & successful development of gold, base metals, iron ore, diamond & uranium deposits. Dermot spent 20 years with CRA, of which the last 10 years were as Chief Geologist of CRA Exploration in various parts of Australia. Dermot has held a number of senior GM Exploration positions, and for the past 15 yrs has been a mineral exploration consultant to a number of WA companies.

Terry Wheeler – Non-Executive Director since 2016. Terry is a geochemist with over 50 years' professional experience, having started as a laboratory assistant at the DSIR (Department of Scientific & Industrial Research) in London in 1958, rising to Chief Chemist of WMC's Kambalda Nickel Operation, and establishing Genalysis Laboratory Services in 1975, which was taken over by Intertek in 2007.

Stephen Stone – Non-Executive Director since 2016. Stephen is a mining geologist, with over 35 years' operating, project evaluation, executive management and corporate development experience in the international mining and exploration industry. Stephen has been actively involved in the formation and management of several junior ASX listed mostly gold exploration companies.

Senior Management

Sam Middlemas - CFO and Company Secretary since 2016. Sam is a Chartered Accountant with more than 20 years' experience in senior financial management and executive roles with a number of ASX listed public companies, predominantly in the resources sector. Sam is also the principal of a corporate advisory company.

Dr Changshun Jia – VP Exploration since 2012. Changshun is a geologist with over 15 years' experience initially in base metals associated with China's geological survey and Sinotech Minerals Exploration in Mongolia and Chile. More recently Changshun has been VPEX with Enterprise (now Alto) Metals on VMS, Ni-Cu, U and Au deposits.

Dr David Groves – Consultant, Chairman of Alto's External Research Committee since 2016. David is a geologist with over 50 years' experience. David has retired but was Emeritus Professor of Geology at UWA.

Chart of Alto Metals Limited (July 2016 to July 2017) (Source : www.stocknessmonster.com)

AME's share price has fallen with most of the junior gold sector and is encountering resistance at ~8c

...but should be able to recover as its development strategy becomes more well known



Disclosure

Alto Metals Limited commissioned Keith Goode (who is a Financial Services Representative with Taylor Collison Ltd ACN 008 172 450, and is a consultant with Eagle Research Advisory Pty Ltd ACN 098 051 677) to compile this report, for which Eagle Research Advisory Pty Ltd has received a consultancy fee. At the date of this report Keith Goode and his associates held interests in shares issued by Alto Metals Limited. At the date of this report, Taylor Collison Limited or their associates within the meaning of the Corporations Act, may hold interests in shares issued by Alto Metals Limited.

Disclaimer

Any observations, conclusions, deductions, or estimates of figures that have been made by Keith Goode in this report should be taken as his work, and not an approved observation, conclusion, deduction or estimate made by Alto Metals Limited. This publication has been issued on the basis that it is only for the information and exclusive use of the particular person to whom it is provided. Any recommendations contained herein are based on a consideration of the securities alone. In preparing such general advice no account was taken of the investment objectives, financial situation and particular needs of a particular person. Before making an investment decision on the basis of this advice, investors and prospective investors need to consider, with or without the assistance of a securities adviser, whether the advice is appropriate in light of the particular investment needs, objectives and financial circumstances of the investor or the prospective investor. Although the information contained in this publication has been obtained from sources considered and believed to be both reliable and accurate, no responsibility is accepted for any opinion expressed or for any error or omission that may have occurred therein. This is a research publication of Eagle Research Advisory Pty Ltd ABN 33 098 051 677 as a Corporate Authorised Representative reference number 384349 of Taylor Collison Limited ABN 53 008 172 450 AFS Licence 247 083.