Employment longevity in the mining industry – a perspective for new mining graduates

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Unless you have been living under a rock, you will undoubtedly be aware the Australian mining industry is currently doing it tough. Since late 2012, global commodity prices have fallen, average salaries have decreased and geologist unemployment has risen sharply.

This downturn is nothing abnormal, albeit a more severe version than seen in recent memory. Mining is a boom and bust industry. The high salaries of four years ago were associated with a lack of experienced geologists, fly-in, fly-out (FIFO) rosters and long-term employment uncertainty. Current salaries are reflective of an oversupply of geologists, lack of investment and market uncertainty.

Compared with other industries, mining pays in a higher salary bracket. What some graduates fail to realise is that this higher income is offset by employment instability. Many entry level geologists will find it difficult to last more than a few years in their first role. Depending on which roles they accept, it might even be significantly less than that. This is not a reflection of their skill set but a symptom of the cyclic nature of the mining industry.

Recent employment trends amongst graduates

This correlation between unemployment, salaries and mining variability over the past six years is summarised in Figure 1. Interestingly, this data indicates that during the Global Financial Crisis (GFC) there was no impact on mean graduate geologist salaries in Australia. Currently, due to the prolonged nature of the current downturn, both redundancies (unemployment) and salary reductions have transpired.

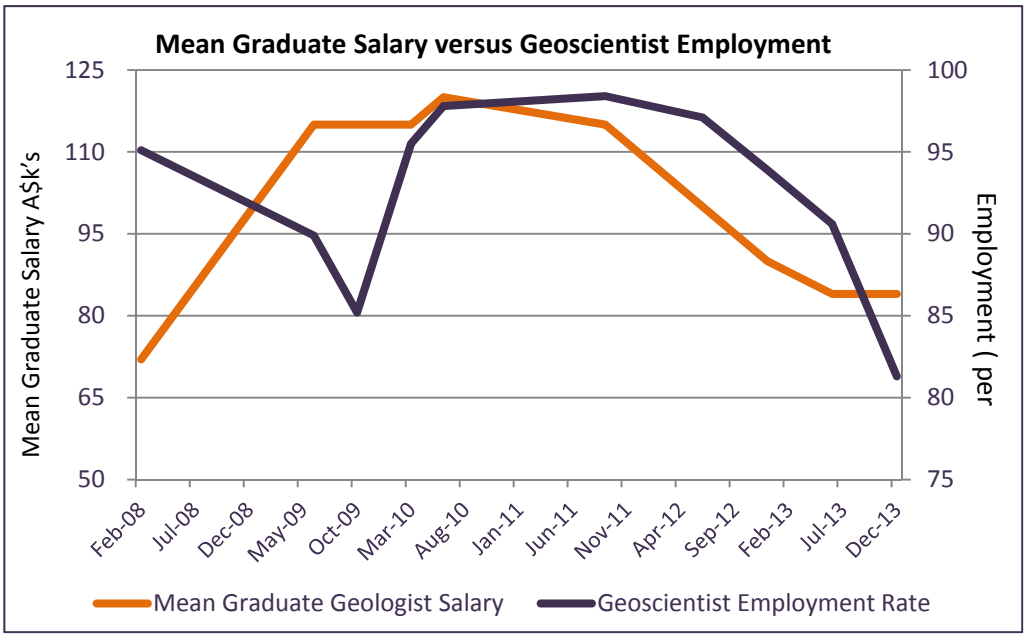

Figure 1. Comparison of mean graduate geologist salaries versus geoscientist employment figures early 2008 to late 2013 (Hays 2013, 2014, AusIMM 2004, 2008-10, 2013, 2014)

For graduates, timing is everything. The prospect of completing your undergraduate degree during a downturn is daunting. Short of continuing with post graduate studying, waiting for employment opportunities or changing careers, timing of mining cycles is largely out of a graduates' control. Once employment has been secured, the volatility of todays' commodity prices mean those with the least experience will also likely be made redundant first.

According to the 2013 AIG survey, 18 per cent of geologist respondents were unemployed (Figure 2); decreasing slightly to 15.1 per cent in the recently released 2014 AusIMM survey. However this decrease may be influenced by geologists having left the industry altogether, as nine per cent of respondents indicated they were considering doing so in AIG's survey.

In 2013 an additional 15 per cent of geologists were 'underemployed' or working in positions beneath their experience level (Figure 2). This suggests that in 2013 a third of all geologists in the Australian mining industry were not being utilised to their best capabilities.

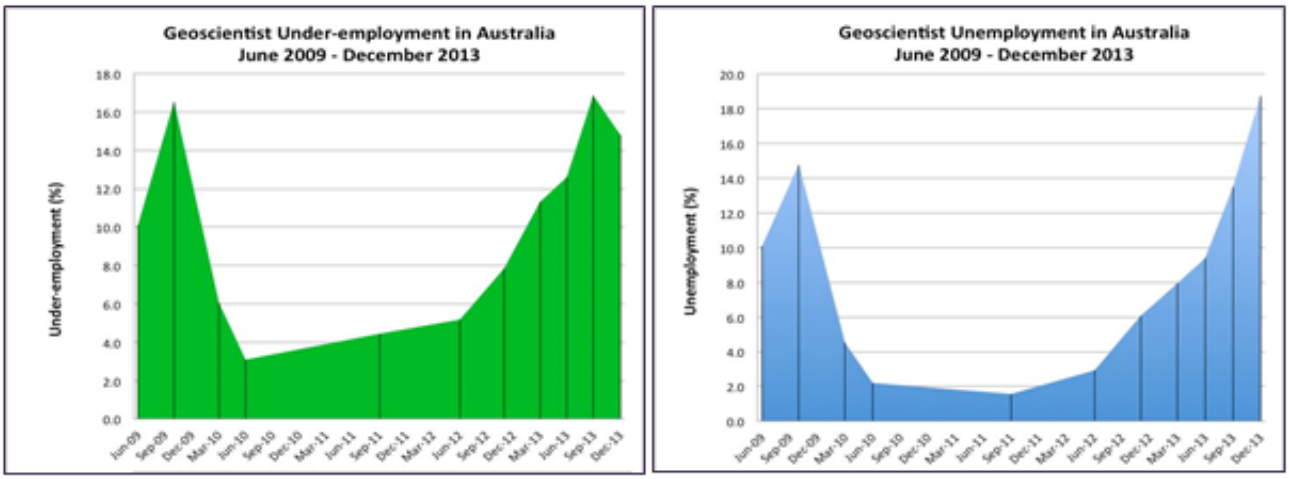

Figure 2. Geoscientist under-employment and unemployment in Australia (AIG, 2014)

Graduates are definitely experiencing the downturn hardest, with 40 per cent unable to find employment in 2013. However, more experienced geologists were also finding it difficult to secure a 'desired level of employment', particularly those with 30+ years of experience as 25 per cent of them were under-employed in 2013.

Improvements can be seen however, in June 2014 19.3 per cent of graduates had secured a role, an increase from 11.1 per cent in 2013. Again, this may be influenced by graduates either securing a role within another industry or returning to post graduate study.

Variations in employment and salary

There are variations within these dire statistics and it is these differences which will determine the availability of positions and how long such a position might exist.

Geographic

Firstly, mining is a geographically biased industry. Western Australia (WA) and Queensland (QLD) offer more employment opportunities but also have more people seeking work. According to the AIG's 2013 survey, 79 per cent of geoscientists work in WA and QLD.

Opportunities do exist elsewhere in Australia, but are unlikely to be sustainable for long periods of time. The Hays 2014 Survey indicated employers are moving away from FIFO roles, particularly in QLD and South Australia (SA). Similarly, there is increased expectation for candidates to relocate themselves interstate if necessary. This is particularly true for candidates in Victoria and Tasmania, where mining unemployment has risen by 40 per cent and 35 per cent respectively since 2012.

Salaries

Regionally there are differences in graduate geologists' salaries, likely responding to increases in local demand. During 2013-14 there had been little change in base graduate salaries from around mid-$70k. Variations include an increase in average salaries for those working in QLD coal operations in 2014 to $90k.

Overall, QLD and WA salaries are highest on average at around $80k with Tasmania the lowest at ~$60k (likely due to more residential roles being offered in Tasmania).

Over time there have been variations in the number of graduates in the industry and their respective salaries. Figure 3 displays a comparison of average gross salaries between graduates and geologists (in both production and exploration roles) and the number of respondents aged less than 30 years old (data from AusIMM surveys, 2005-13). (Salaries for 2005 and respondent numbers for 2013 have been extrapolated due to a lack of data.)

In 2008, there was a clear paucity of geologists with less than ten years' experience. The post-GFC ramp-up in 2009 saw huge numbers of geologists employed – including graduates at inflated salaries – mostly on exploration projects.

By 2010, the number of geologists had dropped off as that level of recruitment was unsustainable. In comparison, the average geologist salary only increased in 2010, perhaps a reaction to the flux of inexperienced graduates hired post-GFC.

Since 2010, there has been a steady decline in geologist respondents, graduate geologist salaries and geologist salaries.

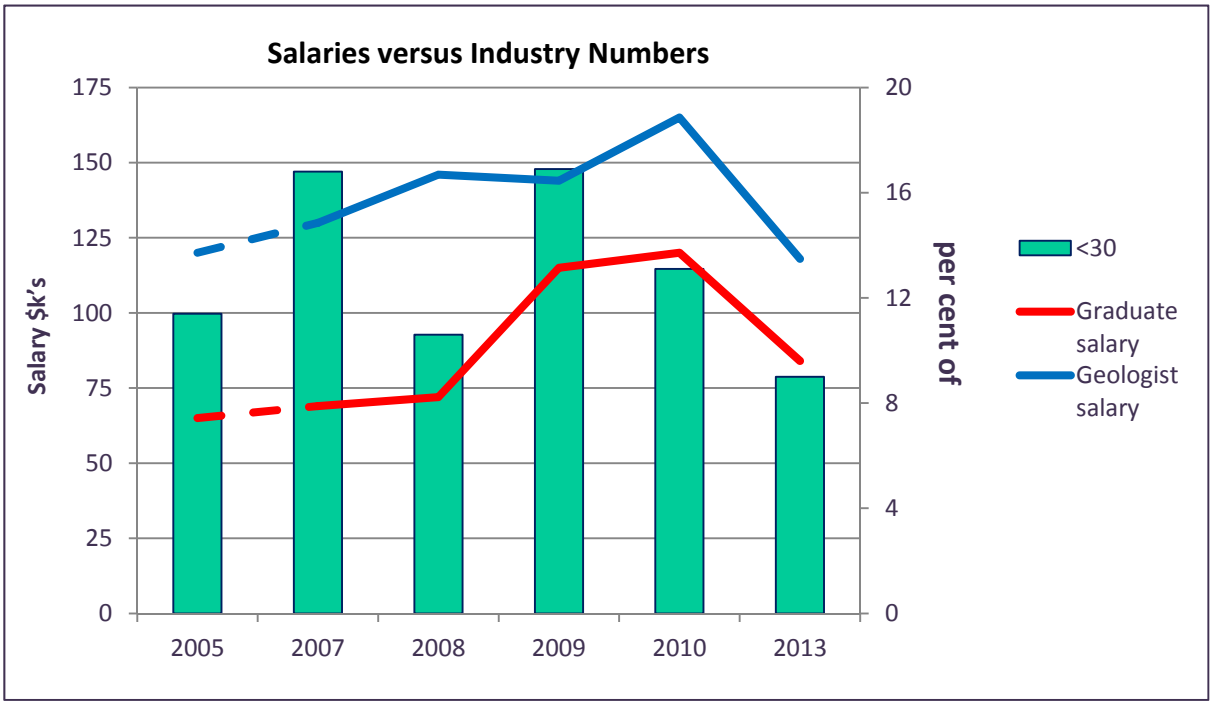

Figure 3. Graduate geologist and geologist salaries versus percentage of AusIMM survey respondents under 30 years old, 2005-13. (Note: the number of respondents under 30 is not an exact correlation to number of geologists' in the mining industry under 30, as not all AusIMM members were surveyed.)

Working conditions

There are many factors contributing to the current state of Australian exploration. Compared with the past decade, the industry has changed significantly. The 2004 AusIMM survey revealed that there were issues retaining geologists in mining, with ~70 per cent citing 'working in remote locations' and 'knowledge of the industry' as the main reason for leaving.

Today, a lack of knowledge is not as prevalent an issue – with more coverage of mining in mainstream and social media as well as more discussions at university level – however the issue of remoteness on site is still prevalent, particularly for FIFO geologists. A decade ago FIFO swings were much longer (four to six weeks) and mining camps were simpler with fewer amenities and less on-site support (Human Resources, IT, etc.).

In other words, work conditions were similar to the current state of exploration in many African and South American countries. Figure 6 displays typical camps in Africa compared with the huge mining camps in Australia. Granted, not all mining camps in Australia are as expansive as Tom Price; however there is a clear disparity between expectations in Australia and those overseas.

Exploration in Australia is expensive. Globally, salaries are still comparatively high and there are residual expectations from the mining boom that swings longer than two weeks on, one week off are undesirable and that camps should be fitted with modern amenities, gyms, wet messes, Foxtel etc. Even for greenfields exploration without permanent camps to maintain, current government policies and taxes make it very expensive to keep geologists in the field.

Figure 6. Examples of mining camps in Tanzania (top left), Prominent Hill (top right), Zambia (bottom left) and Tom Price (bottom right)

Why exploration geology?

Within these regional and temporal differences, there are variations in salary and employment longevity depending on the type of graduate position. Exploration will always hire more graduates (around 45 per cent of AusIMM survey respondents from 2008-10 were exploration geologists).

Anecdotal evidence from graduates appears to be that exploration is the only option considered after graduation. This is likely a result of the closer relationship between university academics and exploration departments, as opposed to production departments. Industry contacts for graduates will predominately be their university lecturers, so unless mining companies actively speak to students about the opportunities in production, graduates will naturally incline towards exploration.

Even during the current downturn the 2013 AIG survey indicated that of those geologists still employed, 71 per cent were in exploration compared with 6.5 per cent in production or metalliferous mining (Figure 4).

Given that 15 per cent of geologists are currently unemployed – and assuming an equal distribution of unemployment from each profession – it is ten times more likely an exploration geologist will be made redundant than a production geologist. It is commonly known though that the rate of redundancy is much higher in exploration, indicating that this margin is likely even wider.

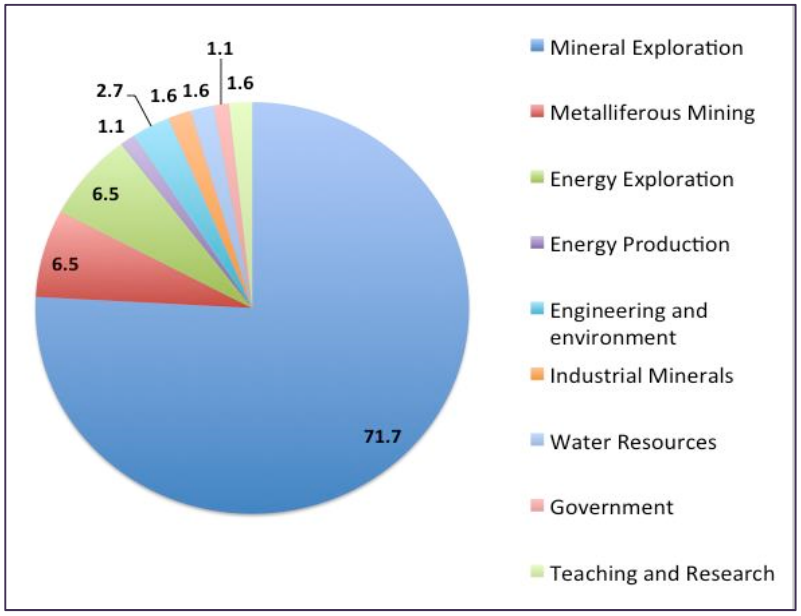

Figure 4. Where geologists are employed in Australian mining (AIG, 2014)

The implications of these statistics on the possibility of future discoveries aside, graduates should be cognisant of how likely their chosen position will be retained during a downturn.

Given this propensity toward redundancy, is there a difference in the average salary between exploration and production? Hays surveys indicate there is very little difference across Australia: during 2013-14, both had an average base salary of around $108k. However, there are significant differences regionally, attributed to the type of role, commodity and employment, ie FIFO vs residential (Figure 5).

Generally speaking, exploration pays higher in WA and NT, while production pays higher in QLD and NSW (Victoria and Tasmania indicated no difference).

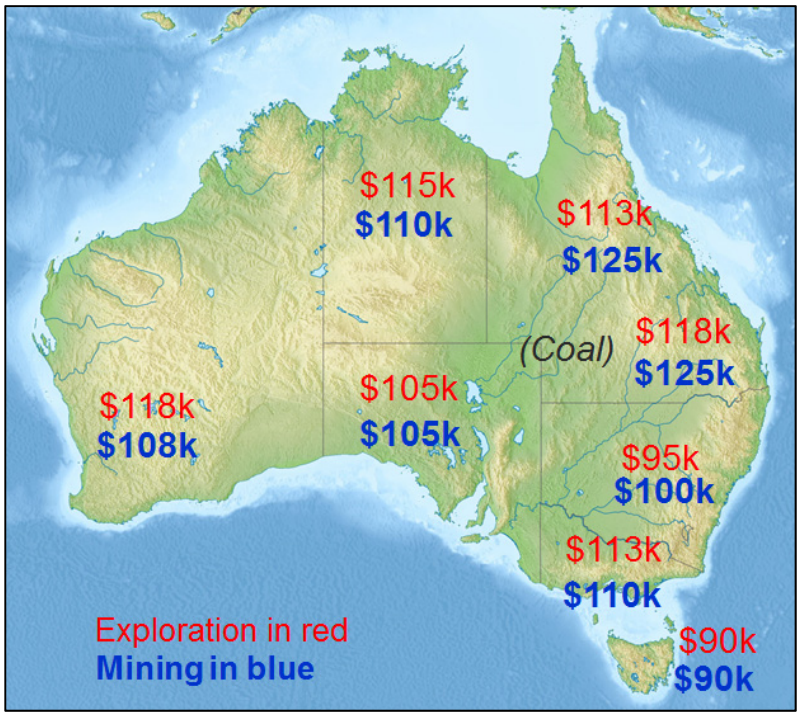

Figure 5. Average base salaries for mine and exploration geologist, depending on location (Hays, 2013 and 2014)

What are other options for graduates?

As mentioned previously, a production role is statistically less likely to be made redundant during a downturn. Aside from more job security, a production geologist role requires interaction with other groups including operators, engineers, surveyors, management and metallurgists. This gives the opportunity to develop management as well as technical skills and an increased chance to learn about the mining industry holistically.

A production geologist role can be less technically focused at the graduate level; as significantly more time will be spent learning to drive underground and understanding the mining process. In addition, work environments will include hot and humid underground conditions and generally more time spent onsite daily to be in sync with the operators.

Another option for graduates to consider is consulting. In terms of comparative salaries, a review of Level 1 (graduate commencement) salaries in city based roles suggested consultant salaries were similar, if not a little higher, compared to FIFO and residential roles from 2008-10 (AusIMM 2008, 2009, 2010). However, this figure was likely skewed by graduates in exploration roles which were based in a capital city, but were actually on-site roles, something which became prevalent with major mining companies post-GFC.

In the current downturn, consultancies as service providers have been hugely affected by salary reductions and redundancies. For graduates, the positives of working as a consultant are the city lifestyle and relative normalcy compared to FIFO rosters, in conjunction with variability of work. However, negatives include the higher likelihood of redundancy (compared with production) as well the possibility of less exposure to core geology experiences, such as core logging, managing drill rigs or underground sampling and mapping. Experiences will be more variable but there is a chance graduate consultant experience will not be regarded as ‘well rounded’ – particularly when compared to a graduate who has spent more time on site.

Conclusion

Exploration is an integral part of the Australian mining industry and is vital to its continued future. Graduates should be encouraged to gain both exploration and production experience, however, given the current climate, a graduate production role would be considered a prudent move.

Australian mining looks to have moved away from exploration and development stages in the short-term and is now focused on ramping up production. Exploration jobs will be available, but graduates should be prepared to do long swings or even move overseas. In order for graduates to give themselves the best chance at securing employment during such a difficult time, an attitude of willingness and versatility will put them in good stead.

References

Australian Geoscientist Unemployment Soars. 2014. AIG: www.aig.org.au/australian-geoscientist-unemployment-soars.

AIG News Quarterly Newsletter, No 108, May 2012. Skills Shortage in Mining Industry. pp 1-2.

AusIMM Remuneration and Employment Survey Report 2010.

AusIMM Remuneration and Employment Survey Report 2009.

AusIMM Remuneration and Employment Survey Report 2008.

AusIMM Remuneration and Membership Survey Report 2004.

AusIMM Professional Employment Survey 2012.

Hays Salary Guide. 2014. Salary and Recruiting Trends.

Hays Salary Guide. 2013. Salary and Recruiting Trends.

Van Krieken A. 2013. AusIMM Members’ employment survey