World Water Week, 31 August to 5 September 2014, Stockholm, Sweden

Recognizing indigenous water cultures and rights in mine water management: the role of negotiated agreements

S. Jackson** and M. Barberb

a Principal Research Fellow, Australian Rivers Institute, Griffith University, Nathan, QLD, 4111 Australia.
b Research Scientist, Land and Water Flagship, CSIRO, PO Box 2583, Brisbane, QLD 4001

Abstract

A social licence to operate is increasingly important in the resources industry, particularly with respect to mining activities that might jeopardize water sources on indigenous lands. Negotiated agreements have gained popularity because legal frameworks offer limited options and/or operational guidance for sustaining ongoing relationships between corporations and local people. We review international examples of negotiated agreements and examine a case study of mine water management in the Pilbara, northern Western Australia. We discuss the potential significance of water to all parties and highlight additional corporate processes that may facilitate these parties to reach and enact agreements that encompass water issues, thereby securing an ongoing licence to operate.

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Keywords: native title; mining; indigenous water rights; settlements; corporate social responsibility; social licence

1. Introduction

The prospect of a mine presents an opportunity for creating jobs and generating wealth for the state and the proponent. However, these benefits can be achieved at the expense of local and especially indigenous communities

* Corresponding author. Tel.: +61 447710044
E-mail address: sue.jackson@griffith.edu.au
Indigenous peoples are especially constrained in their ability to bargain for secure and remunerative livelihoods based on the use of natural resources, including water, and to participate in decisions that govern water allocation, use, and management. Financial and technical capacity for the extraction of natural resources is largely in non-indigenous hands and political forces “continue to empower the existing system of industry actors” (Anaya, 2013: 12). Indigenous peoples’ marginal political position and disadvantaged economic status renders them especially vulnerable to the negative effects of over use or degradation of water resources (Jackson, forthcoming; Jimenez et al., 2014).

By their very nature, resource extraction projects can introduce wide-ranging disruptions to the customary social environment of the communities surrounding their operations. Because water fulfils a significant symbolic role in indigenous social life and contemporary indigenous identities, extraction projects can result in loss of the means to sustain lives, livelihoods, and ways of life. Indigenous people have distinct cultural perspectives on water relating to attachment to place, environmental knowledge, resource security, and the exercise of custodial responsibilities to manage interrelated parts of customary estates (Johnston et al., 2012; Barber and Jackson, 2012).

Nonetheless, some indigenous communities are amenable to discussions about extraction of natural resources from their territories if negotiations and mineral production are conducted in ways that are beneficial and respectful of their rights (Anaya, 2013; O’Faircheallaigh, 2013; Jackson, 2004). Unfortunately, the positive signs emerging from specific cases are not yet large enough to constitute a universal trend (Anaya, 2013; Bench Marks Foundation, 2008). In reporting on the state of play between the mining sector and the world’s 370 million indigenous people, the former UN Special Rapporteur on the Rights of Indigenous Peoples recently observed that:

“the business model that still prevails in most places for the extraction of natural resources within indigenous territories is not one that is fully conducive to the fulfilment of indigenous peoples’ rights, particularly their self-determination, proprietary and cultural rights in relation to the affected lands and resources” (Anaya, 2013: 3).

Water issues are often at the centre of disputation or tension that arises between indigenous peoples and mining corporations. A recent mapping exercise of global conflicts involving mining corporations and indigenous peoples found that 60 per cent had water-related impacts (Molina et al., 2014); see Wessman et al. (2014) for comparable results from Finland. The authors of the international study show that in the last two decades, almost 40 per cent of projects had either attracted scrutiny (through petitions, withdrawal of third-party support, delays, vocal opposition) or faced cancellation. The results reflect the growth in sensitivity towards impacts on indigenous peoples over the same period (Molina et al., 2014).

In South Africa, “no project – regardless of how well meaning – would change community perceptions” from negative to positive should pollution or scarcity of water result from mining (Kloppers and Du Plessis, 2012). In Peru, the strong association of mining with water contamination perceived by indigenous peoples in the Andes has been “an extremely pervasive negative image that the sector has been unable to discard” (Budds and Hinojosa, 2012: 127; Bebbington and Williams, 2008). There is no shortage of controversial cases that have come to public attention. The following example serves to illustrate how operations that severely impact on water resources can generate or aggravate community antipathy towards mining (Yapao et al., 2012: 77).

In Papua New Guinea, tension over corporate and government failure to insufficiently compensate downstream landowners affected by pollution of the Ok Tedi-Fly River system undermined the massive Ok Tedi gold project operated by the Australia-based mining company BHP for over twenty years (Yapao et al., 2012). Decades of discharging waste into a creek in the headwaters of the Ok Tedi River resulted in massive sedimentation of the river bed, increased flooding, and dieback of downstream forests, and changes to the river ecology. This affected the subsistence livelihoods of the tens of thousands of people who live along the rivers’ corridors, inducing changes that will endure for hundreds of years (Offor and Sharp, 2012). For example, fish stocks in the Ok Tedi have declined by ninety per cent, and pollution has adversely affected riparian agricultural lands. A disparity between the compensation provided and the severe environmental cost resulted in litigation by landowners. Litigation compelled the mine’s operators to stop tailings from entering the river system and to agree to a more expansive compensation arrangement commensurate with the reported and predicted increase in environmental impacts.

The high incidence of conflict with indigenous peoples has motivated the global mining industry to attempt to better align its interests with the values of the communities in which corporations wish to operate (see, for example, ICMM, 2010; 2013; Hodge, 2014; Kemp et al., 2010). In response to advocacy by groups affected by mining, and local and transnational NGOs, as well as the development of standards and human rights norms, corporations are now
seeking to be more accountable and transparent about their actions and to strengthen their social and environmental performance. As such, efforts are now evident to increase the capacity of indigenous peoples to participate in regional economies and receive a greater share from the benefits of mining. The premise that mining access to indigenous territories needs to be based on soundly built relationships is also more widely accepted (ICMM, 2010; O’Faircheallaigh, 2006; Langton and Longbottom, 2012). Such relationships require dialogue, collaboration, consultation, and consent: they need to protect and enhance the connections that indigenous people have with their territories, mitigate adverse impacts and compensate for losses brought about by resource development.

Studies of water-related conflicts (for example, Bebbington and Williams, 2008) support proactive corporate responses to communities in meeting their information needs. These responses include transparent monitoring plans, and integrated approaches to managing upstream and downstream impacts within a catchment. We argue that negotiated agreements offer a framework in which companies can recognize indigenous water cultures and rights and improve the extent to which these multi-dimensional interests are protected in mine water management.

The literature on agreement-making between mining companies and indigenous people (Langton and Longbottom, 2012; O’Faircheallaigh and Corbett, 2005; Harvey, 2004) strongly suggests that modern day settlement processes can provide a foundation upon which corporations can: build sound environmental management arrangements; address the range of interests that indigenous people have in water; and more effectively reflect indigenous values in water-use and management practices. The process of building relationships – a central part of negotiating agreements – can provide a basis for addressing value differences, resource assessments, and risk evaluation. If not addressed, these factors may generate misunderstanding, disengagement, and conflict.

The purpose of this paper is to demonstrate that negotiated agreements are growing in importance and have become increasingly prevalent, particularly in situations where legal frameworks offer insufficient practical guidance. We use a case study of mine water management from Australia’s Pilbara region to highlight additional corporate processes that may be useful in reaching and enacting agreements between the mining sector and indigenous communities. We argue that commercial agreements are capable of embracing the many water-related issues and concerns that may be expressed by a community about mine water use and management.

In the Pilbara case reported on below, agreements act as a framework within which the parties commit to addressing environmental management objectives, protecting cultural heritage, and increasing local employment in water-related businesses or activities. By enabling the exchange of attitudes and norms towards water and water use, agreements can also serve as a vehicle for establishing better communication flow, equivalence, and trust in relationships between corporate and local cultures. The Pilbara case demonstrates the potential for localized deliberation and corporate agreement-making to fill the gap between indigenous water rights recognized by legislation and customary rights conceived and asserted by indigenous people.

2. Mine water management and corporate social responsibilities

Managing water constraints represents a significant challenge to the mining sector, as does the removal of excess water when mining extends below the water table (Wessman et al., 2014; Kemp et al., 2010). Scarcity experienced under conditions of climate change and increasing demand for water is likely to place water resources in mineral-rich countries like Australia, Peru and those in southern Africa under greater pressure (Budds and Hinojosa, 2012; Jensen, 2010; Bench Marks Foundation, 2008).

There is increased societal awareness of two features of mining: ‘embodied’ water (the hidden flow of water as commodities are traded from one place to another) and water resource intensity (Mudd, 2010). This awareness makes it likely that mine water use will be treated similarly to other water uses within nationally consistent regulatory and allocation regimes. Corporate strategies of mining companies and engagements with other water users need to reflect water’s growing socio-economic value and cost. They will also need to respond positively to the societal expectation that mine water management systems will be sensitive to different cultural interpretations and valuations of this fundamental and increasingly valuable resource. Interrelated legislative, regulatory and voluntary arrangements, combined with the differing economic, environmental and cultural values of water, makes this a highly complex area for any mining operation. The clear gap between the rights to water for indigenous people recognized by legislation and those conceived by indigenous people is an important context for localized deliberation and corporate agreement-making that contributes to this complexity. Addressing this disjunction in a mutually satisfying way is essential if a mineral operation is to build a constructive licence with which to operate.
Consent to a mine granted through a negotiated agreement provides “needed social license and lays the groundwork for the operators of extractive projects to have positive relations with those most immediately affected by the projects, lending needed stability to the projects” (Anaya, 2013: 10). Corporations are obliged to conform to mine site environmental protection regulations and indigenous landowners have a large stake in environmental matters. This focuses attention on joint decision-making on environmental management issues, codified in agreements (O’Faircheallaigh and Corbett, 2005). In this regard, agreements offer an effective means of addressing indigenous peoples’ strong desire to manage natural resources more collaboratively with other parties throughout the life of a mine and into the decommissioning stage.

O’Faircheallaigh (2013) argues that although agreements vary in legal structure, content, and scale, they share a number of fundamental characteristics:

“They involve formal agreements between developers (private or public) and community representatives or organizations. They are designed to minimize negative project impacts and ensure that local communities obtain benefits from development they would not enjoy in the absence of agreements, thus helping to reduce or eliminate conflict surrounding development” (p 222).

Negotiated agreements have become commonplace in jurisdictions such as Northern America and Australia, where formal recognition of customary ownership has led to the creation of strong statutory frameworks. Also, they are being increasingly negotiated in developing countries (O’Faircheallaigh, 2008; ICMM, 2010). In Australia, for example, individual corporations have developed complex and sophisticated agreements and related mechanisms for securing indigenous rights and benefits as well as mitigating detrimental impacts (Doohan et al., 2012; Harvey, 2004). These institutions very often relate to wider corporate social responsibility (CSR) practices. Insights gained from preliminary research that the authors conducted for Rio Tinto Iron Ore in Australia (Barber and Jackson, 2011a; 2011b; 2012), suggests that the risks of failing to address mine site water management issues are sufficiently great to warrant more focused attention and systematic evidence-based responses. It is to this Rio Tinto case that we now turn.

3. Iron ore mining in the Pilbara, northern Western Australia

3.1. Study site overview

The Pilbara region of northern Western Australia is the world’s second largest producer of iron ore (Butterly, 2012) and water is a key issue confronting all with an interest in the future of this industry. The huge reserves of iron ore and natural gas have seen a rapid economic boom in recent years. Water supply is an increasingly important capacity constraint for both industry and for the expanding coastal towns. Conversely, the creation of excess surface water associated with ore extraction below the water table is also a significant issue, not least because of the potential cumulative impacts of dewatering discharges by multiple operations on this low-rainfall and high-evaporation desert environment. Mining operations and mine dewatering discharge are the dominant uses of water in the Pilbara, drawing on 26 per cent and 52 per cent of total water use respectively (Butterly, 2012). Water use is expected to treble in the next 25 years (Barber and Jackson, 2012) with the greatest increase occurring in mine dewatering discharge.

As a consequence of this mining boom, the Pilbara population of approximately 45,000 is expanding. Taken as a whole, the Pilbara indigenous population of 6,000 is young, relatively under-educated, under-employed, and growing rapidly (Taylor and Scambary, 2006). It is internally differentiated into language and/or territorial groupings. Indigenous people are by far the most consistent long-term residents of the area, and so they bring a particular perspective when engaging with other more recent and/or more transient residents in the area. The rapid growth and low education levels in this population present ongoing challenges for employment aspirations. They also present challenges for establishing effective consultation and decision-making processes that account for indigenous people’s collective rights, interests, and aspirations with regard to ongoing resource development.

In the water-scarce Pilbara region, where indigenous claims to land are increasingly recognized by the Australian state, Rio Tinto is a major operator. Rio Tinto has therefore sought to better understand indigenous values and interests in land and water. It is also the only Australian company to have publicly committed to free and prior informed consent, which is a basic tenet of the UN Declaration on the Rights of Indigenous Peoples (CAER and Oxfam, 2013).

Rio Tinto’s iron ore business (hereafter RTIO) has adopted a policy of settling commercial agreements and Indigenous Land Use Agreements with all of the traditional landowner groups within the footprint of its operation and
proposed growth in the Pilbara for the next forty years (Gawler cited in Barber and Jackson, 2011a). Where mining and exploration activities or compulsory acquisition are proposed over land subject to a native title claim, indigenous groups have a right to negotiate. However, this is not the case where regulatory action relating to water is proposed; in this instance, there is only a right to comment on a water management proposal (Tan and Jackson, 2013). This means that the primary motivations of companies to better address water values in their operations has emerged not from legal requirements but from a desire to proactively manage current and future impacts.

RTIO’s interest was one aspect of a more comprehensive initiative to improve its water management in light of likely water shortages and localized water excess. The company found that approvals processes, including environmental impact and heritage assessments, had not provided an adequate forum for it to engage with indigenous people over water use and management. Environmental and heritage assessment processes also failed to enable RTIO to be appraised of specific concerns and issues held by the indigenous population and to negotiate collaborative water management practices that address indigenous values and priorities (Janina Gawler, pers. comm.). Aware that its regional use of mine water was projected to increase dramatically (60 per cent by 2020) and that the company needed to have a sound understanding of the likely social impacts, RTIO engaged the authors to document indigenous values and interests in water and to suggest some pathways for improved engagement between the company and communities about water management issues. The methodology employed in that study is described by Barber and Jackson (2011a).

3.2. Indigenous water values and issues relating to mine water management

Indigenous people interviewed by the authors expressed a number of primary concerns including the general drying of the country, obstruction of water flow, over-extraction, impacts from inappropriate dewatering discharge, access restrictions to major water sites, downstream and wider catchment level impacts from mine activities, and obligations to subsequent generations to maintain the country. Many of those interviewed portrayed the mines as a force that exacerbates the problems caused by previous dam developments and extractions for towns. Negative and cumulative changes to the country at specific sites were seen in the light of other observed changes: the overall sense that the country itself is drier than it was prior to the commencement of mining in the 1960s.

There was acknowledgement that large-scale mining has been demonstrably destructive of areas in the Pilbara landscape and that this damage is an important issue (Barber and Jackson, 2011a; 2011b). Water is associated with the most powerful creative beings in the indigenous world. The creative ‘mythical essence’ left by the ‘dreaming’ beings remains in all Pilbara water sources – rivers, creeks, soaks, pools and springs (Rumley and Barber, 2004). The rivers represent the paths taken by ancestral beings who are the “creators, instigators, and founders of traditional ritual practice” (Palmer, 1977). Water itself is integral to the lives of indigenous people in the Pilbara and many of those interviewed spoke about its overarching significance (Barber and Jackson, 2011a; 2011b). The following statement made during an interview with the second author is illustrative:

“All our river systems should be looked after; our water should be respected and treated as the most sacred and precious resource. When all our rivers are dead, everything else will also be gone…for traditional owners it is our homes, our heritage, our spirit and our souls, it is our essence of being” (Marnmu Smyth, Marcus Barber’s field notes).

An ongoing sense of custodial responsibility and ownership of water was expressed by traditional owners who have responsibilities not only to protect water sources, but also to those who are interconnected by water flows, as well as to future generations. These obligations and responsibilities are challenged by current circumstances, particularly where developments may have major downstream impacts. Downstream effects may include pollutants and impacts on water quality, or loss of water from the watercourse or catchment through dewatering.

Dewatering near a sacred spring at Weeli Wolli Creek formed a flashpoint for the intersection of competing value systems a few years ago. Discharge of surplus from RTIO’s Hope Downs I mine began in 2007, creating a new impact zone in this highly significant area. The issue has been subject to considerable scrutiny and, in response, RTIO established a co-management board with traditional owners and mine staff. The board serves as a forum for discussing ways to mitigate the social and environmental impacts arising from extending the creek almost twenty kilometres further than the pre-mine limit.

Local and regional perceptions of the sector have altered through recent efforts by mining companies to consult with traditional owner groups about managing development, to engage indigenous people as employees, and to
negotiate agreements including long-term cash and other benefits from mining activity. As a result, a range of issues were raised during our research about consultation, decision-making, and governance relating to mining in general, and to water and environmental management in particular.

Indigenous people in the area revealed a perception that mining companies (including RTIO) have information relevant to water management that they are not sharing, and that this information is potentially crucial to indigenous people attempting to make informed decisions about developments, the impacts of developments, and how they should be managed. Those interviewed felt that RTIO was not undertaking an equivalent process of knowledge-sharing which left them uncomfortable with decisions reached and agreed to during consultation processes. Given the scale of water use and its projected expansion, the ‘atmosphere of ignorance’ generates fear and stress. Furthermore, the visibility of some water use on mine sites, both for processing ore and suppressing dust, was seen as evidence that companies do not value water sufficiently, and as a consequence waste large amounts.

The potential economic possibilities which could emerge from dewatering operations have been a topic of discussion for some years, but few viable business models have been proposed. So far, the proposals investigated by mining companies (e.g. growing pasture for cattle) have not aligned well with local indigenous priorities. An indigenous corporation, the Ashburton Aboriginal Corporation at Tom Price, has attempted to more closely match proposals with local aspirations for autonomy, self-sufficiency, flexible employment, and obtaining value from water resources. It has done this by experimenting with the use of mine water discharge to grow oil-rich plant crops which can then be harvested for biodiesel. This business model incorporates low-technology small-scale biodiesel production that can be carried out in remote communities to supply generators and trucks, assisting people in their aspirations to live in these areas. Although the volume of water used in this process is small compared with the total dewatering discharge, its alignment with indigenous aspirations makes the application locally significant.

Support for this kind of initiative is entirely consistent with the commercial agreements, or standards, that RTIO has negotiated with a range of Pilbara Native Title groups. These standards are commercial contracts between the company and the relevant indigenous groups and cover three major areas: employment and training, business development and contracting, and cultural heritage management. The contracts specify the obligations of both the corporation and the landowning groups for ensuring the issues they cover are managed appropriately, and include penalty clauses should these obligations not be met. As commercial contracts, the standards are stronger than CSR policies and strategies or aspirational sustainable development targets. Existing agreements encompass inter alia mining exclusion zones and the co-management of the Weeli Wolli sacred spring but otherwise do not as yet have a strong water focus.

3.3. Agreements as a framework for addressing concerns about water

The study made a number of recommendations to establish better communication flow, equivalence, and trust in relationships. Building trust by sharing relevant and appropriate knowledge was regarded as a crucial first step in reaching an understanding of indigenous water values, supporting the expression of those values more effectively in the company’s management approach and in ensuring that agreements endure. It recommended that RTIO build on its experience in negotiating commercial agreements with traditional owners to embrace four key areas reflecting local water values and the concerns expressed by the community about mine water use and management:

- To exchange knowledge around values and address value differences
- To commit to water reductions
- To develop employment and livelihoods in water-based activities
- To expand co-management arrangements and support environmental stewardship (e.g. water monitoring groups).

Actions taken to address these commitments are best undertaken within the framework of an agreement. This is because the actions are essentially a process for establishing a relationship, developing shared understandings, and exploring binding means for mitigating negative effects and maximizing beneficial impacts. It was suggested that RTIO should begin a process of discussion with other parties in its agreements about how to aid information flow, knowledge-sharing, and future decision-making around water. In terms of establishing equivalence in a dialogue with indigenous people, we argued that it would be productive for RTIO to generate a statement about its own water values – how and why water matters to the company, its operations, and its people. Alongside statements of current water-use levels, the company also needed to communicate clearly how that use aligns with existing water strategies and
Doing this would enable a clearer analysis of where the differences and similarities lie in the respective approaches to water issues. Making RTIO water values, priorities, and interests explicit alongside those of indigenous people would also facilitate understanding of why particular situations and/or management responses might be valued differently by the company and indigenous people respectively. This would provide better foundations for communication and collaborative management; indeed, it is essential to those foundations. A proactive approach to water use and management would need to incorporate clear commitments to ongoing technical and behavioural innovations in water conservation and efficiency as a key business priority. This would be a critical component of the CSR agenda of RTIO, as well as a foundation for its relationship with traditional owners of the region in which it operates.

In enacting CSR and indigenous employment strategies, companies need to foster a range of employment pathways. In our study, we argued that employment initiatives may be extremely important in indigenous water management agendas with regard to mine discharge. Many indigenous people have aspirations to live on and/or look after their own country, and from the perspective of the people involved, these aspirations may be practically or philosophically incompatible with direct employment in the mining industry. Yet direct employment is an objective which is currently given strong emphasis in RTIO’s commercial agreements with native title holders. Nevertheless, RTIO can still make a substantial impact through actions which facilitate productive economic activity outside of its own operations. The Ashburton Aboriginal Corporation biodiesel project which has been supported by RTIO is a good example of this kind of impact. Support for that initiative may simply involve enabling the use of excess water from RTIO’s mine at Tom Price, but that act alone may have a whole range of flow-on multiplier effects that improve local indigenous economic capacities and residential autonomy.

The report recommended that RTIO simultaneously evaluate its indigenous employment and land and water management strategies, recognizing that the two are significantly interlinked in the aspirations of many local people. Opportunities to support indigenous land and water management activities in ways that create employment pathways should be pursued. Such pathways may be within the company, in partnership with it under co-management arrangements, or facilitated by indirect company support. They may also include emerging natural resource management and fee-for-service environmental activities that are highly compatible with indigenous cultural and land management priorities (Jackson and Palmer, 2014). Agreement-making processes can provide the foundation upon which to build environmental co-management arrangements at mine sites or areas affected by dewatering activities.

4. Conclusion

The world-wide ‘explosion’ of agreement-making is especially prevalent in the mining sector (O’Faircheallaigh, 2013): a sector where impacts on water quality and quantity are among its most socially contentious aspects. Agreements offer a framework to negotiate free and prior informed consent based on sound information about the impacts of mining activities on water resources as well as on indigenous peoples’ culturally specific values. Within agreements there is also a growing emphasis on mitigating the negative impacts of mining, including through landowner and/or community participation in environmental management and in planning mine closures.

The legal framework in which relationships develop and operate can serve as a both a barrier and a stimulus for productive relationships and the flow of benefits to communities (Godden et al., 2008). The role such frameworks play depends on the strength of indigenous peoples’ legal rights in the state in which the prospective resource is located and how well these rights reflect international human rights law (Kemp et al., 2010). However, in many countries, operating to the letter of the law will be insufficient for establishing the relationships and agreements required for an enduring licence to operate a mine (Hodge, 2014). Establishing such relationships will require companies and government to pay attention to the notion of equal bargaining power across all parties, and to take additional steps not specified in legal frameworks, such as clarifying key values and principles to assist communication and collaboration.

Our recommendation that corporations undertake structured and holistic reflection on the multiple values of water to their business and then generate formal statements of that value can have a threefold effect. These actions can simultaneously create deeper corporate understanding of: one, the importance of water as a resource; two, the processes indigenous people are required to undertake when asked to provide collective statements about their natural resource values; and three, the synergies, complementarities and divergences between corporate and local indigenous statements of value. This understanding provides the foundations for successful dialogue; and according to Hodge (2014), it is culturally sensitive dialogue, and action based on such patient dialogue, that are the hallmark of today’s
successful mining ventures.

The Australian example also demonstrates that further research and policy attention is required to build an empirical knowledge base which can realise the potential for agreements to more effectively protect and advance indigenous water values. The collection, review, and analysis of case study data from specific mining operations will assist in evaluating good and bad practices in cases where both indigenous opposition and agreement exists (and sometimes exists simultaneously). Such evaluations should aim to elicit prerequisites and methods of monitoring, measuring, and evaluating agreement outcomes. In so doing, they will increase understanding of the conditions needed for generating and sustaining indigenous peoples’ agreement, as well as the barriers and inhibitors to such agreement (Anaya, 2013; Langton and Mazel, 2012).

Acknowledgements

The research described above was funded by Rio Tinto Iron Ore and we wish to acknowledge the considerable assistance of Rio Tinto Communities and Water Strategy staff. A number of indigenous organizations greatly facilitated the research, in particular the Yamatji Marlpa Aboriginal Corporation. In producing the article, the first author would like to acknowledge the Australian Research Council’s Future Fellowships funding scheme (project FT130101145). The views expressed herein are those of the authors and are not necessarily those of the Australian Research Council. We also thank the reviewers of the At the Confluence for their comments.

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