Gold Fields Australia Site Visit: Agnew/Lawlers Gold Mine

JASON SANDER
General Manager
14th July 2014

Forward looking statements

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In particular, the forward looking statements in this document include among others those relating to the Damang Exploration Target Statement; the Far Southeast Exploration Target Statement; commodity prices; demand for gold and other metals and minerals; interest rate expectations; exploration and production costs; levels of expected production; Gold Fields' growth pipeline; levels and expected benefits of current and planned capital expenditures; future reserve, resource and other mineralisation levels; and the extent of cost efficiencies and savings to be achieved. Such forward looking statements involve known and unknown risks, uncertainties and other important factors that could cause the actual results, performance or achievements of the company to be materially different from the future results, performance or achievements expressed or implied by such forward looking statements. Such risks, uncertainties and other important factors include among others: economic, business and political conditions in South Africa, Ghana, Australia, Peru and elsewhere; the ability to achieve anticipated efficiencies and other cost savings in connection with past and future acquisitions, exploration and development activities; decreases in the market price of gold and/or copper; hazards associated with underground and surface gold mining; labour disruptions; availability terms and deployment of capital or credit; changes in government regulations, particularly taxation and environmental regulations; and new legislation affecting mining and mineral rights; changes in exchange rates; currency devaluations; the availability and cost of raw and finished materials; the cost of energy and water; inflation and other macro-economic factors, industrial action, temporary stoppages of mines for safety and unplanned maintenance reasons; and the impact of the AIDS and other occupational health risks experienced by Gold Fields' employees.

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Agnew/Lawlers Gold Mine

Location

- Located in the Eastern Goldfields Province of the Archaean aged Yilgarn Craton
- 1,020km NE by sealed road from Perth
- 380km north by sealed road from Kalgoorlie
- Full mining and processing facilities
- Fly in / Fly out from Perth – reside in Leinster
- 8 days on / 6days off roster

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I'm Jason Sander, the General Manager of Agnew/Lawlers. On my right here is Peter Johansen. Peter Johansen is the Mineral Resource Manager for Agnew. Next to him is David Thornton the Mining Manager. Next to David is Dayna Dankbaar. She is our HR Superintendent. Next to Dayna is Michael Mead. Michael Mead is our Sustainable Development Superintendent. Next to Michael is Amanda Swart. Amanda is our Business Applications Superintendent. And finally next to Amanda is Neil Lester. Neil Lester is our Processing and Engineering Manager.

This is where we are in regards to the other mines. Darlot is just there, Granny Smith is there, Kalgoorlie and St Ives. And Perth where you flew up from this morning. All our people are fly in/fly out or reside in Leinster. That is probably one of the advantages of Agnew. You've got the option of doing fly in/fly out or living in town, especially if you've got a young family it is quite positive in that regard. Our rosters vary between 8/6 and 8/6 - 4/3 combinations.

Agnew/Lawlers Gold Mine

Location

- Agnew Mill (EMU Mill) located 25 km SW of Leinster
- Waroonga underground mine located adjacent to the Agnew Mill
- New Holland underground mine located 2km NW of Agnew Mill
- 78,547ha granted tenements (Including Lawlers purchase of ~27,000ha)
  - 100 mining leases
  - 18 exploration licences
  - 27 prospecting leases
- Tenements focused on the northern portion of the Norseman-Wiluna Greenstone Belt, ~35km north and south and ~25km SE of the Agnew Mill

On the whole we have 78,000 hectares of leases with the inclusion of 27,000 hectares from the acquisition of the Lawlers leases.

Agnew/Lawlers Gold Mine

History

1894	Patrick Lawlers' prospecting party finds gold
1896	Lawlers town site gazetted
1904	Waroonga Mine opened
1936	Agnew town site gazetted
1976	WMC purchases Waroonga Leases and Emu Mine
1984	Forsayth NL purchases Great Eastern Lease
	Modern open pit mining commences at Waroonga
1986	Modern open pit mining commenced at Lawlers
1990	Genesis New Holland discovered
1992	Plutonic Resources purchase Forsayth NL
1998	Homestake acquires Plutonic Resources
2001	**Gold Fields acquires Agnew from WMC**
	Barrick merges with Homestake
2002	Kim lode discovered
2012	FBH discovered
2013	**Gold Fields purchases Lawlers from Barrick**

Agnew Produced 2.4 Moz Since Acquisition From WMC In 2001

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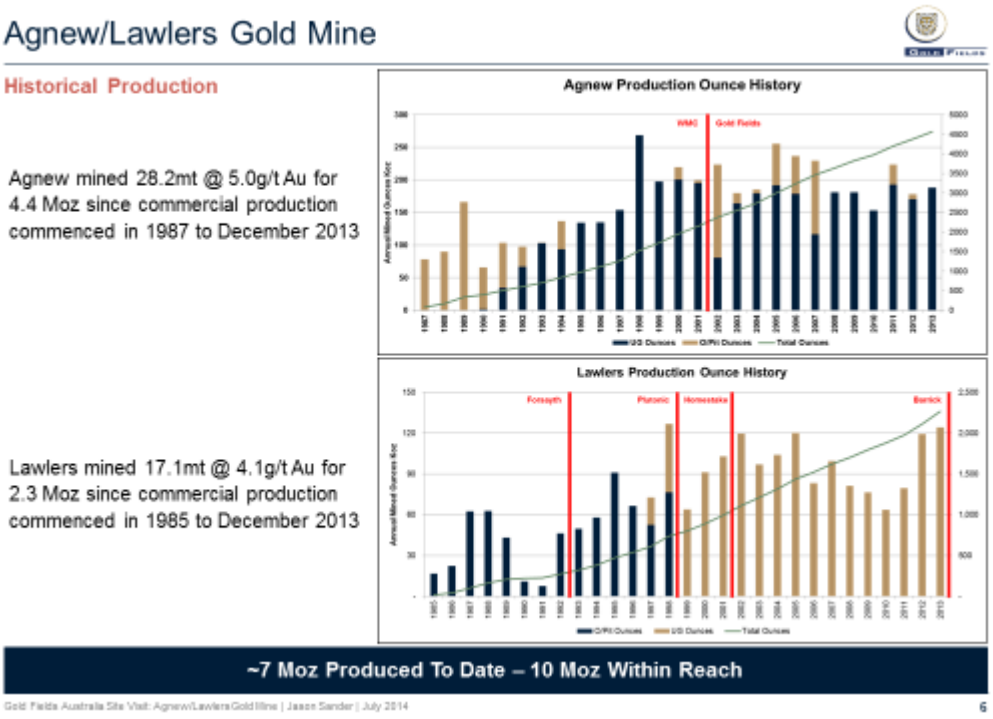
Here is some history. Gold was found here a year after gold was found in Kalgoorlie in 1894. Both Lawlers and Agnew have been around for a long time. Gold Fields acquired Agnew from WMC back in 2001 and Gold Fields purchased Lawlers from Barrick as of 1st October 2013.



On the Agnew side we have produced 2.4 million ounces since taking over from WMC on 1st December 2001. I will get Peter Johansen to describe this slide to you.

At the top the historical production since 1987 when commercial open pit mining commenced. Production of 28.2 million tonnes at 5g/t, 4.4 million ounces. And Lawlers, 17.1 million ounces, 2.1 million ounces from 1985. Lawlers has had a number of different owners since 1986. Forsyth were the owners until 1992, Plutonic through to 1998, Homestake for a brief period of time until the merger with Barrick up until 2013 until it was purchased by Gold Fields. Obviously just the one change from the WMC days to Gold Fields back in 2001. And 7 million ounces produced from the combined sites today.

Agnew/Lawlers Gold Mine

Historical Production

Lawlers District: 1894 - 2013

Lode	Tonnes Kt	Grade g/t	Ounces Moz
Pre 1985	951	12.9	0.39
Agnew	28,158	5.0	4.56
Lawlers	17,058	4.1	2.27
Total	**46,167**	**4.9**	**7.23**

Waroonga/New Holland: 1894 - 2013

Lode	Tonnes Kt	Grade g/t	Ounces Moz
Pre 1985	359	7.8	0.09
Waroonga	10,516	6.4	2.15
New Holland	9,413	5.3	1.62
Total	**20,288**	**5.9**	**3.86**

Waroonga/New Holland production is around 3,000oz per hectare to date

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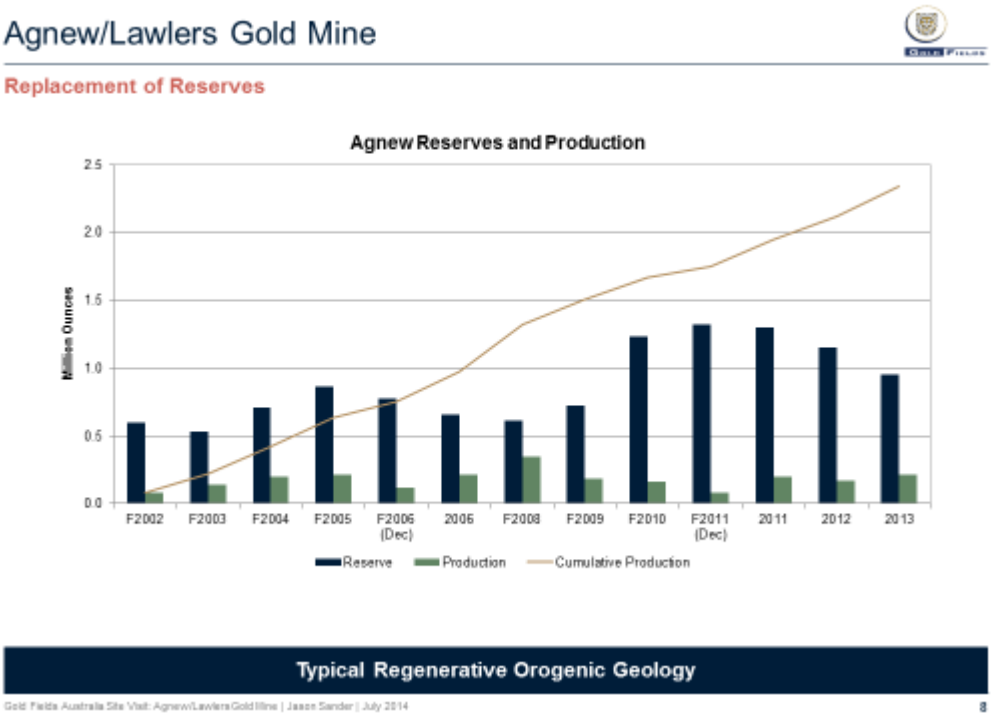
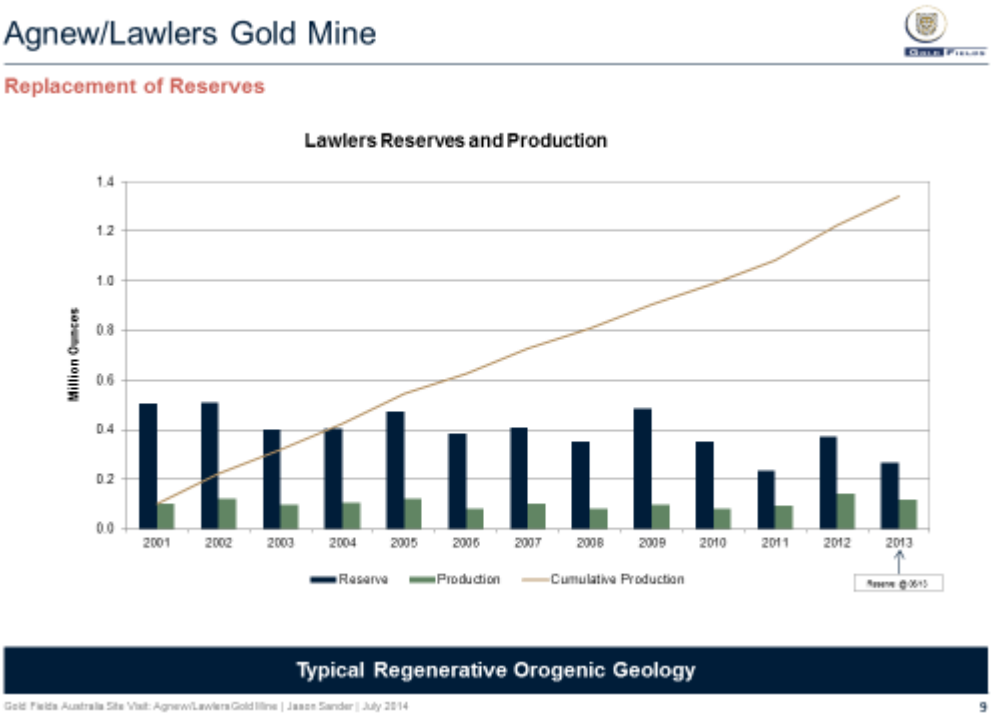
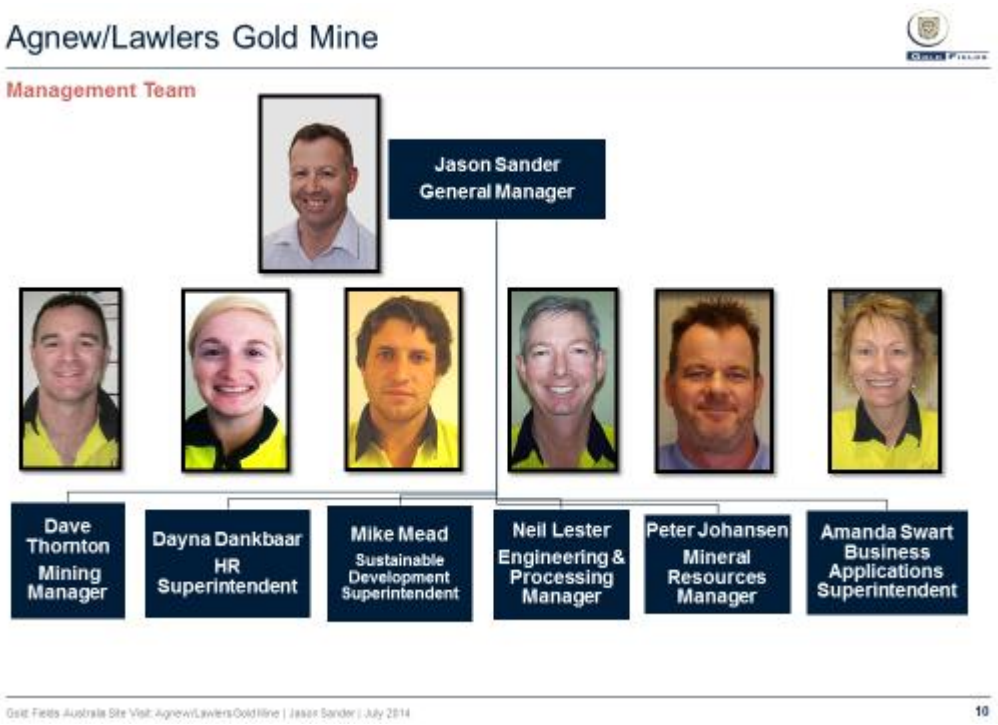
The Lawlers district as a whole is 7.23 million ounces. Just from the two main mines, so Waroonga on that side and New Holland on this side, there has been near on 4 million ounces. Later on in the presentation there is a small box which I've drawn which is roughly 1,250 hectares, so about 3,000 ounces per hectare.



Reserve replacement over the course of time. At both sides essentially both sites have had a three year mine life since 1986. So reserve replacement has been quite positive and quite continuous. Other than the kick-up in F2010 when there was quite a significant amount of drilling on the Kim Lode at depth, this is where we lifted above the three years mine life; you can see they are quite consistent. Obviously a few little dips here and there, but nonetheless fairly typical of the area and probably of most orogenic gold deposits.



For Lawlers again quite consistent and the same scenario with regards to the three year life of mine since 1986.



So here is everyone here who I have just introduced. Myself, Dave, Peter and Neil, Amanda, Dayna and Mike.

Agnew/Lawlers Gold Mine

Amanda Swart – Business Applications Superintendent

- Diploma of Accounting
- 8 months at Agnew
- Previously Commercial Manager Leighton Contractors, Admin Supt Dominion Gold Ops, prior roles with Vale Australia, Origin Energy, Mt Magnet Gold, Plutonic Resources, Deeson Heavylift.

Dayna Dankbaar – HR Superintendent

- B. Mngt. (HR)
- 3yrs 9mths at Agnew
- Prior work experience in Australia with Harrier, Poyry Pty Ltd, Abi Group, Worley Parsons and Martens and Heads (New York).

Mike Mead – Sustainable Development Superintendent

- BSc (Environmental Science) / BSc. Marine Science
- 12 months at Agnew
- Prior experience with Consolidated Minerals Woodie Woodie Project, and DEC (WA)

MANAGEMENT TEAM

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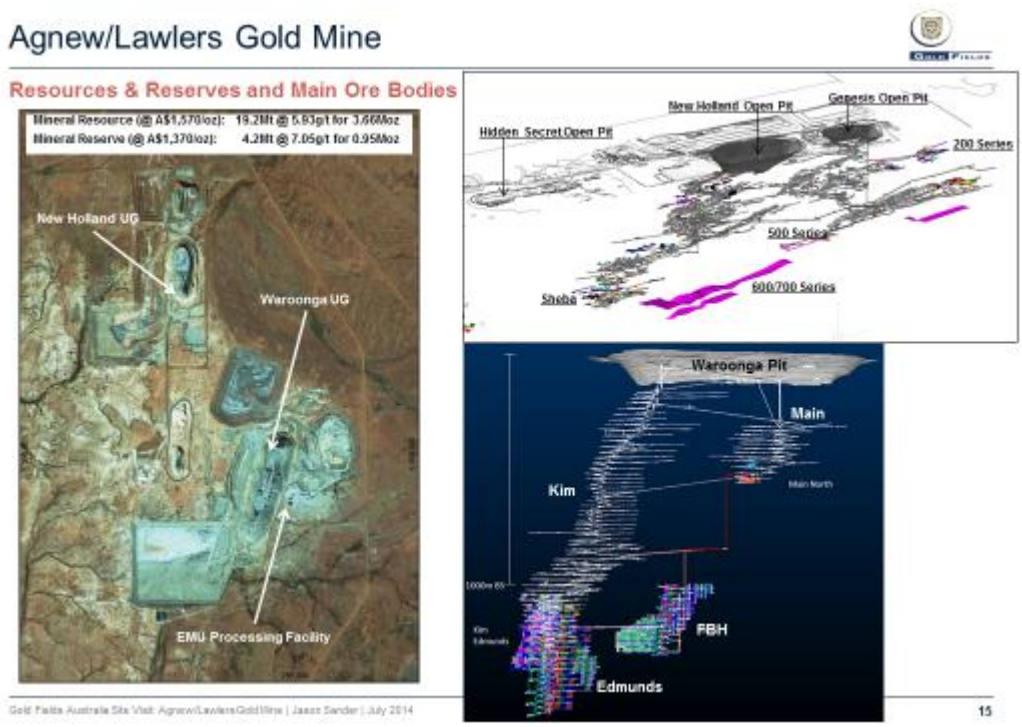
What did we buy?

So what did we buy in terms of the acquisition of the Lawlers Gold Mine? We thought it was a strong strategic fit for us. There was a good team and focussed operators here at the New Holland site. We've got a mature and well-functioning mine site that we've been able to combine. In terms of the synergies, the big potential always was the one mill, one camp, the power in between both operations. Contract consolidation is more to do with our global contracts that we have. We have rationalised the mine site in terms of the people. And we've definitely got significant resource extension brownfields. Currently we are focussing on this New Holland Waroonga complex area, and we are doing that because there is so much potential here.

Our challenges have always been to embed the full value of both sites. You can't do these things overnight. It takes time. I guess we've got two good ore bodies right here, Waroonga and New Holland, which have plenty of upside potential. We will get to that later. Introduce the Gold Fields operating franchise, how Gold Fields operates and how our core business is in terms of our DNA. And exploration spend and lead time required in order to realise all this exploration potential, that is the key thing that we need to focus on and we've got steps in place.



The reserve and resources as they stood at the end of 2013 is a 3.66 million ounce resource and a reserve of just under 1 million. That was based on numbers from the New Holland side from the middle of 2013 and at the end of 2013 for the Waroonga operation. And I guess just highlighting for the most part where those resources and reserves are. At the top you've got the New Holland operation and the reserve and resources are in all of those series of lodes. That still remains the case as we speak. We're working on those.

And then down at Waroonga we have reserves associated with Kim, Edmunds and FBH down here, and a small number of ounces in the upper part of Main. Resources for the Agnew or Waroonga side also include a number of other areas up and down the main mine of workings which stretches from Waroonga down to Songvang, which you will see a little later on in the presentation.

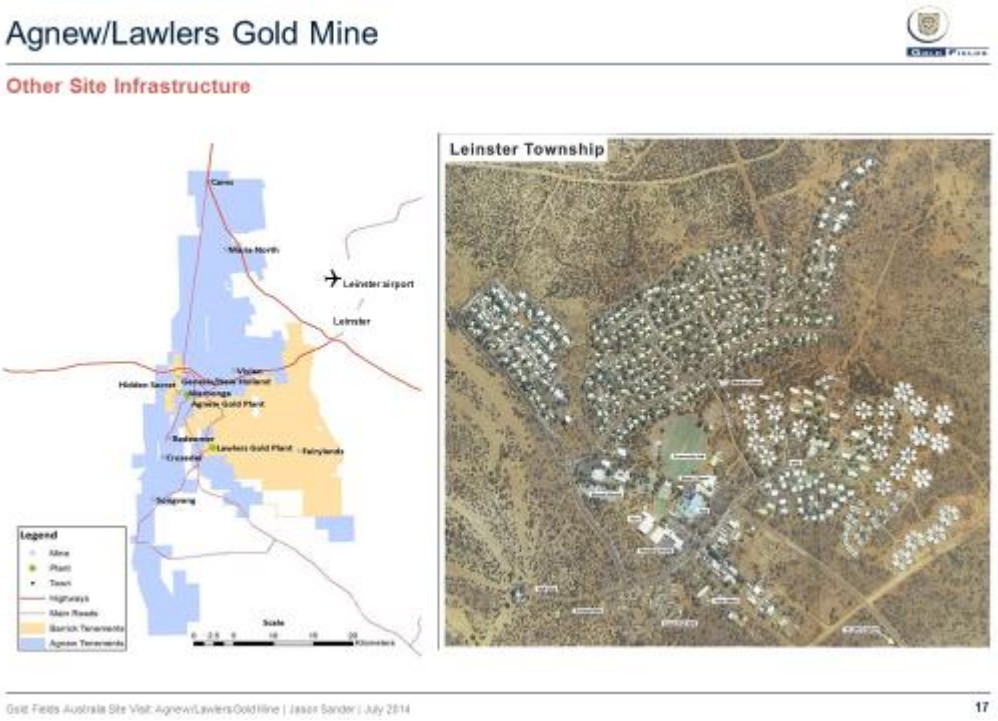
From my point of view, New Holland and Waroonga are incredibly close to each other and the Agnew mill is here. So the underground trucks from both operations would truck their ore to in-pit ore pads and from there off-highway road trucks come and truck it to the Agnew mill. Previously they went to the Lawlers mill, which is 16km from New Holland. And now it is less than 4km. So there is a big upside here.

So in terms of the site infrastructure, the processing plant we've got a 600 kilowatt crushing plant which is operated by a contractor, Sedgman. We have a 1.2 million to 1.3 million tonne per annum carbon and leach processing plant. We have cyanide code compliance and we have an in-pit TSF which is 5km away.

Our paste plant which serves Waroonga has been operating since 2008. It is a dry tails paste plant very much the same as the paste plants at Darlot and also at St Ives. We only run at 110 cubic metres now. However, it has got capacity to go up to 200 cubic metres per hour.

Waroonga Underground is a single decline truck haulage route up to the Waroonga pit. Ramp grade is 1:7. The decline profile is 5.2m x 5.8m. And our ore drive profile is 5m x 5m.

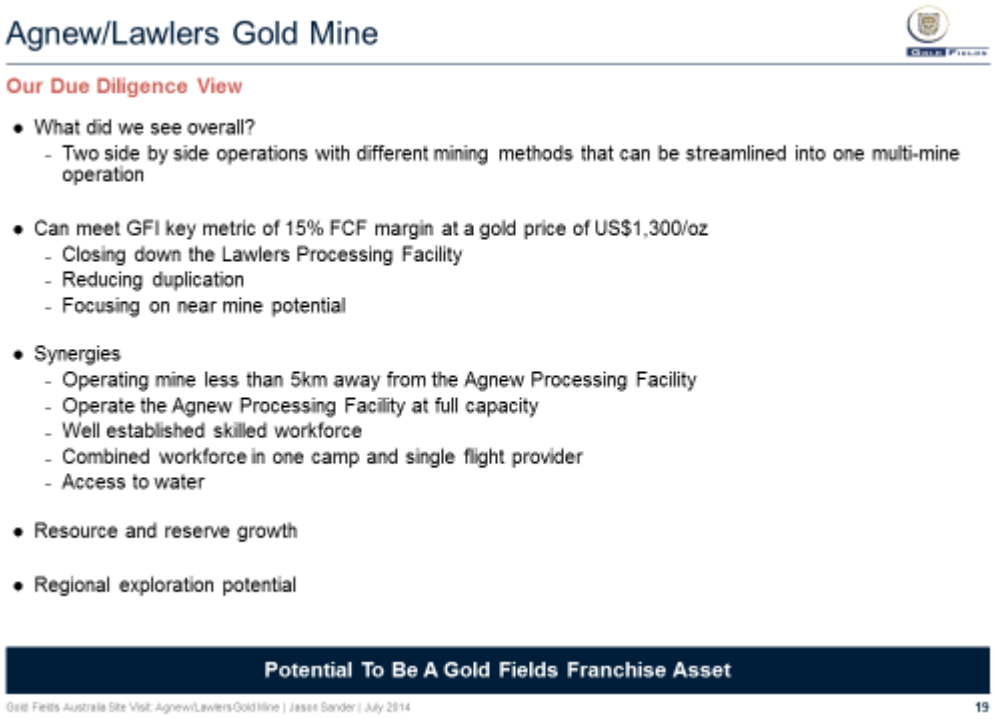
New Holland, we have two portals, however we truck everything out of the New Holland portal. Ramp grade is 1:7. The profile is slightly different, 5m x 6m for the decline, and the ore drive is slightly smaller, 4.6m x 4.7m.



So this is where we flew in today and we drove past the Leinster turnoff. From here we drove to the turnoff here to get into New Holland. Most of our people would actually take the closer turnoff and head to either Agnew or Waroonga. This is where Songvang is. This is a historical open pit that we mined twice, in 2004 and again in 2011. And the underground workings. This is where the Lawlers gold plant was and the Lawlers camp, both closed since the acquisition.

This is the size of the Leinster town which has approximately 1,500 residents in total, with 800 in Single Persons Quarters (SPQ) and the remainder living residentially in Leinster. Leinster has got an oval and an Olympic sized pool, which most camps wouldn't have. It also has a supermarket and a very sizeable gymnasium. So Agnew got the best of both worlds in Leinster. Our SPQ residents have full access to Leinster.

Why did we buy Lawlers?

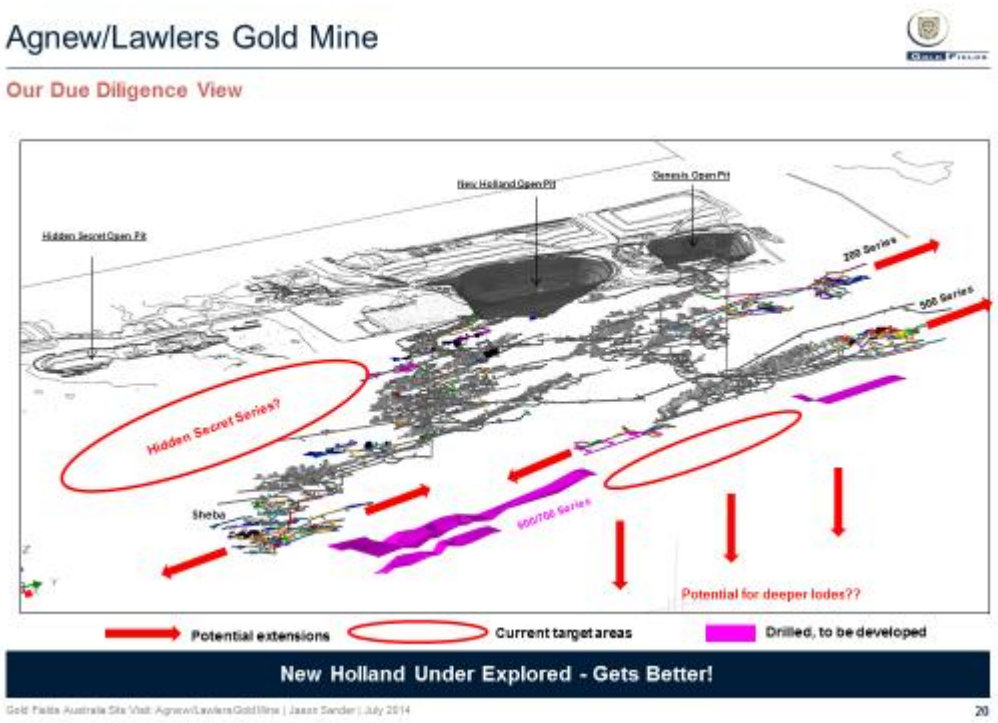


So why did we buy Lawlers? What do we see overall? We have two operations. As you can see on the map they are very close to each other. By combining them we can guarantee our 15% free cash flow margin. And we've been able to sustain this at a gold price of $1,300 and we've done this by reducing duplication and trying to focus on the near-mine potential. There is substantial near-mine potential at both Waroonga and New Holland.

In terms of synergies, operating 2 underground mines that are less than 4km away we can now operate the Agnew mill at full capacity. Each mine produces a 50/50 split, around 600,000 to 650,000 from both operations. We have been able to have a combined workforce in one camp and have a single flight provider. It has also allowed us to have access to water through the Lawlers bore fields.

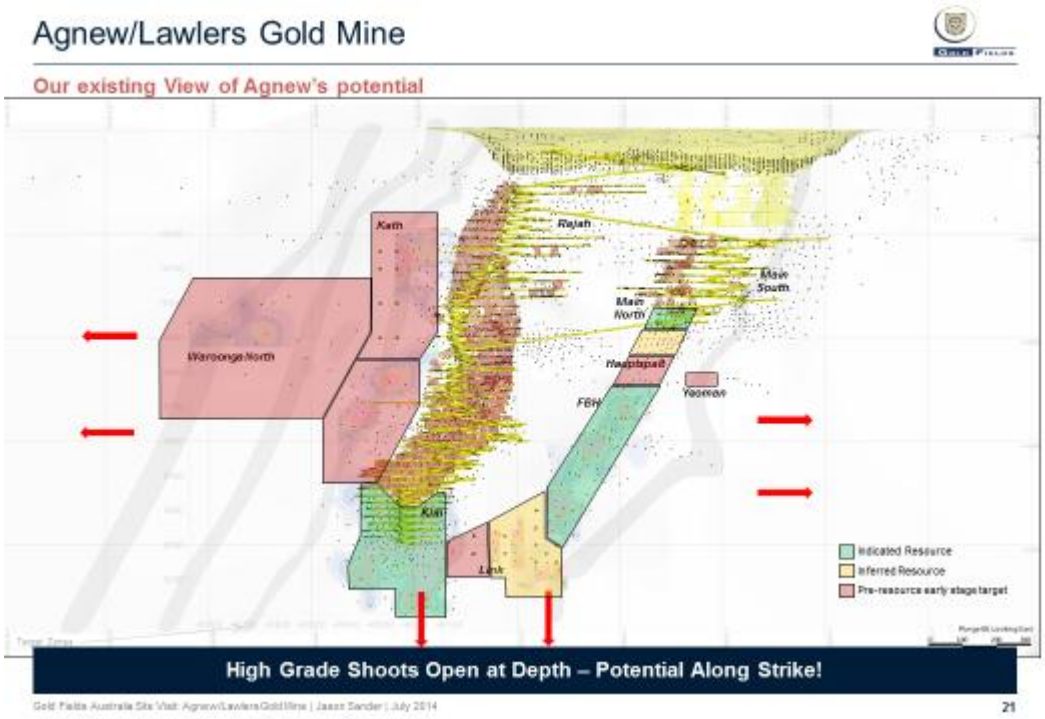
Question: Do they have less salty water?

We don't really have salty water as such here. We are quite fortunate compared to the other sites. The water here is close to drinkable, especially underground.



You're looking at a larger picture of New Holland. There are areas that are fairly obvious for extensions. Those are shown by the red arrows. Each of the series is shallow, plunging ore chutes going in a north-south direction, and certainly potential at either ends of all of those there. Obviously at depth if we go beyond the 600/700 series into the 800 and 1000 series. There is not a drill hole down there that will tell you that at this point in time. Certainly based on repetition at certain levels it would suggest it is quite a prospective area. The hidden secret area, as you will see later on in the slides, is an area we consider to be quite a good target with some already indicative results in the system. They have been there for a while (pre Gold Fields days) and we are currently putting those stories together. It is definitely under-explored as far as we are concerned.

As we turned off the highway that drill rig that you would have seen close to the highway was trying to target the 200 series which is less than 200m below the surface. So we've definitely have underground potential which is quite high up in the mine still.



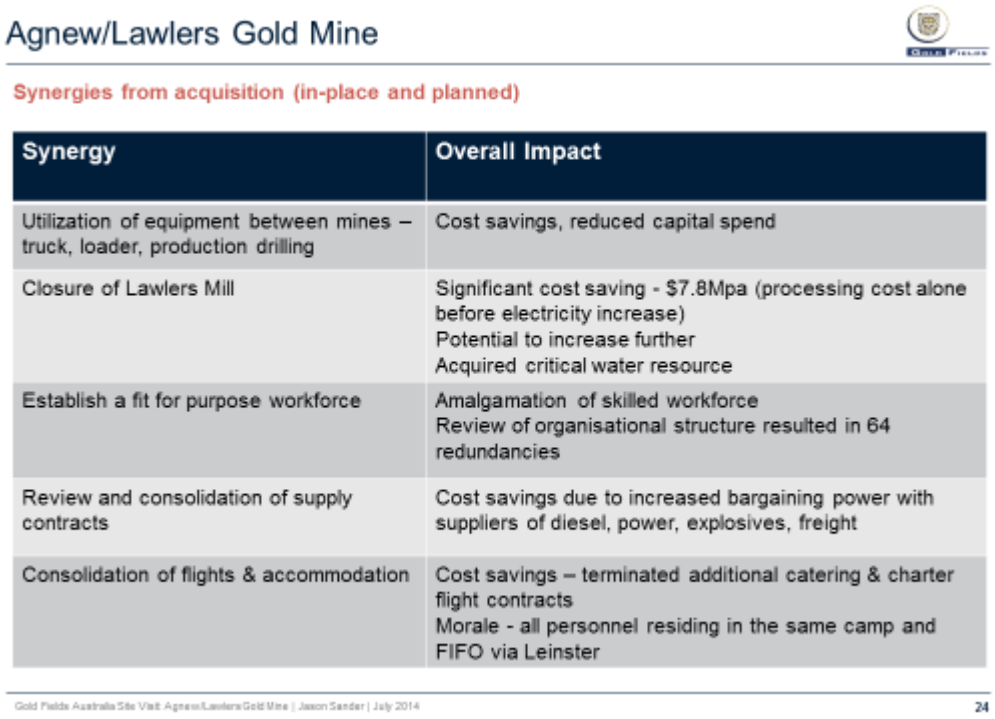
Waroonga has been our main focus for a number of years now since drilling on Kim back in 2010. At this stage we have basically identified the high-grade chutes at FBH and also the newer extensions out to the north at Kath and Waroonga North. Again later there will be a bit more detail on these as we go through. But ultimately there is very little drilling to the south and north of where we're currently targeting. We have over the last four to five years developed quite an in depth knowledge when it comes to understanding the geology and how that interacts with the mineralisation.

What have we done since the acquisition?

So what have we done since acquisition? We have closed down the Lawlers processing plant. We have downsized the workforce. They are now fit for purpose and we have kept the high performers. The Lawlers camp has been placed on care and maintenance. We have historically been a high grade and margin producer at both sites. We are transitioning to deeper mining and changing mining conditions at Waroonga. That's why we're looking at the other potentials that we have here. We understand the point of cost control at depth and we've got plans in place to manage that.

Question: How much do your costs go up per year as you get deeper?

Approximately 5%. However, the key target for us is to try and look at these higher mine (near surface) opportunities. Currently we are mining at a depth of 1,200 metres below surface at Waroonga.



Agnew/Lawlers Gold Mine

Synergies from acquisition (in-place and planned)

Synergy	Overall Impact
Utilization of equipment between mines – truck, loader, production drilling	Cost savings, reduced capital spend
Closure of Lawlers Mill	Significant cost saving - $7.8Mpa (processing cost alone before electricity increase) Potential to increase further Acquired critical water resource
Establish a fit for purpose workforce	Amalgamation of skilled workforce Review of organisational structure resulted in 64 redundancies
Review and consolidation of supply contracts	Cost savings due to increased bargaining power with suppliers of diesel, power, explosives, freight
Consolidation of flights & accommodation	Cost savings – terminated additional catering & charter flight contracts Morale - all personnel residing in the same camp and FIFO via Leinster

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The key thing for us is to leverage off these higher mine opportunities that we have, which are quite close to existing infrastructure of the Kim decline. The key thing for us is that these two mines are quite discreet in nature.

We moved to full contractor at Waroonga in July last year. We had some excess mining equipment that we've been able to transfer across to New Holland, which has helped in terms of reducing the capital spend at New Holland.

We've established a fit for purpose workforce. We have a skilled workforce at New Holland who have been mining here since 2003. The workforce at New Holland is a very loyal workforce and they are passionate about the place. We've been able to work on our contracts as well too, and we have seen some cost savings there. Now that GFA is comprised of four mines rather than two we have greater clout. In addition we have been able to consolidate flights, so there have been some cost savings there. In terms of overall morale it took us a while to close down the Lawlers camp, but since we've done that now we've got everyone in one camp and we can really build a one team mentality. That is the key thing for us. We've come a long way.

Question: You said Agnew mining is on a contractor basis.

That's right. The mining methods at both mines are very different and it actually works well for us, because it means that both Waroonga and New Holland can focus on what they do best and mine their ore bodies to their best potential. The average mine depth at New Holland is 500m to 600m. The average depth at Waroonga is 1,200m plus. So quite different. And the ground conditions are quite different as well.

Question: What is your employee turnover?

Around the 15% mark.

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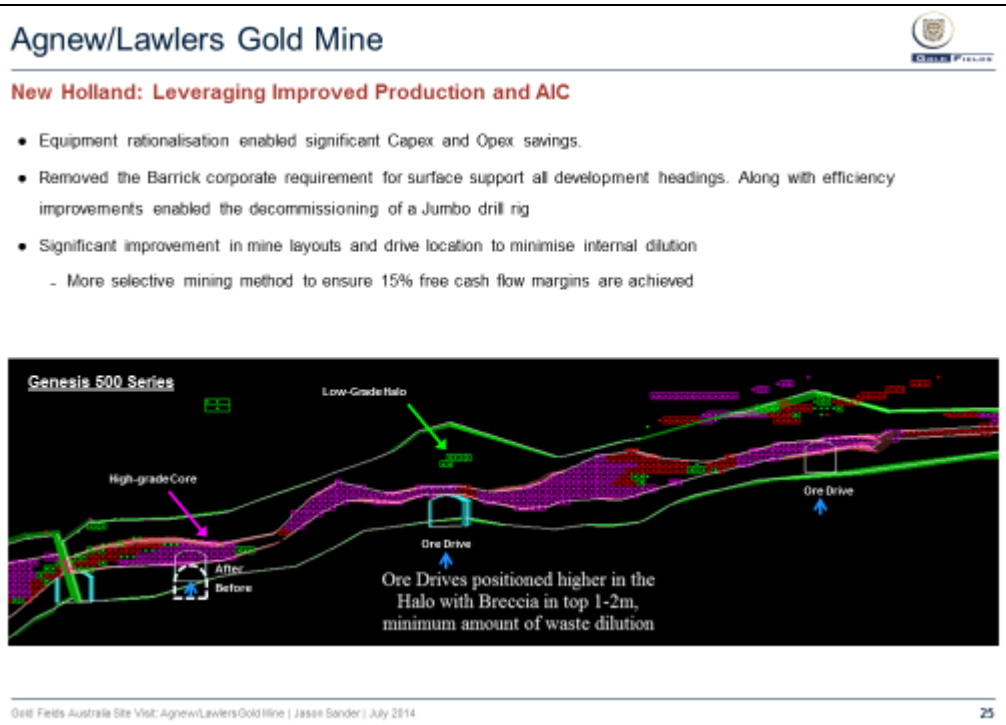
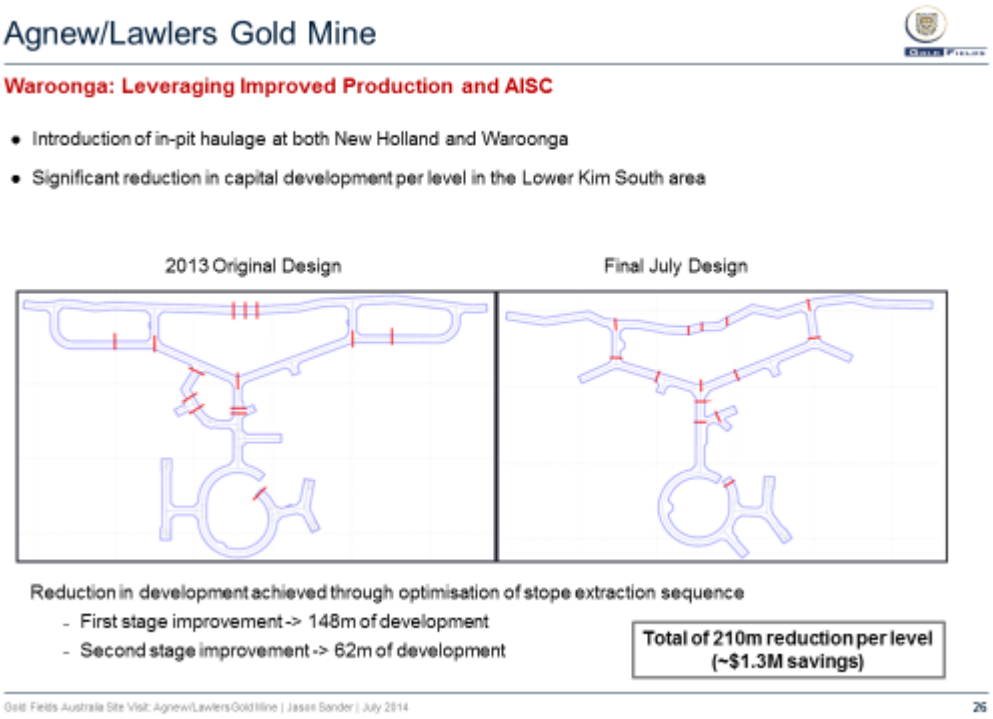


So as Jason mentioned earlier, by bringing equipment across we were bringing an injection of low hour gear into New Holland which reduced the operating cost in terms of maintenance and also reduced the capex required to get in. so we didn't have to truck a loader and production drill. So you get savings in excess of $7 million there.

We were able to look at some of the Barrick corporate systems that were put in place and remove those. An example of that was there was a requirement here that at New Holland all faces were meshed. It was based on a corporate standard rather than a risk assessment. So by doing this we were able to drop one jumbo out of the fleet. We are currently developing further with two jumbos which means we can also rationalise our manning levels in terms of the jumbos.

And the last one we looked at was changing the drive layouts. Previously we sat a long way underneath the ore body to maximise the ore out of the halo. The halo doesn't carry the grade, as Peter Johansen will talk about a bit later on. By doing that we were able to increase the grade by lifting the development into the ore body without affecting the mined recovery.

In terms of another change that occurred once the two mines were combined, we went and brought in a contract surface haulage company to transport the ore. By doing this we were reducing our underground haulage cost. Obviously the high cost underground trucks only have to travel the smallest distance possible, and then surface haulage is carried out using much larger surface-based trucks.



The other thing we looked at, as we are getting deeper we have to continuously look at how we can minimise our costs. So we had a re-jig of our design layout. The two designs you can see here with the 2013 Original Design is a level design looking in plan view from Waroonga. The Final July 2014 design is what we are currently transitioning into at the moment. And we were able to reduce the development by 148m in the first stage and a further 62m per level in second stage from the original 2013 design. So that equated to about $1.3 million per level in terms of capital development. By doing this it didn't change our efficiency of operating, so we were able to just have a straight saving.

In terms of recent performance we are focussed on free cash flow and increasing our margin. So this is the work we are trying to focus on. We had a great opportunity in Q4. We kept the Lawlers mill going for approximately one month in October and we closed down officially in November last year. So we were able to leverage off some additional ounces when both plants were running. We're not mining for the sake of mining ounces. We are obviously targeting a cut-off grade. If ounces are not economic to mine we will leave them behind.

This graph here highlights Q4 2013 was obviously a great quarter for us in terms of all-in sustaining cost. It did increase in Q1. A fair bit of that has got to do with where we were in both mines in terms of the opportunities on the ounces. And the key thing I say is that we had two mills going for approximately half of Q4 as well, so we were able to leverage off that. And in the Lawlers mill clean-up we were able to get some additional ounces as well.

Question: And why did your costs go up?

Costs go up because it is driven by the ounces mostly. We were able to get some additional ounces particularly from the Lawlers mill which weren't in the original plan. That is the main driver for the cost in Q4, plus we had some opportune stopes that we were able to mine in Q4. We have mined more ounces than in Q2. Our costs in Q2 are better than Q1.

Question: Is Q4 an anomaly?

Q4 definitely is. We still had the Lawlers mill operating, and we also closed the mill down in mid Q4 so we were able to get additional ounces out of that as we were closing it down.

Question: Is around $20 million per quarter your ongoing capex?

Approximately. Our budget for this year is around about $86 million. Our budget for this year has just over $10 million for exploration. And capital works is about $10 million as well. So the vast majority is capital development. That $10 million for exploration is included in the $86 million? That's right.

Agnew/Lawlers Gold Mine

Key Metrics

KPI's	Unit	Q4 2013	Q1 2014
Safety	LTI's	0	0
Ore mined - UG	kt	267	266
Mined grade - UG	g/t	7.32	6.91
Ore processed	kt	349	294
Head grade	g/t	6.52	6.35
Recovery	%	91.5	94.6
Gold sold	koz	73.6	59.2
Revenue	US$m	94.5	76.1
Operating cost	US$m	41.8	41.2
Operating Profit	US$m	52.7	34.9
Capital expenditure	US$m	19.5	20.9
AISC	US$/oz.	929	1,025

Processing

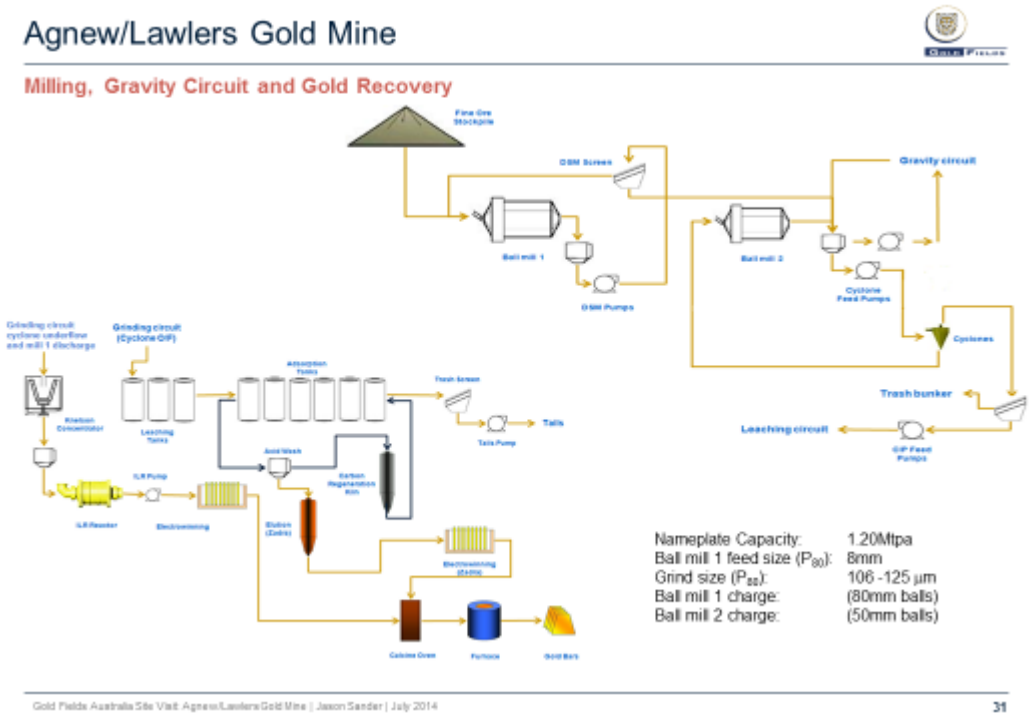
Agnew/Lawlers Gold Mine

Processing Plant

- Contract crushing -1.3 Mtpa tertiary crushing plant
- 2 stage ball milling circuit consists of closed primary ball mill (1.2 MW) and closed secondary ball mill (1.1 MW)
- Throughput 1.3 Mtpa
- Leach feed of p80 106 to 125 microns
- Gravity circuit of two 30" Knelson concentrators feeding an ILR. Gravity recovery typically 50% to 70%
- Leach circuit consists of three 1,390 m^3 leach tanks and six 490 m^3 leach tanks. Residence time is 24 hours.
- Typical plant recovery is 94% to 95%.
- Effort since amalgamation of operations is directed at maximising mill throughput

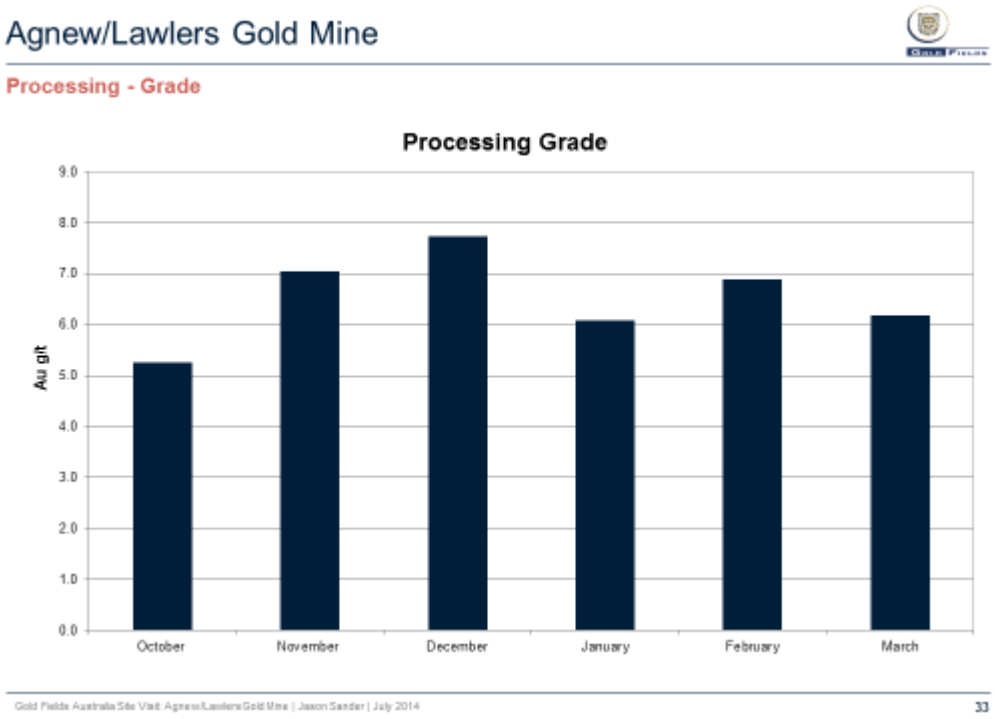
We have a 1.3 million tonne tertiary crushing plant which is contract run. The mill at Agnew is the original mill with an upgrade done 20 years ago. It is a 2 stage ball milling circuit with a closed primary mill and closed secondary mill. The throughput name plate is about 1.2 million tonnes per annum. We are currently doing about 1.3 million. And our grind size is a p80 106 to 125 microns. We have a gravity circuit which was upgraded about four years ago which is two 30" Knelsons feeding an in-line leach reactor. Our gravity recovery is 50% to 70%. So these are high gravity recoverable ores.

Residence time is 24 hours on three leach tanks and six absorption tanks. Typical plant recovery is 94% to 95%. And the main effort since amalgamation is directed at maximising more throughput so that we can take all of the feed from the underground mines.



This is a flow chart. It is in your notes anyway. It's more of what I described previously.

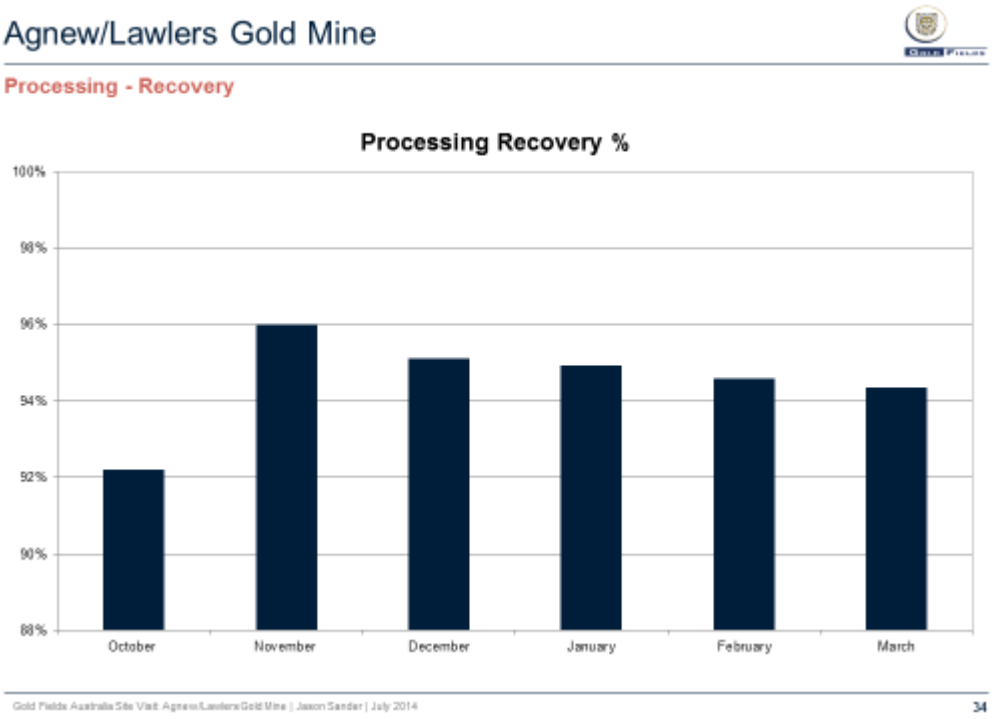
Our tailings facility. We have a very low-cost TSF. It is currently about 4.5 million tonnes capacity. We are currently looking at additional life of mine TSF options.



Our processing grade, the November and December numbers were influenced by the clean-up from the Lawlers mill and the operations there. Then steady going into the new year and the first quarter about 6g/t.

Question: What were your costs per ton before the acquisition and now since the acquisition?

Well, the savings are significant. They are very significant. We would estimate now that without the benefit of the new negotiated power contract the processing costs at Lawlers with the lower tonnes would be closer to $50 per tonne. There are very large synergies in closing the Lawlers mill and putting it into Agnew.



Recovery typically between 94% and 95%. October has some clean-up of old Lawlers material from the Fairyland mine which has now closed down which recovered at about 88%. November was pushed up by the clean-up.

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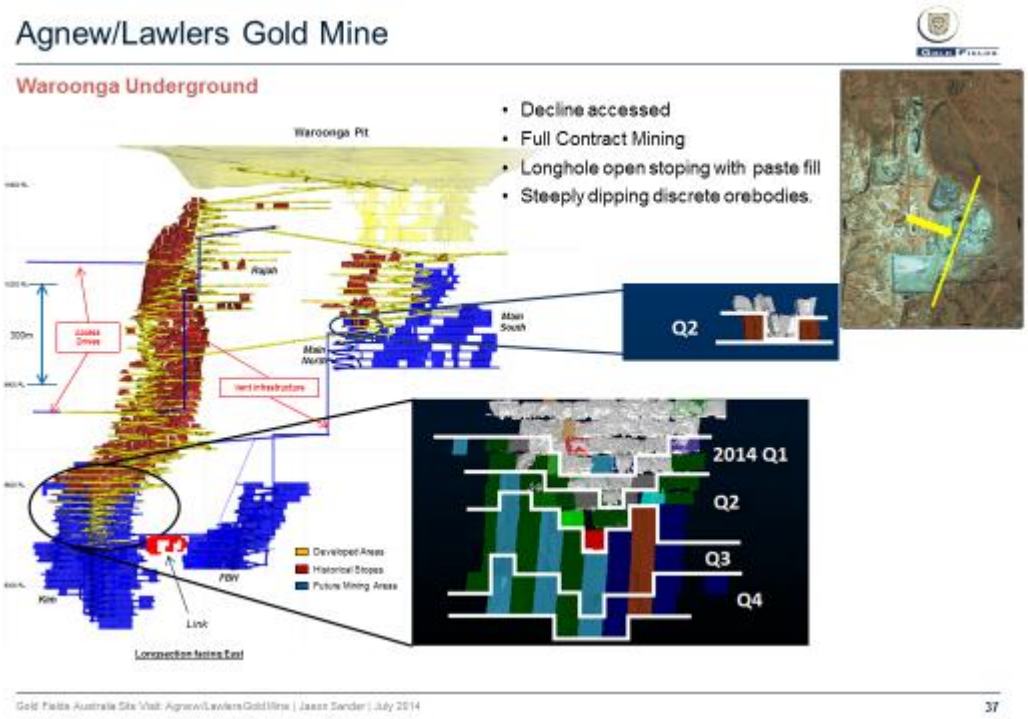
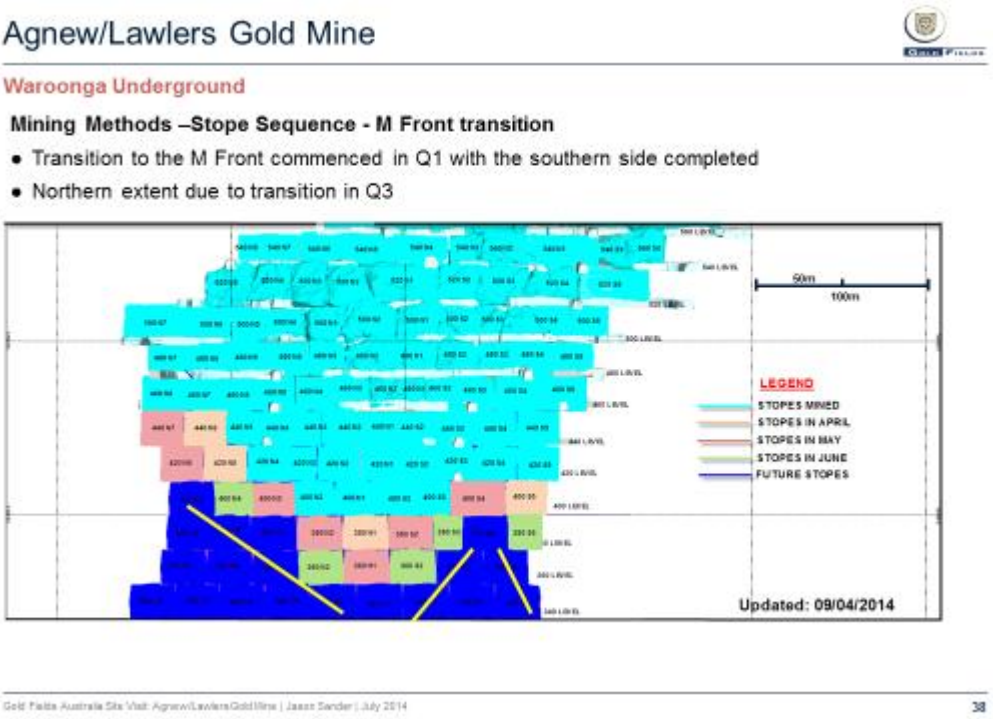
Mining - Underground

Pete has talked about our resource and reserves. Obviously looking at Waroonga underground. The single portal, as Jason mentioned, goes down 1.25 km by decline. At the moment we are primarily mining from the Kim ore body, which is a high-grade source. Most of 2013 was mined against the Kim ore body as well. We use the long hole open stoping method combined with paste fill, with dry tails blended and we introduce a small proportion of sand into that as well. Vertical depth is basically about 1,200 metres from where we produce from. With the depth you obviously have a proportion of stress. We are using fibrecrete to control ground conditions. Originally mesh was used through to mid 2013. With the introduction of fibrecrete we have been able to significantly reduce the rehabilitation requirements.

Barminco do the full contract mining, so development and production. They had development as of February last year and then in July full contract mining and production as well. In terms of their fleet they run eight Atlas 6020 trucks, four Cat 2900 loaders, two of those are remote loaders, two jumbos, two production drills, one boom-mounted, one carousel, three charge rigs using emulsion, two spray rigs and three Agi trucks for fibrecrete.

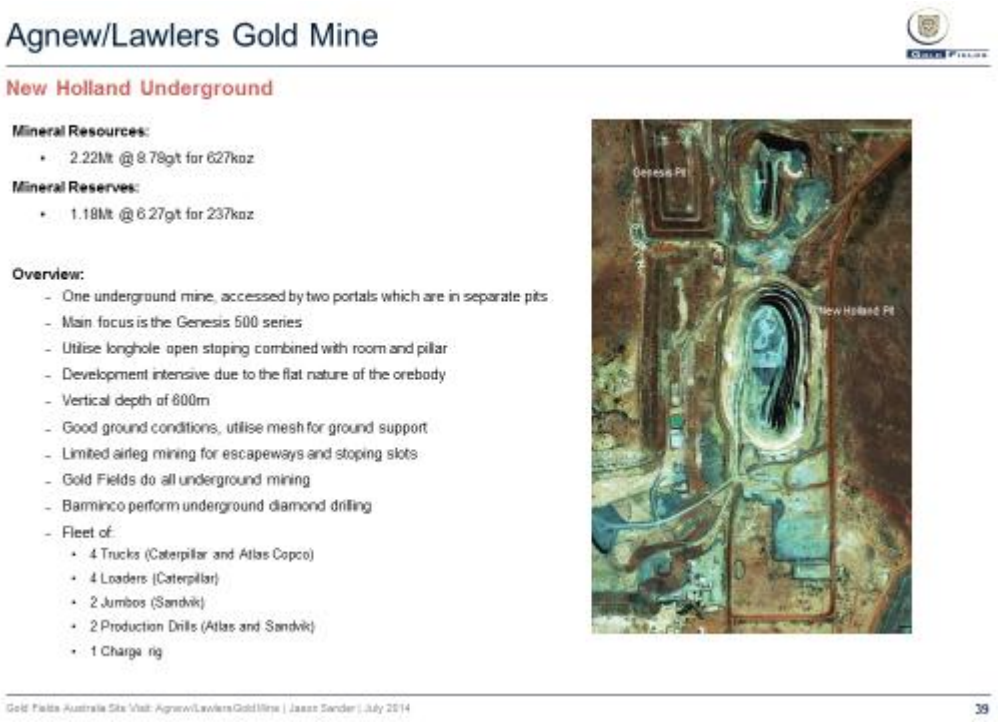


This is the layout showing where our production is for 2014. You can see down at the bottom left-hand corner is where the main Kim ore body is and where the majority of the ounces are coming from. We are also up in Main North which we introduced into the plan this year. We've had a re-think on how we actually mine the Main North. Peter's team has done significant work on the modelling to look at going away from a bulk mining method down to narrow veins, specifically picking the high grade portions of the ore body.



In terms of the FBH side you can see we are setting up for 2015 a new area that we are going into. What is promising are the link opportunities between Kim and FBH. The infrastructure you see there is if we wish to accelerate FBH and produce from Kim at higher than 50,000 tonnes per month.

With the depth it is important that we maintain what we call an M front. It is critical that we manage the high stress environment. You can see there the sequence. We originally had a V position and now we are transitioning to an M, which means we need to take a stope, come back and paste fill it and then move to another section of the ore body and maintain that particular shape. By doing that we can push the stress field away and maximise the return and making sure that we recover as much of the gold as possible.

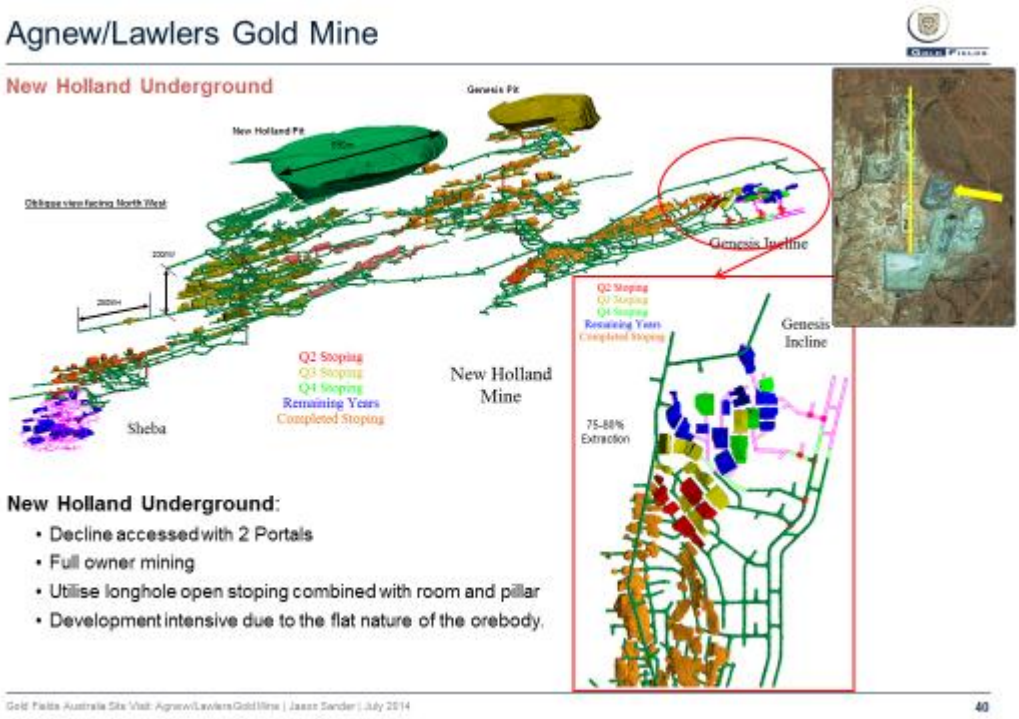


Looking at New Holland, a similar set-up with portal, no shaft. We run two portals here though. There is one out of the New Holland pit and one out of the Genesis pit. The New Holland portal and decline is primarily used for haulage and we send all other gear and equipment through the Genesis portal That means we get a free run in terms of the trucks. Long haul open stoping with some room and pillar. The ore body is reasonably flat which means that we don't utilise paste at New Holland.

Relatively development intensive due to a flat ore body. It makes it difficult to set up things vertically, so you can't set up rises. We run parallel declines which gives us ventilation and means of egress. Vertical depth is about 600m. Ground conditions are very good at New Holland. You will see when you go down the mine, half barrels everywhere. If you look at the size of some of the spans we can get to, it holds up very well. We have airleg or conventional mining here. We only have two and they are basically used for some sloping slots and for our own escape ways. It is 100% Gold Fields, so both maintenance and operations are managed by Gold Fields in-house. Although we do have Barminco doing underground diamond drilling.

In terms of fleet we run three Caterpillar AD55 and one Atlas 6020 truck, three 1700 loaders and one 2900. We have two Sandvik DO7 jumbos, two production drills. One is a boom-mounted standard rig and the other is a new Simba M7. We run primarily just the M7 and we've got one charge rig.

One thing I want to highlight here is that this haul road here which we drove down to get to the New Holland offices, this is the historical lease boundary between the two mines. And this is the corridor here which hasn't been explored very well for the last 30 plus years.



That is a view of New Holland. If you look at Genesis you can see the remaining ounces that are coming out of New Holland. This is where we are going to head to today in terms of the underground tour. We can have a look at the long section and have a chat to the guys. But basically we are heading up to the Genesis incline, which is our main production area. We also have Sheba. This is down at the bottom left-hand side. This is a whole separate mining area. And then there are some other areas in the New Holland area plus whatever exploration areas that Peter finds. As mentioned before, full owner mining and long-hole open stoping.

Question: What is the difference in costs between the two mines?

When you look at Waroonga we are currently running at 1.2 km deep so you've got almost twice the TKM that you would for the same equivalent tonnes. We also run paste, which obviously adds a reasonable cost to the cost per tonne. And we also have cooling over there during summer. So the cost as you would expect is significantly higher. And in addition, the ground support required at New Holland is a lot less, probably half what you would expect at Waroonga. So Waroonga runs significantly more expensive than what we see at New Holland.

Question: Is paste backfill?

Yes.

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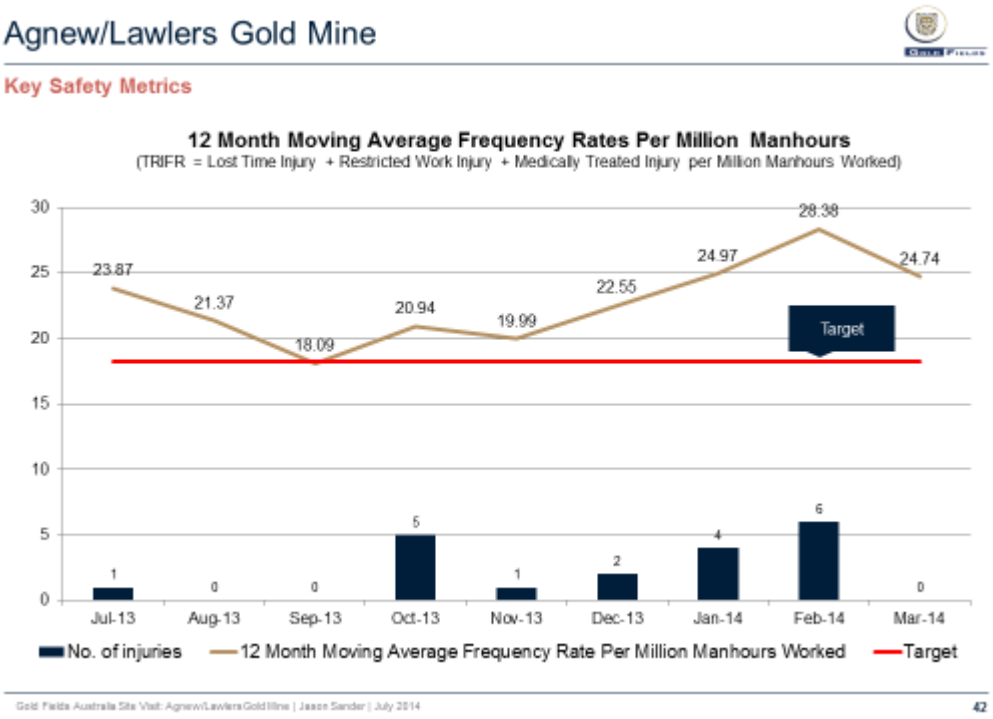
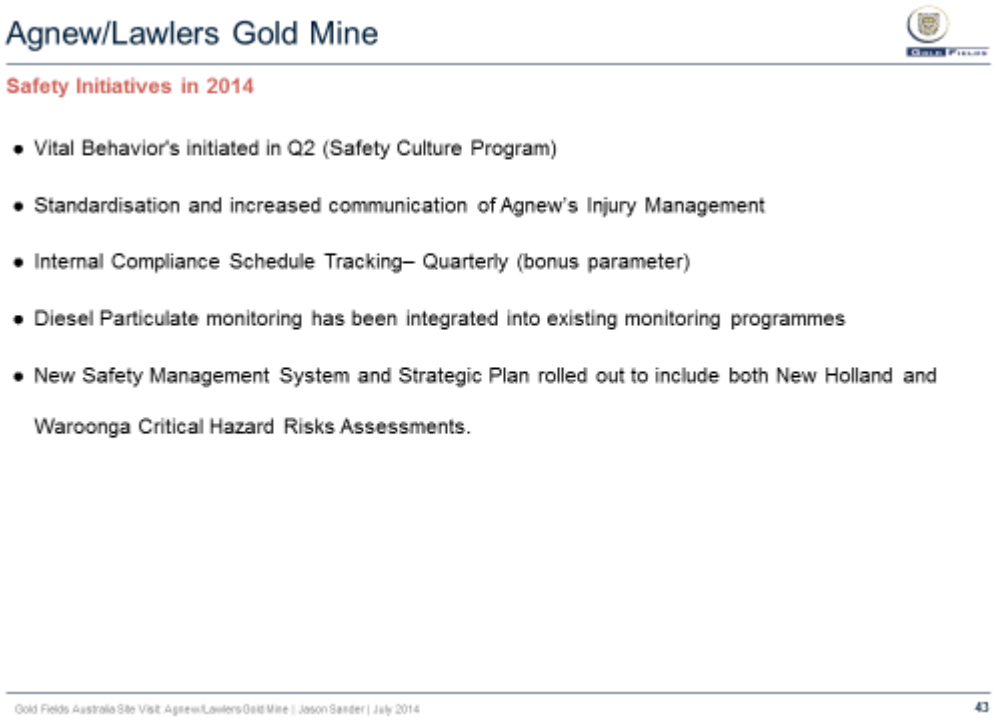
OHS & Sustainability

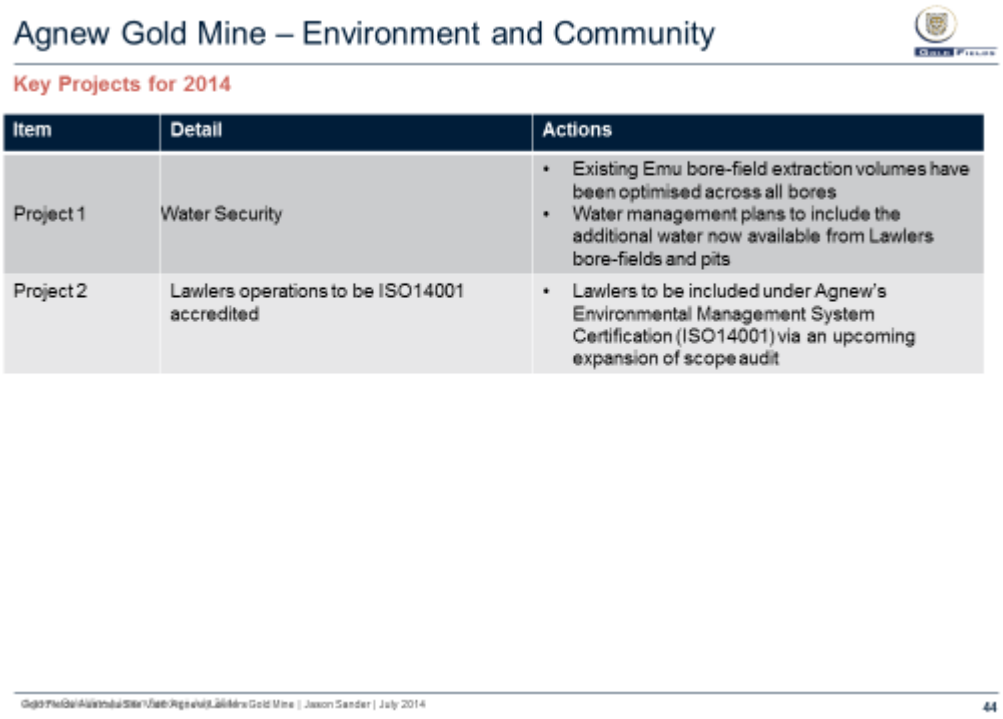


Sustainability. This is the injury frequency rate, a pretty standard safety indicator across the industry. A slight rise just after the acquisition and now settling back down. Our target rate there – that's not the compliance target, that's just our internal goal that we're aiming for in 2014.

I can say that we have seen further improvement in Q2 as well.



Safety initiatives this year. There is the joint Lawlers and Agnew safety culture programme coming through. Vital Behaviours that you see at the other mines and across the Gold Fields group. Standardise and increase communication with injury management across both sites has worked quite well. We've upgraded our internal compliance schedule, which is where our quarterly bonus comes from. I've been targeting our diesel particulate monitoring across site. And we have a new safety management system and strategic plan rollout across both sites.

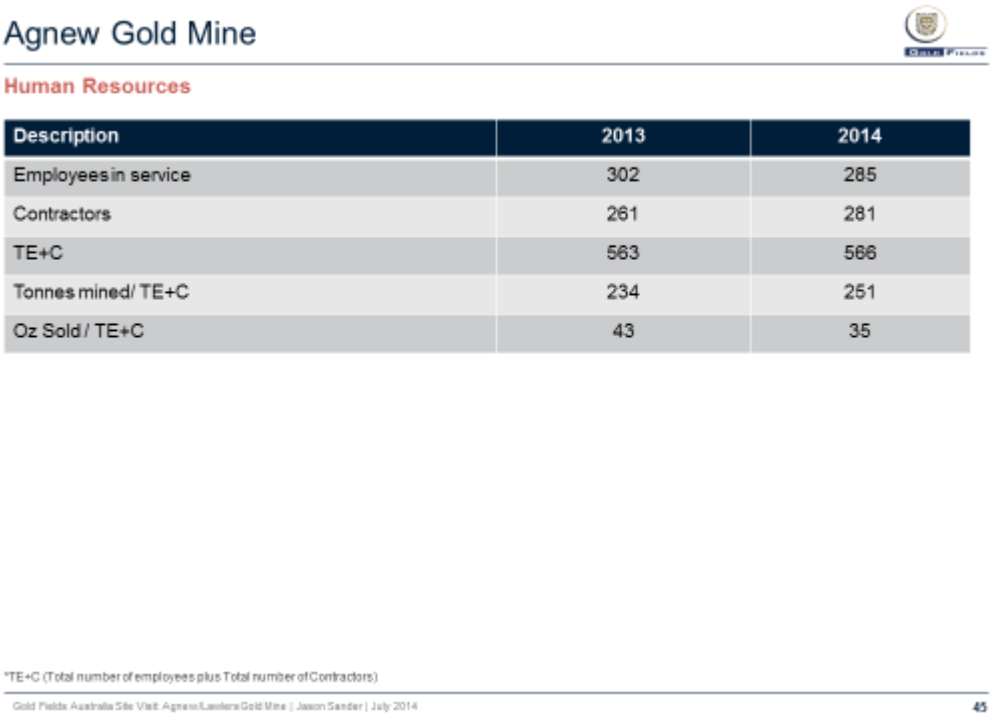


Agnew Gold Mine – Environment and Community

Key Projects for 2014

Item	Detail	Actions
Project 1	Water Security	• Existing Emu bore-field extraction volumes have been optimised across all bores • Water management plans to include the additional water now available from Lawlers bore-fields and pits
Project 2	Lawlers operations to be ISO14001 accredited	• Lawlers to be included under Agnew's Environmental Management System Certification (ISO14001) via an upcoming expansion of scope audit

As far as environment and community goes we have two big projects, supplementing our water security and also bringing Lawlers into ISO 14001. On the water security, updating our water management plans to include the new available resources from Lawlers.



Agnew Gold Mine

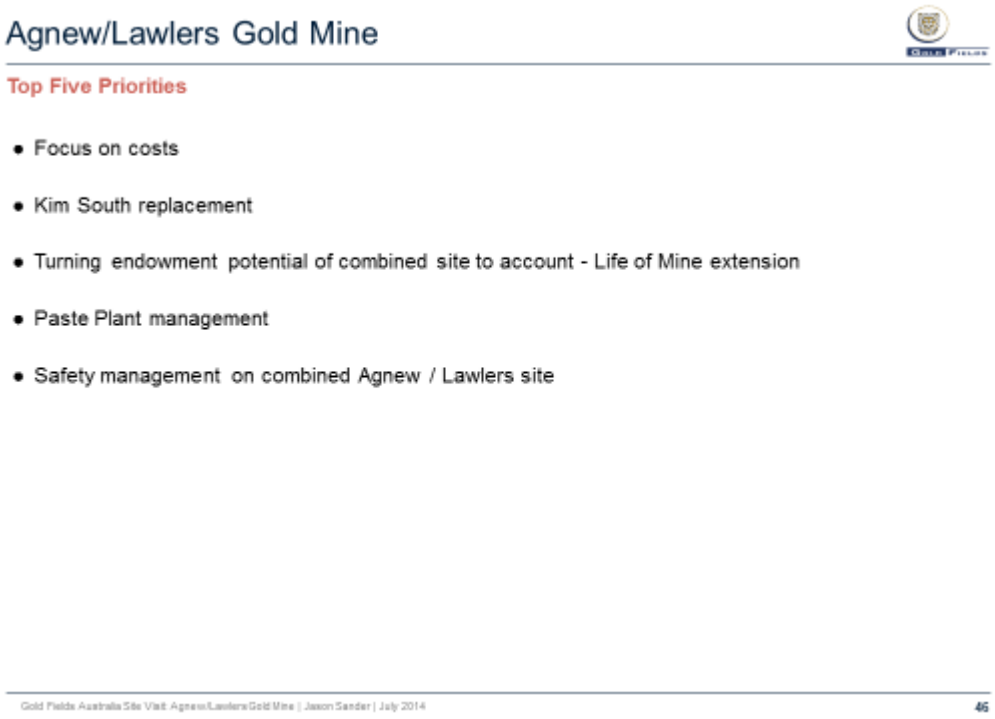
Human Resources

Description	2013	2014
Employees in service	302	285
Contractors	261	281
TE+C	563	566
Tonnes mined/ TE+C	234	251
Oz Sold / TE+C	43	35

*TE+C (Total number of employees plus Total number of Contractors)

Gold Fields Australia Site Visit: Agnew/Lawlers Gold Mine | Jason Sander | July 2014 45

A quick comparison for Q4 and then Q1 2014 of our employee numbers. The third line down is total employees plus contractors.



So in terms of our top priorities at Agnew, the focus on cost. We are trying to find a replacement for Kim South. Kim South is very deep. The ground conditions we understand and can control, but we are obviously looking at opportunities higher up in the mine. Turning the endowment potential of the combined site to account through life of mine extensions. We've got so much potential here it's not funny. But it's having mostly the time and the money to actually do everything. We have to be quite strategic in where we spend the money and where we target reserve extensions. Paste plant management has come a long way and obviously our paste is a critical component and we are managing it quite well. And management of the combined Lawlers site. It's a combined safety management system.

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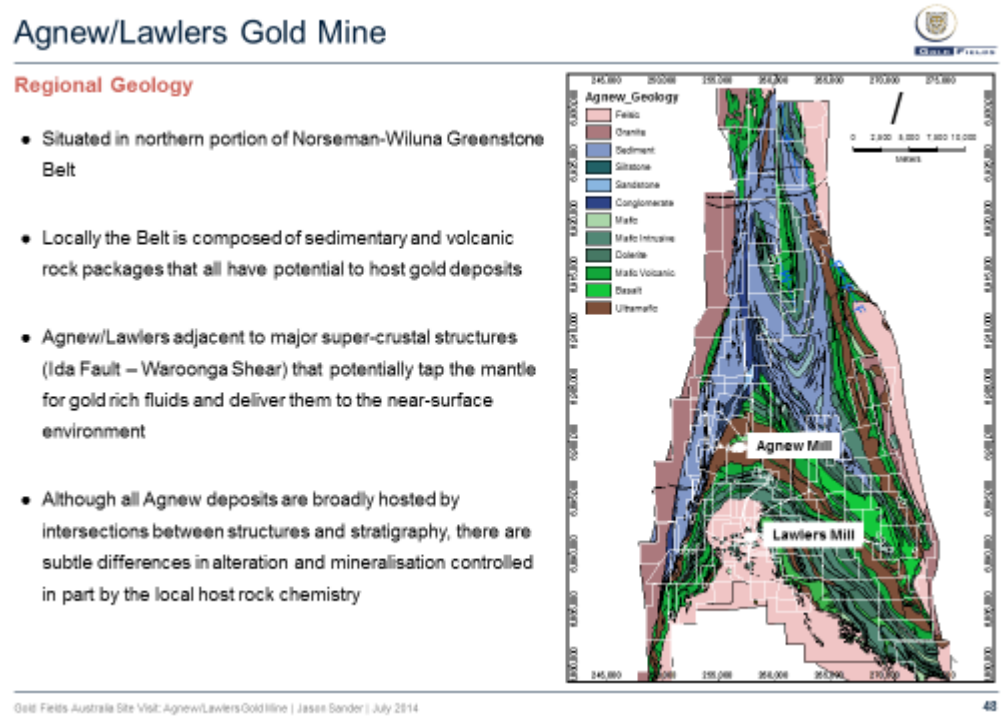
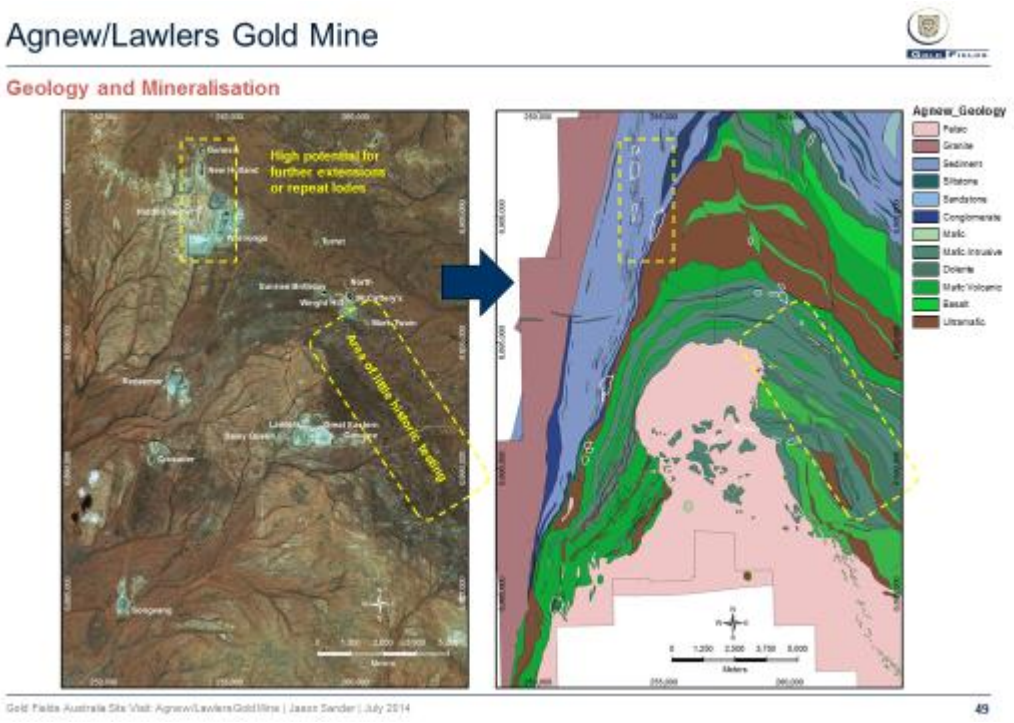
Mine Geology



In terms of geology, we are situated up north of Kalgoorlie in the northern part of the Wiluna – Norseman Greenstone belt. Predominantly volcanic sedimentary rock packages. And obviously we are in a fairly good area from a gold producing point of view. And ultimately essentially prior to the purchase Gold Fields controlled this western side of the Lawlers anticline and all the way through to the north. And the Barrick-controlled tenements were down on the eastern side of the anticline plus where we are right now at New Holland.



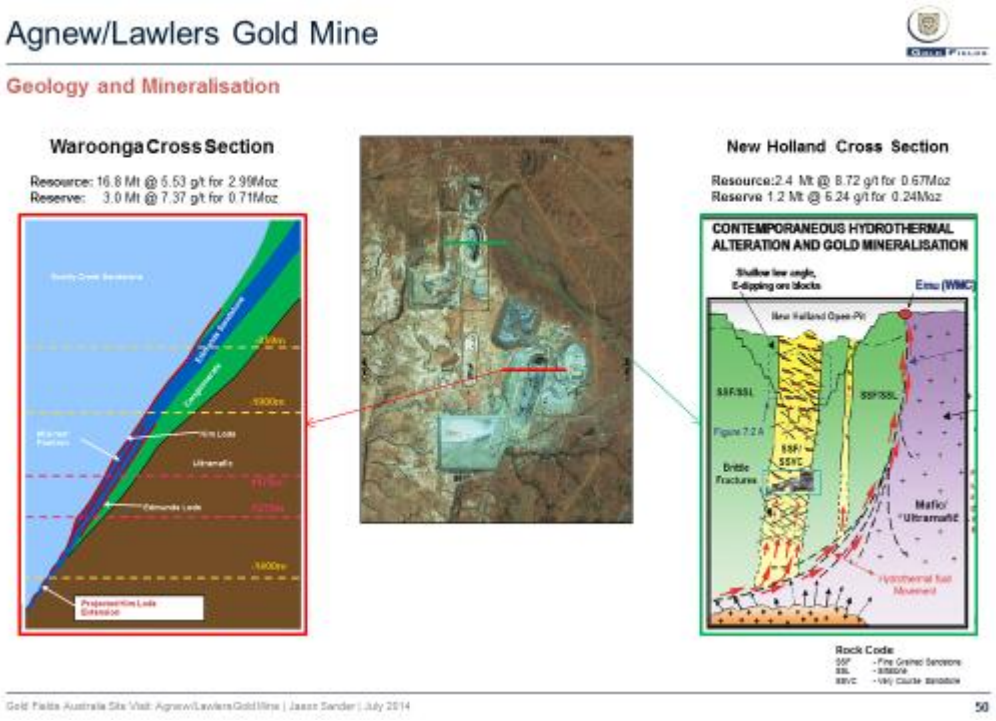
There are a number of different styles of mineralisation between the two sites. Each deposit is essentially quite different. From a tenement you can see now that we can control quite a large area through this part of the world. And we are currently building on a very small portion of it.

Just closer with regards to the operations as they have been, New Holland, Waroonga, and then you see down here Crusader and Songvang were the main ore sources. And then the Lawlers area plus all these other small open pits throughout the life of the Lawlers mine as such.

This is the 1,250 hectares that I have referred to previously. Ultimately it still remains a very large focus for us and continues to deliver and has done for both sites for some time. That said when you look at this area plus also to the north and to the south there is quite a lot of areas that haven't been properly tested. In these areas here you're looking at back in the 1990s when a lot of RAB drilling was done.

The RAB drilling by today's standards proved to be quite useless and we really identified the best of the best anomalies. A lot of it didn't go to depth, wasn't good enough. We have certainly on the Gold Fields side of things in previous exploration campaigns where we've drilled air core we've got up to ten times deeper to proper bedrock as opposed to just stopping when it gets too hard. I think in the 1990s drillers were allowed to go out and drill wherever they felt like on a grid, and ultimately you only really get the best of the best.

So there is a lot of potential wrapped up in these regional areas, both down the eastern side of the anticline but also up to the north and down to the south. But at the moment, like I say, you can't go past this part of the world here.

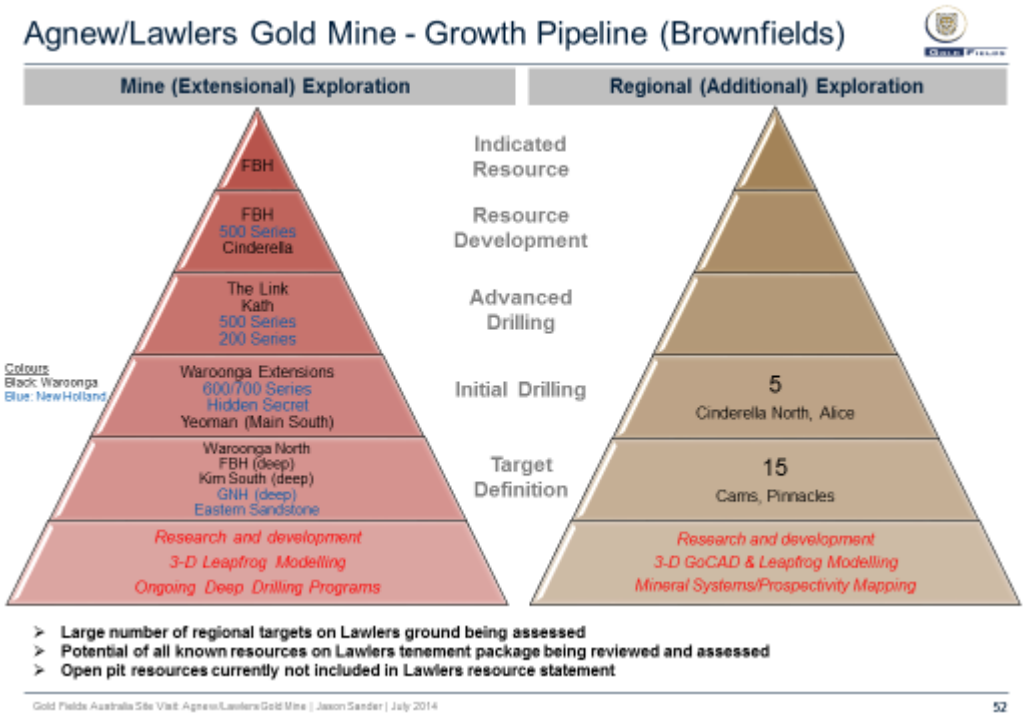


Just in cross section as we go a bit further. If we look at the Waroonga side of things first, you've got sandstones here, conglomerates in the green, and then this Edmund sandstone, which is a slightly different unit. And it all sits on ultramafic. Ultimately the ore zones are here on the hanging wall is the Kim and the Main ore source that has been sustaining the operation since 2002. And then on the footwall of the Edmund sandstone we have what is known as the Edmunds lode. And in between we have various areas which we simply refer to as the mid-reef.

Ultimately we are down in these parts of the world now where this Edmunds lode has come in and we don't see it in the upper parts of the mine. And that is sort of our main area for the Waroonga side as far as Kim goes.

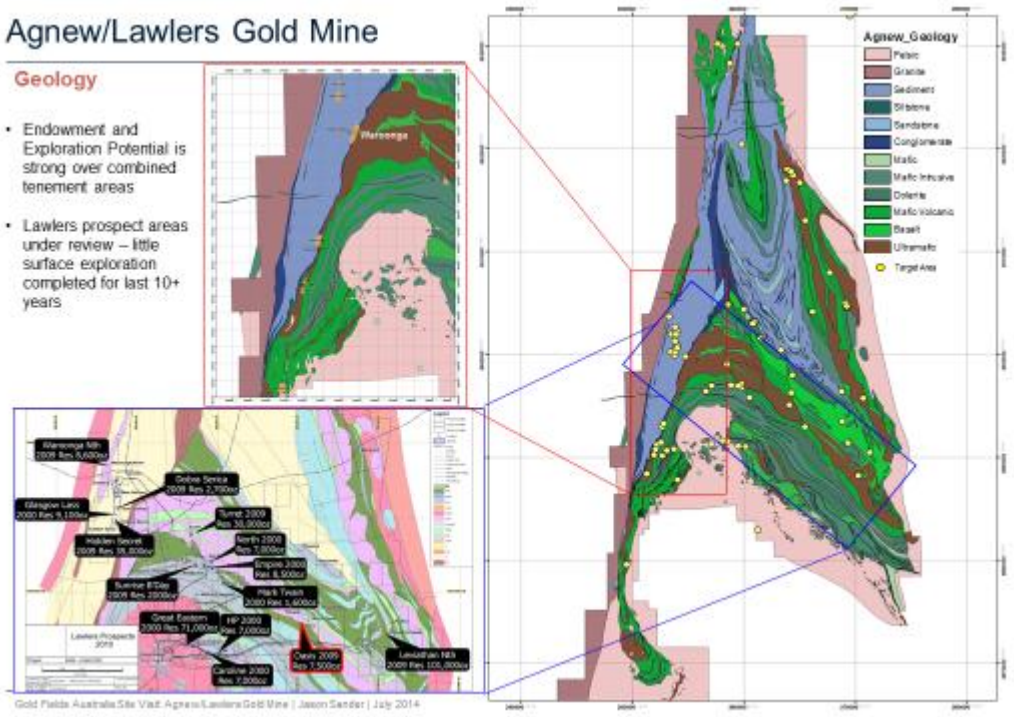
On the New Holland side, a slightly larger schematic and basically the only one I could find. Here they have a coarser grained unit of sandstone in the yellow. And that provides the contrast we require, fluid movement and ultimately gives us the ore zones that we have.

Exploration



Exploration wise, as I say we are at a very good address when it comes to gold operations. We have been mining in both areas since the mid-1980s. At the moment, these are pretty much all within the confines of New Holland and Waroonga and at various stages of definition. And ultimately we have added the ones in the blue with the purchase of the New Holland or Lawlers tenements.

On the right-hand side, the regional side of things, it is a lot less. I think because we've been focussed very much in the last four or five years on the Waroonga system and now on the Waroonga and New Holland systems. At the moment we still continue to assess the regional potential of the tenements that we've just acquired. So this isn't up to date, and it won't be up to date until the latter part of this year ultimately when we have gone through and properly looked at a lot of things.



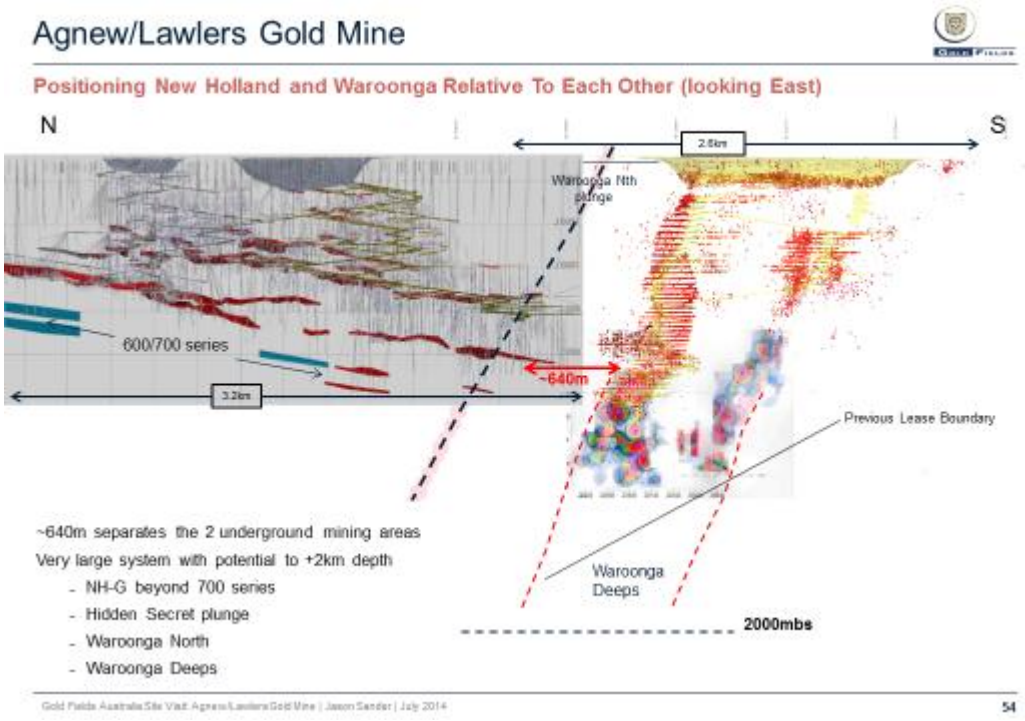
There were a large number of opportunities obvious to the system when you look at the plans of where they have drilled and things like that. So there are certainly areas to test. But as to how they compare to other things we've got, we simply don't know at this point in time. It is a work in progress. Certainly there are open pit resources that haven't been included in the Lawlers reserve and resource statements previously, and we are working on those as well.

There were a large number of opportunities obvious to the system when you look at the plans of where they have drilled and things like that.

Just to give you a flavour of some of the targets, the ones on the recently purchased ground are fairly widespread and again they are the most obvious ones. Ultimately this is just highlighting in this area, which again is the mainstay that has been Agnew since the mid-80s. If you look back at a picture from 2010 these are some of the more obvious ones.

Some of these things, like Turret, for example, that sits 40m to the south of the tenement boundary. The tenement boundary, the northern portion of that is on our side of the fence as it were. Now it is combined so there is no fence there anymore. Ultimately that's one example where we can basically go in, review data that was drilled to the south, to the north, and potentially look at some sort of opportunity there.

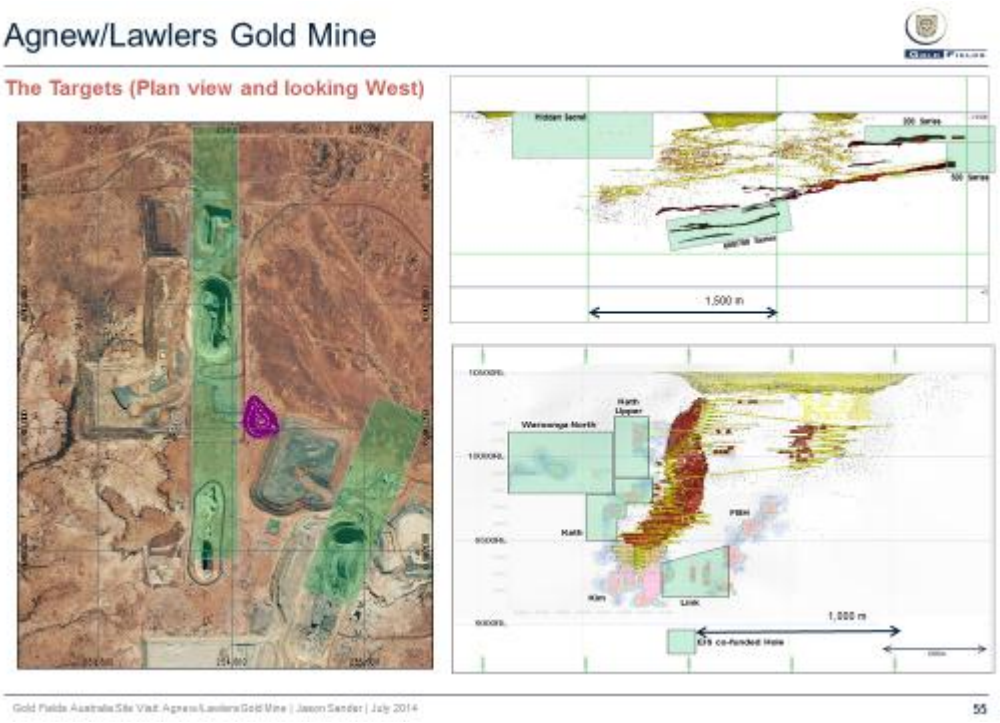
There are a number of these we are going through, but more importantly we are looking at what hasn't been seen by previous people. Barrick certainly weren't known for their more regional view of the world. In my eight years here they haven't had a surface rig looking in any of these areas except to the north of New Holland. When I say north I mean the immediate north. So the regional areas as far as I can tell will be very under-explored in that regard.



So just a couple of slides to go through the Waroonga and New Holland and the current plans for the most part. This slide puts together...what you're looking at is the New Holland system and Waroonga system relative to each other. That Waroonga system sits 640m into the page. So ultimately that is where they are positioned as far as north-south. But east-west there is a bit of difference and there is a lot of ground in between that hasn't been properly tested.

The previous lease boundary that has been referred to, at depth that is what it looked like. We were looking okay for Kim, but as we move to the south anything that we found over this part of the world was never going to be ours anyway. And certainly you can see here that we are almost there. Moving further to the north it wasn't too bad.

If my right hand is New Holland and my left hand is Waroonga that is where they would sit if you were looking at my hands right now. So they are very close to each other.



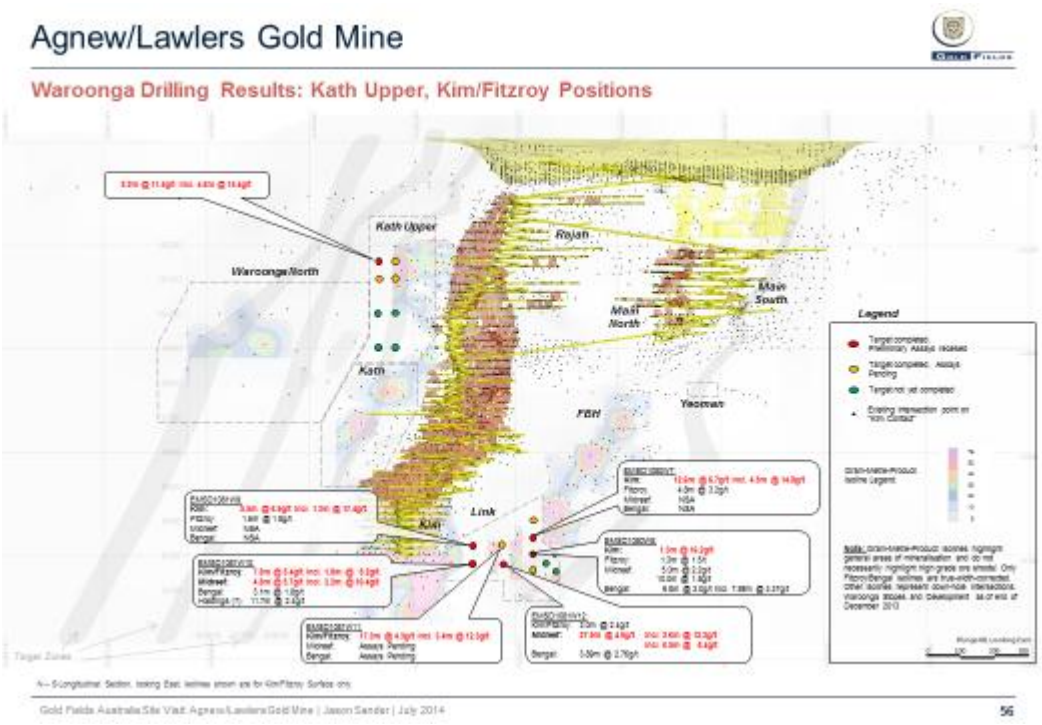
If we look at an overview of the targets certainly what we are currently working on in 2014, this is the main lode of mineralisation for New Holland. This is the hidden secret pit here. This is the New Holland Genesis pit and Waroonga pit over here. This area here is the Cinderella open pit that was in plan for Gold Fields from about 2011. It crossed the boundary and therefore it was difficult to logistically do. But that whole trend is, what we refer to now colloquially as the Cinderella trend, is untested except in that position. There are old workings north and south along this trend. Because of the nature of tenement boundaries you don't get to drill to any depth extent and people don't tend to do a lot of work next to them unless there is good reason. We did work that only tested down to about 150m. It is a very similar analogy to the New Holland operations, fairly flat lying quartz veins. Ultimately, there is plenty of opportunity north and south extensions but also to depth extents as well.

Now that both leases are amalgamated we are looking at Cinderella as an underground project as well that we can access from New Holland, where previously it would have been an open pit with its own decline from the pit. Now we are looking at it as an opportunity from New Holland. That is a great opportunity for us.

Question: What is the resource at Cinderella?

The overall resource is only about 50,000 ounces at this point in time. It is open to the west and it is also open to the south.

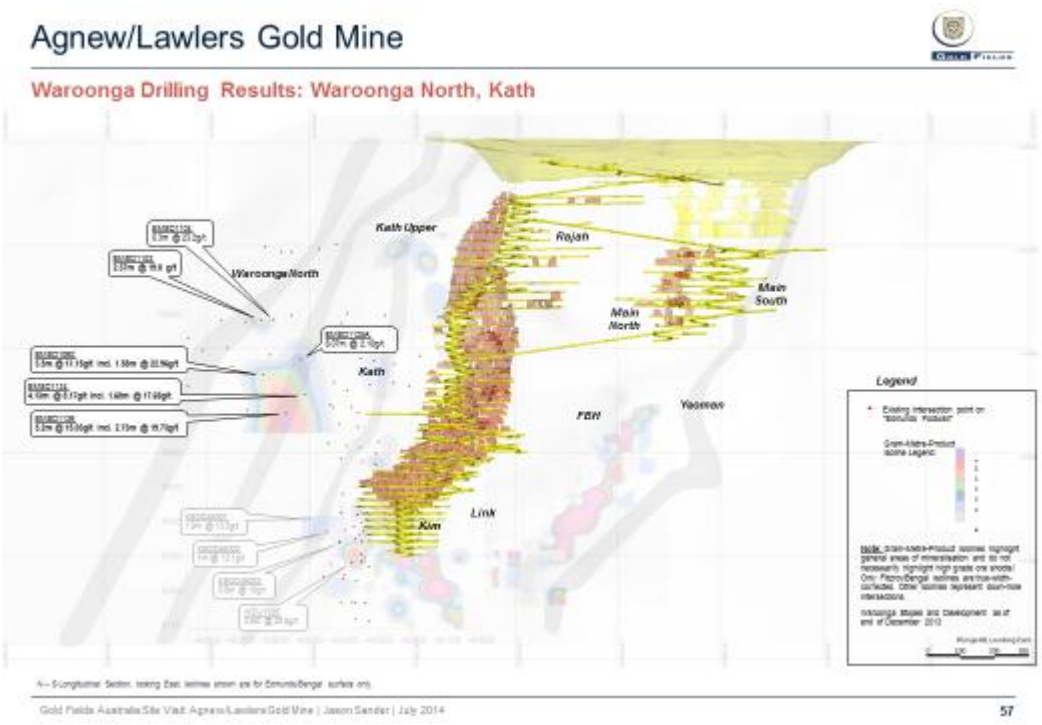
We haven't tested it since October last year.



So ultimately these are the targets. On the New Holland side, again the four main areas that we are looking at, and then the Waroonga side focusing on Kath, Waroonga and the link area. Looking at Waroonga first, ultimately this was the drilling that was done up to Q1. This is our FBH (Fitzroy, Bengal and Hastings) system. One thing to point out again, this is one surface and 30m into the page there is another one. So roughly if we are looking at two surfaces where on the one side we've got the Kim ore body and the next one we've got the Edmunds ore body. And when we look at FBH we've got Fitzroy on this surface and Bengal on the other surface.

So the result is representative of the entire package, whereas we are really looking at links on both surfaces here as well. You can see here this is a very high-grade system. Currently the reserve grade is about 13.2g/t as reported at the end of 2013. And you can see here there are very high grades throughout the area. The best news that we've had after identifying the potential for some of these narrow plunging chutes is we've got 8.2m at 11.5g/t in one of our drill holes in the Kath upper system.

These grey areas ultimately are target zones for us. Certainly currently we've got a pretty good hit and miss ratio in the fact that we've got mineralisation in varying forms in each one of those targets, which have basically come about due to the information that we've gathered from drill holes over the course of the last three or four years.



So stepping back roughly 30m into the footwall we have the Bengal system. And ultimately this is the Waroonga North area which is probably one of the hottest targets that we have. We have three holes here completely open at depth. And certainly you have the ability to get something the size of Kim into this area here. That is some good results, 19g/t, 17g/t and 22g/t in the material in the core of the system.

Sorry what is that called again? How did you refer to that?

This is Waroonga North. Kath is not quite as far north. That is only about 100m from existing infrastructure.

How many ounces is Kim South again, Pete? Is it 1.5 million or 2 million ounces?

Roughly. It is between 1.5 million and 2 million. These things here, they are probably in the order of 200,000 to 300,000 ounces. And the same for Kath. From a size perspective it is what we expect the targets to yield if they are successful. This one here really because of its location and those certain indications that it could be millions of ounces as opposed to just hundreds of thousands.

So in terms of your exploration budget how much is being spent here?

It's a work in progress as far as the potential but ultimately when we say we...I guess when you look at these things these are gram metre plots. So ultimately what looks good in the pink and purple regions and that sort of thing, you still don't pick out these. They are quite narrow but they are still high grades and they are outside the current understanding. But they might get into another opportunity. As we gather data we become smarter and are therefore able to put more things together.

The budget plan was to spend a fair amount, initially really only half a dozen holes to try and confirm that we can get another 100 vertical metres at this point in time and it looks something like what we expect it to look like. And then obviously we go back and design a bigger programme to complete it. But I guess as anything the initial work is always quite long-winded. This is quite complicated stuff.

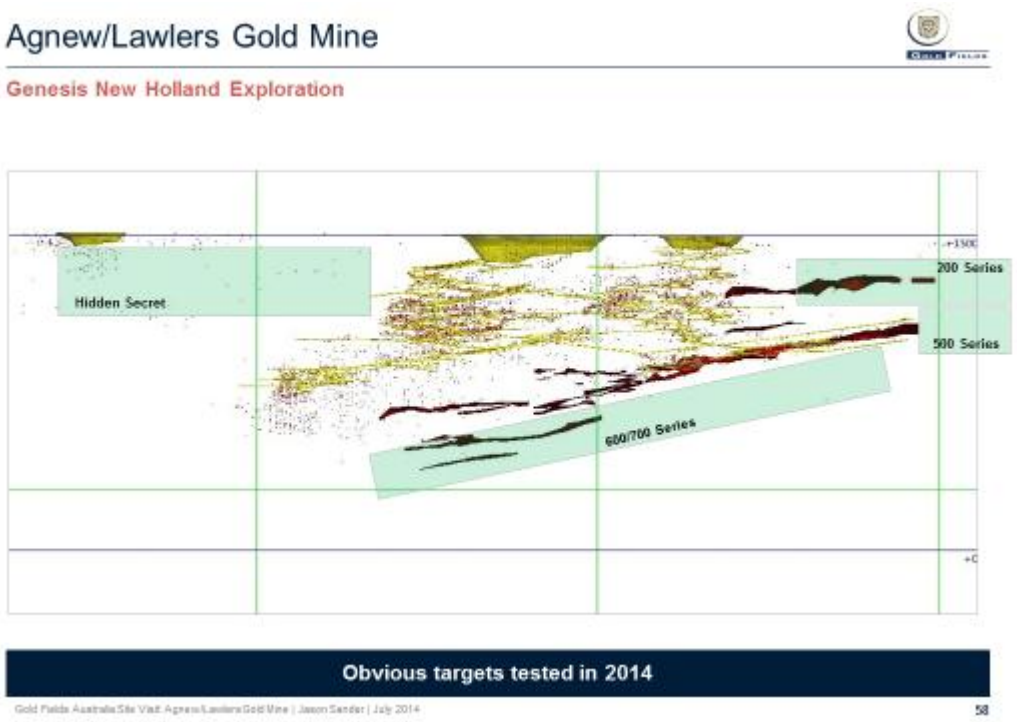
There are a lot of structural things going on in this part of the world. The continuity of structures coupled with the reality contrasted geology, if we don't get those things then we don't get the grade. Like I say, these target zones have been calculated based on certain vectors, and at the moment it is working for us because we have intersected Kath as expected and we have intersected Waroonga North as expected. These ones down here we haven't even targeted yet. So we've got a plethora of targets just in this 800m or 900m.

In terms of where we're targeting, we are targeting opportunities for next year and the year after that. Places like Waroonga North in terms of where we sit will be probably 2016. So at this stage our exploration target is on the areas which will give us immediate success.

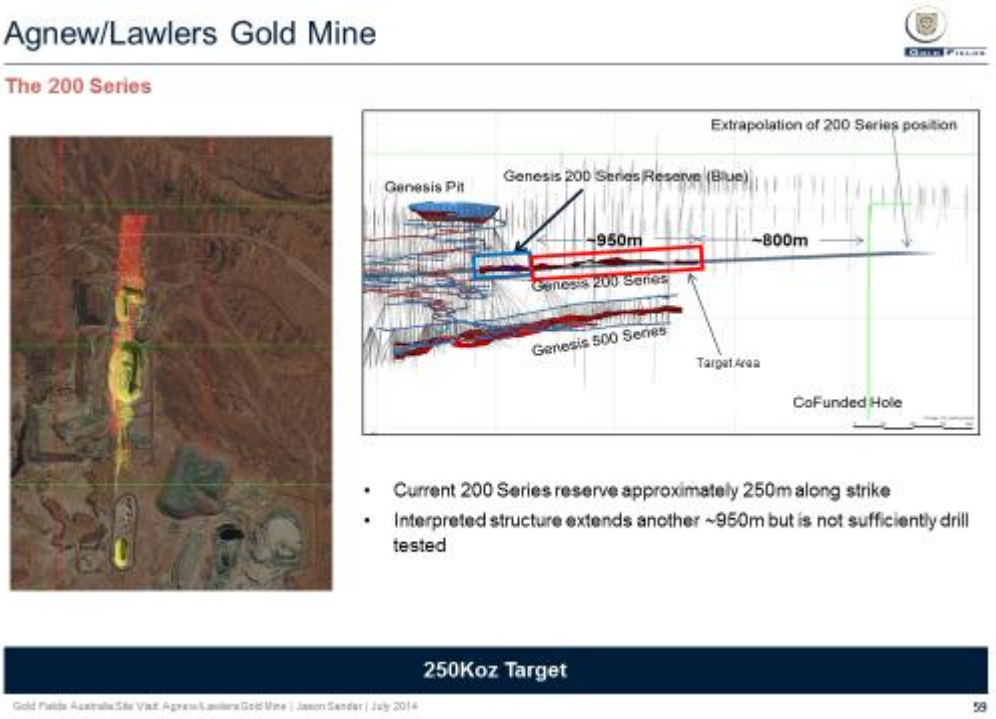
I suppose another way of looking at it is over the years you will cover depletion a bit so if you go back in history obviously some years are better than others.

The current life of mine planning is supposed to go lower in the Kim lode so you go deeper than 1.2km.

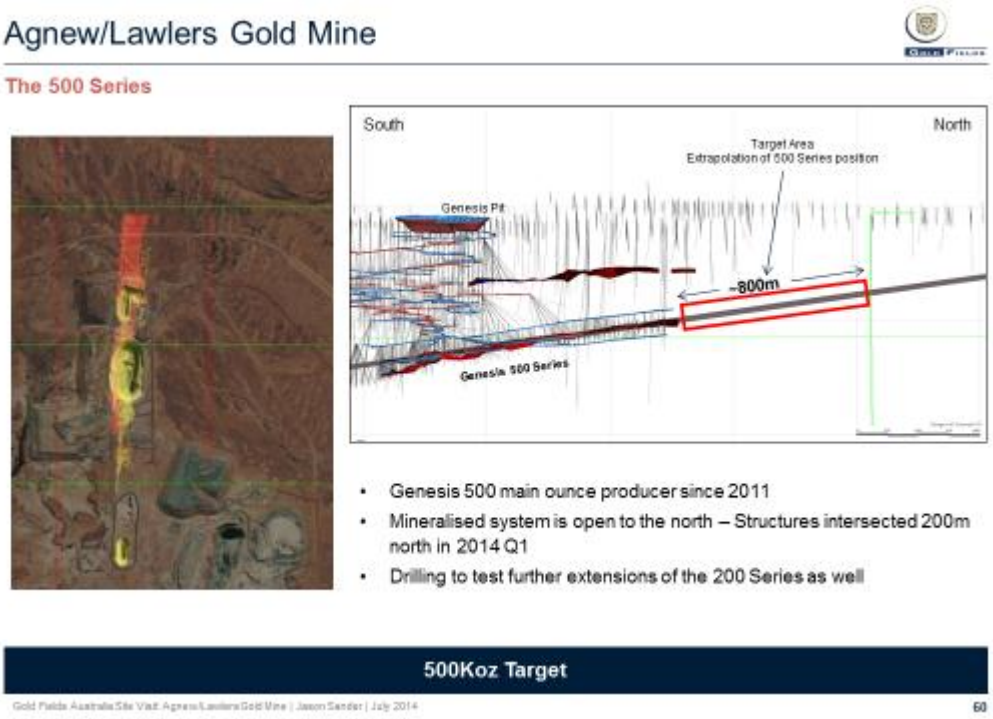
Kim the reserve is down to 1.4km so we've got a couple of hundred vertical metres to go.



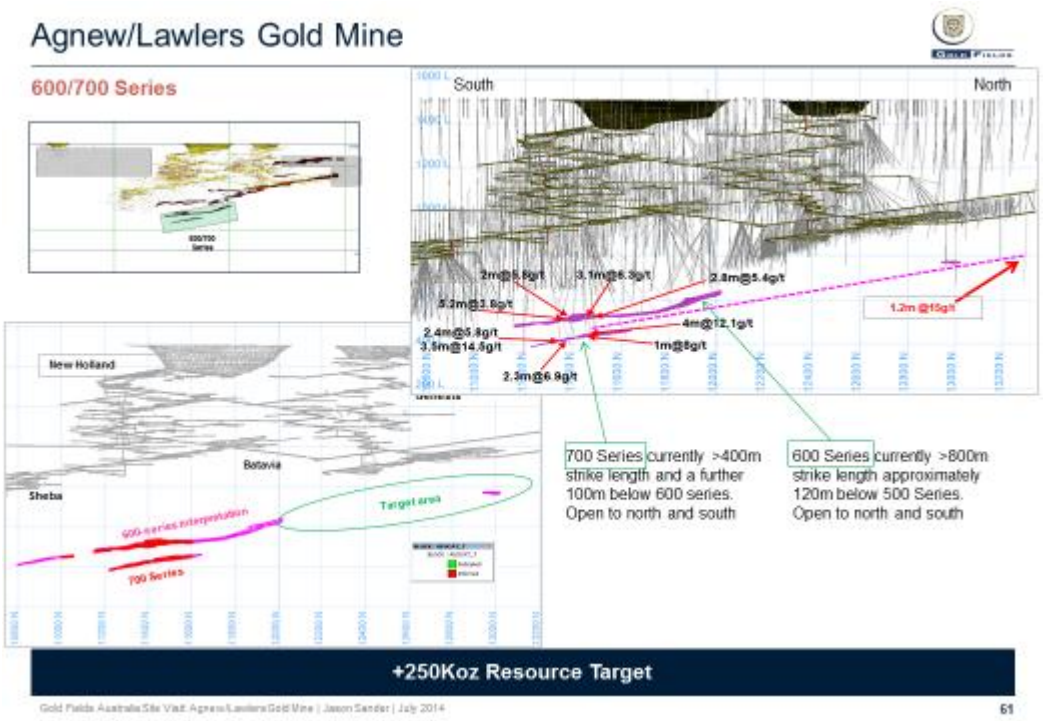
New Holland, we obviously didn't have a lot of time to get this into the 2014 budget given that we started with it in October. So the fairly obvious targets for want of a better word.



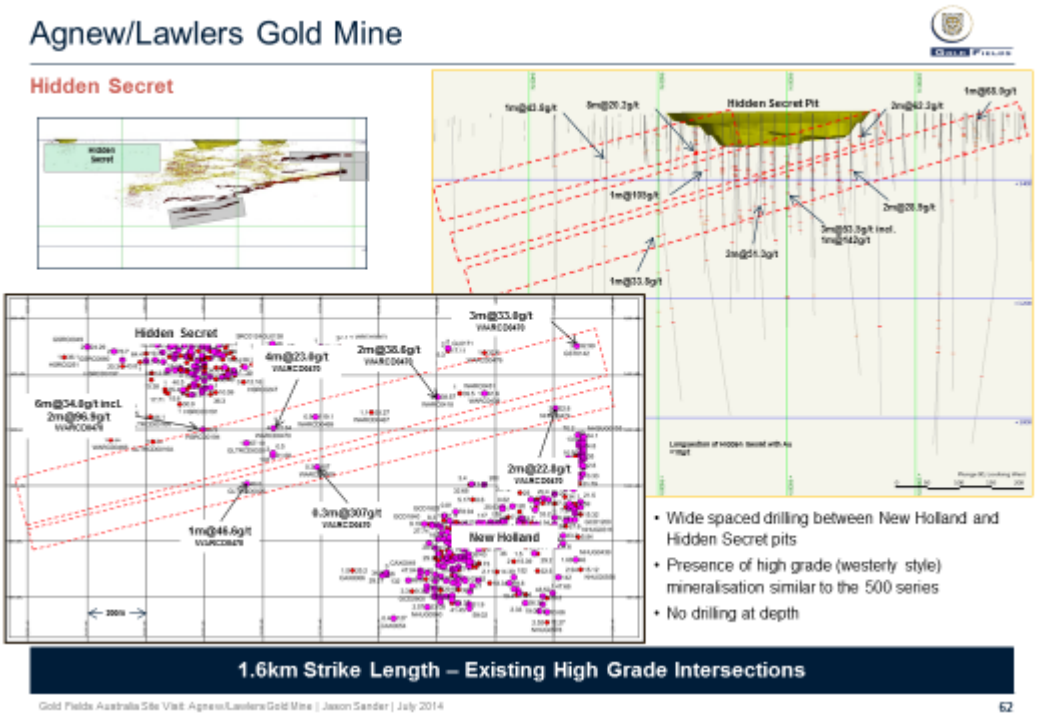
And extensions to this 200 series to the north, this was in reserve. This was in resource, so that has been a target for us and ultimately there is potential for it to continue.



And the same as the 500 series again that has been New Holland since 2011. The object of the exercise is to target up this northern area through here.



On a more resource base, which wasn't resource at the time, the 600/700 series, which is 100m below current mine development. And unfortunately probably in the worst position with regards to access from Genesis or over in Sheba. So this area to the north is the main target area. You can see there that the tenement result is pretty good through that part of the world. That is what was already there. So currently drilling the northern extensions of that.



Now, the hidden secret area, the hidden secret pit down here and this bunch of holes here is what represents that. Ultimately there was a series of very high grade zones, pretty typical of the westerly lodes from a New Holland perspective. Immediately underneath the pit there is a lot of plus 10g/t. That is all the red dots you can see.

Ultimately there is 1.6km here of high grade intersections that have never been further tested. There has just been the odd drill hole. Nobody put anything together. Again this is a fairly high priority target for us both from a potential open pit cutback because that has been in the mix at least twice in the last eight years when Barrick owned it, and then really to try and understand whether there is anything meaningful in these higher grade zones and whether you've got another 500 series commencing up here and heading down-dip in a southern direction. Fairly easy access given that you could either build up the bottom of the pit or build it from the southern portion of the New Holland development. So these are the most obvious targets in the New Holland area, but nonetheless they are very good targets.

So conclusions. As I've said, Agnew and Lawlers have had a history of life of mine of three years every year since 1986. We are certainly situated in a highly prospective region, and there is a lot of opportunity both in the near-mine position but also in a more regional scope, and we haven't really touched on that much at all yet.

An experienced, focussed management team about to develop a new major ore body in FBH and we are well positioned with excellent exploration potential to extend the life and deliver ounces at the costs required.

Just a comment, Jason. You talked about Q4 as opposed to Q1; it went from 74,000 down to 59,000. We talk about Q4 being an anomaly but I think it may have created the wrong impression that 59,000 is what we can expect going forward. 59,000 should also be seen as an anomaly towards the other side. There were some high grade stopes in December which meant that January started off at fairly low grades. The first quarter would be a relatively low one.

I suppose just to point out in Q2 we did significantly better than Q1. And Q3 so far is looking really good. It is all about consolidation for us. We have fantastic mining teams at both sites. Peter is really focussing on the exploration which we could turn into a success for next year and the year after that. And we've got great opportunities just in this region alone. We don't have to go farther out just yet. Everything is nice and close and tight and easy to manage. So we've got great opportunities here.

Questions

Question: How many years have you got of tailings storage capacity?

We've got three to four years. There are other opportunities in terms of tailings storage. Neil has just completed a tailings dam study.

There is an opportunity to have a tails dam quite close to the mill. So there are obviously some opportunities there. In terms of the tails dam, the tails dam was the sub-level cave. So the actual overall geology of the area is quite different. Hence the reason why we are mining quite differently at New Holland compared to Waroonga.

Question: This is a two-part question. The first is notwithstanding the lack of interest before they sold it, is there anything that you've taken away from their practises and incorporated? And two, what was the most disappointing? You talked about a lot of the upside, but what proved not to be as good?

In terms of practises we've really been able to leverage off the mining practises. The mining cost per ton at New Holland has actually improved since Gold Fields have taken over. We have taken away a few of the cumbersome practises. We also picked up some good safety practises that were done by the ex-Lawlers personnel. In terms of disappointments I suppose it is probably the lack of capital that was injected into the operation by Barrick. So we've had to do a few things differently in terms of where we wanted to be as a team located. So that is probably some of the disappointments from my perspective anyway.

Question: So how much of that $20 million capital is catch-up capital versus ongoing sustaining?

Probably not a lot. I suppose the biggest disappointment is when we go to Granny Smith, how they managed their process plant.

I suppose the one capital project that comes to mind is the main vent rise that we had to do to ventilate the 500 series. That was pushed out, pushed out, and we started that in early October just to get that raise bore happening. We increased the raise bore size to ensure you can go through life of mine, whereas before we only had a life of mine of five years, if that, and then we had to do a further raise bore from the surface.

I suppose that would have been a disappointment because they were delaying a decision on that until they had sold it. And we had an agreement with them that they would commence the raise bore project before we completed the deal.

Question: Are there any other large capital investment projects for the next five years that are in the planning stage that will have an impact on capital expenditure?

The only thing is something that we have done. We have started to upgrade the underground mining fleet. The mining fleet was getting old. A few of the trucks were the original trucks when Barrick went owner mining back in 2003. So they have been able to maintain them a long time. So we invested capital back into it, and there is obviously a certain capital fleet replacement that we need to spend next year as well.

Gold Fields Australia Site Visit: Agnew/Lawlers Gold Mine
JASON SANDER
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14th July 2014