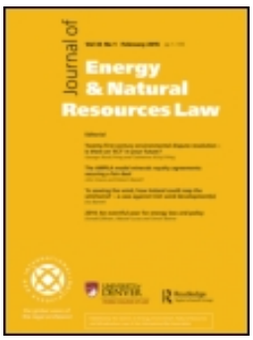

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Indigenous Employment in the Australian Mining Industry

By David Brereton and Joni Parmenter*

In the last decade or so Australian mining companies have begun to take a more proactive approach to increasing indigenous participation in the mining workforce. This article provides an overview of key trends and reviews recent research on the outcomes for indigenous people of increased participation in the mining workforce. The article concludes that the industry's performance in providing employment opportunities for indigenous people has been highly variable and there is still much to be achieved. However, research data from two large mines with substantial indigenous workforces show that there is potential for positive outcomes to be delivered for indigenous people who do obtain work in the sector.

This article provides an overview of current and emerging practice in the Australian mining industry in relation to indigenous employment, and reviews available evidence about the potential impacts and benefits of mining employment for indigenous people. The discussion draws extensively on various studies undertaken under the auspices of the Centre for Social Responsibility in Mining (CSRM). Where relevant, reference is also made to work undertaken by other Australian researchers and to data collected by government agencies such as the Australian Bureau of Statistics (ABS) and the Australian Bureau of Agricultural and Resource Economics (ABARE).

The article does not purport to provide a comprehensive analysis of this complex and rapidly changing area. There is still only a limited amount of data available about what is happening 'on-the-ground' in the Australian mining industry in relation to indigenous employment and other forms of economic engagement. While practices at some operations have been reasonably well

documented,[1] these mines tend to be the good performers rather than typical of the industry more generally. There has been little work that focuses specifically on the outcomes of mining sector employment for indigenous people, or that evaluates the effectiveness of indigenous employment initiatives. The broader question of how indigenous communities might be changed – for better or worse – by increased employment involvement with the industry has also so far attracted little attention from researchers.[2]

The first part of the article reviews available statistical data about the level of – and recent trends in – indigenous representation in the Australian mining workforce, describes the steps being taken by some companies to increase the number of indigenous employees and reviews new developments in the area. The second part of the article focuses on the employment experience from the perspective of indigenous people working in the mining industry; in particular, the extent to which that experience is positive and contributes to improved employment-related outcomes. This section is primarily based on research conducted by CSRM at two large mines in northern Australia, both of which have substantial indigenous workforces. The article concludes by briefly considering policy and practice implications and identifying areas for further research.

Indigenous employment in the Australian mining industry: an overview

Drivers

Indigenous employment in the Australian mining industry has a long history, with some studies documenting involvement back to at least the early 1900s.[3] However, until recently, indigenous involvement in the sector

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1 Tony Tiplady and Mary-Anne Barclay, 'Indigenous Employment in the Australian Minerals Industry' (Centre for Social Responsibility in Mining, The University of Queensland, Brisbane, 2006). Patrick Vidler, *Indigenous Employment and Business Development in the Queensland Resources Sector* (Report to the Queensland Resources Council, Centre for Social Responsibility in Mining, The University of Queensland, 2007).

2 Tanuja Barker, 'Employment outcomes for Aboriginal people: An exploration of experiences and challenges in the Australian minerals industry' (Research paper no 6, Centre for Social Responsibility in Mining, The University of Queensland, 2006).

3 Christopher Anderson, 'Aborigines and tin mining in North Queensland: A case study in the anthropology of contact history' (1983) 13 *Mankind* 473. Sarah Holcombe,

was highly localised and sporadic. It is only in the last decade or so that mining companies, with assistance from state and national governments, have begun to take a more proactive approach to increasing indigenous participation in the mining workforce.

The impetus for this shift in focus was the formal recognition of indigenous rights by Australian governments and courts, culminating in the passage of the Native Title Act 1993. This event did not necessarily create legally enforceable rights for indigenous participation in the mining sector. Native title only exists where there has been a continuing connection with land and there has been no extinguishment of native title by inconsistent Crown actions. Native title does not give indigenous people rights in or title to minerals in land, nor does it entitle them to control the terms and conditions pursuant to which mining may take place on land. Rather it provides a framework for a right to negotiate (but not a veto) over mining. While there are strict time limits and provision for arbitration where the parties are unable to negotiate a settlement, increasingly the trend is to negotiate indigenous land use agreement under the Native Title Act rather than rely on strict legal rights.[4] Recognition of native title has had the effect over time of bringing the mining industry to the table to engage with indigenous communities. In this sense, rather than in a strict legal sense, it has provided the impetus for change.

Initially, the mining industry was strongly resistant to these developments, but has now come to accept that dealing with native title is part of doing business in Australia. Sixty per cent of mining currently occurs on or near Aboriginal land and many new mines are likely to be on land subject to native title.[5] Given the imperative for mining companies to be able to access and develop new resources cost-effectively, the business value of developing and maintaining good relationships with traditional owners is becoming

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'Early Indigenous engagement with mining in the Pilbara: Lessons from a historical perspective' (Working paper no 24, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra, 2004). Peter Rogers, *The industrialists and the Aborigines: A study of Aboriginal employment in the Australian mining industry* (1973).

4 The changing role of the mining industry in relation to its engagement with indigenous peoples beyond the strict legal requirements and in the context of CSR is one of the major themes of this issue. For more detailed discussion of the effect of native title recognition and its operation as a trigger to rather than mandating negotiation in some instances see Langton and Mazel at p 31 and Godden, Langton, Mazel and Tehan at p 1 of this issue. For an overview analysis of the major elements of native title and the operation of the Native Title Act see M Tehan, 'A Hope Disillusioned, An Opportunity Lost? Reflections on Common Law Native Title and Ten Years of the Native Title Act' (2003) 27(2) *Melbourne University Law Review* 523-571.

5 Australian Government Department of Industry, Tourism and Resources, 'Working with Indigenous communities' (Leading practice development programme for the mining industry, 2007).

increasingly apparent to mining companies. In addition, over the last decade most of the leading companies have formally expressed their commitment to the principles of corporate social responsibility and sustainable development and now accept, at least in principle, that they have a role to play in addressing indigenous socio-economic disadvantage.[6]

Initially, agreements reached between mining companies and traditional owners tended to have a narrow focus on the provision of direct financial benefits. However, it is now common for agreements to include provisions aimed at delivering long-term outcomes for indigenous communities through creation of employment and training opportunities, business development and promotion of social well-being.[7] *Some* mining companies have sought to follow through on these commitments by developing tailored indigenous employment policies, strategies and programmes, as described in more detail below.[8]

A factor that is beginning to assume greater importance as a driver of change is the severe labour shortage now being experienced within the resources sector. Australia is currently in the midst of a resources boom, with the gross value of mining production growing from AU$56 billion to AU$104 billion between 2001 and 2006[9] and mining employment up by 42 per cent.[10] Some estimates suggest that a further 70,000 workers will be required by the industry by 2015.[11] For those mines within close proximity to communities with large populations of indigenous people, a long-term strategy to address this issue may be to source more labour from these communities and invest

6 Barker, n 2 above, Tiplady and Barclay, n 1 above.

7 Marcia Langton and Lisa Palmer, 'Modern Agreement-making and Indigenous People in Australia: Issues and Trends' (2003) 8(1) *Australian Indigenous Law Reporter* 1. Ciaran O'Faircheallaigh, 'A new approach to policy evaluation: Mining and Indigenous people' (2002). Benedict Scambary, 'Indigenous people, mining and development contestation in remote Australia' (Doctor of Philosophy, Australian National University, 2007). Maureen Tehan, Lisa Palmer, Marcia Langton and Odette Mazel, 'Sharing Land and Resources: Modern Agreements and Treaties with Indigenous People in Settler States' in Marcia Langton, Odette Mazel, Lisa Palmer, Kathryn Shain and Maureen Tehan (eds), *Settling with Indigenous People* (2006), p 1. Most agreements are confidential and therefore provisions may only appear in summary form. One major exception is the Argyle Diamond Mine Participation Agreement: Management Plan Agreement. It is not confidential and its provision can be viewed in full at: www.atns.net.au/objects/Agreements/Argyle%20MP.pdf (accessed 12 December 2007). Summaries of many other agreements are available on the Agreements, Treaties and Negotiated Settlements database: www.atns.net.au.

8 Tiplady and Barclay, n 1 above. Vidler, n 1 above. Australian Government Department of Industry, Tourism and Resources, n 5 above.

9 Australian Bureau of Agricultural and Resource Economics, 'Australian Commodities, September, Quarter', Canberra, 2007.

10 Australian Bureau of Statistics Cat No 2068.0, Canberra 2006 and 2007.

11 Diannah Lowry, Simon Molloy and Yan Tan, 'Staffing the Supercycle: Labourforce Outlook in the Minerals Sector 2005 – 2010' (National Institute of Labour Studies, Flinders University, Adelaide, 2006).

in building a regionally-based workforce.

The next section reviews available data on indigenous representation in the mining workforce and employment practices at the operational level, in order to assess the extent to which the changes that have occurred at the policy level are being translated into improved outcomes 'on the ground'. This section also briefly describes some examples of more innovative approaches to increasing indigenous employment in the mining workforce.

Statistical overview

Recently released data from the June 2006 national census shows that the number of indigenous employees recorded as working in mining has increased since 2001 from 1,390 to 2,488 (79 per cent).[12] Notably, the rate of increase in the indigenous workforce over this period has been well above that of the mining workforce generally.[13] According to the census, Aboriginal people now account for 2.3 per cent of the total mining industry workforce, which broadly reflects their representation in the overall population and places mining ahead of most other industry sectors.[14] However, for the reasons detailed below, this provides an overly favourable picture of the industry's performance in this area, as the appropriate benchmark is not the overall population, but the relative size of the indigenous population in those regions where the mining industry is concentrated.

Table 1 provides a breakdown of indigenous employment in the mining sector by state, based on 2006 census data. This shows that the two largest mining states – Queensland and Western Australia – between them accounted for 73 per cent of the total indigenous mining workforce, with New South Wales accounting for another 14 per cent. In all three of these states, indigenous representation in the mining workforce was below the proportion of indigenous people in the overall population. The Northern Territory, which has a small but growing resource sector, had the highest *rate* of indigenous representation in the mining workforce (ten per cent), but this looks considerably less impressive when compared to the composition of the Territory's population (27.8 per cent indigenous).

12 Australian Bureau of Statistics, n 10 above.

13 *Ibid.*

14 *Ibid.*

Table 1: Indigenous employees in mining by State or Territory

State or Territory	Number of indigenous employees	Total mining workforce	Indigenous employees as percentage of total workforce	Indigenous employees as percentage of state/territory population
Northern Territory	176	1,708	10.0	27.8
Tasmania	66	1,628	4.0	3.5
Queensland	911	30,723	3.0	3.3
Western Australia	897	40,084	2.2	3.0
New South Wales	343	20,319	1.7	2.1
South Australia	66	5,966	1.1	1.7
Victoria	29	6,279	0.5	0.6
Other (inc ACT)	0	186	0.0	1.3
Total – Australia	**2,488**	**106,893**	**2.3**	**2.3**

Source: Australian Bureau of Statistics Cat No 2068.0, Canberra 2007.

Table 2 disaggregates the data further to show mining employment data for selected regions in Australia in which there is mining activity and a substantial indigenous population. In each region, the level of indigenous participation in the mining workforce is low in comparison to the proportion of the regional population. This is not surprising at one level, given the severe socio-economic disadvantage experienced by many indigenous people living in these regions; nonetheless, these data are a stark reminder of how much more work needs to be done before genuine parity of indigenous representation in the mining workforce is attained.

Table 2: Indigenous employees in mining by selected indigenous regions

Indigenous region	No of indigenous people in mining workforce	Total mining workforce	% of indigenous employees in mining workforce	% of indigenous population in region
Kununurra	69	295	23.4	47.0
Cape York	19	189	10	54.7
Mt Isa	239	2,874	8.3	24.2
Nhulunbuy	26	341	7.6	61.3
South Hedland	327	5,756	5.7	13.1
Kalgoorlie	132	4,746	2.8	9.9

Source: Australian Bureau of Statistics Cat No 2068.0, Canberra 2006 and 2007.

Apart from the census, the main source of statistical data about indigenous employment in Australian mining is a 2002 industry survey conducted by

ABARE.[15] This study, which was undertaken well prior to the current resources boom, estimated that there were 2,460 indigenous people employed in the industry, equating to 4.6 per cent of the mining workforce. This was much higher than the number recorded in the June 2001 census, in which only 1,390 indigenous mining employees (1.9 per cent) were identified.[16] This discrepancy may reflect differences in methodology: census data is obtained directly from individuals, whereas the ABARE survey relied on companies to provide information about their workforces. Another possibility is that the census uses somewhat different classifications for 'industry of employment' (ie, whether on-site catering is included under 'food and accommodation' or 'mining'). Ostensibly, the census data should be more accurate, but given the ongoing issue of variable levels of indigenous participation in the census and the reluctance of some indigenous people to self-identify, it is likely that there has been some under-counting.[17]

The ABARE survey is a useful source of data about sectoral differences within the industry. In particular, the survey highlights the extremely low level of representation within the coal sector relative to the 'other' sectors (mainly metalliferous mining) and, to a lesser extent, the gold sector. Part of the explanation for this is that the main coal mining areas – the Hunter Valley in New South Wales and the Bowen Basin in Central Queensland – have relatively small indigenous populations (only 2.2 per cent of the total population of the Hunter Valley in 2001 self-identified as indigenous[18] and 4.4 per cent of the total population of the Bowen Basin).[19] Another important consideration is that, in contrast to the metalliferous sector, most coal mines in Australia are on freehold land and have not been subject to native title; hence, there has been no imperative for companies to negotiate agreements with traditional owners. A third contributing factor may be the industry 'culture', which is characterised by low level of diversity generally; only 5.6 per cent of the coal workforce is female,[20] compared to the overall mining industry average of 15 per cent.[21]

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15 L Tedesco, M Fainstein and L Hogan, 'Indigenous people in mining' (eReport 03.19, Australian Bureau of Agricultural and Resource Economics, Canberra, from http://abareonlineshop.com/product.asp?prodid=12599 (accessed 12 September 2007).

16 Australian Bureau of Statistics, n 10 above.

17 John Taylor and Martin Bell, *Population Mobility and Indigenous Peoples in Australasia and North America* (eds) (2004).

18 Hunter Valley Research Foundation, 'Newcastle and the Hunter Region 2005-2006' (2005) from www.hvrf.com.au/pages/publications/other_downloads.php (accessed 21 November 2007).

19 Queensland Department of Local Government and Planning 'Comparative profile: Bowen Basin localities 2001' (2005) from www.bowenbasin.equ.edu.au/pdfs/bblocal.pdf (accessed 8 May 2006).

20 Australian Bureau of Statistics, Cat No 6291.0.55.003. Table 6, Canberra 2007.

21 Australian Bureau of Statistics, n 10 above.

Practices at the operational level

Aggregate statistics can hide a lot of variability at the level of individual mines. Unfortunately, only a limited amount of mine-specific data is available as only some companies and operations record and publish statistics on the indigenous status of their employees. There is also no agreed definition within the industry as to what constitutes an indigenous employee (eg, whether it should be based on self-identification or the classification of the employer).

The main published source of data on indigenous employment at the operational level is a recent study conducted by CSRM of ten mining operations across Australia.[22] Also relevant is a review undertaken by Vidler in 2006/7 of indigenous employment and business development in the Queensland resources sector.[23]

The ten sites in the Tiplady and Barclay study had indigenous representation rates ranging from under one per cent to up to 22 per cent. All of the operations that had representation rates above 15 per cent were located in regions where there are relatively large indigenous populations *and* were covered by comprehensive agreements[24] that made explicit reference to indigenous employment and training.[25] These sites were also more likely to have tailored systems and processes in place to

22 Tiplady and Barclay, n 1 above.

23 Vidler, n 1 above.

24 Comprehensive agreements here describe agreements that focus on long-term objectives and benefits. A summary of the Gulf Communities Agreement relating to the Century mine provides an example: the agreement 'covers a wide range of issues and commitments, including: social impact assessments, health facilities, compensation at mine site and along the pipeline corridor, strategic plan funding, and detailed commitments in relation to employment and training. The Agreement has seen the development of local businesses and the hand back to Indigenous owners of Turn-off Lagoons Pastoral lease, with other leases in the process of transfer. A number of committees have been established to oversee environmental issues and employment and training. A legal trust has been established consisting primarily of local Aboriginal community members to manage Century Mine's contributed funds for business development': Agreements, Treaties and Negotiated Settlements, www.atns.net.au/agreement.asp?EntityID=446 (accessed 15 December 2007). Unlike comprehensive agreements in the Canadian sense, they do not cover all matters to be resolved between indigenous parties and governments.

25 Tiplady and Barclay, n 1 above. Most agreements are confidential so the detail of the employment and training provisions are unavailable. The Argyle Diamond Mine Participation Agreement: Management Plan Agreement, n 7 above, sets out the obligations of the parties, which include a commitment to provide training and for preference for traditional owners in employment and obligations on traditional owners to ensure school attendance. There is provision for review and variation and career development provisions. Information about other agreements containing employment and training provisions can be viewed at www.atns.net.au/subjectmatter.asp?subjectmatterid=14 (accessed 12 December 2007).

support indigenous employment, such as reliance on face-to-face rather than written communication in the initial recruitment process, use of selection centre workshops, work-ready programmes, compulsory cultural awareness training on induction and formal and informal mentoring. For the most part, however, operations in the study still tended to deal with indigenous employment in an ad hoc, rather than systematic, way. The level of site and corporate commitment to increasing indigenous employment also varied significantly between the different mines in the study.

Vidler's study included a web-based survey of resources companies and major contractors operating in Queensland and interviews with representatives of government agencies, indigenous organisations and companies providing professional services to the resource industry. All of the companies that responded to the survey had implemented some direct initiatives in relation to indigenous employment, but most of these were on a limited scale, with the exception of two mines where agreements with traditional owners were in place.[26]

Recent developments

In addition to seeking to increase indigenous representation in the mainstream mining workforce, some companies have provided opportunities for indigenous-owned and operated businesses to contract for the provision of ancillary services such as cleaning, mine rehabilitation work and site civil maintenance.[27] There is likely to be more focus on developing these opportunities in the future – both because there is a finite number of entry level positions available in mining proper and because it may be easier to implement more flexible working arrangements in some of these areas.

Another development has been the emergence of some predominantly indigenous labour hire and training organisations that have partnered with other organisations or government to create training and employment opportunities. For example, Myuma – an indigenous-owned and managed civil construction company in northwest Queensland – has achieved considerable commercial success with contracts exceeding AU$10 million

26 Vidler, n 1 above.

27 *Ibid.* It is possible that these preference provisions may fall foul of the anti-competitive provisions of the Part IV of the Trade Practices Act 1974, although this has not been tested. They may also offend anti-discrimination legislation. The issue is only likely to arise if challenged by another potential employee or contractor. The human rights framework that encompasses the special measures provisions of the International Convention on the Elimination of all forms of Racial Discrimination which are incorporated into domestic law may well provide an answer to challenge: see the Racial Discrimination Act 1975, s 8 and *Gerhardy v Brown* (1985) 159 CLR 70.

since 2000.[28] Myuma has also been successful in training many indigenous people from the local region. Of the 82 trainees enrolled over the period 2001-2006, 69 have gone on to complete courses and moved on to full-time work or further training.[29] Another indigenous organisation, more focused on recruitment, is the Ngarda Foundation in the western Pilbara region. Ngarda has partnered with Hudson – a worldwide recruitment organisation – to help facilitate permanent and contract recruitment services for indigenous candidates identified by the Ngarda Foundation.[30] Ngarda recently secured a AU$300 million, five-year contract with BHP Billiton Iron Ore to provide total mine services at BHP's Yarrie mine in the Pilbara region.[31]

A third – and potentially very important – development has been the formalisation of collaborative arrangements between the mining industry and government to facilitate better outcomes for indigenous people. In June 2005, the Australian Government and the Minerals Council of Australia (MCA) signed a memorandum of understanding (MOU)[32] to work together to provide employment and business opportunities for indigenous people in regions where mining companies operate. Similarly, in October 2007 the Queensland Resources Council and the Queensland Government entered into an MOU to facilitate the greater economic engagement of indigenous people in the Queensland resources sector. Both initiatives involve an emphasis on applying a more integrated approach that addresses key contextual factors such as health, education, housing and transport, rather than the focus just being on the provision of training and jobs. It is too early to tell if either or both of these initiatives will be successful, but the recognition of the need for a more holistic approach is a significant advance.

Summary

In summary, indigenous participation in the mining workforce has increased in both absolute and relative terms over the last few years, but there is clearly scope for much more to be achieved. Regional level data show that indigenous employment levels are still low relative to the proportion of the regional population that is indigenous. The performance across sectors within the

28 *Ibid.*

29 *Ibid.*

30 *Ibid.*

31 Colin Jacoby, 'BHP awards Australia's largest Indigenous contract' *Mining News.net* from www.miningnews.net/StoryView.asp?StoryID=117666 (accessed 5 September 2007).

32 Australian Government and the Minerals Council of Australia, 'Memorandum of Understanding between the Commonwealth of Australia and the Minerals Council of Australia' from www.minerals.org.au/__data/assets/pdf_file/0012/11514/MCA_Commonwealth_MOU.pdf (accessed 19 November 2007).

industry is also highly variable, with coal being the stand-out poor performer. At the level of individual operations there are several examples of 'emerging good practice', but it would appear that most operations are still dealing with indigenous employment on an ad hoc, rather than systematic, basis.

On a more positive note, there are signs of a growing willingness by government and mining companies to collaborate in addressing some of the socio-economic obstacles to increasing indigenous economic engagement with the industry. In addition, the new indigenous labour hire and training organisations that are emerging could be an effective vehicle for bringing more indigenous people into the industry.

Is mining employment delivering positive outcomes for indigenous people?

The extent to which indigenous people will benefit from increased participation in the mining industry is yet to be determined. This section of the article seeks to inform this discussion by presenting key findings from several studies undertaken under the auspices of the CSRM.

The prevailing wisdom, particularly within industry and government, is that greater indigenous participation in the mining workforce should be encouraged. Much of the large-scale mining that is conducted in Australia occurs in remote regions in the north and west, where there are often few other sources of regular income and employment for indigenous people. Mining has therefore come to be seen as an important source of 'real jobs' for indigenous people and as providing them with the opportunity to acquire increased income, skills and occupational mobility.[33] For indigenous communities, the assumed benefits include the creation of positive role models and incentives for young people, broadening of the income and asset base and building the community's stock of human capital. In the words of Charlie Lenegan, the current managing director of Rio Tinto Australia:

> 'The ideal is surely to minimise the negative impacts … and to maximise the positive legacy by leaving behind strong independent communities able to choose from a number of economic options.'[34]

Some, however, have questioned the long-term value of mining employment for indigenous individuals and communities.[35] For example, the industry has been criticised for focusing on hiring Aboriginal people who are already job-experienced, in preference to growing the labour pool; thereby inflating

33 Barker, n 2 above.

34 Charlie Lenegan, 'The Minerals Sector & Indigenous Relations' (address to *Minerals Week 2005*, www.atns.net.au/papers/Lenegan.pdf (accessed 19 November 2007).

35 Barker, n 2 above.

mining's 'real' contribution to indigenous employment. A related criticism is that many of the jobs that Aboriginal people have obtained in the industry are entry-level positions, such as truck driving, that offer few prospects in the longer term for promotion or skills development, and which are likely to disappear in the future as the industry moves towards greater automation.[36] Some observers have taken the analysis further to question the cultural appropriateness of mining employment – as currently constituted – for many indigenous people.[37]

Addressing these issues is important, especially given the substantial investment of time and resources required to achieve sustained growth in indigenous representation in the industry. If mining employment is not benefiting Aboriginal people in a significant or sustainable way, either additional steps must be taken to enable these benefits to be realised, or the rationale for focusing effort in this area will have to be revisited.

The data sources used to address the above issues comprise: surveys of indigenous employees (both former and current) of Zinifex Century Mine;[38] a recently completed survey of indigenous former employees of Rio Tinto's Argyle Diamond Mine;[39] and research on indigenous women in mining undertaken as part of a larger study of the retention of women in mining.[40]

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36 The Argyle agreement includes provisions that encourage development of career paths and training and employment options that facilitate this: www.atns.net.au/objects/Agreements/Argyle%20MP.pdf (accessed 12 December 2007). Further research is necessary over a longer period before it is possible to determine the effectiveness of these provisions.

37 Barker, n 2 above. Katherine Trebeck, 'Democratisation through corporate social responsibility? The case of miners and Indigenous Australians' (PhD thesis, Australian National University, 2005). David Trigger, 'Large scale mining in Aboriginal Australia: Cultural dispositions and economic aspirations in Indigenous communities' (proceedings of Council of Mining & Metallurgical Institution Congress 2002, International codes, technology & sustainability for the minerals industry, Carlton, 2002), p 189. David Trigger, 'Mining projects in remote Aboriginal Australia: Sites for the articulation and testing of economic and cultural futures' in D Austin-Broos and G Macdonald (eds), *Culture, economy and governance in Aboriginal Australia* (2005), p 41.

38 Tanuya Barker and David Brereton, 'Survey of local Aboriginal people formerly employed at Century mine: Identifying factors that contribute to voluntary turnover' (Research paper no 4, Centre for Social Responsibility in Mining, The University of Queensland, 2005). Joni Parmenter and Mark Love, 'Survey of local Indigenous employees at Century Mine: Implications of mine completion on Gulf communities' (Research paper no 7, Centre for Social Responsibility in Mining, The University of Queensland, 2007).

39 Tapan Sarker and Grant Bobongie, 'Survey of Aboriginal and former employees and trainees at Argyle Diamond Mine' (Research paper no 8, Centre for Social Responsibility in Mining, The University of Queensland, 2007).

40 Deanna Kemp and Cath Pattenden, 'Retention of women in the minerals industry' in Australian Government Office for Women and Minerals Council of Australia, *Unearthing New Resources: Attracting and Retaining Women in the Mining Industry* (2007), p 111.

By way of background, the Argyle Diamond Mine is an open-cut operation located in the Kimberley region of Western Australia and has been operating since 1985. The mine has mainly been a fly-in fly-out (FIFO) operation, but is in the process of shifting to a regionally-based workforce. Zinifex Century Mine is a large open-cut zinc, lead and silver mine located in the Gulf of Carpentaria region, northwest Queensland. It is a fully FIFO operation with employees travelling to the mine from multiple locations in the Gulf and north Queensland. Both mines have agreements with traditional owners that include provisions for increasing employment for local indigenous people. Each operation has implemented tailored processes for recruiting, training and managing indigenous employees, and each has been successful in attracting a substantial amount of government funding. Both mines have been able to attract and retain sufficient indigenous employees to create an environment in which there is a good level of informal support. Employment numbers at the sites fluctuate, but according to the most recent available data, indigenous employees make up around 20 per cent of the Century workforce and 24 per cent of the Argyle workforce.

Argyle and Century are in the leading group of Australian mines in terms of both the level of indigenous employment and the relative sophistication of the supporting organisational systems. Focusing on atypical operations obviously limits the potential for generalisation, as indigenous people working at mines with fewer employees and less developed systems might well have different experiences. However, the advantage of this research strategy is that Century and Argyle can provide more insights into the *potential* benefits of mining employment for Indigenous people than can operations that have not had this as a priority.

Table 3 provides details on the surveys that CSRM has undertaken at the two mines. In each case the response rate exceeded 59 per cent, which can be considered good for this kind of study. Importantly, there is no reason to believe that non-participants were significantly different from those who did participate; rather, non-participation was primarily due to individuals being absent on leave, having out-of-date contact details, or simply being missed within the time frame for the study. Very rarely did the researchers encounter a refusal.

Table 3: Description of surveys undertaken at Century and Argyle mines

Survey	Target group	Total target group	Participants	Response rate (%)
Century former employees 2004/05	All indigenous people who had worked at the mine between 2001 and 2004 and had voluntarily ceased work	73	46	63
Argyle former employees 2006/2007	All indigenous people who had worked at the mine between 2004 and 2006 and had voluntarily ceased work	110	66	60
Century current employees 2007	All indigenous people currently working at Century Mine	140	89	64

Are new employment opportunities being created?

As a high-paying industry, mining has generally been able to out-compete other sectors for in-demand workers, such as skilled trades. This has arguably made it easier – and cheaper – for the industry to buy in additional workers as required, as opposed to investing in long-term strategies to grow the pool through means such as traineeships and apprenticeships. The behaviour of the industry, particularly in the early stages of the current resources boom, has often appeared to fit this pattern.

Some critics have suggested that a similar process may have been at play in relation to indigenous employment. According to this argument, mining operations with ostensibly good levels of indigenous employment have primarily achieved this by recruiting ('poaching') indigenous people who are already in the mainstream workforce, rather than by drawing new people into the pool. This analysis, if substantiated, would undermine the industry's claim to be contributing to increased indigenous participation in the labour market.

While this criticism may well apply to some mining operations (see below), it does not appear to hold true for Century and Argyle. Both operations presumably still prefer to recruit indigenous people with previous mainstream employment experience where they are available, but the reality for these mines is that the pool of 'job ready' local people has now largely been utilised. The response, in both cases, has been to put more effort into recruiting and training indigenous people who have previously had little or no exposure to the mainstream workforce. This has been done with substantial financial assistance from government.

According to the 2007 Century indigenous employee survey, only 35 per cent of indigenous people employed at the mine had been engaged in full-time work immediately prior to taking up their current position.

Most of the remainder had been employed on CDEP[41] (47 per cent), with the balance engaged in part-time or seasonal work (11 per cent) or not working at all (seven per cent). Not counting those who had previously worked at Century, it is likely that, for about 28 per cent of the indigenous workforce, working at Century was one of their first experiences with mainstream employment.

Data from Argyle is more limited, as the question about previous employment was asked only of those who had entered as trainees and apprentices. Of the 21 trainees and apprentices in the sample, only 42 per cent had been exposed to mainstream work experience prior to joining at Argyle, in jobs such as mining, construction work, painting, sales, teaching assistant and service station work. A further 29 per cent had worked for CDEP only and an equivalent number had not had any prior work experience.

At the same time, there is considerable anecdotal evidence from within the industry of companies poaching each other's indigenous employees in an effort to improve their numbers.[42] It is also known that some operations with ostensibly good levels of indigenous workforce representation employ very few people from the local area, which raises a strong suspicion that the mines concerned may have filled these jobs largely by hiring job-ready indigenous people from other regions. For example, in the case of the mine that was the largest employer of indigenous workers in the Tiplady and Barclay study,[43] just 23 per cent of that workforce were defined as local.

These findings highlight the need for more research to be conducted into the *net* contribution of the mining industry to indigenous employment growth and for more relevant metrics to be used by the industry. In particular, it would be highly desirable for mines to record and report not only the total number of indigenous people that they employ, but also the number for whom this was their first 'regular' job. Another key indicator would be the balance of 'locals' to 'non-locals' in the indigenous workforce.

What opportunities are being provided for career development?

Currently, most indigenous employees in the Australian mining industry are in unskilled or semi-skilled roles, with the majority occupying truck or plant operator positions[44] (Table 4). A similar situation holds for Canada.[45]

41 The Community Development Employment Projects (CDEP) programme is an Australian Government funded initiative for unemployed indigenous people outside major urban and regional centres.

42 Lenegan, n 34 above.

43 Tiplady and Barclay, n 1 above.

44 Tedesco et al, n 15 above. Tiplady and Barclay, n 1 above. John Taylor and Benedict Scambury, 'The relative socio-economic status of Indigenous people in the Pilbara: A baseline for regional participation' (Research monograph no 25, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra, 2005).

45 Ginger Gibson and Jason Klinck, 'Canada's resilient north: The impact of mining on

Table 4: Indigenous employees occupation

	Male	Female	Total	% of total indigenous workforce
Semi-skilled	578	89	667	56.6
Trade	82	3	85	7.2
Admin	4	73	77	6.5
Supervisor	31	2	33	2.8
Technical	19	2	21	1.8
Graduate	1	1	2	0.2
Professional	7	7	14	1.2
Specialist	5	2	7	0.6
Superintendent	8	0	8	0.7
Manager	5	0	5	0.4
Traineeship	100	60	160	13.6
Apprentice	96	4	100	8.5
Total	936	243	1179	

Source: Adapted from Tiplady and Barclay (2006).

A number of factors account for this bottom-heavy distribution. The key factor is probably the lower standard of education in remote areas, but the lack of career development and guidance for indigenous employees, and the absence of a legal requirement for companies to train local indigenous employees, are also relevant considerations.[46] Further, some indigenous employees – and particularly women – may face challenges when asked to take positions of authority over other indigenous employees.[47] The optimistic view is that this occupational profile will improve over time, as increasing numbers of indigenous people obtain experience and confidence and new opportunities open up for them. However, for this to occur, employees will need to be provided with appropriate training and support to equip them to take advantage of these opportunities.

Aboriginal communities' (2005) 3(1) *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health* 115.

46 Tiplady and Barclay, n 1 above. The effectiveness of legal requirements to increase training depends on the precise nature of the obligation in any agreement. For example, in the Argyle agreement there is a commitment to a level of expenditure by the company but it is also dependent on the government providing a certain level of funding. There is also a target for training. Evaluation of these provisions will provide important information into the effectiveness of imposing legally binding targets: see www.atns.net.au/objects/Agreements/Argyle%20MP.pdf (accessed 12 December 2007), Schedule 2.

47 Kemp and Pattenden, n 40 above.

Does mining employment lead on to other jobs?

Another test of whether indigenous people are benefiting from mining employment is whether they are able to make the transition to other employment when and if they leave their current employer. This can provide a good indication both of their employability and of the extent to which they have acquired, or retained, the motivation to continue working.

Of the indigenous employees who were working at Century at the time of the survey, 77 per cent agreed that working at the mine would help them in the future and only one respondent answered in the negative.[48] The vast majority of these respondents (96 per cent) indicated an intention to seek full-time employment, either within the mining industry (52 per cent) or in another sector, after they had finished working at Century.[49] While 47 per cent had been on CDEP prior to taking up their current position, almost none wanted to go back on to CDEP (2.3 per cent).

This data relates to aspirations only; a much better indicator is whether former employees have actually succeeded in finding other employment post-mining. Some data relevant to this aspect was collected in the surveys of former employees of Argyle and Century (Table 5).

Table 5: Employment status at time of interview: former indigenous employees of Century and Argyle

	Century 2005 n=46 %	Argyle 2007 n=66 %
Mining industry	10	30
Other employment	28	43
CDEP	23	18
Not in labour force*	39	9

* Those not in the labour force (38 per cent) included full-time mothers, carers, those pursuing further education and those who were not able to work because of medical reasons.
Source: Barker and Brereton (2005) and Sarker and Bobongie (2007).

In the case of Argyle, 73 per cent of the respondents were working in mining or other full-time employment and only nine per cent were not in the labour force at the time they were interviewed. For Century, the outcomes were not as positive, with 39 per cent classified as 'not in the labour force' at the time they were surveyed. However, the level of workforce participation for Century respondents is higher when account is taken of the overall work history of respondents since leaving the mine.

48 Parmenter and Love, n 38 above.

49 *Ibid.*

A contributing factor here is that 43 per cent of the Century respondents were female, compared to 27 per cent of the Argyle respondents. This is relevant because women were more likely than men to have left the labour force (eg, to have children or care for a family member). It *may* also be that there are fewer employment opportunities – especially in mining – in the Lower Gulf than in the Kimberley Region. The different times at which the surveys were conducted (late 2004/early 2005, prior to the current boom, v late 2006/early 2007) could have been another contributing factor.

Another finding of note is that 79 per cent of the respondents who had worked at Argyle and 66 per cent of those who had previously been employed at Century said that the skills and experience they had acquired working at the mine had helped them to find other work. In conjunction with the other findings reported above, this is persuasive evidence that, for former indigenous employees of Argyle and Century, lateral (if not vertical) occupational mobility was generally enhanced, rather than diminished, as a result of working at the mine.

How positive is the overall employment experience?

Issues of career progression and mobility aside, it is important to know whether the overall experience of working in the mining industry has been negative or positive for indigenous people. A negative employment experience is likely to result in an early exit from mine employment and, particularly for those individuals who have no other employment exposure, could be a deterrent to further participation in the mainstream workforce. Conversely, a positive experience can lay a good foundation for ongoing engagement, both within the mining and the labour force more generally.

The surveys of former employees at Century and Argyle both indicate that the experience of employment has generally been positive, notwithstanding the dissatisfaction expressed about some aspects of the workplace and the many suggestions made about how the work experience could be enhanced.

The surveys included a series of questions that asked respondents to rate different aspects of the workplace environment on a scale of 1 to 5, where 1 was very unhappy (as depicted by a frowning face) and 5 very happy (a smiling face). Table 6 shows how respondents from the two operations responded to these two items. Respondents at Site A tended to give higher satisfaction ratings, but at both operations the responses to most items were 3.5 or more, indicating a generally positive assessment. The standard of accommodation, recreational facilities and the general social environment received the highest ratings at both locations, whereas scores tended to be lower – but still generally positive – for

items relating to supervision, training and work arrangements (eg, rosters).

Table 6: Rating of work aspect items Argyle and Century former employees

Work aspect	Average satisfaction level* Site A	Average satisfaction level Site B
Recreational activities	4.1	4.3
Standard of accommodation	4.0	4.4
Living and working in a multicultural environment	4.0	4.3
Relationship with fellow workers	3.9	4.4
Induction training	3.9	4.1
Social activities	3.9	4.2
Type of work	3.8	4.2
Roster pattern	3.8	3.6
Flexibility of leave arrangements	3.7	3.9
Level of organisational support	3.7	3.8
Pay	3.6	4.3
Flying in and out of work	3.5	3.9
Level of on-the-job training	3.5	4.0
Supervisors in workplace	3.4	3.8
Living away from home	3.4	3.7
Career development training	3.0	3.9

* Average satisfaction levels were obtained by dividing the total score for each work aspect by the number of respondents who answered that particular question. As a guide, the following ratings correspond to the following satisfaction levels:
3 – neutral;
4 – happy/satisfied;
5 – very happy/very satisfied.
Source: Barker and Brereton (2005) and Sarker and Bobongie (2007).

In addition, interview participants spoke about the financial benefits of working at the mine and the positive impact that employment has in terms of providing a good role model to their children and others in the community.

The two most commonly cited reasons for leaving Century were personnel management issues (29 per cent) and family reasons (27 per cent).[50] Most were satisfied with their pay and this was not a significant factor in their decision to leave.[51] The two most commonly cited reasons for leaving Argyle were family reasons (20 per cent) followed by high commuting expenses, lack of cultural

50 Barker and Brereton, n 38 above.
51 *Ibid.*

awareness[52] and personnel management issues (11 per cent each). In both instances, an often-quoted downside of working at the mine was being away from family. Working in the Australian mining industry often involves 12-hour shifts, rotating rosters and, for those in FIFO operations, absences from home for two or more weeks at a time. Such arrangements can be challenging for indigenous and non-indigenous employees alike, especially those who are new to the industry. This is evidenced by the high rates of employee turnover that are often reported by remote operations, especially in the FIFO sector.[53]

Much of the industry continues to be resistant to changing established workforce management practices, but some mining operations in Australia are beginning to show signs of a more flexible approach. For example, there has been an increasing acceptance by Century Mine management that some indigenous employees would prefer to work for finite periods, rather than in open-ended arrangements.[54] According to the Century employees' survey, 37 per cent of respondents had worked at the mine previously; the 2004 survey of indigenous former employees identified 20 per cent who had a previous stint of employment at the mine.[55] The business case for allowing and even encouraging increased re-entry is also strong, because the training costs for re-hires are much less. However, it remains to be seen whether other operations will be willing to adopt this approach.

How have indigenous employees benefited economically?

Some commentators have argued that mining and its associated negative environmental effects are in direct opposition to the indigenous world view[56] and should not be pursued at all. Others have encouraged indigenous employment with the mining industry as a way for indigenous communities to benefit from the economic opportunity that it brings and argue that employment does not have to come at the cost of culture.[57]

52 Many agreements contain provisions for cross-cultural training: see for example the Argyle agreement, Management Plan 3 Cross-Cultural Training, www.atns.net.au/objects/Agreements/Argyle%20MP.pdf (accessed 12 December 2007).

53 Ruth Beach, David Brereton and David Cliff, 'Workforce turnover in FIFO mining operations in Australia: An exploratory study' (Research report by Centre for Social Responsibility in Mining and Minerals Industry Safety and Health Centre, The University of Queensland, 2003).

54 Parmenter and Love, n 38 above.

55 Barker and Brereton, n 38 above.

56 Barker, n 2 above. Trigger, n 37 above.

57 Marcia Langton, 'A new deal? Indigenous development and the politics of recovery' (Dr Charles Perkins Memorial Oration, University of Sydney, 4 October 2002). Noel Pearson, *Our right to take responsibility* (2000, Noel Pearson and associates, Cairns).

Mining has the highest average wages of any industry in Australia. For many indigenous people, this presents a unique opportunity to accumulate income and improve living standards for themselves and their dependants, but the challenges are also considerable. Pressure to share with kin or 'demand sharing'[58] may influence the desire to enter and remain in the workforce. Some interview respondents from Century Mine commented that when pestered for money ('humbug') they stressed that the money earned from working at the mine was for their immediate families' use and their children's future.[59] 'Humbugging' was also cited as a cause to move out of their community since working at the mine.

Peterson and Taylor[60] argue that accumulating assets is incompatible to the egalitarian ethos of Aboriginal society. Trigger[61] questions if the desire to accumulate assets is emerging or changing. His observations in Doomadgee (a nearby indigenous community to Century Mine) over 25 years suggest that individuals and their close kin are seeking acquisition of material items in the same way as non-indigenous people in nearby towns.

Parmenter and Love[62] found limited evidence of long-term financial security for indigenous employees at Century Mine. Many respondents to the survey noted a deficit in money management skills, and several informants recommended that a money management programme, perhaps supported by a formal (but voluntary) savings scheme or salary sacrificing scheme for house payments or desired assets, would be a valuable initiative. Numerous respondents indicated their concern that post closure individuals and families would be more in debt than before the mine began.[63]

Most respondents in the Century workforce survey had invested primarily in depreciating assets such as cars and white goods since they began working there. Only eight per cent had purchased a house, although this could be attributed in part to legal restrictions on purchasing houses in indigenous communities plus the logistical difficulties of constructing houses in remote locations. Those who had moved to a major city since working at the mine were significantly more likely to have purchased a house.

It is important to note that for many indigenous employees, the attraction of mainstream employment such as mining is not solely about fiscal rewards but also the opportunity to maintain kin relationships and customary

58 Nicolas Peterson, 'Demand Sharing: Reciprocity and the Pressure for generosity among Foragers' (1993) 95(4) *American Anthropologist* 860.

59 Parmenter and Love, n 38 above.

60 Nicolas Peterson and John Taylor, 'Aboriginal intermarriage and economic status in western New South Wales' (2002) 10(4) *People and Place* 11.

61 Trigger, n 37 above (2005).

62 *Ibid.*

63 *Ibid.*

practices.[64] In the case of Century employees (81 per cent) of respondents had three or more relatives working at the mine. Only ten per cent of respondents reported having no relatives working at the mine.

Access to flights and cars was seen as a benefit by some participants, who noted that transport made it easier to maintain their connection to the country.[65] Sixty-three per cent of respondents from the Century survey had purchased a car since starting working at the mine. Several interviewees noted that purchasing a four-wheel drive made it easier to fish, hunt, visit relatives and maintain a 'connection to country'.[66] In such instances transport is supporting the 'customary economy'.[67] In other contexts (remote community art and craft centres), numerous commentators have noted that increased transport has been central to enhancing customary practices.[68] While, economically speaking, vehicles are a depreciating asset, they can also facilitate the appreciation of social and cultural capital.[69]

Broader questions about how income from mining employment flows into, through and out of indigenous communities – and how these communities are affected as a consequence – are outside the scope of the current review. However, these questions would clearly need to be addressed in a comprehensive analysis of the impact of mining employment on indigenous people.

Experience of indigenous women

Indigenous women currently represent approximately 16 per cent of the total indigenous workforce in mining across Australia.[70] The majority of these women (like men) are employed in semi-skilled positions.[71] There were significantly fewer indigenous female apprentices, tradespersons, supervisors and technicians, and significantly more women in administration roles. A similar pattern is seen in the female mining workforce more broadly.[72]

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64 Barker, n 2 above. Parmenter and Love, n 38 above. Taylor and Bell, n 17 above.

65 Parmenter and Love, n 38 above.

66 *Ibid.*

67 Jon Altman, 'Exploring sustainable development options on Aboriginal land: the hybrid economy in the 21st Century' (Discussion paper no 226, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra, 2001).

68 Eric Michaels, 'Western desert sandpainting and postmodernism' in Eric Michaels (ed), *Bad Aboriginal art: Tradition, media, and technological horizons* (1994), p 49. Lin Onus, 'Language and Lasers' (1990) *Art Monthly Australia* 14 (Special Supplement: The Land and the City: The Emergence of Urban Aboriginal Art).

69 Parmenter and Love, n 38 above.

70 Australian Bureau of Statistics, n 10 above.

71 Tiplady and Barclay, n 1 above.

72 Kemp and Pattenden, n 40 above.

Kemp and Pattenden[73] reported that indigenous women are more attracted than non-indigenous women by the opportunity to work with family or friends, the availability of study assistance and to be a role model for other indigenous people. Consistent with this, the great majority of female respondents to the Century Mine employee survey had three or more relatives or family members working at the mine.[74] Parmenter and Kemp[75] suggest there is a lack of focus on issues specific to indigenous women working in the industry, highlighting that the industry agendas of increasing participation of both women and indigenous people are being driven separately, resulting in separate strategies. However, a study on the retention of women in the Australian mining industry conducted by CSRM concluded that indigenous women face additional employment challenges to non-indigenous women, such as socio-economic disadvantage, complex family responsibilities and issues associated with holding positions of authority over indigenous men, as well as cultural pressure to stay at home and look after children and family members.[76]

Although not an issue unique to indigenous women, in a male-dominated industry women often face sexist views that limit career advancement.[77] The issue may be compounded for indigenous women who may also have to face cultural challenges when put in a supervisory position. The extent to which gender is a factor in holding positions of authority in the mining workplace is under-researched. Age, position in community and complex kinship rules are likely also to be significant factors.

73 *Ibid.*

74 Parmenter and Love, n 38 above.

75 Joni Parmenter and Deanna Kemp, 'Increasing the participation of Indigenous women in the Australian Minerals Industry' (paper presented at the Minerals Council of Australia Sustainable Development Conference, Cairns, September 2007).

76 Kemp and Pattenden, n 40 above.

77 Ginger Gibson and M Scoble, 'Regenderneering mining: A survey of women's career experiences in mining' (2004) 97(1082) *CIM Bulletin* 55. S E Tallichet, 'Barriers to women's advancement in underground coal mining' (2000) 65(2) *Rural Sociology* 234.

Summary

The above discussion can be briefly summarised as follows:

(1) As far as Century and Argyle Mines are concerned, there is persuasive evidence that these two operations have: helped to grow the indigenous labour pool in their regions; contributed (to varying degrees) to increased employability and mobility; and provided the majority of indigenous employees with a generally favourable employment experience. Neither mine can be considered typical of the Australian industry, but they provide an indication of what outcomes can potentially be achieved if the will is there and the right settings are in place.

(2) It remains to be seen whether the industry has the will and capacity to change the current occupational distribution and significantly increase the number of indigenous employees in higher level positions.

(3) It is apparent that indigenous employees face particular challenges in relation to managing the income generated from mining employment. This may constrain the capacity of individuals and communities to derive long-term economic benefits from the employment opportunities being provided by the mining industry. It also appears that mining employment can generate significant cultural and social tensions in communities and relationships, although consideration of these aspects was outside the scope of this review.

(4) Indigenous women working in the mining industry are in a unique position, as they must deal both with issues of gender and race. To date, there has been a lack of focus on the specific needs of this group.

Conclusion

This article had dual objectives: to provide an overview of recent trends and developments in indigenous employment in the Australian mining industry and to review the available research on employment outcomes and impacts for Aboriginal people who have engaged with the industry. As far as the first of these objectives is concerned, the evidence indicates that the performance of the industry has been highly variable and there is still much to be achieved, notwithstanding that indigenous participation in the mining workforce has increased in both absolute and relative terms in recent years. Addressing the second objective has been challenging, both because it is an inherently more complex question and because there is less data available. However, the evidence from Century and Argyle Mines is that employment-related outcomes (to the extent that they can

be measured) have been broadly positive for indigenous people working at these operations. This gives cause for confidence that similar or better outcomes can be achieved at other operations, provided there is appropriate organisational commitment and support.

Achieving further substantial growth in indigenous employment in the Australian mining sector in the coming years will require action on a number of fronts. At the operational level, mines need to implement better systems and processes for recruiting, retaining and developing indigenous employees, building on the good practice models that are emerging in this field. This includes being prepared to take a more flexible approach to employment and working time arrangements. Collaborative initiatives such as the Commonwealth Government–MCA MOU need to be strengthened and extended to ensure that a coordinated approach is taken to tackling the problems of indigenous socio-economic disadvantage in mining regions. It is also important that all players take a broader approach to indigenous employment and training, with the primary focus being on delivering benefits at a regional scale, rather than just on discharging obligations under local agreements.

The bigger challenge will be to ensure that the direct benefits that mining provides to individuals – such as higher incomes, increased employability and greater mobility – contribute to the building of stronger, more sustainable, communities. Mines have a finite life, so the question of what legacy will be left is critical, as Charlie Lenegan has acknowledged.[78] Understanding the factors that may have an impact on this legacy, either positively or negatively, needs to be a key focus of future research into employment and other forms of indigenous economic engagement with the mining industry. As other contributions to this issue attest, this work is one part of an interdisciplinary response, including legal forms and analysis, to finding solutions.

78 Lenegan, n 34 above.