



Gold : Alto Metals Limited (AME)

By : Eagle Research (Keith Goode)	JUNE 2016 VISIT TO SANDSTONE IN WA		28 July 2016
Year Low/High:	\$0.015 - \$0.125	Recommendation	SPEC BUY
Diluted No. Shares	144.5m	Share Price	\$0.070
Diluted Mkt Cap :	A\$10m	Target Price	> A\$0.15
Net Cash (30 June 2016)	\$1.1m		
25m performance shares & investments ~\$1.2m		www.altometals.com.au	T:+618 9381 2808

Alto Metals Limited (AME) – Targeting a ~1moz Mineral Resource for Potential Gold Production of ~100kozpa

- **Alto Metals have secured over 90% of the historic Black Range Goldfield that is centred on Sandstone in central WA. The Sandstone goldfield's heyday was in the early 1900s, but it failed to revive in the 1930s because it had become too fragmented, such that by 1945 there had been ~128 cancelled mines amongst the ~245 cancelled leases. Some ~650koz were officially mined amongst Alto's tenements between 1904 and 1945, of which the bulk (~400koz @ ~18g/t) was mined by 1916, with another ~210koz @ ~14g/t by 1925.**
- **First Herald and then Troy Resources reconsolidated what closely resembled a patchwork quilt over the ~35km x ~35km area involved. Troy struck lucky with its acquisition of Bulchina from Battle Mountain Gold in 1999 [followed by the Lords after exploration in a previously owned Vulcan (VCN) tenement], which resulted in an additional ~11 years production from 1999 to 2010 and ~510koz of gold production, after Herald's 126koz.**
- **The area was mill constrained from 1994 to 2010 in that treatment was through an oxide plant on which little appeared to have been spent on trying to materially improve the crushing and grinding circuit. Consequently most pits stopped when they encountered hard ore and exploration focused on oxide resources, apparently mostly ignoring potential hard rock resources. The ore bodies appeared to be restricted by a general model that they all dipped west, whereas they often seem vertical and appear to strike ~N/S and E/W.**
- **Troy closed its operations at Sandstone and had cleaned up the mill by SQ2010, selling the assets to Southern Cross Gold (SXG) who apparently intended to cannibalise the plant for its other operations. SXG consequently sold the bulk of the exploration tenements to a company later acquired by Alto Metals, but retained the plant and the tenement area where it was located. SXG changed its name to Black Oak and imploded when it tried to simultaneously open 3 operations, and the plant etc went to the Receiver, and then to MDI.**
- **Alto's acquisition of the Sandstone exploration tenements resembles Avoca's acquisition of Higginsville, in that Resolute abandoned Higginsville (mostly ignoring the underground) to go to Africa, and Troy abandoned Sandstone (mostly ignoring hard ore, yet alone underground potential) in order to focus on South America. Alto's geos intend to apply sound geology and the latest techniques to delineate a resource base to move forward.**

Other Key Points:

- **At this stage Alto does not need a plant as it is focusing on resources.** When sufficient resources have been established, AME intends to review its treatment options that may include trucking ~150km away to toll treat at Mt Magnet.
- **Infrastructure appears to be very good for Alto's Sandstone Project,** with established dirt haul roads and main roads, very fresh water, proximity to Sandstone, and sited between Mt Magnet and Leinster.
- **Alto expected to initially focus on the pits last mined by Troy such as Bulchina, Lord Nelson and Lord Henry, which all reconciled with ~45% higher grades than expected.**
- **Alto intends to review hard rock and oxide prospects amongst the major historic producers of Oroya & Black Range/Hack's.**
- **Alto was also examining the relatively high grade, potentially significant oxide resource at Indomitable (South) which may have been misinterpreted.**

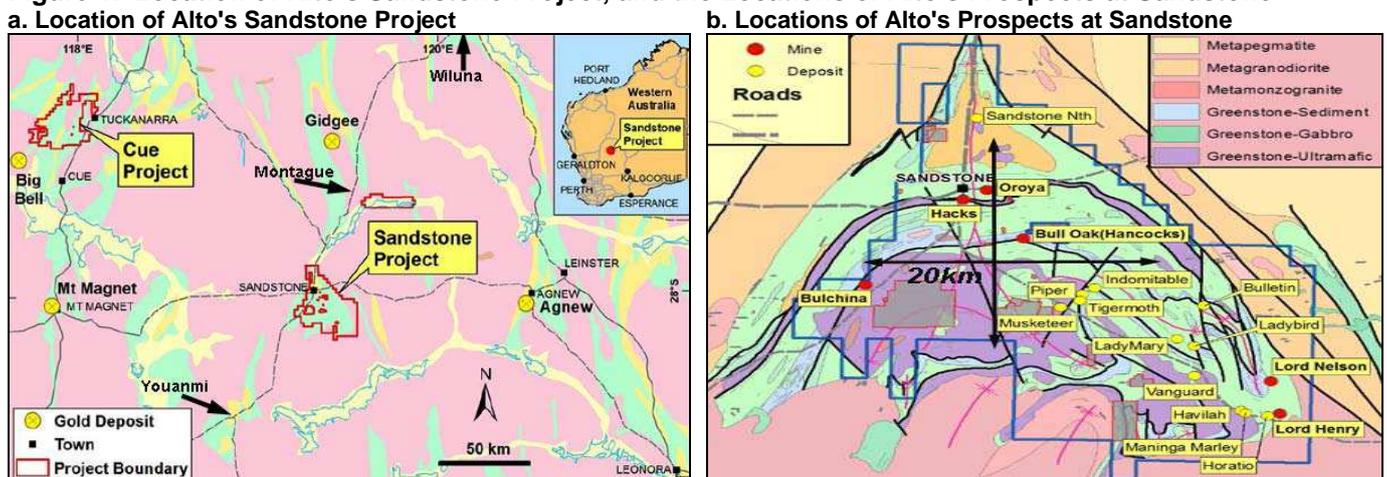
Corporate Overview

This is our first report on Alto Metals Ltd (AME), which recently changed its name from Enterprise Uranium (ENU) on 27 May 2016, due to acquiring its Sandstone Gold Project covering over 90% of the exploration acreage at Sandstone as shown by the outline in Figure 1b (with the exclusions shown shaded within the outline). Alto wholly owns its part of the Sandstone Project which as shown in Figure 1a is located about half-way between Leinster and Mt Magnet in the central area of WA's goldfields ~ 700km NE of Perth.

The acquisition occurred on 23 June 2016 on completion of the Heritage Agreement with holders of Native Title in the area. A deposit of \$100k had been paid to the vendors, and with the Heritage Agreement a further \$200k was paid plus 19m fpo AME shares. A final payment of \$200k is to be paid on grant of the tenements which was expected to occur in September 2016. There is a further consideration to the vendors of a 2% gross revenue royalty, a right to fossick for minerals and gold nuggets to 2m below the surface, and 25m performance shares (to June 2021 [5 years' time]) to be issued when a gold equivalent resource of >500koz has been delineated. Exploration of >\$300k was to be spent in 2 years.

Since its change of name, AME placed 19.3m shares @ 5.9c to raise \$1.14m with private investors, in May 2016, followed by a fully subscribed SPP (also at 5.9c) of 28.66m shares which raised the expected \$1.7m in July 2016, to result in the current 144.5m fpo shares in issue. As at 30 June 2016, AME's net cash may have been ~\$1.1m. AME also holds 25.5m Antipa (AZY) shares worth ~\$1.2m (at the current ~4.6c, after converting its option holding) and 2.5m Enterprise Metals (ENT) shares worth \$50k (at the current ~2c). AME also still has its ~4 ENU uranium prospects in Australia, which have been excluded in this report.

Figure 1. Location of Alto's Sandstone Project, and the Locations of Alto's Prospects at Sandstone



AME's conceptual target is to delineate a 1moz resource ideally capable of producing ~100kozpa. When the resource has been defined, then AME will review the possibilities for treating it, which may include trucking it for ~150km to the Mt Magnet plant for toll-treatment.

This report has been based on visiting Alto's Sandstone prospects in June 2016. I/ERA have previously never visited the Sandstone operations, like many people I have simply passed through the town of Sandstone on the way between Leinster and Mt Magnet as shown in Figure 1a.

Background History

It is generally accepted that the first discovery of gold in the district was by Tom Payne in 1892 in an area called 6-Mile (Gold and Ghosts Vol 1 p 184), and when the alluvial gold at 6-Mile was running out a major discovery ~9km west occurred in January 1902 by a prospector called Howie (hence Howie's Patch) which was dropped in favour of the name Black Range, with the nearby township ~2.5km NE being called Nunngarra. In 1906 the town gradually moved ~12km north to establish the town of Sandstone which was closer and west of the perceived richer main Black Range gold mines of Hacks (renamed Black Range G.M. and linked to Black Range West) and parallel Oroya Black Range gold mine shown in Figure 1b.

There are a number of statistics for the gold mined in the district because Black Range (named because of the ironstone BIFs) covers an ~160km long NE/SW strike length from 70km to the NE (Montague) to 90km to the SW (Youanmi) as shown in Figure 1a. In its heyday of ~1910 (with the railway) to 1912, the Black Range District was rated as second only to Kalgoorlie, & producing ~8koz to 9kozpm or ~84kozpa.

However what causes confusion in the historical records, apart from so many operations called Black Range, is that there was originally a Youanme mine at Youanmi, and a company took over Oroya and

mined Oroya and other leases as Youanmi GM (company). So ERA has used the Cancelled Gold Mining Leases (compilation book) to 1954 in which the closed leases are grouped by location. By 1945 there had been ~128 cancelled mines amongst the >250 cancelled Sandstone leases. Some 650koz were officially mined amongst Alto's tenements between 1904 & 1945, of which the bulk (400koz @ ~18g/t) was mined by 2 mining companies (Oroya and Hacks) by 1916, with another ~206koz @ ~14g/t by Oroya part 2 (Youanmi) company by 1925. The Sandstone area essentially closed for WW1, reopened but missed the 1936 revival, and closed again for WW11.

A few major companies passed through the area looking for nickel. However, from 1979, Western Mining (WMC) underwent significant/extensive gold exploration over a number of tenements, such as at Hacks & Oroya in an apparent 70/30 JV with Spargos (SPG); over Hancock's, Bull Oak & Kohinoor in 1983; and Ladybird, Vanguard, Iron Knob & Sandstone Nth, in a series of drilling campaigns up to ~1989.

In 1993, Elmina (ELA) acquired 6-Mile from Windsor Resources, and ~6 WMC tenements over Hancocks to Sandstone North, aimed at toll treating Hancock's laterite through a private CIP plant in Sandstone and somewhat ambitiously vat leaching the other laterites and oxide resources at 40ktpm with an expected 75% recovery (~40% is often more common). ELA also bid WMC for its 70% of the SPG JV, but SPG exercised its preferential right, bought the 70% and onsold it to Herald (HER) for an \$0.2m profit, but due to a ~\$45m stoush with Beach Petroleum, by April 1994 SPG had been taken over and HER had acquired SPG's remaining 30% JV holding.

Herald (HER) moved its 7-year old 200ktpa oxide plant from Montague to Nunngarra and upgraded it to 500ktpa for \$3m, commencing production in June 1994, mostly from Oroya, Twin Shafts and various laterites with a production target of ~20kozpa, which with the acquisition of more tenements, increased to ~30kozpa as shown in Table 1. A number of open-cuts were mined such as Goat Farm, Plum Pudding and Bull Oak, with Shillington, 2-Mile Hill, Eureka & Maninga Marley in 1998, but HER was losing interest due to its operations in Iran etc, & when production moved onto tailings in 1999, *Herald was ready to sell*.

Table 1. Gold Mine Production at Sandstone (1994 to 2010) (Source: Herald and Troy quarterly reports)

Year	1994	1995	1996	1997	1998	JH99	94/99	DH99	2000	2001
	Herald					Herald	Herald	Troy		
Tons Milled (kt)	200	517	493	462	381	174	2226	117	378	437
Recovered Grade (g/t)	1.2	1.4	1.4	2.0	2.4	1.3	1.8	4.4	5.0	3.8
Production (koz)	8.0	28.9	22.8	29.9	29.4	7.0	126.1	16.5	60.2	53.3
Recovery (%)					95.2%	93.0%	94.1%	93.9%	96.2%	96.0%
Cash Cost (A\$/oz)	451	373	452	396	299	394	382	174	143	174
Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	94/10
	Troy								Troy	Total
Tons Milled (kt)	430	422	444	513	531	478	487	511	317	7291
Recovered Grade (g/t)	3.2	3.0	1.7	3.0	4.3	4.0	2.2	1.9	1.8	2.7
Production (koz)	44.2	41.2	24.6	50.2	73.6	61.6	34.3	31.2	18.2	635.2
Recovery (%)	96.1%	95.9%	95.5%	94.4%	94.1%	93.3%	90.6%	92.4%	94.0%	94.3%
Cash Cost (A\$/oz)	236	304	459	239	303	433	736	752	1017	364

Meanwhile Troy (TRY) had acquired a stake in Battle Mountain Gold's Bulchina discovery and gradually took control of it, buying the Herald plant in August 1999 for only \$1.5m. Troy had another stroke of luck taking over Vulcan's tenements that required \$250k to be spent on them and hence discovering the Lords (Henry & Nelson) in January 2004, that generated further significant profits for Troy through to 2010.

With gold recoveries ~94% to 96%, Troy closed its operations at Sandstone and had cleaned up the mill by SQ2010, selling the assets to Southern Cross Gold (SXG) who apparently intended to cannibalise the plant for its other operations. SXG consequently sold the bulk of the exploration tenements to a private company called Sandstone Exploration P/L (SSE) later acquired by Alto Metals, but retained the plant and the tenement area where it was located. SXG changed its name to Black Oak and imploded when it tried to simultaneously open 3 operations, and the plant and Nunngarra tenement area went to the Receiver, where it was then acquired by Middle Island Resources (MDI).

For this report, ERA reviewed historical data and walked the AME owned pit with Alto's geos. Surprisingly there are not that many pits in the ~35km x ~35km area involved and no recent underground workings. What gradually became clear, was the area / Sandstone region had been mill constrained from 1994 to 2010 in that treatment was through an oxide plant on which little appeared to have been spent on trying to materially improve the crushing and grinding circuit.

Consequently most pits seem to have stopped when they encountered hard rock and exploration focused on oxide resources, apparently mostly ignoring potential hard rock resources. The ore bodies appeared to be restricted by a general model that they all dipped west (most of all drillholes appear to have been drilled eastwards), whereas the veins/lodes often seemed to be vertical or appear to strike ~N/S and E/W.

Alto's acquisition of the Sandstone exploration tenements appears to resemble Avoca's acquisition of Higginsville, in that Resolute abandoned Higginsville (mostly ignoring the underground) to go to Africa, whereas Troy abandoned Sandstone (mostly ignoring hard ore, yet alone underground potential) in order to focus on South America.

Alto was initially focusing on the pits last mined by Troy such as Bulchina, Lord Nelson and Lord Henry, **which all reconciled with ~45% higher grades** than expected as shown in Table 2. Alto was reviewing hard rock and oxide prospects amongst the major historic producers of Oroya and Black Range/Hack's, and also examining the relatively high grade, potentially significant oxide resources at Indomitable (South) which appears to have been misinterpreted, and at Bull Oak. As can be seen in Table 2, the recovered grades of the open-cuts were high : **3.4g/t, 3.6g/t & 5.0g/t !**

Table 2. Bulchina & the Lords Reconciliations at Sandstone (2000 to 2007) (Source: TRY's NI 43101 for 2007 & 2009)

	Bulchina				Lord Henry			Lord Nelson (Stage1)		
	kt	g/t	koz		kt	g/t	koz	kt	g/t	koz
P & P Reserves (2000)	1140	2.3	85.8	Prob Reserves (2005)	510	2.5	41.5	1480	3.3	158.5
M & I Resources (2000)	1620	2.1	110.4	Indicated Resources	1650	2.0	106.6	2330	3.1	233.7
Mined (June 2006)	1979	3.4	218.9	Mined (2007)	413	3.6	47.9	1114	5.0	177.6
Mined to Reserves	74%	47%	155%	Mined to Reserves	-19%	43%	16%	-25%	49%	12%

Alto has decided to take the Dacian route to production, as in focus on establishing resources and then how to mill the resources, instead of focusing on production & trying to fill a mill. After all depending on grade, the resources may be able to be trucked ~150km to Mt Magnet and toll treated there, *or Alto may delineate enough to justify having its own plant.*

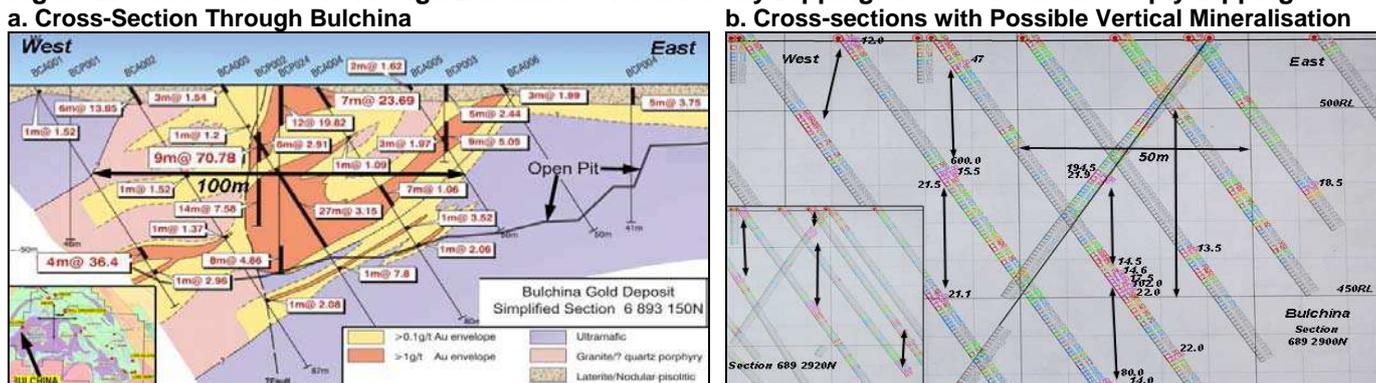
Geology

The regional geology is shown in Figure 1a, with 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.

Bulchina

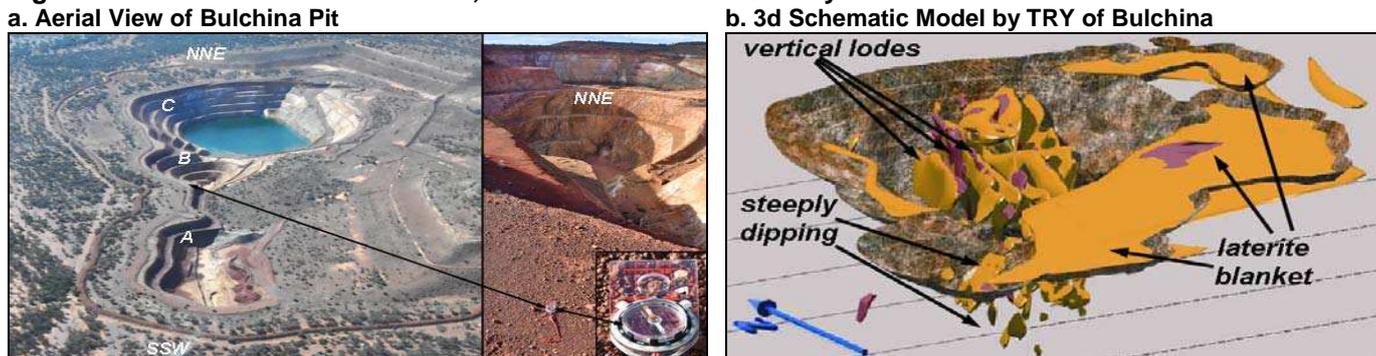
Bulchina is located on the western limb at Sandstone and its mineralisation has been described as being in thin quartz-carbonate & pyrite veins hosted in a mixed granodiorite / quartz porphyry on an ultramafic footwall. Bulchina has been shown in section in Figure 2a as dipping west, with spectacular grades of up to 600g/t, but could also have been interpreted as having closer to vertical veining as shown in Figure 2b.

Figure 2. Cross-Sections Through Bulchina Conventionally Dipping West or Vertical/Steeply Dipping



Unfortunately, it appears that the near surface laterite cover was too hard to go through the plant, so it seems to be the main constituent of the bund walls (reputedly averaging 2g/t to 3g/t), or even worse, is under the waste dumps.

Figure 3. Aerial View of Bulchina Pit, and 3d Schematic Model by TRY of Bulchina

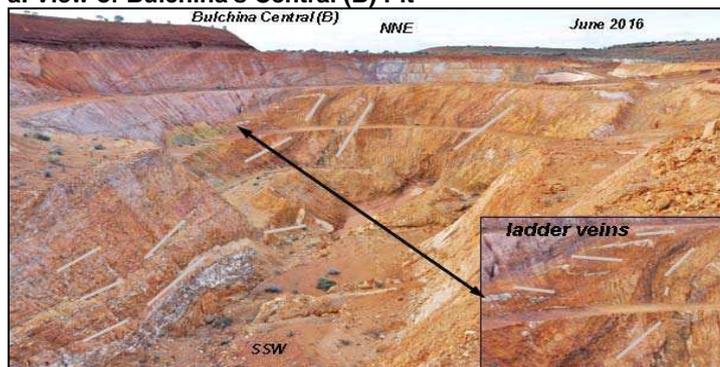


However, as shown in Figure 3a, there appears to be a strong NNE/SSW strike direction as shown by the linked pits A, B and C, and TRY's 3d model of the main large northernmost pit C in Figure 3b did have a mix of vertical lodes separate to the perceived westerly dipping sequence. The water level in pit C

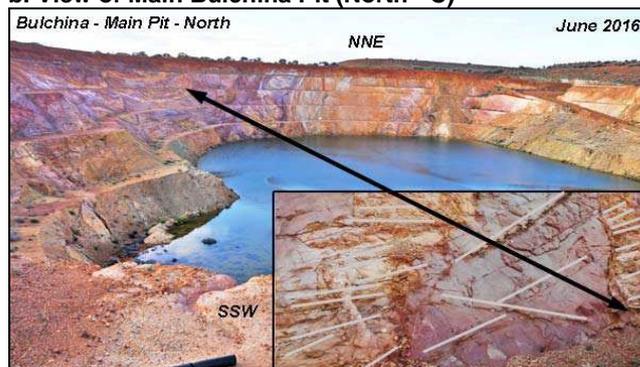
appears to be higher than the empty pit B because it was used as a water storage facility for the plant. Viewing along the western side of the pits, there appears (ERA view) to be potential unmined mineralisation based on the degree of veining, ladder-vein structures etc, as shown in Figures 4a and 4b.

Figure 4. Views of Bulchina's Pits - Central (B) and North (C)

a. View of Bulchina's Central (B) Pit



b. View of Main Bulchina Pit (North - C)



Lord Henry

TRY's geos were initially sceptical of the assay results ~30km SE of Bulchina, but on 28 January 2004 reported their Lord Henry discovery under thin sand with the (obviously supergene) aircore intersections such as 12m @ 8.7g/t (from 2m, incl 1m @ 70.8g/t from 5m), & 14m @ 8.5g/t (from 2m incl 1m @ 60.5g/t from 6m [being a check hole ~4m away]). However, follow-up RC showed depth to the mineralisation with drillhole (TRC107) ~50m away intersecting 3m @ 7.5g/t from 20m, followed by a deeper 8m @ 7.5g/t from 36m (incl 1m @ 40.3g/t in hard sulphide), and an even deeper 1m @ 10.2g/t from 68m.

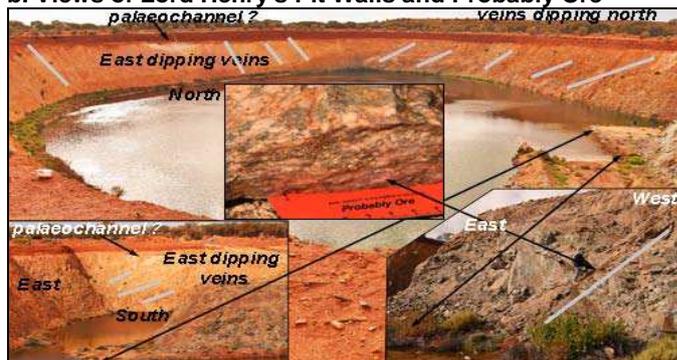
The mineralisation was described as striking ENE over ~300m and "occurring as a series of multiple stacked, gently north-dipping (20-30°) lodes that are associated with quartz-sericite-chlorite alteration within granodiorite". Apart from no benches, one of the first things that you observe about the Lord Henry pit is that it does not have a classic (ie rounded) pit shape as shown in Figure 5a. In addition (on approach and as seen aerially) the bund walls are far from the pit. Close up it was clearly due to the chunks of flyrock (reminiscent of a siege) shown inset in Figure 5a.

Figure 5. Aerial View of Lord Henry Pit & Flyrock Specimens, and Views of Lord Henry's Pit Walls

a. Aerial View of Lord Henry Pit & Flyrock Specimens



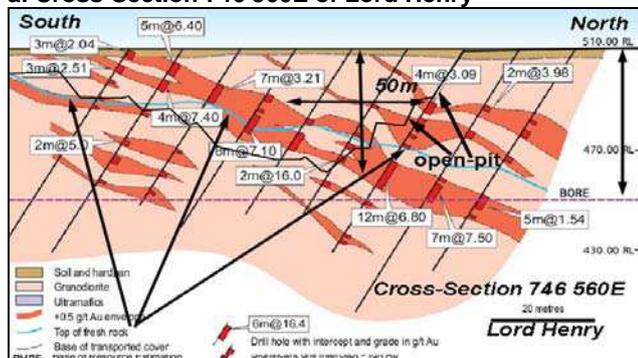
b. Views of Lord Henry's Pit Walls and Probably Ore



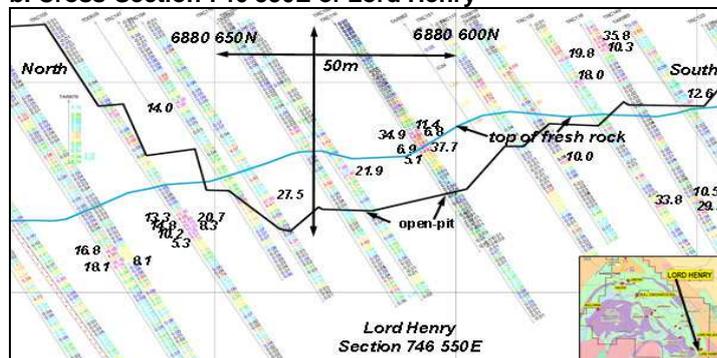
Lord Henry would have to be one of the few Sandstone orebodies that seems to be only depicted in N/S long section as shown in Figure 6a, ie with the lodes dipping north as clearly seen in the eastern wall of the pit shown in Figure 5b. There also appears to be a palaeochannel in the north wall connecting to the slot in the south wall on the eastern side of some hard granodiorite. And looking at the now eroded north wall, there are clearly a series of veins dipping east, as can also be seen in the south walls too.

Figure 6. Cross-Section 746 560E and 746 550E of the Lord Henry Pit

a. Cross-Section 746 560E of Lord Henry



b. Cross-Section 746 550E of Lord Henry

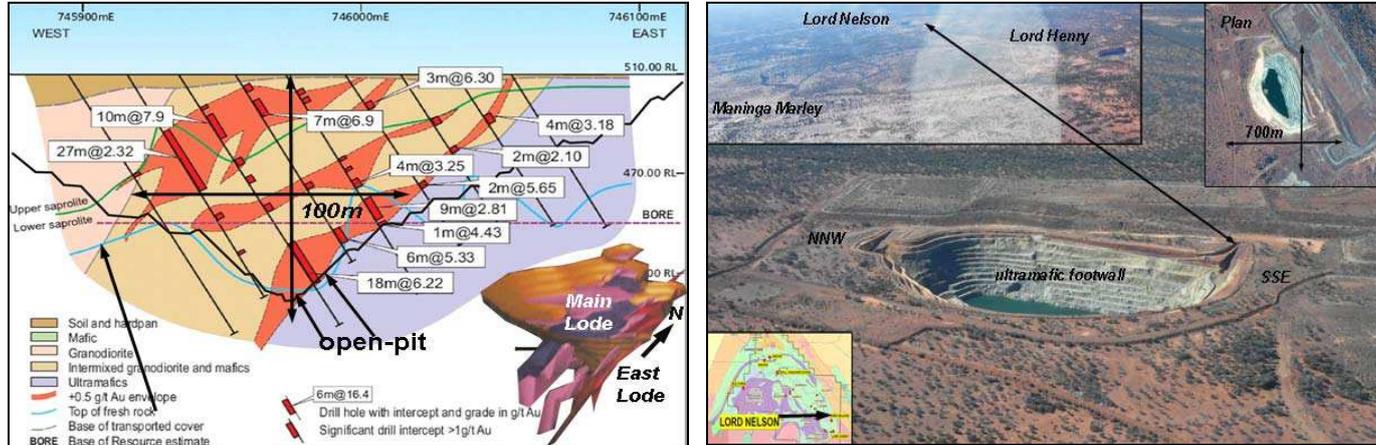


Possibly Troy drilled east (as per usual) and failed to find any mineralisation (amongst the lodes dipping east) and hence drilled south. Viewing the assay numbers there appeared to be a major shallow, northerly, dipping lode in Figure 6a, however, if the same hard rock profile is transposed from Figure 6a to Figure 6b (as the sections are only 10m apart), there could be some significant unmined grades beneath the hard rock pit floor, such as those shown in Figure 6b, or in Figure 6a of : possibly 2m @ 16g/t, 12m @ 6.8g/t and 7m @ 7.5g/t.

Lord Nelson

On 30 January 2004 (in its DQ2003 report), TRY announced promising RAB results of 50m @ 0.5g/t ~3.2km north of Lord Henry, and called it Lord Nelson. Almost 1 month later on 25 February 2004, TRY announced "Victory" with its Lord Nelson discovery, and intersections such as 17m @ 7.7g/t, 16m @ 9.5g/t, 24m @ 9.9g/t & 24m @ 4.5g/t. TRY commented at the time that the mineralisation extended for at least 210m on strike and that it could extend to 500m (and based on the pit appears to be >500m).

Figure 7. Cross-Section 688 3800N of Lord Nelson, and Aerial and Plan Views of the Lord Nelson Pit



Mineralisation was described as "interpreted to occur as multiple lodes that trend northerly and dip steeply west (as shown in Figure 7a), within a complex package of intermixed, sheared granitic rocks and mafic volcanics overlying a generally barren ultramafic footwall unit (as shown by the flatter eastern wall of the pit in Figure 7b). The highest grade mineralisation occurs preferentially in the granitic rocks. Mineralisation extends almost to the surface and is masked by thin surficial cover". Lord Nelson was Troy's second best pit with 1.45mt mined @ 4.43g/t for 207.4koz, after the 1.98mt @ 3.4g/t for ~219koz taken from Bulchina.

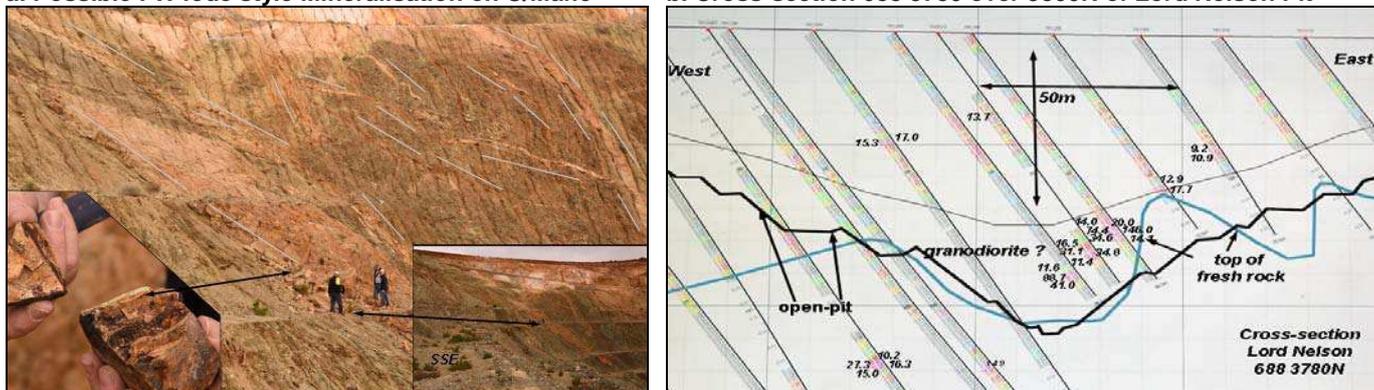
Figure 8. 3d Schematic and View North of Lord Nelson Pit, and Views of the HW Lode along Lord Nelson



As shown in Figure 8a, there are two very distinct (hangingwall [HW] or West and footwall [FW] or East) lodes that dip west and traverse across the pit, of which the HW lode cuts across the foot of the ramp and then passes along the western side of the pit, while the FW lode is on the contact between what appeared to be a felsic (in the south wall) on top of the ultramafic footwall as shown in Figure 9a. There also appears to be series of veins on the SW wall dipping north as shown in Figure 8a. The pit seems deep based on the benches, although in the ultramafic they appear to be only ~5m high, and the pit itself is only ~70m deep - again probably limited by the depth of fresh rock as shown in Figures 7a and 9b.

Although there is the very visual structure of the HW lode in the north wall as seen in Figures 8b, quite surprisingly there were no noticeable drillholes outside the mini bund wall of the pit, extending north (or even south) on strike. Figure 9a shows the possible FW lode-style mineralisation on the contact with the ultramafic in the footwall. The pit was clearly designed to mine the high grade areas shown in Figure 9b, but there appears to be other unmined grade under the pit shell, also shown.

Figure 9. Possible FW Lode Style Mineralisation on the Ultramafic, and 6883780 overlain on 6883800N
a. Possible FW lode style Mineralisation on U/Mafic **b. Cross-section 688 3780 over 3800N of Lord Nelson Pit**

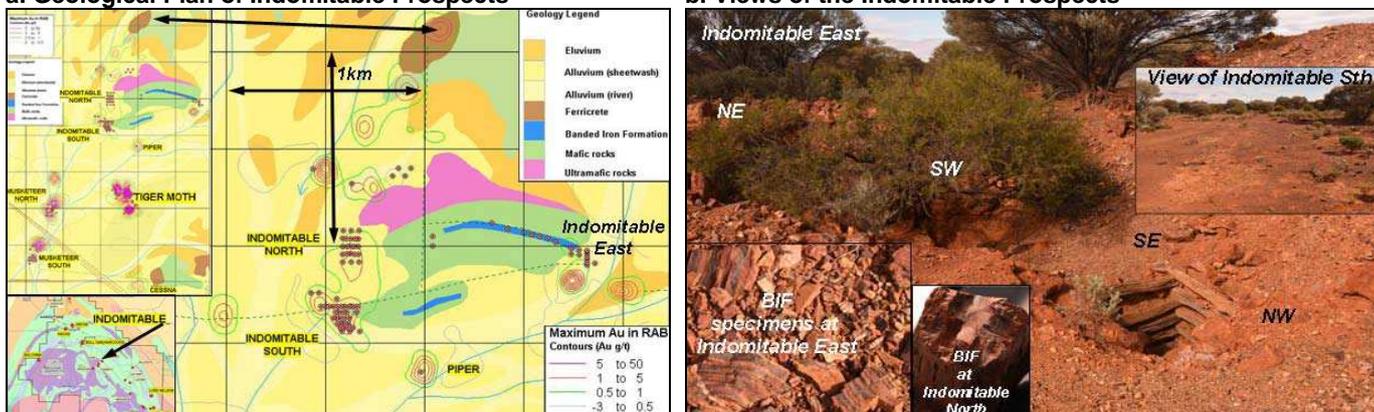


Indomitable

Indomitable is an exploration target that was drilled fairly extensively by Troy, but TRY apparently could not work out what the mineralisation was exactly doing, especially drilling (as usual) to the east and without a scissor hole as shown in Figure 11a . The Indomitable area consists of three prospects: north, south and east as shown in Figure 10a. The eastern prospect represents the original historical Indomitable mine as shown in Figures 10b in a BIF, and it had a NW/SE striking shaft with a fairly decent spoil heap and a NE/SW striking stope through to surface; inferring two different structures.

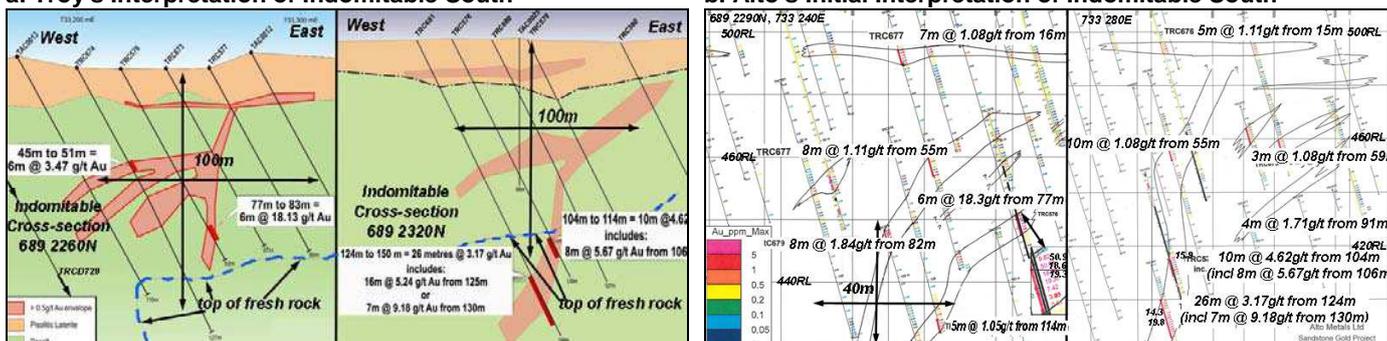
According to the 1954 closed mine and lease records, the Indomitable gold mine officially produced only 108t @ 5.4g/t for ~19oz between 1908 & 1909, which does not seem much for size of the old workings.

Figure 10. Geological Plan of Indomitable Prospects, and Views of the Indomitable Prospects
a. Geological Plan of Indomitable Prospects **b. Views of the Indomitable Prospects**



Surface rock specimens at Indomitable North resemble the BIFs at Indomitable East ~3km away. The attraction of **Indomitable Sth** is that it appears to be **oxidised to a depth of >100m**, whether that is due to its proximity to a structure, does not appear to have yet been determined. Troy did drill a diamond drillhole (TRCD728 - shown in Figure 11a) which failed to intersect fresh rock when it stopped at 191.9m, with the comment that few mineralised intervals were encountered, but the last 2.9m averaged 0.31g/t.

Figure 11. Troy's Interpretation of Indomitable South, and Alto's Initial Interpretation of Indomitable South
a. Troy's Interpretation of Indomitable South **b. Alto's Initial Interpretation of Indomitable South**

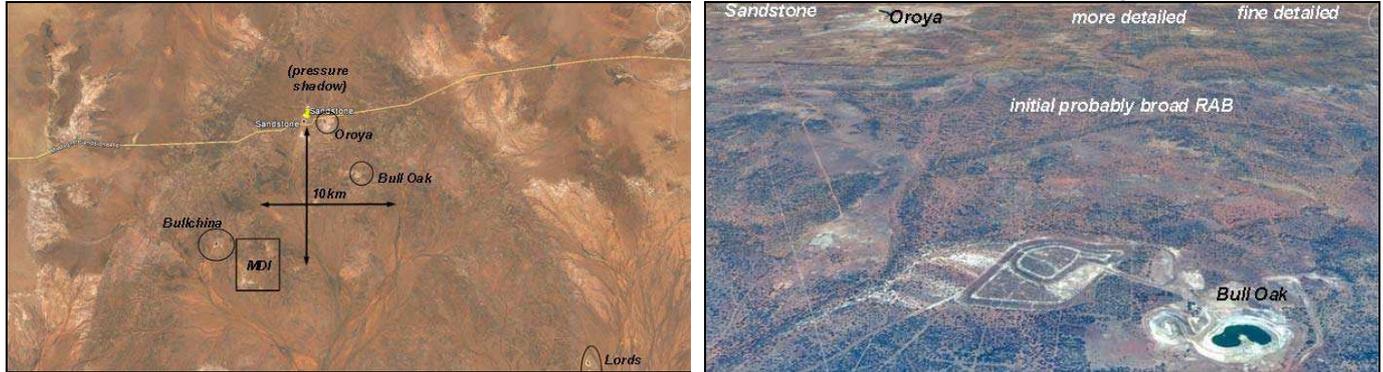


Troy's interpretation is shown in Figure 11a, with Alto's initial interpretations shown in Figure 11b. Although flat veins have been seen in some of the other pits, there are other possibilities, as in Trident was initially interpreted by Gold Fields at Higginsville as a series of flat lodes due to drilling west, whereas Avoca drilled east and discovered Trident. Perhaps Indomitable could be scissor drilled west. What does not help is that TRY's drillholes were all RC (ie chips) except for 1 diamond hole that missed everything.

Bull Oak

Quite surprisingly there are only ~5 open-pit areas in the 35km x 35km area of the Sandstone goldfield, being Bulchina, the Lords, Oroya, the 4 or 5 small pits in the area near MDI's plant on its Nunngarra tenement, and Bull Oak as shown in Figure 12a. Bull Oak is located ~5km SE of Sandstone as shown in Figure 12b over what was originally the historic Hancock's Mining centre, which over its 1904 to 1943 production period had 48 individual mines and 82 leases, for its official recorded gold production of 36.5kt @ 33.5g/t for 39.3koz.

Figure 12. The ~5 Open-pit Areas in the Sandstone Goldfield, and Location of Bull Oak & some exploration



Although the area north of Bull Oak appears to have been systematically explored amongst the numerous old workings (seen as white (oxidised) patches/areas) as shown in Figure 12a, it failed to result in a mining operation (as in no open-cut or underground operation). And despite the numerous old workings identifiable in Google Earth in Figure 13a south of Bull Oak, there appear to be few signs of a systematic exploration programme.

In 1993, Elmina (ELA) acquired 6-Mile from Windsor Resources, and the ~6 WMC tenements of Hancocks to Sandstone North, aimed at toll treating Hancock's laterite through a private CIP plant in Sandstone and somewhat ambitiously vat leaching the other laterites and oxide resources at 40ktpm with an expected 75% recovery (~40% is often more common). Elmina found that the private CIP plant couldn't process the hard ore in October 1993 and decided that the (notoriously fatal) vat leach process was the way to go. However, instead of an expected ~25kozpa for 3 years, production was closer to 2.5kozpa and the vat leach operation closed within 2 years by MQ 1997 having produced ~7.5koz for a total of ~8.7koz. In June 1996, ELA sold 50% of its tenements to Herald (HER) and the remaining 50% to HER in 1997.

Herald then mined the Bull Oak open-pit from 1997 to 1999, and discovered under the laterite, that it had a strongly leached zone from 5 to 10m and then a deeper remobilised gold supergene zone at 50m to 55m (coinciding with the cross-over from weathered to fresh granodiorite). **Oxidation was reported as relatively deep** extending from 39m to 81m below surface (bs), or averaging about 60m bs, (although quite a few areas in the Sandstone goldfield are oxidised / weathered to a depth of ~60m).

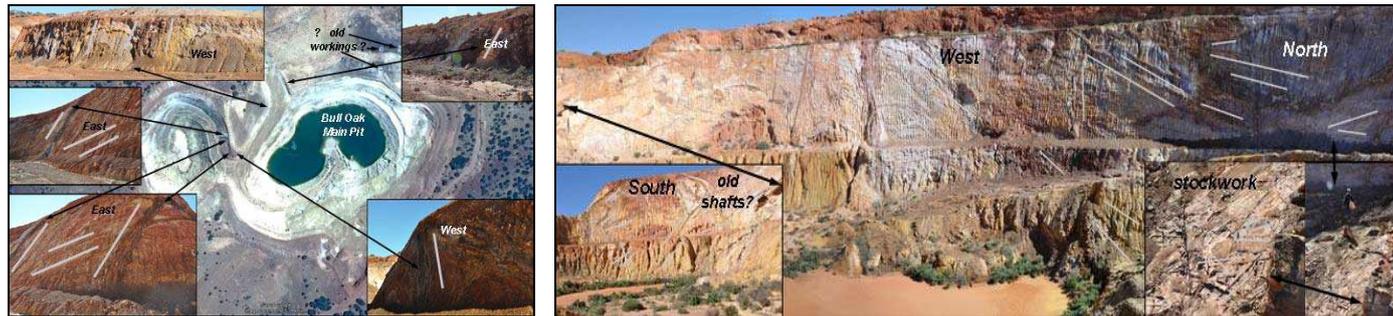
Figure 13. Plan and Schematics of Bull Oak, and Views of the Main Pit at Bull Oak



The geology has been described as a metabasalt predominated greenstone sequence, with several thin intercalated sedimentary units of BIF, chert and sandstone, striking EW and dipping vertically. There are a number of old underground workings within several EW striking BIFs in the mafics, proximal (and north and south of) the granodiorite, and numerous east dipping mineralised quartz veins had been identified as shown in Figure 13a inside the relatively bland looking pit also shown in Figure 13a. However, since closure, the veins stand out on the walls - due to erosion - as shown in Figure 13b - & not only do they stand out, they actually appear to show a stockwork, especially under the ramp along the southern wall.

Although the main pit at Bull Oak has been described in detail, little has been mentioned about the N/S striking pit at its western end. Possibly the two parts of the main pit correspond with the Bull Oak vein in the east (and the old workings in the wall - ~800t @ 37.3g/t for 957oz were mined in 1907 from Bull Oak and later for 67t @ 18.7g/t for 40z in 1916-1917), and Faugh-A-Ballagh in the west (2.8kt @ 36.7g/t for 3.3koz over 1908-1917), and in which case the western end could correspond to the Kohinoor reef/lode shown in the small inset plan in Figure 13a (9.3kt @ 33g/t for 9.9koz over 1904-1924).

Figure 14. Views of BIFs in the walls of Bull Oak, and Views of the Minor NS Pit at Bull Oak
a. Views of BIFs in the walls of Bull Oak **b. Views of the Minor NS Pit at Bull Oak**

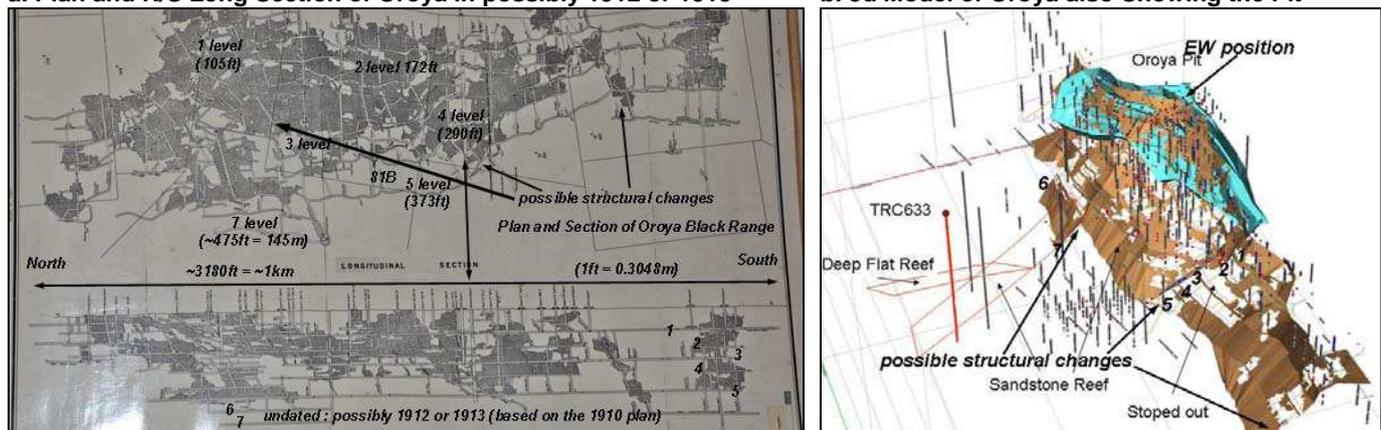


The main pit does also appear to have some BIFs in its northern wall, which track through broadly east-west as shown in Figure 14a, passing through the wall from the western pit. The South wall of the minor NS pit does also show multiple veins dipping west (which begs the question of what happens east and west of the Bull Oak pit) and possibly two old shafts in also in the South wall - there was not time to check on surface. However, the minor pit shows north dipping veins in both its East and West walls of Figures 14a and 14b, and a stockwork in the ramp and the lower wall at the northern end of the small pit.

Oroya

Oroya was the main reason that Herald moved its 7-year old 200ktpa oxide plant from Montague to Nunngarra, and upgraded it for \$3m in 1994 to process ore from Sandstone at ~500ktpa. Oroya initially treated 312.1 kt @ 15.7g/t to produce 157.3koz between 1906 and 1913, followed by Youanmi GM Co Ltd (which is where the Youanmi production area confusion comes in) operating Oroya (and neighbouring areas at Sandstone) and treating 461.8kt @ 13.9g/t for 206koz between 1913 and 1925.

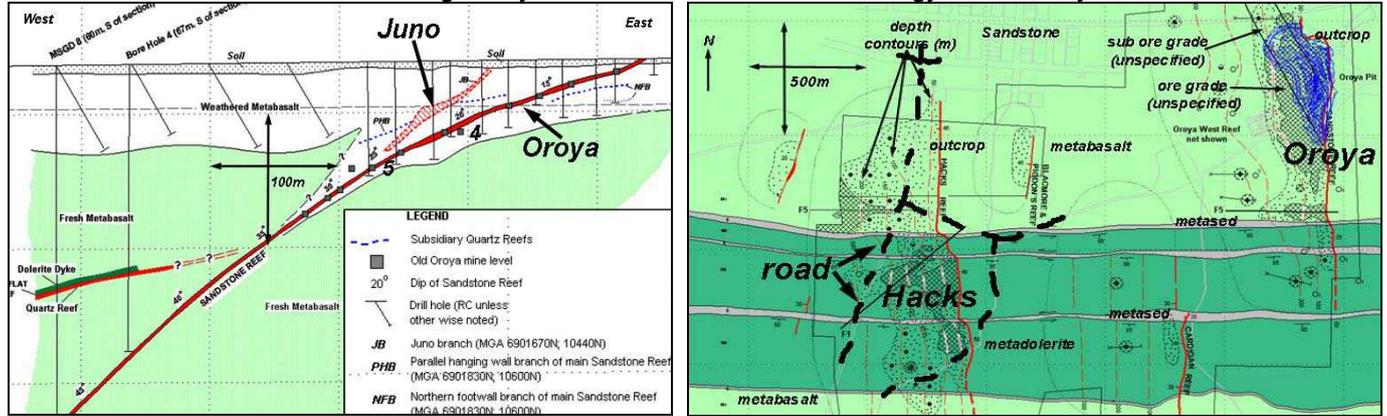
Figure 15. Plan and N/S Long Section of Oroya in possibly 1912 or 1913, and 3d Model of Oroya with Pit
a. Plan and N/S Long Section of Oroya in possibly 1912 or 1913 **b. 3d Model of Oroya also Showing the Pit**



Plans and sections on display in the local museum at Sandstone show a fairly extensive mine at Oroya as shown in Figure 15a, although that only extends to ~ 7 level at ~475ft deep (~145m) and (while undated) may have only been to ~1913 (based on a 1910 Annual Report plan, also in the museum). However according to the 3d schematic model in Figure 15b, Oroya apparently did not go to significant depths for what was extracted. The model in Figure 15b shows minor additional stoping to that shown in Figure 15a, (the gaps are the stopes in Figure 15b, vs conventional shaded Figure 15a), with similar levels and possible structural change positions.

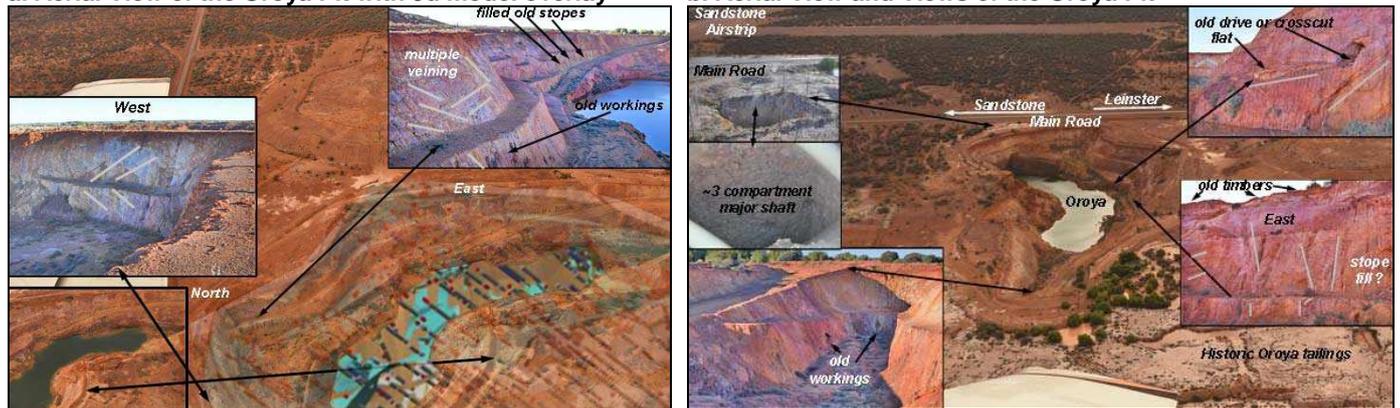
According to the IM (TRY's 2011 Info Memorandum), Oroya did only mine to 7 level or ~145m below surface, but had several branches and subsidiary branches like Juno (which peels off into the HW [hangingwall] and continues through to surface as shown in Figure 16a). Juno was mostly a 1 to 3m thick quartz reef that can balloon out to ~12m thick, striking EW and dipping ~85°S, in contrast to the main NS striking reefs of Hacks and Oroya. In general Oroya's Sandstone reef has been described as ~1 to 3m wide, variably composed of quartz, quartz-carbonate, and brecciated quartz in carbonate altered mafic rock, and all hosted in a metabasalt.

Figure 16. Schematic WE Cross-Section through Oroya, and Schematic Geology Plan of Oroya and Hacks



It can be seen that most of the drilling at Oroya was shallow vertical on the eastern side (RAB?), whereas the western side was either too shallow (or remained in the oxide zone), or not drilled deep enough and missed almost everything. It seems that the Oroya pit stopped mining at the base of the oxidised zone.

Figure 17. Aerial View of the Oroya Pit with 3d model overlay, and Aerial View and Views of the Oroya Pit



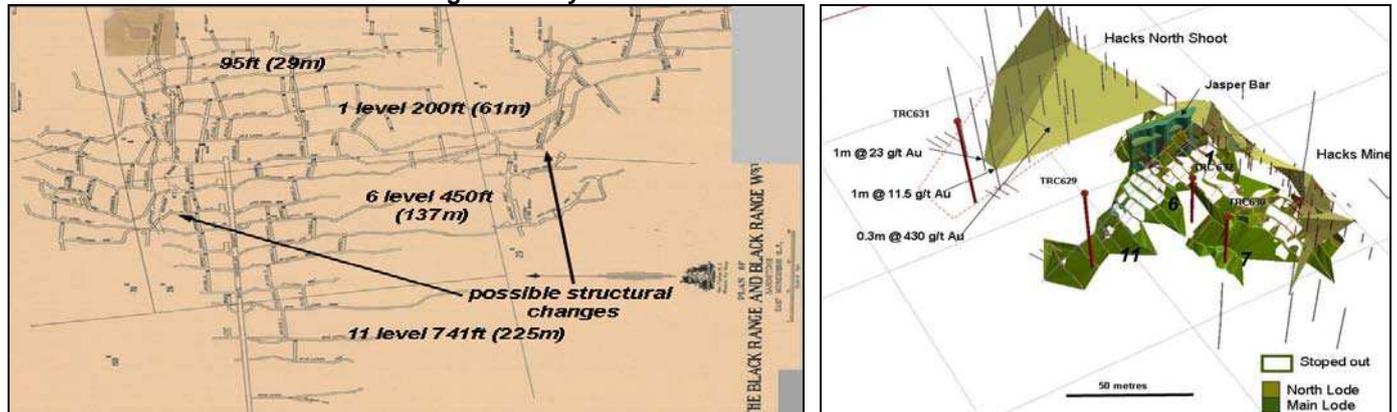
Overlaying the 3d model of Figure 15b on the aerial view of the Oroya pit in Figure 17a, clearly shows the reason for the banana-shaped pit in that an EW structure was mined (by open-cut and underground) in addition to the main NS structure. The overlay also shows that a large amount of the oxidised orebody appears to be in or under the east wall (the filled in brown colours of the model are unmined), & although there are some sand-filled stopes, there appears to a lot of ground around the stopes, plus the NE wall still shows multiple veining, & despite the road position, the pit may be able to be cut-back to the east.

Given that the orebody seems to have structural changes or offsets (to the west) along its NS length, there may be another structure under the road, especially given the location of the EW striking, large 3-compartment shaft on the NW end of the pit, as shown inset in Figure 17b. Figure 17b also highlights the mineralisation in the eastern wall and interestingly, the presence of flats (ie flat mineralisation).

Hacks or Black Range

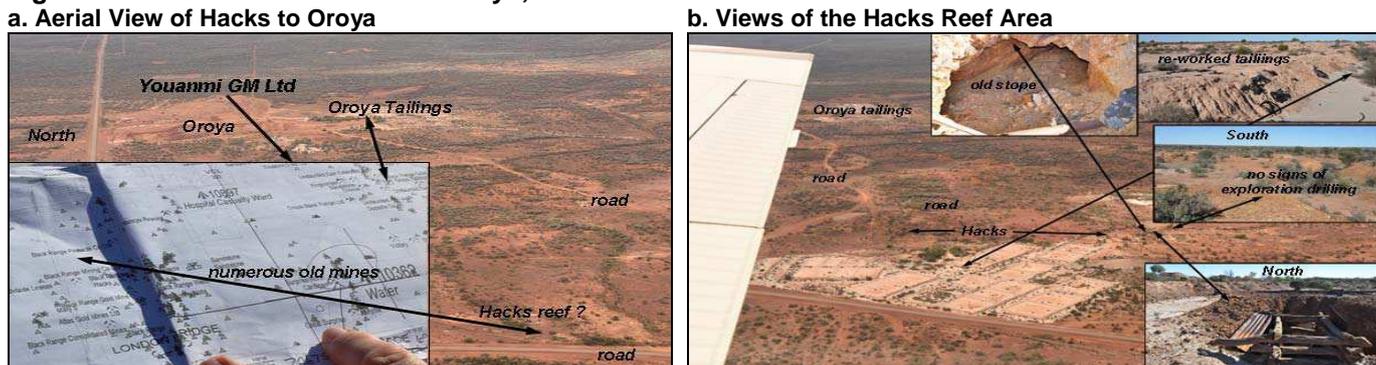
Although it is adjacent and parallel to Oroya (ie ~1.5km away), and despite its production history (250.6kt @ 19.8g/t for 159.5koz from 1907 to 1916), Hacks was not mined as an open-cut, and in fact appears to show very few signs of modern exploration. As shown in Figures 18a and 18b there are similarities.

Figure 18. Historical Plan of Hacks/Black Range Possibly in 1916, and 3d Model of Hacks



It should be noted that the 3d model of Hacks in Figure 18b has used the non-conventional approach of showing the areas stoped as gaps, and unstoped as coloured/filled in. Although Hacks north of the road still seems to have remained mostly intact as shown In Figure 19a, according to the road positions in Figure 16b, the main part of Hacks appears to lie under the large tailings area shown in Figure 19b, while the line of the Hacks Reef appears to skirt the eastern edge of the re-worked, plastic littered tailings.

Figure 19. Aerial View of Hacks to Oroya, and Views of the Hacks Reef Area

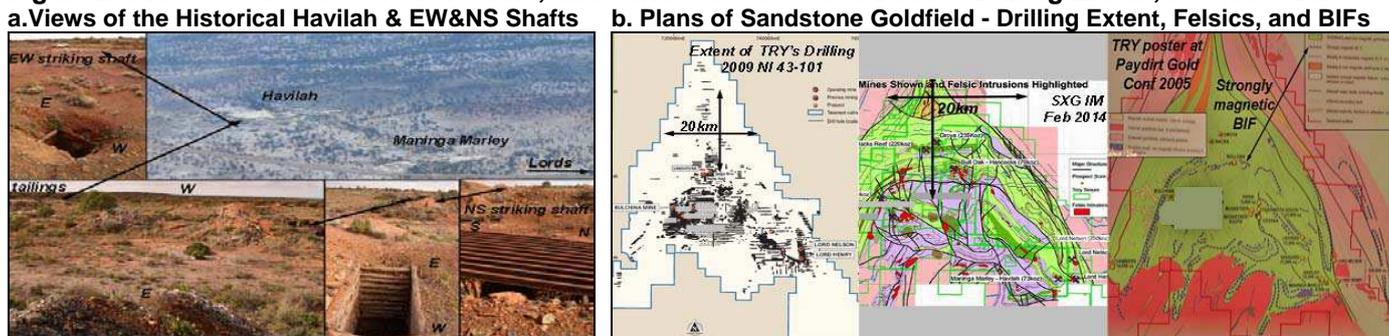


Hacks' reef has been described as similar to Oroya, except it apparently has no splays, reputedly because it is hosted in a **metadolerite**. The IM comments about Hacks being 250m long and bound between two EW jasper bars, but that and the rest of the comment appears to be a reproduction from A. Gibb Maitland's 1919 (Gold Deposits of WA) book. However, what was very clear was the **distinct lack of any signs of exploration drilling**, possibly because the ground is harder closer to surface as shown inside the old stope, & hence could not be treated in the oxide plant - so it was left, unexplored.

Additional Upside Potential

There are many areas of old workings in the Sandstone goldfield (after all by 1945 there were 128 cancelled mines and 245 cancelled leases on AME's ground holdings), as illustrated inset in Figure 19a, just over the Hacks to Oroya Area. One of the larger areas we visited was Havilah to Maninga Marley (on our way back from the Lords) as shown in Figure 20a. Officially, Havilah treated 53.6kt @ 19.7g/t for ~34koz from 1905 to 1929, while Maninga Marley treated 12kt @ 34.3g/t for 13.2koz from 1904 to 1914.

Figure 20. Views of the Historical Havilah , and Sandstone Goldfield Plans : Drilling Extent, Felsics & BIFs



Then there are the prospects we did not visit and hence have not reviewed such as the possible stacked lodes at **Tiger Moth** (from **2005** : south of Indomitable, inset in Figure 10a, which TRY couldn't decipher), the high intersected grades at **Horatio** (west of Lord Henry in Figure 1b) with **8m @ 35.8g/t, 40m @ 9.7g/t (incl 5m @ 54.2g/t) & 7m @ 3.8g/t** - possibly too hard - BIF?), or the Sandstone North prospect shown at the top of Figure 1b (the other side of town ?) - last drilled by WMC (!) over 30 years' ago in the **1980s**, centred on old workings up to ~30m deep in a highly sheared shale with RC intersections such as 14m @ 5.9g/t (from 24m), 13m @ 3.3g/t (from 103m) and **15m @ 9.1g/t (incl 3m @ 32g/t)** from 79m).

And that is **just the tip of the iceberg** as illustrated in Figure 20b of 3 plans of the Sandstone goldfield area, being the extent of the drilling (and hence what has not been drilled - even by shallow RAB), the identified (in red) felsic intrusions, and the identified BIFs. And that does not include the ten structural plans with detailed potential target prospects that were compiled in the Southern Cross (SXG) IM in 2014.

Financial Considerations

With such **staggering upside potential** as illustrated in the above review, Alto's biggest challenge is going to be deciding what to focus on or prioritise, to get the highest return for its exploration dollars. Fortunately AME has no debt and an **early war-chest of ~\$4m** due to the \$1.1m placement in May 2016, plus \$1.7m raised in its SPP in July, and 25.5m fpo Antipa (AZY) shareholding, currently worth an additional ~\$1.2m, out of which ~0.5m should have been expensed or allowed to be expended for the Sandstone acquisition.

Upside Potential

Alto Metals (AME) has shown that it is possible to acquire significant underexplored brownfield gold mining areas in Australia for a minimal cost, being almost all the Sandstone goldfield for only \$0.5m in cash, 19m fpo AME shares and 25m performance shares, plus a 2% royalty (apart from the oxide plant and Nunngarra tenement it is on and now owned by Middle Island [MDI]). 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 the ~35km x ~35km area, 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 there have been no new underground mines there for over 100 years, **which has resulted in numerous exploration targets and significant upside potential.**

Management

Board of Directors

Anna Mao – Non-Executive Chairperson since 2012. Anna is General Manager and Director of Beijing Huaqing S & T Assets Management Group. Anna has over 24 years' experience in finance and operations, and cofounded and developed several successful businesses in China and Canada. Anna has held a number of GM and Directorship positions.

Dermot Ryan – Executive Director & Acting CEO 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, & for the past 15 yrs has been a mineral exploration consultant to a number of WA companies.

William ("Bill") Robertson – Non-Executive Director since 2014. Bill is a geoscientist with over 25 years' professional experience, which includes over 11 years' multi-commodity experience with CRA Exploration and North Ltd, and 17 years as an independent consultant providing geophysical support to exploration and evaluation programs in a range of minerals (including gold) throughout the world.

Stephen Stone – Non-Executive Director since 2016. Stephen is a mining geologist, with over 30 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

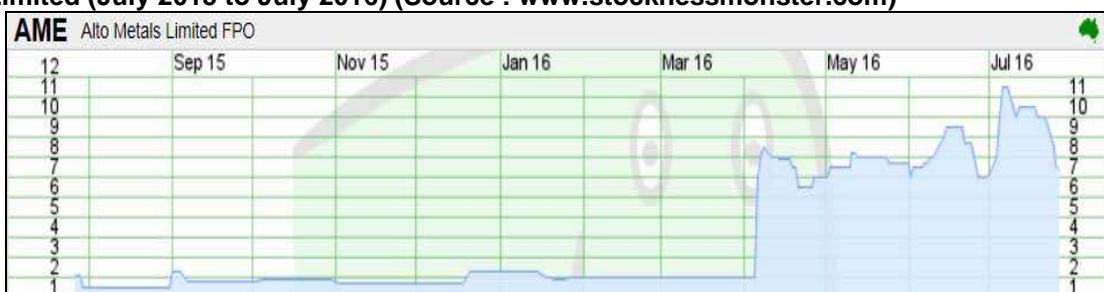
Sam Middlemas - CFO and Company Secretary since 2016. Sam is a Chartered Accountant with more than 20 years' experience in senior financial management and executive roles with a number of ASX listed public companies, predominantly in the resources sector. Sam is also the principal of a corporate advisory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

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.

Chart of Alto Metals Limited (July 2015 to July 2016) (Source : www.stocknessmonster.com)

AME's share price has dropped back with its 5.9c SPP..

..but is expected to soon recover once the market recognises its upside potential



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

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