



**2005 SURVEY  
OF  
MINERALS INDUSTRY PROFESSIONALS:  
KEY FINDINGS**

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## REPORT HIGHLIGHTS

This report documents the findings of a survey of 1370 mining industry professionals who are members of the Australasian Institute of Mining and Metallurgy (AusIMM). The survey participants were asked their opinions on a variety of issues relating to the current state and future prospects of the minerals industry.

### Current issues in mining

What the professionals told us:

- **Skills shortages** are the single most important factor impacting on current operational profitability, identified as an issue by 68% of respondents. Over half (53%) also agree that companies now have people performing in more senior roles without sufficient professional experience.
- **Workforce turnover** was identified as the second most important issue.
- The importance of other factors impacting on operational profitability varied to some extent across industry sectors:
  - In the gold sector, the **cost of fuel** was seen as an important factor impacting on profitability
  - In the coal and iron ore sectors, **infrastructure blockages** were key issues.
- Across all sectors, **industrial unrest** was seen as the *least* important factor impacting on profitability.

### Future developments

- **91%** of respondents agreed that **insufficient investment in exploration** is the biggest obstacle to the long term future of the industry
- Around half agreed that, in the Australian mining industry, reduced price competitiveness could lead to a downturn
- The key short-term constraints to future growth identified were; shortage of construction workers, shortages of equipment and the cost of construction materials.
- 41% of respondents thought that regulatory issues could stop projects from going ahead or add significantly to the cost of new projects.

### Workforce mobility and job satisfaction

- **High workforce turnover** remains a major concern for the minerals industry. Substantial numbers of respondents agreed that, in the next two years, they were likely to move from their current workplace (55%) or change employer. (39%).
- **9%** said they were likely to move out of the minerals industry altogether.
- Of those likely to leave the industry in the next two years, about half were aged less than 50, indicating that intention to retire was not a key driver. Notably, 14% of respondents in the 25-29 age bracket said they were intending to leave.
- **Fly-in-Fly-out (FIFO)** employees were more likely to state an intention to leave the industry, their workplace or their current employer than those who live locally to their work.
- **Lifestyle factors** play a key role when employees are considering job opportunities. Respondents identified maintaining work/life balance as the most important factor when considering job options, whereas
- just 5% cited the value of the **remuneration** package as the most important factor.

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## EXECUTIVE SUMMARY

This report details the findings of a computer-based survey of members of the Australasian Institute of Mining and Metallurgy (AusIMM). The survey was funded by Macquarie Securities and designed and administered by the Centre for Social Responsibility in Mining (CSRM) and the University of Queensland Social Research Centre (UQSRC). AusIMM provided access to its electronic mailing list and took an active role in promoting the survey to its members.

Key objectives for the study were to:

- Collect indicative data about the level of turnover among professionals in the industry and about the state of the labour market in the industry generally.
- Obtain the views of minerals sector professionals on current and emerging issues impacting on the current and future economic performance of the sector.
- Identify the factors that professionals in the minerals sector believe are important in deciding whether to stay in or leave an employment situation.

The following section summarises the key findings from the data analysis.

## Key findings

### Current issues in mining

Respondents overwhelmingly agreed that the most critical issue likely to impact on the overall profitability of the industry was the lack of skilled professionals. The importance of other issues, such as increasing costs, tended to vary according to industry sector.

#### *Skills shortages*

- 73 % of respondents agreed that skills shortages have affected their workplace
- 75% agreed that skills shortages have left their company short staffed
- 77% agreed that the people at their workplace are under more pressure because of skills shortages
- 59% agreed that people were performing in more senior roles without sufficient professional experience
- 65% agreed the skills shortage will not reduce in the coming 2-3 years.

#### *Factors impacting on current operational profitability*

- 40% of respondents agreed that the shortage of skilled personnel was the most important issue currently facing the mining industry. This response was consistent across industry sectors
- another 15% of respondents identified workforce turnover as the second most important factor
- long distance commute (LDC) employees were more likely than employees who live locally to work (LLW), to agree that workforce turnover was the most important factor facing the mining industry (23% v. 13%)
- cost of fuel was seen as an important issue, particularly in the gold sector
- infrastructure blockages were major concerns in the coal and iron ore sectors
- respondents across all sectors indicated that industrial unrest was not a major constraint on profitability.

## **Future developments in the mining industry**

### *Potential constraints*

- Two thirds (66%) of respondents agreed that the shortage of construction workers could add significantly to the cost of new projects or stop projects that would otherwise proceed.
- Shortages of equipment (60%) and cost of construction materials (57%) were seen as the next most important factors.
- 41% of respondents regarded the cost of meeting regulatory requirements as a significant risk factor in constraining future growth, with 17% agreeing that this factor could stop projects from going ahead.

### *Long term future of the industry*

- 91% agreed that insufficient exploration investment could see a downturn in the Australian minerals industry.
- 53% of respondents agreed that reduced price competitiveness compared to other suppliers could lead to a downturn in the Australian minerals industry.

## **Workforce mobility and job satisfaction**

High workforce turnover remains a major concern for the mining industry. Although a relatively small proportion stated an intention to leave the industry in the next two years, large numbers of respondents agreed they were likely to change their employer or workplace.

### *Mobility intentions*

- 9% of respondents considered they were likely to move out of the minerals industry altogether in the next two years.
- 39% agreed they are likely to change employer in the next two years.
- Of those likely to leave the industry in the next two years, 52% were aged under 50, indicating that retirements was unlikely to be the driver for leaving
- Generally, respondents agreed that lifestyle issues rather than professional ones were more likely to influence the decision to move to a new employer or a new workplace.
- LDC employees consistently reported higher levels of difficulty in achieving work/life balance and forming and maintaining personal relationships than their LLW counterparts.

### *Job satisfaction*

- Two thirds of respondents (67%) agreed that the company they worked for encouraged and supported their professional development.
- 58% of respondents expressed satisfaction with their current level of remuneration and a large majority (82%) expected to increase their remuneration over the next two years.
- 48% agreed that their working lifestyle puts pressure on forming and maintaining personal relationships.

### *Important considerations when choosing a job*

- Maintaining the balance between work and home life was the single most important consideration when considering job options (50%).
- The second most important consideration was the professional challenges presented by the job (23%).
- Just 5% of respondents agreed that remuneration was the most important consideration when choosing a job.

## Industry reputation

- 83% of respondents agreed that their workplace had a positive reputation.
- 75% agreed that the mining industry in general had a positive reputation in the region in which they worked.
- Less than half (47%) agreed that the mining industry has a positive reputation in Australia. However, 60% also agreed that the reputation of the industry had improved over the last 5 years.

## Participant profile

Analysis of the survey sample indicated that it is broadly representative of the AusIMM membership and of mining industry professionals as a whole. The key findings are:

- The AusIMM membership has the profile of an ageing workforce, with 52% of respondents aged 45+.
- Women represented just 9% of the sample.
- Females were on average much younger than male respondents, with almost two thirds (63%) aged under 35
- 90% of respondents were married or partnered.

### *Work situation*

- The majority of respondents were mining engineers (32%) or geologists (31%).
- Over half (58%) worked for a mining company, with most of the remainder working for a consulting (including self-employed).
- One third (33%) work across industry sectors.
- 40% of respondents worked at a mine or minerals processing operation.
- 22% were LDC employees.

## Conclusion

Skills shortages are seen as the single most important issue currently facing the mining industry. They are seen as having three major impacts on the industry.

1. Companies are being left short staffed and this places current workers under increasing pressure.
2. Skills shortages are seen as impacting significantly on a company's bottom line. According to 68% of respondents, the shortage of skilled personnel is the most significant factor impacting on the industry's current operational profitability.
3. Addressing skills shortages is closely allied to the problem of managing staff turnover, which is identified by respondents as the second most important factor currently impacting on operational profitability.

When considering the longer term outlook for the industry, respondents overwhelmingly agreed (91%) that insufficient investment in exploration could lead to a downturn in the industry. This response clearly reflects concern created by the decline in exploration activity in Australia 1997-2002 (ABS, 2005b: 3). It would appear that the effects of the downturn may have left the minerals industry unprepared for the opportunities presented by the current mining boom.

Finally, personal lifestyle concerns, rather than professional opportunities or even remuneration levels appear to be the key determinants of job satisfaction, and are the most likely contributors to high workforce mobility levels. It is important for companies to acknowledge the personal issues that are of concern to their employees. People who cannot find a balance between work and family commitments are more likely to leave their jobs, as can be seen from the

consistently higher turnover figures for employees who commute long distances. Companies cannot afford to lose experienced personnel, at a time when there are already skills shortages.

In summary, while the business indicators for the minerals industry are very positive, at least in the short-to-medium term, managing workforce turnover and addressing skills shortages are critical factors if the industry is to capitalize on the opportunities available.

## **INTRODUCTION**

### **Background**

This report documents the findings of an online survey of members of the Australasian Institute of Mining and Metallurgy (AusIMM), conducted in December 2005.

The survey was a joint initiative by the Equities Research Department of Macquarie Securities and AusIMM. Its purpose was to identify mining industry professionals' perceptions of the factors most likely to impact upon the profitability and future growth of the industry and on the development of members' professional careers.

The University of Queensland Social Research Centre (UQSRC) and The Centre for Social Responsibility in Mining (CSRSM) were commissioned to design, administer and report the outcomes of the survey.

### **Objectives**

The survey was designed to capture individual members' experiences of working in the minerals industry. The overall objectives for the study were to:

- collect indicative data about the level of turnover among professionals in the industry and about the state of the labour market in the industry generally
- obtain the views of minerals sector professionals on current and emerging issues impacting on the current and future economic performance of the sector
- identify the factors that professionals in the minerals sector believe are important when deciding whether to stay with or leave an employment situation.

### **Structure of the report**

This report is set out in four sections. This first section describes the background to the study and its purpose. The second explains the project methodology - how participants were chosen, how they were surveyed, and how the information collected from them was collated and analysed. In the third section, we describe the results from the survey and provide a demographic profile of the respondents. We present our conclusions in the final section of the report.

## METHODOLOGY

### Sample selection

The target population consisted of all members of AusIMM. The survey was conducted in December 2005, at which time AusIMM had 7339 members. Of this total membership, 501 were students, 351 graduates, 86 associates, 4688 members, 1670 fellows and 43 were companies (AusIMM, 2005).

In total, 1370 people responded to the survey. This represents a response rate of about 20%, which is regarded as a good outcome for a web-based survey.

Table 1 compares AusIMM Membership data, provided by AusIMM, with data from the survey sample. It shows that geologists are slightly overrepresented and engineers underrepresented in the survey sample. The proportions of metallurgists and others in the sample closely resemble the AusIMM data. Overall, the data suggests that the survey sample broadly reflects the AusIMM membership.

**Table 1: AusIMM membership composition by profession**

Profession %	AusIMM Membership % April 2004	Sample % (n=1275)
Engineer	35	31.5
Geologist	27	31.0
Metallurgist	15	13.9
Management, Environment and Other	23	23.7
Total	100	100.0

*Source: AusIMM*

### Survey design and administration

The questionnaire was developed by UQSRC and CSRM in consultation with Macquarie Securities and AusIMM. A web-based survey was administered, using the facilities of the UQSRC.

The questionnaire took approximately 15 minutes to complete and comprised mainly closed response questions. AusIMM provided assistance by promoting the survey among its members and publicising the survey on its website. All AusIMM members were notified about the survey by email and invited to participate. They were told that the survey should be completed within two weeks. A link to the online survey was provided on the AusIMM website and in the email invitations. AusIMM also sent out reminder emails at the end of weeks one and two.

### Data analysis

Responses were analysed using SPSS software to obtain basic frequencies and to test differences between groups.

## RESULTS

The results are described under four main headings:

1. Current issues in mining, focusing on skills shortages and other factors impacting on the profitability of the industry
2. Future developments in the mining industry, focusing specifically on potential restraints to future growth
3. The state of the labour market, which examines workforce mobility and job satisfaction measures likely to influence mobility intentions
4. Profile of participants, including a demographic profile and information about the industry sector in which they work, their professional role, type of employer and workplace location.

Frequency tables for all survey results are provided in Appendix 1.

### Current issues in mining

Participants were asked a number of questions relating to current issues that are widely regarded as impacting on the current and potential economic growth of the minerals industry. The first questions concerned issues that are widely regarded as affecting labour supply, namely, the ageing workforce (Productivity Commission, 2005) and skills shortages within the minerals industry (NCVER, 2005).

The second set of questions relate to the impacts on operational profitability of personnel and equipment shortages, labour, fuel and equipment costs and other factors such as infrastructure blockages and industrial unrest.

### Skills shortages

Skills shortages have been identified as a major issue confronting the minerals industry. Various studies, (NCVER, 2005; MCA, 2004), indicate that labour shortages, especially of skilled tradespersons and professionals, are already a critical issue for the industry. These concerns are supported by the findings of this survey.

Respondents were asked about the extent to which they agreed with different statements about skills shortage (see Table 2).

**Table 2: Perceptions of skills**

	Strongly agree (%)	Agree (%)	Neither (%)	Disagree (%)	Strongly disagree (%)
The skills shortage has not affected my workplace (n=1267)	5.7	14.8	6.4	38.8	34.3
The skills shortage has left us short staffed (n=1253)	23.7	50.9	12.2	11.7	1.4
The skills shortage has meant we have people performing in more senior roles without sufficient professional experience (n=1267)	15.5	42.9	17.7	20.6	3.3
The skills shortage has meant my employer now pays more for less experienced personnel (n=1280)	16.6	52.4	17.3	11.8	2.0
People at my workplace are under more pressure because of the skills shortage (n=1307)	23.6	53.0	14.3	8.6	0.5
I think the skills shortage will reduce in the next two or three years (n=1339)	1.3	15.0	19.2	42.5	22.0

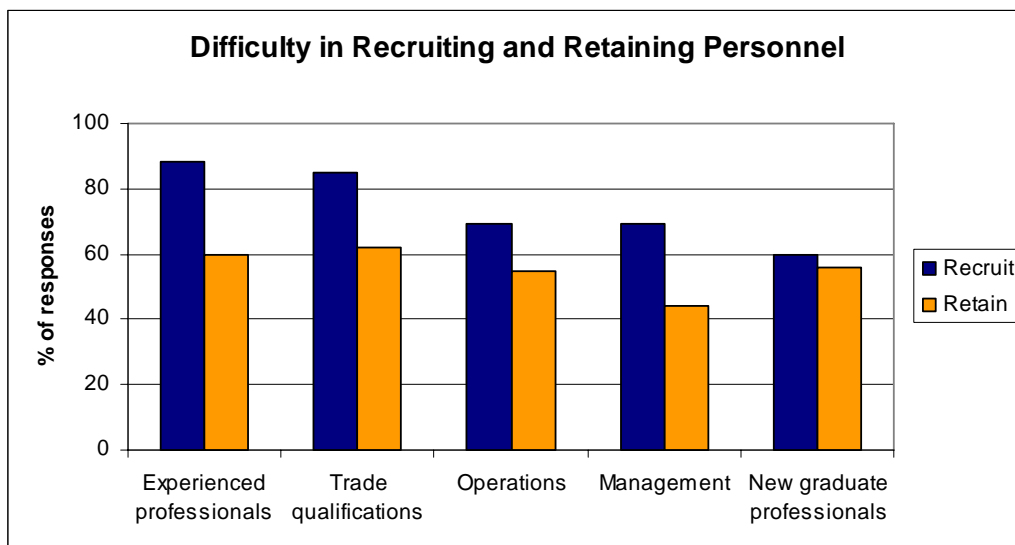
- A large majority (73%) of respondents agreed that skills shortages had affected their workplace.
- 77% agreed that the skills shortage had left their company short staffed.
- 77% agreed that the people at their workplace were under more pressure because of skills shortages.
- 65% agreed that the skills shortage was unlikely to reduce in the next two or three years.

The responses to the skills shortage items were also compared between occupational groups, i.e. those working for a mining company/contractor and those working for a firm that provided consultancy services to the mining industry. We found no major differences between the two groups. Similarly, there were no major differences between respondents working in different industry sectors (e.g. coal, gold, iron ore, etc).

The only question that elicited a significant variation in response was the statement that ‘the skills shortage has meant we have people performing in more senior roles without sufficient professional experience’. While 63% of mining company employees agreed/strongly agreed with this statement, a relatively smaller proportion (50%) of consultancy firm employees agreed.

To find out more about skills shortages in the industry, we also asked respondents how difficult it was to attract and retain personnel in their workplaces (see Figure 1).

**Figure 1: Difficulty in Recruiting and Retaining Personnel**



- The data clearly indicate that recruiting and retraining personnel is seen as very difficult across all levels of the industry
- Professional personnel with expertise and personnel with trade qualifications were regarded as the most difficult to attract and to retain.

**Features of the labour market**

An underlying issue when considering potential impacts on the future economic growth of the minerals industry is the issue of an ageing workforce. There are concerns that existing skills shortages will be exacerbated as the ‘baby boomers’ approach retirement. When looking at the demographic profile of respondents to this survey (Table12), where 52% of mining industry professionals are aged 45+, it would appear that there are grounds for these concerns.

We asked respondents two questions about the ageing workforce: 1) whether an ageing workforce was an issue in their workplace and 2), if a lot of professional staff were expected to retire in the next 5 years. Responses to these questions confirm that this is an important issue (see Table 3).

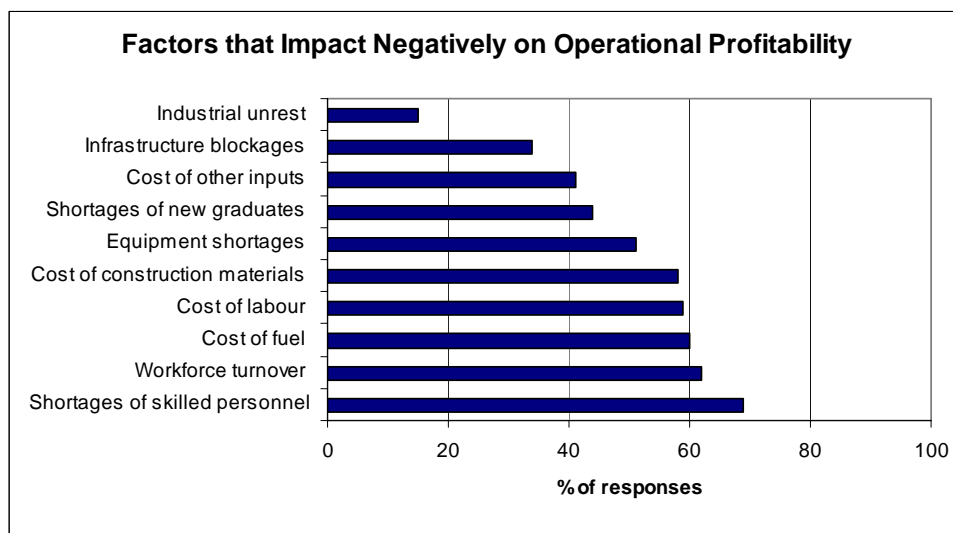
**Table 3: Attitudes to the ageing workforce**

Issues at workplace	Strongly agree %	Agree %	Neither %	Disagree %	Strongly disagree %
The 'ageing operational workforce' is an issue at my workplace (n=1309)	13.9	31.2	21.1	27.0	6.8
A lot of professional staff in my company are expected to retire in the next five years (n=1309)	5.7	20.9	19.9	37.4	16.1

**Factors impacting on current operational profitability**

Next, respondents were asked to think of the area of the mining industry in which they worked, and then rate the impact of ten specific factors on current operational profitability. Figure 2 illustrates the factors seen as having a strong or considerable negative impact on profitability.

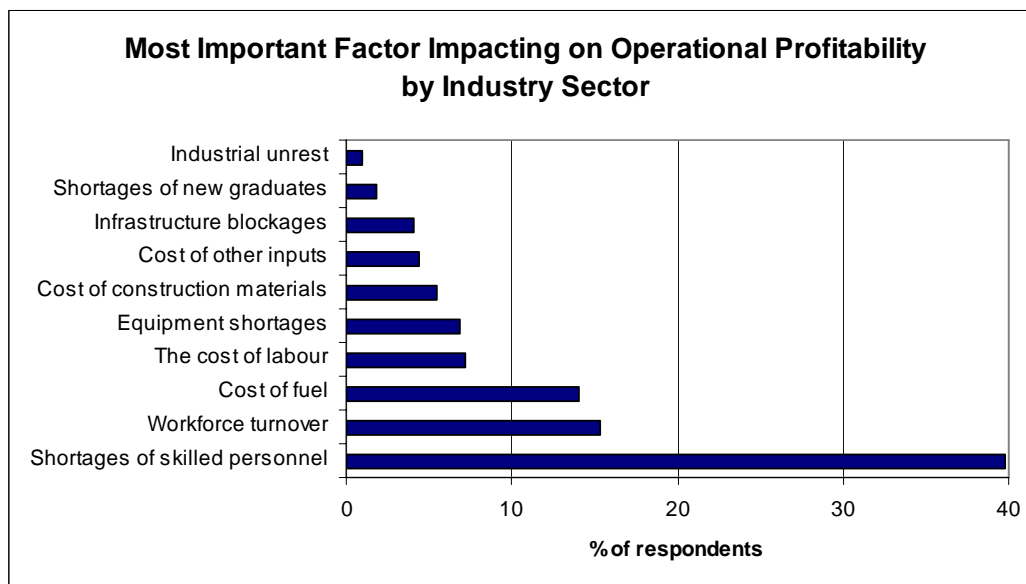
**Figure 2: Factors that Impact Negatively on Operational Profitability**



- Shortage of skilled personnel was most frequently identified as a factor impacting negatively on operational profitability (69%).
- Workforce turnover was the second most frequently identified factor (62%).
- Industrial unrest was seen having the least impact (15%).

Next, respondents were asked to nominate the single most important factor impacting on operational profitability.

Figure 3: Most important factor impacting on operational profitability



Skills shortages, workforce turnover and the cost of fuel again ranked as the top three concerns across industry sectors. There were some variations across sectors, however (see Table 4).

- Cost of fuel was seen as a significant issue for the gold sector.
- Infrastructure blockages were major concerns in the coal and iron ore sectors.
- Very few respondents in any sector cited industrial unrest as the key issue.

Table 4: Most important factor impacting on operational profitability by industry sector

Most important factor impacting on current operational profitability	Area of minerals industry in which respondent works (%)						Total (n=1125)
	Coal (n=138)	Gold (n=254)	Iron Ore (n=50)	*Other minerals (n=133)	Other non-Ferrous metals (n=193)	I work across industry sectors (n=357)	
Shortages of skilled personnel	42.8	32.3	36.0	30.1	38.9	48.7	39.8
Workforce turnover	16.7	15.0	16.0	12.8	20.7	12.9	15.3
Cost of fuel	8.0	26.0	6.0	18.0	12.4	8.4	14.0
The cost of labour	2.2	7.5	4.0	12	6.2	8.1	7.2
Equipment shortages	7.2	7.1	14.0	8.3	6.7	5.3	6.9
Cost of construction materials	3.6	5.1	8.0	6.8	4.1	6.4	5.5
Cost of other inputs	5.8	5.1	0.0	4.5	6.2	2.8	4.4
Infrastructure blockages	10.9	0.8	14.0	3.8	2.1	3.6	4.1
Shortages of new graduates	1.4	0.8	2.0	1.5	1.6	2.8	1.8
Industrial unrest	1.4	0.4	0.0	2.3	1.0	0.8	1.0
Total	100	100	100	100	100	100	100

\* Includes bauxite, aluminium, oil and gas

We also analysed the data by commute type to see if there were significant variations between LDC and LLW employees. Shortages of skilled personnel, workforce turnover and the cost of fuel remained the three most important factors overall. However, the degree of emphasis varied between commute types.

- Workforce turnover was seen as the most important factor by a greater proportion of LDC employees (23%) than LLW employees (13%).
- In contrast, 42% of LLW commuters compared with 31% of LDC commuters agreed that the shortage of skilled employees was the most important factor impacting on current operational profitability.

We also analysed responses to these questions by work groups, namely mining company employees/contractors and consultancy firm employees. The main finding was that:

- 53% of consultancy firm employees compared with 40% of contractors/mining company employees agreed that the shortage of skilled personnel was the most important factor impacting on current operational profitability.

### **KEY FINDINGS: CURRENT ISSUES IN MINING**

Respondents overwhelmingly agreed that the most critical issue likely to impact on the overall profitability of the industry was the lack of skilled personnel. The importance of other issues, such as increasing costs, tended to vary according to industry sector.

#### Skills shortages

- 73% of respondents agreed that skills shortages have affected their workplace
- 75% agreed that skills shortages have left their company short staffed.
- 77% agreed that the people at their workplace are under more pressure because of the skills shortage.
- Most (65%) agreed the skills shortage will not reduce in the coming 2-3 years.

#### Factors impacting on current operational profitability

- 40% of respondents agreed that the shortage of skilled personnel was the most important issue currently facing the mining industry. This response is consistent across industry sectors.
- Workforce turnover, cited by 15% of respondents, was the second most important factor.
- A higher proportion of LDC employees (23%) compared with LLW employees (13%) agreed that workforce turnover was the most important factor facing the mining industry.
- Cost of fuel was seen as a significant issue for the gold sector.
- Infrastructure blockages were major concerns in the coal and iron ore sectors.
- Very few respondents cited industrial unrest as the key issue for the industry.

## Future developments in the mining industry

### Constraints to future growth

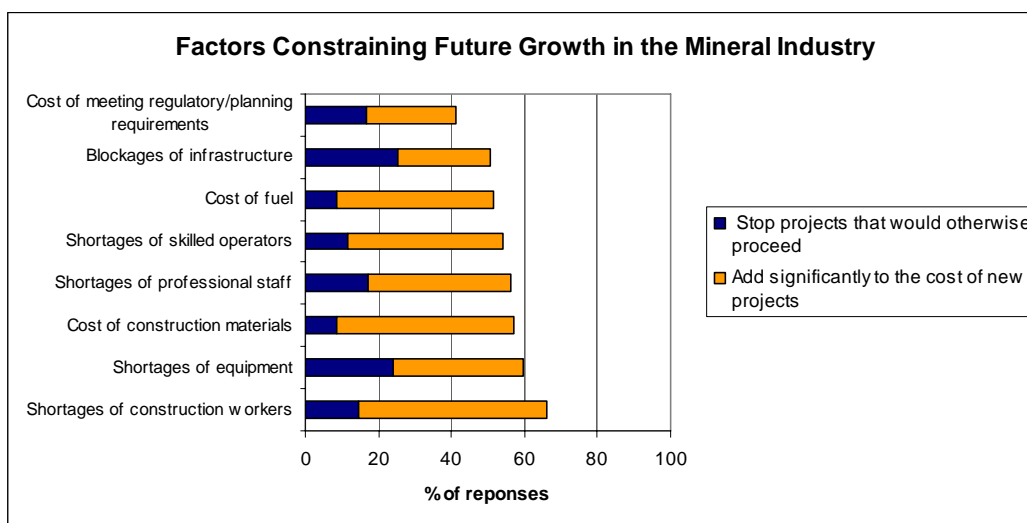
The third part of the survey was designed to gather more information about factors impacting on the future growth of the industry. Respondents were asked to identify from a list of statements the factors they believe may constrain future growth. They were then asked which of these items were most likely to influence the long-term future of the industry.

The eight factors respondents were asked to evaluate as potential constraints to the future growth of the industry were: shortages of professional staff; shortages of skilled operators; shortages of construction workers; shortages of equipment; cost of construction materials; cost of fuel; cost of meeting regulatory and planning requirements; and blockages of infrastructure.

As Figure 4 illustrates, more than half of all respondents agreed that every one of these concerns could constrain the future growth of the industry, with the exception of costs associated with meeting regulatory and planning requirements, which 41% of respondents identified as a constraint.

- Two thirds (66%) of respondents agreed that the shortage of construction workers could add significantly to the cost of new projects or stop projects that would otherwise proceed.
- Shortages of equipment (60%) and cost of construction materials (57%) were seen as the next most important constraints.
- The factors that were seen as most likely to stop projects from going ahead at all were blockages to infrastructure (25%) and shortages of equipment (24%).
- 41% of respondents said that meeting regulatory requirements could add significantly to the cost of new projects and 17% agreed that meeting regulatory requirements could stop projects from going ahead. This appears to reflect industry concerns that excessive regulatory and planning requirements are affecting the industry's bottom line.

Figure 4: Factors constraining future growth in the mineral industry



These responses were further broken down into those from people working for mining companies and those working for consultancy firms. There were no significant differences in response patterns. Table 5 compares responses according to the area of the minerals industry in which respondents worked:

**Table 5: Most important factor constraining future growth by area of minerals industry**

Factors	Area of minerals industry %						
	Coal	Gold	Iron Ore	* Other minerals	Other non-Ferrous metals	I work across industry sectors	Total
Shortages of construction workers	58.7	65.7	81.7	68.1	67.4	65.8	66.2
Shortages of skilled operators	52.6	57.9	46.7	50.7	51.6	55.5	54
Shortages of equipment	68.8	61.3	71.2	52.1	62.5	54.9	59.8
Blockages of infrastructure	68.6	44.5	64.4	44.1	43.1	52	50.6
The cost of fuel	39.1	68	46.7	51.7	44.5	50	51.7
The cost of construction materials	39.6	60.9	66.7	64.3	57.7	57.5	57.3
The cost of meeting regulatory and planning requirements	37.6	42.2	43.3	41	42.9	40.9	41.2
The shortages of professional staff	60.6	57.8	56.7	49	59.1	55.2	56.5

\* Includes bauxite, aluminium, oil and gas

- In the coal and iron ore sectors, shortages of equipment, blockages of infrastructure and the cost of construction materials were seen as potentially constraining the future of the industry.
- The cost of fuel was an important factor for the gold sector.

### Long term future of the industry

When considering the long-term future of the industry, respondents were asked about the potential impact of reduced price competitiveness compared to other suppliers and insufficient investment in exploration (see Table6).

- Just over half the respondents (53%) agreed or strongly agreed that reduced price competitiveness compared to other suppliers could see a downturn in the industry.
- The vast majority of respondents (91%) agreed or strongly agreed that insufficient investment in exploration could see a downturn in the industry. This view was most strongly held by geologists.

**Table 6: Impact of insufficient investment in exploration on the long term future of the Australian minerals industry**

Insufficient investment in exploration could see a downturn in the industry	Profession %						
	Geologist (n=388)	Engineer (n=402)	Metallurgist (n=174)	Management (n=234)	Environment (n=29)	Other (n=38)	Total (n= 1265)
Strongly agree	63.9	40.0	46.6	50.4	37.9	39.5	50.1
Agree	29.6	47.8	44.3	41.9	55.2	52.6	40.9
Neither	4.4	8.2	4.0	3.4	3.4	7.9	5.5
Disagree	1.3	3.5	5.2	3.4	3.4	0.0	2.9
Strongly disagree	0.8	0.5	0.0	0.9	0.0	0.0	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

### **KEY FINDINGS: FUTURE DEVELOPMENTS IN THE MINING INDUSTRY**

#### Potential constraints

- Two thirds (66%) of respondents agreed that the shortage of construction workers could add significantly to the cost of new projects or stop projects that would otherwise proceed.
- Shortages of equipment (60%) and cost of construction materials (57%) were seen as the next most important factors.
- 41% of respondents regarded the cost of meeting regulatory requirements as a significant risk factor in constraining future growth.
- 17% agreed that the cost of meeting regulatory requirements could stop projects from going ahead.

#### Long term future of the industry

- 91% agreed that insufficient exploration investment could see a downturn in the industry.
- Half the respondents (53%) agreed that reduced price competitiveness in the Australian industry, compared to other suppliers, could lead to a downturn in the industry.

## Workforce mobility and job satisfaction

One important objective of this research project was to identify the factors that professionals in the minerals sector believe are important when they are deciding whether to stay with, or leave an employment situation. The questions in this part of the survey focus on two related variables:

- intention to change current employment situation (workforce mobility)
- job satisfaction.

### Workforce mobility

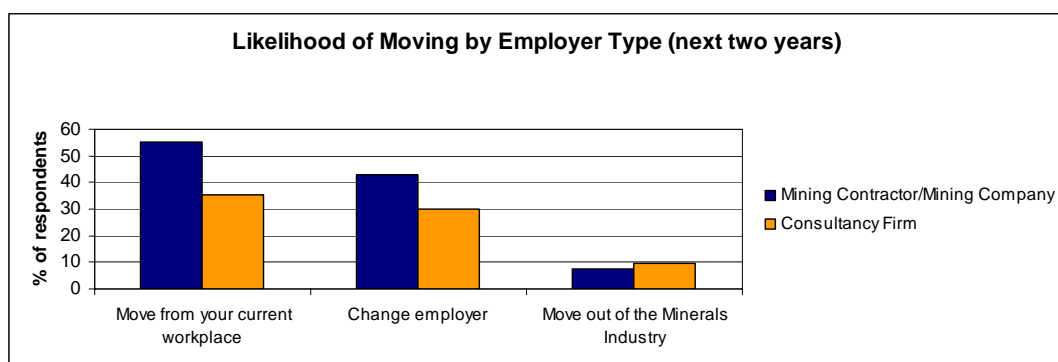
Workforce turnover has long been an issue of concern for the mining industry. While there is some indication that the labour mobility rate within, and exits from, the mining industry have declined between 2002 and 2004 (ABS, 2004), it is apparent from this survey that workforce turnover remains a significant concern for the industry.

Participants were asked a series of questions about the likelihood of changing their current employment. Analysis of the data indicated that, while most respondents intended to stay in the industry, a substantial proportion were likely to move from their current workplace or change employers:

- 9% of respondents agreed they were likely to move out of the minerals industry within the next two years.
- 48% agreed that they were likely to move from their current workplace within the next two years.
- 39% agreed that they were likely to change employer within the next two years.

Those employed by mining companies/contractors were more likely to state an intention to change jobs within the same workplace or to move from their current workplace in the next two years, than were employees of consultancy firms (see Figure 5).

**Figure 5: Likelihood of Moving by employer type**

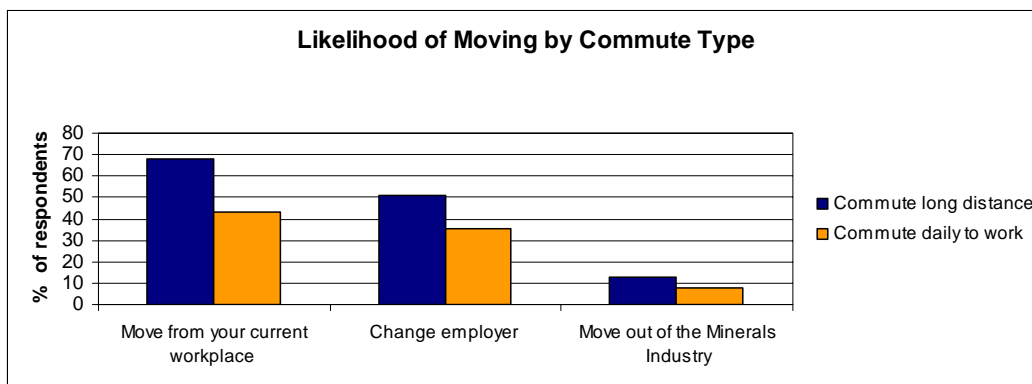


There is growing evidence that employees on a long distance commute roster (LDC) are more likely to change employment than those living locally to work (LLW). Previous studies (e.g. Beach et al, 2003) indicate that employees working for fly-in-fly-out (FIFO) operations feel that their working lifestyle puts pressure on their personal lives, and contributes to their intentions to leave their jobs. The results of this survey lend further support to these findings:

- LDC employees agreed they were more likely to move from their current workplace in the next two years than LLW employees (68% v. 44%).
- LDC employees agreed they are more likely to change employer in the next two years than LLW employees (52% v. 35%).

- LDC employees agreed they were more likely to exit the minerals industry in the next two years than LLW employees (13% v. 8%) (See Figure 6).

**Figure 6: Likelihood of Moving by Commute Type**



We performed further analysis on the data from the 9% of respondents who indicated that they were likely to leave the industry over the next two years, to see if there was any association with the respondent’s age (see Table7).

**Table 7: Likelihood of moving out of the industry by age**

Likelihood of moving out of the industry in the next two years	Very likely Likely (%)
Less than 24 (n=29)	4.6
25-29 (n=106)	14.1
30-34 (n=162)	8.0
35-39 (n=151)	11.9
40-44 (n=225)	8.4
45-49 (n=209)	4.8
50-54 (n=156)	5.8
55-59 (n=152)	9.2
60-64 (n=39)	15.2
65 and over (n=39)	15.4

The most notable feature of this table is that around half or those likely to leave the industry are aged under 50 (52%). This suggests that factors others than approaching retirement are influencing the decision to leave the industry. Of concern is the finding that 14% of these are in the 25-29 age bracket indicated an intention to leave. This cohort comprises professionals who have entered the industry only recently.

**Job satisfaction**

As indicated by the previous question, mobility intentions are widely regarded as being influenced by levels of job satisfaction. We asked respondents the extent to which they agreed or disagreed with a number of items used to measure job satisfaction. These measures related to opportunities for professional development, opportunities for a social life, remuneration and a question about workplace diversity (see Table8). Responses in each of these categories were as follows:

*Professional development*

- Two thirds of respondents (67%) felt that the company they worked for encourages and supports their professional development.
- 57% agreed their current employer provides sufficient on the job training.

- Less than one third (29%) agreed that their company has an effective mentoring system.

*Social life*

- Two thirds (67%) of respondents agreed that their company offers flexibility with working hours to deal with personal commitments.
- Less than one third (31%) thought that their working lifestyle allowed sufficient time to carry out study.
- Respondents were split evenly over the question of whether their partners had a compatible lifestyle. Half agreed that their partner had a compatible lifestyle and half disagreed.
- A similar percentage (48%) agreed that their working lifestyle put pressure on forming and maintaining personal relationships.

*Remuneration*

- 58% of respondents expressed satisfaction with their current level of remuneration.
- A large majority (82%) expected to increase their remuneration over the next two years.
- 65% expected to progress in their careers during the next two years.

*Other*

- 63% of respondents agreed that diversity is promoted in their workplaces.

**Table 8: Job satisfaction items**

<b>Professional development</b>	<b>Total % agree</b>
My company encourages and supports my continued professional development	67.4
My current employer provides sufficient on the job training	57.3
Where I work has an effective mentoring system	28.7
<b>Social Life</b>	
My company offers flexibility with working hours to deal with personal commitments	66.5
My working lifestyle allows me sufficient time to carry out additional study	30.9
My working lifestyle put pressure on forming and maintaining personal relationships	47.5
My working lifestyle allows for social and community involvements	43.7
My partner has a compatible lifestyle	50.4
I have a life that is balanced between work, health and relaxation	37.9
<b>Remuneration</b>	
Overall, I am satisfied with my current level of remuneration	57.3
I expect to increase my level of remuneration over the next two years	81.9
I expect to progress in my career over the next two years	64.9
<b>Other</b>	
Diversity is promoted in my workplace in terms of culture, gender and age	63.3

*Job satisfaction across industry sectors*

Overall, attitudes to these job satisfaction questions were consistent across industry sectors, although we note the following differences:

- Workers in the gold sector seem to be least able to lead a life with a balance between work, health, and relaxation (30%), and are least likely to have a partner with a compatible lifestyle (44%). This may be due to the fact that the majority of employees in the gold sector are employed in FIFO operations.

- Workers in iron ore (64%) and gold (61%) were most satisfied with their level of remuneration.

*Job satisfaction differences between daily commuters and long-distance commuters*

When the job satisfaction responses were analyzed by commute type, we found no significant differences with regard to the professional development, remuneration or diversity questions. However, as reported in Table 9, there were significantly different responses to the social life questions, depending on commute type.

- Less than half (49%) of LDC employees agreed that their companies offer flexibility with working hours to deal with personal commitments compared with 71% of LLW employees.
- Almost two thirds (65%) of LDC employees agreed that their working life put pressure on personal relationships, compared with 43% of LLW employees.
- Only 25% of LDC employees agreed that their working lifestyle allowed for social and community involvement, compared with half (49%) of LLW employees.
- Almost twice as many LLW employees (57%) as LDC employees (29%) agreed that their partner had a compatible lifestyle.

**9: Impact of commute type on social life**

Social life	Commute daily to work % agree	Commute long distance % agree
My company offers flexibility with working hours to deal with personal commitments	71.3	48.7
My working lifestyle put pressure on forming and maintaining personal relationships	42.8	65.1
My working lifestyle allows for social and community involvements	48.8	24.9
My partner has a compatible lifestyle	56.8	28.5

*Job satisfaction by type of employer*

When the job satisfaction responses were analyzed by employer type, we found no significant differences with regard to the questions relating to professional development, remuneration or diversity between those working for mining companies/contractors and those working for a consultancy firm. However, there were significantly different responses to the social life questions.

Consultancy firm employees were more likely than mining company employees to agree that their:

- companies offered more flexible working hours (79% compared with 59%)
- working lifestyle allowed for social and community involvement (50% compared with 40%)
- partners had a compatible lifestyle (59% compared with 47%) and;
- life was balanced between work, health and relaxation (45% compared with 34%).

Mining company employees were more likely to agree that: their working lifestyle put pressure on personal relationships (53% compared with 40% consultancy firm employees). Part of the reason for this may be that consultancy firm employees are less likely to be long distance commuters.

### **Important considerations when choosing a job**

Respondents were asked to choose the single most important aspect in considering job options from a list of six factors. Results to this question are reported in Table 10.

**Table 10: The most important aspect when considering job options**

	<b>% (n=1351)</b>
Maintaining the balance between work and home life	50.0
The professional challenges presented by the job	23.2
Career development prospects	9.6
Where the job is located	8.9
The value of remuneration package	5.2
The team environment	3.0
Total	100.0

Table 10 demonstrates that:

- Maintaining the balance between work and home life was the single most important consideration for participants when choosing a job, according to 50% of respondents.
- Professional challenges presented by the job (23%) was the second most important consideration.
- Just 5% of respondents rated remuneration as the most important issue when considering their job options.

These findings are of note because the mining industry has a long tradition of paying premium prices to attract and retain staff. The ratio of average weekly earnings for employees in the minerals industry consistently tops all other industry sectors. Since 1993, the average ratio has been around 1.5 times the national average (ABS, 2005). The data in Table 15 suggests that there may be a point where money is no longer the primary motivating factor when choosing between job options. Lifestyle concerns then assume a much greater importance.

We further analysed the data on considering job options to see whether there were variances across industry sectors. We found that:

- maintaining the balance between work and home life and professional challenges presented by the job remained the two most important considerations across all industry sectors and the value of the remuneration package was the least significant.

### **Reputation of the industry**

The survey concluded with some questions about the reputation of the mining industry (see table 11). A majority of respondents agreed that the industry had a positive reputation in their own workplaces and in the regions in which they worked. However, less than half agreed that the industry had a positive reputation in the wider Australian community:

- 83% of respondents agreed that their workplace has a positive reputation in the region in which they work.
- 75% thought that the mining industry in general had a positive reputation in the region in which they work.
- Only 47% agreed that the mining industry had a positive reputation in Australia.
- The majority (60%) believed that the reputation of the minerals industry has improved over the last five years.

**Table 11: Reputation of the minerals industry**

	<b>Strongly agree (%)</b>	<b>Agree (%)</b>	<b>Neither (%)</b>	<b>Disagree (%)</b>	<b>Strongly disagree (%)</b>
My workplace has a positive reputation in the region that I work (n=1346)	36.8%	45.8%	12.4%	4.6%	0.4%
In general, the mining industry has a positive reputation in the region that I work (n=1347)	18.6%	56.2%	14.9%	9.4%	0.9%
The mining industry has a positive reputation in Australia generally (n=1334)	5.3%	42.0%	27.6%	23.2%	1.9%
The reputation of the minerals industry has improved over the last 5 years (n=1340)	9.6%	50.7%	23.1%	15.1%	1.6%

**KEY FINDINGS: WORKFORCE MOBILITY AND JOB SATISFACTION**

Respondents indicated that high workforce turnover remains a major concern for the mining industry.

Mobility intentions

When asked about their intentions to move in the next two years:

- 9% agreed they were likely to move out of the minerals industry.
- 40% agreed they were likely to move from their current workplace.
- 39% agreed they were likely to change employer.
- Lifestyle issues rather than professional ones were more likely to influence the decision to move to a new employer or a new workplace.
- LDC employees were consistently more likely to signal mobility intentions than LLW employees.
- Of those likely to leave the industry in the next two years, 52% were aged under 50 indicating that retirement was unlikely to be the main reason for leaving

Job satisfaction

- Two thirds of respondents (67%) agreed that the company they worked for encourages and supports their professional development.
- 58% of respondents expressed satisfaction with their current level of remuneration and (82%) expected to increase their remuneration over the next two years.
- 48% agreed that their working lifestyle puts pressure on forming and maintaining personal relationships.
- The value of the remuneration package was regarded as the most significant factor by only 5%.

Important considerations when choosing a job

- Maintaining the balance between work and home life was the single most important consideration (50%).
- The second most important consideration was the professional challenges presented by the job (23%).

Industry reputation

- 83% of respondents agreed that their workplace has a positive reputation.
- Only 47% agreed that the mining industry has a positive reputation in Australia. However, 60% also agreed that the reputation of the industry had improved over the last 5 years.

## Profile of participants

### Gender

Most respondents were male (91%), reflecting the gender imbalance of the mining industry as a whole.

### Age

Respondents to the survey ranged in age from under 20 to over 65 (refer to table 12).

- more than half of the men (52%) were aged 45+
- in contrast, the majority of women were aged under 35 (63%).

**Table 12: Respondent profile by gender and age**

Age	% Male (n=1230)	% Female (n=119)	% Total
Less than 20	0.2	1.7	0.4
20-24	2.3	13.4	3.3
25-29	6.6	20.2	7.8
30-34	10.5	27.7	12.0
35-39	10.8	13.4	11.0
40-44	17.0	13.4	16.7
45-49	16.3	5.0	15.3
50-54	12.0	4.2	11.3
55-59	12.7	0.8	11.6
60-64	8.0	0.0	7.3
65 and over	3.5	0.0	3.2
Total	100	100	100

### Marital status

- 90% of respondents were married or partnered.
- 54% had dependent children.

### Employment situation

The highest proportions of respondents were engineers (32%) and geologists (31%). Approximately 2% of respondents described their profession as 'environment' (refer to Table 1).

Respondents were asked to identify the area of the minerals industry in which they worked. The largest proportions of respondents were those who worked 'across industry sectors' (33%), 'gold' (22%) and 'other non-ferrous metals' (17%). A small minority worked in 'bauxite and aluminium' (2%) and 'oil and gas' (1%). Table 13 illustrates the respondent profile.

**Table 13: Respondent profile by industry sector**

	<b>% (n=1312)</b>
I work across industry sectors	32.9
Gold	21.6
Other non-Ferrous metals	17.3
Coal	12.4
Other minerals	8.7
Iron Ore	4.6
Bauxite /Aluminium	1.8
Oil and Gas	0.8
<b>Total</b>	<b>100.0</b>

Most respondents (88%) worked in Australia. More than half (58%) worked for a mining company, while 30% worked for a consultancy firm that deals with the minerals industry. Smaller proportions of respondents worked for a mining contractor (5%), in government or education, or another industry (6%). At the time the survey was conducted, 1.5% of respondents were between jobs in the mining industry.

**KEY FINDINGS: PARTICIPANT PROFILE**

Demographic profile

- The majority of survey respondents (52%) were aged 45+.
- Women represented 9% of the sample.
- Females were on average much younger than male respondents, with the majority aged under 35.
- 90% of respondents were married or partnered.
- 54% had dependent children.

Work situation

- The majority of respondents were mining engineers (32%) or geologists (31%).
- Over half (58% ) worked for a mining company, with most of the remainder working for a consulting firm, including self-employed.
- One third (33%) worked across industry sectors.
- 40% of respondents worked at a mine or minerals processing operation.

## CONCLUSION

### Current issues in mining

Skills shortages are seen as the single most important issue currently facing the mining industry. They are having three major impacts on the industry:

1. Skills shortages are seen as impacting significantly on a company's bottom line. According to 40% of respondents, the shortage of skilled personnel was the most significant factor impacting on the industry's current operational profitability.
2. Companies are being left short staffed and this places current workers under increasing pressure.
3. Addressing skills shortages is closely allied to the problem of managing staff turnover, which was identified as the second most important factor currently impacting on operational profitability.

Attracting and retaining a skilled workforce is one of the major issues facing the mining industry now and for the foreseeable future. If companies are unable to attract and retain skilled professionals, they may be unable to capitalize on all of the opportunities offered by the current mining boom.

A range of other factors are also of concern to participants, but they tended to vary across industry sectors. For example, the cost of fuel is a concern for those working in the gold sector and infrastructure blockages are a concern for those working in the coal and iron ore sectors.

### Future development of the industry

When considering the longer term outlook for the industry, respondents overwhelmingly agreed that insufficient investment in exploration could lead to a downturn in the industry. This is clearly a reflection on the decline in exploration activity in Australia that occurred between 1997 and 2002 (ABS, 2005b). It would appear that respondents are aware that this decline in activity may have left companies unprepared for the opportunities presented by the current mining boom.

In the more immediate future, shortages of construction workers were seen as the most important factor constraining the future growth of the industry. Other concerns were equipment shortages, the cost of construction materials and shortages of professional staff. These factors were generally seen as more likely to add to the cost of existing projects, rather than preventing them from going ahead.

Finally, 41% of respondents agreed that meeting regulatory requirements could add significantly to the cost of new projects or could stop projects from going ahead (17%). This appears to reflect industry concerns that excessive regulatory and planning requirements are affecting the industry's bottom line.

### Workforce mobility and job satisfaction

When looking at various measures of job satisfaction, we found that survey respondents were largely satisfied with their remuneration levels and opportunities for professional development. The biggest difficulty for them was maintaining the balance between their work commitments and private life. Especially for those who commute long distances to work, maintaining personal relationships and having time for outside interests remain a major challenge.

It is important for companies to engage with personal issues that are of concern to their employees. People who cannot find a balance between work and family commitments are more likely to leave their jobs, as can be seen from the consistently higher turnover figures for employees who commute long distances. Companies cannot afford to lose experienced personnel at a time when there are already skills shortages.

The mobility data collected in this survey suggests that:

- 48% of workers are likely to move from their current workplace in the next two years
- 39% are likely to change employer
- 9% may leave the industry altogether
- Those most likely to leave the industry are those aged 25-29 (14%) and those aged 35-39 (12%). This is of concern because it indicates that it is skilled professionals with experience who are considering leaving the industry. This finding may provide some explanation of why the industry is currently facing a shortage of skilled professionals.

In summary, while the business indicators for the minerals industry are very positive, at least in the short-to-medium term, managing workforce turnover and addressing skills shortages are critical factors if the industry is to capitalize on the opportunities available.



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## APPENDICES

### Appendix 1: Frequency Tables

#### Q2. profession

	Frequency	%
Geologist	395	31.0
Engineer	402	31.5
Metallurgist	177	13.9
Management	234	18.4
Environment	29	2.3
Other	38	3.0
Total	1,275	100.0

#### V2. Other profession

Banker
banking
Business Analyst
Business Improvement Specialist (former geologist)
Chemist
Consultant
Corporate and projects
draftsman
electrical
engineer/geologist
Engineering Geologist
Finance
geophysicist
Geophysicist
Geostatistician
Geotechnical
GeoTechnical, Electrical
headhunter
Health Safety Environment Community
HR Manager
HR Professional
HSE Manager
Human Resources
Human Resources Manager
Hydrogeologist
Integrated systems (QA/Env/Safety)
IT
Laboratory Manager
management
manager
Manager
Marketing
metallurgy
Mine Planner
mineral economist
Mineral economist
Minerals Education
mining
Mining

Mining, Geotechnical and Risk (Operational & Financial)
Physicist
Physicist in commercial
Recently retired metallurgist
Retired mineral and Environmental Geochemist
Safety Professional
Software Sales and Consulting - Geological and Mining related software development
Technical officer- lab. technician
TRAINING COORDINATOR (EX-GEOLOGIST)
Training Specialist

**Q3. Area of minerals industry work in**

	Frequency	%
Bauxite /Aluminium	23	1.8
Coal	163	12.4
Gold	284	21.6
Iron Ore	60	4.6
Oil and Gas	10	0.8
Other minerals	114	8.7
Other non-Ferrous metals	227	17.3
I work across industry sectors	431	32.9
Total	1,312	100.0

**Q4. Country**

	Frequency	%
Australia	1,118	88.4
New Zealand	30	2.4
Other country in Australasia	117	9.2
Total	1,265	100.0

**Q5. My workplace has a positive reputation in the region that I work**

	Frequency	%
A mining company	768	57.6
A mining contractor	66	5.0
A consultancy firm that deals with the mineral industry (inc	400	30.0
Work in Government, Education or other industry	81	6.1
Between jobs in mining industry	18	1.4
Total	1,333	100.0

**Q7. My workplace has a positive reputation in the region that I work**

	Frequency	%
Strongly agree	495	36.8
Agree	617	45.8
Neither	167	12.4
Disagree	62	4.6
Strongly disagree	5	0.4
Total	1,346	100.0

**Q8. In general, the mining industry has a positive reputation in the region that I work**

	Frequency	%
Strongly agree	250	18.6
Agree	757	56.2
Neither	201	14.9
Disagree	126	9.4
Strongly disagree	12	0.9
Total	1,346	100.0

**Q9. The mining industry has a positive reputation in Australia generally**

	Frequency	%
Strongly agree	71	5.3
Agree	560	42.0
Neither	368	27.6
Disagree	309	23.2
Strongly disagree	26	1.9
Total	1,334	100.0

**Q10. In your perception, the reputation of the minerals industry has improved over the last 5 years**

	Frequency	%
Strongly agree	128	9.6
Agree	679	50.7
Neither	309	23.1
Disagree	203	15.1
Strongly disagree	21	1.6
Total	1,340	100.0

**Q11. Which best describes your workplace**

	Frequency	%
I work at a mine or minerals processing operation	534	39.6
I work at a non-operational location (e.g. corporate office)	656	48.6
Neither /Not applicable to my workplace	159	11.8
Total	1,349	100.0

**Q13. 1 Recruit Operational personnel**

	Frequency	%
Very easy	20	1.5
Easy	125	9.3
Neither	203	15.1
Difficult	525	39.0
Very difficult	280	20.8
Not applicable	194	14.4
Total	1,347	100.0

**Q13.2 Retain Operational personnel**

	<b>Frequency</b>	<b>%</b>
Very easy	30	2.2
Easy	177	13.2
Neither	360	26.8
Difficult	490	36.4
Very difficult	88	6.5
Not applicable	200	14.9
Total	1,345	100.0

**Q14.1 Recruit Personnel with trade qualifications**

	<b>Frequency</b>	<b>%</b>
Very easy	6	0.5
Easy	52	3.9
Neither	135	10.1
Difficult	465	34.9
Very difficult	331	24.8
Not applicable	344	25.8
Total	1,333	100.0

**Q14.2 Retain Personnel with trade qualifications**

	<b>Frequency</b>	<b>%</b>
Very easy	15	1.1
Easy	91	6.8
Neither	264	19.9
Difficult	444	33.4
Very difficult	173	13.0
Not applicable	342	25.7
Total	1,329	100.0

**Q16.1 Recruit new graduate professionals**

	<b>Frequency</b>	<b>%</b>
Very easy	14	1.1
Easy	162	12.8
Neither	256	20.2
Difficult	454	35.8
Very difficult	203	16.0
Not applicable	180	14.2
Total	1,269	100.0

**Q16.2 Retain New graduate professionals**

	<b>Frequency</b>	<b>%</b>
Very easy	14	1.1
Easy	129	10.2
Neither	324	25.6
Difficult	455	35.9
Very difficult	153	12.1
Not applicable	192	15.2
Total	1,267	100.0

**Q17.1 Recruit Professional personnel with experience**

	Frequency	%
Very easy	8	0.6
Easy	37	2.9
Neither	98	7.6
Difficult	442	34.5
Very difficult	628	48.9
Not applicable	70	5.5
Total	1,283	100.0

**Q17.2 Retain Professional personnel with experience**

	Frequency	%
Very easy	11	0.9
Easy	124	9.7
Neither	343	26.7
Difficult	498	38.8
Very difficult	224	17.5
Not applicable	83	6.5
Total	1,283	100.0

**Q18.1 Recruit Management personnel**

	Frequency	%
Very easy	14	1.0
Easy	92	6.8
Neither	250	18.6
Difficult	477	35.4
Very difficult	326	24.2
Not applicable	188	14.0
Total	1,347	100.0

**Q18.2 Retain Management personnel**

	Frequency	%
Very easy	15	1.1
Easy	162	12.0
Neither	472	35.1
Difficult	386	28.7
Very difficult	124	9.2
Not applicable	187	13.9
Total	1,346	100.0

**Q20. The skills shortage has not affected my workplace**

	Frequency	%
Strongly agree	72	5.6
Agree	188	14.6
Neither	81	6.3
Disagree	491	38.2
Strongly disagree	435	33.8
Not applicable	19	1.5
Total	1,286	100.0

**Q21. The skills shortage has left us short staffed**

	Frequency	%
Strongly agree	297	22.8
Agree	638	49.0
Neither	153	11.8
Disagree	147	11.3
Strongly disagree	18	1.4
Not applicable	48	3.7
Total	1,301	100.0

**Q22. The skills shortage has meant we have people performing in more senior roles without sufficient professional experience**

	Frequency	%
Strongly agree	196	14.8
Agree	544	41.1
Neither	224	16.9
Disagree	261	19.7
Strongly disagree	42	3.2
Not applicable	58	4.4
Total	1,325	100.0

**Q23. The skills shortage has meant my employer now pays more for less experienced personnel**

	Frequency	%
Strongly agree	212	15.7
Agree	671	49.7
Neither	221	16.4
Disagree	151	11.2
Strongly disagree	25	1.9
Not applicable	69	5.1
Total	1,349	100.0

**Q24. People at my workplace are under more pressure because of the skills shortage**

	Frequency	%
Strongly agree	308	22.9
Agree	693	51.4
Neither	187	13.9
Disagree	112	8.3
Strongly disagree	7	0.5
Not applicable	40	3.0
Total	1,347	100.0

**Q25. I think the skills shortage will reduce in the next two or three years**

	Frequency	%
Strongly agree	17	1.0
Agree	201	14.9
Neither	257	19.0
Disagree	569	42.1
Strongly disagree	295	21.8
Not applicable	13	1.0
Total	1,352	100.0

**Q26. Over the past two years my level of remuneration has increased**

	Frequency	%
Strongly agree	174	12.9
Agree	783	57.9
Neither	175	12.9
Disagree	144	10.6
Strongly disagree	36	2.7
Not applicable	41	3.0
Total	1,353	100.0

**Q29. Shortages of skilled personnel**

	Frequency	%
Strong neg impact	289	21.5
Weak neg impact	633	47.2
Moderate neg impact	260	19.4
Considerable neg impact	112	8.3
Strong negative impact	48	3.6
Total	1,342	100.0

**Q30. Shortages of new graduates**

	Frequency	%
Strong neg impact	150	11.2
Weak neg impact	437	32.6
Moderate neg impact	394	29.4
Considerable neg impact	234	17.5
Strong negative impact	124	9.3
Total	1,339	100.0

**Q31. Workforce turnover**

	Frequency	%
Strong neg impact	288	21.5
Weak neg impact	545	40.6
Moderate neg impact	299	22.3
Considerable neg impact	138	10.3
Strong negative impact	72	5.4
Total	1,342	100.0

**Q32. The cost of labour**

	Frequency	%
Strong neg impact	227	16.9
Weak neg impact	563	42.0
Moderate neg impact	339	25.3
Considerable neg impact	145	10.8
Strong negative impact	68	5.1
Total	1,342	100.0

**Q33. Equipment shortages**

	Frequency	%
Strong neg impact	230	17.3
Weak neg impact	448	33.6
Moderate neg impact	331	24.8
Considerable neg impact	178	13.4
Strong negative impact	146	11.0
Total	1,333	100.0

**Q34. Infrastructure blockages (eg at rail or port facilities)**

	Frequency	%
Strong neg impact	156	11.8
Weak neg impact	293	22.1
Moderate neg impact	339	25.5
Considerable neg impact	230	17.3
Strong negative impact	309	23.3
Total	1,327	100.0

**Q35. Cost of fuel**

	Frequency	%
Strong neg impact	294	22.0
Weak neg impact	503	37.7
Moderate neg impact	279	20.9
Considerable neg impact	135	10.1
Strong negative impact	124	9.3
Total	1,335	100.0

**Q36. Cost of construction materials, eg steel**

	Frequency	%
Strong neg impact	238	18.0
Weak neg impact	523	39.5
Moderate neg impact	284	21.5
Considerable neg impact	136	10.3
Strong negative impact	142	10.7
Total	1,323	100.0

**Q37. Cost of other inputs**

	Frequency	%
Strong neg impact	99	10.0
Weak neg impact	304	30.7
Moderate neg impact	296	29.9
Considerable neg impact	111	11.2
Strong negative impact	179	18.1
Total	989	100.0

**Q38. Industrial unrest**

	Frequency	%
Strong neg impact	40	3.1
Weak neg impact	157	12.0
Moderate neg impact	300	23.0
Considerable neg impact	366	28.0
Strong negative impact	443	33.9
Total	1,306	100.0

**Q39. Which one of these is the most important factor impacting on current operational profitability?**

	<b>Frequency</b>	<b>%</b>
Shortages of skilled personnel	467	39.9
Shortages of new graduates	20	1.7
Workforce turnover	177	15.1
The cost of labour	84	7.2
Equipment shortages	82	7.0
Infrastructure blockages	47	4.0
Cost of fuel	164	14.0
Cost of construction materials, eg steel	65	5.6
Cost of other inputs	51	4.4
Industrial unrest	12	1.0
Total	1,169	100.0

**Q41. Shortages of construction workers is a factor that**

	<b>Frequency</b>	<b>%</b>
Could stop projects that would otherwise proceed	190	14.4
Could add significantly to the cost of new projects	677	51.5
Could have a moderate impact on the cost of new projects	300	22.8
Could have a minor impact on the cost of new projects	84	6.4
Is unlikely to have any negative impact on new projects	64	4.9
Total	1,315	100.0

**Q42. Shortages of skilled operators is a factor that**

	<b>Frequency</b>	<b>%</b>
Could stop projects that would otherwise proceed	154	11.7
Could add significantly to the cost of new projects	559	42.4
Could have a moderate impact on the cost of new projects	437	33.2
Could have a minor impact on the cost of new projects	121	9.2
Is unlikely to have any negative impact on new projects	47	3.6
Total	1,318	100.0

**Q43. Shortages of equipment is a factor that**

	<b>Frequency</b>	<b>%</b>
Could stop projects that would otherwise proceed	310	23.9
Could add significantly to the cost of new projects	465	35.9
Could have a moderate impact on the cost of new projects	314	24.2
Could have a minor impact on the cost of new projects	151	11.7
Is unlikely to have any negative impact on new projects	55	4.2
Total	1,295	100.0

**Q44. Blockages of infrastructure is a factor that (eg at rail or port facilities)**

	Frequency	%
Could stop projects that would otherwise proceed	331	25.4
Could add significantly to the cost of new projects	329	25.2
Could have a moderate impact on the cost of new projects	285	21.8
Could have a minor impact on the cost of new projects	209	16.0
Is unlikely to have any negative impact on new projects	151	11.6
Total	1,305	100.0

**Q45. The cost of fuel is a factor that**

	Frequency	%
Could stop projects that would otherwise proceed	111	8.4
Could add significantly to the cost of new projects	568	43.2
Could have a moderate impact on the cost of new projects	421	32.0
Could have a minor impact on the cost of new projects	167	12.7
Is unlikely to have any negative impact on new projects	48	3.7
Total	1,315	100.0

**Q46. The cost of construction materials is a factor that**

	Frequency	%
Could stop projects that would otherwise proceed	114	8.7
Could add significantly to the cost of new projects	634	48.4
Could have a moderate impact on the cost of new projects	379	29.0
Could have a minor impact on the cost of new projects	142	10.8
Is unlikely to have any negative impact on new projects	40	3.1
Total	1,309	100.0

**Q47. The cost of meeting regulatory and planning requirements is a factor that**

	Frequency	%
Could stop projects that would otherwise proceed	218	16.6
Could add significantly to the cost of new projects	323	24.5
Could have a moderate impact on the cost of new projects	393	29.9
Could have a minor impact on the cost of new projects	274	20.8
Is unlikely to have any negative impact on new projects	108	8.2
Total	1,316	100.0

**Q48. The shortages of professional staff is a factor that**

	Frequency	%
Could stop projects that would otherwise proceed	229	17.2
Could add significantly to the cost of new projects	521	39.2
Could have a moderate impact on the cost of new projects	425	32.0
Could have a minor impact on the cost of new projects	130	9.8
Is unlikely to have any negative impact on new projects	23	1.7
Total	1,328	100.0

**Q50. Reduced price competitiveness compared to other suppliers could see a downturn in the industry**

	Frequency	%
Strongly agree	105	8.3
Agree	568	44.7
Neither	371	29.2
Disagree	198	15.6
Strongly disagree	28	2.2
Total	1,270	100.0

**Q51. Insufficient investment in exploration could see a downturn in the industry**

	Frequency	%
Strongly agree	683	50.5
Agree	551	40.8
Neither	73	5.4
Disagree	38	2.8
Strongly disagree	7	0.5
Total	1,352	100.0

**Q53. My company encourages and supports my continued professional development**

	Frequency	%
Strongly agree	281	20.9
Agree	624	46.3
Neither	283	21.0
Disagree	129	9.6
Strongly disagree	30	2.2
Total	1,347	100.0

**Q54. My current employer provides sufficient on the job training**

	Frequency	%
Strongly agree	162	12.0
Agree	601	44.7
Neither	343	25.5
Disagree	204	15.2
Strongly disagree	36	2.7
Total	1,346	100.0

**Q55. Where I work has an effective mentoring system**

	Frequency	%
Strongly agree	81	6.0
Agree	303	22.5
Neither	417	31.0
Disagree	424	31.5
Strongly disagree	121	9.0
Total	1,346	100.0

**Q56. My working lifestyle allows me sufficient time to carry out additional study**

	Frequency	%
Strongly agree	61	4.5
Agree	357	26.5
Neither	290	21.5
Disagree	460	34.1
Strongly disagree	181	13.4
Total	1,349	100.0

**Q57. Diversity is promoted in my workplace in terms of culture, gender and age**

	Frequency	%
Strongly agree	208	15.5
Agree	644	47.8
Neither	340	25.3
Disagree	124	9.2
Strongly disagree	30	2.2
Total	1,346	100.0

**Q58. My company offers flexibility with working hours to deal with personal commitments**

	Frequency	%
Strongly agree	283	21.1
Agree	607	45.2
Neither	237	17.6
Disagree	161	12.0
Strongly disagree	56	4.2
Total	1,344	100.0

**Q59. My working lifestyle put pressure on forming and maintaining personal relationships**

	Frequency	%
Strongly agree	184	13.6
Agree	457	33.9
Neither	320	23.7
Disagree	298	22.1
Strongly disagree	89	6.6
Total	1,348	100.0

**Q60. My working lifestyle allows for social and community involvements (e.g. social groups, religious, political etc)**

	Frequency	%
Strongly agree	66	4.9
Agree	520	38.6
Neither	331	24.6
Disagree	327	24.3
Strongly disagree	102	7.6
Total	1,346	100.0

**Q61. My partner has a compatible lifestyle**

	Frequency	%
Strongly agree	112	8.4
Agree	562	42.1
Neither	355	26.6
Disagree	222	16.6
Strongly disagree	83	6.2
Total	1,334	100.0

**Q62. I have a life that is balanced between work, health and relaxation**

	Frequency	%
Strongly agree	93	6.9
Agree	419	31.0
Neither	269	19.9
Disagree	435	32.2
Strongly disagree	135	10.0
Total	1,351	100.0

**Q64. Overall, I am satisfied with my current level of remuneration**

	Frequency	%
Strongly agree	98	7.5
Agree	651	49.5
Neither	217	16.5
Disagree	296	22.5
Strongly disagree	53	4.0
Total	1,315	100.0

**Q65. I expect to increase my level of remuneration over the next two years**

	Frequency	%
Strongly agree	267	20.3
Agree	806	61.3
Neither	166	12.6
Disagree	59	4.5
Strongly disagree	17	1.3
Total	1,315	100.0

**Q66. I expect to progress in my career over the next two years**

	Frequency	%
Strongly agree	227	17.2
Agree	627	47.5
Neither	319	24.2
Disagree	109	8.3
Strongly disagree	38	2.9
Total	1,320	100.0

**Q68. Maintaining the balance between work and home life**

	Frequency	%
Very important	795	58.5
Considerably important	512	37.6
Important	40	2.9
Not important	12	0.9
Not at all important	1	0.1
Total	1,360	100.0

**Q69. Career development prospects**

	Frequency	%
Very important	310	22.8
Considerably important	785	57.8
Important	193	14.2
Not important	60	4.4
Not at all important	10	0.7
Total	1,358	100.0

**Q70. The team environment**

	Frequency	%
Very important	342	25.2
Considerably important	761	56.0
Important	210	15.5
Not important	37	2.7
Not at all important	9	0.7
Total	1,359	100.0

**Q71. The value of remuneration package**

	Frequency	%
Very important	247	18.2
Considerably important	901	66.3
Important	182	13.4
Not important	26	1.9
Not at all important	2	0.1
Total	1,358	100.0

**Q72. Where the job is located**

	Frequency	%
Very important	474	35.0
Considerably important	634	46.8
Important	180	13.3
Not important	59	4.4
Not at all important	9	0.7
Total	1,356	100.0

**Q73. The professional challenges presented by the job**

	Frequency	%
Very important	548	40.5
Considerably important	731	54.0
Important	65	4.8
Not important	6	0.4
Not at all important	3	0.2
Total	1,353	100.0

**Q74. Which one of the following is the most important aspect when considering job options?**

	Frequency	%
Maintaining the balance between work and home life	676	50.0
Career development prospects	130	9.6
The team environment	41	3.0
The value of remuneration package	70	5.2
Where the job is located	120	8.9
The professional challenges presented by the job	314	23.2
Total	1,351	100.0

**Q77. Change jobs in the same workplace**

	Frequency	%
Very likely	202	15.0
Likely	339	25.2
Neither	255	18.9
Unlikely	367	27.3
Very unlikely	183	13.6
Total	1,346	100.0

**Q78. Move from your current work place**

	Frequency	%
Very likely	289	21.4
Likely	365	27.0
Neither	241	17.9
Unlikely	316	23.4
Very unlikely	139	10.3
Total	1,350	100.0

**Q79. Change employer**

	Frequency	%
Very likely	214	15.9
Likely	309	22.9
Neither	269	20.0
Unlikely	364	27.0
Very unlikely	192	14.2
Total	1,348	100.0

**Q80. Move out of the minerals industry**

	Frequency	%
Very likely	39	2.9
Likely	82	6.1
Neither	181	13.4
Unlikely	509	37.8
Very unlikely	537	39.8
Total	1,348	100.0

**Q81. Retire from paid work**

	Frequency	%
Very likely	44	3.2
Likely	65	4.8
Neither	109	8.0
Unlikely	280	20.6
Very unlikely	858	63.3
Total	1,356	100.0

**Q83. The 'ageing operational workforce' is an issue at my workplace**

	Frequency	%
Strongly agree	182	13.9
Agree	408	31.2
Neither	276	21.1
Disagree	354	27.0
Strongly disagree	89	6.8
Total	1,309	100.0

**Q84. A lot of professional staff in my company are expected to retire in the next five years**

	Frequency	%
Strongly agree	74	5.7
Agree	274	20.9
Neither	261	19.9
Disagree	489	37.4
Strongly disagree	211	16.1
Total	1,309	100.0

**Q85, Q86, Q87**

	Q85 Years in mineral industry % (n=1370)	Q86 Years with current employer % (n=1370)	Q87 Years at current workplace % (n=1370)
less than 1	2.0	18.2	23.6
1-4.99	6.3	40.0	49.9
5-9.99	10.4	21.3	16.2
10-14.99	12.7	8.9	5.5
15-19.99	13.1	5.0	2.4
20-24.99	17.1	3.1	1.4
25-29.99	11.0	1.6	0.4
30-34.99	11.6	1.1	0.2
35-39.99	8.7	0.5	0.2
40 or more	7.2	0.3	0.1
Total	100.0	100.0	100

**Q88. Do you**

	Frequency	% N=1314)
Commute daily to work	1014	77.2
Commute long distance	300	22.8
Total	1314	100.0

**Q89. Work pattern**

	Frequency	% (n=1357)
Monday to Friday (5 days on/2 days off)	931	68.6
Other	426	31.4
Total	1357	100.0

**Q90. Average length of workday/shift**

	Frequency	%
Less than 8 hours	37	2.8
8 hours	153	11.6
9 hours	260	19.7
10 hours	422	31.9
11 hours	168	12.7
12 hours	217	16.4
13 or more hours	66	5.0
Total	1,323	100.0

**Q91. Work hours per week**

	Frequency	%
less than 40	78	6.0
40-44	131	10.0
45-49	257	19.6
50-54	341	26.0
55-59	189	14.4
60-69	211	16.1
70-120	103	7.9
Total	1,310	100.0

**Q93 Gender**

	Frequency	%
Male	1,230	91.2
Female	119	8.8
Total	1,349	100.0

**Q94 Age**

	<b>Frequency</b>	<b>%</b>
Less than 20	5	0.4
20-24	44	3.2
25-29	106	7.8
30-34	162	11.9
35-39	151	11.1
40-44	225	16.5
45-49	211	15.5
50-54	156	11.4
55-59	158	11.6
60-64	102	7.5
65 and over	44	3.2
Total	1,364	100.0

**Q95 Marital status**

	<b>Frequency</b>	<b>%</b>
Partnered	1,222	89.7
Single	139	10.2
Other	1	0.1
Total	1,362	100.0

**Q96 Dependent Children**

	<b>Frequency</b>	<b>%</b>
Yes	729	53.6
No	631	46.4
Total	1,360	100.0