Australian Accounting Review

Accounting for Contaminated Sites: How Transparent are Australian Companies?

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This paper identifies three high profile Australian companies that are known to be in control of land that is subject to significant site contamination. Following a description of various Australian financial reporting requirements pertaining to site-remediation obligations, the paper assesses whether the companies appear to comply with the respective reporting requirements. The results indicate that minimal or no disclosures are made by the companies in relation to various contaminated sites, even where this represents an apparent non-compliance with statutory reporting requirements.

Introduction

Particular sites will inevitably become contaminated with various pollutants. Depending upon the industry in which an entity operates, the environmental standards required and/or applied, and the environmental management systems in place, the likelihood that sites will become contaminated will be higher in some industries than others.

This paper represents the second part of a broader study exploring Australian corporations' disclosure practices as they relate to contaminated sites. The first part of the broader study described the processes that must be undertaken to identify Australian contaminated sites. This research, which culminated in a paper entitled 'Finding information about contaminated sites in Australia – There has to be a better way' (Deegan and Ji 2008), revealed that publicly available sources of information are widely dispersed between various state and local government agencies and departments, and when considered together, provide incomplete information about contaminated sites in terms of their location, the extent and nature of the contamination, and the parties responsible for the contamination. Nevertheless, the authors were able to identify a limited number of organisations that are directly linked to contaminated sites. The second part of our research, which is the focus of this paper, investigates the disclosure practices of three publicly listed companies that have been identified as being in control of contaminated sites. Particular emphasis is placed on determining whether disclosure practices, as they relate to remediation-related obligations, appear to be in accordance with accounting standards, corporations Australian Law, and Securities Exchange (ASX) reporting requirements.

In reviewing the disclosure practices of a sample of companies, the research documented in this paper will not seek to utilise particular theoretical frameworks to ascribe motivations for particular disclosure practices (as do, for example, various *positive* studies[1] such as Patten 1992; Deegan and Blomquist 2006; O'Dwyer 2002). Nor will it seek to provide prescriptions for how organisations *should* account for, or 'cost' the

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externalities associated with contaminated sites (for example, see various *normative* studies[2] such as Gray 1992; Bebbington and Gray 2001). It will not evaluate whether existing disclosure requirements appear to satisfy the information needs of particular stakeholder groups (see, for example, Deegan and Rankin 1997; Unerman and O'Dwyer 2007; O'Dwyer et al. 2005). Rather, our research has a *compliance focus* in that we are seeking to explore whether Australian companies known to have a number of contaminated sites appear to be making disclosures that comply with Australian regulations pertaining to contamination-related financial obligations.

There are various definitions of a contaminated site used in different countries, states, and across organisations. According to the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, 'contamination' means:

> the condition of land or water where a chemical substance or waste has been added at above background level and represents, or potentially represents, an adverse health or environmental impact. (NEPC 1999b: 2)

'Site' is defined as 'the parcel of land being assessed for contamination'. The definition of 'site' is broader than just the land on the site, as it includes groundwater and underground water associated with the land. In Australia, each state or territory has its own legislation to regulate environmental issues, and the definitions of 'contamination' and 'site' vary from state to state. However, the meanings are generally consistent.

Related to the notion of a 'contaminated site' is the action that might be required to eliminate the impacts of the contamination. This is variously referred to as 'remediation' or 'clean up'. Where a site is contaminated, a general expectation is to remediate or clean up the site. The remediation process generally involves preparing and completing a management plan to achieve a desired level of remediation set either by environmental authorities, or the organisations themselves.

The estimated total number of contaminated sites in Australia varies from 80 000 to 200 000 (Australian Associated Press 2004; Australian Mining 2004; Beeby 2003; Canberra Times 2004; Hamblin 2001; NEPC 1999a; Yaman 2004). According to an ANZAC Fellowship Report (Natusch 1997), there were an estimated 30 000 potentially contaminated sites in both New South Wales and Queensland, 10 000 sites in Victoria, and 4000 sites in South Australia and Western Australia. The Northern Territory was also thought to have 1000 contaminated sites while both Tasmania and the Australian Capital Territory had 500 contaminated sites (NEPC 1999a).

Whilst there are many contaminated sites within Australia, the presence of contaminated sites is also a significant problem worldwide. It was estimated that at the turn of the century there were about US 1.5 million highly contaminated sites in the United States (Hamblin 2001), and in 2007 there were 1623 Superfund[3] National Priorities List sites on the United States Environmental Protection Agency's website (United States Environmental Protection Agency 2007). Other international examples include the Netherlands, which has identified 100 000 potentially contaminated sites, of which 10 000 sites were confirmed as contaminated (ANZECC and NHMRC 1992; NEPC 1999a). Austria has identified 24 155 potentially contaminated sites of which 1870 sites were registered on a national register by 1996 (Wise et al. 2000). There are over five million contaminated sites in Asia (Australian Mining 2004). It has been estimated that the cost of cleaning up contaminated sites in Australia is at least $8 billion, and at least $750 billion worldwide (Beeby 2003). Given the volume of contaminated sites throughout the world, and the related remediation obligations, it does seem to be a worthwhile exercise to explore how, or if, organisations are reporting information about the contaminated sites with which they are associated.

The balance of the paper is organised as follows. We firstly review previous research relating to environmental liability disclosure by corporations. Our research highlights a general lack of research about Australian corporations' disclosure practices as they pertain to environment-related obligations. Nevertheless, overseas research is available and highlights a propensity for firms to under-disclose information in relation to the contaminated sites for which they are responsible. Following the discussion of prior research we identify the specific research question to be answered within this research. We then consider the financial reporting requirements in place within Australia as they pertain to the disclosure of information about contaminated sites. Research methods are then established in an attempt to explore the apparent compliance of a sample of three Australian companies (which we identify as being responsible for a number of contaminated sites) with Australian financial reporting requirements. In the results section, and consistent with previous overseas research, we show that Australian companies appear to be failing to comply with financial reporting requirements when it comes to disclosing information about the obligations associated with contaminated land. The last section of the paper provides concluding comments and some suggestions for future research.

Prior Research

Our intention is to review the disclosures made by a sample of companies known to have contaminated sites. We are seeking to determine whether the sample companies appear to be conforming with existing

Australian disclosure regulations as they could apply to contaminated sites, particularly in relation to obligations for remediation. We are not evaluating the level of accountability demonstrated by the sample companies beyond that required by law. Regulation provides the minimum level of disclosures that a company would be expected to make, but corporate managers might elect to exceed this minimum threshold because of pressures exerted upon the organisation, or because of an acceptance by management that broader accountability and transparency is appropriate given the organisations' circumstances.

There has been a limited number of overseas research studies that have investigated the disclosure practices of corporations in relation to environment-related liabilities. These studies indicate that organisations often fail to disclose, within their annual report, details of what appear to be material financial obligations relating to environmentally-contaminated sites. No such studies are known to exist within Australia.

In a study of the disclosure practices of Scottish companies, Gray et al. (1998) found a lack of disclosure in relation to matters associated with the environment. Financial materiality was often cited as the reason for corporations electing not to disclose information about their environmental commitments – that is, the environment-related obligations were considered to be relatively small (and therefore not relevant to report readers) when compared with the total liabilities of the respective entities. The researchers found that only a very small proportion of Scottish companies provided environment-related financial disclosures in their financial reports. Gray et al. also discussed the required practice of discounting (to present value) future obligations. This practice reduces the present value of future obligations, thereby reinforcing corporate decisions not to disclose environment-related information on materiality grounds. At the centre of Gray et al.'s analysis is the issue of corporate accountability and the authors concluded that the disclosures being made were not of a standard to enable interested readers to gain an informed insight into the sample's environmental performance or related financial obligations. Further, the authors considered that the level of accountability demonstrated did not appear to achieve the minimum levels required by the spirit of the disclosure regulations then in place. In a Spanish study, Moneva and Llena (2000) reviewed the annual reports of 70 Spanish companies operating in environmentally sensitive sectors. Consistent with the Scottish study of Gray et al. (1998), Moneva and Llena (2000) concluded that there was 'very limited' environment-related financial data disclosed.

There are also a limited number of US-based studies which examine Superfund cleanup cost disclosures. Rockness et al. (1986) reviewed annual reports between 1980 and 1983 of 21 companies in the chemical industry and found that none of the companies mentioned their Superfund sites or any potential liabilities that may result from related cleanups. This was despite the fact that evidence indicated that many of the obligations were very material from a financial perspective. In a later US study, Northcut (1994) investigated the disclosure practices of 72 chemical firms during a six-year period from 1987 to 1992. The sample firms' Superfund liability disclosures were found to be deficient relative to what the authors considered necessary to comply with existing disclosure regulation. Barth and McNichols (1994) also provided results that showed that information about potentially large and material obligations pertaining to Superfund liabilities was often missing from companies' financial statements – also in an apparent breach of generally accepted reporting requirements.

Based on the 1987 National Priorities List[4] provided by the EPA, and information obtained from 1987 Form 10-K filings, Freedman and Stagliano (1995) examined annual reports of 193 firms that were potentially liable for Superfund-related obligations. It was concluded that a number of publicly owned companies that were potentially responsible parties did not disclose this information in their annual filings with the Securities and Exchange Commission (SEC), despite mandatory requirements to do so. The authors raise the issue of the apparent (and apparently inexplicable) lack of enforcement of these requirements by the SEC. Furthermore, firms that did disclose information failed to provide data in a way that the authors considered would inform financial statement users as to the potential impact of the sites on the financial position and performance of the respective organisations. In a further study, Leary (2003) examined the extent to which Fortune 500 firms disclosed environmental liabilities as required by generally accepted accounting principles during the years between 1991 and 1997. Leary (2003) reported inadequate recognition and disclosures pertaining to environmental liabilities by the sample companies. As was the case with a number of previous studies, the author highlighted the apparent need for disclosure enforcement by the SEC.

Motivated by evidence that mining companies were mostly responsible for generating toxic pollution within the US, Repetto (2004) researched the financial disclosure practices of 10 large mining companies in the US and Canada – all of which were known (through various searches conducted with government agencies) to have significant environment-related financial obligations. He found deficient disclosure with obligations typically being understated or not disclosed. The non-compliance by the companies had the effect of concealing potentially material future cash outflows and damaged revenue streams. Again, as with other authors, Repetto (2004) urged the need for stricter enforcement of existing

corporate disclosure requirements in the US and Canada.

What the above studies have in common is a finding that organisations did not demonstrate a level of accountability for their environment-related obligations that appeared to comply with the spirit of existing disclosure regulations, let alone the broader levels of accountability considered appropriate by some of the authors. Our research question within the Australian context is: In respect of remediation obligations associated with contaminated sites, do Australian corporations appear to comply with relevant financial reporting disclosure requirements?

As noted in the prior research section, there is a general lack of research about Australian corporations' disclosure practices pertaining to environment-related obligations. This paper seeks to address this gap. Arguably, given the evidence available internationally, we might otherwise speculate that Australian disclosure practices will be similarly deficient. The evidence provided in this paper removes the need for such speculation.

Australian Disclosure Requirements

As indicated above, the next part of our research was to identify the relevant Australian reporting requirements as they relate to financial obligations associated with contaminated sites. We will then investigate whether Australian companies comply with those requirements. It should be stressed that the recognition of obligations, or liabilities, is not restricted to situations where there is a legal obligation to undertake particular activities. Generally accepted accounting principles require that liabilities should also be recognised in situations where equity or usual business practice dictate that obligations to external parties exist (see paragraph 60 of the *AASB Framework for the Preparation and Presentation of Financial Statements*). Therefore, if it is considered that an organisation has an obligation – legal, constructive or equitable – to remediate a site, there is a general expectation that the obligation would be shown in the entity's financial statements (to the extent that it satisfies three other general 'tests', these being that the item is deemed to be 'material', will lead to a 'probable' resource outflow, and is measurable with reasonable accuracy).

An entity may operate in a country or a state where environmental legislation does not exist, or where there are no enforcement policies to require sites to be remediated. In such a situation there are no legal requirements for the entity to remediate a contaminated site. Within Australia, different states have different powers to legally enforce site remediation (for example, within South Australia (SA), and until 1 July 2009, environmental protection legislation was perceived as inadequate to manage site contamination issues (SA EPA 2003; 2004; 2005; 2007). Companies operating in SA were not legally bound to remediate land even where contamination had occurred. Nevertheless, under generally accepted accounting principles, this lack of legal obligation does not preclude an entity from recognising an obligation in its statement of financial position. For example, if the entity has a widely known environmental policy in which it claims to accept responsibility for its environmental performance, inclusive of cleaning up all contaminated sites that it controls, then this would be consistent with the existence of a constructive obligation, and a liability should be recognised for financial reporting purposes. Further, an entity might have a track record of honouring its commitments to looking after the environment and this would arguably create an expectation that it will remediate the contaminated site.

Within Australia, corporate annual reports must comply with the *Corporations Act (2001)* Cwth, relevant accounting standards and, if the entity is listed, then also with the Listing Requirements of the Australian Securities Exchange. With a limited number of exceptions, there is a general paucity of requirements that specifically require corporations to provide information about their environmental performance and related impacts. Nevertheless, there is a general requirement, described above, that legal, equitable or constructive liabilities be disclosed within financial statements (or notes thereto).

One relevant section of the *Corporations Act* is section 299(1)(f). It requires that in the directors' report, which must be included within the annual report, directors must give details of the entity's performance in relation to environmental regulations 'if the entity's operations are subject to any particular and significant environmental regulation under a law of the Commonwealth or of a State or Territory'. To provide guidelines for reporting, the Australian Securities and Investments Commission issued *Practice Note 68* in 1998. Paragraphs 72 to 75 of the Note specify that the accounting concept of materiality does not apply when complying with section 299(1)(f). Whilst highlighting non-compliance with environmental laws, this section does not require corporations to disclose the financial impacts of the non-compliance. Nevertheless, where the contamination of land is associated with a breach of an environmental law, or subject to a cleanup notice issued by an environmental authority, we would expect some description of the activity and associated breach of the environmental law.

Section 299A of the *Corporations Act* is also relevant. Under this provision, which applies to annual reports of listed companies released from 2005, listed companies are required to include in the directors' report any information that shareholders would reasonably require to make an informed assessment of:

- the operations of the company reported on;
- its financial position; and,
- the company's business strategies and its prospects for future financial years.

The Explanatory Memorandum to section 299A (released by ASIC) indicated that directors are expected to consider best practice guidance such as the *Guide to the Review of Operations and Financial Condition* prepared and published by the Group of 100. This guide refers to both the disclosure of financial as well as non-financial information, and the inclusion, where appropriate, of sustainability measures, including social and environmental performance indicators. Again, however, there is no specific requirement to disclose financial impacts. Hence, if the future remediation of land is likely to create material implications for an organisation's financial position then we would expect to find some form of description in compliance with section 299A.

Corporations within Australia are required to comply with accounting standards by virtue of section 296 of the *Corporations Act*, which requires a company's directors to ensure that the company's financial statements for a financial year are made out in accordance with accounting standards. Two accounting standards of direct relevance to our discussion are AASB 137 and AASB 116.

Pursuant to AASB 137 *Provisions, Contingent Liabilities and Contingent Assets*, obligations relating to environmental performance could be considered to be either included in 'provisions' or 'contingent liabilities', depending upon the circumstances. Provisions will appear within the statement of financial position, whereas contingent liabilities are restricted to the notes to the financial statements. The defining characteristic of a 'provision', as opposed to other 'liabilities', is that the timing of the ultimate payment, and perhaps the amount of the ultimate payment, are uncertain. In describing provisions, paragraph 11 of AASB 137 states 'Provisions can be distinguished from other liabilities such as trade payables and accruals because there is uncertainty about the timing or amount of the future expenditure required in settlement'.

Such a description would arguably coincide with the obligations many entities would have in relation to contaminated sites. The accounting standard makes it explicit that some uncertainty about timing and amount is acceptable when recognising a provision. In relation to when provisions are to be recognised, paragraph 14 of AASB 137 states:

> A provision shall be recognised when:
>
> (a) an entity has a present obligation (legal or constructive) as a result of a past event;
>
> (b) it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and
>
> (c) a reliable estimate can be made of the amount of the obligation.
>
> If these conditions are not met, no provision shall be recognised.

There are two important components in the above recognition criteria, these being the issues associated with the *probability* of the resource outflow, and the *reliability* with which the item can be measured. If an entity considers a future resource outflow less than likely, then no provision would be disclosed. Similarly, if they argue that an obligation cannot be reliably measured, then no provision will be recorded. There is no clear guidance in AASB 137 about how 'reliability' is to be determined in relation to provisions such as those relating to the remediation of contaminated land. Such assessments are based on professional judgement, and the implication is that organisations can, perhaps in a less than objective manner, utilise the *lack of probability* argument, and the *inability to provide a reliable measurement* argument, as a reason for not recognising a liability.

Obligations associated with site remediation arguably create unique problems for accountants. For example, there will be uncertainties relating to the extent of expenditure that will be required to remediate a site, and the timing of such expenditure. These uncertainties might dissuade the accountant from including the obligation within the financial statements. Furthermore, the remediation process can take many years, remediation technologies may change, and the regulations and environmental standards may change, further contributing to associated uncertainties. Taken together, such factors suggest that estimating current obligations to remediate contaminated sites requires a greater degree of professional judgement than might be required in relation to many other financial obligations.

Where it is considered that a future obligation is *probable* and capable of *reliable measurement*, a further issue to consider, and which might be used to justify the non-disclosure of an item, is the item's *materiality*. Both the AASB Framework and the accounting standard AASB 1031 *Materiality* note that the relevance of information is affected by its nature and materiality. Materiality assessments are based on professional judgement which in turn is influenced by the accountant's perceptions as to who are the readers of the financial statements, and what are the readers' information needs. As Gray et al. (1998) and Deegan (2010) report, 'materiality' appears to be utilised by corporations, sometimes somewhat opportunistically, to justify a decision not to disclose information about environment-related obligations.

Given our current accounting standards it is possible that some parties, again perhaps motivated by opportunism, may argue that the estimates about *timing* and *amount* of expected future cash flows create such uncertainties that the inclusion of related provisions in the statement of financial position would undermine the reliability of the financial information. However, paragraph 25 AASB 137 states that:

> The use of estimates is an essential part of the preparation of financial statements and does not undermine their reliability. This is especially true in the case of provisions, which by their nature are more uncertain than most other statement of financial position items. Except in extremely rare cases, an entity will be able to determine a range of possible outcomes and can therefore make an estimate of the obligation that is sufficiently reliable to use in recognising a provision.

Therefore, if a present obligation exists in relation to a contaminated site, only 'in extremely rare cases' should the obligation not be recognised. Hence, we would expect to find, later in this paper, that companies identified as having significant obligations associated with remediating contaminated sites will recognise and disclose associated provisions for remediation – again, a failure to do so should only occur in 'extremely rare cases'.

As already indicated, AASB 137 specifically states that 'constructive obligations' will often require recognition in an entity's financial statements. Paragraph 10 of AASB 137 defines constructive obligations, whilst paragraph 21 provides some discussion of constructive obligations. Respectively, these paragraphs state:

> 10. A constructive obligation is an obligation that derives from an entity's actions where:
>
> (a) by an established pattern of past practice, published policies or a sufficiently specific current statement, the entity has indicated to other parties that it will accept certain responsibilities; and
>
> (b) as a result, the entity has created a valid expectation on the part of those other parties that it will discharge those responsibilities.
>
> 21. An event that does not give rise to an obligation immediately may do so at a later date, because of changes in the law or because an act (for example, a sufficiently specific public statement) by the entity gives rise to a constructive obligation. For example, when environmental damage is caused there may be no obligation to remedy the consequences. However, the causing of the damage will become an obligating event when a new law requires the existing damage to be rectified or when the entity publicly accepts responsibility for rectification in a way that creates a constructive obligation.

Where an obligation is dependent upon a future event, or where the amount of the obligation cannot be measured reliably at a given point in time, or it is potentially material but deemed to have a probability of occurrence of less than 50%, then the associated obligation would be considered to be a contingent liability. As there is either no probable obligation at reporting date, or no obligation that can be measured reliably, the argument is that it would be inappropriate to include contingent liabilities within the statement of financial position and the disclosure of contingent liabilities is relegated to the notes to the financial statements (unless the possibility of an outflow of resources embodying economic benefits is considered to be 'remote', see paragraph 28 of AASB 137). Each class of contingent liabilities is to be disclosed with a brief description of the nature of the liability, if practicable, an estimation of the financial effect, uncertainties relating to the timing or amount, and any possible reimbursement. If a contingent liability is not disclosed because the entity believes it is not practical to do so, the entity needs to explicitly state this fact (paragraph 91, AASB 137). Paragraph 92 of AASB 137 provides a further 'let-out' in relation to the disclosure of information in relation to provisions or contingent liabilities. It states:

> In extremely rare cases, disclosure of some or all of the information required by paragraphs 84–89 can be expected to prejudice seriously the position of the entity in a dispute with other parties on the subject matter of the provision, contingent liability or contingent asset. In such cases, an entity need not disclose the information, but shall disclose the general nature of the dispute, together with the fact that, and reason why, the information has not been disclosed.

However, as the above requirement states, the likelihood that disclosures would 'prejudice seriously the position of an entity' would be 'extremely rare' and therefore this paragraph would not provide justification for organisations with multiple contaminated sites to elect to provide no related disclosures. In any case, disclosures of a 'general nature' would still be required.

Another accounting standard of relevance is AASB 116 *Property, Plant and Equipment*. It requires that the cost of an item of property, plant and equipment include the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired, or as a consequence of having used the item during a particular period for purposes other than to produce inventories during the period. Therefore if the construction of particular plant, or its use (other than in producing inventory) causes any contamination to land, then there is an expectation that an estimate of this cost

be made at the point in time when the asset was put in place ready for use, and this cost is to be included as part of the total cost of the property, plant and equipment, with an equivalent amount being included within the liability provisions of the entity.

Having discussed the Australian financial reporting requirements relating to contaminated sites, our intention is to review the disclosures made by a number of Australian companies.[5] The next section describes the research methods employed.

Research Method

In order to determine how corporations are accounting (or perhaps, not accounting) for the contaminated sites that are in their control it is necessary to determine which organisations are actually linked to contaminated sites. After the corporations were identified, their respective annual reports were collected and reviewed to determine whether, and how, the corporations disclosed information about their contaminated sites, and whether the disclosures (or non-disclosures) appear to be in compliance with relevant financial reporting disclosure requirements.

Identifying corporations known to have contaminated sites

We undertook various search processes of a range of government agencies, non-government organisations, and news media. In summarising the search process undertaken to identify contaminated sites (and a detailed description of our search process is provided in Deegan and Ji 2008), we reviewed:

- reports associated with administrative regimes linked to legislation dealing specifically with contaminated sites (for example, we reviewed contaminated sites registers from various states and territories);
- reports and websites produced or controlled by government bodies, such as environmental protection agencies (for example, we reviewed the annual reports of various environmental protection authorities throughout Australia);
- reports and websites of environment-focused non-government organisations (for example, we reviewed the websites of, and various reports issued by, the Australian Conservation Foundation, Greenpeace Australia Pacific, Clean-up Australia, and the National Toxic Network);
- databases associated with the print media (we used Factiva to identify media articles addressing contaminated sites).

As reported in Deegan and Ji (2008), it is extremely difficult within Australia to find information about contaminated sites, despite various *right-to-know* arguments that are raised. There are no centralised registers and the management of contaminated sites is the responsibility of various state and territory and local council bodies and agencies – all of which fail to coordinate any form of consolidated data. Where contaminated site registers do exist (and not all states have them), the number of sites listed on the registers ranges from a few hundred in some states, to none in other states. This is despite the tens of thousands of contaminated sites that are believed to exist throughout Australia. Where sites are identified in some jurisdictions, there is often a failure by the relevant agency or authority to identify the responsible party.

Because we were seeking to evaluate the disclosure practices of companies that are known to have contaminated sites, and because of issues associated with access to annual reports across various years, we restrict our review to publicly listed companies. As a result of our search process we identified three listed companies that were clearly associated with a number of highly contaminated sites, these companies being Wesfarmers Ltd, BHP Billiton Ltd and Orica Ltd. Having identified companies with highly contaminated sites, and the required reporting requirements pertaining to contaminated sites, our next step is to determine whether the organisations' disclosures are in accordance with the respective disclosure requirements.

Reviewing annual reports

In the analysis we consider each of the three companies in turn. In respect of each company we will provide general details about their history, size and industry profile. We then, by company, provide information about the contaminated sites[6] known to be under their control followed by details of the disclosures we anticipate the respective companies would make given the information we have, and the various accounting and disclosure requirements in place within Australia. We then provide details of the actual disclosures made by the companies in respect of their contaminated sites, and whether, in our opinion, the companies appear to be complying with the spirit of Australian corporate disclosure requirements. As we will document, the evidence shows that, consistent with overseas results, the Australian companies in our sample generally fail to provide information sufficient to allow financial statement readers to understand the extent of the companies' financial obligations pertaining to contaminated sites.

Whilst we reviewed the reports in detail to find related disclosures we also utilised a search function to search for the key words 'provision', 'contingent', 'cleanup', 'environment', 'remediation' 'site' and relevant site names. Based on the search results, relevant

environmental provisions and contingent liabilities were identified and examined. Apart from reading the text where the above search words were located we also thoroughly examined the four sections of the annual reports previously discussed in Section 3 of this paper, these being the directors' report, accounting policy notes, provisions recorded in the statement of financial position, and details of provisions and contingencies provided in the notes to the financial statements.

Results

In the discussion that follows we consider each of our three sample companies in turn.

Wesfarmers – the company

Wesfarmers is one of the top 100 companies listed on the ASX. Originally named the Western Australian Farmer's Co-operative in 1914, it has expanded its interests to include home improvement products and building supplies, coal mining, gas processing and distribution, industrial and safety product distribution, chemicals and fertilisers manufacture, and insurance (Wesfarmers 2006a: 1). Publicly available information indicates that Wesfarmers has a number of contaminated sites that requires remediation. These sites include:

- CSBP former Cresco fertiliser site at Bayswater;
- Sotico Pemberton timber mill;
- Sotico Manjimup timber treatment processing centre;
- CSBP Kwinana ammonia plant; and
- Other sites resulting from oil spillages (such as Karratha, Carnarvon, Port Hedland and four former Kwik Fuel sites).

Among these sites, the CSBP former Cresco fertiliser site and the Sotico Pemberton timber mill site have attracted significant media attention. Details of the two sites follow.

Details of contaminated sites – Wesfarmers

CSBP former Cresco fertiliser site, Bayswater, WA

Cresco manufactured fertiliser products, such as superphosphate and sulphuric acid, on the site from 1928 to 1970. In 1970 CSBP, a subsidiary of Wesfarmers, bought the site and continued manufacturing until 1990. This site attracted significant media and community attention after local residents were warned on 21 March 2003 by the Department of Environmental Protection (DEP) not to use bore water, as test results showed the groundwater might be highly contaminated with arsenic and other heavy metals (Australian Broadcasting Corporation 2003; Banks 2003; Kennedy 2003; Pennells 2003; Southwell 2003c). CSBP accepted full responsibility for cleaning up the site. The managing director stated (Southwell 2003a) that CSBP had spent between $5 million and $6 million on physical works and research to cleanup the site, and was preparing to spend $20 million on site remediation (Southwell 2003g). State and local authorities had known about the contamination from the site for a decade but since then limited action had been undertaken to remediate the contamination (Southwell 2003b).

The remediation plan submitted to DEP by CSBP was criticised by green groups and the media as the remediation was proposed to begin between late 2004 and 2008, giving CSBP up to five years to begin work after the waste management plan was submitted to DEP. On 17 September 2003, the DEP published a media release entitled 'Action required by CSBP to prevent river contamination'. It had found that contaminated ground water from the site had not affected the Swan River, but it could reach the river without proper control. Also, the Department claimed if the control was effective in preventing off-site contaminant movement, no enforcement actions would be taken at that time.

On 7 June 2005, the Environment Protection Authority (EPA) released an announcement to give the green light on the final remediation works proposal for the site by CSBP. After the remediation, the view was that the site would be suitable for further commercial or industrial use (Australian Broadcasting Corporation 2005). A groundwater treatment plant was commissioned in October 2004 and soil remediation began in February 2006 (Wesfarmers 2006b; 2007b).

Pemberton timber mill, formerly owned by Sotico (Wesfarmers' subsidiary)

The DEP had known about the contamination of the Pemberton timber mill site since 1989. The contamination relates to operations at the mill as far back as 1915 when it was operated by WA, where arsenic in molasses or creosote was used until 1949. British-owned Hawker Siddeley took over the site in 1961 and in 1970 sold it to Sotico, part of the Wesfarmers group. Pentachlorophenols (PCP) in furnace oil had been used to treat timber by Sotico from 1982 to 1987. There was over 750 tonnes of toxic sludge containing arsenic, oil, polycyclic aromatic hydrocarbons and PCP dumped in two pits near the mill, which posed threats to human health and the environment (Southwell 2003d; 2003e; 2003f; Southwell and Dortch 2002).

A cleanup agreement was prompted by the sale of the mill to Auswest, which sought indemnity against future costs associated with the contamination. The Western

Australian State Government, Bunnings and Hawker Siddeley each agreed to contribute an undisclosed percentage of the undisclosed total cleanup costs. The Government accepted responsibility for all the arsenic contamination given the state operated the mill when arsenic was used on the site. Sotico would deal with PCP contamination given PCP was used on the site by Sotico between 1961 and 1987 (Australian Associated Press 2002; 2003). In 2004 Tasmanian-based Gunns Pty Ltd acquired Sotico (Taylor 2004). Wesfarmers started the remediation work in November 2006 and the work was completed in April 2007 (Wesfarmers 2007b).

Anticipated disclosures by Wesfarmers

From the evidence available, the Bayswater site was investigated by the City of Bayswater in 1993. In 1998 CSBP informed the DEP that it would produce a complete management plan and accepted full responsibility for the cleanup of the site. CSBP had known about the site contamination for decades. Prior to December 2006 there was no legislative power to force companies to clean up their sites in Western Australia (the *Contaminated Sites Act 2003* was later passed in 2003 and took effect in December 2006), hence CSBP had no legal obligation to remediate its sites in WA up until this point. Therefore, until December 2006, Wesfarmers had no disclosure obligations under the *Corporations Act* s 299(1)(f), which requires breaches of environmental laws to be disclosed in the Directors' Report.

While Wesfarmers had no legal obligation to remediate its sites in Western Australia, their Bayswater site attracted significant media attention from 2003. CSBP publicly stated its commitment to remediate the site (Southwell 2003a). This gave rise to a constructive or equitable liability. For the Pemberton timber mill site, with the sale of the mill finalised in February 2003, and the agreement that Sotico was responsible for the PCP contamination, a contractual obligation for Wesfarmers was established.

After establishing Wesfarmers' constructive obligation for the Bayswater site and contractual obligation for the Pemberton site, our next consideration was the two recognition criteria as they pertain to financial obligations, these being 'probability' and 'measurability'. The likelihood of Wesfarmers having to clean up the two sites is apparent and the outflows of resources from the organisation at a future date are probable. Our next issue is whether the outflows could be measured with sufficient reliability. With ready access to the sites, and industry knowledge about the costs generally associated with cleaning up contaminated sites, Wesfarmers should have been able to reasonably estimate the related remediation costs. The fact that the ultimate transfer of resources could not be measured with absolute certainty should not preclude the organisation from recognising a provision. In 2003 Wesfarmers estimated $20 million costs to remediate one of the sites (Southwell 2003g).

A further issue that remains is whether the remediation costs are material. Our available information is that in 2003 CSBP's managing director stated to the public (Southwell 2003a) that CSBP had spent between $5 million and $6 million on physical works and research to clean up the Bayswater site, and CSBP was preparing to spend $20 million on the site remediation (Southwell 2003g). For the Pemberton timber mill site, Wesfarmers agreed to contribute an undisclosed percentage of undisclosed total cleanup costs. As a result of the confidential agreement, the related remediation cost of the Pemberton site was not available. However, four years later in 2007 in Wesfarmers' *Sustainability Report*, Wesfarmers stated that the remediation work on the site was completed and the costs were 'more than $2 million' (Wesfarmers 2007b: 11). Publicly available information may not confirm the materiality of the remediation obligation relating to the individual sites but it is difficult to claim the remediation liabilities for all the sites under Wesfarmers control are immaterial.

Wesfarmers business activities include chemicals and fertilisers manufacturing, and mining. As broadly recognised by the Australian and New Zealand Environment and Conservation Council (ANZECC) and the National Health and Medical Research Council (NHMRC), as well as each state's EPA, the nature of these activities presents 'a higher probability of contaminating a site' (ANZECC and NHMRC 1992: 3). Wesfarmers' large scale of operation makes site contamination across a number of sites even more likely, arguably resulting in a material cleanup bill. According to paragraphs 13 and 15 of AASB 1031 *Materiality*, in order to determine whether an amount of a statement of financial position item is material, this amount needs to be compared with an appropriate asset or liability class, in this case, the total provisions. An amount of $20 million remediation cost on the Bayswater site may not be material ($20 million accounts for 6.97% of total $287 million provisions for year 2003), however it is not clearly immaterial as the amount exceeds the 5% threshold.[7] Therefore this amount falls within the range that requires further professional judgement to determine materiality.

Taking all the sites that Wesfarmers control together, the total remediation costs could be material. Additionally, the significant adverse publicity regarding a contaminated site in the media could potentially affect the operation of the business by damaging its reputation. The *nature* of the obligation itself therefore may lead

towards a view that the related obligations are material. The minimum expectation for Wesfarmers is to disclose its environment-related (including site remediation) provision as a subclass under the heading of 'Provisions' in its financial statements.

Therefore a remediation provision was expected to be disclosed in 2003, and possibly as early as 1998, when CSBP was to provide a management plan for the site. CSBP also told the media (Southwell 2003g) that it had spent between $5 million and $6 million on works and research to clean up the site, and was preparing $20 million for the remediation of the site. This would indicate that CSBP should have provided for the obligations before 2003. A contingent liability relating to the Bayswater site was expected to be disclosed prior to the 2003 financial statements.

For the Pemberton timber mill site, with the sale of the mill finalised in February 2003, and the agreement that Sotico is responsible for the PCP contamination, it was expected that in Wesfarmers 2003 *Annual Report* a relevant provision would be recognised while a contingent liability would be disclosed in previous years' financial statements. Wesfarmers' 2001 to 2007 annual reports were reviewed.

Actual disclosures by Wesfarmers

Disclosures relating to Wesfarmers' site remediation were minimal. Given the intensive media exposure and significant remediation costs (potentially $20 million for CSBP and an undisclosed amount for Sotico), it was surprising that no site contamination-related information could be identified in Wesfarmers' reports covering the seven-year period.

Directors' Report

In the Directors' Reports included within the annual reports over the seven-year period, environmental performance disclosure was very general. Instead of disclosing breaches of environmental laws as required by s 299(1)(f), Wesfarmers stated that there were no known breaches of licence conditions during the period from 2002 to 2007.

The environmental performance section of the 2001 *Directors' Report* is identical to the same section in the 2003 to 2007 reports with only one paragraph added disclosing that CSBP released arsenic into the environment. However, this is not related to remediation of its contaminated sites. The 2001 *Directors' Report* included the following:

> In May 2001, Wesfarmers CSBP Limited appeared in the Perth Magistrates Court to answer four charges related to the September 1999 accidental release of arsenic-containing solution from their ammonia plant. Three of these charges were withdrawn. Wesfarmers CSBP Limited pleaded guilty to the fourth charge, which related to the discharge of waste into the environment, and was fined $20,000 with $5,000 costs. (Wesfarmers 2001: 79)

In the 'Review of Results and Operations' section required pursuant to s 299A of the *Corporations Act*, Wesfarmers' description of its operations in the seven years was brief and general. No specific environmental information was disclosed. Despite the *Contaminated Sites Act 2003* (WA) taking effect during the 2007 financial year, Wesfarmers remained silent regarding site contamination. Wesfarmers also pointed out that if there was any information omitted from the report, the reason may be that information may cause unreasonable prejudice to Wesfarmers. As they stated:

> REVIEW OF RESULTS AND OPERATIONS
>
> The operations of the consolidated entity during the financial year and the results of those operations are reviewed on pages 2 to 36 of this Annual Report and in the accompanying financial statements. This review includes information on the financial position of the consolidated entity and its business strategies and prospects for future financial years. In the opinion of the directors, disclosure of further material relating to those matters is likely to result in unreasonable prejudice to the interests of the company and the consolidated entity. That material has therefore been omitted from the review. (Wesfarmers 2007a: 122)

The accounting policy section relating to provisions and contingent liabilities was identical in each of the seven years. In the 'Summary of Significant Accounting Policies', provisions are to be recognised:

> when the consolidated entity has a legal, equitable or constructive obligation to make a future sacrifice of economic benefits to other entities as a result of past transactions or other past events, it is probable that a future sacrifice of economic benefits will be required and a reliable estimate can be made of the obligation. (Wesfarmers 2002: 42; 2003: 51; 2004: 59; 2005: 59)

As for environmental provisions, only mine rehabilitation was addressed across the years, and the wording was identical:

> Provision is made for the consolidated entity's estimated liability under specific legislative requirements and the conditions of its mining leases for future costs (at undiscounted amounts) expected to be incurred rehabilitating areas of interest. The liability includes the cost of reclamation of the site using existing technology,

> including plant removal and landfill costs. These costs are recognised gradually over the life of each mine and any changes to the total estimated liability are recognised on a prospective basis. (Wesfarmers 2001: 41; 2002: 41; 2003: 51; 2004: 59)

Therefore, although we cannot be sure, it would appear that remediation of contaminated sites, not related to mining, is not included within any specific provisions.

Provisions and contingent liabilities

In the provision section, no information about provisions for remediation of contaminated sites was provided. Only mining site restoration was provided within current and non-current provisions. Hence, it would appear that financial statement readers have no knowledge of any site contamination, nor the associated obligations.

BHP Billiton – the company

BHP Billiton Limited, formerly BHP Limited, was incorporated in 1885. Since June 2001, BHP Billiton Limited and BHP Billiton Plc (formerly Billiton Plc) have operated as a single economic entity, under a dual listed companies (Australia and UK) structure. It is the world's largest diversified resources group. Hereafter, we will refer to the group simply as 'BHP'.

Details of contaminated sites – BHP

After 84 years of steel production, in September 1999 BHP closed down its plant in Mayfield, Newcastle. On 14 June 2001, the NSW EPA issued a Declaration of Remediation Site (Notice number 21022) for two sites (known as 'Closure Area' and 'Supply Area') of the former steelworks complex as they 'present a significant risk of harm to human health and the environment' (NSW Department of Environment and Conservation 2006). The Closure Area was transferred to the State in 2002 with a cleanup payment by BHP, but BHP remains liable for the other site, the Supply Area site. On 18 April 2006, the EPA issued a Note of Existence of Voluntary Remediation Proposal (Notice number 26059) for the BHP Supply Area site.

The cleanup costs were estimated as 'hundreds of millions of dollars' in 1999 (Harrison 1999). For the Closure Site managed by the NSW State Government, $110 million was allocated for the remediation in 2004 (Williams). The works were funded by the NSW Government from payments made by BHP in 2002, with the transfer of ownership of several sites to the state. For BHP's Supply Area site, there are no specific financial costs of remediation revealed within publicly available sources.

Anticipated disclosures by BHP

We expected BHP to provide for the remediation costs for the Closure Site and the Supply Areas site when (or more appropriately, before) they closed in 1999. When the *Contaminated Land Management Act 1997* (NSW) was enacted, there would have been a present obligation for BHP to clean up those sites as a result of the existing site contamination. For this purpose, the annual reports of 1998, 1999, 2000 (the site closed during the 2000 financial period), 2001 (the site was declared a remediation site by EPA in this period making BHP legally liable for site remediation) and 2002 (site transferred to the NSW government) were reviewed. In the Directors' Report section, with the *Contaminated Land Management Act 1997* (NSW) taking effect in 1999, BHP's former steelworks site would be listed as a contaminated site and subject to the Act. According to the requirements of section 299(1)(f) of the *Corporations Act*, BHP was expected to disclose the site in its 1999 annual report. Section 299A does not apply to annual reports before 2004, therefore this section is not relevant when reviewing BHP's 1998 to 2002 annual reports.

Actual disclosures by BHP

Directors' Report

In the 'description of business' section in the 1998 *Annual Report*, the closure of the Newcastle steelworks plant was mentioned, but BHP claimed it was not possible to assess the associated remediation costs at that time:

> Specifically, with the intended closure of the Newcastle integrated works by the end of calendar 1999, there may be associated remediation costs. Assessment of potential contamination is continuing. It is not possible, at this stage, to accurately quantify these potential costs, but BHP Steel Products has no reason to believe that they will have a material adverse impact on BHP's results of operations or financial condition. (BHP 1998: 38)

The use of the word 'may' in the above paragraph implies uncertainty that costs would ultimately be incurred. However, based on publicly available information it appeared that there was no uncertainty that costs would be incurred. The uncertainty related to the *amount* to be incurred.

With the introduction of the *Contaminated Land Management Act 1997* (NSW), BHP discussed the new Act, and identified five contaminated sites (but did not mention the names of the five sites) in its 1999 *Annual Report*; however BHP stated that it did not believe it would result in a material adverse financial effect. Specifically:

> In addition, environmental legislation continues to evolve, particularly in NSW, with the Contaminated Land Management Act 1997 (NSW). The legislation requires, from 1 July 1999, the formal notification of properties with land contamination that presents a 'significant risk of harm' as newly defined in the legislation and detailed in the associated guidelines. Steel notified five sites in July 1999. As provided under the act, these notifications included voluntary proposals to investigate and/or remediate as appropriate. While some investigation and remediation costs will be incurred, Steel does not believe that these obligations will have a material adverse effect on BHP's financial position or results of operations. (BHP 1999: 33)

Accounting policy section relating to provisions and contingent liabilities

In the 1998 annual report accounting policy notes BHP stated that its 'provision for restoration and rehabilitation' is for sites where natural resources are extracted. Given that the operation of the steelworks in Newcastle did not relate to mining activities, it seems that this 'restoration and rehabilitation' provision might not include remediation of the steelworks site or any other sites that did not involve mining activities. This approach is further evidenced in its 2002 *Annual Report* where it is stated that the provision for restoration and rehabilitation includes activities that 'restore mine, oil and gas facilities and processing sties'. The provision does not include:

> any amounts related to remediation costs associated with unforeseen circumstances. Such costs are recognised where environmental contamination as a result of oil and chemical spills, seepage or other contingent events gives rise to a loss which is probable and reliably estimable.
>
> The cost of ongoing programs to prevent and control pollution and to rehabilitate the environment is charged to the Statement of Financial Performance as incurred. (BHP Billiton 2002: 117)

While BHP excludes site remediation obligations from its 'provision for restoration and rehabilitation', it does not identify the obligation anywhere else within the financial statements. Neither can a contingent liability policy relating to remediation obligations be found in the accounting policy section during the period of our analysis. Taken together, BHP did not address its accounting policy for contaminated sites and we were unable to determine whether and how BHP accounts for remediation obligations for contaminated sites – issues that publicly available data otherwise identify.

Provisions

There is no specific information relating to site remediation that can be found in the provisions section, nor in other potentially related sections, such as operating expenses, or the land section. However, BHP did disclose some information relating to the site remediation provision in its 'contingent liabilities' section of the 2002 financial statements. This is to be discussed in the following section. Whilst accounting standards and the *Corporations Act* do not require specific and separate disclosure of obligations pertaining to remediating contaminated sites, given the publicity surrounding certain sites, and the apparent materiality of the obligations, it would arguably be reasonable to expect the entity to provide specific disclosures.

Contingent liabilities

The year 2002 was the first year since the 1998 report that BHP disclosed information about the Newcastle site. It was also the first time that site remediation costs were disclosed in the contingent liabilities section. BHP stated that the company transferred four properties, including the steelwork main site (known as Closure Area) in the Newcastle area, to the NSW Government on 28 June 2002. The government agreed to pay US$20 million to the company for the main steelworks site. BHP would pay the government US$62 million 'for environmental remediation and monitoring of the former Main Steelworks site and Kooragang Island, industrial heritage interpretation and rail infrastructure relocation on the former Main Steelworks site'.

> The Company continues to be responsible for demolition at the Main Steelworks site at an estimated cost of around US$11 million.
>
> The payments to the Government associated with the land transfers and the cost of demolition has been accounted for as part of the Newcastle Steelworks closure.
>
> The transfers of the four properties referred to above were completed on 31 July 2002 and the indemnity referred to above is now in place. The Company has also taken out pollution liability insurance to cover certain risks associated with pre-completion environmental liabilities referred to above.
>
> Additionally the Company retains responsibility for certain sediment in the Hunter River adjacent to the former Main Steelworks site. A remediation options study has been completed.
>
> The estimated total future costs provided at 30 June 2002 were approximately US$75 million. Following completion of the land transfers (at a net cost of US$42 million) and including demolition and pollution

> liability insurance costs the balance of the provision is US$33 million to deal with the remaining Newcastle Steelworks closure issues. (BHP Billiton 2002: 179)

The total environmental costs associated with the site transfer were US$75 million, for which BHP claimed that it had provided (as a liability) previously. However, from previous reports, no clear information relating to the site could be identified. In the 1998 and 1999 annual reports, BHP noted that it 'does not believe that these obligations will have a material adverse effect on BHP's financial position or results of operations' (BHP 1999: 33). Given BHP did not disclose any contingent liabilities relating to contaminated sites, it seems strange that BHP disclosed provisions in its contingent liabilities section (rather than in its provisions section) of the annual report. It was the first time, since the site was transferred, two years after the site closure, that the site remediation provisions were discussed.

Given the nature and the large scale of resource production of the company, the obligations for cleaning up all contaminated sites are likely to be material. The financial statements during the period were presented in such a way that no specific information could be reasonably found. Given the public commitments the company has made to sound environmental performance and sustainable development it appears somewhat contradictory that there are such low levels of transparency in relation to remediating contaminated sites – sites that obviously are of relevance to future generations.

Further BHP-related site contamination – the case of the Ok Tedi copper mine

Whilst the focus of our research has been on how the respective organisations accounted for contaminated sites believed to exist within Australia, any discussion of contaminated sites as they relate to BHP arguably cannot exclude a consideration of BHP's accounting treatment of the contamination issues associated with some of its activities in Papua New Guinea, specifically, with those at Ok Tedi. Ok Tedi created more negative publicity for BHP than any other contaminated site or environmental issue and knowledge of the environmental damage caused by BHP-related operations would have been widespread.

Ok Tedi Mining Limited (OTML) started operations in 1984, and played a very important role in the economies of both Papua New Guinea (PNG) and its Western Province. In 2007, OTML employed 2000 employees and its export earnings accounted for 32% of PNG's total export earnings. The Ok Tedi mine is situated at the upstream of Ok Tedi ('Tedi' is local language for 'river'), which is a major tributary of the Fly River (Ok Tedi Mining Limited 2009).

The major environmental problems of this mine relate to tailings disposal. OTML had tried to build a tailings dam but the foundations were destroyed by landslips during dam construction in 1984 (Australian Mining 1999). Because of the high rainfall and unstable geological formations, the PNG Government, which held 20% of the shares, gave OTML an exemption, allowing the tailings to be discharged directly into the Ok Tedi and Fly River systems (Ok Tedi Mining Limited 2009; Wambi 1995). After the exemption was granted OTML discharged 80 000 tonnes of tailings and waste into the river systems daily (Reuters News 1995; WWF 2009).

In 1994 about 30 000 Ok Tedi and Fly River landowners sued OTML and its majority shareholder BHP (52% shareholding of OTML) in the Victorian Supreme Court claiming $4 billion (US$3 billion) compensation for environmental damage caused by OTML (Metals Week 1995). On 19 September 1995, BHP was found guilty of criminal contempt for its involvement with the PNG Government in drafting an agreement that limited landowner compensation to $110 million ($150 million Kina) and also blocked other compensation claims being pursued. In 1996 the lawsuit was settled by an out of court agreement. OTML agreed to pay landowners $126.4 million in compensation and also to undertake activities that reduced the amount of waste being dumped in the river (Ok Tedi Mining Limited 2009; Reuters News 1995; Trounson 2000).

In 1999 OTML found that the environmental remediation costs for the mine, which had already cost the company $400 million, could be significantly greater than previously anticipated. Despite the World Bank's review that the mine should be closed immediately on environmental grounds, in 2000 the PNG Government decided to continue to operate the mine for the next 10 years (Australian 2000; Australian Associated Press 2000).

On 11 April 2000 Ok Tedi and Fly River landowners again filed writs in the Victorian Supreme Court against OTML and BHP, claiming damages and breach of contract on the 1996 settlement agreement (O'Malley 2000; Phaceas 2000b; Smith 2000a; 2000b; Trounson 2000). The landowners also demanded a $200 million pipeline to be built to limit the pollution to the river systems (Phaceas 2000a). BHP rejected the claims, stating that it had met all the obligations under the settlement agreement. More than US$100 million had been spent on the Mine Waste Management Project and a dredging trial had been started in 1998 at an annual cost of US$35 million (BHP 2000b). In January 2004, the case was settled out of court (BHP Billiton 2004; FitzGerald 2003; Trounson and Madden 2004).

Whilst a number of the legal actions (see above) were undertaken, and settled, in February 2001 BHP entered into formal negotiations with the PNG government

and other stakeholders on BHP's withdrawal from the Ok Tedi mine (Reuters News 2001). Seven months later the plan was finalised (Gomez 2001) and BHP eventually completed the withdrawal in February 2002. BHP transferred its total 52% equity holding of the mine to PNG Sustainable Development Program Limited. In June 2001 it wrote off its share of the Ok Tedi net assets of US$148 million. While giving up its rights to all income from the mine, BHP expected this transfer would protect it from any future litigation associated with the mine operation (Johnston 2002). However, in January 2007, BHP and OTML were sued by 13 000 villagers seeking US$4 billion compensation for the destruction of their traditional lands in the National Court in Port Moresby, PNG. The villagers from the six Ningerum clans were not signatories to the Community Mine Continuation Agreement between landowners and OTML (Moresby 2007).

Anticipated disclosures in relation to Ok Tedi

There are several events associated with the mine tailings contamination that should have been addressed in BHP's financial statements. BHP, as a majority shareholder, was sued by landowners for $4 billion compensation and was requested to construct a tailings dam in 1994. We expected that BHP would have disclosed this event, at least in the contingent liability section of its 1994 *Annual Report*. Arguably, even before the legal action, BHP should have foreseen that there was a serious issue with the tailings disposal and this could affect OTML's continuing operations. In the 1995 *Annual Report*, we expected BHP would have disclosed progress on the associated legal issues. An out of court settlement with the landowners was reached in 1996, with a substantial compensation payment ($110 million) and the commitment to build a tailings dam. Arguably, this agreement would be significant to BHP. In 1999 BHP found the environmental costs for cleaning up the tailings waste were significantly greater than previously expected, and an increased provision for the remediation should have been provided. In 2000, when BHP again was sued by landowners for compensation for breach of the 1996 agreement and was required to build a $200 million pipeline, there was an expectation that BHP would disclose this as a contingent liability. In 2002 when BHP transferred its shareholding of OTML to PNG Sustainable Development Program Limited, relevant transfer information including cleanup obligations should have been disclosed.

Actual disclosures relation to Ok Tedi

By reviewing BHP's annual reports for the period from 1993 to 2002, we found there was no specific information relating to cleanup obligations associated with the mine disclosed, despite the massive amounts of media coverage devoted to the issue. Mention of the Ok Tedi mine was first made in 1994 in the contingent liability section, when BHP was sued by PNG landowners. In that section BHP stated that it was defending these legal actions and could not quantify any possible liabilities as it was still at an early stage of proceedings. However, BHP did not expect that the outcome of the legal actions would 'have a material adverse effect on the BHP Group' (BHP 1994). A similar paragraph is found in its 1995 *Annual Report*. No other specific disclosures relating to the mine are found in the financial statements from 1994 and 1995.

The out of court settlement in 1996, which involved $110 million compensation and a significant commitment to build a new tailings dam, is arguably financially significant. Additionally, the widespread negative publicity and the public criticism of the case posed a significant threat to the mine's continuing operations. However, the only disclosure in the annual report is still in the contingent liability section and only minimal information is disclosed. BHP claimed that the terms of the agreement would 'not have a material adverse effect on its financial condition or results of operation' (BHP 1996: 28). No other specific provisions or costs associated with the Ok Tedi mine are disclosed within the annual report.

In 1999, when BHP found that the environmental costs associated with the mine tailings were significantly greater than previously expected, BHP disclosed this information in its contingent liability section but as the findings were 'preliminary' the extent of 'any future obligations' relating to the cleanup costs 'has not been established' (BHP 1999: 114). That is, no provision relating to the 'significantly' increased remediation costs was recognised.

In the following year's contingent liability notes, BHP stated that there was no clear solution to the environmental problem. Again, 'the estimated costs of early closure have not been quantified' (BHP 2000a: 51). Another legal action, which commenced in April 2000, was not disclosed within the 2000 *Annual Report*.

In the 2001 report, based on the status of the negotiations of BHP's exit plan, BHP wrote off its share of the net assets of OTML, that is $286 million, as a 'significant item'. For the first time in its contingent liability notes, BHP disclosed the key terms of the 1996 compensation agreement and then, for the first time, referred to the lawsuit that commenced in the previous year. BHP also indicated that it did not breach the 1996 agreement. While the purpose of disclosing key terms of the settlement by BHP might provide background for defending the current lawsuit, it seems odd that the terms of the 1996 agreement were disclosed five years after the settlement.

BHP's 2002 *Annual Report* disclosed the transfer of its equity to PNG Sustainable Development Program Limited, but did not disclose any information relating to the site cleanup provisions.

Taken together, and on the basis of our knowledge of the various contaminated sites operated, or formerly operated, within Australia or at Ok Tedi by BHP (and obviously there could be many others that we do not know about), we believe it is reasonable to question how BHP's financial statements and supporting notes could be construed as true and fair (under even the most liberal interpretation of the concept) in the absence of more information pertaining to the various contaminated sites under its control. Again, given the organisation's public commitments to sustainable development, this lack of transparency in relation to these important issues does seem somewhat contradictory.

Orica – the company

Orica is one of the top 40 companies (by market capitalisation) listed on the ASX. Growing from a supplier of explosives to the Victorian Goldfields in Australia over 130 years ago, in 2007 it employed more than 14 000 people and operated in around 50 countries with $5 billion of revenue (Orica 2007).

As a result of our search, seven sites were identified for the purpose of this study, these being the Botany (former ICI site and Groudwater Plume site), Villawood, Chester Hill, Cockle Creek, Homebush Bay, and Kooragang sites. Among the seven sites, the Botany site attracted more media coverage than the other sites. As the earliest cleanup notice of the sites was issued in July 1997, Orica's annual reports from 1997 (financial year starting 1 October 1996) were examined.

Details of contaminated sites – Orica

Botany sites, NSW

The Botany site is described by environmental groups as one of the 'worst pollution nightmares' in Australia (Kerin 2006). Manufacturing a range of chemicals, ICI built the largest chemical manufacturing site in NSW in 1942. At that time, basic measures to prevent pollution were not considered and effectively no environmental controls were in place (NSW Department of Natural Resources of Government 2006). In July 1997 ICI Plc sold its interest to ICI Australia, and the company was subsequently renamed Orica Australia (Orica 1998).

The production of extremely hazardous and toxic chlorinated chemicals led to some serious long-term waste and pollution problems. In a Greenpeace International *Corporate Crimes Report* (2002: 35), the pollution was identified in three categories: hexachlorobenzene (HCB) waste stored in Botany; 'soil, ash and peat contaminated with HCB, carbon tetrachloride and chlorinated hydrocarbons' stored in a plastic-lined disposal cell under an ICI car park; and contaminated soil waste dumped into the southern Pacific Ocean by ICI for many years. The Botany site, located in Matraville, has been served five current and six former notices by the NSW EPA. These notices were issued as early as 1989 (Notice number 123, a former notice, revoked in 1993). The second site, the Botany Groundwater Plume site in Banksmeadow, was served a Notice of Clean-up Action (Notice number 1030236) on 26 September 2003 as a result of a high concentration of chlorinated hydrocarbons (CHCs) found in an off-site production bore (Woodford 2003) 'together with concerns regarding the movement of the high-concentration central plume and the potential for discharge of contaminants into Botany Bay' (NSW Department of Environment and Conservation 2005: 12). This site was subsequently declared a remediation site on 9 February 2005 (notice number 21074) by the NSW EPA.

ICI Botany started an environmental survey in September 1989 (Greenpeace International 2002; Orica 2006b) and found widespread soil contamination and that pollution was moving offsite. According to a *Joint Determining Authority Report* issued by the Department of Environment and Conservation (DEC), Department of Infrastructure, Planning and Natural Resources, NSW Maritime, Sydney Water Corporation and Sydney Ports Corporation (2005: 12), ICI had been conducting an environment investigation since then. The investigation revealed an 'extensive and complex distribution of volatile chlorinated hydrocarbons (CHCs) contamination'. The groundwater toxic plume was described by journalists (Skelsey and Williams 2004) as the biggest in the southern hemisphere and a 'complete disaster for marine life'.

To comply with the legal orders served on Orica, the NSW DEC suggested the pump-and-treat option would be appropriate, but at that time Orica favoured two different methods with an estimated $50 million cleanup cost. On 17 February 2004 the DEC issued a variation to the Notice of Clean Up Action, requiring the implementation of a Groundwater Cleanup Plant (GCP), subject to strict conditions. As an interim measure, in October 2004 Orica installed a steam stripping unit (SSU) to pump and treat up to 3 million litres of groundwater per day. In November 2004, Orica submitted an environmental impact statement with the GCP, identifying an expected capital cost of $102 million for all elements, including the installation of extraction wells, transfer pipelines and a treatment plant. The plant was to be designed for continuous operation, treating up to 15 million litres of ground water per day, for a period of up to 30 years. In 2005 the estimated costs increased to $167 million (Huxley 2005a; 2005b). In October 2005 Orica completed the plant construction

and in November started water treatment on the site.

Homebush Bay South sediments, former Berger paints factory, NSW

Paint factories operated on the Homebush Bay site until 1986 when the Berger paint factory closed, at which point the site was sold to Orica. On 19 November 2002, this site was served a Declaration of Investigation Area (Notice number 15013) from the NSW EPA. Nine days later, on 28 November, Orica (Orica 2002b) announced that it planned to submit a voluntary investigation proposal to the NSW EPA for the site. On 19 December 2003 this site was issued a Declaration of Remediation Site (notice number 21050) by the NSW EPA. In May 2004 the EPA noted (notice number 26063) the existence of a voluntary remediation proposal submitted by Orica on the site to remediate high levels of lead contaminants.

Former Orica factory – Chester Hill, NSW

This former Orica Chester Hill factory site was declared a remediation site by the NSW EPA on 13 July 2004 (Notice number 21026) (Canterbury Bankstown Express 2005; NSW Department of Environment and Conservation 2006). A voluntary remediation proposal by Orica was noted by the NSW EPA (Notice number 26077) on 11 December 2006.

Orica Villawood plant, NSW

The Orica Villawood plant site was declared as a remediation site on 13 April 2005 (Notice number 21071), followed by a Remediation Order (Notice number 23019) served by the NSW EPA on 2 November 2005 (Canterbury Bankstown Express 2005; NSW Department of Environment and Conservation 2006). Substances, including petroleum hydrocarbons, benzene, DDT, trichloroethene, chlorobenzene, dichloroethane, hexachlorobenzene, polycyclic aromatic hydrocarbons and cyanide were all found to have contaminated the site (Canterbury Bankstown Express 2005). Orica estimated the cleanup cost at $23 million (post tax), after deducting proceeds from the future sale of the land (Gluyas 2006).

Incitec Pivot – Cockle Creek, NSW

Orica owned 70% of Incitec Pivot Limited (IPL). Merged from the fertiliser businesses of Incitec Limited and Pivot Limited, Incitec Pivot Limited began operating in June 2003 (Orica 2003). On 22 July 2005 the IPL site at Cockle Creek was declared as a Remediation Site by the NSW EPA (Notice number 21077). The contamination was caused by leaching from fill material used on the site. On 20 April 2006, IPL announced plans to close the site by 2009 to allow remediation and development. An estimated $21.9 million (after tax) for dismantling the plant and the cleanup of the site was announced in a media release issued by the company (Incitec Pivot Limited 2006b). Several weeks later, on 9 May 2006, IPL made an Announcement to the ASX to support Orica's exit as the majority shareholder of the company and started a share buy back of the residual Orica holding (Incitec Pivot Limited 2006a). Orica divested its interest in IPL on 16 May 2006 (Orica 2007).

Kooragang Island, NSW

This site was declared as a remediation site by the NSW EPA (Notice number 21089) on 16 November 2005, followed by a 'Note of Existence of Voluntary Remediation Proposal' (Notice number 26093) proposed by Orica on 8 December 2006.

Anticipated disclosures by Orica

With the *Contaminated Land Management Act 1997* (NSW) effective from July 1999, there would appear to have been a legal obligation for Orica to clean up those sites with contamination, and this obligation arguably would have been apparent even before remediation orders were issued. The likelihood of the organisation having to incur future resource outflows as a result of the contamination would have become even more likely once the remediation orders were served. Hence, we could argue that it was *probable* that resources would flow away from the organisation as a result of past events. These outflows of resources arguably can be measured with sufficient reliability to allow inclusion within the body of the financial statements.

The next thing we need to consider is the materiality of the associated obligations. Orica estimated the expected capital cost of the Groundwater Cleanup Plant was $167 million in 2005 (Huxley 2005a; 2005b; Orica 2005a; 2006c). In dollar terms this is material compared to Orica's total equity of $1 653 million ($167 million is more than 10% of $1653 million) or total provisions of $394 million in 2005. The aggregated costs of remediation of all the contaminated sites across Australia and other countries are very likely to be material for Orica given the extent of contamination associated with the organisation's land. Therefore the aggregated obligations across all the contaminated sites would realistically require recognition as a liability, or at the very least, disclosed as contingent liability if Orica was to argue that it was unable to reliably measure the amount of the obligation.

Another issue relates to the appropriate time for Orica to recognise the remediation obligations. After being served with cleanup notices by the respective authorities, Orica became legally bound to clean up its contaminated sites. However, should Orica only recognise provisions as and when cleanup notices are served? Since the *Contaminated Land Management Act*

1997 (NSW) became effective it is almost certain that Orica will have to clean up highly contaminated sites in NSW. The failure to receive a cleanup notice at reporting date does not prevent the recognition of provisions. A cleanup might not only be undertaken because of legal requirements, but because of expected business practices that would typically require an organisation to accept responsibility for cleaning up contaminated sites, rather than leaving them to cause problems for current and future generations. Orica (2006c) publicly claims to have a good track record in relation to cleaning up contaminated sites, and it has embraced a policy of assuring the public that its operations are subject to the highest standards necessary to protect the environment. It also makes publicly available its environmental policy, which is published on its website (Orica 2004b). Taken together, the evidence suggests that even in the absence of a legal obligation, Orica would nevertheless have a constructive obligation to remediate contaminated sites.

In most situations, awareness of site contamination and likely remediation obligations by Orica would have occurred prior to sites being served with 'Notices of Clean-up Action', 'Declarations of Investigation Area' or 'Declarations of Remediation Site' by the authorities.

Actual disclosures by Orica

Orica's first remediation order within our period of analysis was received in 1997. Given an expectation that Orica would be aware of related obligations prior to receiving a notice, we would expect to find related disclosures from at least 1997. Ten annual reports starting from the year 1997 (year ending 30 September 1997) to the year 2006 were examined.

Directors' Report

As we have already discussed, according to the *Corporations Act*, section 299(1)(f), if Orica's operations are subject to any particular environmental regulation, such as remediation orders issued by NSW EPA under *Contaminated Land Management Act 1997* (NSW), Orica is required to disclose details. Within the Directors' Report, Orica established a small, separate section entitled 'Environmental Regulations'. However, none of the annual reports disclosed site contamination or remediation obligations for the sites which were clearly subject to environmental regulation enforcement (such as remediation orders issued by the EPA).

Environmental compliance was not addressed in the 1997 Directors' Report. Orica's disclosures in the 1998 to 2002 Directors' Reports were identical and stated:

> **Environmental Regulations**
>
> Manufacturing licences and consents are in place at each Orica site in consultation with local environmental regulatory authorities. The measurement of compliance with conditions of licences and consents involves numerous tests being conducted regularly. The sites record their compliance and report that there is continued high compliance. Any breaches are reported to the authorities as required.
>
> More specific details of Orica's safety, health and environmental performance, including management processes, are available in the Safety, Health and Environment Performance Report 2002 which will be released with the Annual Report. (Orica 2002a: 26)

The above disclosure is not terribly illuminating in regards to the existence of contaminated sites and does not seem to comply with the spirit of section 299(1)(f). Within the Directors' Reports released between 2003 and 2006 Orica disclosed more information mainly relating to prosecutions for discharging toxic waste into the environment during production but no disclosures within any directors' report relate to remediation obligations for contaminated sites. Orica refers to its stand alone *Safety, Health and Environment Performance Reports*, which are not subject to mandatory disclosure requirements, to provide more detailed information for interested readers. As the purpose of this study is to explore how companies disclose site contamination information in their financial statements and supporting notes, voluntary disclosures made within *Safety, Health and Environmental Performance Reports*, are outside the scope of the study.

Accounting policy section relating to provisions and contingent liabilities

Turning our attention to the accounting policy section within the annual report, under the 'Provisions' subtitle, Orica provided an 'Environmental Liabilities' subsection of approximately two to three paragraphs. The wording for the first eight years (1997–2004) was very similar, and was of the following form:

> **Environmental Liabilities**
>
> The cost of monitoring operations and treating operating waste is taken to the statements of financial performance as an operating cost as incurred. Estimated costs relating to the remediation of soil, groundwater and untreated waste that have arisen as a result of past events are usually taken to the statements of financial performance as soon as the need is identified and a reliable estimate of the liability is able to be assessed. However, where the cost relates to land held for resale then, to the extent that the expected realisation exceeds both the book value of the land and the estimated cost of remediation, the cost is capitalised as part of the holding value of that land as it is incurred. (Orica 2003: 34; 2004a: 31)

Starting from the 2005 report, one additional paragraph relating to provisions was added to the 'Environmental Liabilities' section of the accounting policy note:

> For sites where there are uncertainties with respect to what Orica's remediation obligations might be or what remediation techniques might be approved, no reliable estimate can presently be made of regulatory and remediation costs and no amounts have been capitalised, expensed or provided for (Orica 2005b: 40; 2006a: 42)

As can be seen from the above, it appears that Orica has relied upon uncertainties and the inability to make reliable measurements as the basis for a decision not to include certain obligations for contamination in its statement of financial position.

Orica made no disclosures in any of the annual reports within the accounting policy section about its policy pertaining to contingent liabilities.

Provisions

In the body of the respective statements of financial position, an aggregated amount of provisions was provided. These provisions were then generally broken up into categories such as employee entitlements, restructure and rationalisation, environmental and others, in the form of current or non-current provisions. In the first six years (1997 to 2002), Orica only provided opening and closing balances of an 'environmental provision' in the notes. 'Environmental provision' is a general term that could include all environment-related obligations. This leaves the users of the financial statements uninformed as to how much, if any, site remediation obligation was included in the environmental provision. From 2003, Orica started listing provisions made during the year, transfers between current and non-current provisions, and any payments made during the year in the notes section. Again, no provisions were labelled as 'site remediation' or similar, and no specific sites were disclosed in the 'Provisions' section until 2006. In the 2006 report three sites – Orica Botany (formerly ICI), Orica Botany Groundwater Plume, and Orica Villawood Plant were listed with individual provision carrying amounts shown for the first time in the 'Provisions' section in the notes. The three sites' remediation provisions were $127.1, $60.9 and $32.7 million respectively in 2006. The dollar values relating to the three sites match the limited publicly available information we collected.

Among the seven sites (that we know of), there are three sites for which Orica did not provide any information. These sites are: Homebush Bay South Sediments, Former Orica Factory – Chester Hill, and Orica – Kooragang Island. Apart from the non-disclosure of the aforementioned sites, there are three sites that had associated provisions, but they were recognised later than we would have expected. Both Villawood Plant and Cockle Creek were issued several remediation notices in the 2005 financial year. Orica should have recognised remediation provisions in the year of receiving a remediation notice, or ideally, even earlier. However, Orica only disclosed the obligation relating to the two sites one year after receiving a remediation notice. Further, the Orica Botany ICI site remediation provision was attributed a specific dollar value nine years after (in the 2006 financial statement) the first remediation order was served (in 1997). Only one site, Orica Botany Groundwater Plume, was disclosed in the 2003 *Annual Report* – the same year in which a cleanup notice was served.

The overall disclosure of site remediation provisions is deficient. There is also inconsistency in terms of treatment and disclosure among the seven sites. Some sites appeared to be excluded from the provisions even after sites were served with cleanup notices. We also question why Orica 'delayed' providing remediation provisions for particular sites. Ideally Orica should have recognised the obligations relating to each site before a cleanup notice was served. Nevertheless, in comparison with Wesfarmers and BHP, Orica did at least recognise provisions in relation to some of its contaminated sites (albeit the recognition took place later than we consider was appropriate).

Contingent liabilities

In the first six years (1997–2002) Orica did not disclose any specific obligations relating to remediation. The wording in the 'Contingent Liabilities' section in the notes was identical in this six-year period.

> **Environmental**
>
> The Company has created provisions for all known environmental liabilities in accordance with Statement of Accounting Concepts SAC4. While the directors believe that, based upon current information, the current provisions are appropriate, there can be no assurance that new information or regulatory requirements with respect to known sites or the identification of new remedial obligations at other sites will not require additional future provisions for environmental remediation and such provisions could be material.(Orica 2000: 59; 2001: 53; 2002a: 53)

Arguably, given the evidence of numerous contaminated sites and the associated obligations, greater information was required. From 2003, Orica started to disclose the names of some but not all of its sites. However no dollar values or a range of dollar values associated with site remediation contingent liabilities were given. Orica Botany (formerly ICI) and Orica Botany Groundwater Plume were disclosed in the 2003, 2004, 2005 and 2006 annual reports. The Villawood Plant was disclosed in the 2004 report. Chester Hill and Kooragang Island were disclosed in both the 2004 and 2005 reports. Cockle Creek was added in its 2005 report. Rather oddly, with the

exception of the two Botany sites, four sites (Villawood Plant, Chester Hill, Kooragang Island and Cockle Creek) that were disclosed in previous years were not disclosed in the 2006 report as part of contingent liabilities. Orica did not explain why these four sites no longer represented a contingent liability in the 2006 financial year, given the sites had been served with current notices. The Homebush Bay site was not disclosed as a contingent liability, nor as a provision in any of the reports in the ten-year period. Based upon the information we collected, this site was served three notices during 2002 and 2004, and submitted a voluntary remediation proposal in 2004 (indicated in the 2004 notice, notice number 20063). We formed the view that this site should have been disclosed in the 2002 financial report (or earlier) as a contingent liability. From 2004 onwards the site should have been disclosed as a provision (if material).

Now we turn our attention to the appropriate timing for the disclosure of contingent liabilities relating to the seven sites. Orica's practice is inconsistent across the seven sites. The Homebush Bay site was not mentioned at all. Three sites (Botany Groundwater Plume, Chester Hill and Cockle Creek) were disclosed as contingent liabilities in the year when relevant cleanup notices were served. Ideally Orica should have recognised the obligation as a provision instead of disclosing it as a contingent liability. Orica Botany (formerly ICI), however, was disclosed as a contingent liability six years (in 2003) after a cleanup notice was served (in 1997). There are only two sites (Villawood Plant and Kooragang Island) that were identified before cleanup notices were served.

Orica's justification for disclosing the contingent remediation cost of some of its sites, instead of recognising them as provisions, relies on uncertainties and the unreliability of estimations of the obligations:

> For sites where there are uncertainties with respect to what Orica's remediation obligations might be or what remediation techniques might be approved, no reliable estimate can presently be made of regulatory and remediation costs. In accordance with the Group's accounting policy included in Note 1 (xviii), no amounts have been capitalised, expensed or provided for.
>
> The Incitec Pivot Limited (IPL) site at Cockle Creek (NSW, Australia) has been gazetted a 'remediation site' under the Contaminated Land Management Act, 1997. The contamination arose from the use of fill material mainly sourced from the adjacent smelter on the Pasminco site. IPL is in discussion with both the regulatory authority and Pasminco Cockle Creek Smelter Pty. Ltd. (in administration) in respect of the potential remediation activities for the site.
>
> Contingent liabilities exist in relation to all these sites, and potentially other sites which may be identified in the future, to the extent that new information, identification of new remedial obligations, or changes in regulatory requirements, enforcement practices or approved remediation techniques may require additional future expenditure. (Orica 2005b: 64)

While Orica claims contingent liabilities may include 'other sites which may be identified in the future', we question why Orica did not provide a complete list of 'current sites' that are subject to remedial obligations.

Concluding Comments and Further Research

At the outset of this paper we stressed that our goal was to investigate whether a number of organisations with contaminated sites disclosed information about the sites in a manner consistent with the general spirit of Australian corporate financial reporting requirements. That is, we undertook a compliance-based investigation. Based on overseas research our expectation would reasonably have been that there would be limited disclosures, even to the possible extent of apparent non-compliance with regulation. However, without our research, this would have been conjecture. Our research indicates that the disclosures being made by the sample Australian companies reveal little in relation to existing and potential obligations pertaining to contaminated sites, and the apparently poor level of reporting is indeed consistent with research findings in other countries. The three companies in our sample are among the largest companies (by market capitalisation) listed on the ASX, so if we assume that larger companies disclose higher quality information compared with small and medium sized companies, this lack of disclosure is perhaps even more alarming.

As we have seen, there appeared to be a propensity for the sample firms not to recognise provisions in relation to some, or all, of their contaminated sites. This is despite the fact that the accounting standards state that it would only be in 'extremely rare cases' that organisations would have levels of uncertainties of such magnitude to preclude them from recognising a provision. Further, there seemed to be a high level of under-utilisation of contingent liability disclosures despite the fact that accounting standards require contingent liabilities of potentially material amounts to be disclosed within the notes to the financial statements unless the probability of ultimate payment is assessed as being 'remote'. Where the organisations did make disclosures we often questioned the timing of the disclosures – typically the disclosures were made much later than a proper application of our reporting requirements would require.

There could be a variety of reasons for the limited disclosure. One reason might be that organisations are consciously attempting to be less than transparent with regard to their obligations. Whilst there is clearly a

lack of specific disclosure rules or guidance relating to accounting for contaminated sites (either in accounting standards or the *Corporations Act*), the existing general requirements relating to liabilities, recognition of provisions, and disclosure of contingent liabilities are sufficient to require disclosure. Further, throughout the period of analysis the generally accepted accounting principles pertaining to liability (including provisions) recognition did not effectively change, nor did the requirements in relation to the disclosure of contingent liabilities. Therefore, arguably there is no need for new disclosure requirements pertaining to contaminated sites – rather, there appears to be a need for regulators to enforce existing disclosure requirements (which is the same suggestion made by Freedman and Stagliano 1995; Leary 2003; and Repetto 2004, in respect of US practice). Nevertheless, given that issues associated with remediating contaminated sites are varied and complex, specific guidance or rules could perhaps be beneficial in improving the extent of disclosure and accountability relating to contaminated sites.

From our evidence, a review of annual reports does not permit the identification of contaminated sites under organisations' control, nor the extent and magnitude of the financial liabilities associated with remediation obligations. This might lead to the misperception by stakeholders that because little (or no) remediation obligations are disclosed, then the actions of the organisations have had limited or no negative long-term impacts on land and local eco-systems.

Given both the difficulty associated with identifying the existence and location of contaminated sites, and the responsible parties (Deegan and Ji 2008), coupled with the results of this paper, there is clearly a lack of accountability in relation to the impact and consequences of contamination. Whilst many authors suggest various reporting approaches be embraced to advance corporate accountability beyond the minimum required by regulation, our results show that the sample companies do not even provide a minimum level of accountability that would reasonably be expected through compliance with corporate reporting requirements. With little information being available it is very possible that various stakeholder groups will continue to support organisations that they might not otherwise support if they were by contract to know how corporate activities were impacting upon the physical environment, or that the organisations were not recognising the associated financial obligations necessary to remediate the various sites. The general lack of disclosure, and therefore lack of available public information, in effect might act to sustain a 'business as usual' approach in which organisations are not challenged as they might otherwise be about their environmental performance.

It is of interest that the organisations in our sample produce publicly available sustainability reports in which they embrace sustainable development (in the sustainability reports there is little or no discussion of contaminated sites). Any movement by societies towards sustainable development requires informed choices about the activities and organisations individuals should support. In part, such choices are based on the ecological sustainability of organisations' operations. In the absence of greater disclosure about acts contributing to land contamination, damaging activities may – on the basis of lack of information – continue to be supported by various (uninformed) stakeholder groups. Any organisation that publicly commits to sustainable development – as our sample companies have publicly done – has a responsibility to be open and transparent about its environmental performance. Our evidence suggests that companies in our sample have not been as open and transparent as we would hope (and perhaps as future generations require).

The results of our research could provide the stimulus for a number of related research projects. Unlike a number of other researchers in the social and environmental accounting area, we were not seeking to utilise particular theoretical frameworks to ascribe motivations for particular disclosure (or non-disclosure) or to evaluate whether existing disclosure requirements satisfy the information needs of particular stakeholder groups. However, the lack of disclosure about contaminated sites does raise a number of issues about why organisations are making minimal disclosures. For example, is there a corporate view that powerful stakeholders, or perhaps society generally, do not want such information, or a perception that due to inaction by regulators, the benefits of non-disclosure (however measured) are perceived to outweigh any costs associated with non-compliance? Further, how do auditors make judgements about the apparent truth and fairness of financial statements in the presence of contaminated sites? We believe the issues associated with corporate accountability for contaminated sites are important given the apparent magnitude of the problem within Australia, and internationally, and we therefore hope that our research motivates other researchers to consider related issues.

Sophia Ji and Craig Deegan are at RMIT University.

Notes

1 We use the term 'positive' to describe research that seeks to explain or predict particular accounting practices (Watts and Zimmerman 1978).

2 We use the term 'normative' to describe research that seeks to prescribe how particular accounting practices *should* be undertaken.

3 Superfund is the US Federal government program to clean up uncontrolled or abandoned hazardous sites that are the highest priority for long-term remediation within the nation. For more detail see http://www.epa.gov/superfund.

4 The National Priority List is the list of sites that release hazardous substances, pollutants, or contaminants throughout the US and its territories. For more detail see http://www.epa.gov/superfund/sites/npl/.
5 Financial reporting requirements will obviously change over time. The discussion provided has been based on reporting requirements currently in place. However, these requirements as they relate to financial reporting are generally consistent with the requirements in place throughout the period of our analysis. Where requirements have changed, such as the introduction of section 299A in 2005, our investigation of compliance with reporting requirements will take this into account.
6 It is possible that the three companies included in this study may have other sites that are subject to contamination but which are not listed in this study. This is due to the general lack of publicly available information. As emphasised, our identification of contaminated sites was based on publicly available information and not from information disclosed by the companies themselves.
7 According to AASB 1031 if an amount is equal to or greater than 10% of the appropriate base amount (for example, total provisions) then, in the absence of evidence to the contrary, this may indicate that the item is material, whilst if an amount is equal to or less than 5% of the appropriate base amount it may be presumed not to be material. Between 5% and 10% represents a 'grey area' where further judgement is required.

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