



## Gold : Excelsior Gold Limited (EXG)

By : Eagle Research (Keith Goode)	MAY 2014 VISIT TO BARDOC GOLDFIELD in WA		15 July 2014
Year Low/High:	\$0.06 - \$0.125	Recommendation	SPEC BUY
Diluted No. Shares	417.8m	Share Price	\$0.080
Diluted Mkt Cap :	A\$33m	Target Price	> A\$0.12
Net Cash est (31 March 2014)	A\$1.2m	<a href="http://www.excelsiorgold.com.au">www.excelsiorgold.com.au</a>	T:+618 9335 7770

# Excelsior Gold Limited (EXG) – Targeting Production from its Zoroastrian Pit by JQ15

- **Excelsior Gold (EXG) has 100% of the original Kalgoorlie (Kal) North Project, which is centred over the historic Zoroastrian and Excelsior gold mines and open-cuts in the ~20km long Bardoc goldfield, ~45km north of Kalgoorlie in WA. EXG has entered into a game-changing agreement (to be finalised in August 2014) to supply at least 0.5mtpa for 5 years to Norton Gold Fields' (NGF's) Paddington plant (~18km south of Zoroastrian).**
- **With NGF's preference for oxide/transition ore to blend with its own harder ore, the ~100m deep weathering profile of the Zoroastrian ore reserves (~26% oxide / ~45% transition) could provide an ideal relatively high grade (>2.5g/t), 0.5mtpa source for at least the next 6 years (based on the existing open-pit reserves of ~2mt @ 2.5g/t, indicated resources of 4.3mt @ 2.4g/t and underground indicated resources of 0.5mt @ 4.5g/t). The Zoroastrian (Zoro) resource is based on an unmined N/S striking granophyric dolerite unit that lies adjacent and west of the original historic Zoroastrian pit.**
- **In addition to the Zoroastrian pits (and possibly underground) are EXG's SMP's (or small mining projects) that could evolve into something substantial with Bulletin South and its multiple stockworks bearing some similarity to the mineralisation in the Paddington pits. The SMPs are mainly based on the old workings (of which there are ~600 in the Bardoc Goldfield, but most of them are very shallow [ $<20m$  or  $30m$ ]). It should be noted that NGF's Wendy Gully pit developed from a small SMP into a >200koz pit and underground.**
- **The new option, subject to an Agreement with Norton Gold Fields by the end of August 2014 requires an upfront \$12.5m (towards upgrading the Paddington Mill) for EXG delivering ~500ktpa for 5 years (and possibly longer), with EXG undertaking the mining and NGF the transport and milling. Depending on compatibility with NGF's ore and the Paddington milling schedule, higher annual treatment rates may be achieved (possibly up to 30% more), representing potential annual production of ~35,000ozpa to ~50,000ozpa.**
- **Prior to the Paddington option, EXG secured a \$4m convertible loan facility with Macquarie Bank based on the intention to complete a DFS. That has now changed with the first \$2m tranche (on a 7%pa interest rate above the 3mth bank bill swap rate) to be used for infill and geotech drilling to try and reduce the PFS strip ratio on the Central Zoroastrian pit through increasing its indicated resources and possibly steepening its walls. The 2nd \$2m tranche would be for a study taking the Zoro pits to a mineable state.**

### OTHER KEY POINTS:

- **Opening up the Zoroastrian pits (orig extended, central and south), enables EXG to correctly identify which are the best lodes to follow and mine underground**
- **Conventional gravity, cip/cil treatment etc was expected from initial metallurgical testwork which had recoveries of ~94% from Zoroastrian oxide / transition ore. Paddington intends to test batch Zoroastrian ore at possibly monthly intervals to establish a grade and recovery that EXG receives, as the ore is to be blended with Paddington ore.**
- **Excelsior Gold has a staggering number of drill-ready targets in its pipeline pyramid, with ~10 targets in the PFS, another ~20 in development and a further >50 drill-ready.**
- **EXG's planned operation already has excellent infrastructure being adjacent to the Goldfields highway, with delineated water bores and low cost mains power, and very close to (commutable from) Kalgoorlie.**
- **There is also already an existing haul road for part of the distance from the Zoroastrian pit to the Paddington plant.**

## Corporate Overview

This is our first report on Excelsior Gold Limited (EXG) and during May 2014 was in fact the first time we have visited the Bardoc goldfield (which EXG controls most of), despite its proximity ~45km north of Kalgoorlie (mostly north of the historical Broad Arrow pub). Excelsior Gold (EXG) has 100% of the Kalgoorlie (Kal) North Project, which is centred over the historic Zoroastrian and Excelsior gold mines and open-cuts in the ~20km long Bardoc goldfield.

EXG last raised \$5m (to complete a PFS on its Kalgoorlie North Project, which was achieved in March 2014) through a placement of ~27.8m shares @ 18c in February 2013, which effectively resulted in the current **412.8m fpo** shares on issue. There are also **5.0m options** which are all "in-the-money" at 5.8c by 23 August 2014. On 20 May 2014, EXG announced that it had entered into a \$4m convertible loan financing arrangement with Macquarie Bank, to complete a DFS, which has now changed with the Paddington development option..

The \$4m convertible loan consists of two equal tranches of \$2m, with the first tranche available on completion of the final Facility documentation by 31 September 2014, and the second drawdown of \$2m subject to a \$3m equity raising by EXG. An interest rate of 7% above the 3mth bank bill swap rate (currently ~2.7%, for a current total of ~9.7%pa) is to be payable on the drawn down amount. There is a fee of 2.5% on the Facility, the Facility has to be repaid by 31 December 2015, and options with an expiry date of 31 Dec 2015 are to be issued covering the Facility amount, with such funds from sale of the options firstly repaying the Facility.

EXG announced a binding term sheet with Norton Gold Fields Ltd (NGF) on 18 June 2014 under which EXG would receive a minimum allocation of 2.5mt to be applied at ~500ktpa for 5 years (with a possible further 5 year extension), through the Paddington Mill, in return for contributing a maximum of \$12.5m (effectively \$5/t) towards an upgrade and refurbishment of NGF's 3.5mtpa Paddington Mill. EXG may receive higher annual throughput rates (which could occur) depending on the compatibility of its ore to NGF's ore (ie oxide preference) and there being availability within the Paddington milling schedule.

EXG and NGF are to undergo due diligence and final feasibility studies subject to both boards approving an Ore Treatment Agreement at the end of August 2014, such that EXG would be responsible for mining the ore and NGF would be responsible for trucking the ore to the Mill and treating it. EXG expects the resulting treatment cost (including trucking) to be less than it would have cost if EXG had its own 1mtpa treatment plant (as per its PFS, ie possibly <\$30/t).

## The Bardoc Goldfield

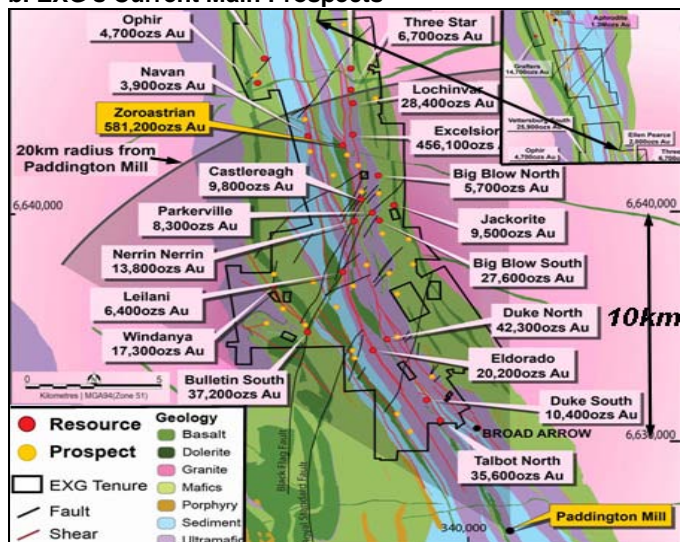
Excelsior's tenements are located *on granted mining leases* over most of the Bardoc Goldfield at the junction of the BTZ (Bardoc Tectonic Zone) and NE/SW striking Black Flag fault, amongst a region that includes numerous gold occurrences and deposits of varying sizes as shown in Figure 1a. EXG has already delineated ~ 1.4moz in resources and ~0.5moz in reserves as shown in the various prospects in Figure 1b and in Table 1.

**Figure 1. Location of EXG's Kalgoorlie North Project and Current Main Prospects**

**a. Location of EXGs Kalgoorlie North Gold Project**



**b. EXG's Current Main Prospects**



At this stage the Excelsior resource and its mineability has been placed on the "back-burner", because the pit needs to have the old tailings removed from it, and the road and rail corridor moved further north at a cost of ~\$15m to \$17m or so, before the Excelsior pit can be mined.

**Table 1. Excelsior Gold's Ore Resources as at December 2013 and Ore Reserves as at March 2014**

as at March 2014		Proven			Probable			Total Reserves		
Reserves	Open-cuts (Underground when stated)	Tonnes	Grade	Gold	Tonnes	Grade	Gold	Tonnes	Grade	Gold
Deposit	Area	Mt	g/t	000oz	Mt	g/t	000oz	Mt	g/t	000oz
Excelsior	Main	3.0	1.4	133	0.8	1.2	33	3.9	1.3	166
Zoroastrian	South				0.4	2.4	33	0.4	2.4	33
	Central & Extended				1.6	2.6	132	1.6	2.6	132
	Underground				1.0	3.4	109	1.0	3.4	109
<b>Sub-Total</b>	<b>Excelsior and Zoroastrian</b>	<b>3.0</b>	<b>1.4</b>	<b>133</b>	<b>3.8</b>	<b>2.5</b>	<b>306</b>	<b>6.9</b>	<b>2.0</b>	<b>439</b>
Satellites <4km	Jackorite, Nerrin Nerrin, Big Blow Sth, Lochinvar & Castlereagh				0.4	2.3	30	0.4	2.3	30
Satellites >4km	Bulletin South & Eldorado				0.4	1.9	22	0.4	1.9	22
<b>Total Reserves</b>		<b>3.0</b>	<b>1.4</b>	<b>133</b>	<b>4.6</b>	<b>2.4</b>	<b>358</b>	<b>7.6</b>	<b>2.0</b>	<b>491</b>

as at December 2013		Measured & Indicated			Inferred			Total Resources		
Resources	Open-cuts (Underground when stated)	Tonnes	Grade	Gold	Tonnes	Grade	Gold	Tonnes	Grade	Gold
Deposit	Area	Mt	g/t	000oz	Mt	g/t	000oz	Mt	g/t	000oz
Excelsior	Main	8.4	1.3	357	2.7	1.2	99	11.1	1.3	456
Zoroastrian	South, Central & Extended	4.3	2.4	332	1.3	1.9	83	5.7	2.3	414
	Underground	0.5	4.5	73	0.5	5.8	94	1.0	5.2	167
<b>Sub-Total</b>	<b>Excelsior and Zoroastrian</b>	<b>13.2</b>	<b>1.8</b>	<b>762</b>	<b>4.5</b>	<b>1.9</b>	<b>276</b>	<b>17.7</b>	<b>1.8</b>	<b>1037</b>
Satellites <4km	Jackorite, Nerrin Nerrin, Big Blow Sth, Lochinvar & Castlereagh	0.9	2.2	63	0.4	2.0	26	1.3	2.1	89
other :	Three Star, Ellen Pearce, Navan, Parkerville & Big Blow Nth	0.1	1.9	6	0.4	1.7	21	0.5	1.7	27
Satellites >4km	Eldorado, Leilani, Duke Nth & Bulletin Sth	1.3	1.6	69	0.7	1.7	37	2.0	1.6	106
other :	Talbot Nth, Duke Sth, Windanya, Ophir, Vetttersburg Sth & Graffers				2.1	1.6	108	2.1	1.6	108
<b>Total Resources</b>		<b>15.6</b>	<b>1.8</b>	<b>900</b>	<b>8.1</b>	<b>1.8</b>	<b>468</b>	<b>23.7</b>	<b>1.8</b>	<b>1367</b>

**Historical Background**

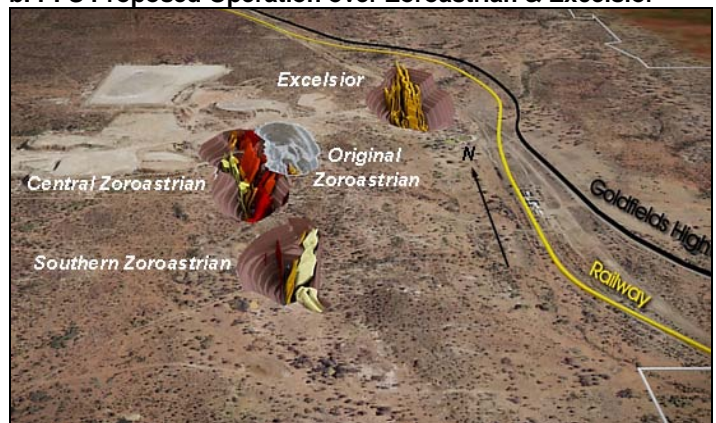
The Bardoc goldfield was discovered in 1894 and by 1895 >400 people were apparently working in the area with a town gazetted in 1896 and a regular coach service to Kalgoorlie in 1898. In 1900 there was a 10-head stamp battery at Zoroastrian, a 20-head stamp battery at Excelsior, and public crushing facilities at Nerrin Nerrin. But by 1908 it was all over, virtually no mines were in operation and the town was deserted, with the gold prospectors attracted by other gold rush discoveries, resulting in ~600 remnants of old workings.

**Figure 2. EXG's SMP areas in the Bardoc Goldfield, & PFS Proposed Operation over Zoroastrian & Excelsior**

**a. Old Workings at SMP areas in the Bardoc Goldfield**



**b. PFS Proposed Operation over Zoroastrian & Excelsior**



Some of the workings appear to have been sizeable, such as Nerrin Nerrin's ~110m deep shaft or the various stopes as shown in Figure 2a. In between the WWI & WWII period there was another flurry of gold mining activity in about the 1930s. Bardoc Consolidated NL formed in 1934, but by 1936, results were reported as "unsatisfactory", and the company switched to explore land south of Broad Arrow.

Hill Minerals restarted gold exploration in the area in 1982, and Aberfoyle Ltd farmed-in and formed a JV in 1984, making a DTM in January 1986, with milling starting in 1987 based on open-cuts over the old Zoroastrian and Excelsior mine workings. Ore reserves were defined by close-spaced RC drilling (168 angled holes on a 15m x 15m pattern over Excelsior and 147m vertical holes on a 15m x 12m pattern over Zoroastrian - an interesting direction as Zoroastrian's original pit mineralisation appears to be mostly steeply dipping narrow quartz veins plus occasional flats).

However, the orebody interpretations and/or resource calculation in both pits appeared to have been partially wrong, because treated grades were reported as ~2.2g/t to 2.6g/t instead of an expected ~4.1g/t to 4.5g/t (or an apparent ~50% reconciliation).

The early 1990s were marked in Australia for a drop in ore grades from oxide through the transition zone to sulphide at depth due to failing to adjust the Kriging model (then being applied) for the two different ore zone types (oxide & sulphide), which resulted in reductions of ~10% to 15% in some estimated grades. However, the Aberfoyle reconciliations were lower from day 1, *but were not as bad grade wise as they appeared to be*. Examining the historical records does show that the mined grades were ~1g/t or ~25% lower than expected at both Excelsior and Zoroastrian, however, the mill was then filled with sub-grade ore at ~1.3g/t to 1.4g/t, resulting in greater throughput and that apparent ~50% grade reconciliation.

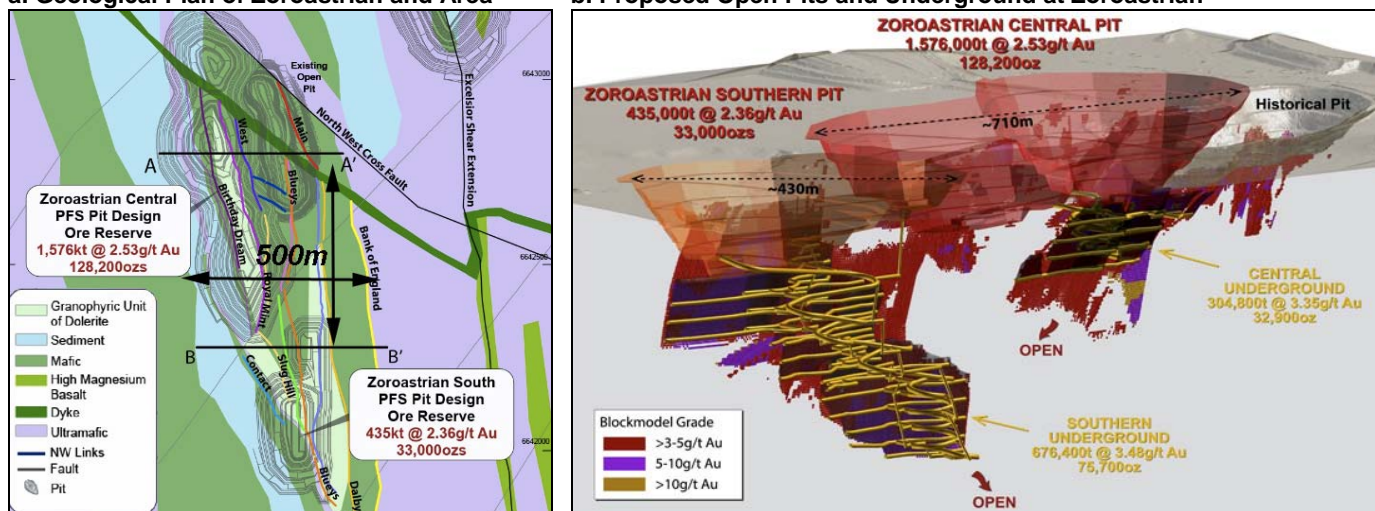
However, despite the fact that the Bardoc goldfield has ~600 remnants of old workings, Bardoc had acquired a reputation of being difficult, and hence was essentially left alone apart from the odd oxide grab for ore by various companies resulting in the relatively shallow pits at Bulletin South and Leilani (now SMPs for EXG) also shown inset in Figure 2a. Not all of the area is heavily oxidised as shown by the adjacent (now owned by NGF) and yet sizeable Wendy Gully pit that developed from a small stockwork SMP into a >200koz open-cut & underground.

### Geology

The geology of the area as shown in Figure 1 consists of a package of mafic and ultramafic rocks sandwiched between east and west granites resulting in the broadly north-south striking Bardoc greenstone belt, in which mineralisation mostly appears to strike according to the classic NW/SE, NE/SW or N/S directions. There are a number of NE/SW cross-cutting structures that clearly influence the mineralisation such as through Zoroastrian and the Black Flag Fault.

At first glance in Figure 3a, Zoroastrian and Excelsior appear to be slightly offset from each other by a transverse fault, however, they have completely different styles of mineralisation and are on different structures as shown, with **the new proposed Zoroastrian pits (shown in Figure 3b) and underground based on a further very different style of mineralisation** compared to that in the original Zoro pit.

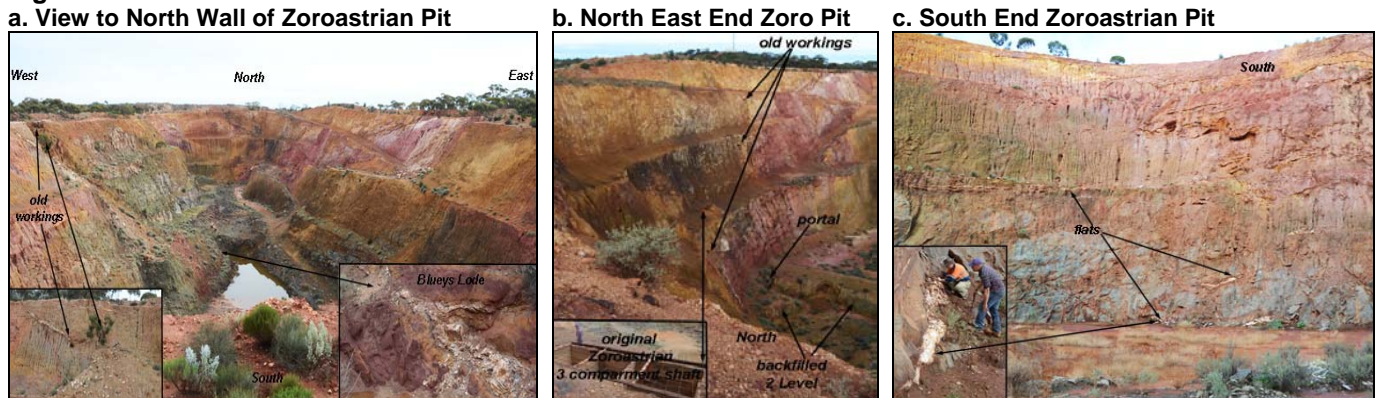
**Figure 3. Geological Plans of Zoroastrian and Area, & Proposed Open Pits and Underground at Zoroastrian**



### Zoroastrian

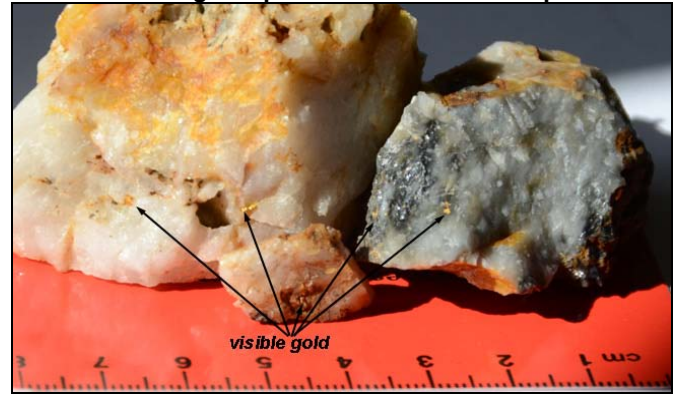
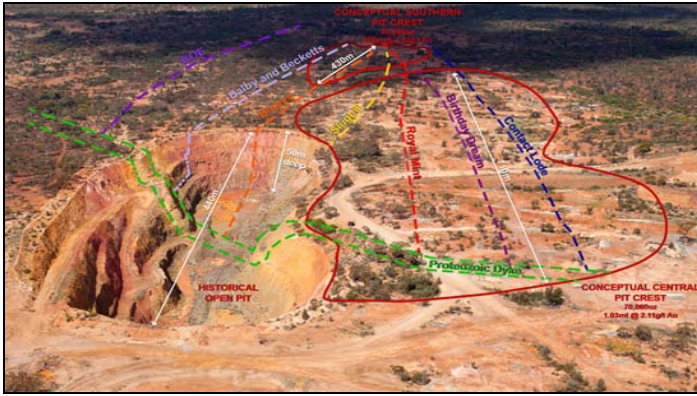
The original Zoroastrian pit discovered a number of >15g/t narrow vein quartz lodes (containing visible gold) in a dolerite (the Zoroastrian dolerite) as shown in Figures 4a and 4b. Figure 4b also shows the backfilled No.2 level (which is unusual for a level to be filled, perhaps it contained a quartz "flat"). There are also a number of quartz "flats" that have been found to contain visible gold too at the southern end of the pit as shown in Figure 4c.

**Figure 4. Views of the Zoroastrian Pit**



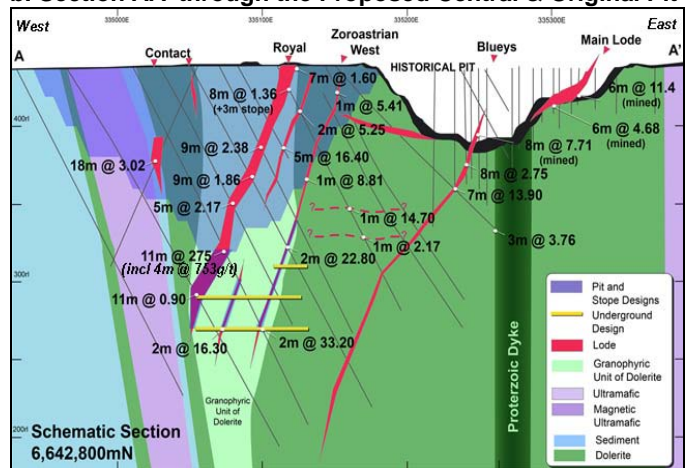
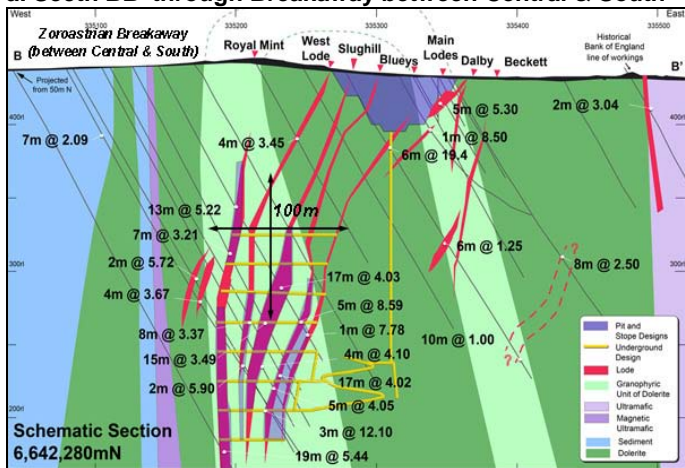
Near the end of the pit's life, Aberfoyle sunk an exploratory decline in the northern end of the pit, based on a spectacular intersection of **9.6m (1.4m true width) at 1746g/t**, but did not continue with it. A common remark about the original Zoroastrian pit is "where is the orebody ?" as there is no obvious structure running along the main axis of the pit. However, there are a series of irregular quartz lodes as shown in Figures 3a and 5a, and more surprisingly they contain specs of visible gold as shown in Figure 5b (as a point of interest, I have visited many open-cuts and not seen a pin-head of visible gold).

**Figure 5. 3d View and Ore Lode Schematic of the Zoroastrian Pit, and Some Zoro Pit visible gold specimens**  
**a. 3d view and ore lode schematic of the Zoroastrian Pit** **b. Some visible gold specimens from the Zoro pit**



However, the current Zoroastrian mine plan is not based on the original narrow vein quartz mineralisation. EXG discovered that when the westerly dipping Zoroastrian lodes pass through a granophyric dolerite unit (coloured light green in the Figures) they blow-out into a relatively thick, mineralised stockwork, as shown in the sections of Figures 6a and 6b, that are located on the plan in Figure 3b.

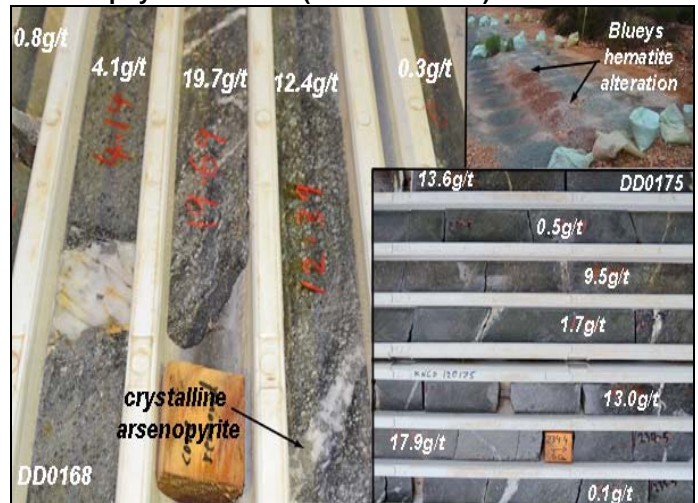
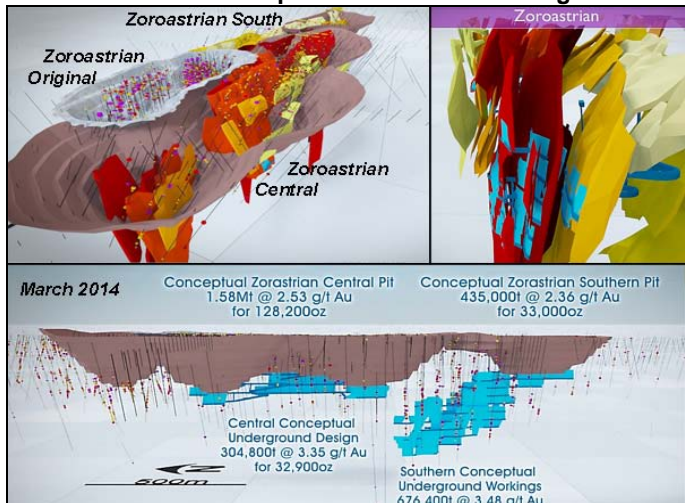
**Figure 6. Sections through Zoroastrian highlighting the Granophyric Unit & Some of the Intersections**  
**a. Sectn BB' through Breakaway between Central & South** **b. Section AA' through the Proposed Central & Original Pit**



As shown in Figure 6a and 6b **there are a number of intersections that are well above the ~2.5g/t reserve** and resource grades, and these higher grade areas are intended to be targeted by the proposed (underground & mining) shown in Figure 7a.

The granophyric drill core is a very distinctive motley-looking unit with sulphides such as pyrrhotite and crystalline (hence non-refractory) arsenopyrite, especially in the quartz veins shown in Figure 7b. Hematite alteration can also be present (as shown inset of the Blueys Lode), although it is apparently usually on the hangingwall or western side.

**Figure 7. 3d Schematics of Proposed Zoroastrian Mining, and Granophyric Drill Core**  
**a. 3d Schematics of Proposed Zoroastrian Mining** **b. Granophyric Drill Core (DD0168 & 0175) & Hem Altern**



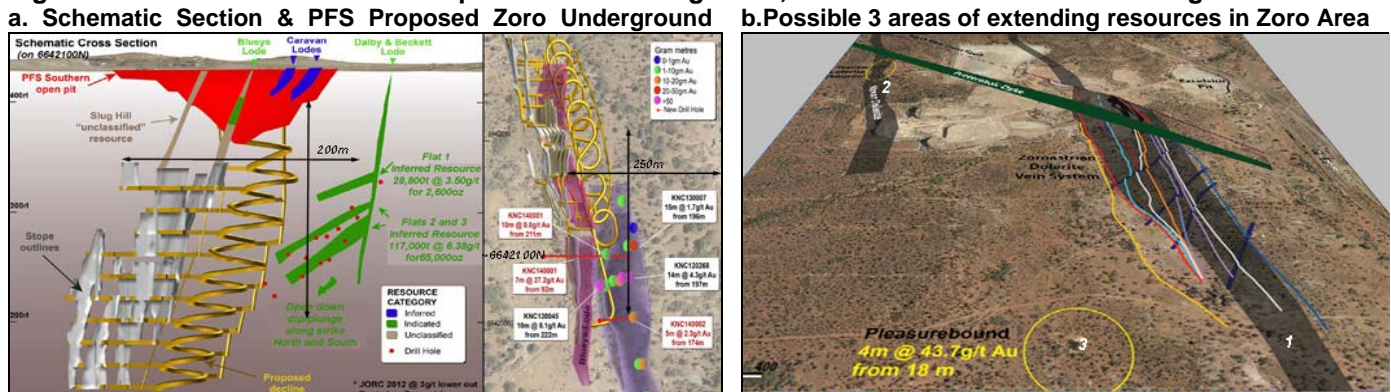
This has resulted in the more detailed Zoroastrian open-pit reserve breakdown and Paddington option comparison, shown in Table 2 (based only on the open-pits).

**Table 2. Excelsior Gold's Open Pit Reserves and Resources per the PFS (excluding the Excelsior pit)**

as at March 2014		Ore Reserves and Resources			Probable Reserves			Paddington Option			Indicated Resources		
at A\$1350/oz		PFS Open-cuts			Tonnes	Grade	Gold	Tonnes	Grade	Gold	Tonnes	Grade	Gold
Deposit	Area	000t	g/t	000oz	Mt	g/t	000oz	Mt	g/t	000oz	Mt	g/t	000oz
Zoroastrian	Central	1576	2.53	128	1507	2.55	124						
	Extended (original)	24	4.61	4	24	4.61	4						
	South	435	2.28	33	419	2.34	32						
<b>Sub-Total</b>	<b>Zoroastrian</b>	<b>2035</b>	<b>2.52</b>	<b>165</b>	<b>1949</b>	<b>2.53</b>	<b>159</b>	<b>4338</b>	<b>2.38</b>	<b>332</b>			
Satellites <5km	Jackorite, Nerrin Nerrin, Big Blow Sth, Lochinvar & Castlereagh	413	2.28	30	411	2.29	30	893	2.20	63			
Satellites >5km	Bulletin South & Eldorado	359	1.92	22	360	1.92	22	653	1.83	38			
<b>Total Reserves</b>		<b>2807</b>	<b>2.41</b>	<b>217</b>	<b>2720</b>	<b>2.41</b>	<b>211</b>	<b>5884</b>	<b>2.29</b>	<b>433</b>			

The current model does not include the original gold-in-quartz mineralisation in the historic pit, which may be mined by narrow-vein underground methods. Upside potential at Zoroastrian, apart from the infill and drop-faulted block north of the NW fault, is perceived to be based on 3 areas shown in Figure 8b: further south along the possibly ~12.5km of strike of the Zoro dolerite; in the poorly tested Navan dolerite further west (which apparently resembles the Zoro dolerite); & the Pleasurebound drill intersection of quartz veins in a granophyric dolerite, amongst old workings to the southwest.

**Figure 8. 3d Schematics & PFS Proposed Zoro Underground, & 3 Possible Areas of Extending Resources**



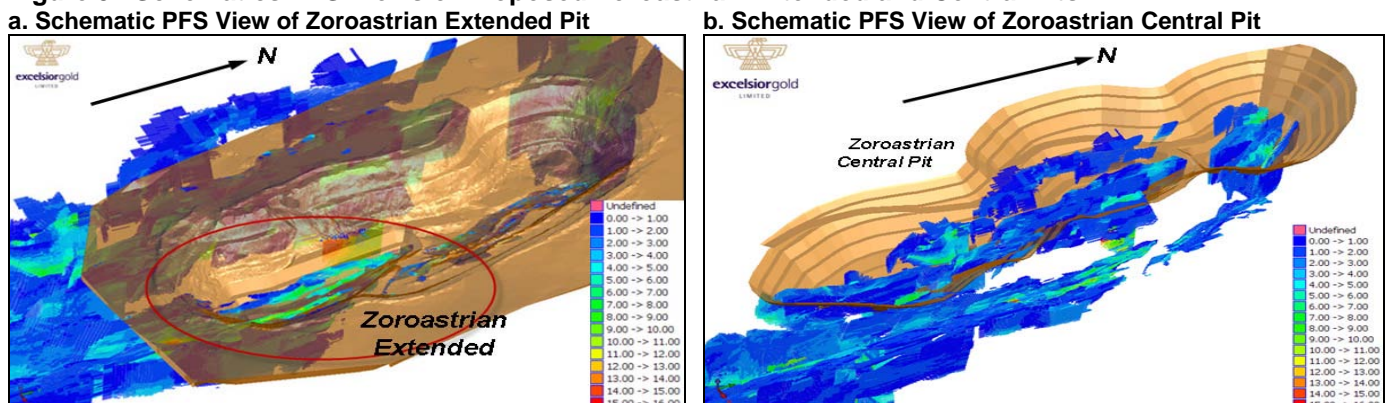
It should be recognised that the Zoroastrian model is still evolving with the conceptual mine models dependent on assumptions applied, such as dilution etc, adjusted by additional drillhole information also shown in Figure 7a. There are also potentially additional reserves and resources from the inferred flats in the southerly infill in the Caravan lode vicinity as shown in Figure 8a, and reported in April 2014.

**Production Scenarios**

The 5-year 0.5mtpa Paddington initial agreement is not dependent on the Paddington mill expansion, and EXG have been notified by NGF that the preference is for oxide/transition material for Paddington to blend with its harder ores. This has resulted in a change from the production route considered under the PFS study (which was initially Zoroastrian South open-pit and then go underground), to focus on Zoroastrian open-cut material, especially as the depth of oxidation in the granophyric zone is ~100m, in fact, Zoroastrian's reserves are ~26% oxide, ~45% transition material.

Depending on the compatibility that the Zoroastrian ore has with NGF's ore and the availability in the Paddington Mill schedule, EXG may be able to supply more than 0.5mtpa (possibly up to 30% more or ~650ktpa). If Zoroastrian's grade averages ~2.5g/t, and a recovery of ~94.5% is achieved (based on the PFS testwork for Zoro oxide/transition ore), then **EXG could produce ~35,000ozpa to 50,000ozpa**. The gold that EXG would be allocated would be based on 20kt sample batches (conducted at least monthly) on the Paddington ROM pad, to determine grade and expected recovery parameters, as the EXG ore is effectively an ore purchase agreement, and would be blended into Paddington's production.

**Figure 9. Schematics PFS Views of Proposed Zoroastrian Extended and Central Pits**



Taking the production route of Zoroastrian Extended's ~24kt @ ~4.6g/t (SR~8:1), followed by Zoroastrian Central's ~1.5mt @ 2.55g/t (SR~16:1) and then Zoroastrian South's 0.4mt @ 2.3g/t (SR~14.5:1, as per the PFS and the ore reserves in Table 2), provides the first four years of 0.5mtpa production. Zoroastrian Extended refers to a depth extension of the original Zoroastrian pit as shown in Figure 9a, with the Zoroastrian Central pit in Figure 9b.

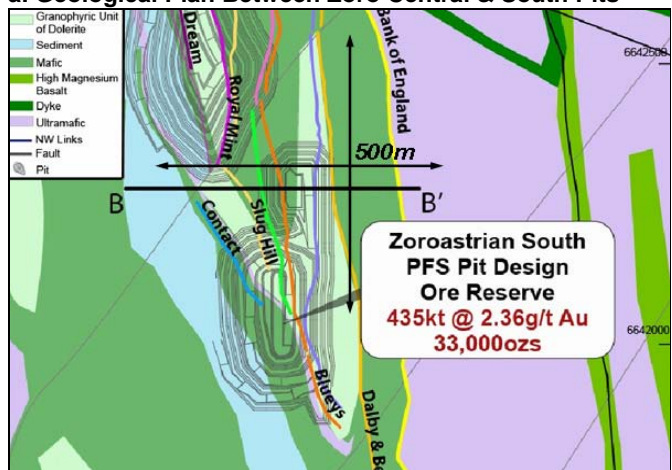
EXG expect the PFS strip ratios in Zoroastrian Central and Southern to reduce from infill and geotech drilling (to try and steepen the proposed walls). The first four years at 0.5mtpa from Zoroastrian, does of course depend on the gold price, because the current reserves are based on a gold price of A\$1350/oz (whereas it is currently ~US\$1340/oz at an A\$ exchange rate of ~US\$0.94 = A\$1425/oz), compared to the Zoroastrian open-pit indicated ore resources of 4.3mt @ 2.4g/t. Open-pit grades of ~2.4g/t are relatively high in the mining industry.

EXG expect the mining of the Zoroastrian pits (Extended, Central and Southern) to identify which lodes appear to have the most promise to be followed underground. The underground at the Central and Southern (and possibly even the original) Zoroastrian pits appears to be currently regarded as additional to the 0.5mtpa, 5 year (potentially renewable) allowance, and amounts to ~1mt @ 3.4g/t as per Table 1 on page 3 of this report, although as shown in Figures 6a and 6b, there are a number of intersections higher than 3.4g/t.

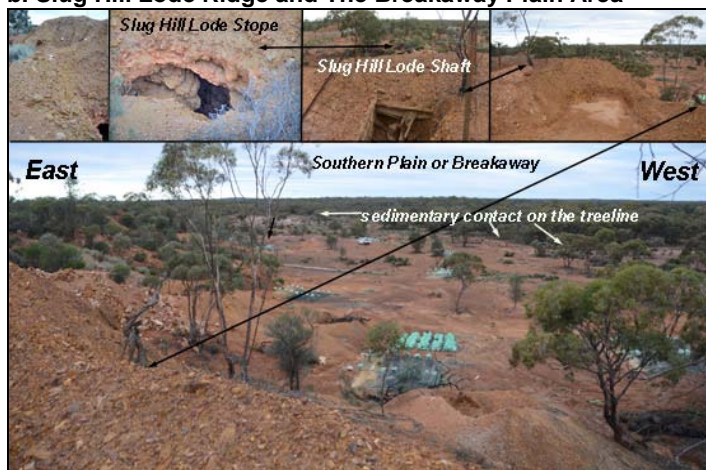
The indicated ore resources have some provision for the link between Zoroastrian Central and Zoroastrian South as shown in Figure 10a, which is referred to as the Breakaway, because there is an elevation change from the Slug Hill Lode along the ridge to the Southern Plain below as shown in Figure 10b, (note : Section BB' is Figure 6a in this report).

**Figure 10. Geological Plan Between Zoro Central & South Pits, & Slug Hill Lode Ridge above The Plain**

**a. Geological Plan Between Zoro Central & South Pits**



**b. Slug Hill Lode Ridge and The Breakaway Plain Area**



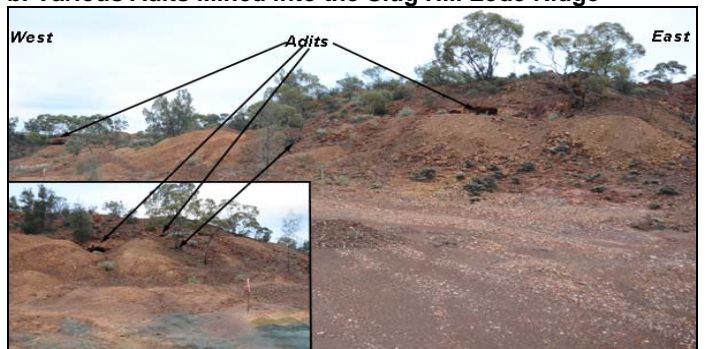
The position of the Caravan Lodes which are not included in the current resources (they were identified after them) is shown in the schematic section of Figure 8a, and apparently they include a supergene zone, as shown in Figure 11a. The Caravan Lodes appear to be amongst a clump of minor old workings.

**Figure 11. View of Drilling of the Caravan Lodes, and Various Adits Mined into the Slug Hill Lode Ridge**

**a. View of Drilling of the Caravan Lodes**



**b. Various Adits Mined into the Slug Hill Lode Ridge**



When viewed from the Plain, there a number of adits that have been mined into the Slug Hill Lode Ridge at various times as shown in Figure 11b.

And then there are the SMPs which based on Table 2 have ~0.75mt @ 2.1g/t of ore reserves (or ~1.5mt @ 2.0g/t of indicated ore resources), and that does not include all of them, or the significant upside potential that they may contain, or the greenfields exploration targets. *It can be seen that EXG appears to be capable of providing ~0.5mtpa for far greater than 10 years (and still exclude Excelsior's resources).*

## SMPs (Small Mining or Satellite Projects / Prospects)

EXG has a number of SMPs or small mining projects which were planned to "top up the spare PFS mill capacity" but could instead form part of the 500ktpa allocation (or an extended allocation) assuming that an Agreement is made. Of these SMPs is a central clump of them associated with the NE/SW striking Black Flag Fault (BFF) structure. Cross-cutting NE/SW structures are known to have a mineralising influence over the Bardoc goldfield and region.

**Table 3. Excelsior Gold's SMP or Satellite Resources as at December 2013**

as at December 2013		Indicated			Inferred			Total Resources		
SMP or Satellite Resources		Tonnes	Grade	Gold	Tonnes	Grade	Gold	Tonnes	Grade	Gold
ERA Grouping	Deposit	kt	g/t	000oz	kt	g/t	000oz	kt	g/t	000oz
Outliers	Bulletin South	291	2.1	20	230	2.4	18	521	2.2	37
	Leilani	52	2.3	4	67	1.2	3	119	1.7	6
	Windanya				360	1.5	17	360	1.5	17
Central Group	Eldorado (1)	362	1.6	19	67	1.2	3	429	1.5	21
	Big Blow North				120	1.5	6	120	1.5	6
	Big Blow South	133	3.6	15	192	2.0	12	325	2.6	28
	Castlereagh (1)	149	2.0	9	9	1.4	0	158	1.9	10
	Jackorite (1)	89	2.7	8	29	1.8	2	118	2.5	10
Southern Group	Nerrin Nerrin	74	3.7	9	107	2.4	8	181	2.9	17
	Parkerville (1)	97	1.9	6	52	1.4	2	149	1.7	8
	Duke North	644	1.3	27	350	1.4	16	994	1.3	42
	Duke South				226	1.4	10	226	1.4	10
Northern Group	Talbot North (1)				662	1.7	36	662	1.7	36
	Ellen Pearce (1)				35	1.8	2	35	1.8	2
	Lochinvar (1)	448	1.7	25	60	1.7	3	508	1.7	28
	Navan (1)				76	1.6	4	76	1.6	4
	Ophir				75	1.9	5	75	1.9	5
Far North	Three Star (1)				92	2.3	7	92	2.3	7
	Vettersburg South				552	1.5	26	552	1.5	26
<b>Total SMPs</b>		<b>2,339</b>	<b>1.9</b>	<b>141</b>	<b>3,622</b>	<b>1.7</b>	<b>193</b>	<b>5,961</b>	<b>1.7</b>	<b>335</b>

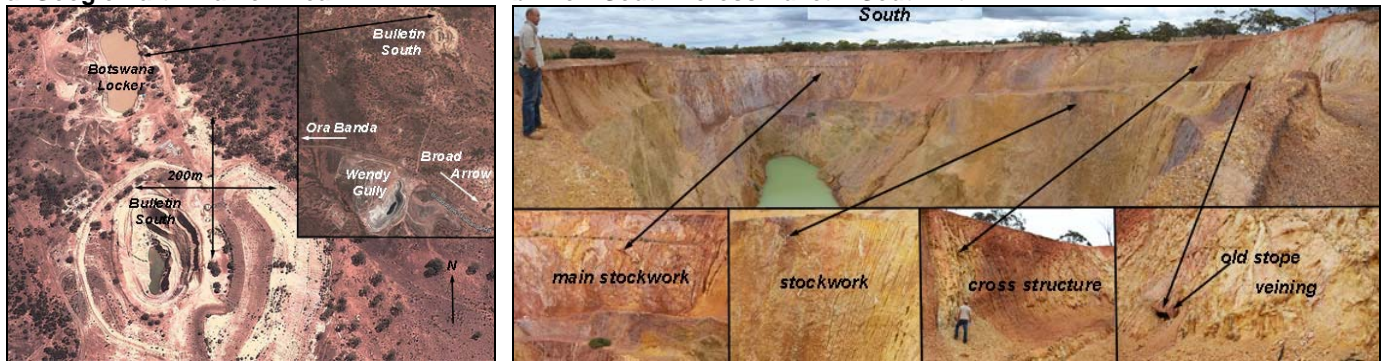
Note 1 : Based on JORC 2004 estimates

In Table 3, we have grouped the resources according to areas, different to those in the current EXG Resources table that are "based on distances from the Zoroastrian pit", as they appear more likely to become "based on distances from the Paddington Mill". For this report we have focused on the "Outliers" and the "Central Group", as we mostly visited those deposits.

### Outliers (Southern BFF region)

One of the largest and highest grade SMPs is **Bulletin South** with a grade of ~2.2g/t and an ore resource of ~37koz (per JORC 2012) as shown in Table 3, with an SR of only ~7:1 in its PFS. Bulletin South was apparently mined to ~50m deep in the 1990s as additional feed for Paddington at lower gold prices and reputedly had a higher reconciliation between ozs mined compared to expected reserves.

**Figure 12. Google Earth Plan of Bulletin South & Botswana Locker, & View South Across Bulletin South Pit**  
a. Google Earth Plan of Area      b. View South Across Bulletin South Pit



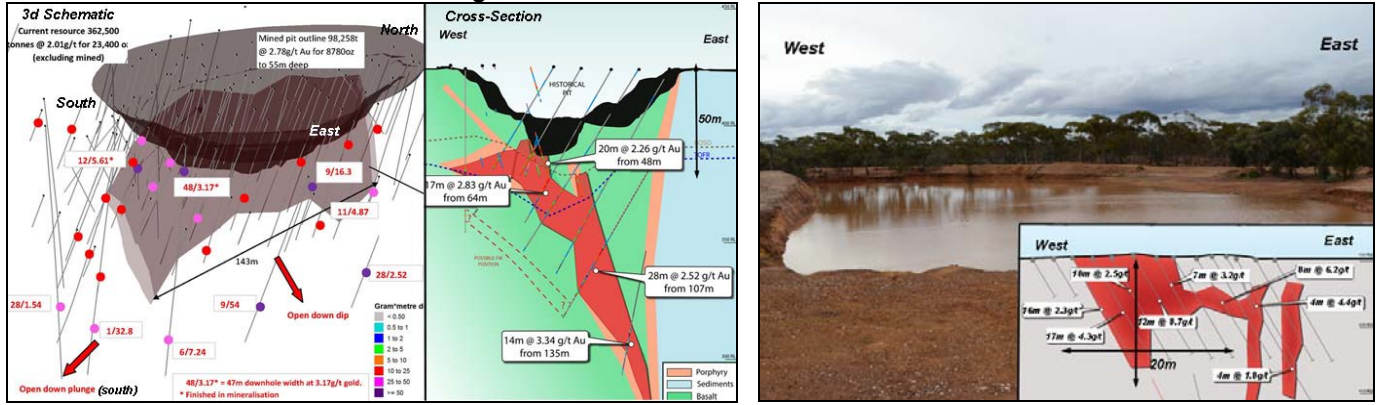
As shown in Figures 1b and 12a, Bulletin South lies on the BFF structure NE of Wendy Gully (owned by NGF / Paddington) which started from mining a small stockwork at its southerly end and developed into a >200,000oz open-cut and underground operation. The Bulletin South mineralisation consists of a quartz-sulphide stockwork veined in porphyry and bounded on both margins by steep east dipping faults.

The pit does contain some very distinctive stockworks and cross structures within the pit walls that may not have been part of the main mineralisation, as shown in Figure 12b. There are also some reasonably thick widths with grades ~2.5g/t over ~17m to 28m as shown in the cross-section in Figure 13a.

Located ~100m north along the BFF structure from Bulletin South lies the **Botswana Locker** enigma, which despite its proximity to Bulletin South, is almost completely full of water as shown in Figure 13b (and hence excluded from resources). The pit itself is ~20m deep and was mined in the late 1990s, with mineralisation similar to Bulletin South (though reputedly with some very high grades in the quartz veins) and the water is fresh, although what it is being fed from (so as to remain full) is unclear. Botswana Locker also has some encouraging intersections of >2.5g/t & >5g/t as shown in Figure 13b, and limited drilling by EXG intersected 11m @ 2.9g/t from 23m below surface, north of the current water-filled pit.

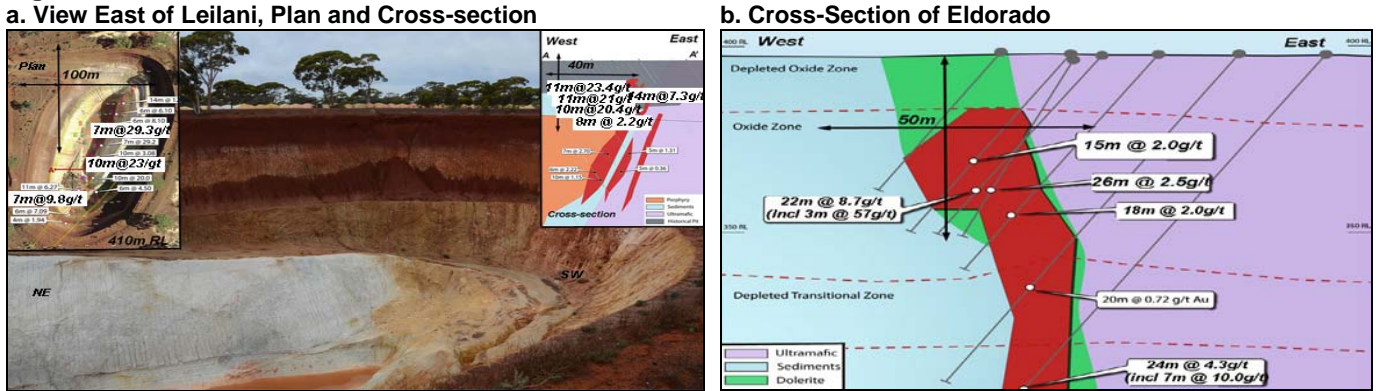


**Figure 13. 3d Schematic & Cross-section through Bulletin South, View & Cross-Section of Botswana Locker**



**Leilani** is located ~3km further NE on the BFF from Bulletin South as shown in Figure 1b, and ~65,000t of soft oxide @ 5.5g/t for 11,500oz were mined in 2003 by Placer to a depth of ~40m as shown in Figure 14a. Leilani was a covered blind deposit with no historical workings that was discovered by soil geochem and had some significant grades (due to a supergene zone, since mined as shown in inset in Figure 14a). The mineralisation was associated with a porphyry, but subsequent drilling apparently did not encounter material grades, and there are some quartz veins in the ramp of the pit. Leilani currently has a resource of 119kt @ 1.7g/t, however, there is an indicated resource of 52kt @ 2.3g/t.

**Figure 14. View East of Leilani, Plan and Cross-section; and Cross-Section of Eldorado**

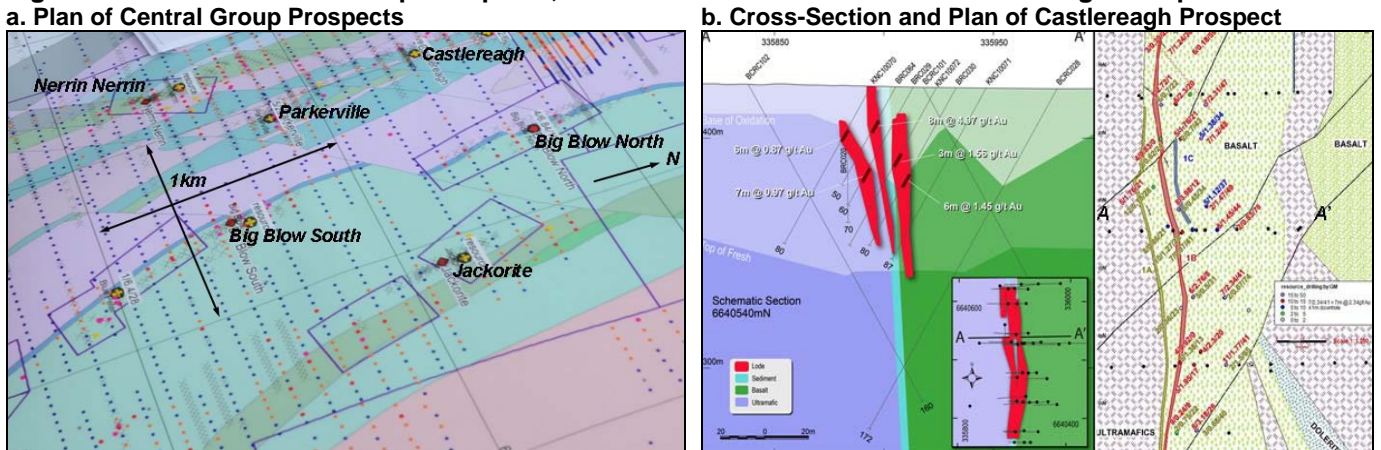


Although on a different structure as shown in Figure 1b, and with apparently relatively uninteresting indicated resource grades in Table 3 of only ~1.6g/t, **Eldorado** is often "grouped" in with Bulletin South. The mineralisation in **Eldorado** has been described as a poorly understood quartz ladder array within a dolerite, and is located on a classic NW/SE structure as shown in Figure 15b, with some potentially interesting relatively deeper intersections such as 2m @ 25.3g/t from 67m & 3m @ 11.9g/t from 82m, apart from the thicker width intersections higher up. Given its revised proximity relative to the Paddington plant, it may become a higher priority exploration target.

**Central Group (Northern BFF region)**

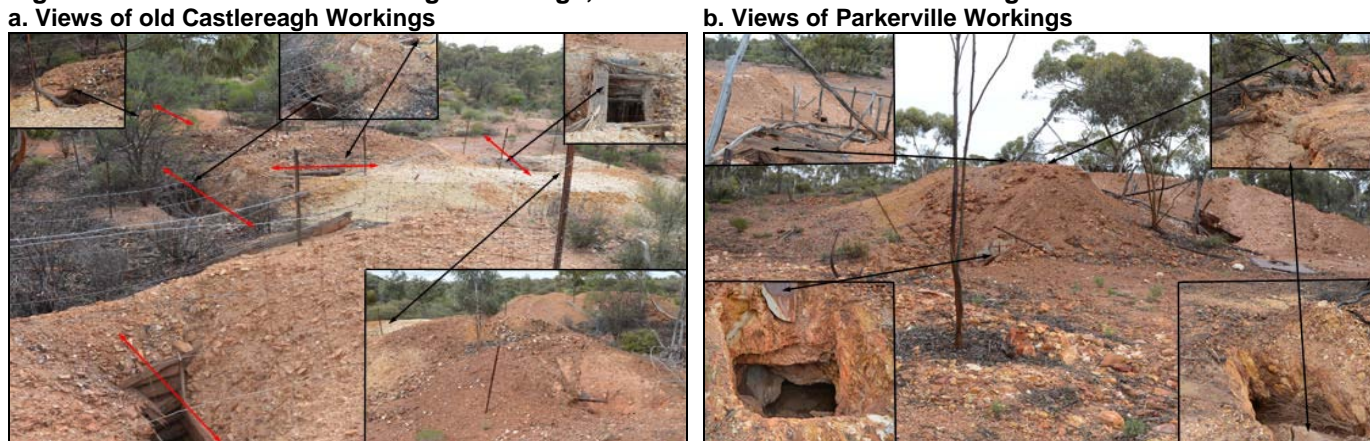
The Central Group comprises of a cluster of prospects all within ~1.5km from each other (Big Blow N & S, Castlereagh, Jackorite, Nerrin Nerrin and Parkerville) around the northern end of the BFF as shown in Figure 1b and in more detail in Figure 15a.

**Figure 15. Plan of Central Group Prospects, and Cross-section and Plan of Castlereagh Prospect**



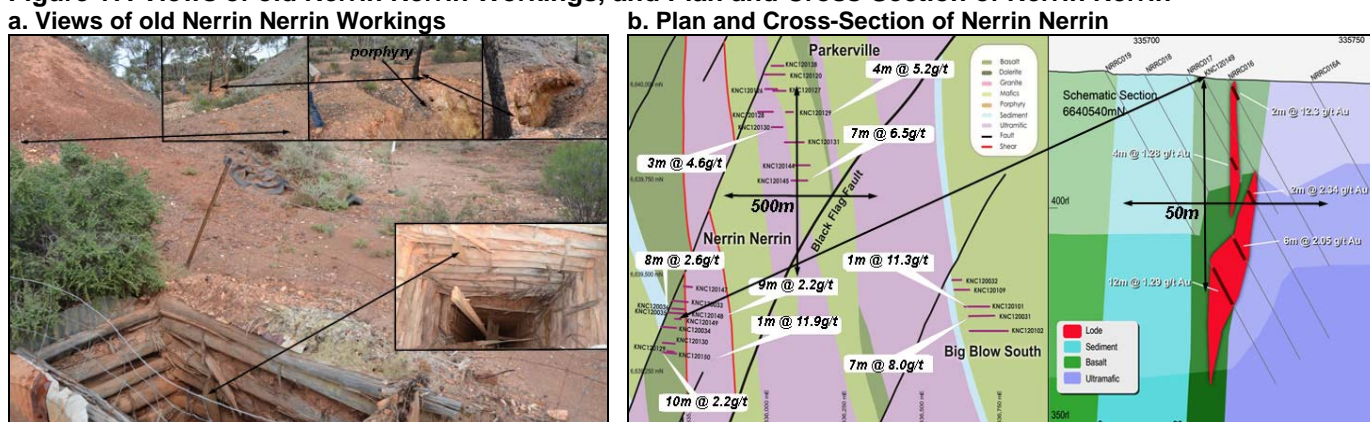
The **Castlereagh** prospect has been interpreted as consisting of 3 lodes along a sheared basalt / ultramafic contact as shown in Figure 15b, although there may also be cross-cutting structures as evidenced by the shafts in Figure 16a (the long axis of a shaft usually equates to the strike of the orebody). Mineralisation is currently thought to pinch-out at depth, but remains open on strike, and may even extend ~600m south to Parkerville.

**Figure 16. Views of old Castlereagh Workings, and Views of Parkerville Workings**



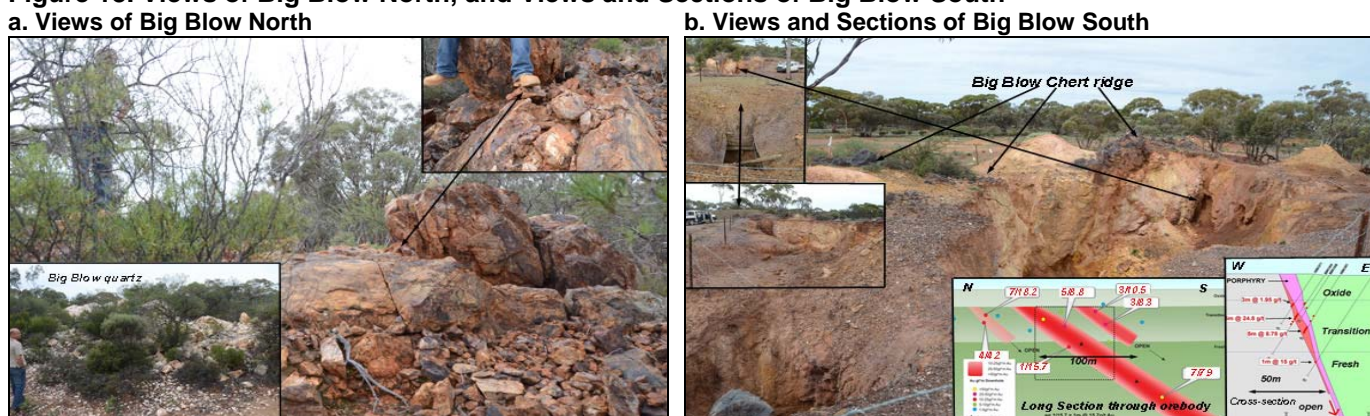
As shown in Figure 16b, there is a significant stope under the mound that appears to extend through to a partially filled in stope further away (shown inset on the RHS of the Figure), with a structure still visible. **Parkerville** had some deeper historical intercepts such as 5m @ 28.7g/t (from 40m), 15m @ 3.8g/t (from 96m) & 5m @ 15.7g/t (from 130m). Parkerville has a current resource of 149kt @ 1.73g/t for 8.3koz.

**Figure 17. Views of old Nerrin Nerrin Workings, and Plan and Cross-Section of Nerrin Nerrin**



**Nerrin Nerrin** as shown in Figures 1b and 15a is hosted within the Zoroastrian dolerite (which apparently also resembles the Paddington dolerite), and its mineralisation is associated with a dilation jog of a NE/SW cross-structure. There are also a series of steeply dipping porphyry hosted stopes as shown inset in Figure 17a, with the perceived main mineralisation shown in the cross-section in Figure 17b. Nerrin Nerrin apparently had a ~110m deep old main shaft, also shown inset in Figure 17a.

**Figure 18. Views of Big Blow North, and Views and Sections of Big Blow South**



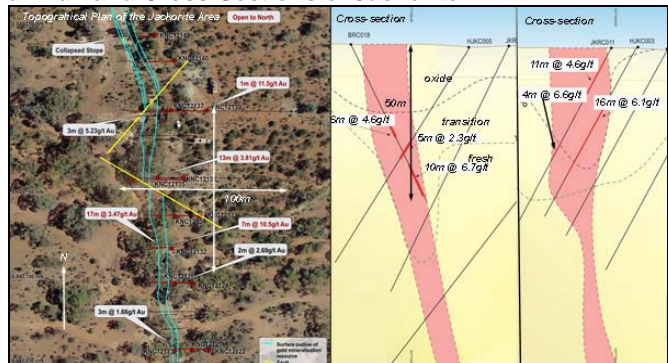
The term "Big Blow" often means a hill or area of massive quartz, and at Big Blow North there is a "blow" of quartz on a hill as shown inset in Figure 18a, however, the mineralisation is actually further north within the Big Blow Chert that extends on strike for ~25km. Some intersections at **Big Blow North** have been 1m @ 15.3g/t & 1m @ 17.3g/t. In contrast **Big Blow South's** mineralisation is associated with quartz veining in and along the porphyry margins on contact with the Big Blow Chert unit as shown in Figure 18b.

As shown in the cross-sections inset in Figure 18b, Big Blow South comprises of a fairly wide, steeply dipping, porphyry capped by the hangingwall chert, in which the grade appears to plunge south in a series of parallel shoots, with an intersection of 7m @ 8.0g/t from 129m, confirming the trend.

**Jackorite** as shown in Figure 15a is the furthest east within the "Central Group" of prospects, and has indicated and inferred resources of 118kt @ 2.5g/t for ~9.5koz, with its mineralisation having been described as gold in quartz veining spread over a ~15m to 20m wide shear zone in basalt. Jackorite is spread over a large area of old workings with various stockpiles for which the plan shown in Figure 19a does not really do it justice. There are also old workings including stopes over a zone of porphyry.

**Figure 19. Plan, Cross-Sections and Views of Jackorite**

**a. Plan and Cross-Sections of Jackorite**



**b. Views of Jackorite**



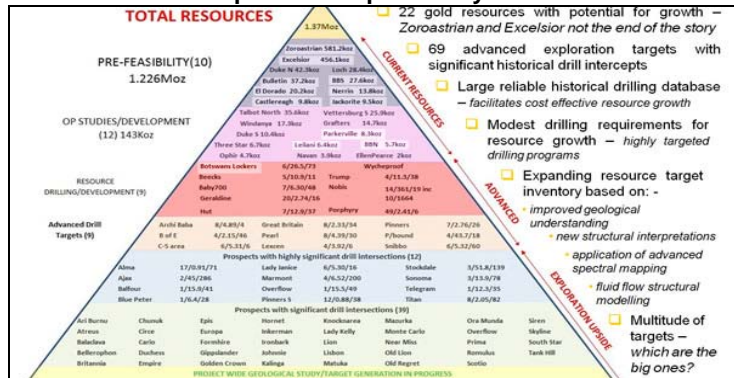
The perceived mining sequence (based on NPV) for the SMPs was Jackorite, Big Blow South, Castlereagh and then Nerrin Nerrin. Big Blow North, being chert may be too hard (from a BWI/hardness viewpoint). Nerrin Nerrin was thought to possibly benefit from further exploration with a gravity survey.

**Exploration Upside**

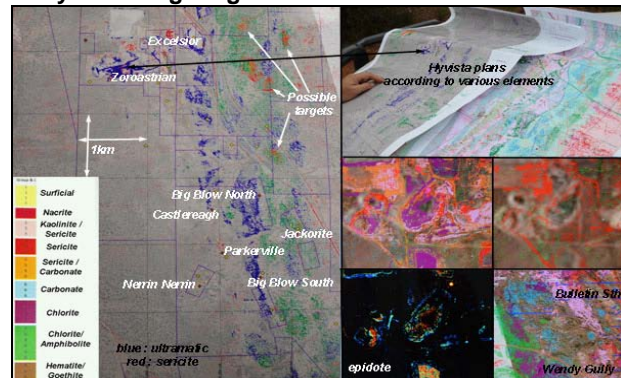
EXG has a simply staggering pipeline of drill-ready projects as shown in Figure 20a with with ~10 targets in the PFS, another ~20 in development and a further >50 drill-ready "brownfields" projects that are mostly associated with old workings. However, there is also another group of potential targets, namely the "greenfields" prospects.

**Figure 20. EXG's Current Exploration Pipeline / Pyramid, and Hyvista Targeting**

**a. EXG's Current Exploration Pipeline / Pyramid**



**b. Hyvista Targeting**



EXG has interpreted its tenement areas using a Hyvista package. Hyvista applies a hyperspectral scanner to provide maps and databases according to various elements. For a known open-cut or area, the trace elements from that area can be used as a base and then applied to other areas of a map that has similar host rocks, which has resulted in a number of new target areas as shown in Figure 20b.

**Financial Considerations**

The Macquarie financing package to complete a DFS that was reported in May 2014 and detailed on page 2 of this report, provides ideal finance for the initial infill and geotech drilling EXG want to do to improve the resources / reserves and ideally reduce the expected strip ratios in the Zoroastrian Central and Southern pits. The second \$2m tranche plus the \$3m equity raised (as part of the second tranche requirements) would enable completion of the mine design and ore reserve studies, plus an expected ~\$3.5m on site establishment in MQ 2015, **such that gold production could commence by JQ 2015.**

EXG would of course require additional finance / mine working capital of possibly ~\$8m and the \$12.5m Mill refurbishment requirement as per the agreement. However, tax should not be initially incurred, as EXG had **assessed tax losses of ~\$10.4m** (as at 31 December 2013). If a significant discovery is made (perhaps amongst the SMPs) or extensions to Zoroastrian, EXG could still have its own 0.5mtpa to 1.0mtpa plant, and would have the advantage of a then established mining team.

## Additional Exploration Upside Potential

In addition to the exploration targets described in the report, and the potential extensions to Zoroastrian described on page 6 of this report, it was noticeable at a number of the prospects that we visited that porphyries (apparently often containing quartz veining) had also been mined separate to what was perceived to be the main mineralisation, and could provide an additional source of ore.

## Management

### Board of Directors

**Peter Bird – Non-Executive Chairman** since 2011. Peter is a geologist with over 20 years' experience in covering a wide range of roles and corporate industry knowledge. Peter held senior underground geologist positions with WMC before becoming a leading gold broking analyst. Peter subsequently held senior executive roles in Newcrest and Normandy relating to investor relations and corporate matters. Peter is also Managing Director of Heemskirk Consolidated Ltd.

**David Hamlyn – Managing Director** since 2010. David is a geologist with over 35 years' experience in a broad range of exploration, mine management and corporate roles. David has held senior exploration, Resident Manager and General Manager positions for a number of companies in the Kalgoorlie region since 1992, in addition to various Executive Director positions.

**David Potter – Technical Director** since 2011. David is a geologist and mineral economist with over 20 years' experience in a range of commodities including extensive gold exploration and mine development with Resolute, Summit, Delta Gold and Placer. More recently David has consulted to a number of private and listed companies.

**Nicholas Ong – Commercial Director and Company Secretary** since 2011. Nicholas is a Chartered Secretary and was a Principal Adviser to the ASX involving listing rules compliance, the JORC Code and the admission of companies into the ASX's official list.

### Senior Management

**Bradley Toms - Exploration Manager** since 2012. Bradley is a geologist with over 24 years' experience of which 15 years has been in WA's NE Goldfields. Bradley initially worked underground and later as a Project Geologist on resource definition at KCGM's Super Pit. Bradley held a number of senior exploration and management roles at Centaur's Mt Pleasant and Ora Banda operations, which are adjacent to EXG's tenements.

### Chart of Excelsior Gold Limited (July 2013 to July 2014) (Source : [www.yahoo.com](http://www.yahoo.com))

EXG has traded in a fairly narrow range mostly between 7c and 12c for the past year...

...and may now be waiting for the potential outcome of the August 2014 Agreement



### Disclosure

Excelsior Gold 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 Excelsior Gold 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 Excelsior Gold Limited.

### Disclaimer

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