

Indigenous Workforce Participation at a Mining Operation in Northern Australia

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Abstract

The potential of the Australian minerals industry to generate considerable national revenue can be jeopardised in periods of economic growth by fostering a shortage of relevant educated and skilled personnel. Legal reforms of the 1990s, public pressure, and benefits by employing local Aboriginal people has driven the installation of work-integrated learning programs designed to reduce the skill shortage by increasing the employment rate of Indigenous people in the mining industry. This article reports five years of primary data to detail nationally accredited attainments and relevant job outcomes of an Indigenous education-vocation program that has delivered sustainable jobs in a substantive remote mining operation in northern Australia. Identified barriers for applicants and vocational career choices that are framed by values and priorities held by regional Indigenous people are discussed to focus on a conclusion challenging the mining industry and the government to disclose how Indigenous training schemes are ameliorating the skills gap in the Australian mining industry.

1. Introduction

The Australian minerals industry is a continuing key contributor to the national gross domestic product (GDP). Since 2003, there has been a phenomenal growth in mineral commodity exports (ABARES 2010; ABS 2011; Roarty 2010) and, in particular, in 2011 the mining contribution surged to 9 per cent of the Australian GDP (Richardson and Denniss 2011). However, spearheading the national economic growth by generating mineral export income and regional mining-related development can be overly vulnerable to volatility in global, national, as well as local forces, and rapid changes over time feature in the Australian mining industry as cyclical 'booms' and 'busts' referred to by Wilson (2004, p. 261) as the resource roller coaster. The extent of this insecurity was underlined after the industry came off a mining boom high point in 2008 when the global financial crisis of 2009 (Sen 2011) had

sobering effects on the Australian mining sector and the global demand for minerals plummeted, industry growth plans were crippled, and thousands of jobs were axed. But, by the close of 2011, there was an unprecedented demand for skilled mining labour (Latimer 2011), which is continuing through 2012–13. In these periods of demand for mineral wealth, pressures arise simultaneously to create a skilled labour force (PWC 2012).

Geographical, technological, commercial, demographic, and political exigencies underlie causes of skills shortages in the Australian mining industry. Australian mining operations, which are likely to be found in remote regions of the nation, are highly capital intensive facilities embracing technology, innovation, and invention (Budget 2011; Menghetti 2005). To remain sustainable in a competitive global marketplace, Australian resource extraction operators are reliant on qualified, skilled, and functionally flexible staff and service contractors (Martinez-Fernandez 2010; Zheng et al. 2007). A report (Industry Snapshot 2010) demonstrates the educational attainments of mining employees to be substantially greater than in any other Australian industry, and these competency demands have potential to foster the persistent skills shortage in the mining sector. Entrenched attitudes (male-dominated industry, failure to tap Indigenous talent, job mobility, lack of clear career paths) have been identified as barriers for Australian educational institutions to attract and produce sufficient numbers of qualified professional and trades people (Parmenter 2008; PWC 2012), while the skills shortage is being exacerbated as the Australian mining workforce is ageing and retiring (Colley 2005; Dickie and Dwyer 2011). Moreover, the Australian mining industry is intimately connected to government regulation, which requires workers at mine sites and refineries in Australia to hold particular certification as well as employability skill sets (Banks 2003; Employability Skills 2006; Wilson-Chapman 2012). One political intervention of substance was the introduction of the *Native Title Act 1993* which led to a resurgence of interest in Indigenous employment within the Australian mining industry (Barker 2006; Parsons 2008).

Broadly, the literature devoted to Indigenous employment in Australian mining is in two camps: prescriptive and descriptive. The prescriptive stream is both pre and post the 1993 Native Title Legislation. There is a much greater amount of written work after the defining Mabo 1993 legislation that 'profoundly changed the direction and scope of relations between mining companies and Indigenous groups in Australia' (Crawley and Sinclair 2003, p. 363). This more recent normative material endeavours to address the fallout from the legislation with a raft of paternal, ethical, moral, and legally tainted discourse promoting the interests and rights of the Aboriginal people (Barker 2006; Burgess and Dyer 2009; CSR 2010; Lertzman and Vredenburg 2005)

to reflect a clash of forces between commercial mainstream values and the maintenance of traditional Australian Aboriginal ceremonial obligations. On the one hand are announced assumptions that establishing a mineral extraction operation in a remote region of Australia has potential opportunity for Indigenous people to participate in the mining workforce enabling them to alleviate their socioeconomic disadvantage (EIDOS Institute 2010; Giddy, Lopez and Redman 2009; Warne-Smith 2010). On the other hand, there is a proliferation of descriptive publications establishing that Australian Indigenous people fare poorly, particularly in labour market participation, in comparison to the non-Indigenous society (ABS 2010; Altman and Biddle 2010; Stephens 2010). A lack of understanding of the complexities of Australian Aboriginal culture has compounded the difficulty in developing frameworks for enhancing Indigenous participation in the Australian mining industry.

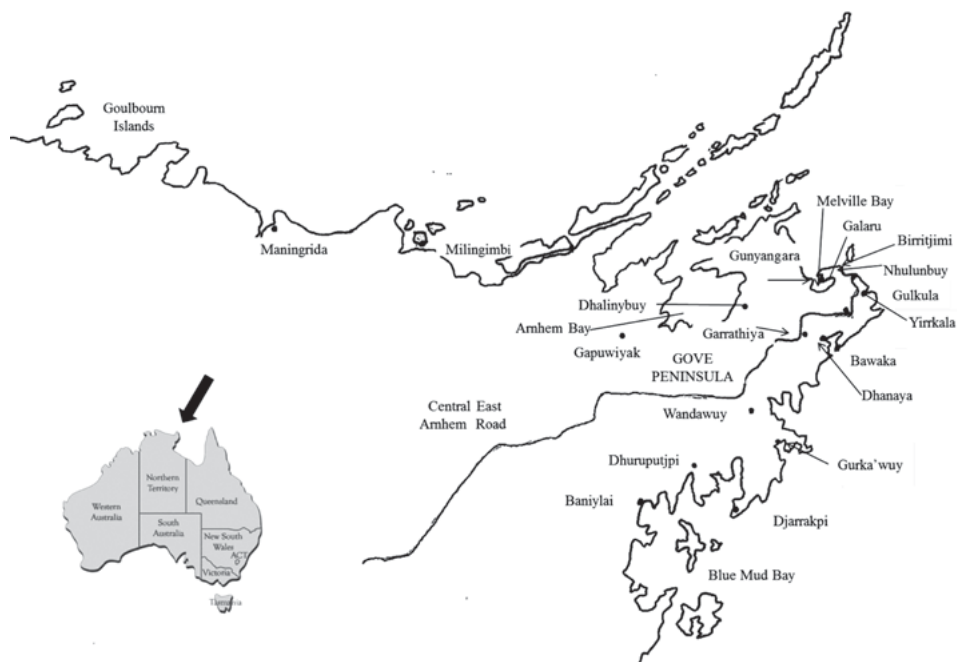
Infrequently is the Indigenous employment in the Australian mining industry literature supported by robust description. Most of the work is founded on secondary data, including percentages that 'hide' relevant micro-level information. A lack of disclosure of Indigenous work roles demanding competencies or key skills (Employability Skills 2006; Gibb 2004) is deceptively concealed by employing broad work categories such as semi-skilled or labourer labels (Biddle, Taylor and Yap 2009; Gray and Hunter 2011; Harvey and Brereton 2005; Stephens 2010), and seldom is it disclosed to the public if the accreditation acquired from training and development programs was delivered to the standards set by the Australian Quality Training Framework (AQTF).

Against a backdrop of long-standing evidence, Australian Indigenous people have suffered marginalisation and exclusion from mainstream educational institutions and, consequently, lack critical literacy and numeracy competencies (Hughes 2008; Stephens 2010). Yet some authors (Collins 2012; Harrison 2012) promote perceptions that increasing numbers of Indigenous people are being employed in mainline sustainable work in the highly skilled Australian mining industry. However, overestimations of the creation of mainline mining jobs for Indigenous Australians become problematic with undervaluations of the essential workplace competencies. For instance, Brereton and Parmenter (2008) acknowledged that aggregate statistics are unsatisfactory and endeavoured to defend their usage with the argument that the knowledge is commercially sensitive. Even the often cited work by Tiplady and Barclay (2007) states that 'the work and training opportunities provided as a part of the agreement should be restricted to the Traditional Owners [Aboriginal] of the particular site' (p. 75). But the Australian government [tax payers] often funds Indigenous nationally

accredited training/skilling schemes and, arguably, the knowledge gained from Indigenous work and training programs, when revealed, could contribute to the development of frameworks where mining companies and Aboriginal communities can learn from each other. The under-disclosure of information has seeded a substantial report by Richardson and Denniss (2011), as well as a submission by Duffy (2011), to advance the theme that the corporate miners have exaggerated their claims of a contribution to the Australian public in general, and specifically, to Indigenous employment.

The purpose of this article is to describe an Indigenous education-vocation program and the work-related outcomes of the participants. A unique feature of the presented material is the assessments of primary data, that were collated over five years, to provide findings challenging the prevailing assumption that mining operations are likely to deliver better socioeconomic accomplishments to remote Indigenous communities. Gained knowledge questions the rhetoric of universalistic expectations that Indigenous people will take a pathway to greater personal wealth and lessen their social and economic disadvantage when given the opportunity to be represented in a mining workforce. The investigation was conducted at a relatively large bauxite mine—an alumina refinery near the ‘closed’ mining town of Nhulunbuy on the Gove Peninsula of the Northern Territory of Australia. This region is illustrated in Figure 1.

Figure 1: The Gove Peninsula and Indigenous Outland Centres



2. The Indigenous Mining Workforce on the Gove Peninsula

The resource extraction operations in the Nhulunbuy Region make a substantial contribution to the Australian GDP. It is acknowledged that the export value is AUD1b per annum (East Arnhem Region 2010), the refinery/mining complex is the largest employer in the Northern Territory, and the town site is the third largest in the territory boasting the highest per capita income in the Northern Territory (Regional and Remote Newspapers 2012). The first year of commissioning the complex was in 1972 (Welcome to Nhulunbuy 2009) but the underpinning for establishing the refinery and the town began 30 years earlier. Reviewing the archival evidence reveals that, for over 70 years, few Indigenous people have been employed in the mining operations on the Gove Peninsula.

Early beginnings

Bauxite was discovered on the Gove Peninsula during the Second World War. When the Royal Australian Air Force number 8 mobile works squadron was stationed on the Gove Peninsula from August 1943 until July 1944 to construct a 5000 foot airport for defence purposes, gravel was needed but, instead, bauxite ore was used (Department of Defence 1978). Gove acquired an identity in 1943 when named after Sergeant William Julius Henderson Gove who was killed in a mid-air collision while flying a Hudson bomber at Rabuma Island off the coast near Milingimbi Island. The anecdotal evidence is that some Aboriginal men assisted the military personnel to build the airstrip.

During peacetime, mining activity gained momentum. In 1951, the Australian Aluminium Commission requested the federal government to reserve the bauxite deposits and allow mining activity. Three years later, the British Aluminium Corporation obtained permission to conduct an exploratory survey of the Gove and Melville Bay areas (Pretty nd). During 1952, some prospecting was conducted and, in 1958, the Commonwealth Aluminium Corporation Pty Ltd (COMALCO) was granted a special minerals lease near the Yirrkala Methodist Church Mission. When this lease was cancelled, Swiss Aluminium and a group of Australian companies formed the North Australian Bauxite and Alumina Company Limited (NABALCO) (Cousins and Nieuwenhuysen 1984). In 1968, a formal agreement was approved between NABALCO and the Commonwealth of Australia, and determination of the ore deposits was facilitated by a drilling rig operated by Mr Klaus Helms and a small band of Indigenous Yolngu men. Subsequent to NABALCO, the mining operators were Alcan Gove Operations, Rio Tinto Alcan, and currently Pacific Aluminium administers the mining refinery complex on the Gove Peninsula.

Indigenous employment in mining

Following the granting of mining leases in 1968, construction of the town of Nhulunbuy, the refinery, the mine, and port facilities proceeded. A feasibility study for the construction of a half million tonne capacity alumina plant and auxiliary facilities, including the new town site, was undertaken by NABALCO (The Gove Bauxite Development 1968). An extensive temporary town site (today named Birritjimi) of single-room long dormitory units assembled in H blocks was located adjacent to the refinery site. These projects—as well as the developmental work at the mine site and the refinery—provided considerable labouring-type jobs, but few Indigenous people were consistently engaged (Dunlop 1995). Turnover was high, most left voluntarily, and those who attended irregularly were dismissed (Cousins and Nieuwenhuysen 1984). Corroborating evidence can be found in electronic visual material held at the Yirrkala Buku Larrnggay Mulka Art Centre and Museum, and in the special collection closed reserve section of the Nhulunbuy Community Library.

At Nhulunbuy, from 1968 until the early 1970s, there were two separate streams of employed Indigenous people in mine-related work. A small group of Indigenous women washed and ironed linen for Gove House that accommodated non-Indigenous men who were construction workers for the mine site, the refinery, and town buildings. In 1968, a brick works was established at Yirrkala and this enterprise was contracted by NABALCO to make sand cement bricks for houses, mining structures, and other buildings. The facility became owned by the Aboriginal corporation Yirrkala Business Enterprises (YBE) (Going for Gove 2003), and a few Indigenous men operated the plant under non-Indigenous supervision. By 1972, the intensity of construction and the demand for bricks declined, and YBE diversified into transportation, moveable machinery operations, and earthworks, which required skilled workers. Consequently, by the mid-1970s, a lack of low-skilled job opportunities led to no Indigenous people being employed by NABALCO, and YBE was mainly employing skilled non-Indigenous people.

From the mid-1970s to 2000, few Indigenous Yolngu people sought regular employment in the Gove Peninsula mining operations. There is relevant information available in a variety of sources to conjecture the reasons. For instance, Cousins and Nieuwenhuysen (1984) write that NABALCO management showed intolerance to the notion for Indigenous employment believing the Yolngu people lacked skills and motivation for the work. Supplementary information revealing the potential of the Aboriginal workforce was provided by the Department of Aboriginal Affairs in 1981 showing that the high level of Indigenous unemployment at Yirrkala (population about 800) was males 66 per cent, and females 82 per cent. And

in a recorded interview in 1972 at the NABALCO refinery site, an Aboriginal man stated that his job was to empty the office rubbish bins, but he said it was boring work and he was leaving to go back to his homeland (Dunlop 1995). Altman (2003a) confirms there was a mass exodus by Yolngu people from Yirrkala to their homelands such as Djarrakpi, Dhanya, Gurka'wuy, and Wandawuy during the 1970s, and this action considerably reduced the potential for Indigenous employment in the Nhulunbuy mining operations.

Movement of Indigenous people from the vicinity of Nhulunbuy/Yirrkala was underpinned by two main causes. Initially, there was a considerable level of grievance for the lack of consultation by the Australian government and NABALCO with the Yolngu people, and the second cause stemmed from the sale of alcohol at the Birritjimi wet mess and in Nhulunbuy. The first point is overviewed by Galarrwuy Yunupingu, who was assembled with many other Indigenous people at Yirrkala when he writes,

Now it is the early 1960s and a man called Harry Giese [Director of Welfare NT] stands on a 44 gallon drum at the Yirrkala airport ... A mine will be built here at Yirrkala, he tells us. It will mine the dirt we stand on our soil. Giese talks for 20 minutes, then he gets in his car and drives away. This is the first mining agreement on the Gove Peninsula (Yunupingu 2009, p. 34).

Opposition to the mine is well reported. First, the local Indigenous people sent bark paintings to the House of Representatives in Canberra in 1963. Next was legal application in the Darwin Supreme Court (*Millirrpum v NABALCO* 1971), but this action was before *Mabo* (*Mabo* 1992) and the Native Title Legislation of 1993 (*Native Title* 2009). As the town site of Nhulunbuy became established, alcohol was conveniently available and it badly impacted on the Indigenous community. Political agitation accumulated as a legal application in 1970–71 to have the liquor license of the Walkabout Hotel revoked, but this claim was also lost, and the Walkabout Hotel continues to operate. Ultimately, many of the clan leaders removed their families to their ancestral homelands and, coupled with social and technological reforms (Pearson and Helms 2012), the Methodist Mission at Yirrkala became an anachronism and closed in 1975.

Two major influences were to intensify Indigenous employment potential in the lead up to 2001. First were the significant legislative reforms. Although the application for damages to Yolngu land and the prevention of further mining activity was unsuccessful, it gave recognition to Indigenous land rights in Australia within the broader Aboriginal movement leading to the establishment of the land-rights legislation known as the Aboriginal Land

Rights (Northern Territory) Act 1976 (2012; Resource Indigenous Perspectives 2007). Subsequently, the 1992 Mabo legislation became a landmark in Australian history, and how to deal with the implications of the decision of the High Court of Australia resulted in the Keating Labor Government enacting the Native Title Act 1993. Key elements of the 1993 legislation were a guaranteed right by the Traditional Land Owners to negotiate with the mining entrepreneurs, and the provision of employment and training programs is often a feature of the Land Use Agreements. The relevance for the Gove Peninsula is that, on the 8 June 2011, the Prime Minister of Australia, Julia Gillard, ratified the first historic mining lease agreement between the international mining corporation (Rio Tinto Alcan) and the Traditional Land Owners (Gumatj, Rirrantjingu and Gälpu) at Yirrkala. This ceremonial signing has rapidly led to a number of short-term work-integrated learning programs for Indigenous people by early 2013, but the focus, determined by the Traditional Land Owners, has been on environmental/land care non-mining jobs.

A second force influencing the extent of Indigenous participation in the Nhulunbuy mining workforce was technological development. For example, haul truck capacity has surged from 70 tonnes to 100 tonnes, and the refinery alumina output quadrupled by 2000 only to be doubled in the following years. These are but two of the many innovations compelling the need for the workforce to be highly skilled and, when linked with the extensive regulation of the Australian mining industry, the contemporary employee 'must be more versatile, better educated and better trained ...' (Dickie and Dwyer 2011, p. 330), and certified to the relevant regulations. Not unexpectedly, in 2001, the Y(BE) N(ABALCO) Operator Training Scheme (YNOTS) was established as a company that would deliver a 30-week nationally accredited training and education course for Indigenous people (Altman 2003b; NABALCO 2001) who would be qualified, licensed, and accredited as well as being skilled to perform works and services in the operation of mining equipment. However, doubling the refinery capacity from 1.9 million tonnes per annum (MTA) to 3.8 MTA involving nearly 2000 people, who performed 35 million hours of work, and expended some US\$2.5b in less than four years (Alcan Gove 2008) ensured that the project delivered sustainable Indigenous employment. YNOTS became a labour pool for performing stevedoring functions, operating moveable machinery, undertaking massive civil construction works, refurbishing the 17 km conveyor belt system and a variety of industrial-type tasks. As the project drew to a close in late 2006, the newer mining owner (Alcan Gove Operations) had a different vision for the concept of Indigenous education vocation, and this was the genesis of the Arnhem Learning Education and Regional Training (ALERT) program.

3. Methodology

This section describes the key elements of the competency-based vocational education training (VET) ALERT program. Foundation for the scheme is delineated in a substantial document that was generated to obtain support from a wide array of stakeholders. Relevant constituents were the three tiers of the Australian government, the Traditional Land Owners, a number of macro and meso Aboriginal corporations, the mining industry, educational bodies, the wider business community, and the local population. Where the ALERT program was administered, the involved participants, how the educational vocational content was delivered, and the methods of analyses are described below.

Site

The ALERT scheme is mainly conducted at Nhulunbuy. Most of the education component of the program is delivered in a specially built complex owned by Pacific Aluminium or at the Nhulunbuy Technical and Further Education (TAFE) facility, while some trainees travel to Darwin to receive short periods of specialised instruction. At the ALERT mining company buildings, a variety of government-accredited mining-related subjects are taught as nationally recognised qualifications based on relevant industry standards. A competency-based pedagogy is delivered at the Nhulunbuy TAFE, where candidates are given instruction in carpentry, painting, welding, and sheet metal working. The core content material of the course units and certification knowledge is underpinned by good practice to standards set by the AQTF.

Respondents

The participants of the ALERT program are Indigenous Australians above the age of 17 years, and both genders are eligible. Initially, in 2007, the respondents were Yolngu people who came from the nearby regional outstations of Galupa, Galaru, Gunyangara, and Yirrkala, and they were transported to the ALERT complex by the mining company bus. However, despite robust selection procedures, few of these people progressed to occupy mainline jobs in the mining industry. In broad terms, one-third were dismissed for a lack of attendance or being unfit for work, another third left to return to outland communities, leaving a group that was characterised over time with withdrawals back to their communities, while a lesser number graduated to become employed in the local mining industry. During 2009, the availability of fully-messed single-person accommodation enabled the catchment of applicants to be extended to most Australian states allowing for more intensive recruitment procedures.

Procedure

The study design was pluralist quasi longitudinal. Quantitative and qualitative data were provided by different subjects responding to the same instruments and interviews were undertaken on six monthly cycles. The first author regularly visited the region after 2007, and the second author, who was a 12 year resident, was fluent in a local Yolngu mother tongue.

Two instruments, devoid of the need for English comprehension and numeracy skills, were developed and employed in the recruitment process. Acknowledging Australian Indigenous people are likely to experience linguistic and numeric deficits, two acultural oral administered tools labelled Discovery Session 1 (Pearson and Daff 2008; 2011a) and Discovery Session 3 (Pearson 2013) were used to gauge applicant dispositions for learning. In addition, basic estimates of English comprehension and numeracy were obtained with the use of flash cards and, subsequently, greater delineation of the reading competency of screened applicants was determined with national tests.

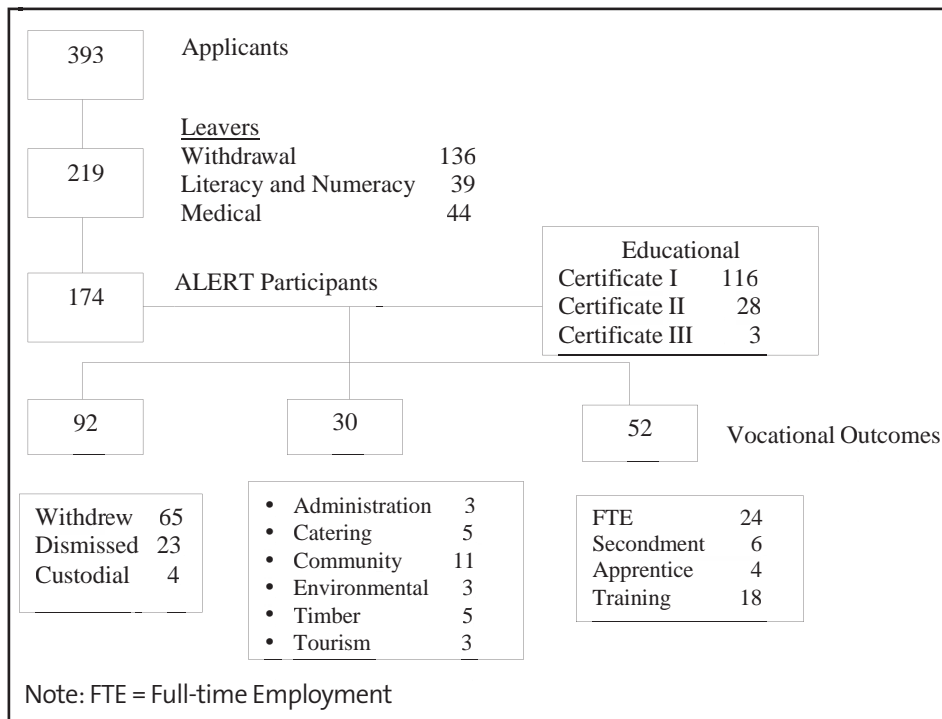
Successful applicants were employed in either work readiness or work starts. Work readiness has the purpose of installing in participants work habits of punctuality and attendance, acquiring work-related skills and competencies, developing commitment to work obligations, and learning to listen and follow instructions. Endeavours are made to build these qualities over 16 weeks for five days a week, and candidates are paid at a casual rate. Work starts, which attracts applicants with a Year 10 education, has the principal objective of practising and reinforcing learning vocational behaviours in particular jobs. Greater delineation of these two streams has been provided earlier (Pearson and Daff 2011b). As soon as the participants have acquired the relevant certification, they essentially enter on-the-job training at the mine site or the refinery and, while both streams of candidates receive VET opportunity (with the minimal objective of a Certificate I), the focus is on work diligence.

Measures

Each ALERT candidate has a variety of educational and vocational scores. The extent of this profile is related to the length of connection with the program and the number of milestones completed. This profile commences at the time of application and usually ceases when the candidate departs the program, but the vocational record can be extended for those respondents who 'job hop' in the local community. The educational accomplishments such as obtaining a driving license or completing an accredited activity (that is, working at heights, first aid) culminate with a nationally accredited

certificate that is awarded by the Charles Darwin University. Most of the graduates were awarded a Certificate I in Resources and Infrastructure, which required the successful completion of nine VET units. Fewer graduates completed a Certificate II or a Certificate III in a variety of streams (for example administration, engineering, metalliferous mining).

Figure 2: Educational and Vocational Attainments of ALERT Respondents



4. Results

Figure 2 shows the pathways of ALERT applicants. Shown at the top of Figure 2 is a value of 393 applicants for the period May 2007 to June 2012. From 2009 onwards, applicants have not always registered with the ALERT administration, which has only recognised those applications accompanied by physical evidence (for example personal registration, email, written documents). Thus, 393 applications is a credible number, but the figure is not necessarily absolute. Nevertheless, many of the 393 applicants discontinued their registration on realisation that the program required personal investment and (or) it was not a welfare scheme. Disclosure of an inability to read and write English or a lack of numeracy skills above Grade 2 at primary school—which was determined by the use of flash cards—led to a further leakage of applicants. An inability to complete the mandatory medical examination successfully (mostly because of substance abuse) led

to further rejections. In total, 219 (that is, 55.72 per cent) applications for membership to the program were unsuccessful.-

A total of 174 Indigenous people joined the ALERT program to reach an array of educational and vocational achievements. The educational achievements, which are shown in Figure 2 as Certificate I, II, or III were often the first time the candidate had successfully completed a nationally accredited qualification within the paradigm of the Australian Core Skills Framework (ACSF 2008). A less positive feature of Figure 2 is shown as the 92 (52.87 per cent) ALERT participants, who involuntarily or voluntarily withdrew from the program. The more positive features of Figure 2 are shown as the 30 (17.24 per cent) Indigenous people, who have chosen to work in sustainable mainline jobs in the community, and the 52 (28.89 per cent) ALERT members who are either in training or in full-time employment in the mining industry. Overall, the information presented in Figure 2 reveals that the considerable investment made by deliverers of the ALERT program across five years led to a relatively few Indigenous people demonstrating a preference to work in the minerals-extraction industry at Nhulunbuy.

The voiced accounts for withdrawal from the VET ALERT program or a job position were wide-ranging. Trainees who left before graduation claimed they disliked having to get out of bed early and to attend the places of instruction daily to learn English or numeracy. Other leavers claimed they had clan responsibilities (for example child minding, attending ceremonies) that prevented regular educational vocational training, and which also interfered with their preferred activities of hunting and fishing. Even those Indigenous men and women who were in relatively well-paid vocational positions left for different personal choices (that is, family moved, incessant obligatory commodity demands). A prominent example is the Indigenous heavy-haul operator who resigned and when interviewed said, 'I do not want the job. I do not like the long hours of shift work which prevent me from drinking. Besides, I can get welfare, mining royalties, or even handouts from family. There is no need to work'. These notions express cultural demands, expectations, and preferences of the Yolngu community and reflect a relevant contribution made by Mary McKenzie who wrote that a Yolngu man told her white man has a work fetish (McKenzie 1976).

5. Discussion

The information provided in Figure 2 is a benchmark in the collective data about Indigenous employment in the Australian mining industry. Earlier numerical-based reports (Brereton and Parmenter 2008; Tiplady and Barclay 2007) have provided total numbers of Indigenous employment in the Australian minerals industry with a relativity to other datasets. And while

this information may be useful for demonstrating levels of parity with non-Indigenous cadres, or changes to Indigenous workforce-participation levels in Australian mining over time, the knowledge is not inclusive of the held-skill sets or the certification/educational qualifications of the Aboriginal workforce. Even the available electronic records (Dunlop 1995) of the construction activity in the late 1960s and early 1970s at the Nhulunbuy refinery disclose that a few Aboriginal men were employed, but the nature of the work and the required skill sets are not detailed. A recorded interview in 1970 with the engineer in charge of the powerhouse construction at the Nhulunbuy refinery site reveals that one Indigenous man had been employed to sweep floors and empty office rubbish bins. Understandably, the Indigenous employee left within four days claiming a dislike for the job, which was 'the same thing over and over'. An observer of this material is drawn to a conclusion that the Indigenous people were employed as labourers or as low-skilled workers. The supporting evidence for this assumption is that in 1972 when the refinery was commissioned, NABALCO was employing a skilled non-Indigenous workforce and the company 'ceased to provide jobs for Aboriginals' (Cousins and Nieuwenhuysen 1984, p. 62). A lack of disclosure of outcomes from endeavours to integrate job types, the accompanying relevant skill competencies, and the associated educational requirements is unhelpful for practitioners responsible for designing and installing educational vocational programs for delivering increased Indigenous involvement in the Australian mining industry.

Interactions with the Indigenous ALERT respondents exposed an array of barriers that they faced when seeking or retaining employment in the Australian minerals industry. One major impediment to becoming a successful applicant to the ALERT program was exposed as a lack of English literacy and practical numeracy by Indigenous people who had traversed the Northern Territory bilingual education system where seldom they experienced these areas of learning (that is, English, numeracy) until the latter years of primary school (Hughes 2008; Hughes and Hughes 2012a; 2012b; Kral 2009). A further worrying observation was an apparent absence in the mindsets of the interviewed Indigenous people at the ALERT complex of the linear notion of going to school to get an education in preparation for a vocational career. Many of the applicants who endeavoured to join or were later participants of the ALERT scheme failed to appreciate that contemporary jobs in the Australian mining industry require incumbents to possess a relevant education/skill base. It was not uncommon for applicants to expect that unrecognised 'qualifications' were adequate or that they were entitled to be accepted to operate expensive moveable equipment because

of their Aboriginality. The disinclination for personal investment in learning or acquiring crucial work habits—that require shifting from passive social environments—is reflected in Figure 2 as withdrawals and dismissals. Other ALERT participants withdrew to fulfil family and (or) clan responsibilities or to retain connections with partners who placed their preferences in other locations and situations. Documenting these responses provides the potential for a better-informed design of work-integrated learning programs for enhancing Indigenous employment in the Australian minerals industry.

A significant latent impediment for Indigenous people to be involved in the Australian minerals-extraction industry is land. Mr Galarrwuy Yunupingu, AM, highlights that Australian Aboriginal people value the land far beyond the economic potential when he states:

For Aboriginal people there is literally no life without the land. The land is where our ancestors came from in the Dreamtime, and it is where we shall return. The land binds our fathers, ourselves and our children together. If we lose our land, we have literally lost our lives and spirits, and no amount of social welfare or compensation can ever make it up to us (Resource Indigenous Perspectives 2007, p. 1).

Australian Indigenous links with the land have been represented by eminent social scientists and Aboriginal protests. In his book *White Man Got No Dreaming*, Stanner (1979) emphatically reveals the connection between the Indigenous people and their land. Over 30 years later, David Collard, a leading Indigenous spokesman, stated at the 2012 Indigenous Business Enterprise and Corporations Conference (held at the University of Western Australia) that Australian Indigenous people would rather have green-friendly jobs that heal the land and not mining jobs that tear up the landscape (Macdonald 2012). Preceding these events was the Bark petition in 1963 when the Yolngu people expressed their objection to the decision to excise land from the Arnhem Land Reserves for the NABALCO mining project and, in 1968, the Indigenous people of Yirrkala lodged a writ with the Northern Territory Supreme Court for Aboriginal land title. Observing the electronic visual records at the Yirrkala Buku Larrnggay Mulka Art Centre and Museum alludes to a consistent view by many local Indigenous people that, at that time in the early 1970s, the actions of NABALCO were painfully disturbing. These comments are reflected some 40 years later in the content of Figure 2 where it is demonstrated that 30 of the ALERT graduates declined an opportunity to be employed in full-time highly paid mining industry jobs preferring to be in vocations on their ancestral lands in an Indigenous corporation.

A variety of alternative income-support arrangements discourage Indigenous people from working in the mining industry on the Gove Peninsula. Despite the Australian government announcing an intention to reform the Community Development Employment Projects (CDEP) scheme in 2009, to become a skills training initiative (Karvelas and Murphy 2008; Participant Fact Sheet 2009), and while there has been a decrease in participants (from 35,000 to over 10,000) since 2003 (Gray, Hunter and Lohoar 2012), the system remains entrenched as a form of income support in the outstations of the region. In addition to the CDEP scheme, which encourages Indigenous people not to take the pathway to real employment opportunities is the welfare-payments scheme, which is designed to target older unskilled people who may or may not have work experience and where jobs are limited (Brown 2009). Many of the Indigenous working-age group in the Gove Peninsula Region remain detached from the labour market. The third source of income for many Australian Yolngu people is 'humbugging'. This arises as the Yolngu clans endorse a cultural attribute of gift giving, and it is not uncommon for more senior members to demand commodity sustenance from others. The dominance of a choice to work or whether or not to participate in a training/employment opportunity is reflected in the current Ralpa (recent stream of ALERT) work-integrated learning program when 50 per cent of the initial 12 men withdrew in the first four weeks. The extent of detachment coupled with discourse of exit interviews exhibited identification with kinship values 'constructed around reciprocation and blood line connections' (Foley 2006, p. 15) enabling enjoyment in the climate of a 'gifted' recipient.

Indigenous people are underrepresented in the Australian mining industry in spite of the claims there has been greater participation since 2008. In August of that year, a prominent Western Australian miner signed a covenant with the then Prime Minister, Kevin Rudd, for the ambitious target of creating 50,000 jobs for Indigenous people within two years (Jordan and Mavec 2010; Warne-Smith 2010). Presumably, these jobs will target Indigenous people in regional Australia in the areas of the mining operations where a reasonable proportion of the Aboriginal population is likely to be found, and where few of them are employed in meaningful work (Harvey and Brereton 2005; Prime Minister's Report 2010). Since that landmark agreement, the number of Indigenous job placements has fallen 'well short of the original goal' (Jordan and Mavec 2010, p. 10). The plan has been criticised as a public relations exercise (Gibson 2009)—training programs and initiatives have been promoted with photo shoots of a handful of 'happy' Indigenous faces (EIDOS Institute 2010), while there are a variety of statements from political and private sources claiming increased Indigenous employment figures that range from 300 to 75,500 (Gibson 2009, Harrison 2012). Undeniably, the minerals industry is a key contributor to the Australian economy, and it is more

deserving of robust quantification of Indigenous workforce participation in the ore-extraction sector rather than assumptions, myths, fallacies, and creative accounting.

The outlined Australian government initiatives for ‘closing the gap’ in Indigenous employment, and particularly in the mining industry, skirt the enormity of the task. In the absence of contestable or corroborating evidence, the values of Figure 2, when extrapolated, demonstrate the scale of the problem. For instance, the training and certification of 50,000 Indigenous people (over five years) for mainline jobs in the Australian mining industry would require a catchment of some 400,000 applicants. However, this number is greater than the group aged from 17 years to less than 65 years of age in the Australian Aboriginal population. It is claimed that many in this category are already in mainstream work (ABS 2011; Gray, Hunter and Lohar 2012; Prime Minister’s Report 2010). More instructive is the equivalence of some 1000 ALERT facilities that would be required with an estimated establishment cost of \$2b, with operating costs of \$17.5b over five years. Finally, had the 98,000 job-training placements of Indigenous people—as claimed by The Federal Minister for Indigenous Employment and Economic Development (Collins 2012)—been trained and placed in employment within the past three years, why would the mining companies continue to prevail on the Australian government to install enterprise migration agreements. The disparity between the rhetoric and the reality of the level of Indigenous participation in the Australian mining workforce warrants an independent comprehensive evaluation.

6. Conclusion

The skills shortage for the burgeoning Australian mining industry has attracted a great deal of commentary, but the Australian government continues to struggle to find an acceptable compromise with the miners, the Indigenous society, and the wider community. Following the Australian legislative reforms of the 1990s there was a resurgence of interest in Indigenous training and employment as a feature of the land-use agreements. A convenient assumption was that these Aboriginal people would adopt vocations that would be linked to the mining sector. However, a lack of understanding of Aboriginal society, culture, and traditions has become a barrier to the operation of installed universalistic Anglo Celtic notions and paradigms for Indigenous employment in the Australian mining sector. Despite a flurry of relevant literature, often by well-intended non-Indigenous people, the evolution of an optimum resolution is in the form of a ‘cosy arrangement’ between the miners, the Indigenous groups and the Australian governments where the mining companies have access to the minerals, the

Indigenous groups acquire funding through the Aboriginal Benefits Fund, and governments obtain royalties as required by the respective legislation, while reacting to international and local pressures with a lineage of policies. A salient outcome is that the Indigenous people, who arguably have a stake in the mineral wealth, continue to experience disparities in social well-being and economic prosperity compared to the non-Indigenous population. And neither is the labour market catered for in an equitable manner. Often the skills shortage is addressed with a series of 'band aid' measures, such as the immigration of qualified and trained workers or fly-in fly-out arrangement that lead to dysfunctional effects for the local communities. An absence of credible investigations of implemented policies designed to improve the workforce participation of Australian Indigenous people, and particularly in the important mining sector, attracts scepticism that Australian governments are able to comprehend and execute appropriate measures to improve the disparities in employment across Indigenous communities and the mineral industry.

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