Forward looking statements

Certain statements in this document constitute "forward looking statements" within the meaning of Section 27A of the US Securities Act of 1933 and Section 21E of the US Securities Exchange Act of 1934.

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 potential; levels and expected benefits of current and planned capital expenditures; future reserves, resource and other mineralization 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.

These forward looking statements speak only as of the date of this document. Gold Fields undertakes no obligation to update publicly or release any revisions to these forward looking statements to reflect events or circumstances after the date of this document or to reflect the occurrence of unanticipated events.
There are a few of my senior leadership at site at the back of the room. Perhaps, if you could stand up one by one and just say who you are, that would be great:

Reg (Andrew Radford). I am the Metallurgy Superintendent and I will be helping you with the presentation & site tour today.
John, Benato, Projects manager on site.
Grant Neill, Coordinator for Security and Emergency Response.
Kim Stranger. I am the Superintendent for Commercial and Admin.
Lisa Last. I’m the Senior Environmental Advisor.
Geoff Hart, Mobile Maintenance Superintendent.
Gary Sparks, Mineral Resources Manager.
Johanna Cowell, Underground Manager.

Thank you. If you have a few questions for these people, it’s no problem, and you’re most welcome to talk to them. A couple of our key people will also be contributing to the presentation.

From our Darlot mine down to Granny Smith is approximately a two and a half hour drive, and also not that far from the Agnew/Lawlers mine. We are also approximately 400km north east of Kalgoorlie and we have St Ives a little bit further from there.

We are located in the Eastern Goldfields Province of Archaean Aged Yilgarn Craton, and we are 400km’s from Kalgoorlie as already stated, and 950km’s north-east by road from Perth. As the “crow flies” it takes us about an hour and half, to an hour and three quarters, to get to site by commercial plane.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014

Granny Smith Gold Mine

Introduction: Site Orientation

- Granny Smith mill and village located 23 km S of Laverton
- Wallaby underground mine located 15 km WSW of Granny Smith mill.
- 455.2 square km granted tenements.
- 111.1 square km tenement applications.
- 187 square km miscellaneous licences.
- Tenements focused on the Laverton Tectonic zone, 30 km north and south of the Granny Smith mill including the NE of Lake Carey

The Granny Smith mill and mine camp are 23km’s south of Laverton and the Wallaby underground is 15km further south west of the Granny Smith processing plant. The Granny Smith mine was founded initially on the open pits near the processing facility, that’s why it’s located where it is.

We have 450 square kilometres of ground tenements and 111 square kilometres in application, and 187 square kilometres of other licences. We are focussed on the Laverton Tectonic Zone which is 30km’s north and south of the Granny Smith mill, including the north-east part of the Lake Carey, which is the big light blue area (on the slide).

You can see most of our facilities. The mine village, the open cuts, the Goanna pit, Granny Smith pit, and the Granny Smith mill which you will visit later. We have come down this road southwest of the mill and we are now at the Wallaby offices and underground area.

Question: Is the village a camp?

It is a camp.

Question: Why have a camp if you’re 20km from Laverton?

Because Laverton does not have many facilities. We wanted our people closer to the operations for logistics in getting them to and from the mines.
In 1979, the Goanna and Granny Smith deposits were discovered. In 1989 there was a joint venture between 60% Placer Pacific and 40% Delta Gold and they commenced open pit mining at Granny Smith. The first gold was poured in 1990. In 1994 open pit production continued from Keringal, Jubilee and the Sunrise open pits, which are further over to the east & southeast. They are quite extensive pits and some of those areas will be subject to further exploration in the next few years.

1998, the Wallaby deposit was discovered. In 2001, open pit mining commenced and it was a very profitable open pit. In 2005, underground mining commenced. In 2006, Barrick Gold purchased 100% of Placer Dome, and on 1 October last year Gold Fields purchased Granny Smith as part of the Yilgarn South acquisition.
The whole project has produced 6.7 million ounces of gold. Open pit contributed 5.5 million. These were actually quite high grade open pits in their day. The underground has produced 1.2 million ounces and is still growing.

On this slide you can see the production versus ore source, mostly open pit mining right through until about 2004 where underground mining first commenced and steadily replaced the open pits until 2008. From then on it’s just straight underground mining. During this period here (2006-2013), Granny Smith was toll treating third-party ore from other locations. That no longer happens.
I have a solid management team. When I came in here I was lucky that I inherited some management at site that have strong discipline, and part of the attraction and strength of this site. So this is the key management team. It’s myself there (2nd from bottom right). My processing manager, Wayne Gaiter who is not on site at the moment. Reg Radford you’ll be hearing from shortly. Nathan Bolton, HR Superintendent, Francis Mills Environment and Community Superintendent. The second in charge for environmental Lisa Last is here (in the room). Dave Mills, he’s our OH&S and ERT superintendent.

Kim Stranger, commercial superintendent. Gary Sparks, our mineral resource manager, all things geology and exploration. Andrew Cooper, mining manager. Grant Neill, my security coordinator. Paul Elezovich, he’s in the safety area, as is Nathan Ridley. And Phil Marwick looks after the camp and some of the surface infrastructure works. And you have already met Peter Tapper, the first guy to stand up, is our business improvement superintendent.
This is a very strong team. My key production guys are Andrew Cooper, Gary Sparks, Wayne Gaiter and I will put myself in that category as well. So these are the key managers here, but in each of these areas, in mineral resources, processing and mining there is a very strong under-manager group behind these guys. Underground managers under Andrew Cooper are very strong and give us great leadership, and we have a good superintendent backing up Wayne Gaiter in processing. We have very strong support in the mine with the mine geologists behind Gary Sparks. So we are in a very good space as far as management goes with a lot of experience.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014
### Granny Smith Gold Mine

#### What Did We Buy?

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<thead>
<tr>
<th>POSITIVES</th>
<th>CHALLENGES</th>
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</thead>
<tbody>
<tr>
<td>- Granny Smith world class gold mining operation</td>
<td>- Processing plant, ageing infrastructure and equipment integrity</td>
</tr>
<tr>
<td>- A dynamic and results driven management team</td>
<td>- Mill Capacity not utilised</td>
</tr>
<tr>
<td>- Great ore body with outstanding exploration potential</td>
<td>- Exploration spend required to realise exploration potential</td>
</tr>
<tr>
<td>- A mature and well-functioning mine site with highly experienced mining personnel</td>
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#### A Great Acquisition With Significant Upside

The positives. Why did we buy Granny Smith?

This is a world-class underground mining operation. I am trying to think of another operation in Australia that produces 1.5 million tonnes of ore and +250,000 ozs gold from an underground mine. Maybe Jundee. However, Granny Smith is a fantastic operation, has good grade, and has longevity of mine life.

We’ve achieved results through the management team, who hate missing a target, and we haven’t missed a target since we’ve been here as Gold Fields. We’ve got a great ore body with outstanding potential and it’s a mature, well-functioning mine site with experienced mining personnel with succession planning in place.

Challenges.

The processing plant is 23 years old. It was not in good shape, and the integrity was suspect. We are investing in the plant this year quite significantly and it’s improved notably. Our mill capacity is not utilised. It is a 3.4 million tonne per annum capacity plant and we are campaign milling approximately 15-16 days per month. The exploration spend required to realise our exploration potential is going to be significant, but if we invest, I think we’ll be rewarded. It is a great acquisition with significant upside.
This slide shows the resources and reserves on the main ore bodies.

Our open pit resources are 27.6 million tonnes at 1.33 g/t for almost 1.2 million ounces. This is an open pit project that is sitting out there, which some of you may know about. Barrick was working towards developing these open pits as part of plan at Granny Smith mine to fill the plant. That was mothballed with the decline in gold price. It was no longer economic.

Question: Are those the pits that we drove past?

It is underneath two of those pits, yes. We’ve looked at those. They remain in resources because there is some expectation that if economics change in the future, gold price movements, whatever, they may come into our thinking again. But right now they’re not economic and do not meet our cash flow margin. And we have been quite disciplined on this.

Our underground mine, has resources of 8.5 million tonnes at 7.54 g/t for 2 million ounces. This is only limited by the depth we’re drilling at the moment. The mineral reserves are 4.1 million tons at 6.3 g/t for 800 000 ounces and we also have improved this by +15% on our 2012 ounces post depletion.

This slide also shows a schematic image of the underground and what we are doing. You see at 70 level we are mining probably most of the remainder of this year and little bit into next year, and just a little development on the lateral edges.

On 80 Level, this is the main production level this year, and we are also pulling a lot of ore out from 90 level in both development and stoping.

You see at 100 level, which is our lowest level at the moment, and still in development, but our first stopes will come online in quarter four this year.

We are drilling down to zone 110 and down to zone 150.

What we find, about every 100 metres we have a repetition of the ore body opening up and the
beauty of this deposit is that the grade is steadily improving on each level and the extent of the mineralization is also greater.

Question: So what is the grade difference between zone 80 versus zone 100?

There’s a slide with that on it shortly.

Just a little bit more on the mining method.

They’re quite flat ore bodies. It does dip up to 50 to 60 degrees in some places, but most of the time it is actually quite flat. It sort of resembles in some places an underground coal mine, because of the flat nature, and it’s also quite labour and machine intensive.

We have to have a number of jumbos and quite a number of people underground to actually achieve our ore production. The Wallaby underground is a single decline track haulage from the portal into the Wallaby open pit and upper ramp.
Granny Smith Gold Mine

**Mining Methods, Mining Infrastructure and Equipment:**

**Wallsaby Underground:**
- Single decline truck haulage from a portal in the Wallsaby open pit.
- Ramp Gradient = 1 : 7.
- Decline and Truck Access Profile:
  - (5.2m wide x 5.7m high).
- Ore Drive Profile:
  - (4.6m wide x 4.6m high).
- Inclined Room & Pillar (IRP):
  - Suitable for moderately dipping orebody (10°-35°), and moderate width zones (4-6m).
- Transversal Long Hole Stope (TLHS):
  - Suitable for thicker zones (6-15m) under varying dip conditions.

**Main Equipment:**
- 4 x Atlas Copco Twin Boom Jumbos.
- 3 x Atlas Copco Production Units.
- 4 x Cat 2900 Loaders.
- 3 x Cat 1740 Loaders (Fremotes).
- 8 x Atlas Copco NT0120 UG Trucks.

The decline gradient is 1 in 7. Decline truck access profile is 5.2 metres wide by 5.7 high.

Our ore drive profile is 4.6 metres wide by 4.6 high.

One of our mining methods is inclined room and pillar. It is suitable for a moderately dipping ore body. Where we have parts of our ore body between 10 to 35 degrees and ore zones between 4 to 6 metres wide, we use this method.

We also have transverse longhole stoping. That’s suitable for zones which are much thicker and broader and have varying dip conditions.

There are some schematics shown here. There’s an inclined room and pillar cross section and a long section (top image), and some transverse open stopes, and longhole stoping on the bottom image.

This will be explained a little bit more by Johanna Cowell and also on your underground visit.

The main equipment that we are using, are four twin-boom jumbos, three longhole production drills, four 2900 loaders, three 1700 loaders, all remote capable, and eight underground trucks.
In the processing plant, we have the primary crusher and the secondary crushing circuit. A 3.5 megawatt SAG mill and 3.8 megawatt ball mill, six leaching tanks and six CIP circuits. We also have a thickener and tails re-treatment part of that plant. Our capacity is 3.5 million tons per annum. We are currently campaign milling on about 15 or 16 days a month at 1.5 million tons pa and we maintain that very steady around 350 to 360 tonnes per hour, steady state, and it is really making things very efficient in the processing plant.

Question: Do you run the plant all day or do you sort of shut it down at the end of the month or something?

No, we run 15 days continuously and then we shut the plant for almost 15 days and we start again. So we’re only running 15 days per month and then shutdown. And it’s actually a fantastic opportunity right now, because of the aging facility and the extensive capital that needed to happen in that processing plant this year and into 2015, while we are campaign milling and still achieving a great ounce production, we get half a month every month where we can hit this plant with our capital works and it’s been very effective. It also becomes a very, very well maintained plant.

Question: What were the other ore sources previously & is this still an option?

The ore came from Focus minerals and it’s not an option now.

Question: So why did that stop?

They stopped production. It was uneconomic (for them). Once the gold price environment came down to about $1200-$1300 an ounce the company, Focus Minerals, ceased all operations in the area.

Okay. So this campaign milling right now is giving us a great opportunity to deliver our capital programme in 2014.

We have got a lot of structural concrete and steel remediation works, which will be ongoing for the
next 12 months. We have replaced and modified the cyclone feed pumps and the whole grinding circuit. We have refurbished the gold room and the elution circuits. Still a little bit of work going on in elution. Tank refurbishment is also happening and will be ongoing for the next 12 months.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014

Granny Smith Gold Mine

Other Site Infrastructure

- Camp
  - Contractor managed, Catercare Services
  - Capacity of 640 modern rooms
  - Double story Gym and Squash Courts
  - Limestone enclosed Bar and state of the art outdoor projector
  - Digital TV and Foottel
  - Wi-Fi throughout Camp

- Flights
  - Dual contracts between Skippers & Cobham to enhance cost saving flexibility
  - 1.9km certified unsealed Aerodrome

Other site infrastructure: our camp, it’s a great camp. It is a great facility. It is quite old, but we do have some new buildings in the camp as well. We have capacity of 640 rooms. We do not need that, we only need 400. So we have surplus capacity. The camp is bigger predominantly because of the capital work that was started by Barrick in setting up for their open pit project. So they were looking at expanding operations. They had already started to expand the camp. We just finished the camp off. We have a double storey gymnasium with squash courts and an indoor cricket facility. We have a bar, which is quite nice. You’ll probably get to have a look at that if you’re having lunch. And a big outdoor projector where the people can watch rugby and things like that which is very important for me, since I’m a major Crusaders supporter. We have digital TV for all our rooms as well. So we are looking out for our people. And we have Wi-Fi, very good connectivity right throughout the camp.

Flights: we have a dual contract with Skippers and Cobham to enhance cost saving. That actually starts next month. It’s going to save us several millions of dollars per annum in operating cost by changing our contract arrangement.

Question: What is the benefit of having two contracts, since Darlot only has one?

They have a different size operation. It is just more efficient for Darlot to be like that, but we also had a look at availability of the jets. We are actually starting to fly jets in August. You may think that might be more expensive, but it’s cheaper, because the jets carry more people, and it is only one day that we run with Skippers, and it’s very limited, with the numbers that come in on Mondays. Most of our people fly on Tuesdays and Thursdays, and it’s much more efficient for us to use jets than Skippers. The saving is in the order of $1.5 to $2 million in operating costs saving.

Question: How much is that?

$1.5 or $2 million in operating costs saving.

Our philosophy in all contracts coming into this is that we will review all contracts as they come through.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014

Why did we buy?
A bit more on why did we buy.

Our due diligence indicated that Granny Smith met the Gold Fields metric of achieving a 15% free cash flow margin at a gold price of US$1,300/oz with key opportunities:

- Optimise workforce
- Optimise capital spend including development rates
- Improve mining recovery and dilution
- Improved grade control models
- Optimise mill campaign production profile to maintain consistent throughput and improve recovery

Other opportunities that we saw:
- Optimise stores
- Mill improvements including gravity recovery

Potential Synergies:
- Regional laboratory for Gold Fields sites

Resource and Reserve Growth

Improved grade control models, based on the work that we’re doing in the mining recovery and dilution control, and some extra drilling, optimising the production profile to maintain consistent throughput and improved recovery. And that was a real “biggie”. That is the significant gain for us, which is basically delivering us free ounces over and above our plan this year, which is driving our cost down significantly.

So the other opportunities we saw were to optimise the stores and improvements in milling, including looking at gravity recovery in the plant. Another synergy that we’re looking at going forward now, and this will be into our plan next year, is looking at a regional laboratory facility. We have a great facility here, which we think is going to have benefit for the whole region and that’s what we’re promoting into next year. And the resource and reserve growth here is only limited by our investment in the ground.
So when we came in here we knew that from surface we have some confidence in a 1.8km depth endowment.

Right now at the level that we’re mining at Zone 100, we’re round about 950 metres from surface.

These figures (on the right of the slide) are the undepleted global resources on each of the levels and you can see that grade has steadily been increasing.

On Zone 90 level we have 3.6 million tons at 8.5 g/t.

Zone 100, 3.8 Million tonnes at 8.8 g/t.

These numbers are only based on the drilling as at the end of last year (2013). This is still growing laterally (Zone 90 & Zone 100). On zones 110 and 120, it’s the early days of drilling, but the grade is 6 grams, but historically here (at the Wallaby deposit), as we in-fill drill, and we’ve started growing these levels and resources and reserves, we see that the grade usually comes up quite substantially.

These are genuine targets at Zone 120 to Zone 150, and we have some results which confirms the location of these as well.

Question: What’s the distance between each new ore zone?

60 to 100 metres between each of these levels.

Question: And what is the cost imposition with each new mining level with depth?

Essentially we will likely need an extra truck per level to maintain our production profile. The way that this mine looks at the viability of each level is that we drill out to justify the decline development to the...
next level with some margin. We in-fill drill and complete a full feasibility before we actually commit to fully opening up of that level. So we know what we’re doing before we get there.

We have a completed detailed feasibility on zone 100.

Come 2015, next year, we’ll be looking at zone 110 feasibility study as well.

Question: Do your margins increase with depth or do you expect to see then stay the same?

Well, we have put plans in place to maintain or better our margin. The grade is increasing as we go deeper and we’re getting more ounces on each level. And if that position is sustained, then we should almost be maintaining our margin. It’s about roughly half a gram grade improvement per level. So looks like it’s a nice ore body, it’s behaving better than a lot of ore bodies, where the grade just stays the same when you go deeper. This one is a lot better.

Question: At what depth does it become uneconomic, assuming a half gram grade increase every level?

I think that we’re still okay down to 1.5km’s by trucking and haulage up the decline. I know you could say, look, what about a haulage shaft, but there is a lot of capital required to drill out and justify the big cost of a shaft. Shaft options are still in our thinking, yes, but we haven’t committed to that yet. It is quite a major capital injection especially in exploration dollars to be able to prove out with a high level of confidence that you have resources at 150 to justify a shaft option, and you would want a long life project.

If we stopped drilling tomorrow, did no more exploration in this mine, we’ll be here six years. There is no end in sight right now; it’s just limited by drilling. And historically, the theory is that if you put the money in the ground, we have been rewarded with conversion, which gives us a little bit of confidence as well.

Question: So that six years is on reserves of partial resources?

Yes on both.

Question: What is the typical resource to reserve conversion?

We’re about 55% resource to reserve conversion.
Gold Fields Australia site visit: Granny Smith Gold Mine
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So the due diligence view in wrapping up, it's in a highly endowed gold province. Over 20 million ounces of gold has come from the Laverton region, including Granny Smith at 3.5 Million, Wallaby 8 million, and 10 million ounces at Sunrise in endowments.

So we've got two world-class deposits on the shoreline of Lake Carey, Sunrise dam and Wallaby.

There's been limited exploration out here (Lake Carey) and that's where we're heading in the next couple of years, where it has been grossly unexplored.

There's no significant exploration in this area since 2005 and the exploration hasn't been systematic, and with our results in some of these areas, it does require some backup. Brown field exploration potential in existing pits is also a major upside.
So to production, since taking over here, you can see how we have performed on ounce production and All In Sustaining Costs.

Barrick had come down quite significantly after adjusting to the gold price drop, but also they had already committed to the sale of this asset, so all capital was off the table. So they were not committing any more capital. It makes sense, of course. You’re in a sale mode.

We (Gold Fields) have come in, we also didn’t spend a lot of money in quarter four 2013, but we knew we had to spend and commit in quarter one of this year, investing in the thing that produces us money, the processing plant predominantly. And that’s why we’ve got a bit higher on All In Sustaining Costs in Q1 2013, because we committed some extra capital.

Question: When you said the capital, was there enough capital development in the underground?

The underground mine was three years in front of ore producing areas in capital development. So we had the opportunity of just slowing down a little this year, while we spend that money in the place that really mattered and that was the processing facility.

There’s one point on that previous slide. If we just go back to it and see the 80,000 ounces produced in quarter three of 2013 from Barrick that was when they were doing what?

Were there actually ounces that weren’t produced in quarter two, because of some issue, and then there was big catch up in quarter three. So that’s why that ounce production is so much. We were running quarterly campaigns where we’d stock pile for two months whilst processing 3rd party ore. In that quarter three, all our stock piles were run through the plant at higher grade than the 3rd party ore.

Okay. We had a very good finish to quarter four 2013 (the 1st Qtr under Gold Fields ownership). Actually in our first quarter (Q4 2013) we did about 62,000 ounces and in quarter one (2014), we’ve lifted the ounce production slightly to 66,500 ounces. We have done very well in quarter two as well and our All-in costs are significantly lower than that in quarter one.
**Gold Fields Australia site visit: Granny Smith Gold Mine**

Stuart Mathews

16 July 2014

### Granny Smith Gold Mines

**Major initiatives: Delivering Results**

<table>
<thead>
<tr>
<th>Improvement focus</th>
<th>Actual achieved</th>
<th>Actual Achieved</th>
<th>+/- Ozs Variance since Acquisition</th>
<th>Overall Impact</th>
</tr>
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<tbody>
<tr>
<td>Improved process plant recovery</td>
<td>Smaller cyclones, re-work plumbing &amp; ball mill discharge</td>
<td>+4% plant recovery</td>
<td>+14,500 oz in 2014</td>
<td>Extra oz from same ore tonnes. Reduced Cost per oz</td>
</tr>
<tr>
<td>Internal dilution reduction</td>
<td>+0.3 g/t gold grade increase</td>
<td>+14,500 oz</td>
<td>As above</td>
<td></td>
</tr>
<tr>
<td>Process plant stability</td>
<td>Maintaining campaign milling @ 300 tph feed rate</td>
<td>+15,000 tonnes/mill feed</td>
<td>+2,600 oz in Q4 2014</td>
<td>As above</td>
</tr>
<tr>
<td>Grade control remodeling</td>
<td>Intil drilling, development assaying, mapping</td>
<td>Overall Gold grade increase</td>
<td>+ additional oz. Remodeling still work in progress. Completion in Q3 &amp; delivering results in Q4</td>
<td>As above</td>
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**Applying the Gold Fields Franchise**

2014 Analyst Visit - Granny Smith Gold Mine | Stuart Mathews | July 2014

**Major initiatives, delivering results!**

**Improved process plant recovery.** We have installed smaller cyclones and reworked the plumbing and the pumping around the ball mill discharge area of the plant. We are still doing work in this area, but have gained near 4% plant recovery already with maybe some more incremental gains to come. That is going to deliver an extra 14,500 to 15,000 ounces in 2014, which are basically free, because the ounces are from the same ore tonnes.

**Question:** Did you have to purchase the cyclones & how much did they cost?

The cyclones were already here.

**Question:** The cost of the installation?

And to install them, no more than $40,000, and we’ve got the pay back in 48 hours.

**Question:** So your recoveries have gone to 93?

We’re at 92% recovery right now and we have smaller incremental gains to come with some of the capital works, especially in the grinding circuit. So this is delivering extra ounces above our plan from the same ore tonnes, which is also reducing our operating costs.

**Internal dilution production:** We’ve had a good look at our drill and blast and try and honour the ore body a lot more and in places we’ve moved more into transverse stoping. Just controlling that dilution and thinking a little bit out of the box, we’ve actually lifted the grade that we’re delivering by about 0.3 g/t. It’s a little bit better than that now and that will deliver another 14,500 to 15,000 ounces this year above the plan from the same ore tonnes.

**Question:** Just to be clear, that’s the 29,000 ounces stacked up from the 14,500 plus the 14,500 ounces?
Yes, 29,000 ounces. And just keeping the stability in the plant, we did push a little bit to have a good start in 2014 and we were up 2,600 at the end of quarter one against plan.

Now this is another one, Gary’s (Gary Sparks – Mineral Resource Manager) guys have been working at grade control remodelling from the new infill drilling that’s been achieved over the last 12 months and what we’ve got is an overall grade increase from the previous resources. That’s also going to deliver a lot of additional ounces, maybe as much as 25,000 to 30,000 ounces. But we’re still remodelling the production areas and that will be completed at the end of this quarter with results, and start to be delivered in quarter 4. So, there will be a quite significant ounce production that will add to improvements already achieved.

Question: Is that changing the way that you’re doing your grade control drilling or is it just that you’re just reviewing the data?

Oh, it’s just new data, new infill (drilling & development drive) data.

With new data coming in, with this ore body the more you add information; it gets better & more relevant.

Okay.

There’s also timing when you did your last reserve shapes and your present stope shapes. We’ve done significant amount of investment in the mine, Gary has now remodelled those with the new information and there is higher grade in some parts of the mine. So, where we’re going to be mining later this year and going forward, the grade has changed.
So, where are we with our performance since acquisition?

In Q4 2013 we had only just come in, so sort of just having a look at the operation, planning ourselves for the next year. You can see that we had pretty good mined grade. We had a pretty good head grade through the plant last year. The recovery was just over ninety percent. The recovery is still up on previous historical performance of the plant. That was predominantly because we started campaign milling. We just started to be steady state, just keeping the mill very steady. We probably got a percent of recovery there. And we sold 62,200 ounces, good revenue, our operating cost of $47 million and our operating profits $32.3 million and the capex expenditure was $8.1 million.

There were some urgent things that I felt needed to be done. We committed to those. And also our All In Sustaining Costs were $880 an ounce.

In Q1 2014 there was very good performance again. Our grade was a bit lower than the previous quarter. That was just part of the sequence of where we were in the mine. The recovery came up in January/February. We started changing the operations of the cyclones. We’ve started using the small cyclones in the last month of that quarter and recovery has been reflected in that. Now, we are above the plan at 92% recovery. Gold sold was 66,500 ounces, our All In Sustaining Costs at $910. We have committed a little more capital as well, but that’s pretty much in line. Our All In Sustaining Costs now going to Q2 are below $800 per ounce.

Question: What is your capex budget for FY14?

Our capex budget?

Yeah.

$55.1 million.

Question: In that six year life of mine what’s your production assumption?
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014

For the next four years, we’re looking at 250,000 plus per annum. And that’s still assuming our campaign mode at the moment. The idea is that we should be able to maintain plus 250,000 ounces as long as we keep drilling in front of us.

Question: If I read that data from the last slide on production, that looks like a kind of quarterly run rate of about 75,000 to 80,000 ounces, starting next year. Is that correct?

Our quarterly is now between 65,000 to 75,000 ounces, maybe pushing up to 80,000 ounces for some quarters.

Question: When you look at the high volume entered on plan what will it cost that you will be targeting next year on an All in cost basis and capital cost?

We should be able to be in $800 per ounce area. We are putting together our operating plan for next year now. So, you know, we’re looking at all our capital requirements next year as well. I think our capital next year will be slightly reduced on this year, but we haven’t confirmed that at the moment. We’re doing our 2015 plans now over the next quarter.

Of this $55 million for this year, how much is plant refurbishment?

$17.8 million to $18 million.

Question: Are you having to spend less on underground and will you have to start spending more again in two or three years?

Yes. We’re right where we should be on capital spending underground, almost exactly to the plan. This will increase slightly in 2015.

Question: You think you’ll complete the upgrades for the plant in the next 12 months?

There’s still more work to do in 2015 but the bulk of it is this year. It’s a significantly different plant to when I arrived on 1 October 2013. The work that we have put into this plant, we have been rewarded with recovery and you can almost see the effort that has been put in. It’s a fantastic achievement. It’s looking very smart. The plant will look brand new by the middle of next year.

Question: And the 250,000 ounces in the next four years does that incorporate the improvements that have been achieved? Is that included in that number?

Yes. The cyclones, the efficiency in the ball mill and grinding circle in general, and the capital works we’re putting in there, they are all aimed at delivering recovery. We are upgrading our tailings retreatment circuit, so, that can treat all of the tailings from our CLP circuit instead of the 60% being treated at the moment. All those things that we are doing now are probably going to add incremental increases of recovery. We’ve had the big recovery gain and we got it immediately for little investment. Now we’re looking at incremental gain. The other thing we’re doing is bringing this plant into this century. We’re modernising it. A lot of it is manual, or was manual, but very rapidly now...

Question: Manual? What do you mean by manual?

Well, guys just tinkered with things to achieve the production. Now we’re actually moving very quickly to automating this plant, bringing it into this century.

What do you do with the other 40% you can’t treat?

Well, it goes to tailings. So that’s why we’re looking at that part of the circuit, to be able to see little
incremental gains in recovery.

But our tail end grade has not changed. We’re just doing it more efficiently. So, we’ve got some higher grades going through the plant but the tails grade is unchanged so it is still controlled.

So, all the measures that we’ve done are basically designed to improve our all-in costs and our production.

And we’ve had a change in operating culture.

Significant change might be a bit harsh on the guys that were here already. The guys that are here already, especially the managers, were very strong, very disciplined in the way they run this mine.

This was a successful operation for Barrick. But some of the things we’ve put in play and we’ve been working on have made it even better.
Granny Smith Gold Mine

Executive Summary

All measures designed to improve AIC and production

Overall Management:
- Significant change in operating culture since acquisition
- Strong management team and disciplined in planning
- Re-structure of business to fit Gold Fields' strategy for 2014 & beyond

Mining Improvements:
- Optimising mine recovery of the resource
- Dilution control through drill & blast focus in design & implementation
- Revised mining methodology for flatter stopes
- Doing the basics right

Processing improvements:
- Increased ounces with quality of mined ore tonnes
- De-risking the process/plant upgrade remediation
- Recovery gains-4% plant optimization
- Not filling the plant - Optimising gold production
- Campaign milling vs continuous milling

Strong Life Of Mine:
- Limited only by drilling & exploration
- Doubling of exploration spend over 2013 to AS$1M (excluding resource conversion drilling)

One Of The Premier Gold Mines In Western Australia

2014 Analyst Visit - Granny Smith Gold Mine (Stuart Mathews) July 2014

So, we’ve got a strong management team, disciplined in planning, and that’s one of the biggest things that make us successful. And we’ve restructured the business to fit the Gold Fields’ strategy for this year and beyond.

The mine improvements; we’ve optimised the recovery of the resource, we’ve got dilution control and drill and blast focus. That’s been a big help. And now we’ve got guys really now thinking out of the box and coming up with some great ideas of their own.

We’ve got revised mining methodology in flatter areas of the ore body and we’re doing some of the basics right. So, some of the things we’ve done are just basic and simple but have delivered some fantastic results.

Question: What is the improvement in mining drill and blast?

It’s just that we’re very mindful that we honour the ore body and make sure that we minimize any dilution where we possibly can.

Question: What’s the split between room and pillar and transverse mining?

It’s about 70% of room and pillar and 30% transverse stoping.

The processing improvements increase the ounces and from improved quality of mined ore tonnes. And we’ve de-risked the processing plant. With every shutdown that we have after every campaign, the process plant is being de-risked.

We have been rewarded with recovery gains of 4% in the plant and we’re not filling the plant, but we’re optimising gold production.

We will remain campaigning at the moment versus reduced tonnage/continuous milling unless we find more ore at the right margin.
And we’ve got strong life of mine. We’re limited only by the drilling and exploration as we’ve previously said.

And we are doubling the exploration spend over 2013 expenditure, so, that’s up by $6 million to $12 million.
This is when we took over with Gold Fields.

Some of the safety here might have been a bit around uncertainty of a new owner coming in. But since we’ve come in there’s been a sustained drop in our total recordable injury frequency rate (TRIFR). I can tell you now that for Q2 we are well below the target line (in red).

Question: Why hasn’t the target dropped at start of 2014?

The target drop in TRIFR is 10% over the year.

Question: Then should the target move down for 2014?

But that is the target for 2014.

Probably be using for 2013 too?

No, that’s just the line. It was not the 2013 target & only refers to 2014

2013 the target was different; so in 2013 they were being targeting a lost time injury frequency rate. We did that for the last quarter.

This year now, is still heading in this direction (downwards from 2013) and at the end of Q2 it was well below the target line. I think that’s a lot of that has to do several things: There are great systems in place here. There is a new Vital Behaviours programme in play at all of our Gold Fields operations which is further enhancing and socializing safety in the workplace. And I think part of the success in driving us down is actually being successful as an operation. That really helps.
Safety Focus

Safety Initiatives in 2014

- Task Observation Performed by Supervisors (TOPS) – 500 discussions per month
- Socialising safety in the field
- Participation by all supervisory staff
- Strong culture of hazard & incident reporting
- Internal Leading Indicator Environmental, Health, & Safety Audits – Quarterly (bonus parameter)
- Employee Health & Wellbeing Program improvements in 2014
- Reduction in diesel particulate emissions – tracked against an internal target with the majority of exposures achieving the target. All UG equipment have filters installed
- New Vital Behaviours Program – safety initiative in 2014

So, safety initiatives, we do TOPS which are Task Observations Performed By Supervisors. We’re all committed to that. We’ve had 500 discussions with people about their jobs around safety and environmental every month. We’re socializing safety in the field.

Participation by all supervisory staff including myself.

Strong culture of incident reporting.

The internal leading indicator, environment, health, safety audits, and they are completed quarterly and they are bonus related. They are a bonus parameter, and we’ve achieved those.

We have improvements in health and well-being at the site.

And that’s helped with the morale of the people.

And we’re reducing our diesel particulate emissions, which is a corporate initiative fully supported from the very top of this company. And all our equipment underground has diesel particulate filters installed.

And we have the new Vital Behaviours programme, which I just mentioned, which is a major initiative this year.
We have around 390 employees at Granny Smith and 95 fulltime contractors in 2014. There’s a few extra around at the moment, on the capital project works in the plant.

On your employees, what’s your average expenditure on salaries?

I do not have that exactly. It’s about 30% of our total costs. I could find it for you as a percentage for you.

Question: That equates to what in dollars per ounce?

Average cost for the gold sector in Western Australia is 140,000
As a company we are pursuing ISO 14001 certification on environmental compliance. Our first stage audit has been completed with no non-conformances and our second stage is scheduled for quarter four.

And we have just achieved full compliance on the cyanide code and we’ve been recommended for re-certification at the site.

We have good engagement locally and we support the well-being of the area through Laverton Leonora Cross Cultural Association.
Our top priority is to ensure a long term availability of water sources at site. We have an agreement with the Lynas Corporation which is one of our neighbours mining in the area. That’s a good agreement, we have a good relationship, but water is something that I’m always mindful that we must have security full term.

Deliver our exploration strategy with Granny Smith to realize our full potential and maintain the integrity of the processing facility. And ensure our business continuity through critical spares and maintenance of our equipment. So, those are the priorities.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014
Gary Sparks, Mineral Resource Manager

Granny Smith and Wallaby. Our project is set on a lake. We have the Granny Smith mine sitting along this area here, Wallaby over here. And we have Keringal and Jubilee south of Granny Smith down here. We are focussed within a major tectonic zone. There is a major shear to the east and another shear to the west. Our main deposits, Granny Smith and Wallaby, they are controlled by a granodiorite and structural anomalies on the Chatterbox Shear.

Wallaby is not easily seen. The Chatterbox shear has a flexure in the position where Wallaby sits, where it interacts with north-east trending structures. We know those north-east trending structures are important features down to St Ives as well. If we look at the Wallaby deposit itself this is a schematic of the current reserves excluding a central intrusive system. On the reserves we have currently in the 2013 numbers there is 828,000 ounces. We are improving on that. As Stuart mentioned we see a significant increase as we go down the line.

That in part is due to the increase in cut-off grade which takes into account the higher cost of mining. Zone 70 sits at a 3.5g cut off and Zone 100 at 4.2g. However, the global resource numbers also increase at a standard cut-off as we go down.
If we look at the lenses themselves you will see a very similar pattern all the way down. We have a flat main lode with a hanging wall type lode to the west. The first underground ore was Zone 60. In the open pit it was the zone 50 and the zone 40. Zone 70, which is a slightly less well developed lode, we have our main lode and our hanging wall lodes. These features are very strong in zone 80. We have a flattish main lode. It rolls over in this lower area where we have a pick-up in grades and we have our higher grade hanging wall.

Zone 90 has a very strong hanging wall lode and a very flat main lode. Although it is not shown here, as we continue to update the zone 100 resource we see exactly the same shapes coming through. This trend through here, the hanging wall trend, is roughly parallel to these rollovers. It is the trend of elongation of our ore body. When we explore it we explore along those trends. And that will become apparent later on in the presentation near the end.
So a very simple slide. What is Wallaby? So we will just say there is an initial controlling structure. Down at depth down there is a major intrusive system. Off the top of that intrusive system like many intrusive systems we have an oxidising system developed, a pipe-like alteration zone, a magnetite and filbrolite zone which was the original target of exploration in this area.

In the latter stages of that there is a series of dykes up through the system. After it all solidified there was a rotating event along the trend in Chatterbox Shear which put in a series of sub-horizontal type shear zones. That was followed by another reactivation of those events at the time of gold mineralisation.

Question: Are there secondary controls that control mineralisation or is it a stratigraphic control?

It’s not stratigraphic. This is very regular. Very simplistically, if you take a solid cylinder which is more or less homogenised and twist it, then you have horizontal fractures. Very simplistic. Any geologist would give me a kick for that. I know there is one sitting there (in the audience).
If we look at the performance of the mine and our reserve conversion - this is just for the Wallaby underground. We are not including any of the open pits here. The underground commenced in 2005 as a trial mine at the same time as we were running down stockpiles from the open pit. You will see the reserve has had a fairly gradual pick-up over the last ten years. We have a slow lift in production over the first five years. In 2010 we got in some extra resources to boost our production rate to get ourselves in front of our development.

That enabled us to get our production up over 200,000 ounces. We upgraded to 250,000 ounces in 2013. At the same time we’ve increased our reserves and got a big increase in 2013. So that big increase in 2013 was on the back of a major drop in the gold price. So other people were dropping their reserves. We were increasing them.

Question: What was the 2012 price assumption?

I will have to get back to you. I think it was $1,400. 2013 was $1,350 slightly under the Gold Fields standard at the time. I will talk later about exploration but Johanna is going to talk about the mining.
Johanna Cowell, Underground Manager
This is the typical mining layout. Generally we will decline down to a zone and then do development across the full width of the ore body. Then we will start stoping back in a combination of retreats, so the incline room and pillar method. And where we can the transverse mining method. That is very much dependant on the dip of the ore body. It is between flat and 35 degrees. Where it is flat or up to about 10 degrees we can comfortably use the transverse mining method, but after that we are very much dependant on the incline room and pillar.
Granny Smith Gold Mine

Mining: What Are We Doing To Improve?

- Optimising internal dilution with mining method
- Controlling ore loss through drill and blast methods
- Reducing overbreak through back analysis and planning guidelines
- Optimising recovered ounces through back analysis and pillar review
- Paste fill investigations in progress
- Mine automation options for remote bogging
- Low profile mining & extraction options — to maximise recovery of resources

So in terms of the optimisation projects we are working on in mining, we are looking at internal dilution. So you can see the very flat ore bodies. In order to get a footwall angle that is actually minable sometimes we have to plan internal dilution into our mining shape. So by optimising that we can increase value from the stopes.

Controlling ore loss, so improving our mining recovery through the drill and blast methods. Controlling over-break through back analysis and planning guidelines. Pillar review. So because we have no fill here we do have to leave pillars. And reviewing when we get more information from grade control models where the placement of those pillars is we can optimise the ounces.

Question: What's the difference between over-break and dilution?

So dilution can be planned and it can be unplanned. Over-break we really are looking at the unplanned dilutions. That is what comes outside the mining shape that we have designed. Internal dilution, we have something that is completely flat or quite flat, we will still have to steepen up the footwall so the dirt will actually come in and can be extracted. And sometimes in some of our bulk stoping areas we will actually have multiple lenses with waste material in between which we take out as a bulk stope. That forms some of our planned internal dilution as well.

Question: What of the mix between room and pillar and tranverse methods between levels?

It has pretty much replicated itself. So along the northern extents we’ve got a hanging wall which is closer to 30 degrees. That is completely room and pillar on retreat. As the ore body goes into the main lode area it does flatten off quite a bit. Depending on where we can get accesses in, and depending on the grade, where the mineralisation occurs, wherever possible we will try and transverse mine it. If you can put your development in following the dip of the ore body you can almost completely eliminate the internal dilution.

Question: Where are you getting the grade improvements?
It is across all of it. Some of the very simple things that we’ve done like changed the footwall angle from 45 degrees as our mine planning standard to 40 degrees as our mine planning standard. The trade-off between what gets left behind on the footwall and what we don’t have to take in waste is in the order of 10%. We have looked at quite a few different areas for improvement. Some of it is the footwall. Some of it is the hanging wall. And wherever we can go in transverse that makes probably the biggest difference for us in terms of mining method.

I’ve already touched on the fact that we have to leave pillars. There is currently a paste fill investigation in progress which we should get an answer out of by the end of Q3. Obviously if we can paste fill we can leave fewer pillars. We are also looking at mine automation options for remote bogging from surface in terms of being able to optimise the number of units we run for the same or increased throughput out of the stopes.

As we get to the extents of the ore body we do find that it pinches out. So looking at different mining methods out at the extents of the ore bodies, possibly we would need to look at different mining plant options as well to be able to bring the profiles down from 4.6 x 4.6 to maybe 3.5 x 3.5.
So here are some examples of the results. This is a great example of the incline room and pillar. This is up in our hanging wall. 88% recovery of design tonnes, 97% recovery of design ounces. That's a really good result out of the stope shape. 11% over-break, which is excellent considering the 85 metres of combined up-dip spans. So they are the spans that are already open from other areas that have been extracted. I would like to take the credit for it, but we do have a wonderful hanging wall at Granny Smith for the most part to work with for a mining engineer. So the green stope is the stope that we are looking at in section, and the red stopes are the pre-existing voids. Here is another example.

Question: Sorry why was there such a difference between tonnages and ounces?

That is dependent on where the actual mineralisation lands inside the stope. From a mining engineering perspective we really look at that top one, 88%. What we design is what we expect to get out.

What you will find is the under-break was in the footwall of the stope. The ore body hanging wall would be running up through here and the footwall would be coming in through there. So the bulk of that under-break, not recovered tonnes, is coming out of the footwall where there is no wall.
Here is another example. This is still incline room and pillar. As you can see the capacity for us to develop up in this direction is the limiting factor in being able to move into a transverse mining method. So it is approaching that in terms of it being flat, but it is still too steep to develop up along the footwall of the ore body.

But again 90% recovery of design tonnes and 91% recovery of design ounces. Again 11% overbreak. And a lot of that was just a continuation of what had come out in the previous voids already. You can see the cluster of design drill holes here and here. They are very low angle rises and they are quite long. But we've done a trial which is coming up shortly. We had a lot of success with these horizontal rises, and where we can use them it is a lot cheaper than putting out a slot drive and reduces the amount of dilution that we have to take if we were to put a 4.6 x 4.6 hole in where we only want 3m height in that back corner.
So just that one alone we’ve been able to eliminate 20m of development. So significant cost saving if we can do that in most of our panels, and we have managed to eliminate several hundreds of metres of development out of our life of mine plan by replacing them with horizontal rises. So we haven’t reached the extent of what we can get away with these horizontal rises. We are doing a series of trial rises. They are all blind. They are all flat. And they are getting up towards 20m.

We know that we can get away with anything up to 12m long, and we are looking at getting them down to a 30 degree footwall angle. So that is very exciting because the more we can do of this the less slot drive development we have to put in, which is less cost for us.
So historically we have got between 85% and 87% mining recoveries. We are doing all of the work but only getting 85% to 87% of the tonnes that we designed in those shapes. So we had a lot of focus on drill and blast to get that up over 90%. Looking at things like dumping the holes forward to give them better blasting faces, break-out angles in terms of the shape that they are trying to fire to, sub-drilling of footwall angles which we just need to be careful with because you don’t want to destroy your floor because then the stopes themselves become less productive. So trying to fiddle them around until we get something that is optimised. And it is really just attention to the shaping techniques at the design stage to give us a more accurate shape in terms of what we expect to come out.

Question: Just on that previous slide. Why didn’t Barrick do this?

It is actually a fairly simply answer. In 2010 we were doing 900,000 tonnes. In 2011 that was up to 1.2 million. The year after that we were aiming for 1.5 million. So the focus is very much on ramping up and on making shapes that will come out quickly, easily and keep the plant running. And ounces. So quite correctly when Gold Fields came in, saw what we were doing and turned around and said you guys could be moving the same amount of dirt but better quality dirt. We just shifted our focus from maximising throughput to looking at the quality of what we were pulling out for the first time.

The good thing is we managed to maintain the throughput.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014

Granny Smith Gold Mine

Mining: What Are We Doing To Improve?

Planned Dilution
- Have maintained a minimum cumulative reduction in planned dilution of 10% since Nov. 2013 while keeping designed ounces consistent (i.e., not dropping ounces to shred planned dilution)
- Approval given to trial mining method designed to eliminate footwall dilution
- Utilises the drill rig capability to innovatively drill & blast the low angle stopes without the need for expensive waste development to set up the slope
- Design and execution of trial to begin once model is provided by geology department.

I said earlier with the flatter lodes we generally have to dilute it or plan dilution that is significant. In some areas it is up around 50%. What we are trialling here (on this slide) is a new mining method where we do have to commit more drill metres to it, but if it works potentially we can mine fewer tonnes at much higher grade. There is no planned dilution in this block over here. So we are yet to drill that up, but we are all very keen to see whether that will work for us. It is effectively a new mining method for us if it does work.

The mine has maintained cumulative reduction in planned dilution of 10% since November which was when the shift in focus happened. We’ve also been given approval to trial this mining method. We’ve got some rig capacity. And if it works – and we don’t see any technical reason why it wouldn’t work – it will give us a better result in terms of mining truer to the ore body in sections where the ore body is quite narrow and flat.

Question: What is the difference in production terms?

I couldn’t give you the actual numbers off the top of my head, but it is significant just because we can mine it at twice the rate in terms of the throughput with the same amount of resources.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014

Processing

To be the global leader in sustainable gold mining
Andrew Radford will now talk you through processing.

With the end of Barrick and the Gold Fields transition we looked at a few options for 2014. Of those options we can run the processing circuit in a couple of scenarios. We have run closed circuit SAG milling previously back in 2008 when we first started on the Wallaby ore and prior to us doing toll treatment with what was then Crescent Gold and then became Focus Minerals.

The SAG mill can do around 140 to 150 tonnes an hour by itself. The other option for us was to run the SAG and ball mill in closed circuit but at reduced power, so trying to match those two mills to only 1.2 million ton per annum. As we mentioned, those mills at full power are suited for about 3.5 million tonnes and up to about 4 million tonnes on softer oxide ores.

The third option, which was the selected option, was for us to basically run it in closed circuit. However, in a campaign mode. So not quite at its name plate. We have had it up to 370 to 390 tonnes an hour. So at a slightly reduced throughput of 350 tph going for a steady state of better grind, better recovery, but effectively on a two weeks on, two weeks off basis.

The assumptions that we looked at last year, like I said trying to stabilise the circuit and optimise recovery as best we can. We are running the campaigns about two weeks a month and using the downtime for maintenance both from a plant maintenance perspective as well as capital projects.

There is increased capital required for the tank refurbishment. At the moment we are running with about three tanks off line.

And obviously we are taking the opportunity to try and reduce manning in the plant as well, going down from nominally about 90 people to 70.

At that stage on the ROM (Run-of-Mine) the load and haul opportunity remains for us to try and reduce our crusher feed costs, and that is something we are still in the process of looking at the moment.
Question: How much more does it cost you to run the process plant on a campaign basis?

At the moment we are running around about $34 a tonne.

Question: And what if you were running in continuous mode?

It would be a similar amount, $34 or $35 a ton. So not a great difference. We are running 24/7 on one particular scenario versus only running two weeks on, two weeks off. There are upsides and downsides. We might have lower power requirements during the downtime period. However, you offset that with some increased maintenance opportunities to try and do what you can on the plant. So you do not have to bring in large quantities of people to do a lot of maintenance in a short period of time as you would with a plant running 365 days a year.

Question: Doesn’t turning the plant on & off affect recovery & plant performance?

There can be, but we have had some very smooth start-ups and shut-downs. It is not how a plant would like to run, but we have made some changes in the leaching circuit where we can recycle the product to try and ensure that we don’t have any recovery losses when we start up or we shut down. It has obviously been a learning experience for the first couple of campaigns in January and February but the last three or four months have been very smooth indeed.

That $34 is Australian dollars?

Yes.
So in terms of people obviously we looked at trying to stabilise our crew levels, skills and training, improving on where we were in 2013. And from a maintenance perspective less reliance on outside contractors, improving our equipment knowledge and what we knew about the aged plant.

The plant itself as we mentioned is 23 years old so there were significant risk areas, being the cyclone tower and the cyclone feed pumps which have recently been changed. The spirals, what we call our tails re-treatment circuit, is also being looked at the moment.

Capital required: which we’ve touched on comprises the following:

- Structural steelwork in and around the entire plant and concrete remediation which has been ongoing and continuing.
- The leach and CIP tanks
- and the ball and SAG mill lube systems. The ball mill is due in the fourth quarter of this year,
- and grinding cyclone pumps and piping. We made some smaller changes to the cyclones in January/February this year and we have made further improvements on the cyclone pumps in Q2.

So at that stage we have opportunities for improved gravity recovery. Historically, and still now, there is a lot of opportunity for a gravity circuit upfront. This circuit doesn’t actually have the typical gravity circuit in and around the SAG and ball mill grinding circuit. It has always been hard with the limited life of mine. But with what Gary and his guys are doing they are making it easy for us to justify that and get that in place. And the TR circuit modifications which is basically replacing and upgrading the spiral such that we can recover more of the refractory gold which is in our tails ore.

As we mentioned it is a processing plant. Although it had some automation it had been let run. So we spent a fair bit of time over the last six to 12 months improving the equipment that is actually out there in the field and getting that back talking to the control system. We did a major upgrade on the control system last year. That work is continuing and will do so over the next six to 12 months. And basically it will set the process plant back up such that if we did find another ore body and were running continuous all year we will certainly have a plant which is capable of running at 3.5 million...
tonnes. Very well automated.

70% recovery.

Is fine gold, around 10 to 20 micron. So very finely ingrained within the Wallaby ore.

There is a 60% to 70% component at the front of the circuit. At the moment without that we put a lot of loading on the leach CRP circuit and it gets to the point where you actually run the risk of recovery losses because you’re not taking up the front.
Just a grade profile over the last quarter of 2013 and 2014 there. So 5g to 6.5g per ton, similar grades, slightly lower grades in January and February with a bit of a kick in March. And that certainly continued along in Q2 of 2013.
And the recovery profile. So in October through December we were running with the 500 cyclones in the grinding circuit. We basically changed half in January/February, commissioned those and went back with the KFX400s which were basically a smaller aperture cyclone giving us a finer grind. The ore itself is recovery dependant on your grind size to a point. We have managed to drop that grind from 150 micron down to just over 100 micron, and that is where we are getting this kick in recovery, along with some other steady state improvements that we’ve made in the plant particularly around the crushing circuit, giving steady feed to the grinding circuit. And as we go on we have small process control improvements, our work on the TR circuit, and hopefully we will start to see some smaller gains but continuing gains within the process plant.

Question: Do you have issues with water quality?

No, we have very good quality water that we harvest effectively from the rainfall in our Windich pit. That is only 5,000 to 6,000 TDS. The well is still around about 6,000 to 8,000 TDS. Although there is saline water available around here (Goanna & Granny Smith pits), we don’t use it within the process plant. That’s it.
Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014

Exploration

2014 visit to Granny Smith Gold Mine (Stuart Mathews) July 2014
Let’s move on to exploration to look at the 2014 programme, what we are targeting at this time, in 2014 our budget is $12.3 million. That includes converting into indicated and measured in the mine as well.

Question: Gary, is that part of that overall capital budget?

It is all part of the capital budget. So that is focussing in the Wallaby area where we have the resource conversion in the mine, some deep exploration plus some exploration on the peripheries of some of the ore bodies. Structural interpretation of the drill testing as well.

There has been a reinterpretation of the higher grade potential at Granny Smith open pit project. At this stage we still can’t make that work. But we will have another run on the reinterpretation. The early stage work on Lake Carey, which is an enhancement on the work that was done about ten years ago. Some magnetic SAM survey, structural work and continued target generation. And we are also looking at some ground field work at Keringal with some drill testing of a target underneath the pit.

Question: Is there any logic in combining the ore from Wallaby & Sunrise deposits in the one plant?

Not really.

Question: Can I just ask why (regarding why we would not process ore at Sunrise plant or vice versa)?

Their (Sunrise Dam) ore is 3 g/t material. I think our plant is better than theirs and we would be bringing their material to here (our plant). It is not really the synergy that we’ve been looking for.
Okay, so major infill conversion converting inferred resources to indicated in zone 100 and on the northern extensions at zone 90. Exploration to the south of the zone 100 where we’re having some real success in extending that ore body out to the south. And converting the small reserves in zones 110 and 120. 110 is this shape here. 120 is just a few bits in here which are very widely spaced. Converting that to an inferred resource about the size of zone 90 and zone 100, and exploring down to roughly the zone 150 level of the system.

Question: If you’re extending zone 100 what about the potential for zone 90 and 80?

We have already extended 80 up in the north. It significantly increases to the north.

Question: What is cutting off those two zones to the south?

It is more a case of zone 100 being pushed to the south. What you will see on a later slide is one of the controlled structures coming down here. And that is moving across to the south.
All right. So there is a pile of results on this slide. This is the first quarter results of infill drilling of this portion here of zone 100. The big thing to take out of this is that it has been improving the resource. We are not just converting it to indicated. We are actually improving the amount of ounces coming out. We have a positive increase. Just on our ongoing resource recalculations we have a significant measured and indicated increase of greater than 400,000 ounces in this area here.

We’ve started work on zone 90 and the north extension. This extension goes outside the magnetic halo that I mentioned earlier. And recent results in the last month are well better than what we expected, higher grade. This is not unusual for this ore body. The more you drill the better it gets.
If we look at that southern exploration in 2013 a series of holes was drilled on all the intercepts that had been drilled into zone 100. So all the ones along here. 10m at 5g, 8m at 20g, 10m at 5g and 7m at 5g. We firmed that up with a series of holes. This is a step out from the end of 2013 shape. Initially that is 130m.
This is another 130m, so we are about 260m out from the initial shape. We are still getting all well and truly economic, and these are typical zone 100 grades. No real sign of this thing coming to an end yet.

So we confirmed our resource extending at least that much. And we’ve already started converting the area in here up to indicated. It has continued to confirm and upgrade on those results.
If we look at 110 and 120, we look at 110 and 120 together generally because they are only about 60m apart. It is veining convention from the early days and we have basically just kept on naming them 110 and 120. We treat them very similar to each other. After the 2013 resource had been calculated exploration continued and we have in zone 110 significant intercepts. 3m at 10g, 19m at 6g, 10m at 5g, 9m at 7g. Very important what we’re seeing here, that is parallel with that elongation that we are seeing in zone 100.

In zone 120 we haven't been able to put a shape around it because the drilling had been too far apart. But we are still getting 3m at 5g, 11m at 5g, 5m at 6g, 5m at 10g. We are not cherry picking these. This is what you get.
When the resource was reinterpreted at the start of this year we had an undepleted resource sitting just in 110 of 80,000 ounces. We’ve added 300,000 ounces into that zone already. Now you are seeing the same sort of shape with the hanging wall coming in as well. So just continuing to push that down. The grade continued to go up and is still in excess of 9g for this resource.
The original target was looking in the hanging wall of Thet’s Shear which is the early shear. All of the mineralisation is in the hanging wall of that. Our first hole was put through this target zone in here. We had a couple of dips down below 120. 1.4m at 13g, 2.5m at 3g roughly in the 130 and 140 zones.
When the second hole was put in we had a much better result. Further extensions to zone 120. That is another 120m to the south. We have also extended zone 110. But significant intercepts. 9m at 12g. 30m at 40g. 3m at 7g. More importantly they are roughly in the positions that we anticipated the lodes to turn up at.

Question: That very bottom one, is that 150 level?

We haven’t gone to the stage of naming anything. We want to get a few holes in there, see whether we can get some consistency before we start naming things. It would probably be sitting at below the 150 level. So our next hole will be coming in here further to the south. We know that this target zone is now over here. We’ve seen that zone 110 and 120 is extending and improving the grade out to the south.

Question: Does the 9m at 12g get deeper?

What is not shown is that we actually didn’t go through the shear. So we still remain in the hanging wall. That is one of the key reasons why zone 100 is pushed across. There is still opportunity out here in zone 90 to the south along this level here in zone 80 which we will be looking at next year.
Granny Smith Gold Mine

Zone 130 - Zone 150 Exploration: 2014 Q1/2 Program Progress

- 8.0m @ 4.31 g/t
- 2.63m @ 5.81 g/t
- 2.82m @ 6.3 g/t
- 2.7m @ 6.8 g/t (15.3m @ 3.55g/t)
- 1.83m @ 41.55 g/t
- 9.36m @ 12.21 g/t
- 2.5m @ 8.58 g/t

View to South-West

Gold Fields Australia site visit: Granny Smith Gold Mine
Stuart Mathews
16 July 2014
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If we look at some of the more regional zones, the Keringal pit is 20km to the southeast of Granny Smith mine. It is an old pit that was mined in 1995, just an oxide pit down to 120m. Some drill testing, some quartz veins sitting in the footwall of the oxidised lodes. We have a couple of significant intercepts. This was never adequately followed up. There was a hole planned to be drilled through here, but it was never drilled, so we are going to do it.

What we also found in the data mine was mapping compiled ten years ago showing that there are those quartz veins in the footwall of that structure. So we will start by proving that if this exists that has room for 250,000 ounce just sitting there.
Closer to Wallaby we have a place called Platypus. Going back ten years there was some work done on the lake just short of 2km out from the mine. Some reasonable grades, 4m at 9g, 1m at 5g. We intercepted ore but the mineralisation couldn’t be interpreted. This material was probably zone 90, which currently has the best projection outside the alteration halo. So we will be looking to drill test that. We have this projection coming up through from the underground lodes up towards this sub-cropping area. Later on this year we should get some holes drilled in the base of the target.
To the immediate north-east of Wallaby the target in this area. Previous drilling has incepted intrusions similar to what we have in the Wallaby system with mineralisation similar to Wallaby. In addition in the shear zone above this wedge here, above this target, there is a fair amount of smoke sitting in the structure. It is a good structural target if you’re looking for a Wallaby type deposit.
And then finally moving out on the lake (adjacent to the Wallaby deposit). This is a very busy slide. If you look you will see the dotted line is the outline of the lake. We have Wallaby sitting here (on the northeast margin of the lake), Granny Smith sitting here (approximately NE of Wallaby) and Sunrise sitting here (southern margin of the lake). Our tenement package is shown in white. Showing yellow is the current line of our detailed geophysics. It is mostly completed within 10km of Granny Smith near to Sunrise. And these pink areas here are zones that we are targeting for 2014. The remainder of this tenement packaging in white will be completely detailed this year.

Other mining in the area. We have targets like Tail Pipe which is a clone of Granny Smith. We have an intrusive with normally trending structures wrapping around including the Child-Howard Shear structure which runs through a series of small pits down around this western margin. The Alabama target which previous drilling has shown as a flat lying lens on a magnetic anomaly. We will be depth modelling that magnetic anomaly because that is where the higher grades are expected to sit. Providence is a Sunrise type target where we have the north-eastern trends intercepting the northern trends in the structure. Raw Prawn is another Wallaby style. We have intercepted 10m at 1.2g/t.

South target is very similar to the Red October, a narrow high grade but still a significant target. Our current coverage of geochemistry on its own is very patchy over the life. We have good detailing in the north, we have good detailing here and we have a bit of detailing here. In the next two years by 2015 this section here of the hinterland will be screened to determine what targets we have in it. The following year we will be targeting the Sunrise section plus the eastern extremities. We will have all our tenement package properly screened at the same time as we do project work on certain targets.
Granny Smith Gold Mine

- A world class GFI franchise asset with an excellent strategic fit to the Group
- Ore body support for consistent Reserve replacement and growth from lateral and depth extensions
- We can see a life of at least 10 years, with upside potential for more

The Granny Smith future expectation is:

- Deliver stable and low risk operations
- Deliver a consistent 15% FCF margin on the current orebody
- Deliver on significant near mine and regional exploration potential
- Deliver on site full potential
- Deliver long life

I think Granny Smith is a great fit for Gold Fields. Under the Gold Fields model of how we run our mines we have a lot of autonomy on the mine site. It has started to deliver great results and really optimise what happens at Granny Smith mine. It is in a great mineral province as well. The ore body support for consistent reserve replacement has been proven here. And there are some significant grades to come from lateral and depth extensions.

And we see at least ten years here with upside potential for many more. Rightly so, when the Wallaby deposit was discovered, Barrick poured a lot of money into really opening it up and getting some longevity into the Wallaby deposit. What we want to do is continue to do that, but also look for the next one. And I think what Gary put up, in his part of the presentation, demonstrates it is probably out there and not far away.

So we are delivering stable and low-risk operations. That is our focus this year and into next year. And deliver a consistent plus 15% free cash flow margin. We are well in front of that right now today and greatly improved on where we were at the end of Q1. So I also encourage you to look at our Q2 results when they are released.

We are delivering significantly on our regional exploration potential, which we are hoping to unleash in the next 12 to 18 months. Deliver our full site potential and deliver a long life for the company.

Question: Just one question. You say the top priority is to ensure the long-term availability of suitable water supply? You haven’t talked about this?

Water is okay. Our security of water on site is fine. We have a long-term agreement with Lynas Corporation. They have an aquifer not far from us, within 20km. So that provides us with security of water supply. Plus we’ve got huge reservoirs of water in our open pits with recharge. So we’re okay on water. But it is always one of those things you’ve got to make sure you’ve got longevity for the life of the resource. So it is just a focus that we make sure we’ve got in place.