

**Corporate Annual Report Disclosures of Obligations
Pertaining to Contaminated Sites:
An Australian Study**

A thesis submitted in fulfillment of the requirements
for the degree of Doctor of Philosophy

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

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Research Summary

The large number of industrial contaminated sites within Australia not only cause harm to the environment, but also require a significant amount of financial resources to fund remediation works. It is after remediation obligations are disclosed and recognised in the responsible parties' financial reports that the necessary physical remediation works may be properly funded. That is, financial disclosure is an essential and related component of tackling the issue of site remediation. Limited overseas evidence indicates that corporations often fail to disclose their environmental liabilities within their annual reports. No such research has been conducted within an Australian context in relation to contaminated site disclosures.

This thesis aims to address this gap. Motivated by the notion that corporations should be held accountable for their actions (or inactions), and providing Australian evidence on the issue of environmental disclosures, this research seeks to explore Australian companies' disclosure practices as they pertain to contaminated sites and to provide explanations for the current disclosure practices. To achieve this research objective, a four-phase research design is employed. These four phases are separate but related, with each phase forming the basis for the next phase.

The first phase of the study described the processes that must be undertaken to identify Australian contaminated sites. Both secondary data, being publically available information, and primary data, being interviews conducted with senior members of a Victoria environmental agency and the Australia Conservation Foundation, have been collected within this phase. This phase 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 the location of contaminated sites, the extent and nature of the contamination, and the parties responsible for the contamination.

The second phase of the study, using information collected from Phase One, investigated the disclosure practices of four high profile Australian publicly listed companies that have been identified as being in control of contaminated sites. Firstly, Australian financial reporting requirements, as they pertain to contaminated sites, were discussed. Based on these relevant requirements, and the information collected in relation to particular contaminated sites, expectations on sample companies' disclosures were formed. These expectations were then compared to actual disclosures by the sample companies. After reviewing these companies' financial reports, the results showed that there appeared to be uniform non-compliance with the requirements (and spirit) of Australian financial reporting requirements.

Phase Three, aimed to explore which theory or theories in social and environmental accounting, offer explanatory power to the findings of Phase Two. This phase provided extensive discussion on each of the two 'mainstream theories'—legitimacy theory and institutional theory—in both the organisation and accounting literature, as well as the connections between them. Reviewing the relevant literature resulted in the researcher questioning the overlapping relationship between legitimacy theory and institutional theory. An institutional theoretical framework is then proposed in which the concept of organisational legitimacy is incorporated.

The last phase, Phase Four, applying the theoretical framework that developed from Phase three, sought to provide explanations for the findings of Phase Two. A qualitative research methodology was employed, and semi-structured in-depth interviews were conducted as the method of data collection. Interview data were then analysed by implementing structural, provisional, and pattern coding methods. The findings indicated that there is a lack of institutional pressures on contaminated site disclosures and awareness of risks associated with site remediation obligations. From the perceptions of managers there is a lack of pressures exerted by their external constituents on the financial reporting aspect that relates to contaminated sites. On the other hand, from the external constituent side, either some constituents—such as auditors and the ASIC—are unaware or unable (due to the difficulties in obtaining sufficient information to determine the appropriateness of the disclosures) to exert institutional pressures, or other constituents—such as the NGOs and local communities—are not exerting any pressures on the financial reporting aspect.

This research offers contributions to the social and environment accounting literature and to the central issue of contaminated sites. In terms of social and environmental accounting research, this research provides empirical evidence that 'negative' news such as contaminated site information is often 'hidden' and 'suppressed' by organisations. Current use of legitimacy theory is challenged for its ignorance of its institutional origin and institutional theory is proposed to have greater potential to be applied to social and environmental accounting. In terms of the central issue of contaminated sites, by highlighting the complexity of the issue, and the difficulties in identifying contaminated sites in Australia, this research also implies that there are a large number of contaminated sites that remain unidentified, and a large amount of remediation obligations remain uncounted. Unless all stakeholders collaborate to tackle the issue of contaminated sites, ensuring quality financial information in relation to contaminated sites disclosed in annual reports may be a challenging task.

CHAPTER 1. INTRODUCTION

Some industrial sites will inevitably become contaminated with various pollutants. Depending on the industry in which an entity operates, the environmental standards required and/or applied, the development of knowledge and technology, and the environmental management systems in place, the likelihood that sites will become contaminated will be higher in some industries than others. Sites associated with mining, chemical manufacturing, oil-based fuel production, and timber treatments frequently have contaminants leaching into the soil, such contaminants often being the cause of subsequent groundwater contamination. Pollutants existing in solids or liquids can run off, spread and infiltrate areas beyond the original contaminated site thus broaden contamination.

Australia has many contaminated sites. 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 1999; Yaman 2004). The latest national Australian State of the Environment Report¹ (Australian State of the Environment Committee 2011, p. 263) points out that in general, 'the levels of investment in management of the land environment—and in the research, development, knowledge and information systems that underpin management—remain inadequate' for sound land management. The tasks on contaminated site management such as reducing further land contamination and remediating existing land contamination remain challenging tasks in Australia.

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 1.5 million highly contaminated sites in the United States (Hamblin 2001), and as at 1 December 2012 there are 1,313 superfund² National Priorities List (NPL) sites shown on the American Environmental Protection Agency's website (United States Environmental Protection Agency 2012). Other available international examples include the Netherlands, which has identified 100,000 potentially contaminated sites, of which 10,000 sites were confirmed as contaminated (ANZECC/NHMRC 1992). Austria has identified

¹ The Minister for Environment Protection, Heritage and the Arts is required, under the *Environment Protection and Biodiversity Conservation Act 1999*, to table a report in Parliament every five years on the State of the Environment. State of the Environment (SoE) reporting occurs at both the national and state/territory level. Some regional-scale reporting also occurs in many areas throughout Australia. For more details go to <http://www.environment.gov.au/soe/index.html>.

² Superfund is the US Federal government program to clean-up uncontrolled hazardous sites that are the highest priority for long-term remediation within the nation. For more details go to <http://www.epa.gov/superfund>.

24,155 potentially contaminated sites, of which 1,870 sites were registered on a national register by 1996 (Wise et al. 2000). There are believed to be over five million contaminated sites in Asia (Australian Mining 2004). The number of contaminated sites in Asia are growing as a result of economic development and most of the sites are located in urban areas where people living close by, eating food grown from the soils and relying on the groundwater and/or underground water that may be affected by contamination (CRC CARE 2009).

1.1 Problem statement

A number of contaminated sites represent a significant hazard to human health and the environment, and create serious social and financial risks. Remediation works on some of these sites are needed. The potential harm of contaminated sites to the eco-system, human health, associated social impacts and the financial implications associated with contaminated sites are of direct relevance to society. Physical remediation works need to be funded financially. If no one is held financially accountable for the remediation of these contaminated sites, or if the responsible parties do not (intentionally or unintentionally) have sufficient funding for remediation works, the physical remediation may not eventuate. However the issues of identifying site contamination and cleaning up contaminated sites are complex which in turn requires consideration and co-ordination among various legal systems, government policies and administrative systems, and among various interested parties involved.

It has been estimated that the cost of cleaning up contaminated sites in Australia is \$2 billion each year (Australian State of the Environment Committee 2011; CRC CARE 2009), compared to a total of \$750 billion worldwide (Beeby 2003). Central to the task of cleaning up contaminated sites is the issue of the responsibility for the associated financial costs. The 'Polluter Pays' and 'Strict Liability' principles, which are based on the Australian and New Zealand Environment and Conservation Council's (ANZECC) *Financial Liability for Contaminated Site Remediation* (ANZECC 1994), are adopted by all jurisdictions in Australia, as well as in many other countries (SA EPA 2005b). Under the 'Polluter Pays' principle, the person/entity that causes the site contamination is held responsible for the costs of assessing, auditing and remediating the site. This liability exists without the need to prove intent, negligence or fault—this is the 'Strict Liability' principle.

Site contamination and remediation are not only relevant to responsible parties in cleaning up these contaminated sites, but also are relevant to various stakeholder groups in terms of the potential social, environmental and financial risks associated with these sites. Arguably, investors would find information about contaminated sites to be useful when assessing whether to invest in particular entities. Moreover, many stakeholder groups would be interested in such information for assessing the performance and associated accountabilities

of those organisations operating within the community. There are obvious 'right-to-know' issues pertaining to contaminated sites.

There have been a limited number of overseas studies (for example, Barth & McNichols 1994; Barth, McNichols & Wilson 1997; Freedman & Stagliano 1995; Gray et al. 1998; Leary 2003; Mobus 2005; Moneva & Llana 2000; Northcut 1994; Repetto 2004; Rockness, Schlachter & Rockness 1986) that have investigated the compulsory disclosure practices of corporations in relation to environment-related liabilities. These studies indicate that organisations often fail to disclose, within their annual report and elsewhere, details of what appear to be material financial obligations relating to environmentally contaminated sites. No such studies are known to exist within Australia.

1.2 Motivation of the research and research objectives

Disclosing and recognising financial provisions for site remediation within companies' financial reports is an essential and related part of tackling the issue of site remediation. Site remediation generally requires considerable amount of resources outflows over a relatively long period of time. If the financial costs of remediating contaminated sites are not disclosed and provided properly (in line with relevant regulations and accounting standards) by the responsible parties, it is difficult to believe that the remediation obligations are being properly accounted for. This in turn may cause a concern on whether the responsible parties, with possibly inadequate remediation funding available, will perform the required physical remediation works on the contaminated sites, and if they will, whether the remediation works are performed to a standard that meets the requirements set by the relevant authorities.

Given the volume of contaminated sites throughout Australia, and the related significant remediation obligations, it is worthwhile to explore how, or if, organisations are reporting information about the contaminated sites they are associated with. Motivated by the notion that corporations should be held accountable for their activities (Deegan 2009), this study aims to explore Australian companies disclosure practices as they pertain to contaminated sites and to seek explanations to the current disclosing practices.

Research objective: *to explore Australian companies' disclosure practices as they pertain to contaminated sites and to seek explanations for the current disclosure practices.*

Particular attention is paid to questions such as: how to identify those companies who are responsible for site contamination/remediation within the Australia context; what these companies are disclosing; and, what should be disclosed in their financial reports based on the requirements of relevant regulations and accounting standards. This study also aims to

explore and supply theoretical explanations to the current accounting practices associated with contaminated site disclosures.

1.3 Research design: four phases of the research

This research is comprised of four separate but related phases, with each phase forming the basis for the next phase. Each phase is developed to produce a separate paper aiming to be published in a quality refereed journal. To date the first two phases have been published (Deegan & Ji 2008; Ji & Deegan 2011). Based on the above overall research objectives, four research questions have been developed. These four research questions represent the four phases of the study respectively.

1. In order to identify contaminated sites within Australia, and the responsible parties for remediation, where—in terms of publically available information—can we find information relating to contaminated sites; what search processes are involved; and, how difficult are the search processes? (Phase One)
2. In respect of remediation obligations associated with contaminated sites, do Australian companies appear to comply with relevant financial reporting disclosure requirements? (Phase Two)
3. Which theory or theories in social and environmental reporting literature, offer explanatory power to the findings of Phase Two? How do the two mainstream theories in social and environmental reporting literature, namely legitimacy theory and institutional theory, overlap? Does incorporating one theory (being legitimacy theory) into another theory (institutional theory) provide richer explanatory powers to social and environmental reporting practices? (Phase Three)
4. In respect of Australian companies' disclosure practices in relation to remediation obligations, what are the theoretical explanations supplied by the institutional theory framework? (Phase Four)

1.3.1 Phase One: finding contaminated site information within Australia

The overall study focuses on how Australian corporations disclose information about their contaminated sites, specifically, within their annual reports. Obligations to remediate contaminated sites will represent a significant financial liability for a number of Australian organisations and this research seeks to determine whether such liabilities are being disclosed within the organisations' annual reports, and whether they are being disclosed in conformance with Australian Accounting Standards and other Australian corporate reporting

requirements³. To determine how corporations are disclosing their remediation liabilities the study firstly needs to establish which organisations within Australia are in control of, or are responsible for, contaminated sites.

The first phase of the study describes 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 & 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 extremely incomplete information about contaminated sites in terms of the location of contaminated sites, the extent and nature of the contamination, and the parties responsible for the contamination. Nevertheless, the researcher was able to identify a limited number of organisations that are directly linked to contaminated sites. The search results also highlight issues relating to the complex and somewhat inconsistent and insufficient regulative and administrative regimes within Australia in relation to contaminated site management.

Citing the findings from the journal paper (Deegan & Ji 2008) Greens NSW MP Hon. Ian Cohen moved an amendment to the then proposed *Contaminated Land Management Amendment Bill 2008* to address the difficulties in finding contaminated site information and to 'enhance public access to contaminated land information' (Parliament of New South Wales Legislative Council 2008, p. 12170). In 2011 the *Protection of the Environment Operations Act 1997* (POEO Act) was amended by the *Protection of the Environment Legislation Amendment Act 2011* which also requires Environment Protection Licences holders who undertake pollution monitoring as a result of a licence condition after 31 March 2012, to publish that monitoring data on their corporate website. These changes are aimed to improve the provision of the contaminated site related information to the public. These subsequent changes in legislation demonstrate that academic research such as this, does have positive practical impacts (and ideally should bring more positive changes) on the real world.

³ Overseas evidence suggests that companies often under-report the extent of their obligations in relation to contaminated sites even where this involves an apparent breach of domestic corporate reporting requirements. For example, for the United States see Repetto R, *Silence is Golden, Lead, and Copper: Disclosure of Material Environmental Information in the Hard Rock Mining Industry* (Yale University, 2004); and for United Kingdom evidence see Gray R, Bebbington J, Collison D, Kouhy R, Lyon B, Reid C, Russell A and Stevenson L, *The Valuation of Assets and Liabilities: Environmental Law and the Impact of the Environmental Agenda for Business* (The Institute of Chartered Accountants of Scotland, 1998).

This phase was conducted during the period from 2005 to 2008. Laws and regulations, together with government regulative and administration regimes change over time. These changes have been updated in Chapter 2 since the paper (Deegan & Ji) was published in 2008.

1.3.2 Phase Two: exploring how Australian companies disclose their remediation liabilities within annual reports

The second phase of the study, using information collected from the Phase One, investigates the disclosure practices of four high profile Australian 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' law, and securities exchange reporting requirements.

The process starts with exploring Australian disclosure requirements as they relate to financial obligations associated with contaminated sites. These disclosure requirements are then applied to information collected on each contaminated site to form expectations on anticipated disclosures (what the company should disclose). These expectations are then compared with the companies' actual annual reports in the relevant periods. Companies' annual reports are analysed to understand their disclosure practices as they pertain to contaminated sites.

The findings of the Phase Two which culminated in a paper entitled 'Accounting for contaminated sites: how transparent are Australian companies?' (Ji & Deegan 2011) showed that there appeared to be uniform non-compliance with the requirements (and spirit) of Australian financial reporting requirements.

Phase Two was conducted during the period of 2007 and 2010. Relevant materials have been updated in Chapter 3 to reflect some new information that emerged after 2011 when this phase was published.

1.3.3 Phase Three: selecting an appropriate theory to explain corporate reporting in relation to contaminated sites

Although motivated by the right-to-know related issue in the first phase, the first two phases are not intended to be theory orientated—the 'how' and 'what' questions need to be answered before the 'why' question is proposed. This phase, Phase Three, aims to explore which theory or theories in social and environmental accounting, potentially offer rich explanatory power to the findings of the last phase. Two 'mainstream theories'—legitimacy

theory and institutional theory—that have been commonly used within social and environmental reporting literature, are selected for further theory development.

This phase provides extensive discussion on each the two theories in both organisation and accounting literature, as well as the connections between them. Reviewing the relevant literature results in the researcher's questioning the 'overlapping' relationship between legitimacy theory and institutional theory. An institutional theoretical framework is then proposed in which the concept of organisational legitimacy is incorporated.

Having theoretical frameworks developed within the broader context of Social and Environmental Accounting (SEA) research, the next step is to apply this framework to a specific environmental obligation—contaminated site related disclosures within annual reports by Australian companies.

1.3.4 Phase Four: exploring institutional explanations to the lack of site remediation obligation disclosures by Australian companies

The Phase Four, being the final phase of the research project, applying the theoretical framework formed in Phase Three, aims to explore explanations to the findings in the Phase Two. This phase starts with possible institutional explanations developed based on institutional theory literature, in particular Oliver's (1991) model on organisational strategic response to perceived institutional pressures. Informed by relevant literature, this phase investigates how Australian companies perceive and respond to various institutional expectations and pressures that are exerted (or not exerted) by relevant institutional constituents; as well as how institutional constituents such as auditors and the Australian Securities & Investments Commission (ASIC) exert (or not exert) their institutional pressures on Australian companies.

Qualitative research methodology and interview method are employed in this phase. Semi-structured in-depth interviews are conducted with three senior-level accounting manager participants (financial report preparers) from two high profile companies (these two companies are the sample companies whose financial reports are studied in Phase Two) , one senior audit partner participant (being the current audit firm for one participant company and the past audit firm for the other participating company) from a Big Four accounting firm, and one senior financial specialist participant from the ASIC (the regulatory body monitors and enforces financial reporting).

In general the findings indicate that there is a lack of institutional pressures and awareness of financial reporting of site remediation obligations. From the perceptions of managers there is a lack of pressures exerted by their external constituents on the financial reporting aspect

that relates to contaminated sites. On the other hand, from the external constituent side, either some constituents—such as auditors and the ASIC—are unaware or unable (due to the difficulties in obtaining sufficient information to determine the appropriateness of the disclosures) to exert institutional pressures, or other constituents—such as the NGOs and local communities—are exerting pressures on the physical remediation of contaminated site but not the financial reporting aspect.

This lack of institutional pressure and legitimacy threat on disclosing site remediation obligations, together with the self-serving avoidance strategy adopted by the participant companies, are also reflected in the internal processes of the participant companies and their financial reports. The lack of contaminated site information available to the public (as indicated by the findings in the Phase One), the auditors and the ASIC, also contributes to the lacking of the 'downstream activity'—disclosures on contaminated sites in companies' financial reports.

1.4 Contribution to knowledge

This research, although with a focus on financial reporting issues relating to contaminated sites, provides a broader discussion on contaminated sites beyond the accounting discipline to reflect the complex nature and the interconnectedness of the issue. This research facilitates accounting researchers, policy makers, environmental and accounting practitioners, as well as any other interested parties, to obtain a richer and fuller understanding of the central issue of contaminated sites, and specifically, accounting practices associated with contaminated sites. A better understanding of the issue provides a sound foundation to make informed decisions by various decision makers such as environmental regulators, ASIC, accountants, auditors, Australian Accounting Standards Board (AASB) and Auditing and Assurance Standards Board (AUASB). Recommendations will be made to accounting practitioners, managers of companies, auditors, environmental authorities, the ASIC, and policy makers on the central issue of financial reporting in relation to contaminated sites.

There are no known studies that investigate how to find, and how difficult it is to find information relating to contaminated sites in an Australia context, nor known studies of financial reporting practices of Australian companies that are responsible for contaminated sites. This study addresses these voids and contributes to the body of literature in this regard. Future research can compare the findings from this study with international studies.

Institutional theory has played influential role in organisational studies over the last thirty years and has reached its 'adulthood' (Scott 2008a, p. 427) of theory development stage. It offers a rich body of literature which has significant potential to be applied within social and environmental accounting research. This study contributes to literature, in terms of enriching

and extending institutional interpretations, particularly the works from Scott (Scott 1995, 2001, 2008a) and Oliver (Oliver 1991) to the issue of accounting on environmental liability disclosures. This study also contributes to 'legitimacy theory' in identifying its institutional roots and suggesting bringing organisational legitimacy back into institutional theory in social and environmental research to broaden its explanatory power.

The research methods employed throughout the research, starting with collecting and analysing secondary data to obtain a general understanding of the contaminated site regulations and companies' disclosure practices, to seeking explanations by interviewing and the related qualitative primary data collection and analysis methods, also demonstrate a way, but not the only way, that can be used to obtain and analyse data, in the context of social and environmental research.

1.5 Structure of the thesis

This thesis is comprised of eight chapters. The following table (Table 1.1 Outline of the thesis) outlines each chapter and the purpose of the chapter. Following this introduction chapter, chapter 2 documents the steps that are undertaken and the difficulties that are incurred in the process of locating contaminated sites within Australia (Phase One). Chapter 3 provides detailed account of four sample high profile Australian companies' disclosure practices on their contaminated sites within their annual reports (Phase Two). Chapter 4 explores questions and proposes a theoretical framework that is capable to provide rich explanations to the findings of the Phase Two (Phase Three). Using the theoretical frameworks developed in Chapter 4, Chapter 5 provides possible explanations to the lack of contaminated site disclosures, and proposes four research questions for Phase Four based on research objective (Phase Four). Chapter 6 determines research methodology and strategy, and documents research methods for data collection and data analysis (Phase Four). Chapter 7 presents results and discussions of results (Phase Four). Chapter 8, being the conclusion chapter, summarises the four phases of the study and provides discussions on implications of the study. This last chapter also acknowledges a number of limitations of the study, provides recommendations and identifies opportunities for future research.

Table 1.1 Outline of the thesis

Chapter	Name of the chapter	Purpose
One	Introduction	To provide an overview of this study
Two	Phase One: Finding contaminated site information within Australia	To present a detailed description of the searching processes for finding information on contaminated sites in Australia
Three	Phase Two: Exploring how Australian companies disclose their remediation liabilities within annual reports	To discuss reporting requirements that relate to contaminated sites and to present the findings from a review of four high profile Australian companies' financial reports
Four	Phase Three: selecting an appropriate theory to explain corporate reporting in relation to contaminated sites	To explore relevant theory or theories that offer explanatory powers to the findings of the last phase; to challenge the current use of legitimacy theory in social and environmental accounting literature; and to discuss the theoretical framework embraced by this study
Five	Phase Four: Explanations from institutional theory for contaminated site disclosures by Australian companies – <i>possible explanations and research questions</i>	To further extend theoretical frameworks to supply possible explanations; and to formulate research questions for Phase Four
Six	Phase Four: Explanations from institutional theory for contaminated site disclosures by Australian companies – <i>research methodology, strategy and methods</i>	To determine research methodology and strategy; to determine and document data collection and data analysis methods; and to address validity and reliability of the methods
Seven	Phase Four: Explanations from institutional theory for contaminated site disclosures by Australian companies – <i>research results and discussions</i>	To present the results and findings from data analysis
Eight	Conclusion	To provide a summary and conclusion for the overall study; to discuss the implications of the study; to acknowledge the limitations; to provide recommendations; and to identify future research opportunities

CHAPTER 2. PHASE ONE: Finding contaminated site information within Australia

The truly vexing challenges and policy fault lines are apparent when we are forced to consider issues of access to information about contaminated land, targeted regulatory management under resource constraints of the Environment Protection Authority and divergent standards of remediation.

Hon. Ian Cohen⁴

Perhaps somewhat obviously, to investigate how Australian companies disclose contaminated site related obligations in their annual reports (which will be explored within Phase Two) those companies responsible for contaminated sites had to be identified. At the outset of the research the researcher and her supervisor thought this exercise would be fairly straight forward—simply downloading a list from government environmental authorities' websites. The actual research process was anything but straight forward.

Motivated by issues associated with community rights-to-know about contaminated sites located within Australia, this phase explores the extent of publicly available information about contaminated sites. That is, the research explores whether sufficient information exists about Australian contaminated sites to enable interested parties to determine the location of contaminated sites, the extent and type of contamination, the parties responsible for the contamination, and any existing plans pertaining to future remediation. The maintained view is that individuals within the community have a right to be able to access information about the existence of contaminated sites, as well as being able to determine who is responsible for the associated contamination. The findings from this phase have been published in a paper titled 'Finding information about contaminated sites in Australia: There has to be a better way!' (Deegan & Ji 2008) in *Environmental & Planning Law Journal*.

Phase One was conducted during the period from 2005 to 2008. Since it was published in 2008, there have been some changes in regulative and administrative regimes within some jurisdictions. These changes have been incorporated within this chapter.

⁴ Hon. Ian Cohen is a former Greens NSW MP, serving in the NSW Legislative Council from 1995 to 2011. The above quote is sourced from his NSW Parliamentary speech (Parliament of New South Wales Legislative Council 2008, p. 12168) on the proposed *Contaminated Land Management Amendment Bill 2008*. In compiling his speech, he made direct reference to research published from this thesis.

2.1 Key terms used in this phase

As this phase explores the extent of publicly available information about contaminated sites, and any related remediation obligations, the related terminology needs to be clear. Consistent with various laws within Australia, a contaminated site can be defined as a parcel of land, and other elements in the environment associated with the land, which has a substance—at above a background level—that presents the likelihood of causing an adverse impact to human health and/or to the environment. Background level means the level of an indicator that would be recorded, or a range of levels for particular indicators that would be recorded, when measured in a similar geological area, in the absence of contamination. The definition of ‘site’ is broader than just the land on the site, as it includes ground water and underground water associated with the land. It is often found that in many site contamination cases, toxic substances submerge into water tables and aquifers, and toxic plumes often move outside the boundary of the site, sometimes causing contamination to surrounding areas.

Whilst the above definition of a contaminated site is generally accepted, there are various other definitions used in different countries, States, and across organisations. According to the National Environment Protection (Assessment of Site Contamination) Measure 1999, ‘contamination’ means:

[T]he 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 1999, p. 2).

‘Site’ is defined as ‘the parcel of land being assessed for contamination’. In Australia, each State or Territory has its own legislation to regulate environmental issues, and the definitions vary from State to State. However, the meanings are generally consistent across Australia⁵. Related to the definition of a ‘contaminated site’ is the action that might be required to

⁵ In Western Australia, the *Contaminated Sites Act 2003* (WA), section 4 defines ‘contaminated’ as: ‘in relation to land, water or a site, having a substance present in or on that land, water or site at above background concentrations that presents, or has the potential to present, a risk of harm to human health, the environment or any environmental value’. New South Wales’s *Contaminated Land Management Act 1997* (NSW), section 5 defines ‘contamination’ of land as: ‘the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment’. In Victoria, instead of ‘contaminated site’, ‘polluted land’ and ‘potentially contaminated land’ are separately defined in the *State Environment Protection Policy (Prevention and Management of Contamination of Land)* (Vic), Pt VII.

eliminate the impacts of the contamination. This is variously referred to as 'remediation' or 'clean-up'. Where a site is contaminated, a general expectation would be 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.

As with 'contaminated site', different Australian States/Territories define 'remediation' in different ways. Some States use the alternative term 'clean-up'. For example, in section 4 of the *Contaminated Land Management Act 1997 (NSW)*, the 'remediation' of contaminated land includes:

- (a) preparing a long-term management plan (if any) for the land;
- (b) removing, dispersing, destroying, reducing, mitigating or containing the contamination of the land; and
- (c) eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land).

Section 4 of Victoria's *Environment Protection Act 1970 (VIC)* does not use the term 'remediation', instead, 'clean-up' is used and is defined as a process involving a number of other sub-processes (which are defined and explained by the Act). For the purpose of this research, 'clean-up' and 'remediation' are used interchangeably, and represent the action of reducing the contamination of a site to acceptable levels.

It however needs to be acknowledged that the various notions of contaminated site, classifications of the contaminated sites, the determination of the appropriated level of remediation, as well as the technologies utilised in detecting and subsequent remediation of contaminated sites, are very much subject to debate among scientists, engineers, the responsible parties for cleanup, and the government. Reaching a clear agreement may not be an easy task. These debates may affect the questions such as: what sites need to be listed as contaminated site? Who decides? How to decide? And to what extent that the remediation is appropriate?

2.2 Research questions relating to Phase One

Having discussed the definition of 'contaminated site' and 'site remediation' and having briefly discussed the broad incidence of contaminated sites, the next step is to identify the research question addressed in this phase. At the outset of the overall study there are four phases developed based on four research questions that are discussed in Chapter 1. Each phase is separate but inter-related. The research questions for Phase One are:

In order to identify contaminated sites within Australia, and the responsible parties for remediation, where—in terms of publically available information—can we find information relating to contaminated sites; what search processes are involved; and, how difficult are the search processes?

These research questions are further divided into four sub-questions:

1. What procedures must be followed to identify both the location of contaminated sites within Australia, and the parties responsible for the associated remediation?
2. Is the search process involved in identifying contaminated sites of such a nature that an 'average member of the public' could realistically be expected to be able to find the information about contaminated sites?
3. What is the nature of publicly available information, and where is such information located?
4. What improvements, if any, appear necessary in relation to publicly available information pertaining to contaminated sites?

It should be noted that at this point that the purpose of the research undertaken for this chapter is to not only identify companies that are in control of contaminated sites, but also to document the search process that must be undertaken to identify contaminated sites. As such, the description of the process is procedural and descriptive in nature and no reference is made to specific theories of accountability, or otherwise, in this chapter⁶. The purpose of the description is to show how difficult it is for individuals to find information about contaminated sites. As we will indicate this description of the required process can then be used as a basis for recommending that data-base relating to Australian contaminated sites need to be improved to enable greater access to information about the location of contaminated sites together with information about the type of contamination and the responsible parties.

2.3 Potential sources of information pertaining to contaminated sites

As a first step in identifying contaminated sites, thought was given to determining some logical places that relevant information would reside. These included:

- reports associated with administrative regimes linked to legislation dealing specifically with contaminated sites;
- reports and websites produced or controlled by government bodies, such as environmental protection agencies;

⁶ Use of 'theories' will be introduced in Chapter 4.

- reports and websites of environment-focused non-government organisations (NGOs);
and
- Factiva database for the print media.

In order to find information about contaminated sites it is necessary to have a general understanding of current regulatory regimes operating within Australia, both for locating the sites, and also for obtaining information about the responsible parties. Knowledge of the various reports being released by various State Environmental Protection Authorities (EPAs) is also necessary, particularly in regard to those reports (often an EPA's Annual Report) that potentially identify companies that have been prosecuted for breaches of environmental laws, and where such prosecution relates to contaminated sites⁷.

The researcher was particularly interested to determine whether a contaminated sites register exists in various jurisdictions within Australia and, if such a register exists, whether searches on the register are straightforward or complex and if they are free of charge. Further, if a register exists, what is the extent of the available information? For example, are all the contaminated sites in a particular jurisdiction included in the register? Do the registers provide information about the polluters or responsible parties, owners, occupiers and locations of the sites? Are there any remediation plans attached to the sites?

2.4 The research process and results

2.4.1 Policy, legislative and administrative regimes relating to contaminated sites in Australia

The first task was to review government related initiatives that were specific to contaminated sites. Currently, the Department of Sustainability, Environment, Water, Population and Communities which was established on 14 September 2010, develops and implements national policy, programs and legislation to protect and conserve Australia's natural environment and cultural heritage. However, each State or Territory generally has its own environmental department, and environmental regulations vary from State to State. The assessment, remediation, management and associated planning issues pertaining to contaminated sites within Australia are predominantly carried out on an individual jurisdictional basis.

In 1992, the Commonwealth and States and Territories formulated the Intergovernmental Agreement on the Environment (IGAE). This agreement guides the roles, responsibilities and interests of all levels of government in relation to the environment. It was agreed a national

⁷ It needs to be noted, however, that a vast majority of contaminated sites are not the subject of prosecution.

body (then the National Environmental Protection Council), with responsibility for making National Environment Protection Measures (NEPMs), be established. The parties agreed that it is the responsibility of the States and local governments to establish land policy and land-related legislative and administrative frameworks.

2.4.1.1 Site contamination assessment

In recognition of the problems associated with site contamination, ANZECC and the National Health and Medical Research Council (NHMRC) jointly developed technical guidelines for site contamination in 1992. The Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Site (Guidelines) have been adopted by all jurisdictions within Australia (Natusch 1997). The technical guidelines, focusing on the assessment and the management of contaminated sites, was the first stage of a two-fold approach taken by ANZECC to address site contamination issues in Australia. The second stage related to developing a consistent approach across jurisdictions for attributing financial obligations to contaminated sites. The outcome (a position article entitled Financial Liability for Contaminated Site Remediation) provides basic agreed national principles 'within which individual ANZECC members may establish administrative and legal frameworks appropriate to their jurisdictions' (ANZECC 1994, p. 2). Among those principles, the 'Polluter Pays Principle' and a basic liability hierarchy—polluter, owner, occupier and relevant governments (for orphan sites)—are clearly specified (Natusch 1997).

In 1999 the National Environment Protection Council (NEPC) (stemming from the IGAE and established by the National Environment Protection Council Act 1994), developed the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM) providing a nationally consistent approach to the assessment of site contamination. This development was seen as a significant step in committing to conservation and protecting the health and integrity of Australian ecosystems (NEPC 2006). However, section 14 of the NEPC Act only specifies that the NEPC can make general guidelines for the assessment of site contamination. Therefore, remediation and management, which was addressed in the ANZECC/NHMRC Guidelines 1992, is outside the scope of the NEPM. The NEPC's review recommends that the Environment Protection and Heritage Council (EPHC) address remediation and management issues by revising the Guidelines at a national policy level.

To summarise, whilst the NEPM provides national guidance on the assessment of site contamination, the actual management is carried out by individual jurisdictions with different regulatory and administrative frameworks for implementing the NEPM (NEPC 2006).

2.4.1.2 Remediation and management of site contamination

The nature of current legislation governing remediation varies between jurisdictions (Natusch 1997). Issues relating to determining the responsible party, and devising appropriate remediation plans, can vary significantly throughout Australia due to the multiplicity of legislation across different jurisdictions. The issue of financial liability is legally complex as it deals with many different legislative and regulatory regimes, both civil and criminal. Even though most jurisdictions identify the current owner/occupier and/or polluter as the responsible party to undertake remediation, the remediation work has been largely voluntary, often motivated by the financial incentives to be made from redevelopment of the land (ANZECC 1993). This is because site contamination is often not detected by regulators until the change of land-use for redevelopment, typically during the redevelopment of an industrial site for residential use (NEPC 1999). Nevertheless, ANZECC still provides the basic principles for attaching the financial liability to, and management of, site contamination.

Generally State EPAs take a 'hands-off' approach in relation to remediation, that is EPAs require sites to be remediated to the levels suitable to the proposed activities of land-use, but the method of remediation is left to the owner/developer with advice provided by an environmental consultant. For example, within Victoria it is the responsibility of an independent environmental auditor, registered with EPA Victoria, to carry out an environmental audit to determine whether the outcome is satisfactory (Natusch 1997).

Sites may be regulated at different levels in government. In most jurisdictions, the respective EPA normally (but with exceptions) regulates sites which are identified to pose significant risk of harm to human health and/or the environment, whereas local councils deal with other sites, including low-risk sites and potentially contaminated sites, through the planning and development process when approving a change in land-use, or a new development.

2.4.1.3 Contaminated site registers

The ANZECC Guidelines recommend that information on contaminated sites and necessary remediation plans be recorded on land titles, or on a database (ANZECC 1993). The availability of information is also addressed in the policy framework by the NEPM. As a principle, 'all relevant information on site contamination should be accessible to the community and particularly to those who need to make informed decisions' (NEPC 2006, p. 5). There is no national contaminated site register available and most jurisdictions currently have different forms of registers available. Even though the community was mentioned by the NEPM, the perceived users of the existing registers appear to be land purchasers, planners and conveyancers. There is no comprehensive list of all known contaminated sites and the States and Territories appear to have very incomplete knowledge of them. The

difficulties that arise when searching for site contamination information will be addressed in greater detail later in this chapter in the overview of the website search process.

To summarise the above brief discussion: although there are some national guidelines in the assessment and management of site contamination, the policy, legislation and administrative frameworks are delivered on an individual jurisdiction level with varying degrees of management and enforcement.

2.4.2 Environmental authorities' annual reports

For the second part of the search process, the researcher reviewed the annual reports of various environmental agencies. Under various regulations in each jurisdiction, environmental authorities are required to provide annual reports to summarise the respective environmental protection performance during the year. For example, in the Northern Territory, pursuant to section 28 of the *Public Sector Employment and Management Act* (NT), the environmental authority is required to provide an annual report to Parliament, Territorians and other stakeholders (Northern Territory Department of Natural Resources Environment and The Arts 2006). As an important means of the environmental authorities' compulsory accountability reporting and official communication to stakeholders, environmental authorities' annual reports aim to provide information about their primary functions, fiscal performance, and environmental protection activities. Those activities address a number of issues such as prevention, clean-up and management of air, water and land pollution. Given the potentially significant environmental impact caused by site contamination, it was assumed by the researcher that site contamination issues would be disclosed to a greater extent within these annual reports, especially where they list companies that were prosecuted by the EPA successfully for site contamination, or that were served with clean-up notices. For this reason each jurisdiction's environmental annual reports for a five year period (2001 to 2006)⁸ were collected and screened in an effort to identify contaminated sites and their associated remediation and management. A total of 40 annual reports were collected from six States and two Territories of Australia.

Four out of eight jurisdictions do not have stand-alone EPA or equivalent environmental annual reports. Their environmental reporting is incorporated as a section within the relevant

⁸ This review process was taken in 2006 and 2007, and the results were published in 2008. The processes of identifying each EPA's name and the website (the environmental authority in each jurisdiction may change the name over time), locating and collecting their annual reports, and reviewing these annual reports are time consuming. A quick review on their annual reports for year 2012 reveals no significant changes since 2006 in terms of information in relation to contaminated sites. It is for these reasons that the materials presented in this part of the thesis is the same as that presented in the 2008 publication emanating from this thesis.

government departmental annual reports. To find environmental reports in these jurisdictions, searchers need to identify relevant departmental reports first and then scroll down to the relevant environmental section. Furthermore, in those four jurisdictions, the EPA's or the equivalent unit (Tasmania did not have an EPA) changed departments a number of times within the five years period. This increases the level of difficulty when identifying relevant departments and then searching on their websites to locate the relevant annual reports. In some cases the researcher had to email relevant EPA officers to confirm correct website addresses and correct annual reports to ensure that all relevant reports were collected.

The four jurisdictions that do not produce stand-alone EPA reports are the Australian Capital Territory, New South Wales, Northern Territory and Tasmania. ACT's environmental reports are located on the Chief Minister's Department website for 2004-06 and the Territory and Municipal Services website for other years. New South Wales had stand-alone EPA annual reports until September 2003 after which time it was consolidated with the Department of Environment and Conservation (in April 2007 it again formed a new Department of Environment and Climate Change). The Northern Territory EPA was established in October 2005 and was amalgamated to form the Department of Natural Resources, Environment and the Arts. Before this, the environmental reporting was incorporated in the Department of Infrastructure, Planning and Environment. During the five year period, there was no EPA in Tasmania; the environmental reporting was incorporated in the annual report of the Department of Primary Industries, Water and Environment before April 2006 and the Department of Tourism, Art and the Environment thereafter. Changes in departments typically result in changes in websites, which not only creates difficulties when locating the environmental authority's annual reports, but greatly contributes to difficulties in tracing environment-related information (including site contamination). The annual reports often comprise 100-200 pages, so it takes time to screen and identify relevant information from 40 annual reports and understand each jurisdiction's regulatory structure relating to site contamination.

The annual reports for the five year period (2001-2006) from eight jurisdictions were reviewed in an effort to find site contamination information. It was found that some jurisdictions (for example ACT and South Australia) provided little or no information on site contamination in the associated annual reports, whereas others provided around one or two pages describing general issues relating to site contamination in subsections within the reports. Some jurisdictions (for example New South Wales, Queensland, Tasmania and Victoria) listed prosecutions and/or environmental protection orders made during the year. These enforcements often related to activities such as water or atmospheric pollution, providing misleading/incorrect/false information to the EPA, or unauthorised industrial waste

storage or dumping. The brief description (often only one sentence) was written in such a way that readers could not easily identify whether site contamination was involved.

Some jurisdictions (New South Wales and Queensland) disclosed the existence of contaminated site register(s) while other jurisdictions disclosed a numbers of sites which were investigated or overseen by the EPAs. In some jurisdictions' annual reports (for example South Australia) it is clearly stated that 'the number of sites affected by contamination in South Australia is largely unknown' (SA EPA 2003, p. 28). Only a limited number of sites were identified through the review of annual reports and it was generally found that these particular sites were disclosed in relatively greater detail in some years' annual reports in an apparent attempt to respond to concentrated media attention of the time. For example, the South Australian EPA discussed the Port Stanvac Oil Refinery (owned by Mobil⁹) in the 2003 and 2004 annual reports—a time when this site attracted a large amount of negative media and public attention. In the 2004 annual report, the South Australian EPA stated: 'Existing environmental protection legislation is inadequate to manage site contamination, particularly specific issues that emerge such as the 'mothballing' of the Port Stanvac Oil Refinery' (SA EPA 2004, p. 27). In the 2004, 2005 and 2006 reports the New South Wales EPA discussed the Orica Botany site, a site that has caused significant community concern since 2003. This site will be discussed in greater detail in Phase Two of this study.

Overall, the disclosure within respective annual reports, as it pertained to contaminated sites, all seemed quite ad hoc. None of the jurisdictions listed much data on contaminated sites, nor did they disclose prosecutions that specifically relate to site contamination. Hence, efforts to identify contaminated sites through each EPA's reports turned out to be time consuming and unsuccessful. The next stage of the search process then moved to the websites of relevant government agencies.

2.4.3 Website search in each jurisdiction

As the policy, legislation and administrative frameworks are developed at an individual jurisdictional level, the search was conducted on an individual jurisdictional basis. The search required the researcher to understand each jurisdiction's legal/regulatory system as it pertains to site contamination, and whether a contaminated site register exists. The

⁹ ExxonMobil Australia is a subsidiary of Exxon Mobil Corporation which is listed on New York Stock Exchange. The Port Stanvac Oil Refinery site was excluded from the Phase Two of the study as the company is a non-Australian company therefore the company is not required to prepare annual report under Australian reporting requirements.

researcher also sought to determine whether access to information is free of charge, as well as determining the nature and the extent of information provided to public users.¹⁰

2.4.3.1 Australian Capital Territory

Within the ACT the *Environment Protection Act 1997 (ACT)* is the major vehicle for managing environmental issues. As there is no local council within the ACT, the EPA also performs some functions typically performed in other jurisdictions by local councils (such as managing low-risk contaminated sites). In accordance with the Act, the Environment Management Authority prepared the *Contaminated Sites Environment Protection Policy 2009* which aimed to explain the procedures to manage contaminated land, and provide guidelines on the obligations of owners and occupiers of contaminated land. The obligations include notifying the authorities of any land contamination, assessment and remediation. In 2009 the ACT also introduced the *Environmental Guidelines for Service Station Sites and Hydrocarbon Storage* policy. The Act also requires a register of contaminated sites to keep records of orders to assess and/or remediate site contamination. Any entries in the register will be advertised in the Commonwealth of Australia Gazette, and a daily news article. The Contaminated Site Register however is not available online. At present there are no sites on the Register as sites are only placed on the Register if the EPA has had cause to issue an environment protection order of assessment or remediation under Section 91 of the *Environment Protection Act 1997* over the site. To date all sites in the ACT have been assessed and remediated voluntarily, primarily due to the conditions of development approval imposed by the EPA when a change in land use is proposed¹¹. A search fee of \$38.65 per block (as at 31 December 2012) applies for a contaminated land search online request (although there are no sites on the register). In undertaking a search, searchers need to specifically supply site location information such as the block, section, suburb, district and site address of the land (ACT Department of Territory and Municipal Services 2000).

2.4.3.2 New South Wales

In New South Wales, the management of contaminated sites is shared by the Department of Environment and Climate Change (DECC) and the Department of Planning and Local Governments (NSW EPA 2006a). Contaminated sites that pose significant risk of harm to human health and/or the environment are regulated by the EPA under the *Contaminated Land Management Act 1997* (NSW). The Act empowers the EPA to issue declarations,

¹⁰ Although the Phase One search process was taken during the period of 2005 and 2008, in the final thesis writing up stage, the regulative and administrative regimes addressed in this section have been updated to reflect some significant changes. This section also documents the updated search results of contaminated site registers from each jurisdiction, if such registers exist.

¹¹ Determined from email communications with the EPA Contaminated Site Officer in Feb 2013.

orders or voluntary agreements to investigate and/or remediate a seriously contaminated site. Sites that are not considered to be high-risk are managed by local councils through planning processes, in accordance with State Environmental Planning Policy No 55: Remediation of Land 1997 under the *Environmental Planning and Assessment Act 1979* (NSW). For these sites, only when developing a site to a more sensitive use the contamination status of the site is reassessed (NSW EPA 2006b).

For sites regulated by the EPA which pose 'significant risk of harm', the record of notices on contaminated sites is available on the EPA 'Contaminated Land Management' webpage free of charge. However, some information such as the individual site owner or occupier's name and address are not available from the record. Information on sites that are regulated under voluntary investigation or remediation proposals agreed to by the EPA are identified, but without full copies of the proposals. To obtain a copy of the agreement a Freedom of Information application needs to be made to the department or directly requested to the proponent. The researcher searched the full record by clicking 'show me the entire record' (on 31 December 2012), resulting in 1007 notices relating to 341 sites being shown. Compared to the estimated 30,000 potentially contaminated sites existing in New South Wales (Natusch 1997), this number is rather incomplete.

A large unknown number of contaminated sites that are not considered to pose 'significant risk of harm' are managed by individual local councils and relevant information is not coordinated by a central agency to provide a systematic database to the public. This issue was addressed in the New South Wales State of Environment Report (NSW EPA 2003) and has been suggested as a future area for improvement.

The above mentioned search process for NSW, as a part of a paper that was published in 2008 (Deegan & Ji 2008), has been cited by the then Greens NSW MP Hon. Ian Cohen. Based on the paper's findings and to address the difficulties in finding contaminated site related information, as a member of the NSW Legislative Council, he moved an amendment to the proposed *Contaminated Land Management Amendment Bill 2008* to 'enhance public access to contaminated land information' (Parliament of New South Wales Legislative Council 2008, p. 12170). Accessing contaminated site information was further addressed in 2011 by the NSW government. The *Protection of the Environment Legislation Amendment Act 2011* introduces changes to the *Protection of the Environment Operations Act 1997* (POEO Act) which requires Environment Protection Licences holders who undertake pollution monitoring as a result of a licence condition after 31 March 2012, to publish that monitoring data on their corporate website.

2.4.3.3 Northern Territory

In the Northern Territory there is no specific legislation dealing with contaminated sites. Instead, the *Waste Management and Pollution Control Act 1998* (NT) regulates the assessment and management of contaminated sites. When changing the use of land the provisions of the *Planning Act 1999* (NT) may apply (Northern Territory Department of Natural Resources Environment and The Arts 2007). There are no legal enforcement procedures for polluters or owners to remediate contaminated sites. The number of contaminated sites in NT is unknown to the EPA¹². Compared with the 1,000 estimated potentially contaminated sites (Natusch 1997) there are currently nine parcels of land which are included in the Control Register. Information on site owners or occupiers, site address, the nature of contamination, and suitable uses of the land are reported.

2.4.3.4 Queensland

Contaminated sites are managed by the EPA through the *Environmental Protection Act 1994* (Qld) (*EP Act*). Contaminated sites are classified into two categories: land that is potentially posing serious environmental harm, or adverse human health effects—recorded on a Contaminated Land Register (CLR); and ‘low risk’ sites or land that has been, or is being, used for a notifiable activity—recorded on an Environmental Management Register (EMR). Sites that are recorded on the EMR do not necessitate remediation or a discontinuation of the current land-use activities. Land can be removed from the registers after remediation. When there is a change of land-use, or a new subdivision is made, the Department of Environment and Resource Management administers the contaminated sites under the *Integrated Planning Act 1997* (Qld). Unlike New South Wales, under the *EP Act* local governments have obligations to notify the EPA of land that has been or is being used for notifiable activities. The operation of the contaminated site provisions of the *EP Act* is supplemented by the *Sustainable Planning Act 2009* (Qld) and *Sustainable Planning Regulation 2009*. These two pieces of legislation provide the mechanism for site investigation and assessment under the land-use planning system.

From 1 August 2012 joint search of the EMR and CLR can be performed with a payment of \$41.55 per lot (from the internet), or \$48.85 per lot (non-internet). The fee is charged under the *Environmental Protection Regulation 1998* (Qld) (EPA Queensland 2007). This search usually forms part of the conveyancing process. Searchers are assumed to have certain knowledge of the land, such as the lot number, register plan numbers, the property location

¹² There is no information available on the website on how many contaminated sites exist in NT. A follow-up telephone interview, undertaken on 4 February 2013, with an EPA officer confirms that the number of contaminated sites in NT is unknown.

and address to request the search. There is no information on how many sites are recorded on the register.

2.4.3.5 South Australia

The State government, through the EPA, developed the *Environment Protection (Site Contamination) Amendment Bill 2007* with the intention of adding provisions specifically relating to site contamination to the *Environment Protection Act 1993* (SA). Until mid-2009 there was no specific contaminated site legislation in place within South Australia which is deemed to be effective. The previous environmental protection legislation is perceived as inadequate to manage site contamination issues within South Australia (SA EPA 2003, 2004, 2005a, 2007). Companies operating in South Australia are not legally bound to remediate land even where contamination has occurred. This issue was particularly addressed in the EPA's 2003 and 2004 annual reports in relation to the 'mothballing' of the Port Stanvac Mobil Oil Refinery. The number of contaminated sites is unknown by the EPA (SA EPA 2003, 2008). However, it was estimated by Natusch that there were 4,000 potentially contaminated sites within the State (Natusch 1997). A contaminated sites register does not exist, however, enquiries can be made as to whether the EPA holds a copy of an environmental assessment for particular sites and a fee of \$15 per title is charged. With a payment, searchers can also search the Public Register. This Public Register records environmental authorisations, development authorisations, incidents and clean-up orders. An information request must be in writing and the title reference and address of each parcel of land needs to be provided. From 1 July 2009 a free of charge Site Contamination Index site is available on the EPA's website which provides notification and reports that relate to a specified suburb or town. The searchers however need to put in the suburb/town name as search criteria to enable the search, and the level of detail relating to the research results is limited.

2.4.3.6 Tasmania

There was no EPA in Tasmania, instead the Contaminated Site Unit (CSU) of the Environmental Division of the Department of Tourism, Art and the Environment regulates contaminated sites that pose a significant risk of harm to human health and/or the environment under the *Environmental Management and Pollution Control Act 1994 (EMPC)* (Tas). Tasmania does not have stand-alone legislation for contaminated sites. It was not until 2007 the *EMPC Act* was amended to incorporate provisions specifically related to detecting, investigating and remediating contaminated sites. Legislation to establish the EPA for Tasmania was passed by Parliament in November 2007 and came into effect on 1 July 2008. Under the *EMPC Act* an Environment Protection Notice may be issued by the CSU to a person or an organisation when environmental harm has occurred or is likely to occur. Low-risk sites are managed by local councils through the land-use planning process. The NEPM

has been adopted as State policy for contaminated site assessment (Tasmania Department of Tourism Arts and the Environment 2007).

Contaminated site information is not publicly available. A Property Information Request (PIR) is available on the EPA's website. A PIR research only contains records of sites that have been assessed by the Environmental Division, and therefore does not list all sites that are contaminated. A search fee of \$77 (excluding GST) (as at 1 December 2012) per property applies for each search request. Similar to Queensland's register, there is no disclosure of how many sites are recorded on the register and about the extent of site-related information that will be provided as a result of paying for a search. However, it is indicated that the level of detail that can be obtained by way of a search is 'limited'. If further details are needed, 'then the applicant either has to apply to the owner of the information, or apply for the information under Freedom of Information Legislation' (Tasmania Department of Primary Industries Water and Environment 2004).

2.4.3.7 Victoria

In Victoria there is no stand-alone legislation on contaminated sites, the *Environment Protection Act 1970* (Vic) regulates environmental protection issues and establishes the powers of the EPA Victoria to prevent or minimise pollution. In 2002 the *State Environment Protection Policy (Prevention and Management of Contamination of Land)* introduced legally enforceable policy relating to land contamination. Contaminated sites are classified as priority sites, and potentially contaminated sites. Priority sites are defined as sites which present an unacceptable risk to human health and/or the environment and have been issued Clean-up Notices, or Pollution Abatement Notices by the EPA (EPA Victoria 2007). These sites are recorded in a Priority Site Register. This register does not list all contaminated sites within Victoria, nor does it list all known sites. Sites subject to voluntary agreements, and those managed by the planning authority under the *Planning and Environment Act 1987* (Vic), are not listed on the register. In terms of how many contaminated sites exist within Victoria, the 'information about the nature and condition of land in Victoria is very difficult to obtain' and there are 'no reliable statistics on the extent of contaminated land across Victoria' (EPA Victoria 2002, p. 27).

A short list of the Priority Sites was made available on the EPA website. The latest list (data generated on 9 November 2012) provided by the EPA indicates that there are 304 notices (including pollution abatement notices and clean-up notices) issued. These notices have yet to have all their conditions complied with. Once all conditions of the notices have been complied with sites are removed from the Priority Sites Register. By comparison, there is an estimated 10,000 potentially contaminated sites in Victoria (Natusch 1997). The information provided by the Priority Sites Register is limited to the municipality, locality, address and a

brief description of the contamination and related clean-up requirements. Interested parties can search the Priority Sites Register for more detailed land information through two information brokers listed on the EPA website for a fee. Property and title laws do not require the recording of land contamination when selling land. This further contributes to the difficulties in obtaining relevant information about particular sites (EPA Victoria 2002).

2.4.3.8 Western Australia

Within Western Australia, and prior to 2006, there had been a lack of effective powers to enforce investigation (assessment) and clean-up of contaminated sites. Because of this, information about contaminated sites located within Western Australia is largely unknown. In December 2006 the *Contaminated Sites Act 2003* (WA) took effect to complement the *Environment Protection Act 1986* (WA). The Department of Environment and Conservation (DEC) is responsible for administering the Act and the associated regulations. Under the *Contaminated Sites Act*, polluters, current owners/occupiers, or environmental auditors are required to notify the DEC about land contamination. Following the Polluter Pays Principle, the polluter, current owner, and possibly the government, are responsible for the remediation. The DEC has the legal power to issue an investigation notice, clean-up notice, or hazard abatement notice to the relevant party. Failure to comply with the notice, or report to the DEC, may result in conviction and fines (Department of Environment and Conservation of Western Australia 2007).

The Contaminated Sites Database includes information about sites classified under the Act as 'contaminated—remediation required', 'contaminated—restricted use', and 'remediated for restricted use'. The Contaminated Sites Database is accessible from the 'Contaminated Site' webpage. The register provides the location of the contaminated sites only, no individuals' or companies' names are provided unless they are held responsible for the remediation. The database allows searches for known contaminated sites using search fields such as street name, suburb, council or title. The location of the site is spatially shown on a map with basic information. There is no list available from the website; searchers need to know at least one of the search criteria to find information.

To this point of the search process the researcher invested several months in an endeavour to identify contaminated sites within Australia. Relying upon publicly available government sources (for example websites, EPA Reports, relevant registers) provided details of very few contaminated sites. This was despite the fact that between 80,000 and 200,000 contaminated sites are believed to exist in Australia (Australian State of the Environment Committee 2011; Hamblin 2001), again raising various right-to-know issues. In the hope of identifying additional contaminated sites, sources of a non-government nature were reviewed.

Specifically, publications in the print media, and the websites of a number of non-government organisations (NGOs) were reviewed.

2.4.4 Media and NGO search

As indicated above, the next step in the search process was to conduct a media search to find evidence that might lead to identifying companies with contaminated sites.

The researcher used 'contamin* site*' and 'Australia' as search terms within Factiva, a major Australian news article database. This provided 683 news articles which were then read. Most of the articles were either not relevant to this search¹³ or provided insufficient information¹⁴; but a few provided clues for further searching which ultimately lead to the identification of contaminated sites—a number of which had not been revealed through the previous government-related search.

A brief NGO search was then conducted in an attempt to understand the NGO's focus on site contamination issues. The websites of Greenpeace Australia Pacific, Australian Conservation Foundation, Clean-up Australia and the National Toxic Network were searched, though the information provided for particular sites was very limited. Where sites were discussed, the discussion related to sites that were also identified through the media search undertaken.

2.5 Concluding discussions and recommendations

Given the procedures described above, it can reasonably be concluded that identifying companies with contaminated sites within Australia is anything but a straightforward exercise. Given that the estimated total sum of contaminated sites in Australia varies from 80,000 to 200,000 sites (Australian State of the Environment Committee 2011; Hamblin 2001), the number of sites able to be identified through available government sources is, at least in the opinion of the researcher, ridiculously low. The search process in the end identifies 21 contaminated sites that are related to four high profile Australian companies¹⁵. Arguably, the

¹³ Examples of searched articles that were not relevant to this study include articles that addressed general implications of contaminated sites such as the effect of water pollution upon ground water reserves and community comments. Also articles related to agriculture sites, landfill sites, defence force sites and crown land are outside of the scope of this thesis, as the focus of the thesis is the industrial sites that Australian corporations are held responsible for remediation.

¹⁴ The majority of the news articles collected did not provide sufficient detail as to the responsible parties, whether the site has been recorded by contaminated site register, the exact address of the site, and with which authority parties that the site was registered, if any.

¹⁵ There are seven other contaminated sites identified in the search process. These contaminated sites were related to military use or farm use in the past, or some sites were held in the hands of the

inconsistent legislative and administrative frameworks across various jurisdictions, and the complex nature of site contamination do not assist in making this issue any easier. But nevertheless, on the basis of right-to-know, the researcher believes it is a reasonable expectation that individuals should be able to access information about the location of contaminated sites, particularly those within their community that have high levels of contamination.

Earlier in the chapter four sub-questions were raised. In relation to Question 1, the researcher has documented the procedures that were thought necessary to identify contaminated sites, albeit the procedures provided little information. In relation to Question 2, it seemed fairly clear that the 'average member of the public' would not be able to find detailed information about contaminated sites. In relation to Question 3, the researcher has found that what information is available is limited, and the sources of information are dispersed across various State-based and council-based registers and documents. In relation to Question 4, it is believed that much improvement in the accessibility of contaminated site information is necessary. Some suggestions are provided below.

As emphasised within this chapter, there is no nationally consistent approach to the assessment and remediation of site contamination. This creates confusion in understanding each jurisdiction's policies, legislative and administrative frameworks. Site contamination issues are dealt with predominantly within individual jurisdictional regimes. While the national body, the NEPC, developed the NEPM (Assessment of Site Contamination) pertaining to site assessment guidelines, the NEPM does not provide nationwide guidelines on remediation and management for contaminated sites.

The strength of legislative powers dealing with site contamination varies between jurisdictions. The management of contaminated sites is often shared by government, local councils and other relevant parties, according to relevant legislative and administrative arrangements. These processes are often complex and involve liaison between multiple parties. Further, most contaminated sites are not detected until there is a change of land-use.

government. These seven sites are outside of the scope of this study, as this study focuses on how Australian corporations disclose their remediation obligations in their annual reports. Apart from the 21 sites that are relevant to this study and the seven sites that are less relevant to this study, there are 61 other sites that have been identified with incomplete information (for example, only the site address is provided and no other information provided such as the responsible parties; alternatively the responsible companies are private companies or non-Australian companies thus, their financial reports are not available for data analysis or subject to Australian disclosure requirements) and further searches do not provide sufficient relevant information for analysis.

There is no national contaminated site register that records contaminated sites within Australia, nor do all jurisdictions have contaminated sites registers. No initiatives have been developed to centralise information from respective EPAs or local councils. The majority of the contaminated sites, such as low-risk and potentially contaminated sites, are managed by local councils or planning authorities. Sites managed by local councils are typically not recorded on publicly assessable registers. Likewise, sites with voluntary remediation agreements are not disclosed on registers, or are disclosed with very brief information.

There are four jurisdictions that provide publicly available, free of charge information on an incomplete sample of contaminated sites. The Northern Territory's register only has a few sites on it and some of the sites have already been remediated. Western Australia's register only started operating from December 2006. Victoria provides a brief list of Priority Sites but the owner/occupier or the responsible party is not shown. New South Wales provides information relating to some sites which pose significant risk of harm. If these sites are under a voluntary remediation arrangement only the existence of the proposal for the remediation work is noted, but full copies of the proposal for the remediation work are not provided. Sites that are managed by individual local councils are not available from the contaminated land record register. When searching on the registers, searchers are assumed to specifically be aware of site information as searching fields must be completed before searching.

Clearly there are many obstacles currently in place for parties seeking to find evidence of the existence of contaminated sites within Australia, and the identity of those parties responsible for the contaminated sites. The process involved in accessing information about contaminated sites was more time consuming and much more unsuccessful than the researcher had anticipated. As in other countries, the existence of contaminated sites is a serious issue in Australia, but the management of contaminated sites remains in individual State or Territory hands, bound by their own legislation and regulation. It may be time for a more coordinated and centralised national scheme to be developed to manage contaminated sites. This includes establishing a nationwide site remediation policy and a nationwide contaminated sites register similar to ones existing in the United States and Canada.

The appropriateness of fees being charged to access contaminated site information is also questionable. Arguably the public have a right to contaminated site information—a right that should not have to be paid for. Furthermore, responsible parties should be accountable for contamination caused and hence the researcher questions the practice in some States of providing only the site address without the information of the owner or party held responsible for contaminated sites. The researcher also questions why organisations are held accountable for emissions of particular substances above certain thresholds (via the publicly

assessable National Pollutant Inventory), but are not generally held accountable for contaminating land.

This description of the search process highlights the current lack of information currently available within Australia in relation to contaminated sites. It is acknowledged that the discussion might appear longwinded, but the discussion is a reflection of the frustration and often confusing search process that the researcher needed to undertake in an endeavour to uncover the existence of contaminated sites, together with information about the parties responsible for associated remediation. Indeed, once the researcher had completed this search process both the researcher and her supervisor were surprised by the lack of success in uncovering the location of contaminated sites that they considered perhaps they had overlooked some other (perhaps obvious) sources of information. With this in mind two face-to-face meetings with two experienced individuals were conducted to see if they believed that the researcher had exhausted all obvious channels and whether they were aware of other publicly available resources that the researcher could have used. These individuals—Terry A'Hearn (Director of the Victorian EPA's Sustainable Development Unit) and Charles Berger (Senior Legal Adviser for the Australian Conservation Foundation)—were of the opinion, perhaps unfortunately, that at the time gaining access to publicly available information about contaminated sites is extremely difficult and in many cases not possible. They were also of the view that apart from the sources that this research had reviewed, there were no other obvious sources of information that should have been considered.

Parties using land for particular purposes are temporary custodians of a resource that should be available to benefit, and not harm, future generations. In response to being granted a legal right to use land, the researcher believes that the users of land have a responsibility and associated accountability to ensure that the land is not misused—that it is not contaminated. The results of our investigation clearly show that limited accountability currently exists and it is considered that governments need to make a more concerted attempt to improve accountability in relation to land-use. If organisations have abused their right to use land and this abuse has caused contamination then society has every right to know. Reform is urgently required.

The searching process conducted in Phase One resulted in four Australian companies (Wesfarmers, BHP Billiton, Orica and Incitec Pivot) who are associated with 21 contaminated sites being identified. To understand whether Australian companies appear to comply with relevant reporting requirements in relation to these contaminated sites, the next phase of the study will extend the investigation to the annual report disclosures of these four companies in relation to their contaminated sites.

2.6 Summary

This chapter documented a search process that was undertaken, using publicly available sources, to identify the existence of contaminated sites within Australia. The results reveal that there is an overwhelming lack of publicly available information about Australian contaminated sites, despite the belief that many thousands of contaminated sites are believed to exist within Australia. The results of the research highlight the overwhelming lack of accountability that exists in relation to land-use within Australia, and the researcher relies upon the results to make a call for government to take immediate action to address important community rights-to-know.

The next step in this research, which will be addressed in the next chapter, is to review the annual reports of the four Australian companies that are identified in this phase, in order to obtain an understanding on whether these sample companies appear to comply with various reporting requirements as they pertain to contaminated sites.

CHAPTER 3. PHASE TWO: Exploring how Australian companies disclose their remediation liabilities within annual reports

Disclosure can forestall attempts by corporate managers to boost short-term profitability by measures that are not in the long-term interests of shareholders, including efforts to conceal environmental liabilities or to pursue risky environmental policies.

(Repetto 2004, p. 3)

This chapter represents the second phase of the study exploring Australian corporations' disclosure practices as they relate to contaminated sites. The first phase of the broader study, which was reported in the last chapter, described the processes that must be undertaken to identify Australian contaminated sites. The results from Phase One revealed that publicly available information on contaminated sites is predominately incomplete and fragmented, providing insufficient information for the public to identify the location of contaminated sites, the extent and nature of the contamination, the parties responsible for the contamination, and the associated required remediation activities. Nevertheless, this research was able to identify a limited number of organisations that are directly linked to contaminated sites. The second phase of the research, which is the focus of this chapter, investigates the disclosure practices of 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' law, and securities exchange reporting requirements. This 'Phase Two' has been documented in a paper entitled 'Accounting for contaminated sites: how transparent are Australian companies?' which was published in the *Australian Accounting Review* (Ji & Deegan 2011). Phase Two was undertaken during the period from 2007 to 2010. Relevant materials have been updated in this chapter to reflect some new information that emerged after 2011, when this phase was published.

In reviewing the disclosure practices of a sample of companies, the research documented in this phase will not: seek to utilise particular theoretical frameworks to ascribe motivations for particular disclosure practices (as do, for example, various positive studies¹⁶ such as Patten 1992, Deegan and Blomquist 2006, O'Dwyer 2002); seek to provide prescriptions for how

¹⁶ The term 'positive' is used to describe research that seeks to explain or predict particular accounting practices (Watts & Zimmerman 1978).

organisations should account for, or 'cost' the externalities associated with contaminated sites (for example, see various normative studies¹⁷ such as Gray 1992, Bebbington and Gray 2001); or, evaluate whether existing disclosure requirements appear to satisfy the information needs of particular stakeholder groups (see for example Deegan & Rankin 1997; O'Dwyer, Unerman & Hession 2005; Unerman & O'Dwyer 2007). Rather, this phase has a compliance focus in that the study seeks 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. Based on the understanding of Australian companies' disclosure practices as they pertain to contaminated sites (derived from this phase), the next two phases (Phase Three and Phase Four) will explore and apply suitable theory or theories to provide explanations for the findings from this phase.

The balance of the chapter is organised as follows. Firstly, previous research relating to environmental liability disclosure by corporations is reviewed. The literature review 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, the research question to be answered within this phase is identified. This is followed by a consideration of 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 Australian companies (which are identified as being responsible for contaminated sites) with Australian financial reporting requirements. The results section of the chapter shows 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. This finding is consistent with overseas research. The last section of the paper provides concluding comments, and some suggestions for future research.

3.1 Literature review and research question

The intention of this second phase of the research is to review the disclosures being made by a sample of companies known to have contaminated sites and thus to provide the basis for understanding their disclosure practices as they pertain to contaminated sites. This is motivated by the view that, at a minimum level, responsible parties should be complying with compulsory financial reporting requirements in relation to contaminated sites. In addition, a

¹⁷ The term normative is used to describe research that seeks to prescribe how particular accounting practices *should* be undertaken.

lack of disclosure may raise the question on whether such remediation obligations can be properly funded. By providing sufficient remediation obligations in their annual reports, physical remediation works are more likely to be funded and implemented by the responsible parties. As discussed in Chapter 1, accounting disclosure on contaminated sites is seen as a related and essential part to tackle the central issue of remediating contaminated sites. The results of this phase then lead the researcher to subsequent analysis in which there is an application of a suitable theory or theories in order to understand and explain Australian companies' current disclosure practices.

The research is seeking to determine whether the sample companies appear to be conforming with existing Australian disclosure regulations as they could be applied to contaminated sites, particularly in relation to obligations for remediation. The research is not evaluating the level of accountability demonstrated by the sample 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 of disclosures 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 have 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) find 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 discuss the required practice of discounting (to present value) future obligations. This practice of discounting obligations reduced 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 was 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) conclude 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, Schlachter and Rockness (1986) reviewed annual reports for the years 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 provide results that show that information about potentially large and material obligations pertaining to Superfund liabilities is often missing from companies' financial statements—also in an apparent breach of generally accepted reporting requirements.

Based on the 1987 National Priorities List¹⁸ 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

¹⁸ The National Priority List is the list of sites that release hazardous substances, pollutants, or contaminants throughout the United States and its territories. For more detail go to <http://www.epa.gov/superfund/sites/npl/>.

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 United States, 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 USA 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. This phase of the research project explores how Australian companies account for their remediation obligations. The research question 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 research seeks to remove some of this void. Arguably, given the evidence available internationally (as discussed above), readers might otherwise speculate that Australian disclosure practices will be similarly deficient. The evidence provided in this phase removes the need for such speculation. Again, as noted elsewhere, subsequent chapters will then seek to explore why Australian companies disclose in the manner that will be reported in this chapter.

3.2 Australian disclosure requirements

As indicated above, to undertake this phase of the research the first step is to identify the relevant Australian reporting requirements as they relate to financial obligations associated with contaminated sites. The research will then investigate whether Australian companies seem to comply with those requirements. By comparing what the companies are required to disclose and what they actually disclose, the question on whether these companies appear to comply with reporting requirements can be addressed. 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, then there would be 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 could be no legal liabilities 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, until 1 July 2009¹⁹, environmental protection legislation was perceived by South Australia EPA as inadequate to manage site contamination issues (SA EPA 2003, 2004, 2005a, 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 would 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 responsibilities 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 are to 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).

¹⁹ In South Australia the *Environment Protection (Site Contamination) Regulations 2008* became effective 1 July 2009.

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 the 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 clean up notice issued by an environmental authority, it would be expected that 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 it would be reasonable to 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*, another 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 (2012) 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 may, again perhaps motivated by opportunism, 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, there is an expectation that when corporate disclosures are reviewed, as documented later in this chapter, then 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 percent, 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 now discussed the Australian financial reporting requirements relating to contaminated sites²⁰, the next step is to review the disclosures made by a number of Australian companies. The next section describes the research methods employed to undertake this phase of the research.

3.3 Research design and method

Somewhat obviously, to determine how corporations are accounting (or perhaps, not accounting) for the contaminated sites that are in their control, organisations that are actually linked to contaminated sites need to be determined. After the corporations are identified (which comes from the research described in Chapter 2), their respective annual reports will be 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.

3.3.1 Identifying corporations known to have contaminated sites

As indicated in Chapter 2, search processes of various government agencies, non-government organisations, and news media have been undertaken. In undertaking the

²⁰ 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 the analysis. Where requirements have changed, such as the introduction of section 299A in 2005, the investigation of compliance with reporting requirements will take this into account.

search to identify contaminated sites (and a detailed description of the search process is provided in Chapter 2), the following resources were reviewed:

- reports associated with administrative regimes linked to legislation dealing specifically with contaminated sites (for example, the contaminated sites registers from various States and Territories were reviewed);
- Reports and websites produced or controlled by government bodies, such as environmental protection agencies (for example, the Annual Reports of various Environmental Protection Authorities throughout Australia were reviewed);
- Reports and websites of environment-focused non-government organisations (for example, the websites of, and various reports issued by, the Australian Conservation Foundation, Greenpeace Australia Pacific, Clean-up Australia, and the National Toxic Network were reviewed);
- Factiva database was used to identify media articles addressing contaminated sites.

As reported in chapter 2 and 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 (Australian State of the Environment Committee 2011; Hamblin 2001). Where sites are identified in some jurisdictions, there is often a failure by the particular agency or authority to identify the responsible party.

Because this research is 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, this research restricts the review to publicly listed companies. As a result of the search process documented in Chapter 2, four listed companies are identified—Wesfarmers Ltd, BHP Billiton Ltd, Orica Ltd and Incitec Pivot Ltd—that are clearly associated with a number of highly contaminated sites. Having identified companies with contaminated sites, and the required reporting requirements pertaining to contaminated sites, the next step is to determine whether the organisations appear to be making disclosures in accordance with the respective disclosure requirements.

3.3.2. Reviewing annual reports

Analysis of each of the four companies will be considered in turn. In respect of each company the general details about their history, size and industry profile will be provided.

Then, by company, information about the contaminated sites known²¹ to be under their control will be provided. This is followed by the details of the disclosures that the researcher would *anticipate* the respective companies would make given the information that the researcher has, and the various accounting and disclosure requirements in place within Australia. The details of the *actual* disclosures made by the companies in respect of their contaminated sites, and whether, in the researcher's opinion, the companies appear to be complying with the spirit of Australian corporate disclosure requirements, will then be provided. The evidence will show that, consistent with overseas results, the Australian companies in the 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 the researcher reviews the reports in detail to find related disclosures, the research also utilises a search function to search for the key words 'provision', 'contingent', 'clean up', 'environment', 'remediation' 'site' and relevant site names. Based on the search results, relevant environmental provisions and contingent liabilities are identified and examined. Apart from reading the text where the above search words are located the researcher also thoroughly examines the four sections of the annual reports previously discussed in Section 3.2 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. In addition, as the auditors may have identified reporting issues relating to site remediation obligations within their audit reports, the researcher thoroughly examines the audit reports for the years under view.

3.4 Research results

In the discussion that follows, each of the four sample companies will be considered in turn. A brief background to the company, and details of the contaminated sites, will then be provided. Then, by company, insights into the disclosures that are believed appropriate (given the publicly available information the research has gathered), will be provided. Following this, an assessment of the actual disclosures of the companies (in terms of their apparent compliance with Australian financial reporting requirements) will be undertaken and documented.

²¹ It is possible that the four companies which are 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, the identification of contaminated sites is based on publicly available information and not from information disclosed by the companies themselves.

3.4.1 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, p. 1). Publicly available information indicates that Wesfarmers had a number of contaminated sites that required 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.

3.4.1.1 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 to \$6 million on physical works and research to clean up 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, 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 the WA State, 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 & 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 Australia 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).

3.4.1.2 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 knew 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 section 299(1)(f), which requires breach 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 gives 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, the next consideration was to focus on 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. The next issue would be 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. The 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, p. 11). Publically 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, 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/NHMRC 1992, p. 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% threshold²². Therefore this amount falls within the range that requires further professional judgement to determine materiality. Taking all the sites that under Wesfarmers control together, the total remediation costs could be material. Additionally, the significant adverse publicity regarding the contaminated site in the media could potential affect the operation of the business by damaging their reputation. The nature of the obligation itself therefore may lead us towards a view that the related obligations are material. The minimum expectation for Wesfarmers is to disclose its environmental related (including site remediation) provision as a subclass under the heading of provisions in its financial statements.

Therefore a remediation provision is 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 is 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 is 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.

²² According to AASB 1031 if an amount is equal to or greater than 10 per cent 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 per cent of the appropriate base amount it may be presumed not to be material. Between 5 and 10 percent represents a 'grey area' where further judgment is required.

3.4.1.3 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 (2001 to 2007).

Directors' Report

In the Directors' Report included within the seven years' annual reports, environmental performance disclosure was very general. Instead of disclosing breaches of environmental laws as required by the section 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 which disclosed 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, p. 79)

In the 'Review of results and operations' section required pursuant to Section 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 is any information omitted from the report, the reason may be that information may cause unreasonable prejudice to Wesfarmers. As they state:

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, p. 122)

Accounting policy section relating to provisions and contingent liabilities

Wesfarmers accounting policy relating to provisions 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, p. 42; 2003, 2004, 2005)

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, p. 41; 2002, 2003, 2004)

Therefore, 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 would gain no knowledge of any site contamination, nor the associated obligations.

Independent auditors' reports

Within the 'Independent auditors' report section of the annual reports from year 2001 to 2007, the auditors gave an unqualified opinion and no issues relating to site remediation obligations were raised by the auditors. The financial statements prepared by Wesfarmers were regarded by the auditors as giving a true and fair view, and complying with Australian Accounting Standards and the *Corporations Act 2001*.

3.4.2 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 represents the world's largest diversified resources group. Hereafter, the group is simply referred to as 'BHP'.

3.4.2.1 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, 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 Natural Resources of Government 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, 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 planned for the remediation in 2004 (Williams 2004). The works would be 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.

3.4.2.2 Anticipated disclosures by BHP

It was expected that BHP would have provided for the remediation costs for the closure site and the supply areas site when (or more appropriately, before) it closed in 1999. With the *Contaminated Land Management Act 1997* (NSW) becoming effective, 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 as a remediation site by EPA in this period therefore BHP is 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 steel works 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 is 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 considered when reviewing BHP's 1998 to 2002 annual reports.

3.4.2.3 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, p. 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 name 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, p. 33)

Accounting policy section relating to provisions and contingent liabilities

In the 1998 annual report accounting policy notes BHP stated that their '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 is further evidenced within its 2002 annual report where it is stated that the provision for restoration and rehabilitation includes the activities that 'restore mine, oil and gas facilities and processing sites'. The provision does not include:

any amounts related to remediation costs associated with unforeseen circumstances. Such cost 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, p. 117)

While BHP excludes site remediation obligations from its 'provision for restoration and rehabilitation', it does not identify anywhere else within the financial statements that the obligation would reside. 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 the researcher was 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 disclosed 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 the company 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' (BHP Billiton 2002, p. 179)

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, p. 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, p. 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 provisions section) of the annual report. It is 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 does appear 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.

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

Whilst the focus of the 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 performed in Papua New Guinea, specifically, with those activities undertaken 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 2,000 employees and its export earnings accounted for 32 per cent 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, who held 20 per cent 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). Since 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 which 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 filed writs again 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 with an annual cost of US\$35 million (BHP 2000). In January 2004, the case was settled out of court (BHP Billiton 2004; FitzGerald 2003; Trounson & Madden 2004).

Whilst a number of the legal actions (see above) were being undertaken, and settled, in February 2001 BHP started formal negotiations with the PNG government and other stakeholders on BHP's withdrawal plan 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 signatory to the Community Mine Continuation Agreement between landowners and OTML (Moresby 2007).

3.4.2.5 Anticipated disclosures in relation to Ok Tedi

There are several events associated with the mine tailings contamination that should be 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. It is expected that BHP would disclose this event at least in its contingent liability section of its 1994 annual report. Arguably, even before the legal action, BHP should be able to foresee that there was a serious issue with the tailing disposal and this could affect OTML's continuing operations. In the 1995 annual report, it is expected that BHP would disclose 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 tailing 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, BHP would be expected to 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 are expected to be disclosed.

3.4.2.6 Actual disclosures relation to Ok Tedi

After reviewing BHP's annual reports for the period from 1993 to 2002, it was found that there was no specific information relating to cleanup obligations associated with the mine being disclosed despite the massive amounts of media coverage being devoted to the issue. Mention of the Ok Tedi mine was first made in 1994 within its contingent liability section, when BHP was sued by PNG landowners. In the 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 disclosure relating to the mine could be 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 within the annual report is still in the contingent liability section and only minimal information was 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, p. 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, p. 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 2000, p. 51). Another legal action, which commenced in April 2000, however 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 net assets of OTML \$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 first time described the lawsuit which 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 be providing background for the 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 provision.

Independent auditors' reports

Within the 'Independent auditors' report section of the annual reports from year 1993 to 2002, auditors gave an unqualified opinion and no issues relating to site remediation obligations were raised by the auditors. The financial statements prepared by BHP were regarded by the auditors as giving a true and fair view, and complying with Australian Accounting Standards and relevant corporations laws.

Taken together, and on the basis of the researcher's 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 the researcher does not know about), It is believed that 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 their 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.

3.4.3 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 2012 it employed more than 15,000 people and operated in around 50 countries with \$6.7 billion of sales revenue (Orica 2012).

As a result of the search described in Chapter 2, nine 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, Kooragang sites, Parafield Gardens and Wallaroo sites. Among the nine sites, the Botany site attracted more media coverage than the other sites.

3.4.3.1 Details of contaminated sites—Orica

Botany Site, 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 New South Wales 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 (Greenpeace International 2002, p. 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 a ICI car park; and contaminated soil waste dumped into the southern Pacific Ocean by ICI for many years. The Botany Former ICI site, located in Matraville, has been served 5 current and 6 former notices from 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 high concentration of 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, p. 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 on the site as well as finding 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, p. 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 & 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 believed 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 DCE 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 Orica was noted by the EPA (notice number 26063) for 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).

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.

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 2006c). 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 2006b). Orica divested its interest in IPL on 16 May 2006 (Orica 2007). As a result of the divestment the Cockle Creek site, together with the Parafield Gardens and Wallaroo sites, have been separated from Orica since 16 May 2006.

Incitec Pivot—Parafield Gardens site and Wallaroo site, South Australia

The Parafield Garden site and the Wallaroo site are located in South Australia. Although both sites have a long history of contamination, the South Australia EPA however did not have legal power to adequately manage site contamination issues (SA EPA 2003, 2004, 2005a, 2007) before mid-2009 when the *Environment Protection (Site Contamination) Amendment Bill 2007* took effect. As a result of this lack of effective legal power, publicly available information about these two sites is limited.

In 2004 IPL entered into a voluntary agreement with the EPA to investigate, and then remediate, the Parafield Gardens site. In 2006 a Remediation Action Plan was agreed by the EPA for soil and groundwater remediation.

In 2005 IPL engaged an environmental auditor to investigate and prepare a remediation plan on the Wallaroo site. Water treatment started on the site in 2005 and the site was closed in November 2006. In 2007 a Remediation Action Plan was agreed by the EPA, and the remediation works commenced.

3.4.3.2 Anticipated disclosures by Orica

For sites located within New South Wales, 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. In terms of the two sites located in South Australia (Parafield Gardens site and Wallaroo site), while Orica had no legal obligation to remediate the sites it voluntarily started a site audit and preparation for a Remediation Action Plan for both sites in 2004 and 2005. This gives rise to a constructive or equitable liability. Hence, it could be argued 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 consideration is the materiality of the associated obligations. Orica estimated the expected capital cost on 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 \$1,653 million) or total provisions \$394 million in year 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 clean-up notices by the respective authorities, Orica became legally bound to clean up its contaminated sites. However, should Orica only recognise provisions as and when clean-up 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 clean-up notice at reporting date does not prevent the recognition of provisions. The clean-up might not only be due to direct 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 (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 would suggest 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 happened ahead of when sites were served with 'Notices of Clean-up Action', 'Declarations of Investigation Area' or 'Declarations of Remediation Site' by the Authorities.

3.4.3.3 Actual disclosures by Orica

Orica's first remediation order within the period of analysis was in 1997. Given an expectation that Orica would be aware of related obligations prior to receiving a notice, it was expected 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 has already been discussed, and 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 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, p. 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 the Directors' Report related 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, p. 34; 2004a)

Starting from 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, p. 40; 2006a)

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 (balance sheet).

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 6 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 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 that this research identified.

Among the nine sites (that the researcher knows of), there are five sites for which Orica did not provide any information. These sites are: Homebush Bay South Sediments, Former Orica Factory—Chester Hill, Orica—Kooragang Island, Incitec Pivot—Parafield Gardens, and Incitec Pivot—Wallaroo. Apart from the non-disclosure of the aforementioned sites, there are three sites that had associated provisions, but they were recognised later than they would have been expected. Both Villawood Plant and Cockle Creek were issued several remediation notices in the 2005 financial year. Orica should recognise 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 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 nine sites. Some sites appeared to be excluded from the provisions even after sites were served with cleanup notices. This research also question why Orica 'delayed' providing remediation provisions for particular sites. Ideally Orica would have recognised obligations relating to each site before the cleanup notices were 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 the researcher considers 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, p. 59; 2001, 2002a)

Arguably, given the evidence of numerous contaminated sites and the associated obligations, greater information was required. From 2003, Orica started to disclose the name 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 represent 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 ten years' reports. Based upon the information 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). The researcher formed an opinion 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 attention is turned to the appropriate timing for the disclosure of contingent liabilities relating to the nine sites. Orica's practice is inconsistent across the nine 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 recognise 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, p. 64)

While Orica claims contingent liabilities may include 'other sites which may be identified in the future', this study questions why Orica has not provided a complete list of 'current sites' that are subject to remedial obligations.

Independent auditors' reports

Auditors gave an unqualified opinion and no issues relating to site remediation obligations were raised by the auditors from year 1997 to 2006. The financial statements prepared by Orica were regarded by the auditors as giving a true and fair view, and complying with Australian Accounting Standards and the *Corporations Act 2001*.

3.4.4 Incitec Pivot Limited (IPL)—the company

As one of the top 50 Australian Securities Exchange (ASX) listed company (by market capitalisation), IPL is the second largest chemical company (after Orica), and the third largest company (after Orica and Amcor) operating in the Materials (excluding Metals and Mining) sector (Australian Stock Exchange 2011). IPL was launched on 1 June 2003 with the merger of Incitec Fertilizers Limited and Pivot Limited (Incitec Pivot Limited 2003), and Orica owned 70% of IPL until 16 May 2006 when Orica divested its interest in IPL (Incitec Pivot Limited 2006b; Orica 2003, 2007). From 2008 IPL expanded its operation from an Australian-wide fertiliser company to North America, South America and Asia, with four core business areas—manufacturing, fertilisers, explosives, and trading.

3.4.4.1 Details of contaminated sites—IPL

Three known contaminated sites are:

Cockle Creek, NSW

Incitec Pivot—Parafield Gardens, South Australia

Incitec Pivot—Wallaroo, South Australia

The publicly available information relating to the three IPL's sites have been discussed within the 'Orica' section (section 3.4.3.1) as these three sites were contaminated when Orica was the parent company of IPL (until 16 May 2006). Although these three sites were considered during the review of Orica's reports, IPL is still remediating these sites (the original provision, if any, may significantly change during the remediation; or the remediation obligation might not be provided until a remediation agreement with the EPA is signed off) as a separate entity. IPL's financial reports from 2003 (when remediation obligations are expected to be disclosed) to 2011 were reviewed.

3.4.4.2 Anticipated disclosures by IPL

The remediation obligations of these sites, either located in NSW as a remediation site, or having voluntary arrangements with the SA EPA, are probable and measurable. Given that IPL is a chemical company, remediating contaminated sites is likely a significant part of its business activity, and IPL's environmental provision accounts for between 37.5% and 57.4%

of its 'total provisions' from 2003 to 2011, it is likely that the remediation provision is a material obligation for IPL.

It was anticipated that Cockle Creek would be disclosed at least within the 'contingent liability' section, and before 2005 when it was identified as remediation site. Once it was identified in 2005, a provision was expected to be recognised. For the two sites located in South Australia, before the agreements relating to remediation the two sites were signed by the EPA, it was anticipated these two sites would be disclosed at least as a 'contingent liability'.

For the Parafield Gardens site in 2004 IPL had entered into a voluntary agreement with the EPA to investigate and then remediate. It was anticipated that the Parafield Gardens site would be disclosed before 2004 (as IPL has been aware of the site for a long time and anticipate a remediation agreement with the EPA), or at least in 2004, as a 'contingent liability'. In 2006, when a Remediation Action Plan was agreed by the EPA, a provision arguably should have been recognised.

For the Wallaroo site, in 2005 IPL engaged an environmental auditor to investigate and develop a remediation plan. IPL was expected, before 2005, or at least in 2005, to disclose the site as a contingent liability. In 2007 a Remediation Action Plan was agreed by the EPA, and the remediation works commenced. A provision was expected to be recognised.

3.4.4.3 Actual disclosures by IPL

Directors' Report

The 'environmental regulation' section within the 'Directors' Report' from 2003 to 2011 are identical. No specific information relating to contaminated sites can be found.

Environmental regulations

Manufacturing licences and consents are in place at each Group site, determined in consultation with local environmental regulatory authorities. The measurement of compliance with conditions of licences and consents involves numerous tests which are conducted regularly. The individual sites record their compliance and report that there is continued high compliance. When breaches occur, they are reported to the authorities as required and actions taken to prevent recurrences. (Incitec Pivot Limited 2003, 2004, 2005, 2006a, 2006b, 2006c, 2007, 2008, 2009, 2010; 2011, p. 12)

Accounting policy section relating to provisions and contingent liabilities

In the environmental provisions section within the 'significant accounting policies' from 2003 to 2011, the wording is similar to those that appear in the Orica's financial reports. IPL also

highlighted that uncertainties in remediation obligations may lead to no provisions being recognised.

For sites where there are uncertainties with respect to the remediation obligations or the remediation techniques that might be approved and no reliable estimate can presently be made of regulatory and remediation costs, no amounts have been capitalised, expensed or provided. (Incitec Pivot Limited 2011, p. 52)

Provisions

There is an 'environmental provision' section within 'provisions', but there is no breakdown of individual items within the 'environmental provision. No information relating to any site is disclosed from 2003 to 2011.

Individually material items

Cockle Creek was listed as one of the 'individually material' items in the notes to the financial report in 2006, the year after the site was identified by the EPA as a remediation site. Thirty-one million, five hundred thousand dollar before-tax (\$22 million after-tax) 'Cockle Creek clean-up and closure costs' was disclosed as an 'individually material' expense. This 'material' provision item, however, is not disclosed in the 'provision' section. The \$31.5 million of clean-up and closure of the site, counts as 56.9% of the total 'environmental provision' (\$55.4 million) and 27.8% of the total 'provisions' (\$113.2 million) of the year. As discussed in the 'anticipated disclosure by IPL' section, the researcher expected a provision at least to be recognised in 2006 (ideally it should be disclosed earlier). The researcher thus questions the practice of recognising a provision in a year later (in 2006) than the year when the provision should have been recognised (in 2005), on the Cockle Creek site.

For the Wallaroo site, in 2007 a provision of \$2.7 million before-tax (\$1.9 million after-tax) for the site 'clean-up and closure' was disclosed as an 'individually material' expense. Again such information is not provided in the 'provisions' section.

Contingent liabilities

IPL's reports from 2008 to 2011 are identical, and no mention is made of any individual site.

Environmental

General

The Company has identified a number of sites as requiring environmental clean up and review. Appropriate implementation of clean up requirements is ongoing. In accordance with current accounting policy (see Note 1 (xvi)), provisions have been created for all known environmental liabilities that can be reliably estimated. 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.

II Environmental matters subject to voluntary requirements with regulatory authority

For sites where the requirements have been assessed and are capable of reliable measurement, estimated regulatory and remediation costs have been capitalised, expensed as incurred or provided for in accordance with the accounting policy included in Note 1 (xvi). (Incitec Pivot Limited 2008, p. 84; 2009, 2010, 2011)

Cockle Creek site was declared as a remediation site in 2005 by NSW EPA. IPL disclosed this site in the 2005, 2006 and 2007 reports as a contingent liability that has significant uncertainty.

Other environmental matters

For sites where there are significant uncertainties with respect to what Incitec Pivot'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 accounting policy included in note 1(xiv), no amounts have been expensed capitalised or provided for. (Incitec Pivot Limited 2005, p. 61)

The Parafield Gardens site and the Wallaroo site were disclosed in the contingent liability section under the heading of 'environmental matters subject to voluntary requirements with regulatory authority', and for each of the two sites, an 'environmental provision has been recognised' (Incitec Pivot Limited 2005, p. 61; 2006a, 2007)—although a cross check in the provisions section in the notes find no site-specific provision provided in the reports. The earliest contingent liability for Parafield Gardens site is disclosed in 2004 report; and for Wallaroo site is in 2005.

Although from 2008 these sites no longer appeared within the 'contingent liability' section, prior to 2008 the overall disclosure of contingent liabilities of the IPL on the three sites seemed to fit in with minimal expectations. That is, these three sites were disclosed as contingent liability when these sites were declared as 'remediation site' or voluntary remediation arrangements were made.

In general, although two sites—Cockle Creek site and Wallaroo site—were disclosed as material expense item in 2006 and 2007 respectively, no site information was provided from the 'Directors' Report', 'environmental provisions' and recent years' (2008 onward) contingent liabilities. In terms of the Cockle Creek site, it is a questionable practice for IPL delaying the recognition of a provision for the site one year later. In addition, the exact amounts of the other sites' provision are unknown to readers.

Independent auditors' reports

Auditors gave unqualified opinion and no issues relating to site remediation obligations were raised by auditors from year 2003 to 2011. The financial statements prepared by IPL were regarded by auditors as giving a true and fair view, and complying with Australian Accounting Standards and the *Corporations Act 2001*.

3.5 Discussions and future research

Given the previous discussion, 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 the timing of the disclosures was often questionable—typically the disclosures were made much later than a proper application of relevant reporting requirements would require. This raises the question of whether the annual reports of the sample companies, excluding necessary disclosures on site remediation obligations, present a 'true and fair view' required by the *Corporations Act*.

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 would perhaps be beneficial in improving the extent of disclosure, and accountability, relating to contaminated sites.

From the evidence presented, reviewing annual reports will not allow readers to identify the contaminated sites under organisations' control, or the extent and magnitude of the financial liabilities associated with remediation obligations. This might lead to the misperception from stakeholders that because little (or no) remediation obligations are disclosed, then the actions of the organisations have had little, or no, negative long terms 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 phase of the research, there is clearly a lack of accountability in relation to the impacts of organisations in terms of creating contaminated sites. Whilst many authors suggest various reporting approaches be embraced to advance corporate accountability beyond the minimum required by regulation, results from this research 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 contrast 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 with organisations not being challenged as they might otherwise be about their environmental performance.

It is of interest that the organisations in the sample produce publicly available sustainability reports in which they all publicly embrace sustainable development (however a preliminary review of these reports found that within the sustainability reports there is little or no discussion of contaminated sites). Any movement by societies towards sustainable development requires people to make informed choices about the activities and organisations they should support. In part, such choices will be 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 the sample companies have publicly done—has a responsibility to be open and transparent about its environmental performance—the evidence suggests that companies in sample have not been as open and transparent, in terms of disclosing their site remediation obligations in financial reports, as the researcher would hope (and perhaps as future generations require).

The results of this phase could provide the stimulus for a number of related research projects. This phase of the research has not sought 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 judgments about the apparent truth and fairness of financial statements in the presence of contaminated sites? While the results of this phase, which indicate that generally there is a lack of disclosures as they pertain to contaminated sites, is somewhat disappointing, to tackle the issue a further understanding/explanation of the issue is needed. This motivates the researcher, in the next step (Phase Three and Phase Four), to seek theoretical explanations for the findings of this phase.

3.6 Summary

Following the first phase that documents how to find contaminated site information within Australia, this second phase investigates how Australian companies, with known contaminated sites, disclose these sites in accordance with relevant accounting reporting requirements. At the outset of this phase it has been stressed that the goal was to investigate whether a number of organisations with contaminated sites disclosed information about the sites in a manner that appeared consistent with the general spirit of Australian corporate financial reporting requirements. That is, this phase embraced a compliance-based investigation. Based on overseas research the expectation would reasonably have been that there will be limited disclosures, even to the possible extent of apparent non-compliance with regulation. However, without this phase's research, this would have been conjecture. The results of this phase reveals that the disclosures being made by the sample Australian companies reveals little in relation to existing and potential obligations pertaining to contaminated sites, and the apparently poor level of reporting is indeed consistent with research undertaken in other countries. The four companies in the sample are among the largest companies (by market capitalisation) listed on the ASX, so if it is assumed that larger companies disclose higher quality information compared with small and medium sized companies, this lack of disclosure is perhaps even more alarming.

The next step in this research is to try and explain the apparent reporting conduct of the companies in the sample. However, to do this requires the application of appropriate theory or theories. The next chapter (Chapter 4) explores potentially applicable theories and

Chapter 5 applies the theory, or theories, to provide possible explanations to the apparent lack of disclosure in relation to obligations pertaining to contaminated sites.

CHAPTER 4. PHASE THREE: SELECTING AN APPROPRIATE THEORY TO EXPLAIN CORPORATE REPORTING IN RELATION TO CONTAMINATED SITES

4.1 Introduction

In the previous chapters of this thesis, efforts have been undertaken to identify the difficulties associated with identifying information in relation to Australian contaminated sites (Chapter 2). Efforts have also been undertaken to understand the level of disclosure Australian companies make in relation to contaminated sites, and whether these disclosures seem to comply with the 'spirit' of Australian disclosure regulation (Chapter 3). A further issue left to be investigated as part of this comprehensive research project is 'why' companies seem to be making such disclosures—as those identified in Chapter 3. To answer this question, a theory (or 'theories') is (are) required. This chapter is a relatively extensive commentary about the various issues that were considered as part of the process of selecting the 'appropriate' theory to use to explain the reporting behaviour. Whilst it is acknowledged that a chapter of this nature is often not presented within a thesis (because of the detailed level of discussion about the respective theories), this chapter in itself forms an important part of the research outputs generated as part of the research project. This chapter in itself provides important insights that will be of value to other researchers, particularly those researching various social and environmental accounting issues.

As researchers we employ theories as a basis for explaining or predicting particular phenomena, or for providing the basis for particular normative prescriptions. However, because of various pressures of time and the pressures for publication, researchers seldom take time out to critically reflect on whether the theories we use are the 'best' available, or about *why* particular theories in use came to prominence over and above others. Often, because a theory has become accepted within a paradigm and is used by leaders in the field (who would also conceivably act as journal paper reviewers and editors), the less resistant path to publication (or having one's thesis approved by examiners) is deemed to be one that embraces the apparently accepted theory of the day. In this chapter, the researcher has elected to provide a rich description of the issues that were considered when determining which theory to apply. In particular, the material provided in this chapter reflects upon theories that have become commonly used in the social and environmental accounting (SEA) literature.

Whilst there has been extensive research for a number of decades in the area of corporate social responsibility reporting, there is no consensus about which theory, or theories, is/are

best able to explain managements' motivations and practices for making (or not making) corporate social and environmental disclosures (Deegan 2002). Nor is there any consensus on which theory is best to inform us on how managers 'should' report social and environmental information. The decision as to which theory to apply will in part be driven by the philosophical beliefs of the researcher, the level of resolution being sought within the particular analysis or explanation (Gray, Owen & Adams 2010), and whether the core assumptions of the theory are in accordance with the particular 'world view' embraced by the researcher. For a theory of organisational or managerial behaviour to be considered to be 'well developed' there would be an expectation that it provides a relatively comprehensive explanation of particular organisational practices, and offers a greater understanding of empirical issues relative to other explanations (Llewelyn 2003).

From an accounting perspective, a coherent and systematic theoretical framework adds value to accounting research when investigating, understanding and developing accounting practices. While theories should be value-adding to research projects, and help to guide the argument and methods used, the theories being used need to be fully understood by researchers, particularly with respect to the underlying assumptions incorporated (or perhaps not incorporated) within the respective theories. However, it is not always apparent that researchers do have a full understanding of the theories they use. Rather, some theories and the related methods become, in themselves, part of the 'institutionalised' ritual of the research, and those seeking publication might feel inclined to embrace what has become accepted research practice and theorisation in that particular area of research (or in a particular journal), else face a relatively difficult task in having their work accepted for publication.

Within the SEA literature it is apparent that legitimacy theory has become a commonly used theory with its use becoming fairly widespread from the mid 1990s (Owen, 2008; Bebbington et al, 2008). At the same time, there have been a number of studies which have questioned the use of legitimacy theory (for example, Bebbington *et al* 2008; O'Dwyer, 2002), however the reality is that it still appears to be the most commonly used theory within the social and environmental accounting literature, albeit it is considered by some researchers to remain relatively under-developed (Deegan 2002).

While many researchers apply a single theory within their research, it is also becoming relatively more common in recent times for multiple theories to be used in research projects particularly where these theories are deemed overlapping and to embrace similar core assumptions (for example, similar assumptions about what drives human behaviour, or about how markets operate, or about the roles of business organisations within society). For example, in recent years a number of studies have been published which have used

legitimacy theory, concurrently with stakeholder theory and/or institutional theory (for example, see Aerts, Cormier & Magnan 2006; Burritt & Welch 1988; Cormier, Magnan & Velthoven 2005; Deegan & Gordon 1996; Islam & Deegan 2008; Mäkelä & Näsi 2010; Näsi et al. 1997; Tagesson et al. 2009; Yang & Rivers 2009). Using more than one theory provides the researcher(s) with different (but possibly related) lens through which to view a particular phenomenon. A common view is that a single theoretical framework may not be able to explain the complex social reporting phenomenon in a comprehensive way whereas these three theories are better viewed as complimentary and mutually enriching (Deegan 2002; Gray, Kouhy & Lavers 1995). Legitimacy theory is often seen as overlapping with: institutional theory; the managerial branch of stakeholder theory(ies); or/and political economy theory (Deegan 2010).

Of course, the choice of any theory needs to be justified, as does the choice of multiple theories (as, at least in the minds of researchers, does the exclusion of particular theories). Again, such justification is not always evident in published research. Further, if multiple theories are being used the researcher needs to justify and explain how the use of a suite of theories brings value to the project and the researcher would need to demonstrate that the chosen theories can logically be used together to explain particular phenomena, or to provide particular prescriptions. It also raises the point as to why a more comprehensive individual theory has not been developed that would negate the requirement to use multiple theories.

This chapter raises theoretical issues relating to adopting 'mainstream theories' in the SEA literature, in particular legitimacy theory to explain the motivations for, or practices of, particular social and environmental disclosure. Broadly speaking, the aims of this chapter are:

- To provide the basis for some reflection on the apparent acceptance of legitimacy theory in the SEA literature;
- To consider the origins of legitimacy theory, and in particular its roots from within institutional theory;
- To consider whether legitimacy theory is actually a theory in its own right, or perhaps whether individuals applying legitimacy theory are in fact simply applying a component of a broader (but unacknowledged) theory;
- To provide insights into the history and development of institutional theory and to discuss its relevance to social and environmental accounting researchers.

Whilst legitimacy theory has been the most commonly used theory in the SEA literature in recent years, a theory which is increasingly being applied in the SEA literature is institutional theory (from the 'organisational literature')—a theory which Scott (2008a, p. 439) suggests 'has reached the stage of healthy young adulthood' and is starting to mature with respect to

its life stage. Institutional theory has the potential to be applied more intensively to SEA research than has traditionally been the case. Indeed, Gray, Owen and Adams (2010) argue that institutional theory may in due course become the 'mainstream theory' replacing legitimacy theory as the dominant theory used in the SEA literature. In explaining this trend, they state (p. 3) that 'there has been a strange herding tendency, especially around legitimacy theory', the view being that once particular, perhaps well respected researchers, adopt a particular theory then this selection can tend to perpetuate. The theory effectively gains a 'legitimacy' of its own which further reinforces its utilisation by researchers. However, Gray, Owen and Adams (2010, p. 40) further state that they 'also have a sneaking feeling that institutional theory may be coming up fast as the next theory around which to herd'.

Although the above view of theory selection might not be overly positive given that researchers should ideally select theories based on some intrinsic worth (rather than as a result of being 'herded') it does nevertheless reflect what appears to be happening, this being the increasing use of institutional theory, and, as a result, the potential future demise in the apparent dominance currently held by legitimacy theory within the SEA literature²³.

Given the apparent growth in the use of institutional theory within the SEA literature and its apparent potential to 'win the hearts' of SEA researchers, there is a timely opportunity now for researchers in the SEA area to reflect on the origins of both theories, and to compare, reflect and justify using one, or other, or both (or neither) of the theories in their research. Researchers will potentially be confronted with the need to choose between the two theories (or other alternatives) and an aim of this chapter is to provide some insights and reflections that help make this a choice based on careful consideration of both theories, rather than simply being 'caught up with the herd' (to maintain the Gray *et al*, 2010 analogy).

This chapter is motivated from the researcher's own experience as a researcher within the SEA area. As background to this chapter, when considering how best to explain the reporting behaviour of companies known to have contaminated sites, both legitimacy theory and institutional theory were considered based on the apparently accepted view that these two theories were overlapping and complementary to each other and *de rigueur* within the SEA literature²⁴. The key concept of *legitimacy* (which in the SEA literature is linked to compliance

²³ Whilst not pursued within this chapter, this view of how theories are 'overthrown' is somewhat different to how researchers, such as Thomas Kuhn, view theory development. Kuhn (1970) argues that after theories mature, they reach a crisis, new theories are proposed, there is a revolt and a new theory takes precedence until a new crisis is established, and the cycle continues.

²⁴ While this research focuses on institutional theory and legitimacy theory, it should be noted that managerial branch of stakeholder theory also overlaps with legitimacy theory and institutional theory.

with a 'social contract') is not only the essence of legitimacy theory as applied within the SEA literature, but legitimacy is also one of the key necessary attributes for organisations within institutional theory frameworks. During the writing process the researcher purposely took an extended period of reflection to justify why these two theories were to be applied and she started to question whether legitimacy theory was indeed a theory in its own right or perhaps was simply using a concept (legitimacy) that was a key element of a broader theory. The researcher explored the origins and fundamental assumptions and concepts used within both theories and in doing so she looked at both the organisational literature, and the SEA literature. This chapter shares these reflections. It was found that there is not only considerable overlap between the two theories, but that one theory—being institutional theory—is rich enough to cover nearly all, if not all, of the insights provided by the other theory—legitimacy theory.

In addition, after researching organisational theories, the researcher actually started to question whether organisational legitimacy is simply a social concept (as opposed to a relatively more complex body of theory) that has a sociology origin (Scott 2008b) and an institutional root (Aerts & Cormier 2009; Bebbington, Higgins & Frame 2009; Spence, Husillos & Correa-Ruiz 2010) that emanates from a broader theory (indicating that legitimacy theory as it has become known is perhaps really only focused on analysing an important concept of institutional theory), this being institutional theory. The other point that becomes apparent is that outside of the SEA literature, the use of legitimacy theory is almost non-existent (albeit that other disciplines still consider 'legitimacy' as an important concept).

Early work on 'organisational legitimacy' can be sourced back to the German sociologist Max Weber (1978) and American sociologist Talcott Parsons (1960). Dowling and Pfeffer (1975) and Suchman (1995) further the concept and draw attention to the regulative, normative and cultural-cognitive congruence between organisations' goals and operations and the social environments that organisations operate within. Hence, originally organisational legitimacy, as a concept, was developed away from any accounting contexts (Gray, Owen & Maunders 1988; Mathews 1997). In both the seminal works within the organisation literature (Dowling & Pfeffer 1975; Parsons 1960; Sethi 1979; Shocker & Sethi 1973; Suchman 1995; Weber 1978) and also in the early papers within the SEA literature (Gray, Owen & Maunders 1988; Lindblom 1993; Mathews 1997), organisational legitimacy was identified as a social concept, but in applying the concept, this early research did not actually embrace the *label* 'legitimacy theory'. It is later within the SEA literature that legitimacy *theory* appeared to come to prominence and rather than referring to the application of the concept of 'legitimacy' (which

A separate study with close investigating into the relationships between institutional theory and stakeholder theory may generate fruitful future research.

perhaps was borrowed from another theory), researchers started noting that they were embracing 'legitimacy theory'. In doing so the researchers were extensively employing the strategic aspect of legitimacy from what could actually be inferred as coming from a resource dependency perspective (Pfeffer, 1978; 2003)—and in doing so this was at the possible expense of losing much richer 'institutional argument' insights. In fact, the institutional theory literature not only recognises the institutional aspect (how institutional environments influence organisational structures and practices) of organisational activities but also the strategic aspect—that is, organisations are not powerless within their institutional environments as often there is interweaving of interests and agency among social actors (see Oliver 1991; Scott 2008a).

Shortly, this chapter will propose putting legitimacy (theory) back into institutional theory, specifically neo-institutional theory. In doing, the institutional roots of organisational legitimacy and legitimacy theory's distinctive development within the SEA literature will be recognised, and the chapter shall discuss and compare the relevant literature of legitimacy theory, and institutional theory. By putting the concept of 'organisational legitimacy' (and organisational legitimacy is deemed to exist when the actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs, and definitions—see Suchman 1995, p. 574) back into an institutional framework we can obtain insights that legitimacy theory, as applied by SEA researchers, struggles to offer—such as how legitimacy criteria (perhaps tied to regulative, normative and cultural-cognitive considerations²⁵) are developed by various constituents and become dominant criteria for legitimacy; the inter-play of interests and agency of social constituents in time and space; how social constituents frame, and react (actively or passively) to social facts; how institutions influence and are influenced by social actors; and, whether (and how) organisations' particular social reporting practices are effectively institutionalised or deinstitutionalised.

The structure of the chapter is as follows: the researcher discusses two related theories, first, as a broader theory, institutional theory and the associated social and environmental research are discussed; the discussion then moves on to how the concept of 'organisational legitimacy' is used by SEA researchers as 'legitimacy theory'; third, the criticisms associated with legitimacy theory are discussed and the need for a more comprehensive theoretical

²⁵ According to Scott (2008), from a regulative perspective, legitimacy is assessed in terms of conformance to legal rules and regulations; from a normative perspective, legitimacy is assessed based on value systems and moral standards; whereas from a cultural-cognitive perspective, legitimacy is assessed based on comprehensibility, recognisability and culturally supportability. Suchman (1995) has developed a similar typology by which legitimacy is assessed based on pragmatic, moral and cognitive criteria.

framework is proposed; fourth, it is proposed that institutional theory offers great potential to be applied within SEA research, by providing some essential institutional views and identifying potentially fruitful future research in SEA; and finally, some concluding comments are offered.

Ultimately, the integration of 'legitimacy theory'²⁶ back into institutional theory will be proposed. But to do this in a logical manner it is necessary to firstly provide a summary of the main elements of Institutional theory.

4.2 Institutional theory

According to Scott (2008), the earliest institutional arguments were initially developed in the 1880s, and in particular, within the social sciences. The development of institutional theory can be broadly divided into three periods. In the first period, from 1880s to 1940s, early works utilising institutional theory in economics, political science and sociology did not directly pay attention to organisations/organisational forms. The second period, from 1950s to 1970s, saw institutional theory starting to connect institutions with organisations and organisational forms and processes. Earlier influential institutional works focusing on explaining organisational form includes work undertaken by the 'Columbia School', Parsons, and the 'Carnegie School'²⁷. The third period, which included later developments from the 1970s, such as Meyer and Rowan's (1977) study on organisations' formal structure and its relationship to certain practices 'as myth and ceremony'²⁸, alongside with other seminal

²⁶ Again, it is emphasised that the term 'legitimacy theory' is used in accordance with current practice. However at this point of the chapter the researcher leaves as unanswered the question of whether it is actually a 'theory' in its own right or perhaps part of a broader theory.

²⁷ For a summary of the three streams of early institutional arguments applying to organisations, interested readers can refer to chapter 2 of Scott (2008b) or Scott's article on organisational sociology (Scott 2004). For a summary and comparison of the 'old' and 'new' institutionalisms we can refer to DiMaggio & Powell (1991).

²⁸ In this context, and as used elsewhere in this chapter, 'myths' are rationalised meanings attached to organisational formal structures and practices in order to gain legitimacy. 'Myths' become accepted over time but they are not necessarily based on fact. Meyer and Rowan (1977, p 343-4) argue that many elements of formal structures and practices (such as rationalised professions, formalised organisational programs) are highly institutionalised and function as myths. These 'myths generating formal organizational structure have two key properties' (p 343). Firstly, they are 'rationalized and impersonal prescriptions' (p 343) that bring social purposes into these structures and practices and treat these social purposes as technical ones that then specify appropriate rules and meanings to rationally achieve deemed technical goals. The second property is that because they are highly institutionalised they are 'beyond the discretion' (p 344) of any individuals and organisations. They are 'taken for granted as legitimate' (p 344) and tend to perpetuate and therefore they are not evaluated

studies (e.g., DiMaggio & Powell 1983; Zucker 1977), provide an 'expansive' research paradigm (Mohr & Friedland 2008, p. 422) that marks the apparently 'successful' arrival (Scott 2008b, p. 43) of neo-institutional theory (DiMaggio & Powell 1991), with neo-institutional studies being applied within a variety of disciplines inclusive of economics, political science, and sociology. The basic view of organisations, as perceived by these theorists, was that an 'organisation' is an institutionalised form reflecting not only the technical necessities required to efficiently function but also the cultural rules and beliefs operating within the social environments at that time (Scott 2008b). This chapter focuses on neo-institutional theory and social reporting is viewed as an organisational practise undertaken within a broader institutional environment.

Neo-institutional theory has been used in various disciplines for example, in economics, political science, and sociology. Indeed, some researchers have utilised terminology such as Neo-Institutional Sociology theory (NIS), Neo-Institutional Economic theory (NIE), Neo-Institutional Political Science theory (NIPS). However, for the purposes of this chapter the researcher will simply refer to the umbrella term, being neo-institutional theory although it needs to be appreciated that much of the development that occurred within the discipline of sociology—and in particular sociology's development of the concept of legitimacy—will be particularly relevant to this discussion. It is the sociology branch (NIS) of neo-institutional theory that has effectively been embraced by SEA researchers with early proponents embracing NIS literature and it is this branch that provides significant insights into what is referred to as 'organisational legitimacy'.

4.2.1 Concept of institution

The concept of 'institution', a key construct within sociology (DiMaggio & Powell 1991), and somewhat obviously in institutional theory, is very diverse in meaning and application (for examples of diverse approaches see Scott 1987) and hence no definitive all-inclusive definition is possible (Mohr & Friedland 2008; Scapens 1994). However, Scott (2008b, p. 48) proposed a 'broad and dense definition' of institutions as follows:

Institutions are comprised of regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life.

These regulative, normative and cultural-cognitive elements serve as three vital 'pillars' of institutions. The *regulative* pillar involves rules, laws and associated sanctions. This pillar

by their impacts on technical outcomes (some formal structures and practices are legitimate but may not be the most efficient choice in terms of technical efficiency). Organisations conform to these myths ceremonially – by building gaps (buffers) between the formal structures which reflect the 'myths', and actual work activities that contribute to functional and technical efficiency (Mayer & Rowan 1977).

indicates that 'it is a legal requirement to do things in a particular way otherwise sanctions may apply.' Using DiMaggio and Powell's (1983) typology, the regulative pillar is maintained through various 'coercive' mechanisms, many of which are enforced by government or powerful constituents that organisations are dependent upon.

The *normative* pillar incorporates values and norms reflecting certain social obligations or expectations—'this is the right/moral thing/way to do' and how people within the organisations interpret these expectations will in turn be influenced by various professional and educational experiences. That is, this normative pillar is maintained through accreditations, professional endorsement and formal education (reflective of the normative mechanism within DiMaggio and Powell's (1983) typology).

The third pillar, the *cultural-cognitive* pillar, is the major distinguishing feature of neo-institutional sociology (Scott 2008b) as it relies upon 'taken-for-granted assumptions at the core of social action' (Zucker 1987, p. 443). That is, this cultural-cognitive pillar consists of taken-for-granted symbolic systems and meanings. Cognitive beliefs are subjectively held but exist as 'a fact, as part of objective reality, and can be transmitted on that basis' (Zucker 1977, p. 726). Cultures and beliefs are transmitted as 'this is the way how these things are done' (Scott 2008b, p. 125) or 'this is the way that other legitimate parties are doing it' so that doing otherwise effectively becomes unthinkable. This pillar works in a subtle, hard to detect, but nevertheless powerful way and is maintained by the mimetic mechanism of DiMaggio and Powell's (1983) typology.

These three pillars in combination move the acceptability of certain structure or processes from 'the conscious to the unconscious, and from the legally enforced to the taken for granted' (Hoffman 2001, p. 36), and the three pillars are 'central building blocks of institutional structure' (Scott 2008b, p. 49) that both constrain and empower social behaviour through coercive, mimetic and normative mechanisms (DiMaggio & Powell 1983). These three pillars are inter-related and co-exist at any time and one or more pillars may play a dominant role at a particular point in time (Hoffman 2001). They also 'elicit three related, but distinguishable bases of legitimacy' (Scott 2008b, p. 61).

4.2.2 Organisational legitimacy and isomorphism

Meyer and Rowan (1977) claim the legitimacy of rationality²⁹ (rather than economic efficiency to improve performance) is the institutional source of formal structures and procedures.

²⁹ Rationality has been discussed extensively in different disciplines such as sociology, psychology, political science and economics. Rationality is related to how actors make choices and what logics determine actors' social actions (Scott 2008b). In sociology, German sociologist Max Weber proposed several variances of rationality in interpreting social action—action is rational in the selection of means

These formal structures and procedures reflect the rationalised institutional rules of the wider institutional environments in which organisations operate. The status of an organisation's legitimacy reflects the 'social fitness' of the organisation within its environments. Across time, and due to institutional effects, organisations' structures tend to become homogeneous, that is, isomorphic effects occur with rationalised, impersonal and taken-for-granted 'myths' being embraced in order to gain and maintain legitimacy. While organisations' formal structures are isomorphic with their institutional environments (to appear legitimate), there is a possibility of tension developing between formal structures and informal (and often unseen) elements within organisations. To mediate the existence of this tension, organisations may decouple their informal structure and practices from the formal ones (which are visible to external parties and are subject to external scrutiny) to maintain their everyday operations by employing what has been referred to as the logic of confidence and good faith³⁰.

DiMaggio and Powell (1983) further Meyer and Rowan's (1977) notion of 'isomorphism' to include three mechanisms that can act to diffuse and sustain new organisational forms and practices. These mechanisms are referred to as coercive, normative and mimetic isomorphism. Coercive isomorphism occurs when focal organisations experience pressures, formally or informally, from other organisations or stakeholders upon which they are dependent. For example, government or funding bodies' expectations about annual report and financial reporting practices will shape organisations' reporting practices if these organisations are under the ambit of government regulation or are dependent upon the funds provided by the respective body. Another example is that some European countries' regulations make environmental disclosures within financial statements compulsory

(instrumental and calculative), as well as in value and belief oriented (such as ethical, religious or aesthetic) ends. Max Weber's interpretation of rationality is seen as broader than other alternative understandings such as instrumental rationality (Lounsbury 2008). It is this Weberian source of the concepts of rationality and legitimacy that is adopted by Meyer and Rowan (1977). According to Meyer and Rowan (1977, p342), if formal structures (with formal structure being such things as lists of 'offices, departments, positions and programs' are 'rationalised and impersonalised', these structures in turn form the basis for legitimising particular organisational form or structures (instead of economic efficiency).

³⁰ Social actors tend to employ the 'logic of confidence' which assumes that each other is acting according to the roles as they are supposed to act, thus to save each other's 'face' and identity, to maintain the legitimacy (therefore the myths) of the organisation (Meyer & Rowan 1977). The logic of confidence effectively replaces social actors' actual inspections, evaluations and controls by avoidance, discretion and overlooking practices, to alleviate the conflict between formal structures and informal practices. The assumption that people are acting in good faith, that is, that 'employees and managers are performing their roles properly, allows an organisation to perform its daily routines with a decoupled structure' (Meyer & Rowan 1977, p. 358).

(Larrinaga-Gonzalez 2007) thereby forcing organisations—through coercion—to adopt similar reporting characteristics.

Normative isomorphism stems from professionalisation through mechanisms such as formal education, professional networks or formal accreditations. Through various experiences and interactions, certain 'ways of doing things', and certain ways of structuring practices and processes, become the 'right/moral way'.

In terms of mimetic isomorphism, when facing technological or social uncertainties, or ambiguous goals, organisations tend to mimic other organisations that are deemed to be legitimate or successful within the same field. These homogenisation processes are typically observed at the organisational field level.

By organizational field, we mean those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products (DiMaggio & Powell 1983, p. 148).

At the initial stage of 'field formation', organisations are more diverse in structures and practices. Once the field becomes more established, organisations are rewarded for being similar and therefore become more similar to each other within the field. Conversely, organisations that deviate from accepted structures and processes will tend to lose support from various constituents within the institutional environment.

4.2.3 Homogeneity and heterogeneity

While the whole process of homogenisation has attracted a deal of research attention, recent institutional developments have called for a shift in attention (but not an abandonment of attention) from isomorphism to heterogeneity (Lounsbury 2008; Scott 2008a)—although this is not overly apparent within the SEA literature. Within a field, multiple institutions are often known to exist. When existing institutions are potentially contradictory, there are seemingly multiple logics available to organisations. This provides a repertoire of rational choices for organisations (Friedland & Alford 1991; Lounsbury 2008). Within a field there are constituents such as regulators, financial and non-financial resource providers, product consumers, competitors, professional bodies, trade unions, and any of these 'social actors' could impose regulative, normative or cognitive influences over a focal organisation. Among these constituents their interests and powers will vary and change over time and space. Multiple institutional demands may create potentially conflicting institutional expectations. Organisations within the same field may face multiple institutional expectations and respond to institutional demands differently. The same constituents can frame the same issues in different ways over time. As the institutions, constituents, and constituents' interests and

powers evolve, the field is perceived as dynamic and evolves over time (Fligstein 1991; Hoffman 1999, 2001).

Early (neo) institutional theory emphasised institutional effects or institutional determinants, that is these early institutional approaches treated institutions as the independent variable that only had a one-way effect upon organisations. This approach was later criticised as it ignored the interweaving of agency, self-interest and power of constituents. The institutional process is actually a dual-direction process, as organisations are not always powerless or passive (Oliver 1991; Powell 1991; Scott 2008b). Organisations facing institutional pressures may act in a variety of ways from passively accepting to actively resisting pressures to conform. Recognising 'the role of organisational self-interest and active agency' Oliver (1991, p. 145) provides five types of strategic responses by organisations ranging from acquiescence, compromise, avoidance, defiance, to manipulation. But the choices of strategies are not unlimited (Hoffman 1999, 2001). Organisations will respond to institutional pressures and expectations within the boundary of rationalised and socially constructed choices (Lounsbury 2008). Organisations pursue their interests by making their choices within the confines of institutional constraints (Ingram & Clay 2000).

4.2.4 Applications of institutional theory

The application of institutional theory can be conducted with different focuses, assumptions, carriers, levels of analysis, and concepts. Institutional theory itself is a broad theory and researchers can conduct their studies with a focus on political science, sociology or business/economics, and using a variety of assumptions including ontological assumptions about the nature of the underlying social reality (Scott 2008b).

Further, for institutions to be produced and reproduced, they need to be conveyed by 'carriers' of which four are identified, these being: symbolic systems, relational systems, routines and artefacts (Scott 2008b). Institutional theorists may embrace one or more of these 'carriers', in explaining why particular institutions appear to dominate at a point in time (Scott, 2008b). Symbolic systems, such as language³¹ (discourse analysis) and image, carry and convey institutions as rules, norms, frames, and scripts that direct behaviour. For example, accountants use 'Dr' and 'Cr' to reflect the results of using the rule of debit and credit. 'Relational systems' connect social actors with institutions by networks of social actors with specific and accepted social roles, powers and social identity. Organisations are embedded in complex networks connecting their regulators, suppliers, customers,

³¹ Institutionalists such as Berger and Luckmann (1966), and Phillips, Lawrence and Hardy (2004) view language as fundamental to the process of institutionalisation, through which social actors interact with each other, and share commonly accepted ideas and definitions. These linguistic processes (the production and consumption of texts) thus constitute reality and convey institutions.

competitors and other relevant parties. Through these networks certain institutions, for example the notion of 'sustainability', can be conveyed and spread among the members of the networks. 'Routines' carry and spread institutions by repeated patterned procedures undertaken (and institutionalised) by relevant social actors. For example, financial report preparation involves regular and repeated procedures that convey the institutionalised formal and rational practice. 'Artefacts' are material objects, including 'complex technologies embodied in both hardware and software' (Scott 2008, p. 83), that are produced or formed by people and they represent both technical and social symbolic influences (Suchman, 2003). For example, a Chinese abacus, in ancient times, was not only a tool to perform arithmetic processes but also symbolically represented the social role of Chinese accountants (as they were the primary users of Chinese abacuses).

As an example, if an institutionalist is interested in studying corporate sustainability reporting in relation to contaminated sites, and decides to study one or some of the carriers through which relevant institutions are conveyed, the possible options are as follows. Studies on symbolic systems may implement discourse analysis on corporations' sustainability reporting in relation to contaminated sites: how the language used in the reports changes over time, and how certain texts are created, used or being replaced by other texts to convey relevant institutions as rules, values, and typification. Studies on relational systems may focus on how various social actors, such as the community, 'occupational and professional' (Scott 2008b, p.82) actors and any other social actors, convey ideas and interact, in relation to contaminated site reporting. Communities, for example, may exert pressures, through various networks, on the focal corporation to demand contaminated site information to be provided in sustainability reports. Studies on routines may be undertaken to investigate how the information in relation to contaminated sites is processed following repeated and patterned procedures, as a part of the internal processes within the organisation; and how these routines carry and spread relevant institutions in relation to reporting on contaminated sites. Studies on artefacts as carriers of institutions may investigate how modern technologies on communication, or the change of standards on identifying and remediating contaminated sites, influence the practices of reporting on contaminated sites. It can be argued that the sustainability report itself (printed or electronic copy) is an artefact that physically exists and carries various messages and ideas representing certain institutions.

Apart from studying different carriers of institutions, researcher may apply different levels of analysis when applying institutional theory. Depending on the micro- or macro-phenomena focus, Scott (2001, 2008b) identifies six 'levels' of institutional investigations, ranging from a broad macro-level 'world system' (wherein organisations are studied in a wide variety of contexts), through 'society' (at a country or region level), through 'organisational field', to 'organisational population' (number of organisations operating within the field), to

'organisation' and finally, at the lowest level of analysis (micro-level), on to 'organisational subsystems' (wherein smaller units within an organisation are studied). The resolution of focus, starts with broader coarse focus (macro-level), and then narrows down to micro-level or finer focus (Scott 2001, 2008b).

Using the same scenario, when studying sustainable reporting in relation to contaminated sites, an institutionalist may choose different levels of focus to undertake research. At a macro-level—the 'world system' level, the researcher may investigate at a global scope, the extent of disclosures on contaminated sites in sustainability reports. At a 'society' level, the researcher may study disclosure practices in relations to contaminated sites in the context of, for example, European countries, developing countries, or a single country. At a 'field' level, the researcher may investigate how Australian companies disclose their contaminated site-related information in their sustainability reports. In this case the field is formed by the issue of 'contaminated site disclosures' (fields can be formed on particular issues, see Hoffman 1999, 2001, and Larrinaga-Gonzalez 2007). At the 'organisational population' level, the researcher might choose to investigate the extent of disclosure on contaminated sites by a group of organisations. At the 'organisation' level, the researcher may investigate individual organisation's disclosing practices as they pertain to contaminated sites. At the micro-level—the 'organisational subsystem' level, the researcher may choose to study how the accounting department and environmental engineers, functioning as separate but interrelated units in an organisation, interact to process information in relation to contaminated sites, when preparing sustainability reports. In the current study, the researcher has chosen to work at field level as she is exploring disclosure practices as they pertain to contaminated sites, by Australian companies in control of contaminated sites, within the field of 'contaminated sites disclosures by Australian companies'.

In brief, institutional theorists, under different assumptions of institutions, may emphasise one or more pillars of institutions (the regulative, normative and/or cultural-cognitive pillars), with one or more carriers (symbolic systems, relational systems, routines and/or artefacts), at one of the six levels of institutional investigations (ranging from a broad 'world system' to 'organisational subsystems')—the variety of focuses makes institutional theory a broad theory and thus offers significant potential explanatory power in the SEA area.

Whilst certainly not comprehensive, the above discussion has hopefully provided a basis for readers of this chapter to understand the substance of neo-institutional theory as well as having some understanding of its development. Attention is now turned to neo-institutional theories' application in the accounting literature, and more specifically, within the SEA literature. In doing so the researcher will tend to elaborate upon some of the previous discussion provided in this chapter.

4.3 Institutional theory and its relevance to accounting

Accounting practices are obviously part of broader organisational processes and therefore do attract attention from institutional-orientated researchers. Various studies emphasise the 'importance of institutions in legitimating organisational activity' (Scapens 1994, p. 314) pertaining to accounting. Meyer and Rowan (1977, p. 344) view accounting as an example of a 'taken-for-granted means' to achieve goals. This taken-for-granted status is the cultural-cognitive pillar that Scott (2008b) identifies. Accounting becomes a part of the powerful 'organisational myths' necessary to gain legitimacy, and thereby, necessary resources. Meyer (1986) investigates the social conditions that give rise to the accounting profession and accounting as a legitimate routine element of organisational life. It is emphasised that it is not only the wider social environment that creates issues (both social and technical) that organisations have to deal with, but also it supplies legitimacy to the accounting profession and accounting practices to deal with these issues which are created by the social environment. For example, the early expansion of capital markets, and firms' dependency on such markets in the US, promoted the expansion of the accounting profession. The roles associated with accounting, as a legitimate profession, and the activities associated with accounting, as legitimate accounting practices, are seen as becoming institutionalised within a wider environment. That is, accounting is a legitimating institution (Richardson 1987), and the accounting system is one element of the organisational structure being created in response to societal expectations (Dirsmith 1986; Zald 1986). Through their accounting practices, organisations define themselves, being defined by other social actors, and construct their relationships with others (Neimark 1992).

Generally accepted accounting practice (GAAP) becomes 'an institutionalised practice' and in itself a 'symbol of legitimacy' (Carpenter & Feroz 1992). In this regard, Carpenter and Feroz (1992, 2001) analyse the motivations of four US state governments to adopt GAAP. They argue that adopting GAAP leads to the perceived legitimate status of the state governments' accounting practice. They also observe that the early adoption of GAAP is associated with coercive institutional pressure whereas normative isomorphic pressure influences the decision for later adoption. The presence and effect of institutional pressures change over time.

Within the broad discipline of accounting, institutional theory appears to have been applied more within management accounting-related research than financial accounting-related research or social reporting-related research. There is a rich body of literature in management accounting areas such as budgeting (for example, Coaleski & Dirsmith 1983; Coaleski & Dirsmith 1988; Ezzamel et al. 2007; Moll & Hoque 2011), management accounting change (Burns 2000; Burns & Scapens 2000; Lukka 2007; Scapens 1994; Siti-

Nabiha & Scapens 2005; van der Steen 2009), practice variation (Cruz, Major & Scapens 2009; Lounsbury 2008), and performance measurement (Modell 2001, 2005).

Other accounting research that applies institutional theory include studies of accounting standards and regulations (for example, Elbannan & McKinley 2006; Fogarty 1992; Hunt & Hogler 1993; Mezias 1990; Mir & Rahaman 2005; Shapiro & Matson 2008; Young 1996), accounting regulatory bodies (Bealing, Dirsmith & Fogarty 1996), accounting professions (Boland 1982; Covalleski, Dirsmith & Rittenberg 2003; Dirsmith, Fogarty & Gupta 2000), and professional associations as institutional agents (Greenwood, Suddaby & Hinings 2002; Hines et al. 2001; Jacobs & Jones 2009).

4.4 Institutional theory and the SEA literature

Institutional theory seems to offer useful insights when SEA-related research focuses on reporting practices, managerial motivations for reporting, or the institutionalisation processes associated with social reporting. SEA itself is an institutionalised organisational practice in response to institutional expectations and pressures. As Meyer and Rowan (1977, p. 344) stated: 'as the issue of safety and environmental pollution arise, and as relevant professions and programs become institutionalized in laws, union ideologies, and public opinion, organizations incorporate these programs and professions'. To respond to changing institutional pressures, organisations operating within socially or environmentally-sensitive fields will develop particular programs and practices, for example environmental reporting, to provide stability and meaning to organisations' operations within society, and these programs and practice become institutionalised over time (Scott 1995). Social reporting itself is a means of gaining legitimacy, and simply producing such a report (regardless of its contents) may enhance the apparent legitimacy of the focal organisation's operation within its social environments. Social reporting thus becomes an element of organisational institutionalisation, despite the fact that there might be a disconnection (decoupling) between how the organisation projects itself in its reports to external parties, and the internal (unseen) operational structures and practices within the organisation (Larrinaga-Gonzalez 2007).

Different stakeholder groups exert different demands and organisations will respond in different ways. In situations where specific stakeholders dominate in terms of their relative power, reporting across various organisations will tend to reflect, at least in part, the expectations of these stakeholders (Christmann 2004). That is, institutional outcomes of corporate social responsibility discourse may represent the viewpoint of dominant constituents despite the fact that stakeholder consultation processes might appear to represent a democratic dialogue among various constituents holding different viewpoints (Archel, Husillos & Spence 2011). Drawing on Kolk's empirical study (2005) and Hoffman's (1999) proposition that fields are formed around issues, Larrinaga-Gonzalez (2007) points

out that currently there is no convergence in sustainability reporting as a single field at a global level except that the phenomenon that sustainability reporting is often 'confined to the rich and western countries' (p. 154). However Larrinaga-Gonzalez (2007) suggests that it is possible that there are three fields that exist in terms of sustainability reporting. The US is identified as the first field of sustainability reporting by Larrinaga-Gonzalez (2007). US companies' sustainability reporting adopts a distinctive compliance-oriented approach to respond to stronger regulative institutions which require quantitative and strict legal requirements to be disclosed. On the other hand, according to Larrinaga-Gonzalez (2007), there is an increase in convergence in reporting between European companies (the second field of sustainability reporting) and Japanese companies (the third field). Within Europe, however the difference in reporting has increased to reflect different social contexts of sustainability reporting in different countries within Europe.

Bebbington, Higgins and Frame (2009) conduct a study to examine the social context of initiating sustainability reports, by interviewing a sample of six member companies of the New Zealand Business Council for Sustainable Development. Their study provides a detailed view of the institutional environment and the three pillars of institutions that lead to the initiation of sustainable development reporting. While regulative institutions exist, it is the 'subtle mixture' (Bebbington, Higgins & Frame 2009, p. 615) of normative and cultural-cognitive institutions that shapes managers' view such as 'providing a sustainability report is the right thing to do' (normative institution) or to make unconscious (taken-for-granted) moves to 'fit in' or 'do what my peers are doing' (culture-cognitive institution). Sustainable development reporting is demonstrated to be both in the process of being institutionalised as well as being the 'outcome of institutionalization' (Bebbington, Higgins & Frame 2009, p. 616).

Applying the mechanisms of institutionalisation, Laine (2009) argues that corporate environmental disclosures are used to respond to various institutional pressures to maintain an organisation's legitimacy with respect to perceptions of its operations within society. Throughout a period of 34 years, environmental disclosure by a Finnish chemical company, under institutional coercive (regulative institution) and mimetic pressures (cultural-cognitive institution)³², the company adjusted its disclosures to coincide with the changing societal expectations and institutional contexts.

Organisations may adopt international initiatives such as the Global Reporting Initiative (GRI) as a guideline for reporting. For example, GRI is considered as an 'institutional entrepreneur' (Caron & Turcotte 2009)—a social actor who constructs new institutional norms or pushes for

³² Due to the nature of the data collected and the research topic, identifying normative pressures is outside of the scope of Laine's (2009) research. The author, however, claims that it is possible such normative pressures exist.

institutional changes (DiMaggio 1988). Organisations are found to be adopting GRI reporting guidelines and ideas, but only partially (Caron & Turcotte 2009). This lack of fully complying with the GRI guidelines presents some degree of organisational imprinting and inertia³³ held by organisations. It also reflects that new changes do not happen overnight and new institutions are often formed based on old institutions.

From the brief review of institutional theory the researcher has explored a limited number of studies applying institutional theory to SEA practices. Currently institutional theory as a stand-alone theory³⁴ applied to SEA research is sparse and this perhaps provides an opportunity for SEA researchers to exploit the explanatory power offered by the theory. Institutional theory warrants a closer examination not only because it is overlapping with the mainstream theory—legitimacy theory—but also because it offers greater and broader insights into SEA compared to legitimacy theory (Larrinaga-Gonzalez 2007). The next section will discuss how the concept of ‘organisational legitimacy’ is used by SEA researchers and how the application of the concept appears to have become ‘legitimacy theory’. Criticisms relating to legitimacy theory are then offered. Considering some of these criticisms (or gaps) of ‘legitimacy theory’ and sourcing back to the original development of ‘legitimacy theory’, it is proposed that ‘legitimacy’ should be viewed as an important concept within the institutional theory framework. That is, legitimacy is the core concept of institutional theory (Suchman 1995) as it provides a linkage between organisations and their social environment (DiMaggio & Powell 1983). The discussion in the next section starts from the early development of the concept of ‘organisational legitimacy’ and its institutional origin. This concept is then used by SEA researchers to explain the motives of SEA reporting. That is,

³³ Organisational imprinting (Scott 2008b; Stinchcombe 1965) and inertia (Mezias 1990) may mean organisations will resist institutional pressures. Organisational imprinting (Stinchcombe 1965) occurs when organisations’ current structures and practices keep their original arrangements in place at the time when the organisations are created. These structures and practices are adopted as they are deemed to be appropriate and this belief constructs social reality at the time the organisation is established. The presence of inertia (organisations’ inability to change within their changing external environments) is considered (Burns & Scapens 2000; Hannan & Freeman 1984; Hannan, Pólos & Carroll 2004; van der Steen 2009) to contribute to organisations’ resistance to change. For example, in terms of financial reporting practices, companies may still refer to their previous years’ reporting practices (including their accounting policy, statement templates of reporting which were regarded as proper and legitimate but may not reflect the changing external requirements and expectations) to guide their current practices.

³⁴ Current applications of institutional theory in SEA research, however commonly take a multiple theoretical lens including other theories such as legitimacy theory and stakeholders theory (for example, Aerts, Cormier & Magnan 2006; Cormier, Magnan & Velthoven 2005; Islam & Deegan 2008; Tagesson et al. 2009; Yang & Rivers 2009).

SEA literature borrowed the concept of 'organisational legitimacy' from the organisational literature. The SEA literature emphasised the strategic aspect of legitimacy and labelled the organisational legitimacy concept as 'legitimacy theory', which then obtained a mainstream theory status.

4.5 The concept of 'organisational legitimacy' and its distinctive application in SEA as 'legitimacy theory'

In general, in the early development stage of 'organisational legitimacy', there are three seminal papers which play a vital role in introducing 'legitimacy' to SEA research. Dowling and Pfeffer (1975) and Suchman (1995) contribute two seminal papers on organisational legitimacy outside of the context of SEA research. Heavily influenced by Dowling and Pfeffer's (1975) concept of legitimacy and strategies of legitimation, it is Lindblom (1993)³⁵ who extends and elaborates those relevant concepts and strategies into the context of SEA. Despite remaining as unpublished in a journal, this conference paper becomes a seminal paper within SEA research. It is noted that Lindblom's (1993) work on organisational legitimacy becomes a most recognised early paper within SEA research (see Deegan 2002)

Dowling and Pfeffer (1975) point out that the fundamental concept of organisational legitimacy can be sourced back to Parson's (1960) work whereas Suchman (1995) sources back from both the works of Weber (1978) and Parsons (1960)³⁶. Embracing Parsons' 'goal congruence legitimacy', Dowling and Pfeffer (1975) interpret organisational legitimacy as a socially constructed concept, representing a status of an organisation as perceived by a larger social system, where the apparent or implied value system of the organisation conforms to the value system held by its larger social systems. Legitimacy is further defined by Suchman (1995) as

[...] a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs, and definitions. (Suchman 1995, p. 574)

³⁵ This seminal paper Lindblom (1993) has been frequently cited as Lindblom (1994). The correct year is 1993.

³⁶ Webber points out the importance of legitimacy in social life, and that organisations are legitimate as long as they are rational and conform to legal frameworks. Parsons extends the concept of legitimacy to the alignment/congruence of organisational goal to wider societal values (Scott 2008b). Later Meyer and Rowan (1977) shift the attention from organisational goals, to organisational structures and procedures (Scott 2008b). Organisations within highly institutionalised environments need to gain legitimacy and resources from their environments in order to survive. This article becomes one of the most influential papers within institutional theory.

This 'socially constructed system' referred to by Suchman, or the larger 'social system' referred to by Parsons (Parsons 1960, p. 123), are effectively institutional frameworks (Scott 2008b, p. 59). Organisations not only operate independently at a micro level but they also operate within a larger macro social system. This system is described as an 'interpenetrating system' (Preston & Post 1975, p. 25) meaning that organisations and their social environments interact and influence each other. According to Scott (1995, 2001, 2008b), each of the three pillars of institutions, regulative, normative and cultural-cognitive, provides and elicits a related, but different basis for legitimacy. Lindblom (1993) expresses a similar view that legitimacy cannot be assessed solely on a regulative basis or on an economic exchange basis. Instead legitimacy is assessed based on whether the focal organisation complies with prevailing norms and values. As the three pillars of institutions may support or conflict with each other, and one or more may be dominant at different times, whether an organisation is legitimate depends on which pillar(s) is prevailing as well as the composition and interests of powerful social actors who confer the status of legitimacy at that time.

Similar to Scott's three bases of legitimacy deriving from three pillars of institutions, according to Suchman (1995) there are three main types of legitimacy: pragmatic, moral and cognitive. Pragmatic legitimacy is based on evaluators/relevant public's self-interest needs such as the need to exchange, or to influence others. Moral legitimacy is evaluated based on 'the right thing to do' (this is Scott's 'normative base of legitimacy'). This evaluation includes the output, processes, or structures of focal organisations. The consideration of moral legitimacy is based on social values and beliefs. Rather than self-interest evaluation or moral evaluation, the third type of legitimacy is based on the cognitive dimension of legitimacy (this is Scott's 'cultural-cognitive base of legitimacy'). Organisational legitimacy represents the 'degree of cultural support for an organisation' (Meyer & Scott 1983, p. 201). Organisations are legitimate when they are understandable, meaningful, 'fit-in' with the society, when they provide explanations to the socially constructed system, and removing some aspect from the system is unthinkable. Legitimacy is taken-for-grantedness (Carroll & Hannan 1989). The stronger the institutional environment, the greater the need for an organisation operating within this environment to seek the cognitive dimension of legitimacy. This taken-for-grantedness legitimacy is the most subtle but most powerful type of legitimacy. The following table (Table 4.1) provides a brief comparison of the views on organisational legitimacy from Scott (2008b), Suchman (1995), Lindblom (1993) and Dowling and Pfeffer (1975).

Table 4.1 A comparison of organisational legitimacy from Scott (2008b), Suchman (1995), Lindblom (1993) and Dowling and Pfeffer (1975)

	Scott (2008 b)	Suchman (1995)	Lindblom (1993)	Dowling and Pfeffer (1975)
Organisational legitimacy is a	condition of the organisation's social acceptability and credibility	perception or assumption	condition or status that allow organisations to continue to operate	resource and constraint
Basis for legitimacy (legitimacy criteria)	Organisations conform to <ul style="list-style-type: none"> • Regulative institutions • Normative institutions' • Cultural-cognitive institutions 	<ul style="list-style-type: none"> • Pragmatic legitimacy • Moral legitimacy • Cognitive legitimacy 	Organisation's value systems congruent with prevailing social norms and values	Organisation's social values and norms congruent with the values and norms prevalent in a society
Organisational legitimacy is assessed by	collective institutional constituents	social audiences	relevant publics	society
The process to obtain, maintain and enhance legitimacy is	institutionalisation	legitimation and institutionalisation (they are synonymous)	legitimation	legitimation

Legitimacy is a social assessment of social fitness (Meyer & Rowan 1977) or an appraisal of desirability, acceptance and appropriateness of an organisation within its organisational field (Aerts & Cormier 2009; Suchman 1995). It represents a condition of the organisation's social acceptability and credibility (Scott 2008b). The assessment of legitimacy is determined by so called 'collective institutional constituents' (Scott 2008b), social audience (Suchman 1995), 'society-at-large' (Gray, Owen & Maunders 1988, p. 13), 'society' (Dowling and Pfeffer 1975, p. 125) or the 'relevant publics' (Lindblom 1993, p. 2), not the organisations themselves nor by a particular social audience. Relevant publics are various internal and external stakeholders who constitute the institutional environments with concerted social powers (Lindblom 1993; Scott 2008b). It needs to be pointed out that not all the members of the society have equal power to define legitimacy and assess the legitimacy of an organisation.

The constituents (actors) of the relevant publics, and the interests and the power of each constituent change overtime, so do the regulations, norms, values and cultures (regulative, normative and cultural-cognitive institutions). Legitimacy therefore is a dynamic concept (Dowling & Pfeffer 1975) and presents an evaluation (Suchman 1995) by concerted social actors (Lindblom 1993; Scott 2008b), of an organisation's 'social fitness' (Meyer & Rowan 1977).

Legitimacy poses a constraint on organisations (Dowling & Pfeffer 1975), as it limits choices of socially acceptable and desirable actions taken by organisations. Meanwhile legitimacy also empowers organisations that are perceived as legitimate to survive and develop within their social environments. That is, organisations seeking survival and development within their socially constructed systems seek approval from the relevant publics, by meeting their institutional demands. Moreover, organisations may use institutionalised rules or norms to enhance their 'prestige and power' (Powell 1991, p. 194). The processes of legitimacy management, enacted by organisations to obtain, maintain and repair legitimacy to achieve the status of being legitimate in the eyes of the relevant publics, is legitimation (Suchman 1995). However, the status of being legitimate is ultimately determined by the relevant publics.

To summarise, legitimacy is defined by regulative, normative and cultural-cognitive institutions, perceived by collective social constituents, reflecting various interests and power of these social constituents.

The concept of organisational legitimacy is one of the important concepts within institutional theory (Meyer & Rowan 1977) as well as in resource dependence perspectives³⁷ (Dowling &

³⁷ The resource dependence perspective (Pfeffer & Salancik 1978, 2003) views the relationship between organisations and their wider social environments as the resource receiver (the organisations)

Pfeffer 1975). Suchman's (1995) definition of legitimacy captures not only the strategic management perspective of legitimacy (resource dependency perspective, that is, legitimacy can be viewed as a resource that organisations can utilise), but also the institutional perspective of legitimacy. From the institutional perspective, legitimacy is 'a set of constitutive beliefs' (Suchman 1995, p. 576). Legitimacy is not 'a commodity to be possessed or exchanged', it is 'a condition reflecting perceived consonance' with regulative, normative institutions, or 'alignment with cultural-cognitive frameworks' (Scott 2008b, pp. 59-60). It is not 'an input to be combined or transformed to produce some new and different output', rather it is a 'symbolic value to be displayed' to other social actors. Organisations are not immune from their social environments, and managers operate under the same culture, norms and constraints as any other social actors within their institutional environments. Organisations therefore

[...] do not simply extract legitimacy from the environment in a feat of cultural strip mining; rather, external institutions construct and interpenetrate the organisation in every respect. Cultural definitions determine how the organisation is built, how it is run, and simultaneously, how it is understood and evaluated. Within this tradition, *legitimacy* and *institutionalisation* [emphasis in original] are virtually synonymous. Both phenomena empower organisations primarily by making them seem natural and meaningful; access to resources is largely a by-product. (Suchman 1995, p. 576)

Suchman further notes that the strategic perspective and the institutional perspective represent different viewpoints. The strategic perspective is from the viewpoint of managers looking out; whereas the institutional perspective is from the view point of society looking in. That is the same story is described from the managers' viewpoint and from various constituents' viewpoint. Care should be taken to consider that managers or various constituents are not isolated from each other as they interact and influence each other in an interpenetrative way. Suchman also notes the importance of obtaining a fuller picture by considering both points of view. From observation, most SEA research that employs 'organisational legitimacy' concentrates on the look-out perspective (from managerial perspective) assuming a 'high level of managerial control over the legitimisation process' (Suchman 1995, p. 576). In this sense 'legitimacy theory' might be labelled as 'strategic legitimacy theory' (Aerts & Cormier 2009, p. 2). Focusing on the 'look-out' perspective may lead to overlooking the 'looking-in' perspective therefore losing the opportunity of obtaining a balanced and fuller view of the phenomena.

and resource providers (the wider social environments). To survive, organisations need to manage their relationship with external parties to extract resources such as materials, labour or capital from their wider social environments. An organisation's dependence on (therefore conformance to) a particular party is closely related to the party's power over the provision of the resources that the organisation needs.

It is proposed that institutional theory, compared to legitimacy theory, provides balanced and rich explanations for SEA researchers. Recent developments within institutional theory consider both the institutional effects on organisations and the organisations' strategic responses to institutional pressures, as well as the interplays between them. Institutional theory offers rich potentials not only when studying organisational strategic responses to the social environments but also when considering questions where legitimacy theory does not lend much explanatory power such as: how the criteria of legitimacy are formed; which social actors (can be individual or group) confer legitimacy within the specific setting of space and time; how social expectations change; how the management of the organisation perceives and interprets legitimacy within their institutional environments; and how organisational internal structures and processes legitimise the organisation's operations.

Legitimacy is a perception, a symbolic value, which is possessed by the assessor but the assessment does not however always reflect the true value or true performance of the assessee—the focal organisation (Lindblom 1993). Organisations thus not only are expected to manage their performance, but also most importantly, to manage the perceptions of their performance. Organisations pursuing legitimacy may make substantive changes (the process of pursuing legitimacy by implementing actual changes in performance, is called substantive legitimation) and communicate these substantive changes (Ashforth & Gibbs 1990). Alternatively, organisations may simply demonstrate apparent legitimacy by engaging themselves with some low effort symbolic gestures (this process of pursuing legitimacy by implementing strategies for superficial compliance, is called symbolic legitimation) (O'Sullivan & O'Dwyer 2009), such as providing minimal environmental disclosures (O'Dwyer 2002, p. 411). That is, among the choice of substantive legitimation and symbolic legitimation (Ashforth & Gibbs 1990), organisations seeking legitimacy may only need to work on the perceptions of the relevant publics without any changes in their actual performance. For example, one way of achieving 'symbolic management'³⁸ (Ashforth & Gibbs 1990, p. 180) to enhance legitimacy is to adopt highly legitimate practices without the change in substance to ensure ceremonial and superficial conformity to social expectations. The notion that apparent conformity is sufficient for obtaining, maintaining and repairing legitimacy, is one of the 'theoretically important' distinctive feature of institutional theory (Oliver 1991, p. 155). To work on the perceptions, organisations may choose to increase (e.g. Deegan & Gordon 1996), or decrease (e.g. de Villiers & van Staden 2006), their disclosures to achieve their legitimation goals.

³⁸ Organisations may adopt superficial activities in order to portray (without actual changes) their values to appear to be in 'consistent with social values and expectations' (Ashforth & Gibbs 1990, p. 180). The efforts and activities adopted by organisations pursuing superficial legitimacy (without actual changes, are called 'symbolic management' (Ashforth & Gibbs 1990, p. 180).

Originally the concept of legitimacy mainly developed outside of the accounting context (Gray, Owen & Maunders 1988; Mathews 1997). Legitimacy is assessed by various constituents making communication with these constituents an important means of legitimising organisations' operations (Dowling & Pfeffer 1975; Suchman 1995). This makes it plausible for accounting researchers to link SEA reporting (as strategic communication tools from managers' viewpoint) with organisational legitimacy and organisations' legitimisation strategies. Lindblom's (1993) 'landmark exposition' (Parker 2005, p. 846) explicitly demonstrates corporate SEA as legitimisation efforts and displays four legitimisation strategies in the context of SEA. These four legitimisation strategies are based on Dowling and Pfeffer's (1975) three processes of legitimisation and Sethi's (1979) four strategies for narrowing a legitimacy gap. Organisations may choose

- to make their output, methods and goals of operation in line with the expectations of the relevant publics. In this case organisations seek substantial legitimacy to make actual change of their performance;
- not to change actual performance neither the expectations from the relevant publics, rather change the perception of relevant publics in relation to organisations' performance by informing the relevant publics about their performance (where there is a deemed misperception from the relevant publics);
- to associate themselves with highly legitimate symbols, values or organisations thus manipulate apparent legitimacy. In this case symbolic legitimacy is sought, as there is no actual change in performance but a deflection or a concealment; or
- even to attempt to change the relevant publics' expectations without changing organisations' actual performance. In this case organisations may argue that the expectations from the relevant publics unrealistic or unreasonable.

These four strategies can be applied alone or in a combination. While organisations exploit these strategies to pursue legitimacy (Meyer & Scott 1983), not all the attempts of SEA legitimisation strategies implemented by management will lead to the intended outcome to effectively and successfully change the relevant publics' perceptions.

Many of the SEA practices are explained in relation to Lindblom's (1993) four strategies which are derived from the strategic perspective of organisational legitimacy.

Since Lindblom (1993) introduced organisational legitimacy into environmental reporting research, legitimacy theory has become the most popular single theory applied within the SEA research literature. Interestingly Lindblom only uses the words 'organisational legitimacy' (instead of 'legitimacy theory') in the influential conference paper. The *Accounting, Auditing and Accountability Journal* devoted a special issue to legitimacy theory in the context of SEA research in 2002 and its use in the area has continued to rise. So far (as at 9

January 2013) a search using Google Scholar finds that the five articles published in the special issue have been cited by a total of 2,112 articles, and Deegan's (2002) specific commentary on legitimacy theory is the third most cited paper to appear in the journal.

4.6 Criticisms of legitimacy theory within SEA

Legitimacy theory in SEA is subject to criticisms relating to theory development, assumptions and limitations in explanatory power. Each of these will be briefly discussed in turn below.

Criticisms relating to the development of legitimacy theory

There are some criticisms of legitimacy theory relating to the theory development. Legitimacy theory remains under-developed (Mobus 2005) and its current development largely ignores its institutional origin (Spence, Husillos & Correa-Ruiz 2010), and over-emphasises the strategic aspect of organisational legitimacy. Legitimacy theory as a 'theory' exists only within SEA, and in other disciplines, no such stand-alone theory exists. Legitimacy theory, among other SEA theories, is criticised as being developed in 'isolation' from organisational literatures and social science, and it suffers from 'self-imposed theoretical limitations' (Spence, Husillos & Correa-Ruiz 2010, p. 76). Legitimacy theory has become a mainstream theory within SEA but 'its origins within institutional theory and resource dependency theory' (Spence, Husillos & Correa-Ruiz 2010), especially the institutional origin, have not been extensively discussed and utilised, in large part, perhaps, because researchers have been unaware of the origins of the theory. This unawareness of the origins creates the danger that the original context and valuable literature contributions made in the original literature may be ignored, misunderstood and under-utilised. In addition, the development of legitimacy theory so far is distinctive in a way that it over-emphasises the managerial strategic approach of legitimation whereas its institutional explanations have been overlooked. It is in this sense it is argued that 'legitimacy theory' itself is distinctively institutionalised within the SEA literature.

Criticisms relating to the assumptions of legitimacy theory

The assumptions made or implied with legitimacy theory have limitations. The motivations of, and actions taken by, managers and the organisations are assumed totally self-interest driven. That is, the managers and organisations themselves are not influenced by their social environments and do not naturally embrace social norms and value; instead they consciously and instrumentally choose to take actions for strategic survival or advancement purposes (for legitimacy). Oliver (1991, p. 148) argues that when external social norms and practices 'obtain the status of a social fact, organisations may engage in activities that are not so much calculative or self-interested'. That is, 'the exercise of strategic choice may be pre-empted' (Oliver 1991, p. 148) when managers and organisations unconsciously conform to taken-for-granted social norms and practices. Again this contrasts with the strategic nature in which

SEA researchers have assumed that managers make decisions in an endeavour to achieve, maintain, or regain legitimacy.

Legitimacy theory assumes the 'relevant publics' (Lindblom 1993, p. 2) assess the legitimacy of organisations. Apart from identifying the relevant publics as internal and external stakeholders, legitimacy theory does not further identify who are the relevant publics, and who are not. This vague description of the relevant publics thus brings great difficulties for researchers to identify which social group, or groups, actually confer legitimacy (Deegan 2002). Various social groups have different interests and power at time and space. Some of them may have some interests in common but others may have irreconcilable interests. Another implication, derived from the vague definition of the 'relevant publics', is that the 'social expectations' from the 'relevant publics' also become unidentifiable. Social expectations are a plural term and can be articulated and imposed by different social actors with potentially conflicting social expectations. Organisations, meeting the criteria from one social group (thus the organisation is legitimate in the eyes of this particular social group), however do not necessarily obtain legitimacy from the other groups.

The plural assumption of the relevant publics (Deegan 2002) and their associated social expectations thus do not explicitly recognise the interplay of interest and agency from different social actors. That is, the blurred vision of 'relevant publics' and their generalised social expectations, may prevent further value-adding investigations in terms of specific expectations from various constituents, the composition of constituents, their specific (maybe conflicting) interests and power play within the institutionalisation (legitimation) processes.

Criticisms relating to the explanatory power offered by legitimacy theory

Legitimacy theory also struggles with limitations in terms of its explanatory power. Legitimacy theory is criticised for overlooking internal contextual variables and the attitudes of managers who are active actors within legitimation processes (Adams 2002; Adams & Larrinaga-Gonzalez 2007). While social and environmental reporting is often explained by legitimacy theory as a part of the legitimation process implemented by managers, legitimacy theory lacks explanations for questions such as: through which channels are organisations and managers informed about social expectations; whether and how do different social actors interpret and frame social expectations; how do organisations react if the criteria for legitimacy are incompatible with each other; why the legitimacy process does not achieve the status of legitimacy; how do the external institutional environments and institutional factors influence and interact with organisations; or why do some managers not perceive social and environmental reporting as contributing to legitimacy.

Social actors most likely do not interpret and frame the same issue in a uniform way. Legitimacy theory does not offer much explanatory power in the case of 'managerial capture'.

Managerial capture (Gray et al. 1997; O'Dwyer 2002; Owen et al. 2000) refers to a situation where managers fail to correctly understand or interpret the real meaning of a social concept (for example the meaning of corporate social responsibility) or prevailing social expectations (i.e. the criteria for legitimacy). Instead managers interpret the social concept or social expectations in a way that reflects their own agenda to pursue profit maximisation and organisational goals.

In terms of the differences in interpretation and anticipation of the possible outcomes of a certain legitimisation activity, O'Dwyer (2002) conducted a study in an Irish context. The explanatory power of legitimacy theory is challenged by the author as some managers do not perceive their SEA's contributions toward the status of legitimacy. Irish managers may perceive the relevant publics as more cynical and questioning of their social and environmental reporting than the relevant publics from other countries. O'Dwyer (2002) suggests more complex internal and external factors within a particular institutional environment need to be investigated in order to understand the phenomena.

Adams and Larrinaga-Gonzalez (2007, p. 343) suggest that institutional theory literature relating to institutionalisation and organisational change offers more 'potent articulation' in the case of managerial capture. Comparing legitimacy theory's explanatory power to institutional theory whether legitimacy 'theory' should be described as a theory is questioned (Spence, Husillos & Correa-Ruiz 2010). Considerations, such as whether legitimacy should be reframed as part of broader theory such as institutional theory, are raised. (O'Dwyer 2002)

It is argued that legitimacy theory as used within the SEA literature does not apply the full meaning and application of the concept of 'organisational legitimacy' (see Suchman 1995 for the concept of organisational legitimacy). Applying the concept without considering how the larger institutional environments—embedded with various institutional factors—interact with the focal organisations, will most likely provide a partial and unbalanced picture. Simply treating the social concept—organisational legitimacy—as a resource rather narrows its rich meaning and implications in SEA inquiries. This consequently limits the much broader explanatory power that organisational legitimacy is able to offer.

After discussing the criticisms on the development of legitimacy theory, the following section will address these limitations by further discussion on why a more comprehensive conceptual framework based on institutional theory is needed, and offers suggestions on how the proposed framework can contribute to future SEA research.

4.7 The need for a more comprehensive conceptual framework

The need for a more comprehensive conceptual framework in relation to organisational legitimacy is motivated by three considerations. Firstly, to fully understand the concept of organisational legitimacy, its institutional root and the associated useful but often neglected institutional literature, needs to be considered. Secondly, legitimacy theory in its current form is distinctively developed in the SEA literature (overly emphasising the strategic nature of organisations) which may overlook institutional arguments. Thirdly, current legitimacy theory is criticised as it offers less explanatory power than institutional theory. Moreover institutional theory not only overlaps with most, if not all, of legitimacy theory but also offers rich and comprehensive explanatory powers to SEA phenomena. These points are considered further in the following discussion.

4.7.1 To recognise the institutional root of legitimacy theory

One of the contributions of this chapter to the SEA literature is to acknowledge the institutional root of legitimacy theory. Firstly, the researcher explored how legitimacy appeared to become 'legitimacy theory' in the SEA literature and its close connections with institutional theory. Early development of the legitimacy literature can be traced back to the organisational literature. After studying early seminal papers on 'organisational legitimacy' and early 'legitimacy theory' papers in SEA, it is found that:

- Outside of accounting literature, seminal papers such as Dowling and Pfeffer (1975), Suchman (1995), Sethi (1979), and Shocker and Sethi (1973), only use the term 'legitimacy' or 'organisational legitimacy' without the word 'theory'.
- Similarly, some earlier SEA researchers only cite 'organisational legitimacy', such as Lindblom (1993), Gray et al (1988)³⁹ and Mathews (1997).
- There are some SEA researchers that use the word 'legitimacy theory', the earliest paper appears to be Guthrie and Parker (1989)⁴⁰, followed by Patten (1991, 1992)⁴¹,

³⁹ Gray, Owen and Mauders (1988) cite Lindblom (1984) in their article.

⁴⁰ Guthrie and Parker (1989) cite Preston and Post (1975), Hogner (1982), Lehman (1983) and Lindblom (1983) as references of 'legitimacy theory'. As the last two references are working papers we are not able to access them. Hogner (1982, p. 244) proposes that corporate social accounting indicates corporate 'legitimacy needs'. He however does not elaborate the concept of legitimacy; nor uses the term 'legitimacy theory'. Hogner (1982) cites Preston and Post's (1975, p. 25) argument of 'interpenetrating systems' to illustrate the relationship between organisations and society. Throughout Preston and Post's (1975) book, political and legal legitimacy of a corporation is discussed but no discussions are related to the term 'legitimacy theory' or 'organisational legitimacy'.

Gray et al (1995)⁴², Deegan and Rankin (1996), Deegan and Gordon (1996). Most of these publications cited previous other researcher's literatures relating to 'organisational legitimacy' (without the word 'theory').

From 1998 the label 'legitimacy theory' proliferates within SEA literature. It is contended that it is within the discipline of accounting that 'legitimacy theory' is 'created', in particular within the area of SEA research. It is also interesting to notice that in other disciplines such as the management literature we do not find any significant development of 'legitimacy theory', this echoes Adams and Larrinaga-Gonzalez's (2007) similar view. There is a significant overlap in citations between legitimacy theory and institutional theory literature relating to organisational legitimacy, especially in the early seminal organisational legitimacy papers.

4.7.2 To recognise the distinctive development of legitimacy theory

Later development of 'legitimacy theory' has been 'distinctively conceptualised' (Bebbington, Larrinaga-Gonzalez & Moneva-Abadia 2008, p. 372) within the discipline of accounting. It is argued that this distinctive conceptualisation is featured by its association with the notion of a 'social contract' between organisations and societies together with its development is hampered by an overemphasis on the strategic aspect of legitimacy at the expense of the institutional aspect of legitimacy.

Within SEA literature we often find the claim that the concept of legitimacy is based on the notion of a social contract (Deegan 2002; Gray, Owen & Maunders 1988; Guthrie & Parker 1989; Patten 1991, 1992), or more particularly, compliance with the social contract. The most cited SEA literature source of social contract is Shocker and Sethi' (1973) first page discussion:

Any social institution—and business is no exception—operates in a society via a social contract, expressed or implied, whereby its survival and growth are based on:

- 1) the delivery of some socially desirable ends to society in general, and

⁴¹ Patten (1991, p. 298) notes that there is 'no well-developed theory of social disclosure'. He cites Ramanathan (1976), Benston (1982) and Schreuder and Ramanathan (1984) for the concept of legitimacy. These three articles however do not address this concept in great detail. Neither of them uses 'legitimacy theory'. One article (Ramanathan 1976) cites Shocker and Sethi's (1974) notion of social contract. We note that Shocker and Sethi's (1973, 1974) notion of social contract does not, at least from their narration, make further elaboration to link social contract to organisational legitimacy. Patten's article published one year later (Patten 1992) cites Preston and Post (1975) and Shocker and Sethi (1974).

⁴² Gray, Kouhy and Lavers (1995) cite Lindblom (1994), Patten (1992), Guthrie and Parker (1989) for legitimacy theory references.

- 2) the distribution of economic, social, or political benefits to groups from which it derives its power.

In a dynamic society, neither the sources of institutional power nor the needs for its services are permanent. Therefore, an institution must constantly meet the twin tests of legitimacy and relevance by demonstrating that society requires its services and that the groups benefiting from its rewards have society's approval.

It is interesting to discover that neither Shocker and Sethi (1973), nor other seminal organisational legitimacy literature (Dowling & Pfeffer 1975; Lindblom 1983; Suchman 1995) have mentioned the notion of social contract when discussing organisational legitimacy. The discussion on the relationship between legitimacy and social contract appears unique to the SEA literature. Shocker and Sethi's (1974) discussion on social contract is short and concise. Another often quoted work on social contract within the SEA literature is Donaldson's (1982) extensive discussion of the social contract. Throughout his book there is however no discussion of organisational legitimacy⁴³. Since then there is a lack of significant development on the notion of social contract (Gray, Owen & Maunders 1988). Only within the SEA literature are the concepts of legitimacy and a social contract linked.

Here it is argued that while understanding the concept of organisational legitimacy does not have to be based on the notion of social contract, social contract explanations add a normative flavour (see Gray, Owen & Maunders 1988) to SEA literature. The concept of a social contract has been applied, from a normative perspective, within corporate social responsibility literature, ethics and stakeholder theory literatures.

We can argue, perhaps, that the notion of social contract does not fully reflect the concept of organisational legitimacy. The social contract, put in a simplistic way, is in the form 'We (the members of the society) agree to do X, and you (the productive organisations) agree to do Y' (Donaldson 1982, p. 42). That is, both the society and the organisation are bound. What if the organisation complies with the terms of the social contract but not the society⁴⁴—this situation is then outside of the scope of the concept of organisational legitimacy. A social

⁴³ Donaldson (1982, p. 39) sources back the idea of social contract and social contract theory from 'English philosophers, Thomas Hobbes (1588-1679) and John Locke (1632-1704), and the French philosopher Jean-Jacques Rousseau (1712-1778)'. Originally the term 'social contract' had a political aspect to justify the existence of the state within the society. It was later applied to the relationship between businesses and society.

⁴⁴ Although some would argue that if an organisation fulfils the terms of the social contract, the organisation would be awarded with the permission to operate together with the relevant necessary resources and benefits supplied by the society. We however argue that while the organisation anticipates these benefits, the society is not bound by the social contract to supply these benefits to the organisation.

contract specifies what organisations should act upon but not what the society is bound to act (although society may be willing to provide necessary resources to the organisation) so it is actually a 'one-way contract'. Further, fulfilling the terms of the contract by the organisation does not necessarily lead to legitimacy because the society may not be aware of the fulfilment of the terms of the social contract.

Another limitation of social contract is that the notion suggests that there are only two dichotomous outcomes of the social contract: an organisation either fulfils the terms of contract (therefore legitimate); or fails to meet the terms (only partially fulfilment is deemed as a failure) so it is illegitimate. In fact the concept of legitimacy can represent a continuing degree from one end of the spectrum (perfectly legitimate) to the other end (utterly illegitimate). Organisations are often perceived to hold the status of more legitimate; less legitimate; more illegitimate; or less illegitimate, depending on the 'extent of coherence' (Scott 2008b, p. 205) in its regulative, normative and cultural-cognitive environments.

Another distinctive development in legitimacy theory is the over-emphasis on the manipulative nature of social and environmental reporting by managers and organisations. Strategic legitimacy often assumes that managers have unlimited choices and are totally self-interested. This type of studies represents the majority of the legitimacy theory related research in SEA literature. Oliver (1991) however points out that socially responsible organisations may choose to do so beyond self-interest and choices (being socially responsible is taken-for-granted and doing otherwise is simply 'unthinkable').

4.7.3 Institutional theory offers broader and richer explanatory power than legitimacy theory

If institutional theory offers a richer and broader explanatory account than legitimacy theory, one would question the necessity of legitimacy theory (e.g.O'Dwyer 2002). In fact, Spence, Husillos and Correa-Ruiz (2010, p. 81) have raised the question 'what does legitimacy theory explain that these more developed theories [institutional theory and resource dependency theory] cannot?'. While current legitimacy theory literature emphasises how organisations obtain legitimacy (from the organisation's viewpoint), institutional theory goes beyond this to explain how organisational legitimacy is obtained by also considering institutional environments and the interplays between institutional constituents (from both the viewpoints from organisations and the broader institutional environments). This broadened view allows investigators to see organisations within their institutional context, not only how organisations seeks to obtain the status of legitimate, but also on how various institutions are created, developed, infused, and disappear, how various institutional constituents interact with each other, and how organisations play active roles in institutional change.

Organisational legitimacy is a 'socially constructed' (Suchman 1995, p. 574) concept (Lindblom 1993). The concept of organisational legitimacy from is drawn from institutional theory and 'has a wider meaning than is often recognized in the literature' (Larrinaga-Gonzalez 2007, p. 164). Institutional theory extends the concept of organisational legitimacy from a narrow, resource-dependency perspective, common in SEA literature, to 'something more subtle, and shaped by a more complex range of factors, than deliberate managerial decision-making' (Bebbington, Higgins & Frame 2009, p. 592). Legitimacy theory views SEA as a communicational tool for organisations. Organisations can use SEA reporting to strategically manage the publics' perceptions of their operations to obtain, maintain and repair their legitimacy. SEA practices are institutionalised within their own institutional contexts. That is, SEA practices are products of institutionalisation among a range of constituents. Without considering the institutional environments and the dual process of institutionalisation⁴⁵, SEA practices risk isolation from their institutional context.

4.8 Applying institutional theory to SEA research

The above discussion motivates the researcher to seek a more comprehensive theoretical framework that offers potential in its explanatory power in relation to SEA research. In addition, it is argued that institutional theory has great potential to be applied to SEA research in a broader way due to its rich explanatory power. The researcher thus proposes applying institutional theory to SEA research.

The proposed framework aims to provide a basic, but essential, institutional view in the context of SEA. This framework serves as a starting point for researchers who are interested in applying institutional theory to SEA practices. The discussion represents some of the most important and fundamental ideas from the framework. In brief:

- Organisational legitimacy is a social concept constructed by institutional constituents;
- The criteria for legitimacy derives from the three pillars of institutions;
- SEA is an institutionalised practice in response to institutional pressures;
- SEA may be a symbolic practice; and
- SEA practices investigated at field-level and organisational-level are theoretically significant to institutional theory.

These ideas are further discussed in the following sections. In addition, possible research opportunities for SEA-related research are proposed.

⁴⁵ Dual process of institutionalisation is the process that while organisations are influenced by their institutional environments, organisations themselves also have an impact on their institutional environments.

Organisational legitimacy is a social concept constructed by institutional constituents

In previous sections it has been noted that 'organisational legitimacy' is a social concept. The meaning of legitimacy is constructed within the institutional environments by an array of different institutional constituents (Näsi et al. 1997). Institutionalists therefore may investigate how specific institutional constituents construct the concept of 'organisational legitimacy'. This approach makes the investigation operational by investigating specific institutional constituents rather than a broad undefined society (implied by legitimacy theory) and thus overcomes a limitation of legitimacy theory.

The criteria for legitimacy derives from three pillars of institutions

Organisations that meet institutionalised expectations for their output, methods and processes are deemed legitimate (Zuckerman 1999). The norms and taken-for-granted expectations that form the legitimacy assessment criteria, include regulative requirements (regulative institutions), normative rules and values (normative institutions) and cognitive meanings (cultural-cognitive institutions) (Deephouse & Carter 2005). These expectations can be explicit, for example expectations set by governments or associations (DiMaggio & Powell 1983); or implicit, for example values and meanings that are taken-for-granted, or generated from social interactions between social actors. Once institutions are accepted by dominant and powerful constituents, they are taken-for-granted as to their existence and operations. This acceptance, in the form of passive acquiescence or active support (Suchman 1995), however is not permanent and has a dynamic nature (Scott 2008b). Once the constituents perceive any changes that may influence their previous acceptance of an organisation (due to changes in perceptions on the operations, or simply changes of social expectations of the constituents), there will be a re-negotiation to re-establish this evaluation process.

[...] individual organisations exhibiting culturally approved forms and activities (including strategies) [cultural-cognitive legitimacy, authors added], receiving support from normative authorities [normative legitimacy, authors added], and having approval from legal bodies [regulative legitimacy, authors added], are more likely to survive than organisations lacking these evaluations. Legitimacy exerts an influence or organisational viability independent of its performance or other attributes or connections. (Scott 2008b, p. 157)

Through investigating the regulative, normative, and cultural-cognitive elements of institutions (Scott 2008b), from the viewpoints of both the constituents of an organisation and the focal organisation, the criteria for legitimacy can be elaborated in greater depth and breadth. SEA researchers can therefore obtain a better understanding of the criteria for legitimacy by investigating: how regulative, normative, and cultural-cognitive elements of institutions elicit legitimacy; which element plays a dominant role at space and time (for

example, see Bebbington, Higgins and Frame 2009); how these elements obtain or lose dominance across time; and how different carriers—symbolic systems, relational systems, routines and artefacts (Scott 2008b) – produce and re-produce institutions among social actors.

SEA is an institutionalised practice in response to institutional pressures

SEA is an institutionalised practice undertaken by organisations, in response to coercive, normative and mimetic institutional pressures on organisational operations (DiMaggio & Powell 1983, Larrinaga-Gonzalez 2007, Scott 2008b).

Organisations may implement certain SEA practices in order to conform to existing coercive pressures exerted by regulators or powerful constituents. For example, in some European countries, environmental disclosure is a compulsory requirement (Larrinaga-Gonzalez 2007). In addition, organisations may implement certain SEA practices in order to prevent future possible coercive pressures, for example, possible threats of consumer boycotts in response to the use of child labour or environmental accidents. In fact, Parker (1986) argues that the early stage of SEA reporting may be implemented to respond to possible regulative pressures:

Social accounting can act as an early response to impending legislative pressure for increased disclosure and as a counter to possible government intervention or pressure from other outside interest groups. Thus, from this viewpoint, social accounting might be used to anticipate or avoid social pressure. (p. 76)

SEA may also be motivated by organisations believing 'it is the right thing to do it' (normative pressure). Examples of normative mechanisms are: professional codes of conduct; the EU Eco-Management and Audit Scheme (EMAS); SEA awards given by prestigious associations; and GRI initiatives (Larrinaga-Gonzalez 2007).

SEA may be implemented in response to mimetic pressures for the reasons such as 'everyone else in our industry is providing sustainability reports, therefore this is the legitimate way that things are done, so we are going to provide sustainability reports'. Compared to coercive and normative mechanisms, mimetic mechanism is much more subtle therefore it is difficult to detect as it is associated with socially accepted symbols and cultures. Organisations mimic 'deemed successful and legitimate' others as a reference of 'how things are done'. Studies focusing on the notion of density⁴⁶-dependent legitimation (Carroll &

⁴⁶ Density is explained (Hannan et al. 1995, p. 510) as 'the number of organisations in a bounded organisational population'. In the context of SEA, we argue that the more organisations take up a particular SEA practice, the more taken-for-granted and legitimate the practice is, until a new practice starts to challenge its power and legitimacy.

Hannan 1989; Hannan et al. 1995), can be linked to mimetic pressures. Density-dependent legitimation studies argue that the density of a particular organisational form serves as a 'legitimacy indicator' or 'institutionalisation indicator' (as it is broadly accepted by institutional constituents). If one organisational form is rare there is more doubt about whether the organisational form is 'natural'; on the other hand if one organisational form becomes 'prevalent' (Carroll & Hannan 1989, p. 525) and many organisations are adopting this form, its taken-for-grantedness legitimacy is enhanced and this specific organisational form is effectively institutionalised. I extend the association between prevalence and legitimacy to SEA practice. SEA practice by corporations, from sparse reporting and slow take-off at the beginning, to substantial growth at the current time, reflects the increasing legitimacy of SEA reporting. SEA gradually becomes a taken-for-granted practice; doing otherwise becomes unthinkable or may attract legitimacy threats. Early adoption of a particular SEA practice might be motivated by instrumental benefits such as economic fitness or enhancement in reputation, but late adoption is often motivated by social fitness and mimetic pressures, and not to do so may incur a risk of a loss of legitimacy. More research can be done in this area on how certain reporting practices become prevalent in response to a particular mechanism of institutional pressures (coercive, normative, or regulative).

The process through which organisations obtain, maintain, or repair their legitimacy status (Bansal & Roth 2000), by meeting institutional demands and pressures, is called institutionalisation or legitimation⁴⁷. It must be noted that the institutionalisation/legitimation process is complex and the status of legitimacy may not be always attainable. The reasons for this are varied. Organisations may face conflicting institutional demands or misinterpret social expectations. Organisations that only focus on external constituents demands may not obtain a legitimacy status from internal constituents (Moll & Hoque 2011). The evaluation of perceived legitimacy of the focal organisation is ultimately decided by the prevailing institutions and social actors who determine these institutions (may include institutional constituents and the organisations themselves). Future studies focusing on how organisations use SEA to meet institutional demands, what these demands are, through which mechanisms (coercive, normative, or mimetic) that institutional pressures are exerted, whether they are successful or unsuccessful, which institutional factors that contribute to specific SEA practices, would yield valuable insights into understanding organisation's SEA practices.

The study of the creation, diffusion, maintenance and deinstitutionalisation of institutions can be conducted by two different but related approaches: a supply-side approach and a demand (recipient)-side approach (Scott 2008b). A supply-side approach focuses on the role and efforts of active institutional constituents within institutions (the parties that supply institutional

⁴⁷ Suchman (1995, p. 576) points out institutionalisation and legitimation are 'virtually synonymous'.

demands and expectations and exert pressures on organisations to conform to these expectations); whereas a demand-side approach considers the characteristics and contextual conditions of adopters of institutions (the recipients of the pressures exerted) and how these institutions are interpreted and implemented by organisations (the adopter). It can be argued that most legitimacy theory research focuses on the demand-side approach. That is, legitimacy theory related studies focus on how managers strategically adopt certain practices to gain, maintain, or repair legitimacy. Arguably investigations examining both sides of institutional pressures would yield valuable, and potentially richer, insights into how organisations interpret and respond to institutional pressures, and the interaction between various institutional constituents and organisations⁴⁸.

SEA may be a symbolic practice

The question of whether SEA practice is a symbolic practice is also worthwhile to pursue. As discussed in previous sections, one of the important propositions in institutional theory is that organisations can obtain their social fitness by symbolic legitimacy (Meyer & Rowan 1977). Institutionalists argue that organisations obtain acceptance and support by conforming with prevailing 'rational myths' (Suchman 2003, p. 128) such as following 'taken-for-granted cultural scripts'. Organisations appear more legitimate by merely displaying ceremonial conformity without any actual changes – known as symbolic legitimacy (O'Dwyer 2002, 2003).

Seeking symbolic legitimacy, managers may choose to claim to have adopted institutionalised practices or initiatives such as ISO14000, Equator Principles (O'Sullivan & O'Dwyer 2009), Global Reporting Initiative, responsible care guidelines (Adams 2004), or social and environmental committees. These institutionalised practices may be low-effort 'symbolic gestures' (Oliver 1991, p. 164) and 'mean little in terms of significantly changing the organisation's activities' (Milne & Patten 2002, p. 376). In addition, management may choose to disclose more general information and avoid disclosing specific information on social and environmental operations. Disclosing more specific information may attract a legitimacy threat to their operations (de Villiers & van Staden 2006). Where an organisation's social and environmental reporting does not reflect its true performance a 'reporting-performance portrayal gap' exists (Adams 2004). In this scenario legitimacy theory represents SEA as a (symbolic) legitimisation tool. Institutional theorists may go beyond this

⁴⁸ The next phase of the study, Phase Four, will adopt both the supply-side and the demand side approach. That is, Phase Four of this study will investigate whether and how institutional constituents such as ASIC and auditors, exert institutional pressures on Australian organisations to disclose contaminated site information (the supply-side), and how Australian organisations perceive these institutional pressures (the demand-side). Investigating both the supply and the demand side of the institutional expectation provides a fuller and richer understanding of the issue of contaminated site disclosures.

symbolic impression management and further investigate: the process of isomorphism (DiMaggio & Powell 1983), internal process⁴⁹ (for example inertia, imprinting or resistance to change) (Carpenter & Feroz 2001; Elbannan & McKinley 2006; Mezas 1990; van der Steen 2009) and internal constituents' impacts on SEA⁵⁰ (Moll & Hoque 2011), logics⁵¹ (Cruz, Major & Scapens 2009; Lounsbury 2008), decoupling or loose coupling⁵² (Covaleski & Dirsmith 1983; Cruz, Major & Scapens 2009; Dirsmith, Fogarty & Gupta 2000; Lukka 2007; Rautiainen 2010), conflicting pressures⁵³ (Mir & Rahaman 2005; Modell 2005; Rautiainen 2010), and power dynamic and interplay between institutional constituents⁵⁴ (Gomes, Carnegie & Rodrigues 2008; Mezas & Scarselletta 1994). To add to the dynamics of SEA practices, an organisation can initially symbolically adopt an SEA practice (e.g. to respond to regulative pressures) but later substantively comply with the spirit of SEA practice, or vice versa.

An important proposition in institutional theory is that symbolic conformance to social expectations often create tensions between formal structures and practices (including SEA), which are designed to symbolically conform to social pressures, and the internal processes of the organisation (Meyer & Rowan 1977). That is, in attempting to be legitimate, organisations may implement some formal SEA practices to symbolically conform to various institutional pressures. These institutional pressures however may themselves be in conflict, or be in conflict with other internal goals or practices, thus tension between formal SEA practices and informal internal processes may exist. This is another interesting area of research which emerges once we consider institutional arguments beyond the current literature in legitimacy theory. For example, Meyer and Rowan (1977) point out, that to mediate this tension organisations may decouple their formal practice from their day-to-day internal activities. Formally implementing SEA practice and decoupling this practice from day-to-day activities enable organisations to be legitimate (to respond to certain prevailing

⁴⁹ For example, internal processes of the organisation may partially resist changes by only adopting superficial changes.

⁵⁰ For example, the beliefs of the key persons within the organisation may influence SEA practice of the organisation.

⁵¹ For example, the dominant beliefs with SEA support superficial reporting.

⁵² For example, while an organisation seeks legitimacy by providing sustainability report, its internal processes may be decoupled from the formal reporting thus formal reports are not able to provide detailed information. See detailed explanations in the following paragraph in the text.

⁵³ For example, an organisation may try to satisfy a particular group of constituents' (e.g. shareholders) demand by not supplying detailed information on sustainability performance, while another group of constituents (NGOs) may demand detailed information.

⁵⁴ For example, a not-so-powerful group of constituents may demand detailed information, whereas the powerful constituents demand general information.

institutional pressures) while their actual activities can be diverse in response to conflicts among institutional demands. To alleviate such tensions, these formal structures and processes are either decoupled or loosely coupled from the focal organisation's essential operations (Meyer & Rowan 1977). To distinguish or determine whether the SEA is substantive or symbolic (Ashforth & Gibbs 1990), understanding and comparing the internal processes with the formal structure and practices (including SEA) of the organisation is necessary.

There are ample opportunities for institutionalists to investigate the internal processes of an organisation. This can be achieved by examining: whether the internal processes are indeed in accordance with the organisation's formal goals and policies in relation to SEA; how managers and other internal constituents interpret, frame and respond to relevant social expectations (how external institutions penetrate, or fail to penetrate, to the focal organisation); and the dominant SEA institutions and practices within the organisation. Studying the internal factors that influence SEA is advocated by critics of legitimacy theory (Adams 2002; Adams & Larrinaga-Gonzalez 2007).

Obtaining an understanding of internal processes by conducting organisational level research adds explanatory power as SEA is the outcome of these processes. Comparison studies of internal processes may highlight how institutional pressures affect organisational internal reporting processes for SEA and how these internal reporting processes may respond to institutional pressures in different ways. This type of SEA research perhaps offers more insight into the internal processes of SEA reporting within organisations (Adams 2002).

SEA practices investigated at field-level and organisational-level are theoretically significant to institutional theory

An institutional field is the centre of intensive concentration of institutional activities where institutional processes shape organisations (DiMaggio & Powell 1983; Scott 2008a). It is at this field-level that the institutional responses to institutional pressures, strategies adopted by field members, and the perceptions of institutional constituents may be better understood. One of the fundamental propositions of institutional theory is that organisations become isomorphic for social fitness—'institutional legitimacy' (DiMaggio & Powell 1983, p. 150)—and they do this to 'increase their legitimacy and their survival prospects' (Meyer & Rowan 1977, p. 340). Organisations, by disclosing their social and environmental responsibility practices, can enhance organisational legitimacy. Organisations may resemble each other (especially those practices being regarded as highly legitimate) and become isomorphic. This isomorphism is better observed at a field level of analysis. Organisations operating in the same field often face similar regulative, normative and cultural-cognitive pressures. By imitating successful competitors or associating with highly legitimate status symbols,

organisations generate meanings for their existence and survival, and as a result their legitimacy can be enhanced.

Organisations operating within same field may act in a 'clannish fashion' (Hoffman 2001, p. 14), and field convergence describes this isomorphic organisational change phenomena (Cruz, Major & Scapens 2009). Institutional ecologists Bansal and Roth (2000, p. 730) claim that organisations within 'dirty' fields such as chemical, oil or mining industries, are under greater scrutiny and suffer greater legitimacy threats. Facing heightened institutional pressures, field members may collaborate to manage the industry's image through industry associations, best practices or other initiatives. The field members in 'dirty' industries tend to have greater intensity and density of formal and informal network ties. A higher level of 'field cohesion'⁵⁵ (Bansal & Roth 2000) enables isomorphism by field members to adopt uniform initiatives and symbolic activities, for example SEA practices. The decision to publish environmental reports by firms operating in dirty industries is an example of field-level isomorphism.

The clannish fashion of SEA is also evidenced from the waves that dominate the SEA reporting scene (e.g. 'environmental reports' and 'health and safety reports' in the 1990s, to more recent 'environmental and social reports' and 'sustainability reports') (Larrinaga-Gonzalez 2007). SEA reporting by individual organisations not only legitimises these individual organisations' existence within the broader society, but also contributes system-wide legitimacy at a field-level.

Institutional processes can not only be analysed at field-level but also at organisational-level (for example, see Bebbington, Higgins and Frame 2009). Institutional processes both shape and are shaped by organisations. Organisations not only receive institutional pressures differently, interpret and perceive institutional pressures differently, but also respond to these institutional demands differently. Organisations may negotiate and shape institutional demands proactively or reactively.

As Scott (2008a, p. 431) points out, Oliver's (1991) essay elaborated upon organisations' purposive strategic responses to institutional pressures and 'pried open' institutional theory. Bringing the role of agency and interests into institutional arguments (DiMaggio 1988), organisations are viewed as often having choices and are not always powerless:

[...] organisational responses will vary from conforming to resistant, from passive to active, from preconscious to controlling, from important to influential, and from habitual

⁵⁵ 'Field cohesion' (Bansal & Roth 2000) represents a phenomena where field members collude through informal or formal arrangements, such as industry associations (which further promote field cohesion)..

to opportunistic, depending on the institutional pressures toward conformity that are exerted on organizations. (Oliver 1991, p. 151)

Although the application of Oliver's typology in the accounting discipline is limited (but see Abernethy & Chua 1996; Carmona & Macías 2001; Clemens & Douglas 2005; Etherington & Richardson 1994; Goodstein 1994; Guerreiro, Rodrigues & Craig 2012; Hyvönen et al. 2009; Ingram & Simons 1995; Jamali 2010; Milliken, Martins & Morgan 1998; Modell 2001), and most of the applications are related to management accounting topics, Oliver's (1991) typology on organisational strategic responses to institutional pressures offers great potential to SEA research. Her model explicitly explains how and why certain practices are, or are not, adapted by the focal organisations. Organisations' strategic responses are associated with five institutional factors such as the demand for legitimacy or efficiency, the power of institutional constituents, consistencies between institutional demands and organisational goals, the nature of the institutional pressures (coercive or mimetic pressures) and environmental contexts (environmental uncertainty and interconnectedness). For example, considering the organisation's dependency on institutional constituents, when there is a conflict between institutional demands from different constituents with different degrees of influence on a company, the company may choose a particular strategy to conform to the powerful constituent's demand at the expense of meeting demands from other not-so-powerful constituents. Oliver (1991) provides an example that an oil company may choose an 'avoidance' strategy to conceal oil spills to avoid paying the cleanup bills to please its shareholders (assuming most of shareholders are economic-outcome driven) by downplaying the demand from environmental groups to cleanup. All the strategies and institutional factors identified by Oliver can be applied to SEA practice⁵⁶.

To summarise, institutions are themselves complex social systems so 'the range of concepts we employ is large' and the applicable 'levels of analysis' (the world system, society, organisational field, organisational population, organisation and organisation subsystem levels) are boundless (Scott 2008b, p. 219). Current Institutional arguments provide a great deal of potential for more explicit elaboration within the SEA research context. Institutional theory provides SEA researchers not only with a fuller body of literature to pursue their own research objectives, but also provides richer perspectives when explaining SEA phenomenon such as how new SEA institutions develop and achieve legitimacy and stability; how institutions are diffused; how institutions lose legitimacy; how the dominant SEA institutions are replaced by alternative SEA institutions; and how the interplay of agency

⁵⁶ Next phase of the study, Phase Four, will apply Oliver's (1991) model of organisational strategic responses to institutional pressures, as an explanation tool, to investigate Australian companies' strategic responses to institutional pressures, in relation to contaminated site disclosures.

(power) and interests of various institutional constituents contributes to the processes of institutionalisation.

4.9 Concluding comments

At the outset of this chapter it has been stressed that the aims of this discussion are to reflect upon the current use of a mainstream theory—legitimacy theory—within SEA; to consider the institutional origins of legitimacy theory; to provide insights about institutional theory and to explore its relevance to SEA; and, to suggest some potentially fruitful future research opportunities by applying institutional theory in the context of SEA.

Organisational legitimacy is a socially constructed concept that has an institutional origin. Although early seminal papers on ‘organisational legitimacy’, as well as current literature, outside the accounting literature, describe organisational legitimacy as a concept rather than a theory (Dowling & Pfeffer 1975; Gray, Owen & Maunders 1988; Lindblom 1993; Mathews 1997; Sethi 1979; Shocker & Sethi 1973; Suchman 1995), works on organisational legitimacy within a SEA context currently is framed as ‘legitimacy theory’. It is argued that the development of legitimacy theory in SEA overly emphasises the strategic and manipulative nature of organisations, and largely ignores its institutional origin. This leads to further studies, such as studies on the institutional environments of organisations within which organisations operate, and the interplay among various institutional constituents. Criticisms and limitations relating to the assumptions and applications of legitimacy theory are also discussed.

Organisational legitimacy is an important concept within institutional theory. Institutional theory not only provides extensive literature on organisational legitimacy and recognises the agency and interests of social actors—thus it overlaps with legitimacy theory’s strategic view on organisations—but also provides rich analysis of the institutional environments, institutional pressures, interests and the power play among institutional constituents (including the focal organisations). This comprehensive view of organisations is thus capable of offering richer explanations for SEA. In addition, the current application of institutional theory to SEA research is limited (but see Archel, Husillos & Spence 2011; Ball 2005; Bebbington, Higgins & Frame 2009; Caron & Turcotte 2009; Christmann 2004; Laine 2009; Larrinaga-Gonzalez 2007) and there is a great deal of potential for institutional theory to be applied in SEA. For these two reasons the researcher proposes to apply institutional theory more broadly and extensively into SEA research.

The applications of institutional theory in SEA research at different resolution levels, on different carriers, and different concepts, in the researcher’s opinion, will yield meaningful and fruitful insights into SEA. The choices for possible research are abundant. To facilitate

researchers who are interested in applying institutional theory to SEA research, this chapter provides some of the basic but essential views of institutional theory as a starting point, proposes how these basic and essential concepts can be applied to SEA research, and suggests some potentially fruitful future research opportunities in SEA. It is also acknowledges that institutional theory itself, as a rich body of literature, is relatively comprehensive. The basic views that are proposed are considered in terms of their relevance to SEA research.

Having explored the SEA literature, in an attempt to search for a suitable theory to explain the results generated from Phase Two (i.e. why there is a lack of contaminated site disclosure by sample Australian companies), it is determined that institutional theory is the theory that potentially provides rich and comprehensive explanations to the results of Phase Two. The next phase—Phase Four will seek to explain the results generated from Phase Two, by applying institutional theory.

CHAPTER 5. PHASE FOUR: Explanations from institutional theory for contaminated site disclosures by Australian companies – possible explanations and research questions

This chapter, together with Chapters 6 and 7, represents the fourth and last phase of a broader study exploring Australian corporations' annual report disclosures pertaining to contaminated sites. The objective of this chapter is to apply a theoretical framework adapted from Oliver (1991) to develop possible explanations for the lack of disclosures identified in Phase Two of this research. Following this a set of research questions are developed which then direct the investigation. The next chapter (Chapter 6) will document the research design, methodology, and methods utilised in this phase, whilst Chapter 7 will present the results pertaining to the research questions developed in this chapter.

The first phase of this broader study began with an analysis of the search process that needs to be undertaken to identify contaminated sites within Australia. The second phase investigated annual report disclosures, in relation to contaminated sites, made by four high profile Australian companies that have been identified as being responsible for site contamination. The second phase exposed the fact that minimal or no disclosures are made by the examined companies in relation to contaminated sites, even though this represents an apparent non-compliance with statutory reporting requirements.

Searching for possible theoretical explanations to the findings of the second phase, the third phase (reported in the last chapter) reviewed institutional theory and legitimacy theory as applied to social and environmental disclosures within the social and environmental accounting literature. Institutional theory is an organisational theory that focuses on organisations' interaction with their wider social environments (i.e. institutional environments). Social rules, norms and cultures of these environments influence, and at the same time are influenced by, organisations. Legitimacy theory asserts that organisations, seeking survival or growth, will adopt practices, such as sustainability reporting that are, at least at face value, congruent with their wider social environments' norms and values, to obtain, maintain or repair the legitimacy of their operations. Focusing on institutional theory and legitimacy theory it was proposed in Chapter 4 that there is a significant overlap between the two theories, but that institutional theory provides richer theoretical explanations to explain social and environmental disclosures.

What remains to be explored is why there is a lack of disclosure in relation to contaminated sites within companies' annual reports. This fourth and last phase of the broader study aims

to understand, and explain, sample Australian companies' disclosure practices in relation to contaminated sites by applying an institutional theory framework.

Even though institutional theory has approached its 'adulthood' (Scott 2008a) and has been applied in management accounting (for example, Burns 2000; Burns & Scapens 2000; Covalleski & Dirsmith 1983; Covalleski & Dirsmith 1988; Cruz, Major & Scapens 2009; Ezzamel et al. 2007; Lounsbury 2008; Lukka 2007; Modell 2001, 2005; Moll & Hoque 2011; Scapens 1994; Siti-Nabiha & Scapens 2005; van der Steen 2009) and voluntary social reporting (for example, Archel, Husillos & Spence 2011; Ball 2005; Bebbington, Higgins & Frame 2009; Caron & Turcotte 2009; Christmann 2004; Kolk 2005; Laine 2009; Larrinaga-Gonzalez 2007), it has not been applied to mandated financial reporting on environmental obligations. This study also responds to Lindblom's (1993, p. 21) call for further research on 'mandated disclosures'.

This study is driven by a desire to see companies providing more useful information in their annual reports. To improve reporting quality, understanding the factors that influence companies' decisions to conform or resist financial reporting expectations, and companies' ability and interest to conform, are necessary. The result of this phase will provide stakeholders with insights on issues surrounding contaminated sites and the associated remediation disclosures. The results also raise a number of issues, such as reasons for the lack of enforcement from regulatory bodies, and the strategic behaviours of companies. This phase provides recommendations for government policy makers and regulatory bodies to enhance corporate reporting quality, for example Australian Securities & Investments Commission (ASIC) for tighter enforcement, and AASB for clearer reporting guidelines.

Phase Four is comprised of three chapters. This chapter applies institutional theory, in particular an explanatory framework of organisational strategic responses to institutional pressures adapted from Oliver (1991), to explore possible explanations for the results of Phase Two. Research questions based on the framework will also be developed in this chapter. The next chapter (Chapter 6) will document the research design, research methodology, and research methods implemented in Phase Four, and Chapter 7 will present the results of Phase Four.

5.1 Research objective for Phase Four

At the outset of the study (section 1.3) the research objective for Phase Four is:

In respect of Australian companies' disclosure practices in relation to remediation obligations, what are the theoretical explanations supplied by the institutional theory framework?

In the previous phase of this research (Phase Three) some of the basic and most important ideas in institutional theory were discussed in the context of social and environmental reporting. This fourth phase will continue to develop these ideas, in the specific context of contaminated site disclosures by Australian companies, by developing a theoretical model that is adapted from Oliver (1991). This model aims to supply potential explanations to the findings reported in Phase Two (Chapter 3). Research questions are then developed based on the research objective and the theoretical model.

5.2 Theoretical model and possible explanations derived from the model

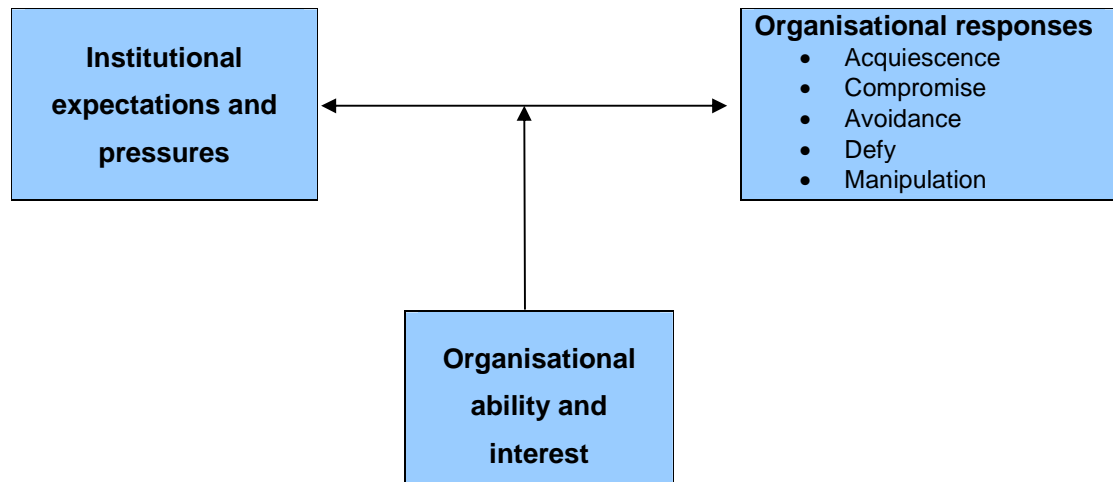
Institutional theory recognises that organisations operate in both institutional and competitive environments. Within institutional environments, institutional constituents (i.e. the individuals or social groups that are capable of influencing organisations) may exert pressures that force organisations to consider and accept, unconsciously or consciously, willingly or reluctantly, their norms, values and expectations. Once these norms, values and expectations are established as conventions and obtain legitimacy, they become institutionalised norms, values and expectations. The expectations from different constituents reflect their individual specific interest and thus may conflict with each other. Institutional pressures, intertwining with economic pressures, influence organisations in a simultaneous way. Institutional environments however allow the opportunity of strategic responses to institutional pressures by organisations (DiMaggio & Powell 1983). As Suchman (1995, pp. 585-6) points out:

The multiplicity of legitimacy dynamics creates considerable latitude for managers to maneuver strategically within their cultural environments (Ashforth & Gibbs 1990; Oliver 1991). Admittedly, no organisation can completely satisfy all audiences, and no manager can completely step outside of the belief system that renders the organization plausible to himself or herself, as well as to others. However, at the margin, managerial initiatives can make a substantial difference in the extent to which organizational activities are perceived as desirable, proper, and appropriate within any given cultural context.

Taking into account institutional pressures, organisations' political self-interests and awareness of, and capacity to conform to these institutional pressures, Oliver (1991) has developed a model predicting organisations' responses to institutional pressures. Her model classifies organisations' strategic responses to institutional pressures into five types. That is, organisations do not blindly conform or respond in a uniform way to the same institutional pressures. Organisational responses to institutional pressures are associated with various factors (e.g. why is the organisation being pressured and who exerts the pressure) related to the pressures, as well as the organisations' self-interest and capacity to conform to pressures.

Her analysis of institutional factors, organisational capacity and interest, and organisational strategies are discussed in the following subsections. Figure 5.1 provides a framework for this phase which has been adapted from Oliver (1991).

Figure 5.1: Framework of organisational strategic responses to institutional pressures



Adapted from (Oliver 1991)

5.2.1 Institutional pressures exerted by constituents

Oliver (1991) outlines five institutional factors of institutional pressures exerted by institutional constituents. These five institutional factors are:

- **Cause** (why is the organisation being pressured): legitimacy and efficiency;
- **Constituents**: multiple constituents with competing demands and dependence;
- **Content of institutional pressures**: consistency and constraint;
- **Control** (how the pressures are exerted): coercion and diffusion; and
- **Context**: uncertainty and interconnectedness

Each of these factors will be described in detail in the follow section.

Cause: legitimacy and efficiency

The first institutional factor is the cause of institutional expectations and pressures. The cause of institutional pressures refers to the rationale, reasons, or 'intended objectives that underlie external pressures for conformity' (Oliver 1991, p. 161). If the perceived legitimacy

and/or the economic gains attainable by the organisation are high, conformity is more likely to occur (Oliver 1991).

In an accounting context, companies are most likely to substantially (as opposed to symbolically) comply with the requirements of financial reporting regulations if the legitimacy enhancement and/or economic benefits are perceived as high. On the other hand, if there is no perceived legitimacy threat and/or economic gain, companies are most likely to resist these requirements.

In the context of contaminated site disclosures, conforming to institutional expectations, such as disclosing site contamination information within annual reports, may bring little or no enhancement of legitimacy or efficiency to organisations. This is because site contamination may be perceived as having a negative impact on the reputation of the organisation, and remediating contaminated sites generally requires significant resource outflows from the organisation. External constituents, such as NGOs, may promote the anticipated legitimacy or economic efficiency outcomes to encourage disclosure on contaminated sites. However if organisations perceive that there is minimal or no legitimacy or efficiency enhancement, they may deploy strategies such as compromising, avoidance, defiance or even manipulation, to resist institutional expectations (strategies discussed in detail in section 5.2.3 that follows).

Furthermore, disclosing more specific information relating to contaminated sites may attract negative attention from certain institutional constituents (e.g. shareholders, creditors, government, environmental groups, and accreditation agencies) and create a potential legitimacy threat to companies. By confirming the existence of contaminated sites and the estimated remediation obligations within companies' annual reports, companies confirm their financial obligations which in turn might have implications for the cost of doing business. Companies therefore may attempt to avoid institutional requirements by reducing the degree to which they are scrutinised (i.e. buffering), or by establishing ritualised procedures and routines to promote the apparent conformity with specific rules and norms (i.e. concealment).

Although institutional theorists (e.g. Meyer & Rowan 1977; Tolbert & Zucker 1983) often emphasise that it is the legitimacy, rather than efficiency, that contributes to organisations survival and success, this study clarifies that legitimacy and efficiency do not necessarily conflict with one another. That is, the dichotomy between efficiency and legitimacy is not always present. In fact the rationales for legitimacy-seeking, and efficiency-enhancing, may be 'closely intertwined' (Modell 2001, p. 458). Although legitimation requires possible short-term resource outflows, legitimacy typically contributes to long term economic gains brought about by strengthened reputation, new market opportunities, and by creating a status of 'prestige' (Jamali 2010). That is, legitimacy is capable of bringing enhanced efficiency as it may 'turn a liability into an asset' (Suchman 1995, p. 587).

Constituents: multiple constituents with competing demands and dependence

Oliver's second institutional factor of institutional pressures is related to institutional constituents. Institutional constituents comprise any individuals and social groups (e.g. the government, investors, professions, NGOs, interest groups, and the general public) who are capable of shaping and imposing regulations, norms, or social expectations and can enforce legal sanctions (e.g. fines) or social sanctions (e.g. boycott of products) on the focal organisation (Scott 2008b).

Where there are incompatible demands from multiple constituents, organisations are more likely to engage in compromise, avoidance, defiance and manipulation strategies (Oliver 1991). In the context of contaminated site disclosures, having site contamination information disclosed within financial reports may be demanded by relevant regulatory agencies, accounting standards board and other stakeholders, but may displease shareholders and creditors and result in reduced profits or weakened legitimacy. Oliver (1991, p. 163) provides an example of a situation where an avoidance strategy might be employed:

An oil company may attempt to conceal the extensiveness of an oil spill to avoid coping with the kind of costly cleanup that displeases its shareholders but is demanded by the public.

Where multiple institutional constituents exert competing demands, organisations may have to trade off the demands of one relevant constituent against others. It also provides opportunities for organisations to legitimise rules or practices to serve their own interests (Carpenter & Feroz 2001). In the context of contaminated site disclosures, the criteria for acceptable disclosure practices derived from Australian accounting requirements may conflict with expectations from other institutional constituents. These conflicting expectations, imposed by competing constituents, do not provide straight forward solutions for companies. Furthermore, these conflicting expectations provide opportunities for companies to select favourable options (such as avoiding contaminated site reporting) with minimal costs.

Institutional constituents' power may change over time. New (and powerful) institutional constituents may emerge, whereas the power of some existing institutional constituents may diminish (Hoffman 1999, 2001). The degree of dependence upon a particular institutional constituent affects the way the organisation interacts and addresses their demands and expectations. Some constituents that hold vital resources (economic or social) are able to exert pressures upon organisations (DiMaggio & Powell 1983).

When the degree of dependence on particular constituents is high, organisations are more likely to conform, at least partially, to their expectations and demands. When the degree of dependence is low, organisations are more likely to resist (Oliver 1991). In the context of contaminated site disclosures, perhaps the constituents that companies are dependent upon

(e.g. shareholders) are less likely to demand contaminated site information. Therefore, companies are able to avoid disclosing contaminated site information without incurring a significant legitimacy threat.

Content of institutional pressures: consistency and constraint

The third factor described by Oliver (1991) is the content of institutional pressures. Organisational responses to institutional pressures vary depending upon what is demanded (content of demands). The institutional expectations, which an organisation is pressured to conform to, may be consistent with the organisation's existing goals and norms. Conforming to these expectations may bring considerable economic benefits and enhance legitimacy without significant sacrifices. On the other hand when institutional expectations are not compatible with the organisational goals, an organisation may resist these pressures.

Oliver (1991) points out that for profit-seeking organisations, perceived loss in efficiency is a typical motive for resistance to state intervention. 'Conforming with government regulations is often seen by the organisation to be increasingly incompatible with the technical and economic standards against which firm performance is primarily assessed.' (Oliver 1991, p. 165) For a company with contaminated sites, preparing financial reports complying with various accounting standards and reporting requirements may be perceived as a costly operation which is inconsistent with their profit-seeking goals. In the context of contaminated site disclosures, the company may choose to resist pressures on contaminated site reporting in order to reduce the additional costs of reporting, and avoiding possible site remediation costs.

Organisations prefer to retain their own control of their processes and output (Oliver 1991). Some pressures impose greater constraints (such as resource allocation) on organisations' autonomy than others (such as introducing sustainability vocabulary in the annual report). In the context of contaminated site disclosures, organisations may fear potential loss of discretion over their operation (such as introducing government intervention into the operational activities of contaminated sites) resulting from disclosing specific and meaningful information relating to contaminated sites. By engaging in ceremonial conformity activities, such as providing a regular annual report with specified formats and stating all reporting regulations are being complied with (regardless of the correctness and sufficiency of the information provided within the annual report), organisations may create a buffer between themselves and external pressures to avoid reporting and potential loss of discretion.

Control: coercion and diffusion

The fourth factor relates to how institutional pressures are exerted. Oliver (1991) describes this factor as 'institutional control'. Oliver (1991, p. 168) defines 'institutional control' as the

'means by which pressures are imposed on organisations'. Oliver classifies institutional control into two categories: legal (compulsory) coercion and voluntary diffusion. Legal coercion aims to disseminate and enforce regulative expectations through monitoring, enforcement, and sanctions. When legal rules are strictly enforced organisations are more likely to conform. If the chance of being detected breaching disclosure requirements or the associated enforcement of requirements is low, organisations are left with 'ample opportunities for evasion of compliance' (Jamali 2010, p. 629). In the context of contaminated site disclosures, there may be a lack of coercive pressure for disclosing site remediation information. While there are a number of relevant accounting regulations and the *Corporations Act* requires site remediation disclosures, a lack of enforcement by institutional constituents may provide organisations with opportunities for non-compliance.

Institutional pressures are not only exerted by coercive pressures but can also be exerted through voluntary diffusion. Diffusion is a phenomenon whereby there is an increased adoption of particular structures or practices within a population of organisations. The more broadly an institutional expectation or practice is diffused within the field in which the organisation operates, the more likely an organisation will adopt the institution or practice (Goodstein 1994; Oliver 1991). Broadly diffused institutional practices or expectations obtain the status as social facts which often remain unquestioned (Zucker 1977). In the context of contaminated site disclosures, the practice of disclosing material information related to contaminated sites has not been broadly diffused. There may be a lack of widely shared and taken-for-granted understanding among accountants that material remediation obligations relating to contaminated sites should be disclosed. In addition, the diffusion of alternative or competing practices may prevent companies from complying with regulative requirements. In the context of contaminated site disclosures the current dominant practice may be that uncertain probability, unreliable measurement and the immateriality of the remediation obligations associated with contaminated sites, pose significant impediments to obligations being disclosed in companies' financial reports.

Context: uncertainty and interconnectedness

The fifth and last factor associated with institutional pressures is context. Context refers to the environments that organisations operate in. Contextual factors, such as environmental uncertainty and the interconnectedness between organisations and their institutional environments, are likely to affect organisations' responses to institutional pressures.

Organisations prefer stability and certainty in their operations (Oliver 1991). When organisations are not confident of their predictions related to their future operations and institutional environments, organisations are more likely to either conform to institutional

pressures (Oliver 1991) or mimic the practices of the most prominent or prestigious organisations in the same field (DiMaggio & Powell 1983; Suchman 1995).

In the context of contaminated site disclosures, perhaps Australian accounting standards and reporting requirements do not provide clear guidelines on how to disclose contaminated site related information in financial reports. A lack of clear guidelines may provide uncertainty to an organisation's reporting practices. An organisation may choose to make minimal disclosures on contaminated sites because it either seeks to mimic the minimal disclosures by organisations in the field with high legitimacy status or the organisation is confident that non-conformance will not bring strict sanctions by authorities.

Another contextual consideration is interconnectedness. Interconnectedness is used to describe the degree to which organisations connect with their constituents through relational systems (such as organisational networks with suppliers, customers, professional or trade associations, regulators etc). These relational systems serve as a carrier⁵⁷ (Scott 2008b) of institutions in relation to reporting practices, transferring and conveying various institutions across networks. Highly interconnected environments diffuse and promote a consensus of what are appropriate reporting practices. These practices become the prevailing practices in the environment, providing stability and legitimacy to organisations that adopt them (Meyer & Rowan 1977; Oliver 1991; Zucker 1977, 1991). In the context of contaminated site disclosures, in highly connected environments, even though organisations may actually know the likely costs associated with site contamination for internal management purposes, following the prevailing practice of other organisations in the same field, they may choose to avoid disclosing this information.

On the other hand, highly fragmented institutional environments obstruct the consensus and conformity to institutional expectations and rules. In the context of contaminated site disclosures, a lack of consensus on how to disclose contaminated site related information in annual reports may provide opportunities for organisations, citing the lack of consensus, to avoid making disclosures.

To summarise, this section has described five factors (each with two dimensions) associated with institutional pressures. An organisation is more likely to conform to institutional expectations to disclose contaminated site information if:

- institutional pressures to disclose contaminated site information are perceived to be highly legitimate (**cause**);

⁵⁷ Carriers transfer and convey institutions among constituents. Through the carriers, institutions are created and diffused. Scott (2008b) asserts that there are four carriers of institutions. Relational systems are one of the four carriers.

- conforming to institutional pressures to disclose contaminated site information will bring significant economic benefits (**cause**);
- expectations about contaminated site disclosures that are exerted by constituents do not conflict with each other (**constituent**);
- the organisation is highly dependent on institutional constituents who demand contaminated site disclosures (**constituent**);
- institutional expectations for the disclosure of contaminated site information are consistent with internal goals and practices of the organisation (**content**);
- organisations are not constrained by the institutional pressures to disclose contaminated site information (**content**);
- the institutional pressures for the disclosure of contaminated site information are strictly enforced (**control**);
- the institutional pressures for the disclosure of contaminated site information are popularly diffused (**control**);
- organisations are not confident of their predictions related to their future environments (**context**); or
- organisations operate in highly connected fields (**context**)

The theoretical framework for this study asserts that the five factors of institutional pressures influence organisational decisions to disclose contaminated site information. Therefore, to better understand why there is a lack of disclosure of contaminated site information by Australian companies, an investigation of the institutional pressures, as perceived by Australian companies, is necessary.

The first research question proposed in this study is therefore:

RQ1 In terms of annual report disclosures relating to contaminated site remediation liabilities, how do Australian companies, in control of remediation sites, perceive the institutional expectations and associated institutional pressures exerted by various institutional constituents?

This research question (RQ1) will be further discussed in section 5.3.

As discussed previously, organisations do not uniformly respond to institutional expectations and pressures. Organisations' strategic responses to institutional pressures are bounded by their capacity to conform and interest to conform. This is to be discussed in the following section.

5.2.2 Organisations' capacity and interest to conform to institutional pressures

The institutional factors discussed in the previous section, under which organisations are likely to conform or resist institutional pressures, are bounded by organisational capacity and interest to conform (Oliver 1991). Organisational capacity and interest to conform to institutional pressures are therefore important internal factors for understanding organisations' strategic responses to institutional pressures.

There are three factors related to organisational capacity:

- capacity to be aware of institutional expectations and pressures;
- capacity to interpret these expectations and pressures; and
- capacity to conform to the expectations and pressures.

Capacity to be aware

Organisations may lack the ability to recognise institutional pressures (for example, managers may simply be oblivious to institutional pressures). In the context of contaminated site disclosures, companies may not be aware of the expectations to comply with accounting standards and to disclose material contaminated sites related information in their annual reports.

Capacity to interpret

Organisations do not simply receive, perceive and frame the issue in the same way as the institutional constituents who exert the pressures. Scott (2008b) stresses the importance of framing, filtering, and interpreting institutions by organisations. Ideas are translated and edited, then diffused and possibly changed, and they may evolve differently in a different social setting by different constituents, through circulation of ideas (Sahlin & Wedlin 2008). Organisations may have their own distinct shared beliefs. Individual decision makers' norms, cognitive views and motivations together with a shared belief system within the organisations, are considered (Carpenter & Feroz 1992, 2001) to influence certain accounting practices. That is, organisations' responses may be largely influenced by their senior managers' perception and interpretation of the salient issues associated with institutional pressures and likely impact of non-conformity to these institutional pressures (Milliken, Martins & Morgan 1998). The same issue could be framed differently at different times (Hoffman 1999, 2001) by the same parties. In the context of contaminated site disclosure, a gap may exist between the organisations' *perceived* institutional expectations about what they should disclose, and the *actual* expectations from constituents. The senior managers and accountants of organisations may interpret accounting standards in a way that inhibits the disclosure of contaminated sites within annual reports.

Capacity to conform

The capacity to conform may be limited by organisations' resources. Organisations may simply not be well equipped to meet institutional demands. In the context of contaminated site disclosures, companies may not implement formal procedures to account for contaminated sites within their annual reports as a result of lack of resources or a lack of knowledge.

Interest to conform

Even if organisations have the capacity to conform to institutional expectations and pressures; they may not be willing to conform. Organisations' willingness to conform to institutional expectations is influenced by their self-interest and their calculation of trade-offs between the perceived benefits and perceived costs of conformity and resistance (Oliver 1991). If organisations are influential in the field in which they operate, or they are holding some sort of countervailing power⁵⁸ (Ingram & Simons 1995; Pfeffer & Salancik 1978), they may choose to act in a proactive way to influence or resist institutional expectations. In the context of contaminated site disclosures, organisations may choose not to disclose, because they may not regard disclosing information on contaminated sites as being in their best interests, and the enforcement of reporting requirements may be weak or the sanctions imposed for breaching reporting requirements may not be significant.

To summarise, an organisation is more likely to conform to institutional expectations to disclose contaminated site information if:

- the organisation is aware of reporting requirements in relation to the disclosure of contaminated site obligations (**capacity**);
- the organisation interprets relevant accounting standards as requiring material remediation obligations to be disclosed (**capacity**);
- the organisation has the resources or knowledge to fully disclose contaminated site information (**capacity**); and
- it is in the organisation's self-interest to fully disclose contaminated site information in the financial reports (**interest**)

To better understand why there is a lack of disclosure of contaminated site information by Australian companies, an investigation of Australian companies' capacities and interests to disclose is necessary. The second research question addressed in this study is therefore:

⁵⁸ Countervailing power describes a situation that while one organisation is dependent on a constituent, the constituent may be also dependent on the organisation. That is, the organisation and the constituents may dependent on each other.

RQ2 In responding to institutional expectations and pressures addressed in RQ1, do Australian companies have the capacity and interest to conform to their perceived institutional expectations and requirements?

This research question (RQ2) will be further discussed in section 5.3.

Thus far, factors relating to institutional pressures and organisational capacity and interest, which are associated with organisational conformity or resistance to institutional pressures, have been discussed. The factors related to institutional pressures and organisational capacity and interest can influence organisations strategic responses to these pressures. Understanding strategies adopted by organisations in response to pressures is important for garnering an understanding of Australian companies' current practices related to contaminated site disclosure. The next section will outline five strategies organisations may adopt.

5.2.3 Organisational strategic responses to institutional pressures

Oliver (1991) provides a detailed typology of organisational responses to institutional pressures ranging from *acquiescence*, *compromise*, *avoidance*, *defiance* to *manipulation*. The continuum of the five strategies varies 'depending on the institutional pressures toward conformity that are exerted upon organisations' (Oliver 1991, p. 151). The first three strategies (*acquiescence*, *compromise*, *avoidance*) present different degrees of conformity to institutional pressures, varying from unconscious to conscious conformity and from substantive to merely apparent compliance.

Acquiescence Strategy

The first strategy—organisations' *acquiescence* to institutional pressures, involves substantive conformity to institutional pressures (Oliver 1991). The acquiescence strategy employed by an organisation is often a conscious and proactive decision driven by the organisation's self-interest (Abernethy & Chua 1996; Guerreiro, Rodrigues & Craig 2012; Modell 2001). In the context of contaminated site disclosure, an acquiescence strategy would be demonstrated by substantive conformity to reporting requirements. The findings from the second phase (Chapter 3) demonstrated that there is a lack of conformity to Australian reporting requirements related to contaminated sites in the annual reports of the sample of Australian companies examined. It is therefore unlikely that an acquiescence strategy has been employed by the sample companies.

Compromising Strategy

A *compromising* strategy represents partial conformity but with some resistance from organisations to institutional pressures. This strategy can take the forms of *balancing*,

pacifying or *bargaining* tactics. A *balancing* tactic occurs when an organisation cannot meet the competing demand from multiple constituents and they choose to conform to some demands at the expense of others. A *pacifying* tactic is when an organisation exhibits a minor level of resistance to constituents' demands but effort is made to appease institutional constituents by partially conforming to their demands. *Bargaining* tactics demonstrate more active resistance from organisations that involves extracting concessions (i.e. request a temporary exemption from new reporting requirements) in exchange for acceptance of institutional expectations and requirements. In the context of contaminated site disclosures, an organisation may resist reporting requirements to fully disclose contaminated site information as provisions. The organisation may however attempt to appease regulators by disclosing contaminated site remediation obligations as contingent liabilities in the notes to the annual report rather than as provisions. Alternatively, the organisation may elect to disclose some but not all contaminated sites in its annual report.

Avoidance Strategy

An *avoidance* strategy is where an organisation actually resists institutional pressures but at face value does not challenge the institutional pressures. Organisations implement an avoidance strategy to 'preclude the necessity of conformity' (Oliver 1991, p. 154) to institutional pressures by engaging *concealment*, *buffering* or *escape* tactics. A *concealment* tactic involves a cover-up of actual non-conformity by demonstrating symbolic acceptance of institutional pressures. In the context of contaminated site disclosures, organisations may symbolically claim that they have complied with all requirements of financial reporting including appropriate disclosure on contaminated site remediation obligations in their annual reports, without the intention of actually remediating the site. Through the use of a concealment tactic, symbolic legitimacy may be obtained by establishing elaborate accounting policies and reporting procedures in responses to financial reporting regulation without actually adhering to these policy and procedures.

A *buffering* tactic may be engaged by organisations separating or decoupling (Meyer & Rowan 1977) actual internal activities from formal policies to avoid external scrutiny of internal activities (Pfeffer & Salancik 1978). In the context of contaminated site disclosures, Australian companies with substantial site remediation obligations may choose to provide 'general' information relating to provisions in their 'provision' section of the financial report without specifying the specific amount of environmental obligations relating to contaminated sites. This could take the form of the 'provision for site remediation' account not being separately disclosed within the 'provision' section, when the 'provision for site remediation' is material. Specific information, which might cause the company to be scrutinised is detached, decoupled, or hidden amongst other information therefore it is 'lost in the forest' which buffers the organisation from potential legitimacy threats or being scrutinised.

An *Escape* tactic occurs when an organisation evades conforming to institutional pressures by making changes to their operations. An escape tactic, unlike a concealment tactic or a buffering tactic, does not require an organisation to show apparent conformity to institutional pressures. Oliver (1991) uses an example of chemical manufacturers moving their production and sales of chemicals banned in North America to Third World countries. Similarly, after high profile legal actions and subsequent concentrated media attention focused upon its contaminated site in Papua New Guinea (PNG)—the Ok Tedi copper mine—one of the sample Australian companies examined in Phase Two, BHP Billiton, withdrew its equity holding in the mine to protect it from the future litigation and reputational damage (legitimacy threat) associated with the site (Ji & Deegan 2011).

The first three strategies (acquiescence, compromise and avoidance) represent an increasing degree of resistance, however the resistance remains passive and institutional pressures are not overtly challenged (Oliver 1991). The next two strategies, *defiance* and *manipulation*, involve active resistance to institutional pressures by organisations.

Defiance Strategy

A *Defiance* strategy occurs when an organisation resists institutional rules by employing *dismissing*, *challenging* or *attacking* tactics. A *dismissing* tactic demonstrates a deliberate disregard of institutional pressures. When the chance of detection by constituents or enforcement of institutional rules is unlikely, a dismissing tactic may be chosen by an organisation (Oliver 1991, p. 156). In the context of contaminated site disclosures, organisations in control of contaminated sites may dismiss relevant disclosure requirements in relation to contaminated sites because the chance of being detected is low, enforcement is minimal, or the sanctions for breaches are not significant. This situation may emerge when regulators have other priorities or lack resources for the detection and enforcement of contaminated site disclosures.

A *challenging* tactic demonstrates active rejection of institutional expectations and requirements by demonstrating the organisation's own rationale for rejecting them. An *attacking* tactic however shows a heightened intensity and aggressiveness of the rejection. An attack tactic may include belittling or insulting institutional constituents and their expectations. In the context of contaminated site disclosures, organisations adopting a challenge tactic may reject reporting requirements because they find existing accounting standards and reporting requirements ambiguous, unreasonable, difficult to follow, or in conflict with prevailing reporting practice. Organisations adopting an attack tactic however may directly disparage the legitimacy of the requirements, or the constituents who impose them.

Manipulation Strategy

The most active resistance strategy is *manipulation* which comprises the use of *co-opt*, *influence* or *control* tactics. Organisations not only actively reject institutional pressures but also aim to change constituents' expectations or perceptions of their operations. A *co-opt* tactic may be employed by organisations associating themselves with legitimate constituents or practices (legitimacy by association) to obtain, enhance or repair their legitimacy status without actually complying with institutional rules and expectations.

An *influence* tactic may be deployed in an effort to change institutional expectations and requirements of acceptable behaviour. Organisations may challenge the appropriateness of current accounting standards and attempt to change standards to reflect their own interests. This tactic also can be used to change the interpretation of institutional rules and requirements, such as accounting standards. As Oliver (1991, p. 158) points out, institutional expectations and requirements are 'institutionally defined and prescribed' therefore they 'are often open for strategic reinterpretation and manipulation'. Accounting standards and reporting requirements are general in nature and principle based. The application of accounting standards often requires professional judgment and can be applied with different interpretations. This allows organisations in many cases to strategically interpret, reinterpret, and possibly manipulate their application of accounting standards.

Organisations deploying a *controlling* tactic attempt to dominate institutional constituents and control their institutional expectations. In the context of contaminated site disclosures, an organisation using a controlling tactic may attempt to dominate the standard setting process and the interpretation of reporting requirements. This may be achieved by having representatives favourable to the organisation's interest appointed to the standards setting body and dictating how reporting requirements are interpreted.

The five strategies described above may be engaged by organisations to address different institutional pressures. In response to changing conditions, organisations may also adjust the strategy they deploy to address the same institutional pressure. In the case of US state governments' adoption of GAAP (Carpenter & Feroz 1992, 2001), four states (New York, Michigan, Ohio and Delaware) initially opposed the introduction of GAAP by using a combination of compromise, defy and manipulate strategies. Institutional pressures from powerful constituents forced the states to change their strategy to an acquiescence strategy and they thereafter adopted GAAP.

In order to fully understand why an organisation makes strategic choices in response to institutional pressures, it is necessary to understand: why the organisation is being pressured (cause), who is exerting the pressures (constituents), what is expected (content), how the

pressures are exerted (control), and environmental factors (context). It is also necessary to understand how these factors interact with organisations' capacity (to recognise, interpret and conform to institutional pressures), and organisations' interest to conform to institutional pressures.

In the context of contaminated site disclosures, Phase Two reported that none of the sample Australian companies (BHP Billiton, Wesfamers, Orica and Incitec Pivot) appeared to fully comply with reporting requirements related to remediation obligations for contaminated sites. The sample companies therefore did not adopt an acquiescence strategy to institutional expectations to comply with reporting requirements. The strategies that may have been used range from compromise, avoidance, defy to manipulation. To better understand how Australian companies respond to institutional pressures to disclose information about contaminated sites, it is necessary to investigate which of these strategies they adopted.

The third research question addressed in this study is therefore:

RQ3 In relation to annual report disclosure of contaminated site remediation liabilities, what is the strategy that Australian companies seem to adopt in their reporting decision?

5.2.4 Two important institutional constituents for financial reporting

The main objective of the first research question (RQ1) is to explore expectations and pressures *perceived* by Australian companies. Companies may not interpret institutional pressures in the way as the institutional constituents who exert the pressures. A better understanding of institutional environments in which Australian companies operates can thus be obtained by an examination of institutional pressures from both sides (companies and their external constituents).

In the context of contaminated site disclosures, two influential institutional constituents are auditors and the Australian Securities and Investments Commission (ASIC). They perform the important functions of auditing financial reports (auditors) and the enforcement of reporting regulations (ASIC).

Auditors are a powerful institutional constituent because, if their demands for more disclosure are not met, they may issue a qualified audit report which has a direct impact upon companies' operations and legitimacy. Auditors and audit firms are required to comply with the *Corporations Act* and auditing standards. As part of a quality audit, an auditor should provide sufficient and appropriate audit evidence in the engagement file to support the conclusions reached (Australian Securities and Investments Commission 2011). In the context of contaminated site disclosures, auditors have a duty to remain sceptical towards companies' accounts of remediation obligations. Auditors may exert pressure upon

companies to more accurately disclose obligations related to contaminated sites. Companies may acquiesce to auditors' demands or elect to resist through compromise, avoidance, defiance or manipulation strategies.

ASIC is an independent Commonwealth Government body acting as Australia's corporate, financial markets, and financial services regulator. It is a powerful institutional constituent because it has the legal power to enforce financial reporting regulations which have a direct impact upon organisations' operations. In the context of contaminated site disclosures, as discussed in the Phase Two (Ji & Deegan 2011), sections 299(1)(f) and 299A of the *Corporations Act* require Australian companies to disclose their operations that are subject to environmental laws and regulations. ASIC also monitors the application of accounting standards, such as AASB137 and AASB116 which relate to reporting of remediation obligations. ASIC can exert pressure upon companies to comply with financial reporting regulations by threatening to impose sanctions and exposing breaches to the public (legitimacy threat).

As auditors and ASIC are powerful institutional constituents capable of influencing how companies disclose their contaminated site obligations, it is important to obtain an understanding of how auditors and ASIC exert (or do not exert) their expectations related to contaminated site disclosures. The fourth research question of the study is therefore:

RQ4 How do auditors and the Australian Securities & Investments Commission (ASIC) exert (or do not exert) institutional expectations and requirements on Australian companies that are in control of contaminated sites.

This section has formed four research questions derived from a theoretical framework based upon institutional theory and the research objective identified at the beginning of the study. The research questions explore possible explanations for how companies may strategically respond to institutional expectations and pressures in relation to contaminated site disclosures. The next section will discuss these four research question in detail.

5.3 Research questions

Four research questions are formed to further understand Australian companies' disclosure practices pertaining to contaminated sites, by exploring relevant institutional expectations and pressures exerted by external constituents, and the capacity and interest of companies to conform to these pressures. As discussed in the theoretical framework in section 5.2, these factors are essential to providing explanations for the lack of contaminated site disclosures by Australian companies as reported in Phase Two of this research project. The first three research questions relate to the perceptions of institutional pressures from

managers of companies, companies' capacity and interest to conform to these pressures, and the strategies adopted to respond to these institutional pressures. The fourth research question relates to two important external institutional constituents—auditors and the ASIC. Four research questions are listed below and will be considered in greater detail.

RQ1 In terms of annual report disclosures relating to contaminated site remediation liabilities, how do Australian companies, in control of remediation sites, perceive the institutional expectations and associated institutional pressures exerted by various institutional constituents?

RQ2 In responding to institutional expectations and pressures addressed in RQ1, do Australian companies have the capacity and interest to conform to their perceived institutional expectations and requirements?

RQ3 In relation to annual report disclosure of contaminated site remediation liabilities, what is the strategy that Australian companies seem to adopt in their reporting decision?

RQ4 How do auditors and the Australian Securities & Investments Commission (ASIC) exert (or do not exert) institutional expectations and requirements on Australian companies that are in control of contaminated sites.

5.3.1 RQ1: perceptions of institutional pressures

The first research question aims to understand the institutional pressures and expectations relating to contaminated site disclosures as perceived by managers from Australian companies. To address this question five factors of institutional pressures are considered:

- What are the causes of institutional expectations and pressures (legitimacy and efficiency)?
- Who are the institutional constituents that exert pressures (are there multiple constituents with competing demands and how dependent is the company upon the constituents)?
- What are the expectations and pressures (consistency with company's goals and constraints imposed upon operations)?
- How are the pressures exerted (coercion or voluntary diffusion)?
- What are the environments in which institutional expectations and pressures are exerted (do the environments pose significant uncertainty to the company's operations and are the constituents of the environments highly connected)?

5.3.2 RQ2: organisational capacity and interest

The second research question aims to understand whether Australian companies have the capacity to be aware of, to interpret, or to conform to institutional expectations, and whether companies are interested in satisfying institutional expectations identified in RQ1. Proposed areas to explore are:

- Are Australian companies aware of institutional expectations and pressures?
- How do Australian companies interpret institutional expectations and pressures?
- Do Australian companies have the capacity to meet these expectations?
- Are Australian companies willing to meet these expectations?

5.3.3 RQ3: organisational strategic responses

The third research question aims to understand Australian companies' strategic responses to institutional pressures by investigating their internal reporting processes relating to disclosing contaminated sites. RQ3 is explored by way of the following questions:

- What are the Australian companies' internal processes that relate to reporting contaminated sites and the associated remediation obligations?
- How do Australian companies use these internal processes to strategically respond to (resistance or conformance) institutional expectations and pressures?

Companies' internal processes reflect the strategy they have adopted to strategically respond to institutional pressures. Where internal processes are not aligned with formal policies and procedures this may be an indication an avoidance strategy being adopted (DiMaggio & Powell 1983). Where internal processes are closely aligned with formal policies this may indicate an acquiescence strategy has been adopted (Oliver 1991). It is therefore necessary to investigate companies' internal processes in relation to contaminated site disclosure, in addition to examining companies' stated strategies.

5.3.4 RQ4: external constituents' expectations and pressures

As important constituents in financial reporting regulatory environments, auditors and ASIC have significant influence over Australian companies' financial reporting practices. Particular areas of interest for RQ4 are:

- Whether auditors and ASIC pay attention to the financial accounts of Australian companies relating to remediation obligations?
- Whether auditors and ASIC are aware that site remediation may not be properly accounted for in Australian companies' financial reports?

- What particular audit procedures, if any, are performed by auditors in relation to remediation obligations?
- What are the expectations from auditors and ASIC for site remediation disclosures by Australian companies in financial reports?
- Whether and how auditors and ASIC exert institutional pressures in relation to site remediation disclosures?
- What are the possible explanations offered by auditors and ASIC for the lack of contaminated site disclosures?

The next step is to determine suitable research methodology and methods to address these questions. This step will be addressed in the next chapter, Chapter 6.

5.4 Summary

Phase Four of this research project applies an institutional theory framework to explain the lack of contaminated site disclosures by Australian companies. This chapter has discussed the research objectives for Phase Four, and possible explanations for the lack of contaminated site disclosures by Australian companies reported earlier (Chapter 3). From this, a set of research questions has been proposed. The next chapter (Chapter 6) will describe the research methodology and methods used to address these research questions. This will then be followed by an analysis of results which is presented in Chapter 7.

CHAPTER 6. PHASE FOUR: Explanations from institutional theory for contaminated site disclosures by Australian companies – research methodology, strategy and methods

This chapter is the second chapter of Phase Four, and aims to address the research design—research methodology, strategy and methods of data collection and analysis, and the conduct of the research. The framework of a sound research design includes three essential and related elements: the philosophical assumptions about what is knowledge and how it is understood; the research strategy (general procedures of research); and methods (detailed procedures of data collection, analysis, and writing) (Creswell 2003). These three essential elements are considered in greater detail below.

6.1 Research methodology: ontological and epistemological foundations and qualitative research

Creswell (2009, p. 4) suggests that a research design starts with identifying the ‘worldview’—that is, the philosophical assumptions that the researcher brings to the study. ‘Worldviews’ are also called paradigms, epistemologies and ontologies (Lincoln, Lynham & Guba 2011; Maxwell 2005). They are a set of philosophical assumptions about what researchers believe about the nature of the world—the fundamental beliefs about what is ‘real’ (ontology) and how they can understand it—the way they conceptualise valid knowledge or ‘truth’(epistemology). The worldview that has been adopted influences the practice of research, although it remains largely ‘hidden’ in the studies (Creswell 2009). Ryan, Scapens and Theobald (2002) describe the relationships among ontology, epistemology, methodology and methods as follows:

The assumptions which the researcher holds regarding the nature of the phenomenon’s reality (ontology), will affect the way in which knowledge can be gained about the phenomenon (epistemology), and this in turn affects the process through which research can be conducted (methodology). Consequently, the selection of an appropriate methodology cannot be done in isolation of a consideration of the ontological and epistemological assumptions which underpin the research in question. Also, it is relevant to note that methodology is concerned with the *process of doing research* [original italic emphasis] and, as such, it has both ontological and epistemological dimensions. Furthermore, it is important to distinguish methodology from methods. The latter are the particular techniques used in the research. In this sense, statistical techniques are methods, not a methodology; although their use in a particular research process, with its implicit ontological and epistemological assumptions, is a methodology. (Ryan, Scapens & Theobald 2002, pp. 35-6)

Generally speaking, there are four different worldviews: postpositivist, advocacy and participatory, pragmatism, and constructivism (Creswell 2009). Postpositivist is also labelled positivist, empirical science, scientific method or 'doing scientific research', and is often associated with quantitative research. Postpositivist epistemology heavily influences natural sciences research (Flick 2007a). The advocacy and participatory worldview intends to have a political action agenda that may change the lives of the participant, the researchers, and the associated social elements. Examples of such research are feminist research⁵⁹, critical theory⁶⁰, racialised discourses⁶¹, queer theory⁶² and disability inquiry⁶³ (Creswell 2009). The pragmatic worldview tends to emphasise the research problem, and uses all approaches available to understand the research problem, instead of committing to a specific philosophy and particular methods. This worldview gives researchers freedom of choice, and therefore underpins mixed methods studies (Creswell 2009).

The constructivism worldview, adopted by this study, 'holds assumptions that individuals seek understanding of the world in which they live and work' (Creswell 2009, p. 8). Reality is perceived (ontology) by constructivists as co-constructed (Lincoln, Lynham & Guba 2011), subjective and 'multiple' (Creswell 2007, p. 17). Knowledge gained about the issue of study (epistemology) is co-created, transactional (Lincoln, Lynham & Guba 2011), and interpreted. The researcher's role is to make sense of, or interpret participants' view and meaning about the world or a social phenomenon (Creswell 2009). These views and meanings are socially, contextually and historically negotiated.

A constructivism worldview has a broad influence in the social sciences and is often related to qualitative research (Flick 2007a) such as phenomenological research, ethnographic studies, case studies, grounded theory and narrative research⁶⁴. Qualitative research is typically interpretative and enacted in natural settings, and researchers being a key instrument use multiple sources of data or methods in a holistic way (Creswell 2009; Marshall & Rossman 2011). Qualitative research is increasingly applied in the management

⁵⁹ Feminist perspectives focus on the social justice and empowerment of woman, in terms of political, economic and equal social rights.

⁶⁰ Critical theory seeks human empowerment and emancipation. This perspective aims to improve freedom and decrease domination within society, in all forms including race, gender and class.

⁶¹ Racialised discourses focus on the experience and voice of people of different races.

⁶² Queer theory focuses on the experience, identity and voice of lesbians, gays, bisexuals, cross-dressing or transgendered people, through studies on mismatch between sex, gender, and desire (Creswell 2009).

⁶³ Disability inquiry focuses on the experience, inclusion and empowerment of people with disabilities.

⁶⁴ Holstein and Gubrium (2011) however suggest that constructionism should not be considered as synonymous with symbolic interactionism, social phenomenology, or ethnomethodology.

and accounting disciplines (Llewelyn 2003). In the past, qualitative researchers often defended themselves from quantitative researchers by justifying why qualitative research should be considered to be as rigorous and scientific as quantitative research. With the greater acceptance of qualitative research the debate has shifted from the merits of qualitative research, to justifying the use of particular qualitative methods (Marshall & Rossman 2011).

This study employs a qualitative approach not only because of the worldview of the researcher but also the requirements of methodological purposiveness and methodological congruence (Richards & Morse 2007). Methodological purposiveness requires the methodology and methods are chosen to fit the research question. That is, the research question leads to the research methodology, and research methods of collecting data and analysing data. The research questions for Phase Four provide the basis for understanding how institutional pressures are perceived by individuals from sample companies, and how external institutional constituents exert (or do not exert) pressures. These questions lead to a qualitative methodology, aiming to understand and interpret an accounting practice in relation to contaminated sites, with interviews as the data collection method, and coding as the data analysis method. Methodological congruence requires all of the components of the research—research problem, research question, method, data collection and data analysis—to fit with each other (Richards & Morse 2007, p. 35).

6.2 Strategies of inquiry: case studies

Qualitative research strategies include narratives, phenomenologies, ethnographies, grounded theory and case studies (Creswell 2003, 2009). To answer ‘how’ and ‘why’ questions, Yin (2003, 2009) considers case studies as the preferred strategy for explanatory studies⁶⁵, and the use of explanatory case studies can also be complimented by exploratory⁶⁶ and descriptive case studies⁶⁷. Although it is ‘poorly understood’ (Flyvbjerg 2011, p. 302), case studies have been used with a long history in a wide range of disciplines such as: psychology, anthropology, sociology, history, political science, education, economics, management, biology and medical science.

⁶⁵ Explanatory case studies are employed to *explain* certain phenomena. They are designed to answer ‘how’ and ‘why’ questions (Yin 2009).

⁶⁶ Exploratory case studies are employed to *explore* certain phenomena when little is known about the phenomena. Exploratory case studies are often used as a preliminary step of a descriptive or explanatory study. They are designed to answer the ‘what’ question. (Yin 2009)

⁶⁷ Descriptive case studies are employed to *describe* certain phenomena. They are designed to answer the ‘what’, ‘who’, ‘where’ and ‘how’ questions (Yin 2009).

Yin (2009) provides a general definition of a case study strategy as an empirical inquiry⁶⁸ which investigates a phenomenon⁶⁹ within the real-life context (as opposed to a laboratory experiment conducted in a controlled environment). He highlights the importance of considering the contextual conditions that may be pertinent to the phenomenon of the study. The issues explored by case studies are often 'complex, situated'⁷⁰ (Stake 2005, p. 448) and relational. Case studies offer the possibility of understanding accounting practices and explanations as to why these practices as opposed to their alternatives, are used in certain contexts. The purpose of this study is explanatory, that is, this study seeks to understand why Australian companies disclose contaminated sites in certain ways. It is for this reason that the research strategy of this study is the use of explanatory case studies. Case studies are an all-encompassing comprehensive research strategy and they shape the logic of design, the methods of data collection, and the methods of data analysis.

6.3 The use of existing theory

Yin (2003, 2009) highlights the essential role of theory development prior to data collection as a distinguishing feature of case studies from other research strategies, such as ethnography and grounded theory. Ethnography and grounded theory research typically deliberately avoid any theoretical propositions, with theories often being generated after data collection and data analysis.

While some qualitative research does not use theory at all, there is an increased use of a theoretical lens in qualitative research (Flick 2007a). Theories may be generated at the end of the study, as with grounded theories, or are used at the beginning of qualitative research, providing an overall orientation directing the studies undertaken (Creswell 2009). Flick (2007a, p. 21) criticises a common 'myth' that claims 'qualitative research does not build on existing theory', which is largely influenced and overshadowed by Glaser and Strauss's (1967) grounded theory. This misunderstanding of the use of theory however has been 'revised' (Flick 2007a, p. 21). There are two reasons for the revision of the misunderstanding: fewer areas have not been studied or subjected to theoretical analysis; and the definition of theories has become broader and their applicable scope has broadened.

Explanatory case studies, which is the research strategy adopted by this study, requires the use of theory to explain the reasons why particular accounting practices are adopted (Ryan, Scapens & Theobald 2002). Using theories in explanatory case studies attempts to provide

⁶⁸ An empirical inquiry is a quest for data, knowledge or truth through observation.

⁶⁹ A phenomenon is an event that is the object of an inquiry. A phenomenon can be understood by observation or experiencing.

⁷⁰ The word 'situated' is used to express the event studied is often time- and space-specific. Case studies therefore focus on background factors in order to understand certain phenomena.

convincing and rich explanations of the particular accounting practices. If available theories are not capable of supplying convincing and rich explanations of particular accounting practices, a modified theory or a new theory may be developed from the studies (Ryan, Scapens & Theobald 2002; Yin 2009).

This study, uses an institutional theory lens, in particular Oliver's (1991) model of organisational strategic responses to institutional pressures, as the theoretical lens to explore and seek explanations about the lack of disclosures of contaminated site information by Australian companies. This theoretical lens provides a theoretical basis for a comprehensive understanding of the relevant institutional environments of Australian companies, in terms of disclosing contaminated sites within annual reports, and how Australian companies, auditors and ASIC perceive their institutional environments. Using an institutional theory lens lends theoretical explanatory power to the research problem. By applying this theory to a new topic area, the study also offers broader application of the theory and enrichment of the explanatory power to the model of institutional theory used. This study does not intend to generate a theory during the research and place it at the end of the project, as does grounded theory. Possible institutionally infused explanations have been discussed before research questions are established. These possible institutional views and explanations however may be modified or adjusted during, and after, interviews (Creswell 2009).

When making use of existing theory researchers need to be aware of two pitfalls: either 'not using it enough' or 'relying too heavily and uncritically on it' (Maxwell 2005, p. 46). The tensions caused by over-using and under-using theory however is 'inescapable' (Maxwell 2005, p. 46) and cannot be solved. Researchers therefore are required to continually look for discrepant data and alternative ways to interpret data (a central issue in validity). This issue has been addressed throughout the data collection phase (e.g., avoiding leading questions during interviews) and data analysis phase (e.g., re-coding, re-interpreting data and revisiting data that is treated as irrelevant previously) of the study.

6.4 Method of data collection: semi-structured interviews

There are six commonly used data collection methods in case studies: interviews, documentation, archival records, direct observations, participant-observation, and physical artefacts (Yin 2009). This study aims to understand how and why certain accounting reporting practices are adopted over and above other alternatives, as well as Australian companies' perceptions of institutional pressures to disclose contaminated site-related information. In-depth semi-structured interviews are purposively chosen and appropriate for this study.

6.4.1 Semi-structured interviews

If you want to know how people understand their world and their lives, why not talk with them? (Kvale 2007, p. 1)

An interview aims to obtain the interviewee's perspective on certain phenomena. An assumption of the interview method is that 'the perspective of others is meaningful, knowable, and able to be made explicit' (Patton 2002, p. 341). A face-to-face in-depth interview aims to obtain deeper information and produce knowledge relating to interviewees' imbedded value system, culture and personal insights (Johnson 2001). Semi-structured interviews not only allow pre-determined themes to be discussed, but also allow changes during interviews (Kvale 2007). Changes can be alterations to the sequencing and form of questions, or in some situations, new questions may be added. This flexibility allows interviewer, during an interview, to following up specific answers, and may open up a new direction to uncover new themes. When the researchers have developed sufficient understanding of the topic, semi-structured interviews focus more on deeper aspects of the topic. They also allow for comparisons of interviewees' responses when the same questions are proposed to different interviewees.

In Phase One and Phase Two of the broader study, various secondary data (government documents and websites, companies' financial reports, print media news and organisational websites) have been collected and analysed, together with face-to-face interviews, to answer the questions of 'what' and 'how' site contamination information is disclosed. Phase 3 supplies possible theoretical explanations to answer the 'why' question. To bring knowledge and rich understanding of the context surrounding contaminated site disclosures, in-depth interviews add value seeking to understand 'why' questions through the institutional lens. In-depth interviews allow researchers to explore 'multiple views of, perspectives on, and meanings of' (Johnson 2001, p. 106) accounting activities pertaining to site contamination disclosures.

Interviews provide opportunities to obtain participants' perceptions on particular issues. This study seeks organisations' perceptions of institutional pressures as well as particular institutions that support (or against) particular accounting practices. In-depth semi-structured interviews with senior representatives from Australian companies, and their important institutional constituents, provide the basis for a richer and fuller understanding of organisations' strategic responses to institutional pressures. Through interviews, participants talk about their opinions, experience and perceptions of central issues, and researchers, by active probing and seeking, elicit in-depth responses to how participants interpret their life world. Interviews are especially appropriate if the participants are reluctant to discuss some sensitive topics in a group setting.

6.4.2 Role of the researchers

The quality of the information obtained during an interview is largely dependent on the interviewer. (Patton 2002, p. 341)

Kvale (2007) and Kvale and Brinkmann (2009) divide interviewers into two camps based on the researchers' epistemological view—interviewer as a miner, or as a traveller. In the miner metaphor, knowledge is perceived as a buried material resource and the interviewer's role is to unearth the valuable knowledge. The knowledge is 'waiting in the subject's interior to be uncovered, uncontaminated by the miner' (Kvale 2007, p. 19). The interviewer is value-neutral, and personal values and influence should be eliminated or minimised. This positivistic approach is contrasted with constructivist approach—the traveller approach. The researcher as a traveller explores the phenomena and 'the potentialities of meanings in the original stories are differentiated and unfolded through the traveller's interpretations in the narratives' (Kvale 2007, p. 19). Knowledge is socially constructed and the traveller is an essential part of the knowledge construction process. This constructivism view is in line with the epistemological foundations adopted by the study (see section 6.1 Research methodology: ontological and epistemological foundations and qualitative research). It is the 'traveller' approach that is taken in this study.

Under the 'traveller' constructivism epistemological view, the interviewer is the research instrument (Kvale 2007). Interviewer's substantial familiarity with the context and the theme of the enquiry are required so that the necessary discussions with interviewees can be well framed and explored in depth. It is also necessary to identify the researcher's personal values, assumptions and biases at the outset of the project. There are three researchers involved in the interview process of the study. The main researcher (PhD Candidate) has been a lecturer in accounting for nine years. Prior to this the main researcher worked in a large state-owned iron and steel making industry in China as production budgeting and cost accountant during the period of nine years. The company ranks fourth (by production) in world steel industry. This role has exposed the researcher to the production cycles, project planning, costing, and reporting, as well as to the pollution generated during production such as powder dust emission, black smoke emission from smoke stacks, waste water releases, and site contamination. This nine-year working experience has contributed to a first-hand understanding of the nature of industrial activities, planning, costing and reporting activities, and the damage to natural environments caused by industrial activities. The work experiences of the main researcher provide a broad and deep understanding of Australian financial reporting frameworks. This also provides an understanding of the complex context and an awareness, knowledge and sensitivity to many of the challenges, decisions and issues encountered relative to site contamination-related financial reporting. The first researcher attended all interviews.

The second researcher is the Ph.D. supervisor of the main researcher. He has over two decades experience in financial accounting and accountability with numerous influential publications in leading journals within the discipline. The supervisor attended three out of four interviews. The third researcher, also a member of faculty, has over two decades of experience in accountability and management accounting disciplines and served as an 'independent observer' during interviews.

Due to previous experience working in industry and academic teaching and research, the researchers may bring biases to this study. Although every effort will be made to ensure objectivity, biases may shape the way the researchers view and interpret collected data. The researchers commence this study with a perspective, influenced by relevant literature and industry working experience, that there was likely a lack of disclosure of site remediation liabilities from the investigated organisations.

Interviewers are required to have 'superb listening skills' (Marshall & Rossman 2011, p. 145), interpersonal skills, question framing and probing skills (Kvale & Brinkmann 2009). Detailed considerations of these skills will be addressed in conjunction of the interview protocol development in section 6.4.4. To prepare for the interviews, before interviews were conducted, the main researcher read extensive literature in relation to preparing, conducting and analysing interviews, participated in various training workshops and seminars offered by RMIT University and other universities, and gained experience from the two interviews conducted and reported on in Phase One.

6.4.3 Identifying and selecting participants

Due to the specific nature of the research objective and research questions, participants capable of providing insights necessary for answering the research questions of this study are extremely narrowly located. Participants need to be carefully selected from those who possess sufficient knowledge of the institutional pressures felt by Australian companies with contaminated sites, and sufficiently senior in their company to have genuine knowledge of the company's strategic responses to these pressures.

The first three research questions explore Australian companies' perceptions, willingness and internal reporting processes in relation to contaminated sites. Australian companies, with known contaminated sites and likely material remediation obligations associated with these contaminated sites, are therefore selected. There are two criteria for 'eligible companies'. Firstly, the company should have known contaminated sites—sites being identified as contaminated sites to the public, and also the company is identified as the responsible party for remediation by relevant environmental authorities. Secondly, the associated remediation costs are publicly available and the amounts are likely material. The results from Phase One

(Chapter 2) of the broader study demonstrate the difficulties identifying contaminated sites within Australia and the responsible parties for remediation, despite there being an estimated 80,000 to 200,000 contaminated sites in Australia (Hamblin 2001).

Phase Two (Chapter 3) identified high profile Australian companies with known contaminated sites and likely material remediation obligations. Senior accountants from these four companies are suitable candidates for interviewing. Selecting these companies whose annual reports have been intensively analysed in Phase 2 (Chapter 3) also provides background information to facilitate interview questions relating to specific sites and the associated accounting disclosures within financial reports being addressed. This provides a coherent linkage between participants' financial report disclosures relating to specific sites (the outcome of accounting practices) and the same participants' internal procedures and views relating to contaminated site disclosures.

Having identified companies, the next question is to identify who in the company should be interviewed. The participants should be directly involved in preparation of the relevant accounts (accountants) or in charge of the reporting process (CFOs). Their roles in the company should expose them first-hand to the decision-making involved in reporting contaminated site obligations, and provide them with an understanding of their institutional environments.

A companies' reluctance to participate in the interview is expected as the issue of contaminated sites is sensitive and perceived to post a negative image to the public— this view will be also explored during the interviews as one of the possible reasons that there is a lack of information relating to contaminated sites.

The last research question explores the auditors and ASIC's institutional expectations and pressures on the issue of reporting site remediation obligations. The current and past audit firms (companies may change their audit firms over the years) of the four companies studied in the Phase Two (Chapter 3) are all Big Four accounting firms. The selection criterion used to identify auditors to approach for interviews is that they should have been involved in auditing the financial reports of at least one of the participant companies. This ensures that contaminated sites are relevant to their audits and ensures the interview examines issues related to the same contaminated sites from the auditors' and companies' representatives' perspectives.

The interview participant from ASIC is expected to have expertise in financial reporting and hold a senior position capable of having insights into the expectations and capability of ASIC to influence institutional pressures exerted (or not exerted) towards the companies examined.

CFOs, audit partners and specialists in the ASIC possess influence and hold well-informed views of their areas (Marshall & Rossman 2011). Their positions often require them to deal with complex and broader situations; therefore they are able to discuss the policy, practice, rationale and plans of their organisations, as well as their interactions with other institutional constituents. While interviewing these types of participants renders many advantages, the challenge of accessing them is well acknowledged (Kvale 2007; Kvale & Brinkmann 2009; Marshall & Rossman 2011; Odendahl & Shaw 2001). They often have 'gatekeepers' (Odendahl & Shaw 2001, p. 307). Moreover in this study the selected interview participants are specific and limited which contributes significantly to the difficulties in accessing them.

Given the difficulties in finding contaminated site information and identifying responsible companies (Phase One), the sensitive nature of the topic (contaminated sites are most likely a 'negative topic' from a company's and an auditor's view point), the narrow sample companies identified (four companies) in Phase Two, and the senior roles of the participants (which raises the accessibility issue), it is anticipated that only a limited number of participants will be contacted and subsequently interviewed.

6.4.4 Developing interview questions and an interview protocol

[A]sking questions is an art. In qualitative inquiry, "good" questions should, at a minimum, be open-ended, neutral, singular, and clear. (Patton 2002, p. 353)

Kvale (2007) proposes that interview questions should be evaluated in terms of both a thematic dimension and a dynamic dimension. A thematic dimension focuses on the ability to contribute to knowledge production conceptually. The aims are to *answer the research question* and prepare for later coding and data analysis. For example, if the researcher intends to investigate whether organisations perceive that disclosing information relating to contaminated sites will bring enhanced legitimacy to the organisations, the thematic question (i.e. researcher question) will be: do organisations perceive that disclosing contaminated site information brings enhanced legitimacy? A dynamic dimension, on the other hand, focuses on the attributes of the questions, such as: are they easily understood by interviewee, do they promote positive interaction, and do they keep the flow of the conversations going. The aim of a well-developed set of interview questions is to *get the research questions answered*. A good direct conceptual thematic question (i.e. researcher question) is not necessarily a good dynamic interview question (Kvale 2007). A dynamic interview question is also called 'interviewer question'—the actual question being asked by the interviewer in order to answer the 'researcher question' (Kvale 2007, p. 57). For example, the interviewer question for the above mentioned researcher questions can be: How will your organisation's image be affected if you disclose contaminated site information? Kvale (2007) recommends developing two sets of questions for interviews: firstly to develop researcher questions with only the

thematic dimension considered; then to develop interviewer questions taking into account both the thematic and dynamic dimensions. He also points out that one researcher question can be investigated by several interviewer questions, and one interviewer question may be relevant to several researcher questions.

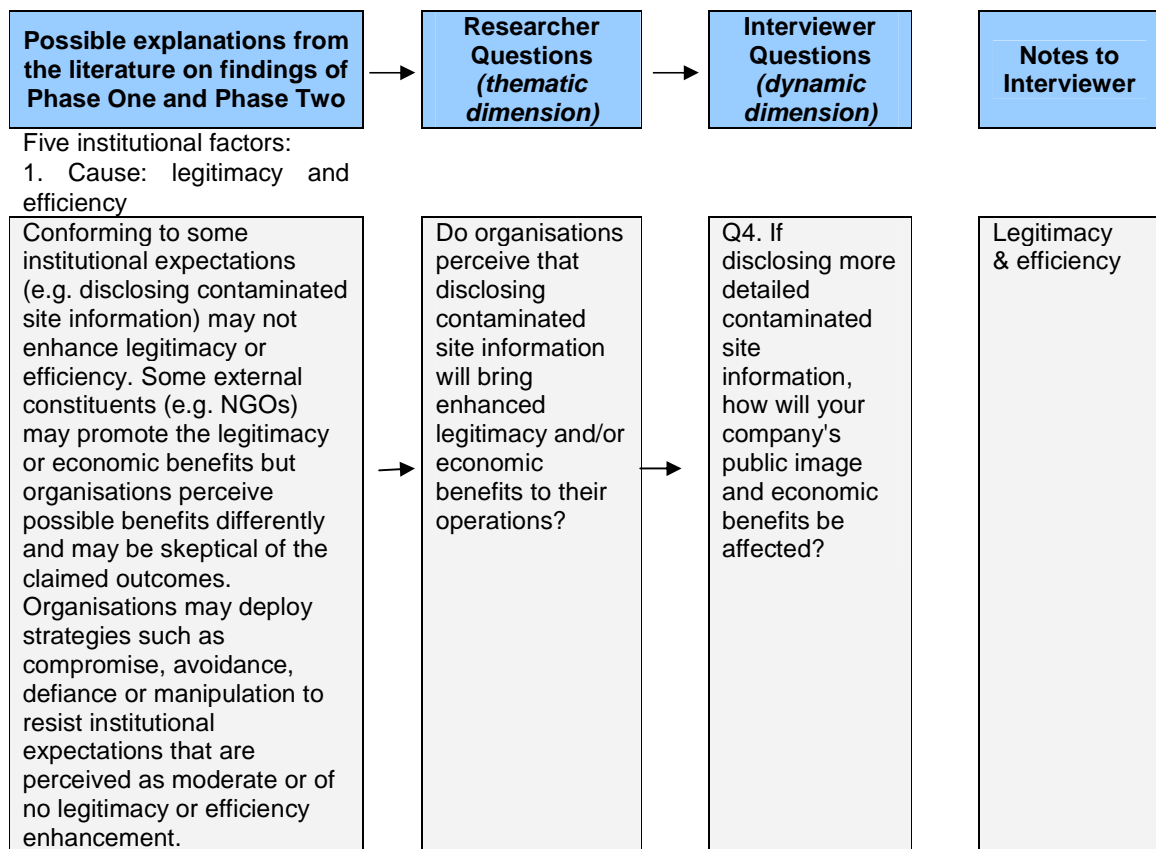
This study adopts Kvale's (2007) recommendation and has developed two separate sets of questions. Furthermore this study also adds two sets of materials: possible explanations developed based on the theoretical framework (Chapter 5), and notes for interviewers during interviews. This further development of interview questions demonstrate the logic behind interview questions and promotes the coherence between literature (as the first column), researcher questions (as the second column), interviewer questions (as the third column) and notes to interviewer (as the last column). Notes to interviewer contain instructions on the topic area to probe, and some provisional coding. Provisional codes will be discussed in the data analysis section (section 6.5.2). The interview questions have been designed to incorporate thematic and dynamic dimensions. Table 6.1 provides a shortened illustrative version of the four sets of interview questions development. The full set of interview questions that are developed and used for interviews with company accountants is contained in Appendix 1 'Question Development: Interview Senior Accountants'. Appendix 2 and Appendix 3 present interview question development for interviewing auditors and the ASIC respectively.

The interview questions developed are individually designed for each participant organisation to incorporate participants' specific site-related disclosures in their annual reports.

Patton (2002) extensively addresses the importance of the questioning and listening skills in interviews. Interview questions are suggested to start with general and straightforward questions that participants are comfortable with. General questions require minimum recall and interpretation, making participants at ease and builds rapport and trust. The development of interview questions for this study has followed several basic principles (Kvale 2007; Patton 2002) to ensure interview quality:

- The use of open-ended questions (e.g., how important are these external stakeholders to your company's survival?; what do you think ...?) rather than dichotomous response questions (e.g. are these external stakeholders important to your company's survival?). The use of 'truly open-ended questions' (Patton 2002, p. 353) facilitates an in-depth interview with participants.

Table 6.1: Illustration of question developments - Interviewing Senior Accountants



- Ask singular questions rather than multiple questions at once.
- Ask neutral questions rather than leading questions. Leading questions are questions that may lead to bias in the response and therefore affect interview quality (Kvale, 2007)⁷¹.
- Use probing and follow-up questions (these questions are seldom written on the interview protocol, they are asked during the interview following participants' responses). Probing questions aim to elicit greater details related to the theme that potentially enrich the findings (Patton 2002) or verify interviewer's interpretations through the participant's answers (Kvale 2007).

⁷¹ Kvale (2007, p. 89) however argues that some leading questions are necessary in qualitative research. Rather than focusing on the question of whether it is leading, the focus should be on where the interview questions lead to, and whether the interview questions lead to 'new, trustworthy and worthwhile knowledge'.

- Aim the interview as 'self-reported' (Kvale 2007, p. 80). The meaning of what is said is interpreted, verified and reported during the interview thus improving the interview quality and interpretation quality (validity and reliability).

To ensure that essential questions are discussed in the semi-structured interviews, an interview protocol (Creswell 2003, 2009) or guide (Kvale 2007; Patton 2002) has been developed for guiding, conducting and recording during interviews. This protocol includes instructions to the interviewer to follow, opening statements to interviewee, the interview questions (using the third column in Table 6.1), the notes for the interviewer (using the last column in Table 6.1), transition messages for the interviewer, space for recording the interviewee's comments, and space in which the researcher records reflective notes immediately after the interviews (Creswell 2003). Appendix 4 provides a copy of the interview protocol used during interviews.

6.4.5 Conducting the interviews

There are a total of four interviews conducted involving a total of five participants. The four companies that were investigated in Phase Two (Chapter 3), were approached and two agreed to be interviewed. From the two participating companies three senior accountants were then interviewed. The audit firms (two audit firms) of the two sample companies were subsequently approached and one audit firm accepted an interview. The audit firm interviewed is the current audit firm by one participating company, and the past auditor for the other participating company. As discussed in section 6.4.3 a limited number of interviews was anticipated due to the lack of available information, sensitivity of the topic, and difficulties in accessibility of key personnel in the organisations. Nevertheless the data obtained from the interviews are highly relevant and very rich in nature, and provide valuable empirical evidence for the study.

Interviews were conducted over a three month period from October 2012 to December 2012, in the meeting rooms of the respective organisations. The environments were quiet which facilitated in-depth discussions without distractions. This improves the interview quality. The quiet environments also made the quality of audio recording of high standard and therefore reduced the possibility of transcribing errors caused by noisy environments (transcribing quality). The duration of each interview was between 43 minutes and 92 minutes. All of the interviews were audio recorded with the permission of the participants and consent forms were signed by the participants. Ethics approval was granted before the participants were contacted. There were at least two interviewers present in every interview. Normally during the interviews one interviewer asked questions (based on the interview protocol developed within this study), while the other one took notes and added questions or explanations when needed.

The information relating to the participating organisations and participants are shown in Table 6.2 'Interview Participant Information'. The participating companies are two of the sample companies that are discussed in Phase Two (Wesfarmers, BHP Billiton, Orica, and Incitec Pivot). If data presented in the result section is industry (i.e. mining or chemical) specific⁷², organisation specific, or/and contaminated site specific, 'Participant Senior

Accountant X' and 'site X' are used to protect confidentiality of the participant to as higher degree as possible.

The first interview was conducted with a company participant so that the data obtained could inform subsequent interviews with the auditor and ASIC. The coding developed from the first interview provides feedback and new themes to follow up in the later interviews with the auditor, ASIC, and the other company representatives. This sets up fundamental thematic and theoretical understandings of the research questions. The following interviews enrich these understandings and test whether new themes are discovered.

Two sets of data are collected during the interviews: audio recording and notes taken by one interviewer during the interviews. In addition, immediately after the interviews, memos have been taken by the interviewer for future data analysis. These memos aim to record an overall impression of the interview (discovery of potential themes) and issues that are distinctive of the interviews.

6.5 Method of data analysis

Qualitative analysis transforms data into findings. No formula exists for that transformation. Guidance, yes. But no recipe. (Patton 2002, p. 432)

6.5.1 Processing raw data: transcribing interviews

Once spoken words from an audio recorder are transcribed to written texts, raw data becomes processed data (Marshall & Rossman 2011). The process of transcribing is necessary for data analysis and data transcribing is viewed as the initial step of data analysis (Kvale 2007; Rapley 2007).

⁷² Considering there is only one sample company that operates in the mining industry, disclosing the data that indicates the industry that the participant company operates in, together with the position of the participant provided by Table 6.2, will expose the identity of the participant. Likewise, individual organisations have their own ways of naming the management position. To prevent tracing the position of a particular organisation to individuals, such link is kept in minimal. Particular contaminated site names will also reveal the name of individual organisation, which may cause the individual participant's identity to be revealed, so this identity-confidentiality-sensitive information is kept minimal.

Table 6.2 Interview Participant Information

Interview	Organisations/ Participants	Current Position	Past experiences
interview #1	Company C1, Participant C11	Vice President of External Reporting & Governance, board member of AASB	<ul style="list-style-type: none"> • Manager, group accounting of the current company: responsible for accounting policy applied across the group and the implementation of internal control procedures • Technical and audit partner of a Big Four accounting firm • Member of the Urgent Issues Group of the AASB
	Company C1, Participant C12	Senior Manager, Accounting Policy, Group Reporting, Group Accounting/Controller	<ul style="list-style-type: none"> • Manager, External Reporting, Policy and Governance of another listed company in the same industry • Senior Manager of a Big Four accounting firm
interview #2	Accounting firm A1 (current audit firm for company C2, past audit firm for company C1), Participant A11	Partner, Asia Pacific Market Leader - Assurance	<ul style="list-style-type: none"> • Past State Chair of the Institute of Chartered Accountants • Market leader in the Oceania region for assurance service • Senior audit partner • Australian and overseas audit experience in environmental sensitive industries
interview #3	ASIC S1 Participant S11	Senior Specialist - Financial Reporting and Auditing	<ul style="list-style-type: none"> • Has been working for ASIC in various high level financial reporting positions for more than 10 years
interview #4	Company C2, Participant C21	Vice President of Sustainability	<ul style="list-style-type: none"> • Manager, Emissions Trading of the current company • Senior Finance Manager, Global Reporting at a Top 20 ASX company • Corporate Finance Manager at another participant company • Accountant for one of the other participating companies • Auditor of a Big Four accounting firm

Both validity and reliability are considered in the transcribing processes. In terms of transcribing validity, Kvale (2007, p. 98) suggests the question 'what is the useful transcription for my research purpose?' should be answered. For linguistic analysis, a verbatim transcription is necessary. A verbatim transcript however is not necessary for this study as the interviews mainly focus on the factual content of what is said rather than how it is said.

In consideration of transcribing reliability, several steps have been performed to ensure reliability of the processed data. The following steps aim to address the issues of accuracy, fidelity and interpretation that transcription brings (Gibbs 2007).

- A quality digital recording device was used and the sound quality was of high standard. Interviews were held in quiet meeting rooms. This reduces transcription errors due to poor quality of sound (Gibbs 2007; Kvale 2007; Poland 2001).
- All the audio recordings have been transcribed by an Australian professional transcribing services provider. To increase the familiarity of the transcriber to the research topic, context and the voice of interviewers, and consistency among transcriptions of different interviews, a special request was made asking the same transcriber to transcribe all interviews.
- The interviewer (researcher) transcribed the first 10 minutes and the last 10 minutes of the first interview then compared the transcriptions made from the transcriber and the interviewer (Poland 2001). Results show no substantial discrepancies.
- The interviewer (researcher) checked the transcription against audio recording (Poland 2001). A few minor errors (average 9 errors per interview) due to misheard and missing words were corrected.
- During the data analysis stage, the interviewer (researcher) went back to the audio recordings and listened back and forth to check the interpretation based on transcripts. This is to avoid the de-contexted transcripts (Gibbs 2007) leading to misinterpretation.

6.5.2 Data analysis procedures

Data analysis started immediately after the first interview, and continued until the writing of the discussion of results was completed. This ongoing process involved continual reflection on data, evolving coding lists, analysis and interpretations of the data, and memo writing. Constant comparisons were performed during the creation of codes, the early coding processes, and the completion of final version of coding lists, within interviews and between interviews, to ensure the validity of the data analysis results (Gibbs 2007). The constant and

continuous comparison technique is applied in two aspects. One is to check the accuracy (validity) and consistency (reliability) of the coding process, while the other is to look for 'difference and variations' and to deal with data that did not seem to fit coding or was not consistent with other data collected (Gibbs 2007, p. 96). The procedures of data analysis are summarised and illustrated through Figure 6.1 'Data Analysis Procedures'.

6.5.2.1 Pre-coding: being familiar with, and immersing within data

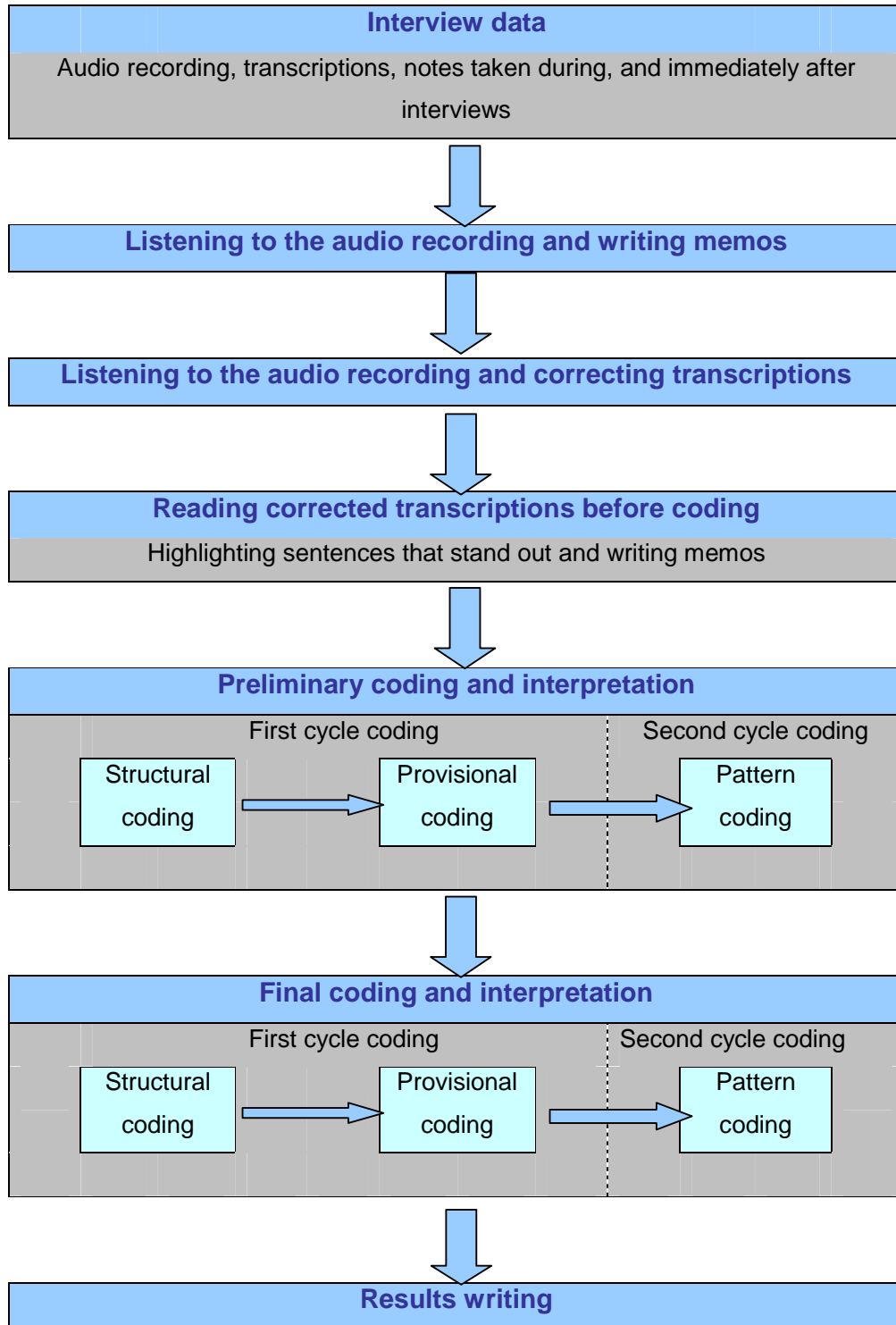
This first step is an 'intimate engagement with data' (Marshall & Rossman 2011, p. 210) aiming to obtain an overall sense of the data such as the general ideas, overall depth, potential use of the data and credibility of the data (Creswell 2007, 2009). This immersion in data involves the following actions:

- Listening to the audio recording multiple times and writing memos without reading transcriptions (Maxwell 2005). This is to avoid the influence of often criticised de-contextual weakness of transcriptions.
- Listening to the audio recording to check the accuracy of interview transcriptions, correcting any errors if necessary.
- Reading corrected transcripts and highlighting sentences that stand out as 'thick description' (Patton 2002, p. 437). Some of the quotes are so prominent that by themselves are sufficiently provocative evidentiary pieces to support proposed theories or propositions (Maxwell 2005; Saldana 2009).
- Reading corrected transcripts and writing memos before coding (Maxwell 2005).

6.5.2.2 Writing memos throughout data analysis

Memo writing has been conducted throughout the data analysis and contributed to the final reporting on research results sections. 'Memo writing links coding to the writing of the first draft of the analysis; it is the crucial intermediate step that moves the analysis forward.' (Charmaz 2001, p. 687) The memo is designed to be the researcher's tool. The researcher stops and thinks about the data; sparks ideas; attempts interpretations; clarifies thoughts; discovers themes—'thematic memos' (Marshall & Rossman 2011, p. 213), makes theoretical notes—'theoretical memos' (Marshall & Rossman 2011, p. 213); reflects on the methodology and methods used—'methodological memos' (Marshall & Rossman 2011, p. 214) or summarises lessons learnt from the interviews and considers future improvements. It is through this memo writing process that the researcher begins analysing, interpreting and writing.

Figure 6.1: Data analysis procedures



6.5.2.3 Preliminary coding: structural coding and provisional coding as first cycle coding

Saldana (2009) divides coding methods into two main cycles: first cycle and second cycle. 'Cycle' (Saldana 2009, p. 45) is used to describe the 'reverberative nature of coding'—from data to code, code to category, category back to data, and starting another cycle again. First cycle coding methods are processes involved in initial coding which include seven subcategories: grammatical, elemental, affective, literary and language, exploratory, procedural and theming the data. These seven subcategories include 22 coding methods. Second cycle coding methods require a higher level of analytical skills which include six methods: pattern, focused, axial, theoretical, elaborative and longitudinal coding. The decisions on whether to use a coding method, which method(s) to use, how many coding methods to use, and how to using them, depend on the paradigmatic, conceptual and methodological considerations (Saldana 2009).

Following these considerations two first cycle coding methods (structural coding and provisional coding), and one second cycle coding method (pattern coding) are applied to this study. Coding processes are performed manually instead of using Computer Assisted/Aided Qualitative Data Analysis (CAQDAS)⁷³ software such as NVivo. The choice between manual coding and coding software predominantly depends on the number of interviews conducted, time and funds available and the preference of the researcher (Basit 2003). A number of researchers (e.g. Saldana 2009, Richards & Morse 2007) suggest when the number of interviews is manageable for manual coding (e.g. less than 10 interviews), manual coding is preferable to computerised coding software⁷⁴. Saldan (2009) also argues that manual coding creates a more intimate relationship between the researcher and the data. That is, the researcher, by manually handling data, may be more familiar with the data, compared to handling data electronically. Computerised coding software, applying the same logic of manual coding, can offer 'rapid and comprehensive searching supported by software for the uncertain and slow process of manual searching and filing' (Basit 2003, p. 145). However, both manual coding and computerised software require researchers to create coding lists, decide what is relevant or irrelevant to their research, and perform data analysis. That is,

⁷³CAQDAS software aims to aid qualitative research data analysis such as transcription analysis, coding and text interpretation.

⁷⁴ Saldana (2009) suggests a novice researcher to start with manual coding. This allows the researcher to remain focused on learning data coding and data analysis techniques, instead of being distracted (and perhaps threatened) by learning operating a software at the same time. After becoming familiar with manual coding, the researcher then can move on to learn how to use a coding software, with an understanding of data coding previously obtained by manual coding.

computerised software merely serves as a data storing and data-reconfiguring tool, instead of data analysis itself (Basit 2003). Considering the interview data collected for this study are manageable for manual coding, and no significant perceived benefits would be derived from a computerised software, manual coding was performed.

The first cycle coding processes starts with structural coding, followed by provisional coding. The following diagram (Figure 6.2 A comparison of structural coding and provisional coding) illustrates the difference between structural coding and provisional coding. Structural codes are generated from data whereas provisional codes are predetermined then applied to data. The rationale for why particular coding methods are used, and how they are applied, are discussed individually in the following sections.

Figure 6.2 A comparison of structural coding and provisional coding



Structural coding

Structural coding is a data-driven coding method, also known as open coding (Gibbs 2007) or topic coding (Richards & Morse 2007). Open coding is broadly used in grounded theory (Glaser & Strauss 1967). The coder tries to code the data with an open mind, endeavouring to discover new information generated from the data. Previous knowledge of the researcher is supposed to be put aside by the researcher. *In vivo* codes (Marshall & Rossman 2011, p. 211) are generated from the data representing a topic of the enquiry which is related to interview questions. These codes are collected together for further coding and analysis. Sub-codes and categories can then be developed. When there are no more changes in codes the category reaches saturation.

Structural coding is chosen for four reasons. Firstly, structural coding is particularly useful for semi-structured interviews with multiple participants and the use of interview protocols (Saldana 2009). The codes serve as an index, which allows researchers to quickly access the contents of the codes and compare different participants' responses to the same topics and interview questions. A good quality structural coding list provides a topic index in such a way that by looking at the list the coder is able to recall the major contents or topics discussed during the interview.

Secondly, structural coding is typically more useful for working on interview transcriptions than other researcher-generated field notes (e.g. observation). The third benefit of starting coding with structural coding is to allow the coder to become more familiar with the contents and topics of the interview data. The fourth consideration of implementing structural coding is to increase the validity of coding—to reduce a possible interpretation validity threat due to another coding—provisional coding. That is, structural coding is a data-driven coding serving to ‘offset’ potential over-influenced analysis based on provisional coding, which is a concept-driven coding method (Gibbs 2007).

Provisional coding is also used in this study. A provisional coding method is an essential coding method for this study as this study is strongly directed by previous and current literature and the theoretical framework (Chapter 5) of the research. While provisional coding method offers literature-related directional advantage, it may also have the danger of ‘concealing’ or ‘ignoring’ potentially important new discoveries from data. It is for this reason that structural coding is conducted before provisional coding in this study.

A manual data coding book is prepared for each interview. Liamputtong and Ezzy (2005) suggest formatting word document pages into three columns. The first and the widest column contains data—the corrected interview transcriptions. The second column contains preliminary codes, including structural, provisional and pattern codes, and memos. The last column contains codes and memos from final coding. Different colours are used to write down different codes, e.g. all structural codes are in green colour, all provisional codes are in blue colour, all pattern codes are in red colour and all memos are written in black colour. This is to allow the researcher to quickly access the code knowing which type of code it is. Table 6.3 ‘Format of manual data coding book’ illustrates the format of the three-column data coding page.

Table 6.3: Format of manual data coding book

Column 1	Column 2	Column 3
Transcription data	Preliminary codes and memos	Final codes and memos
<i>Copy and paste corrected transcription data here</i>	<i>Write structural codes, provisional codes, pattern codes and memos here</i>	<i>Write final structural codes, provisional codes, pattern codes and memos here</i>

Structural codes are then grouped into categories. During the coding process, the names of some codes are changed, some new codes are generated, some other codes are deleted, some categories are evolved, and other codes are moved to different categories. This evolving coding continues throughout the preliminary and final coding processes. The coding

lists are separately organised by structural codes and provisional codes. Structural coding lists then are further developed into three sub-lists based on the data sources: companies (Appendix 5), auditors (Appendix 6) and ASIC (Appendix 7).

Provisional coding

Provisional codes are predetermined codes which arise from literature or the theoretical frameworks of the study (Creswell 2009; Saldana 2009). In comparison to data-driven (Gibbs 2007) inductive (Patton 2002) coding such as structural coding, provisional coding is a concept-driven (Gibbs 2007) deductive (Patton 2002) coding method, or a 'theory-generated' (Marshall & Rossman 2011, p. 214) coding method. The predetermined codes are brought to the data. The code lists then evolve during the coding processes.

Provisional coding is essential to this study as the purpose of the study is to investigate institutional explanations for reporting on a particular issue (contaminated site disclosures). The theoretical framework is established before data is collected, and directs the interview questions asked. This theoretical lens therefore needs to be brought to the data to obtain potentially rich explanations.

The provisional coding processes are similar to structural processes. Separate coding lists that are generated from the interviews with companies are provided within the appendices: (Appendix 8); auditor (Appendix 9); and ASIC (Appendix 10).

All the text coded with the same label (provisional codes) are then organised together by the specific provisional code, to a separate document called a 'data book'. The data book enables the same phenomenon, explanations, and ideas grouped together, to stand out (Gibbs 2007). This facilitates the researcher's data analysis in a more structured and thematically focused way, as it is based on 'methodical retrieval of thematically related section of the text' (Gibbs 2007, p. 48). This step is proven to be valuable to the data analysis of the study. Through analysing data organised by provisional codes, the understanding of the relevant concept or topic becomes richer and fuller, and the interpretation of the data becomes more thematic. Memos are written following the relevant data. The result discussion (Chapter 7) is organised by the provisional codes and categories, followed by the major themes generated from the second cycle coding—pattern coding.

6.5.2.4 Preliminary coding: pattern coding as second cycle coding

Pattern coding is particularly useful for explanatory data analysis (Saldana 2009). Pattern coding, as a mega coding method, groups large amount of data, codes and categories together to generate emerging themes (Miles & Huberman 1994; Richards & Morse 2007; Saldana 2009). Themes are generated based on the first cycle codes by looking into

commonalities of or strong messages contained in the codes. Some of the themes are generated from the original quotes of the participants.

6.5.2.5 Final coding: re-coding and re-interpretation

Final coding is performed after the completion of the preliminary coding, taking the same procedures from the preliminary coding. It starts from the first cycle coding and memo writing and finishes after themes emerge. Data is re-coded and re-interpreted in memos. These codes and memos are then compared with the preliminary codes and memos, to further investigate and confirm the appropriateness of the codes and interpretations. There are a few, but important, changes that are generated from the final coding.

The data coding processes go through three steps for processing data from individual interviews. Each interview transcripts is firstly coded through structural coding, provisional coding and pattern coding. Once individual interviews are coded, these interviews are then grouped into three groups: companies, auditor and ASIC. The transcripts from the two companies are compared within the groups and recoded if necessary (data triangulation within the group). The third step is comparing data between the three groups (data triangulation between the groups) looking for common themes as well as the differences for further interpretation of the data.

One interpretation validity task is performed at this stage. Interpretations of data are critically examined. Rival or alternative explanations and codes of the data are sought and evaluated seeking the validity of the explanations and codes (Marshall & Rossman 2011; Yin 2003, 2009). Coherence of the coding and memos are also sought across cases, and interviews. This connection strategy (Maxwell 2005) puts analysis into a bigger picture generated by the research data.

One additional task is performed to revisit some passages originally found to belong to none of the provisional coding lists—conversations that are deemed as irrelevant to the research problem—to check whether these passages may be of some relevance.

6.6 Validity, reliability, and generalizability

Evaluation criteria for the quality of qualitative research require different considerations compared to quantitative research. This is due to the different fundamental worldviews between qualitative and quantitative research. Some researchers (e.g., Creswell 2003, 2009; Flick 2007a; Flick 2007b; Gibbs 2007; Kvale 2007; Maxwell 2005) propose that some or all of the traditional scientific (quantitative) research criteria—validity, reliability and objectivity, be modified and applied to qualitative research. Others (e.g., Lincoln & Guba 1985; Patton 2002; Richards & Morse 2007; Yin 2003, 2009) suggest alternative criteria such as trustworthiness,

credibility (rigor or internal validity), dependability (reliability), transferability (generalisability or external validity) and confirmability (objectivity) are more suited to qualitative research. Some researchers give more importance to a single quality. Maxwell (2005) insists the importance of validity (which is modified from quantitative research for qualitative research) in research design whereas Lincoln and Guba (1985) and Marshall and Rossman (2011) focus on the trustworthiness of the research. Patton (2002) suggests different types of qualitative research warrant different sets of criteria.

The management of validity and reliability for this study is an ongoing process, which permeates the entire processes from research question formulation, research design, data collection, data analysis, through to results reporting. Although some consideration of validity and reliability have been previously discussed in their relevant sections (such as the transcribing quality in the transcribing section of the thesis) it is necessary to have a separate section to summarise how the management of the research quality is performed. The following discussion will address validity, reliability and generalisability of the research methods used in this phase.

6.6.1 Validity

Validity is a goal rather than a product. (Maxwell 2005, p. 105)

Validity is seen as a strength of qualitative research (Creswell 2009). Research findings are valid if they are accurate from the standpoint of the researcher, the participants or the readers (Creswell 2009), and capture what the research intends to capture (Gibbs 2007). Maxwell (2005) suggests qualitative researchers can enhance validity by identifying various validity threats and implementing relevant strategies and procedures to rule out these threats. That is, the goal of validity is achievable by implementing defensive mechanisms—ruling out possible validity threats. The focus in qualitative research is the procedural validation rather than the state of validity (Flick 2007b).

In general, to enhance the validity of the research findings, this study reflects and examines methodological purposiveness and methodological congruence (Richards & Morse 2007) throughout the whole process to ensure that the research findings answer the research questions, and the research methods used are appropriate. The following specific strategies are implemented to reduce possible validity threats:

- Validating findings during interviews. One possible validity threat during interviews is that the participants may make vague statements or the researcher may misunderstand the participants' views. To rule out this threat, the researcher asks the participant to elaborate, clarify or explain participant's views, or confirm the

researcher's interpretation of the participant's views during the interview. This is to make the interviews self-explanatory and self-confirmative. (Kvale 2007).

- Validating coding process through constant comparisons (Gibbs 2007). One possible validity threat is coding-related errors. To reduce the coding validity threat, constant comparisons within and between codes, and within and between interviews are performed. This is particularly important at the early stage of developing coding list and coding. The constant comparison technique not only enhances the validity (accuracy) of coding, but also the reliability (consistency) of coding.
- Validating data analysis and interpretations by looking for alternative explanations (Maxwell 2005) and by checking, questioning and evaluating interpretations (Kvale 2007). This technique is used to reduce the validity threat of misinterpretation or over-influence by the researcher's pre-existing theoretical frameworks.
- Validating the findings by providing rich and thick description quotes (Creswell 2009; Maxwell 2005). Providing participants' direct quotes gives supporting evidence of interpretation and findings to reduce the doubt of misinterpretation of participants' views. It also facilitates readers' first-hand understanding of the data.
- Validating the findings by data triangulation. Triangulation is a method of using multiple data (data triangulation), multiple investigators (investigator triangulation), multiple methods (method triangulation) and/or multiple theories (theory triangulation) to answer the same research questions (Creswell 2009; Denzin 2009; Flick 2007b; Gibbs 2007; Maxwell 2005). Triangulation aims to overcome some inherent deficiencies brought by one single data source, investigator, method and/or theory (Denzin 2009). In this study data triangulation is used by comparing content of interviews from multiple participants and by comparing with archival evidence collected in Phase Two, in order to validate the findings of the study.

6.6.2 Reliability

In qualitative research reliability refers to the consistency and trustworthiness of research findings (Creswell 2009; Kvale 2007). The following specific strategies are implemented to enhance reliability of this study.

- Procedural reliability. Flick (2007b) suggests the reliability criteria in qualitative research should focus on the procedural reliability. Within this study detailed procedures related to data collection and data analysis are documented, making the processes transparent to the readers (Yin 2009).

- During interviews avoiding leading questions. Leading (biased) questions may lead to misleading responses from the participants (Kvale 2007) therefore neutral questions (Patton 2002) are asked. This also has been addressed in the relevant sections (6.3 'The use of existing theory', and 6.4.4 'Developing interview questions and an interview protocol').
- Transcribing reliability is maintained by having the same professional transcriber transcribing all of the interviews (consistency between transcriptions) and the researcher listened to the audio to check the transcripts (consistency between audio recording and transcriptions). Section 6.5.1 'Processing raw data: transcribing interviews' provides details on transcribing quality.
- Analysing reliability is enhanced by constant comparison (consistency of coding and interpretations) and following well-designed interview protocol questions (consistency in topic answered by different participants). Having interview protocols and clear data analysis procedures facilitate the consistencies within and across individual interviews.

6.6.3 Generalisability

The criterion of generalisability is used in a limited way in qualitative research, as qualitative enquiries do not focus on generalising the findings. Instead it is the localised and contextualised rich description of the relevant themes (particularity) that makes qualitative enquiries valuable (Creswell 2009). Maxwell (2005) distinguishes between internal and external generalisability. Internal generalisability refers to whether the findings can be generalised within the setting or the group studied, whereas external generalisability goes beyond the setting or the group. This does not mean qualitative research cannot be generalised. Qualitative studies often purposely choose the samples that are typical and explicitly study these typical samples so that the findings capture the rich and thick descriptions of the phenomenon (Maxwell 2005). Yin (2003, 2009) claims case study results can be generalised to broader theory.

The participating companies, auditor and ASIC are purposefully chosen. The samples are limited due to the lack of information provided by environmental protection agencies and the sensitivities perceived by the participant companies and auditors. The participant companies and auditors are all high profile, dominant players in the field. The results generated from the study can possibly, therefore, be applicable to other influential players, or smaller players, in the field. For example, if the major companies holding material contaminated sites are avoiding disclosing remediation obligations in their annual reports, it can be reasonably expected that other companies with contaminated sites may follow suit.

After discussing the research methodology and methods, the next step is to present the research results for Phase Four. This will be discussed in Chapter 7.

6.7 Summary

This chapter, being the second chapter for Phase Four, focuses on research design, the conduct of the research, and the data analysis processes for Phase Four. To address the research objectives and research questions that were formed in Chapter 5, this chapter started with ontological and epistemological foundations of the research design. A qualitative research methodology was applied and semi-structured interviews were determined to be the most suitable data collection method. The interview participants were purposely selected and an interview protocol was developed. Interviews were conducted and the transcripts of interviews have been analysed by using structural coding, provisional coding and pattern coding. Validity and reliability have been considered throughout the research design, the conduct of research, and data analysis stages. The results for Phase Four will be presented in the next chapter, Chapter 7.

CHAPTER 7. PHASE FOUR: Explanations from institutional theory for contaminated site disclosures by Australian companies – research results and discussions

This chapter, being the third and final chapter for Phase Four, presents and discusses the results from the data analysis relating to the four research questions (formed in Chapter 5). The first three research questions relate to managers' perspectives about institutional pressures, organisations' willingness and ability to disclose, and possible strategies adopted by participant companies to respond to the pressures. The fourth research question, which relates to the expectations and pressures exerted (or not exerted) by two important institutional constituents, namely auditors and ASIC, is then addressed. Themes that emerge from the data analysis are also summarised.

7.1 Institutional pressures perceived, capacity and willingness to disclose, and possible strategies adopted by participant companies (RQ1-3)

This section addresses the first three research questions that relate to interviews with managers of the participating companies. RQ1 relates to perceived external institutional pressures. In general, drawing from an analysis of the interview data, there appears to be a lack of perceived pressures from various institutional constituents, especially the 'important' ones such as auditors, ASIC and analysts. Communities and NGOs, with an apparent increased demand for physical remediation on contaminated sites, do not appear to demand that contaminated site information be disclosed in companies' financial reports.

Knowing their current practices may not comply with financial reporting requirements from a 'technical perspective', but perceiving no pressures from their institutional constituents in relation to reporting site remediation obligations, participant companies are less willing to provide remediation provisions for contaminated sites (RQ2). This is despite the fact that the participants admitted that their organisations are capable of providing contaminated site information. This unwillingness appears to be motivated by a desire to avoid or reduce potential costs associated with processing contaminated site information and remediating contaminated sites, as well as preventing a potential legitimacy threat and a possible loss of organisational control to external constituents, all of which might result from making contaminated site information available to external constituents.

Under the influence of the external factors (that are associated with the lack of institutional pressures on contaminated site disclosures) and the internal factors (that are associated with the unwillingness to disclose), an avoidance strategy is adopted by participant companies. Two tactics of an avoidance strategy, concealing and buffering, appear to be employed (RQ3).

Detailed discussion of these three research questions (RQ1, RQ2 and RQ3) are presented below.

7.1.1 Perceived external institutional pressures (RQ1)

RQ1 In terms of annual report disclosures relating to contaminated site remediation liabilities, how do Australian companies, in control of remediation sites, perceive the institutional expectations and associated institutional pressures exerted by various institutional constituents?

In general the participants did not consider that external constituents were pressuring them to disclose contaminated site information, nor did they receive any criticisms of their current practices in relation to contaminated site disclosures.

Institutional pressures can be comprised of five factors (Oliver, 1991). This section provides the results from data analysis drawn from interviews with three participants and is organised by each of the factors related to institutional pressures as described in Chapter 5.

Cause: legitimacy and efficiency

The first factor examined, cause, is the rationale and objectives that underpin institutional expectations and pressures. Organisation may disclose contaminated site information in order to enhance organisational legitimacy, or for economic benefits. Alternatively, if disclosing information about contaminated sites is expected to lead to legitimacy threats (e.g. damaged reputation/image) and/or significant economic costs (e.g. remediation costs), the organisation is most likely to attempt to resist institutional expectations to disclose.

Based on the interviews with participants, although they perceived that the nature of their business activities (e.g. mining or chemical production) generally attracts a potential legitimacy threat to the image of the business, they did not perceive a legitimacy threat specifically related to their contaminated site disclosure practices.

Phase Two (Chapter 3) of this study identified several apparent instances of non-compliance with reporting requirements in relation to contaminated site disclosures by the sample companies. The participants however viewed the lack of disclosure related to contaminated sites as merely a matter of professional judgement. For example, one participant (participant

C21) described reporting on remediation obligations as a 'grey' area. That is, although the participant believed, from a purely 'technical' accounting perspective, that the practice of non-provisioning or delayed-provisioning for contaminated sites was 'wrong', from the participant's perspective, in reality this was just a matter of professional judgement (see quote #6 in section 7.1.2).

The participants did not perceive that disclosing contaminated site information would bring significant legitimacy enhancement to their companies. Instead, they perceive providing contaminated site information would more likely bring a potential legitimacy threat to their business operations. When asked how disclosing remediation obligations in financial reports would affect the mining company's image, one participant used a 'double edge sword' metaphor and a 'dilemma' to describe this legitimacy issue:

It's sort of a double edged sword I think, but I think operating in the mining industry what we do is that we create a disturbance. We create contamination—some intended, some unintended—so the more transparent we are around that activity [the contamination and remediation activities], then the more we're exposing ourselves to the challenge of what we're doing. So on the one hand, we've got to live with the people who will always object to the activity because we're causing damage, but then we've got to counter balance that—explaining to them, to the community, what we are doing to recover from that. It also creates a dilemma from a financial reporting perspective. In one sense the company wants to get things right but then when it looks at the outcomes, it looks like 'do I want to live with that?', 'do I want to account for that?', and that's like a conflict of interest I guess. (Quote #1, Participant Senior Accountant X⁷⁵)

The concern raised by the participant (above) is that detailed disclosure may in turn trigger more external criticisms. The participant's view is consistent with the relevant literature, that disclosing more specific negative information on the organisations' operations is more likely to attract legitimacy threats directed towards the organisation (de Villiers & van Staden 2006). Organisations may prefer to disclose general (as opposed to specific) information, to protect or lessen the effect of external scrutiny (Meyer & Rowan 1977).

⁷⁵ Considering there is one participant company operating in the mining industry, disclosing the data that indicates the industry that the participant is in, together with the position of the participant provided by Table 6.2, will act to expose the identity of the participant. In addition, individual organisations have their own ways of naming management positions. To prevent tracing the position of a particular individual to an organisation, such links are minimised as much as possible. Particular contaminated site names will also potentially help to reveal the name of individual organisation, which individual participant's identity may be revealed therefore this identity-confidentiality-sensitive information is kept minimal.

Disclosing contaminated site information was perceived as not only posing a potential legitimacy threat to the operations of the business, but also increased the costs of doing business (decreases in efficiency caused by remediating contaminated sites). Once a site is declared by environmental authorities as a contaminated site, the management of the site will typically require significant resource outflows, tied to activities such as conducting site investigations, preparing cleanup proposals, and conducting the site remediation project. One participant described the implications of reporting a contaminated site, and demonstrated the reluctance of the company to conduct site testing for contamination:

Once you start to investigate and report your contaminated sites to the EPAs, then you've got to create the provisions [associated with the reported contaminated sites], and these provisions are too hard to quantify, then you've got to start answering the questions [from various external constituents]. So you might know that that patch over there is contaminated, and generally the history would have been passed down orally so you just don't go over there and put your stick in the soil. And once you dig it, it becomes real. (Quote #2, Participant C21)

Disclosing contaminated site information may cause increased negative attention from external parties that may create a legitimacy threat. By undertaking activities that actually confirm the existence of contaminated sites, companies make the financial commitments to those contaminated sites 'real', which in turn increase the costs of doing business.

Constituents: multiplicity and dependence

The second factor examined, in terms of institutional expectations and pressures perceived by the senior accountants in the sample companies, relates to institutional constituents. Institutional constituents comprise any individuals and social groups (e.g. the government, investors, professions, NGOs, interest groups, and the general public) who are capable of shaping and imposing regulations, norms, or social expectations and/or can enforce legal sanctions (e.g. fines) or social sanctions (e.g. boycott of products) on the focal organisation (Scott 2008b).

Based on the interviews with participants, the institutional constituents who are able to exert pressures relating to contaminated sites can be categorised into two groups. The first group's main interest relates to the physical remediation of contaminated sites, whereas the second group's main interest relates to the financial reporting of the remediation sites. The first group is interested in the physical environment, while the accounting practices and the company's financial reports are of less relevance. The constituents in the second group are interested in the company's financial reporting, however this group may not have knowledge of the existence of, and the associated financial impacts from, contaminated sites held by the company.

The first group comprises environmental authorities, communities, NGOs and employees. They are perceived by participants as parties that are interested in physical remediation of contaminated sites. Environmental authorities exert their regulative pressures through the issuing of environmental licence agreements with companies, as well as enforcing the management of contaminated sites. Participants interviewed however did not perceive that they received any pressures from environmental authorities demanding contaminated site information to be disclosed within companies' annual reports.

Communities are increasingly exerting pressures on participant companies. Their interests however are largely limited to the physical impacts brought by contamination, and the associated remediation works. The financial reporting of site contamination and remediation was not perceived to be on their agenda. For example, when asked whether and how communities exerted pressures on contaminated sites, one participant reflected:

Communities are increasingly venting their thoughts publicly in social media and even as in traditional print media. You see a lot of letters to the editor, and particularly our experience has been around in doing the feasibility studies for a new plant at xxx [the name of the place is withheld for confidentiality reasons]. We had a number of community meetings and that [site contamination] was a topic of concern that came up. Community groups raised not only the potential manufacturing operations that would be there going forward but then started talking about contamination and about us and xxx [the company's competitor who also has contaminated sites in the area]. Communities' concerns have been growing in recent years. Actually, active community groups are getting together but they're not drilling down on the financial obligation side of the annual report. The community would want to know it at their own level. For example the community would want to know if that site up the road is contaminated, whereas that may be immaterial. That may be a distribution centre. So it may be far too small for us to even disclose from an accounting perspective but the community would still want to know. They would want to know about that small site. (Quote #3, Participant C21)

NGOs, similar to communities, are interested in the physical contamination, with 'very little interest' (participant C21) in the financial disclosures relating to environmental remediation obligations. Employees were mentioned by participants as one of the parties who have shown their interests in site contamination, but they are perceived by the participants interviewed as only having 'a little bit' of interest.

The constituents within the second group referred to above, who are mainly interested in financial reporting, include auditors, ASIC, investors, and analysts. The participants interviewed felt that none of these parties had exerted any pressures on them in relation to contaminated site disclosures.

The participants perceived that auditors relied heavily upon their clients' internal controls, for example the letter of assurance, to conduct their audit. The letter of assurance, presented in a questionnaire style, is an internal control document that senior managers, including the CFO and the CEO of the organisation, sign off. Each relevant question is based on their own knowledge of the organisation's operations. The signed letter of assurance is then presented to the auditors as a 'control letter'. The message sent from the 'control letter' is that to the knowledge of those who have signed the letter, all of the internal controls work as designed, and all internal control weaknesses have been disclosed. This process is a formal process however often companies' environmental teams, who are likely to have direct knowledge of site contamination, are not required to sign the letter of assurance. One participant had the following perception of the auditors' approach:

It is interesting the auditors pay such little attention to it [contaminated site]. There's a tendency toward what's there [what has been mentioned by the letter of assurance] rather than what's not there. I don't know if it's history [past auditing practices conducted in the organisation], or the way we're all taught, or the way we assess the risks. Auditors traditionally are financial experts whereas if you had an environmental scientist or an engineer on the team and they went out to the site they would almost smell the soil and go 'Oh, there's trouble here'. But they'd be relying on the letter of assurance and then it's a matter of how far down that gets or the internal knowledge that people have to build into that and the questions contained in it [the letter of assurance]. I don't recall seeing a question on a letter I'd signed off that said 'are you aware of contamination issues that aren't being disclosed'. It [the letter of assurance] is fairly standard. It's a standard letter, and the assurance process is standard and predictable. (Quote #4, Participant C21)

Auditors, being seen as financial experts who are not necessarily environmental experts, do not necessarily visit contaminated sites (to the extent they know about them) and may not have rich internal knowledge of the clients' operations in relation to contaminated sites. Participants frequently used the word 'standard' to express formal and ritualised auditing and financial reporting procedures.

Investors are perceived as the party who is concerned about the participant companies' ability to pay off their liabilities, and the impact of financial obligations on their bottom line. While investors are perceived by participants as interested in the environmental impacts on the participant companies' financial reports, site contamination receives less attention from investors compared to other issues such as the Australian Government's carbon tax and the financial implications resulting from global warming related issues. That is, investors may not be aware of the possible impacts of site contamination, or even the existence of contaminated sites. Therefore, participants did not consider that ASIC and financial analysts were exerting any pressures for more disclosures related to contaminated sites.

While there are multiple institutional constituents, the interests of constituents are not always shared. Some constituents may be concerned with the environmental impacts of contamination, while others may be concerned about the financial impact of contamination, and these interests may not overlap. This is because the constituents, who are interested in the physical impacts of site contamination, do not exert any pressures on financial reporting; and the other constituents (such as ASIC and auditors) do not necessarily have the internal knowledge of site contamination (this lack of knowledge of site contamination has been confirmed during the interviews with ASIC and the auditor, see section 7.2) to exert pressures on disclosures. In terms of the dependency of organisations on their constituents, the constituents that companies are dependent upon (e.g. investors), did not criticise their current practice or demand any site remediation disclosures. When there are no pressures perceived by the organisation, the organisation has more autonomy to exercise its own interest, and is able to act in alignment with the 'most important' constituents' demands. Investors, government and auditors seemed to have more influence on the financial reporting of the company. However, the consequence of a lack of pressure for contaminated site disclosure from these constituents likely leads to a lack of contaminated site disclosure by companies.

Content: consistency and constraint

The third factor examined is whether the content of institutional pressures is inconsistent with organisational goals and whether these institutional pressures impose constraints upon organisational operations.

Based on the interviews with participants, disclosing contaminated site information is perceived by the participants as in conflict with the image that their organisation is attempting to promote. For example, one of the senior accountants described disclosing site remediation obligations as posing 'a conflict of interest' (see Quote #1, Participant Senior Accountant X) in line with organisational goals. Disclosing site contamination is perceived as an increase in costs of doing business, and may introduce interventions (constraints) on its operations by external constituents.

Control: coercion and diffusion

The fourth factor examined is the means by which pressures are imposed upon organisations. Organisations may disclose contaminated site information in response to coercive pressures (e.g. legal sanctions and fines) and/or broadly diffused institutional reporting practices that demand disclosure (e.g. similar organisations perceived as legitimate are disclosing contaminated site information).

Based on the interviews with participants, there is a lack of coercive pressures from external constituents. As Oliver (1991) and Jamali (2010) posit, the chance that organisations will take the opportunities of compliance evasion is very high when enforcement is low or moderate. From an analysis of the interview data no coercive pressures were perceived by the participants. Neither ASIC nor other parties have pressured the participants interviewed, through legal enforcement (coercion), for contaminated sites disclosures.

The practise of non-disclosure of contaminated sites, appears to have gained the status of 'common practice' (diffusion). Participants cited the uncertain probability, unreliable measurement and immateriality of the remediation obligations, as the commonly shared reasons for non-disclosures. This is evidenced during the interviews with both accountants and the auditor. When discussing their own practice in relation to contaminated sites (i.e., non-provisioning and the reluctance of site testing on contamination), participants often referred to their peers or competitors in such term as 'this is the way everyone else is doing it' to demonstrate the popularity of their practice. Phrases used by participants during interviews that indicate that the non-disclosure practice is commonly diffused include: 'it is common knowledge', 'it is the approach that everyone else is taking', 'for all companies that I am aware of', 'the way we operate here that I have seen, is in line with how we did it at xxx [the name of another sample company studied in Phase Two], and it is in line with what I saw when I was an auditor'.

Context: uncertainty and interconnectedness

The fifth factor examined is the environments in which organisations operate (context). Contextual factors such as environmental uncertainty and the interconnectedness between organisations and their institutional environments are likely to affect organisations' disclosure practices in relation to contaminated sites.

Based upon the interviews with participants, participant companies were relatively confident about the stability of future reporting practices. They predicted heightened expectations being imposed upon them in the future, however they perceived these expectations would not result in immediate changes to current reporting requirements, and, indeed, may not even eventuate. For example, one participant (Participant C11) predicted that 'there is a long way to go for government departments to realise how provisions are actually done. While government departments may be starting to realise it, they may not have the ability to enforce'. One participant predicted that integrated reporting might arise in the future (Participant C21). Integrated reporting may force the disclosure of environmental obligations including site remediation, and once these obligations are included in the integrated report, the report may 'shock' (Participant C21) internal managers as it may look dramatically unfavourable to the company.

The interactions between field members, such as their competitors in the same industry, their auditors, and investors, on the particular issue of site remediation disclosures are minimal as a result of lack of perceived pressures. However participants believed that, apart from the issue of how to disclose contaminated site information, their interactions between accountants are highly interconnected (meaning the actors are aware of, and influence, each other through their relational networks). This highly interconnected relational system diffuses the consensus of dominant institutions and practices, which in turn make them appear legitimate (Meyer & Rowan 1977; Oliver 1991; Zucker 1977, 1991). The participants interviewed are key personnel in their organisations, they have rich experience in the industry, may frequently change their jobs between competitor companies, in different accounting positions, and all of them have been auditors or audit partners in the Big Four accounting firms. One participant describes how they interact with their competitors as:

We did ongoing benchmarking against xxx [name of the company's major competitor] and we were comparing their financial reports with ours. There was a lot of questions being asked saying 'are we the only ones that are doing this' and so we were benchmarking ourselves against xxx [name of the company's major competitor] and other companies. We've got people who used to work for them and they've got people who used to work for us. You'd use your networks and say, 'Well, what are you guys doing?' and they'd ask you 'What are you doing?'. (Quote # 5, Participant C11)

This indicates that financial reporting practices, in general, are highly institutionalised, and widely shared and accepted among accountants. There are times when participant companies work together with their competitors when faced with a common issue in the industry, but at other times they compete with each other, this is termed by one participant as being a 'frienemy' (Participant C21).

Summarising RQ1

So far, and drawn from the interview data, the perceived institutional pressures exerted by external constituents (RQ1) have been addressed. To summarise, participants perceived that there is a lack of institutional pressures on disclosing contaminated site information within annual reports. This lack of perceived institutional pressures is further explained by five factors (each with two dimensions) associated with institutional pressures:

- Participant companies' current reporting practices (lack of disclosures) in relation to their contaminated sites do not attract legitimacy threats from external constituents; however if they were to disclose more information in relation to contaminated sites this may attract legitimacy threats directed towards the company (**cause: legitimacy**);
- Disclosing contaminated site information is perceived to lead to economic resource outflows from the company (**cause: efficiency**);

- Participants perceived conflicting expectations from constituents, but did not perceive significant institutional pressures exerted by constituents, on contaminated site disclosures (**constituent: multiplicity**);
- Participant companies are highly dependent on institutional constituents who do not demand contaminated site disclosures (**constituent: dependence**);
- Disclosing contaminated site information is inconsistent with internal goals of the companies (**content: consistency**);
- Disclosing contaminated site information will introduce more constraints, for example, external intervention and supervision, to the operations of the company (**content: constraint**);
- Disclosing contaminated site information is not strictly enforced (**control: coercion**);
- The practice of disclosing no or minimal contaminated site information is popularly accepted and diffused (**control: diffusion**);
- The participants were confident of their own predictions related to their future environments (**context: uncertainty**); and
- The participant companies are connected with other companies in the field, but the issue of contaminated site disclosure is dormant and not controversial, resulting in minimal attention being given to this issue by relevant parties (**context: interconnectedness**)

Having addressed RQ1, attention will now turn to the results derived in relation to RQ2.

7.1.2 Organisational capacity and interest (RQ2)

The aforementioned institutional factors (addressed by RQ1) are bounded by organisations' capacity to be aware, interpret, and their willingness to conform, to institutional expectations and pressures. This section provides the results from data analysis drawn from interviews with three participants to address RQ2.

RQ2 In responding to institutional expectations and pressures addressed in RQ1, do Australian companies have the capacity and interest to conform to their perceived institutional expectations and requirements?

In terms of the participant companies' awareness and ability to interpret institutional expectations and pressures, clearly they are aware of relevant accounting regulations and standards. One participant however pointed out that there are limited specific guidelines on the issue of disclosing remediation obligations. They also indicated that it is possible for them to provide remediation provisions before a contaminated site is closed. That is, they considered their organisations have the ability to conform to reporting requirements in relation to environmental obligations.

But really you could even start taking up provisions when the site is an operational site [before the closure of the site and the subsequent remediation works]. If you were looking at it from a technical accounting perspective and you landed from Mars, you would say well this [refer to the participant's past and current disclosure practices on its contaminated sites] is, clearly, wrong. (Quote #6, Participant C21)

This view was echoed by another participant:

But just because you don't know [how to provide remediation provisions] doesn't mean you can't. There is hardly any site you can't put an estimate on. (Quote #7, Participant C12)

Being aware of regulative expectations (in the absence of associated regulative pressures and enforcements), and being able to provide remediation provisions in annual reports, however does not necessarily significantly influence the participant companies' willingness to disclose remediation obligations. Companies' willingness to disclose remediation obligations is determined by their self-interest, agency and their rational calculation of 'trade-offs' between the perceived benefits and costs of the alternative options (Oliver 1991). In general, companies' contaminated sites fall into three categories: contaminated sites they are not aware of (which is difficult to believe as the participant companies generally have or previously had day to day operations on the sites); the sites that they know but do not want external parties to know (which environmental authorities may not be aware of); or the sites that both they and their external constituents are aware of (which have been identified as contaminated sites or remediation sites). Most likely, the last two categories represent the majority of the contaminated sites that the participant companies are holding. The issue of disclosing site contamination then becomes an issue of whether a company is willing to report its own contaminated sites to the environmental authority. Once these sites are identified as contaminated sites, the company will then need to decide whether to make financial disclosures (such as remediation provisions) in relation to the contaminated sites. Companies have a choice in relation to reporting site contamination and the financial disclosure of contaminated sites. This is due to their internal knowledge of their own contaminated sites, which is difficult for external parties, such as auditors, environmental authorities, shareholders, analysts and shareholders, to obtain.

From a self-interest perspective, given that the participants interviewed perceived little enhanced legitimacy and perceived that there may be a resources outflow from contaminated site disclosures (see section 7.1.1), there is little incentive for companies to disclose. For example, one participant stated that the company did not opt to test for site contamination (see quote #2, Participant C21). Once site contamination is made known by external constituents, scrutiny from these constituents could result in reduced organisational

control or disruptions over its internal operations. Disruption or reduced organisational control could be in the form of being forced to seek approval from environmental authorities for remediation plans, or accepting site investigations by environmental authorities or relevant communities.

Participant companies are also sceptical and challenge the usefulness of financial reporting. Financial reports contain 'standard phrasing', they provide 'old convoluted information' and are 'written in such a way as to preclude most of the population' (Participant C21). One participant challenged the usefulness of financial reports to communities groups and NGOs: 'what does a number mean?' (Participant C12).

To summarise, the participant companies were aware of, and were able to correctly interpret, relevant reporting requirements in relation to contaminated sites. Participant companies admitted that they did have the capacity to disclose contaminated site information; however, there appeared to be a lack of willingness and interest, from the participant companies, to actually do so.

7.1.3 Avoidance strategy reflected in internal processes of reporting practices (RQ3)

RQ3 In relation to annual report disclosure of contaminated site remediation liabilities, what is the strategy that Australian companies seem to adopt in their reporting decision?

During the interviews and the data analysis process, a specific strategy—avoidance strategy, with the tactics of buffering and concealing—emerged as the primary strategy used by the participant companies when deciding how to report contaminated sites. This strategy is reflected in the internal processes of the companies. This strategy is also in line with the findings from Phase Two of this study. That is, relevant information in relation to site remediation obligations was not provided, or provided years later.

Particularly in the case of the non-mining company, an avoidance strategy is reflected from the following buffering tactics:

- The internal knowledge of site contamination is decoupled from formal site testing for contamination (that is, the company avoids voluntary testing for site contamination, although it knows a site is likely to be contaminated based on their internal knowledge of the site). This effectively prevents contaminated sites being reported to environmental authorities.
- Internal processes of physical site remediation are decoupled from formal financial reporting processes. That is, the information relating to contaminated sites of the

company was not considered when preparing financial reports. This results in the information about physical remediation required for sites not being filtered up to financial reporting.

- Contaminated site information is decoupled from internal control processes and external auditing. That is, contaminated sites are not considered within internal control processes and are not considered by external auditors. For example, a 'control letter' was used by a participant company to present to the auditor, and no matters relating to contaminated sites were listed in the 'control letter'.
- Once a site is identified as a remediation site by environmental authorities, the company's associated accounting recognition for the contaminated site is either delayed for several years or not disclosed within their annual reports.

As one participant described (see quote #2 presented earlier in this chapter), even when internal knowledge that the site is likely to be contaminated (which is not recorded on formal documents) is orally passed on, the prevailing practice is to avoid testing the site—'so you just don't go over there and put your stick in the soil'. If a site has not been tested for contamination, the site is deemed clean. Once the site is tested for contamination, all of the subsequent activities (that lead to the costs of doing business) become reality.

For the non-mining participant company, there is a tendency to buffer and block the information relating to contaminated sites from being passed on and filtered upwards to accountants or senior managers. The contaminated site issue is a complex issue that requires multidisciplinary skills. A typical environmental remediation team consists of an environment consultant, site manager, project manager, valuation expert, health and safety expert, and a legal expert. The environmental team may also liaise with local communities. The central issue raised by one participant is: who is responsible for reporting remediation sites to accountants?

The issue is who is actually responsible for [reporting] those sites. Is it the environmental advisors whose responsibility is really just to advise? Is it the site manager who organises the [remediation] works generally on those sites or, is it the legal team who have got coverage of the risks associated with it. So I think without having someone you can sort of sit in a room and put a spotlight on [contaminated sites] and say "tell me about all those sites" then what you are relying on is the letter of assurance process coming through. The letter of assurance focuses on known actions that are already underway and the associated value of those actions. And where we're within licensing requirements, the letter of assurance focuses on what these legal licensing requirements are. For all companies that I'm aware of, there's no motivation to go out and dig and see what actually might be in the ground. (Quote #8, Participant Senior Accountant X)

The letter of assurance, as an important formal internal control process that accountants and auditors are heavily reliant upon, does not pick up the contaminated site issue, as it overly relies on 'what is there' (which sites have been identified by external environmental authorities as contaminated sites) rather than 'what is not there' (the sites that are, or most likely are, contaminated but have not been identified by external environmental authorities). The environmental team was not considered as a party to sign off the letter of assurance (buffering), therefore contaminated sites information cannot be easily captured by the letter. Auditors, without rich internal knowledge, or doing site visits or talking to environmental experts, and who only rely upon the letter of insurance, will not include contaminated sites in their agenda.

If a site has been identified as a contaminated site by environmental authorities, a 'standard' practice of the non-mining participant company is to start working on the associated provision in the financial year after the site has been identified as contaminated. This results in a delayed provision for the contaminated site. This practice is confirmed by the cross checking of the company's annual reports investigated in the Phase Two of the study.

For the mining company, the activities of site closure and rehabilitation comprise a necessary part of the business. Site contamination is an unavoidable topic.

From a mining company perspective it [site closure and rehabilitation] is in your face every day. We've got a large number of operations around the world and every single site is a rehabilitation site. Every time you turn your shovel in the ground, you've got to sort out your liability at the end. (Quote #9, Participant Senior Accountant X)

Unlike other industrial sites, every mining site in Australia has to be rehabilitated as required by the relevant environmental regulations and strict license requirements. One participant (Participant Senior Accountant X) claimed that the 'mining industry is better equipped [to recognise provisions on contaminated sites] than anybody else'. The participant company has a 'life of asset plan' for each individual site, which is tightly coupled with the business' core operational activities (this differentiates mining companies from the other non-mining companies). Site closure and rehabilitation are considered at the planning stage of a mining site. The participant, as a key person involved in the financial reporting of the company, pushed for a probabilistic management on valuing provisions for the closure and rehabilitation in 2007. From cross-checking the company's annual reports, this probabilistic valuation of the provision led to the provisions on one of the sites being increased back in 2007 by US\$167 million. This significant increase in provision that relates to one particular site raises questions such as: how many other sites (unknown to external parties) were previously significantly under-provided for by the company, and why the significant under-provision happened in the first place.

Although the internal processes document individual site closure and rehabilitation provisions, the company's external financial reports only provided an aggregate total amount of rehabilitation provisions for all sites for the year. No individual site's closure and rehabilitation provisions are disclosed as the company has a large number of sites and individual sites are unlikely to be material. Only exceptional items (sites) that have been significantly under-provided for in prior years and are adjusted in the current period are disclosed as 'exceptional items'. That is, reading the company's current financial reports, no individual sites are disclosed unless significant adjustments are made. Users of the financial reports are thus not able to determine whether a particular site has been provided for, and how much has been provided relating to the site. This effectively provides a buffer between external reporting and the internal processes as the lack of specific information makes criticism difficult to establish.

It is noted that while the mining company seemed to adopt an avoidance strategy, the degree of avoidance that can be adopted by the mining company is less than the non-mining company. This is because of the nature of the mining activities often draws stricter attention from external parties. Mining companies are required to adhere to stringent licensing conditions before commencing mining activities at a site. For non-mining companies not every site will be subject to remediation and remediation obligations are uncovered only after contamination occurs and it has been identified by environmental protection authorities. On a positive note, the company claims each site has been accounted for—no matter the accuracy of the provision. This is a key point of difference in term of internal processes compared to the non-mining participant company.

To summarise, the internal processes of the participant companies seemed to adopt an avoidance strategy by buffering contaminated sites from being known to external parties (e.g. avoid voluntary testing); buffering internal informal processes from formal processes; buffering physical remediation from financial reporting of the remediation obligation, and providing only a general provision (without specific site remediation obligation information).

Avoidance strategy supported by dominant institutions

Dominant institutions are the prevailing ideas and practices that are broadly accepted and shared by members (Scott 2008b). From the interviews with the participants, the dominant institution in relation to site remediation disclosures supports the strategy of avoidance. Existing dominant institutions emphasise the 'unknown' and 'too hard to quantify' (measurability) features of the obligation, and tend to paint the issue relating to remediation disclosure as a 'grey' area, which merely requires professional judgement. Judgement then can be manipulated to a greater extent compared to a clear-cut case. Although regulative expectations require material remediation obligations to be disclosed (as acknowledged by

participant companies, see quote #6 and #7), this expectation is not strongly supported by coercive mechanisms (such as enforcement and sanction). In addition, the regulative expectation has not obtained broad acceptance by participant companies.

7.1.4 Themes that emerged from data analysis

Four major themes emerged from data analysis from the interviews with corporate participants. Firstly, in terms of remediation obligation disclosures, there is a lack of perceived institutional pressures or an associated legitimacy threat from various institutional constituents. Secondly, the unwritten broadly shared and accepted practice (supported by mimetic mechanisms) in relation to contaminated site disclosures emphasises the 'uncertainty' and 'unknown' features of the site contamination obligations. This dominant practice is not aligned with regulative and normative requirements (i.e. material remediation obligations should be recognised in financial report). Thirdly, participant companies are able to exercise their interest and agency in their self-interest. Although they are capable of strictly following the spirit of financial reporting (regulative reporting requirements); the perceived potential legitimacy threat and reduction of economic resources from this option makes participant companies less willing to do so. The final theme is related to the avoidance strategy adopted by participating companies, whereby they are able to buffer their internal processes from formal financial reporting on contaminated sites.

This section has presented the results analysed from interviews with three participants from companies (which address RQ1, RQ2 and RQ3). The implications of these results, together with relevant recommendations for policy makers, and accountants, are discussed in chapter 8. The results derived from interviews with important external institutional constituents, auditor and ASIC (which address RQ4), are now presented.

7.2 Institutional expectations and pressures exerted by two major institutional constituents: auditor and ASIC (RQ4)

RQ4 How do auditors and the Australian Securities & Investments Commission (ASIC) exert (or do not exert) institutional expectations and requirements on Australian companies that are in control of contaminated sites.

Based on the interviews conducted with an audit partner and a senior financial specialist from ASIC, auditors and ASIC are not fully aware of the potential significant gap between financial impacts brought by site remediation, and the associated reporting practices by companies. They do not have specifically spelt-out expectations in relation to contaminated sites and no pressures are exerted upon companies. They were also asked to give their own explanations for why there is a lack of disclosure by Australian companies as found during

Phase Two of the study. It is however the role of the researcher to understand and interpret participants' views and to conclude the 'why' questions, rather than the participants.

The results from interviews with the auditor partner and the ASIC financial analyst are presented separately.

7.2.1 Auditor

The interview with the senior auditor⁷⁶ was aimed to understand the general audit procedures performed by auditors in relation to contaminated sites, where their client is in control of multiple contaminated sites. Particular interest is placed on the auditor's awareness of the issues, expectations about reporting, pressures perceived from stakeholders, pressures exerted (or not exerted) towards the client (company), formal audit processes and dominant practices relating to contaminated sites, and possible explanations and solutions to the lack of contaminated site disclosures by Australian companies.

Awareness that site remediation may not be properly accounted for

The participant auditor is not aware that remediation obligations may not be properly accounted for. Instead the auditor viewed remediation obligations as a low-audit-risk area. During the interview, the auditor emphasised, by repeating similar statements seven times, that the chance that their clients 'fudge the books' on contaminated sites related disclosures is rare and 'personally I have not seen anything of that nature before'.

But see, again, I've never in my experience had it [where a remediation provision should be provided but is not provided by the company] where clients have seen this [remediation provision] as an area where they can fudge the books. It just doesn't come into the equation. It just doesn't tend to be one of those areas that people get worked up about. (Quote #10, Participant A11)

Expectations on disclosing site remediation obligations

Auditors expect a company's management to prepare and to be responsible for their annual report. During the interview, the participant auditor stressed the 'expectations gap' and the auditor's role is to question whether the management's assertions are 'appropriate in the circumstances', rather than being responsible for their company's accounts.

We're never responsible for the accounts. And we say this a lot because it is a really important point, that management are responsible for the financial report.

And so our job as auditors is to look at those [accounts prepared by companies] and say 'Okay, is that appropriate in the circumstances?'. So we can take a different view

⁷⁶ The participant is the senior partner, and Asia Pacific Market Leader of a Big Four firm (current auditor of one participant company and past auditor of the other participant company).

to management. That's fine. But I think we should always start with 'what are management's assertions that they've made that support the accounts'. And then I think our job is to robustly question that and say 'is that appropriate based on our knowledge of the business, based on our knowledge of industry trends and our own views as to whether a liability exists or not'. (Quote #11, Participant A11)

Pressures perceived by auditors from various stakeholders

The participant perceives no pressures from stakeholders on disclosures in relation to contaminated sites: 'personally, I've never felt pressure around a rehabilitation provision being recognised or not'. Shareholders do not raise questions on contaminated sites and 'it flies under the radar' although environmental performance is perceived to be a 'hot issue'.

I actually just don't think there are pressures from stakeholders, to tell the truth. Again, you hear questions that get raised at the AGM—it's very rare you hear a question around rehabilitation, which is interesting because it's kind of, it's a hot issue in terms of environmental performance and sustainability and the like. But it doesn't tend to get that level of visibility in AGMs or anything like that. It flies under the radar. (Quote #12, Participant A11)

When asked the possible reasons for the lack of pressures by stakeholders, the participant explained that stakeholders may perceive that there is no issue with the provision account as it has been audited by the auditors, therefore they do not further question it (legitimacy threat).

People kind of think 'Well, there's a provision there. It's been audited. It's going to be there abouts'. And it's kind of almost forgotten. (Quote #13, Participant A11)

Shareholders were perceived as focusing on short-term issues, motivated by short-term returns to shareholders. Remediation provisions however are long-term obligations and shareholders are perhaps not interested in remediation obligations.

And I think, what's the reason for that [why remediation provision flies under the radar]? Part of that I think is about the immediacy of returns that people look for. And a lot of the questions are more generated around short-term issues for the organisations at AGMs and less so about longer-term issues. Most of the questions at AGMs now tend to be around things like the remuneration report and the short-term earnings outlook for the organisation. If there was an impairment, 'who was accountable for it in terms of original decision-making'. Again, none of that relates to provision for rehab. It's kind of one of those arms that just flies under the radar. You just don't see it. (Quote #14, Participant A11)

Apart from shareholders, ASIC was perceived to exert pressures on other issues such as going concern, asset impairment, goodwill, and revenue recognition as they are deemed to have greater impacts on the share price. Analysts were perceived to only attend to contaminated sites when the business as a whole ceases the entire operation. NGOs and communities do not 'raise their voices' on financial report disclosures. In addition, there is no direct contact (therefore no pressure perceived) between EPAs or 3rd party environmental experts (companies often consult with external environmental engineers or environmental auditors, to conduct contaminated sites related works), and auditors.

Pressures exerted by auditors to their clients

Auditors are not only subjected to various institutional constituents' pressures, such as their clients (companies), ASIC, shareholders, analysts, NGOs, and the community, but also are capable of exerting pressures towards their clients by providing a qualified audit report. While auditors are capable of exerting pressure towards their clients they generally do not. Auditors perceive remediation provisions as low-risk audit items. According to the participant, auditors' 'hot topics'—auditors' interests and areas that pose legitimacy threats to auditors—are: revenue recognition, asset impairment, expense recognition and capitalisation of operating expenses by their clients.

Formal auditing processes in relation to contaminated sites

Auditors basically 'follow' their clients' calculation and do not look beyond the information that is provided by their clients. The participant acknowledged that auditors are not environmental experts and there are no internal experts in the audit firm, with the exception of climate change and sustainability. When auditing environment-related items, auditors rely on a report provided by an external environmental expert. This 3rd party environmental expert normally is selected and paid by the management. The general auditing procedures for reviewing environmental provisions are described as follows:

So we follow basically what they do to calculate the [rehabilitation provision] amount. So it's a matter of looking at what is the ultimate estimation of what the remediation cost is going to be. For us as auditors, the most persuasive evidence is about having externally provided evidence coming from a third-party provider. Say, for example, there was a group that might come out and say 'We think the estimate of your liability's going to be X in the year 2020'. We can place greater reliance on that than we can from an internal management estimate because it's come from third-party. What we tend to do there is we generally say 'Let's look at the report.' It's obviously usually full of caveats. 'Let's look at the engagement, look at whether the company engaged that specialist to make sure they haven't actually restricted the scope of work.' In a lot of cases, we will then look at, and rely upon the work of an expert as part of our auditing standards and then look at their competency and their skills and the like. And,

generally speaking, when it comes from reputable firms, you tend not to have too much problem with that. So our next step is to check whether the provision amount is reasonable. Then it's a matter of just take it [the estimated provision amount] back to the risk-free rate, recognising from the first time versus ongoing recognition, different issues there as well in terms of changes in estimates and the like as well. (Quote #15, Participant A11)

When asked how auditors make sure that all contaminated sites are identified (the completeness of the account) and the balances are correct (the correctness of the account), the participant auditor referred to the trustworthiness of environmental engineers, the reputation of the 'large reputable' clients⁷⁷ and the EPA.

I think for the companies we deal with, I've got to say, are the large reputable organisations, that they generally have a testing program in place where they're testing the impact of brown water or soil contamination⁷⁸. And so we would look at those reports [from external environmental engineers] as well. And if it got to the stage where it was becoming problematic, then generally speaking, they're usually reviewed by environmental protection agencies anyway⁷⁹. They could create orders that actually order the company to then go and remediate if that's the case. (Quote #16, Participant A11)

It appears that auditors do not seek face-to-face discussions on contaminated sites with the 3rd party environmental engineers or actively search for information from the environmental authorities about contaminated sites.

The tendency for auditors to rely upon their clients' statements and accounts was echoed by a senior accountant from one of the participant companies (Quote #4, Participant C21) 'It is interesting the auditors pay such little attention to it. There's a tendency toward what's there [what have been mentioned by the letter of assurance] rather than what's not there'.

⁷⁷ The researcher points out that the four sample companies studied in Phase Two of the study are all ranked as top 50 in ASX (by market capitalisation) and may present as 'large reputable' companies. The results of the Phase Two, however, indicate a lack of contaminated site disclosures from the four companies.

⁷⁸ The participant's assertion on the testing program performed by the clients is in conflict with what one participant company describes in relation to the avoidance of soil testing (eg. see quote #2).

⁷⁹ The results of Phase Two, however, indicate that most of the remediation works are voluntary-based and environmental authorities in different jurisdictions generally do not have a complete database on contaminated sites. Most of voluntary site remediation is motivated by the potential financial benefit from re-development of the land. If the cost of remediation is greater than the returns from the sale of the land, most likely the contaminated site may not be voluntarily remediated.

When asked whether other audit firms implement a similar approach, the participant viewed their approach as a 'standard' approach. To explain further, the participant revealed that the audit firm often reviews the audit papers of other firms, when the firm takes over the audit job, and the finding is that there is 'no difference in audit approach warranted'. This may also indicate the infusion and isomorphism of the current practice, which in turn enhances the legitimacy and promotes wide acceptance of the current practice among auditors.

Dominant institutions support current audit practices

Although the participant auditor acknowledged accounting standards requiring remediation obligations be recognised, the dominant institutions, listed below, have prevented auditors from being aware of the issue and exerting pressures for disclosure:

- Provisions relating to contaminated sites are a low-risk audit item.
- Contaminated sites do not have much impact on Profit or Loss.
- As a result of the current year's works being performed, the provisions balance generally reduces each year (therefore it is a low-risk audit item).
- Contaminated site disclosure is a topic that stakeholders are not concerned about.
- Auditors have limited or no personal experience of issues relating to contaminated site disclosures.
- Whether a contaminated site is remediated by an organisation is treated as a 'business case' decision, which is motivated by commercial gains (i.e. if the site, after remediation, can be sold to a price that covers relevant costs including remediation costs) rather than moral standards, and has little to do with accounting.

Possible explanations to the issue of disclosing site remediation obligation

There are three reasons supplied by the participant about why contaminated site disclosure 'flies under the radar'. The first reason is that the issue of contaminated site annual report disclosure is not a 'hot issue' and does not pose a legitimacy threat to the company or their auditors. Other 'hot issues' such as going concern and asset impairment, distract stakeholders' interests and may pose a greater legitimacy threat.

Secondly, the participant auditor acknowledges the complexity of accounting for contaminated sites, which requires multidiscipline coordination and information exchange. Auditors do not hold environmental skills or extensive environmental law knowledge, thus they have to rely upon experts.

The third reason is that there is a lack of reporting guidelines on provisions. Relevant accounting standards do not provide clear guidelines on how to quantify provisions. To overcome this, auditors rely on the 'accepted practice' (legitimate practice) to look back at 'what we have done previously' to set a precedent.

Possible solutions to the issues as perceived by the auditor

In considering future reporting, the participant auditor believed integrated reporting will require significantly more disclosure, which will impact reporting practices but 'it may not happen for a while yet'. This view is in accordance with one senior accountant participant's (Participant C21, see section 7.1.1) prediction on future financial reporting practices. Sustainability reporting is deemed as generating 'marketing documents', which do not require auditing, and thus may not be a trustworthy source for financial reporting.

Themes that emerged from data analysis

Two themes emerged from the data analysis. The first theme is that there is a lack of pressures exerted by auditors. This is due a lack of awareness, or a dismissive view, of the issue that the provision for remediation may not be provided, or might be significantly under-provided, and the shared 'institution' that provision for contaminated sites is a low-risk audit item.

The second theme is related to auditor's decoupling practices. Auditors rely on the good faith of their clients, external environmental engineers, EPAs' work and do not actively seek additional information. Contaminated sites are seen as an environmental issue and have less effect on the company's accounts.

Implications of the results from the interview with the auditor, together with recommendations for auditors, will be discussed in chapter 8.

7.2.2 ASIC

The interview with ASIC's senior financial specialist aimed to determine, from the participant's perspective, whether: ASIC is aware of the issues in relation to contaminated sites; any expectations; regulative pressures (if any) exerted from ASIC; and possible explanations to our findings from Phase Two of this study.

Awareness that site remediation may not be properly accounted for

There is a lack of awareness of the reporting issue in relation to site contamination. While, in general, ASIC monitors provisions as a part of ASIC's Financial Reporting Surveillance Program, site contamination and associated remediation only are perceived as relevant to the mining industry and have not been a significant concern for ASIC. When asked whether ASIC monitors disclosures relating to contaminated sites, the participant replied that they 'do look at mining companies in relation to site restoration because so many listed companies are mining companies, but not specifically to chemical sites'. It was only during the interview that the participant's attention was directed to the potential significance of non-mining sites to financial report disclosures and the participant expressed that the apparent non-compliance

with relevant reporting requirements by the sample companies (studied in Phase Two), 'is certainly of interest to ASIC because it does highlight the problem'.

Expectations on disclosing site remediation obligations

The participant, in line with the relevant accounting standards, expected companies to recognise material remediation obligations as a provision against a contaminated site as soon as, or ideally before, a site is identified by environmental authorities as contaminated.

I think they [companies whose sites are identified as contaminated sites by environmental authorities] know about it, and they know that commercially if they're going to do anything with that site they're going to have to restore it, then I think that moves beyond being a contingent liability and requires a provision. (Quote #17, Participant S11)

This expectation is in conflict with sample companies' practices, of either disclosing the site remediation as a contingent liability (instead of a provision) in the year a site is identified as a contaminated site, or no disclosure at all. The participant also added that if some information affects the reputation of the companies then such information should still be disclosed in the financial reports.

To respond to the dominant institution among participant companies that site remediation obligations are too difficult to measure, the participant expressed a strong view on the (perhaps strategic) argument of measurability in relation to site remediation obligation:

I think that measurability argument is a bit weak. That's a cop out, because you [companies] must know what the minimum is—what it's going to be. And surely, you are able to put in a minimum amount. We [ASIC] are not so forthright in using it in relation to liabilities. I mean we wouldn't accept the argument so readily from a company that, they can't measure the liability. There's always a minimum that we can say 'it's at least going to cost you this much'. (Quote #18, Participant S11)

Not only are companies expected to know when to recognise and how to measure their remediation obligations, the auditors of the respective companies were also expected to be aware of the contaminated sites and the associated implications for the companies' financial statements. The participant viewed auditors as capable of obtaining sufficient internal information and evidence related to contaminated sites to determine the appropriateness of a company's accounts. Auditors were expected to conduct routine reviews on relevant accounts. In addition, the participant pointed out, the audit committee and risk management team of a company holding substantial amount of contaminated sites, due to the nature of the business such as mining and chemical productions, should also have some relevant

policies or procedures in place. These expectations about companies and auditors, expressed by the participant, however are not strongly exerted and enforced by ASIC.

Pressures exerted and enforcement conducted by ASIC

In terms of monitoring the disclosure of site remediation, and as a result of a lack of full understanding and awareness of the issue, minimal pressures are exerted by ASIC and the associated enforcement is lacking. For ASIC to put this issue on its agenda, firstly it will need to internally discuss whether to conduct a fuller investigation, and then it needs to decide whether it is an issue worth pursuing, and how to monitor and enforce any requirements. The absence of pressures and enforcements from ASIC may unintentionally provide opportunities and legitimacy to companies to strategically elect not to disclose some information.

Possible explanations to the issue of disclosing site remediation obligation

When asked about possible explanations of the findings generated within Phase Two of the broader study, the participant provided four reasons from the perspectives of the ASIC, companies, auditors, and environmental regulations.

Firstly, it is a difficult task for ASIC to monitor/determine the appropriateness of site remediation obligations disclosed by companies. The difficulties in monitoring are due to a lack of sufficient specific information, issues associated with the presentation of financial reports, and materiality.

To determine the appropriateness of a company's remediation provision, certain information, such as the number of contaminated sites, the status of the site (active production phase, closure phase, site investigation phase, proposal phase, remediation phase, or post-remediation management), relevant environmental obligations associated with the sites, possible dollar values associated with site remediation, and the breakdown of the account balances, is needed. Without sufficient internal knowledge of the individual company to form a base to be compared with company's disclosure, the judgement of appropriateness of disclosure cannot be sustained. As the participant explained:

I guess one of the problems we [ASIC] have when we review the financial reports of a lot of companies is, we don't know what's going on on the other side [the companies' side], inside their sites or their dealings with the EPA. It's hard to say [whether companies breach reporting requirements] because, unless I know what information is on the other side [the companies' side and the EPA side], I can't judge what's coming through on their reports. But it's certainly something the auditors should be aware of as well. (Quote #19, Participant S11)

Apart from the difficulties for ASIC in obtaining sufficient information on individual companies, the presentation of a financial report may not allow the readers to be able to identify a specific remediation obligation. That is, a company may have provided for such obligation but inappropriately 'hide' this information from financial reports. For example, a company may have provided for remediation obligations but may choose to put it under a general provision without mentioning any information relating to remediation obligations. Readers therefore are unable to locate it, neither from a line item listed in the body of the statements, nor from the notes.

In addition, the materiality also contributes to the 'difficult to judge' scenario relating to contaminated sites. The participant pointed out that if environmental regulations allow a company to remediate its site over a long period, for example 25 years, even if the cleanup costs themselves are significant, the discounted present value of the obligation will most likely be immaterial. Twenty years, is described by the participant as a 'magic number' as the discounted present value of a significant amount of an obligation in twenty years will become 'immaterial' and 'disappear' from financial statements. The participant used the words 'materiality', 'material' and 'immaterial' fourteen times during the interview to stress the difficulties associated with monitoring companies' financial reports. The participant's view on 'materiality' is in line with the literature that emphasises that 'materiality' has contributed to the lack of environmental liability disclosures by companies (Gray et al. 1998).

The second reason offered by the participant comes from the companies' perspective. Disclosure practices by some companies are seen by the participant as 'self-serving' and some companies 'do exactly what you [the companies] can get away with'. From a 'strategic point of view' (Participant S11) of the companies, avoiding disclosing their remediation obligations as provisions or contingent liabilities enhances organisational image (legitimacy) and/or reduces potential resources outflows (economic efficiency). The participant's view on companies' practices as 'strategic', is in line with the theoretical framework of this study. The participant used the words 'self-serving' and 'strategic' a total of six times (despite the interviewers avoiding the use of words such as 'strategic', 'avoidance', 'motivation' or 'willingness' to avoid potentially biasing questions). The participant also pointed out the 'self-serving' behaviour of companies when asked whether Australian accounting regulations and standards are sufficient to provide good quality of guidelines to relevant parties. The participant regarded Australian accounting regulations and standards as 'robust'. That is, Australia's principle-based accounting standards, if applied properly and 'interpreted in the correct spirit' (Participant S11), contribute to high quality financial reporting. Applying principle-based accounting standards however comes down to the 'principles of the people who are using them' (Participant S11)—the preparers' principles. In addition, unlike US

GAAP which are prescriptive in nature, the principle-based accounting standards also make it 'a little more difficult [for ASIC] to enforce' them (Participant S11).

The third possible reason is that the nature of remediation obligations is complex and auditors may not necessarily have technical knowledge about contaminated sites. Auditors of companies operating in certain industries (such as mining and chemical industries), may not be aware of the contaminated sites or the possible implications of these contaminated sites when performing an audit of financial reports. The participant's view is in line with the participant companies' view on auditors. In addition, the participant auditor acknowledged that auditors are not environmental experts.

The fourth complication is related to environmental regulations and environmental authorities. Reporting remediation obligations is directly connected to contaminated sites that are regulated by environmental authorities. Regulating financial reporting practices, as they pertain to contaminated sites, requires collaboration and a degree of information sharing between ASIC and environmental authorities. While ASIC is a nation-wide regulatory body, the environmental authorities are jurisdiction-based. Added to this complication is that each jurisdiction in Australia has its own policy, legislative and administrative regimes relating to contaminated sites, and the departments or units in charge of contaminated site issues may merge, demerge, or change their names, structures and processes (see Deegan & Ji 2008). There is no nation-wide register or information readily available to ASIC to be able to link particular sites and the associated remediation obligations to particular companies. There is no formal communication between ASIC and environmental authorities regarding contaminated sites. The participant also expressed a strong concern in relation to the long period of remediation work allowed by environmental regulations, which significantly affects the materiality of the remediation obligations. Remediating contaminated sites typically takes a long period of time. The longer the time allowed for companies to clean up their sites, the more likely the financial cost of the remediation obligation becomes immaterial, due to the discounted present value of the amount decreasing over time. To encourage remediation obligations to be accounted for in companies' financial reports the participant expressed the view:

I think it's perhaps the environmental regulation that needs to be tightened up so that it pushes the companies to consider it [remediation obligation being disclosed on financial reports] more rigorously when they prepare their accounts. If the EPA tightened up their requirements, said, 'Okay, you've got to have it done by this date', that would then put pressure back on the accountants of those companies and force them to come up with a better estimate of the number. (Quote #20, Participant S11)

Themes emerged from data analysis

Four themes emerged from the data analysis. Firstly, prior to the interview, the participant was not aware of, or had not considered, that there may be some non-compliance issues in relation to contaminated site disclosures, especially chemical sites. Secondly, the lack of information on contaminated sites makes it difficult for ASIC to monitor the appropriateness of accounts prepared by relevant companies. Thirdly, materiality may prevent disclosures of remediation obligation if the remediation of contaminated sites is allowed for a long period by environmental regulations. The last theme is the 'self-serving' and 'strategic' behaviour, observed by the participant, of some companies in their reporting practices.

To summarise, from the interviews with two important institutional constituents, auditors and ASIC, they were not specifically aware of non-compliance of Australian companies in relation to contaminated site disclosures. This lack of awareness, together with a lack of information on contaminated sites, has contributed to the lack of institutional pressures exerted by auditors and ASIC. The implications resulting from interviewing the auditor and the senior financial analyst, and relevant recommendations for auditors, ASIC, and environmental agencies, will be discussed in Chapter 8, section 8.2.

Oliver's (1991) institutional framework, adapted by this research, has offered rich insights into accounting practices as they pertain to contaminated site disclosures. These insights would not have been obtained if a 'legitimacy theory' framework had been applied.

7.3 Summary

This chapter, being the last chapter of Phase Four of the study, presents the results derived from data analysis of interviews with three senior managers from two participant companies, an auditor and a senior financial analyst from ASIC.

The interviews with managers from sample companies revealed that while there are reporting regulations and standards (regulative institutions), it is the prevailing view that difficulties in recognising remediation provisions such as uncertainty, difficulty in measuring, and materiality are in conflict with regulative institutions. The view that contaminated site remediation provisions are difficult to measure dominates current reporting practices. This widely shared and accepted dominant institution retains its legitimate status. As a result of a lack of legitimacy threats to the current reporting practice and a lack of awareness and pressures from organisations' external institutional constituents (such as ASIC and auditors), organisations perceive no institutional pressures on their reporting practices (RQ1). Although organisations are able to comply with the regulative institution, they are less willing to disclose contaminated site information (RQ2), and generally adopt an avoidance strategy

(RQ3). An avoidance strategy is reflected in organisations' internal processes, which decouple contaminated site information from financial reporting processes.

Data analysis of interviews with the senior auditor of the sample companies and the financial analyst of ASIC revealed there is a lack of information on, and a lack of awareness of, contaminated sites by auditors and ASIC. The lack of information and awareness has contributed to a lack of institutional pressures being exerted by auditors and ASIC.

The results of this phase have important implications to financial accounting research and SEA research, and offer theoretical contributions to institutional theory and organisational legitimacy literature. The next and the final chapter, chapter 8, will provide a summary of the overall study, discuss the implications from the results, offer recommendations, acknowledge limitations of the study, and suggest future studies.

CHAPTER 8. CONCLUSION

Being the final chapter, this chapter firstly provides a summary of the study and discusses the implications of the findings to both research and practice. Recommendations for policy makers, regulators, and the accounting profession are then offered. This is followed by an acknowledgment of the limitations of the research and identification of opportunities for further research.

8.1 Summary of research project

This study sets out to explore the disclosure practices of Australian companies as they pertain to contaminated sites and seeks theoretical explanations for these disclosure practices. The four phases of this study are summarised as a 'research map' in the Table 8.1, which presents the research objectives, research questions, research design and methods, and research outcomes of each phase.

The first phase of the study documents the steps that must be undertaken to search for information relating to contaminated sites within Australia from publically available information. Australian companies who are responsible for remediation can only be identified and their financial reports viewed and compared once the location of contaminated sites, the extent of contamination, who the responsible parties for the remediation are, what the remediation plans are (if any), and the extent of remediation work required are known. The findings of this phase highlight difficulties involved in the search process including: different regulative and administrative regimes in different jurisdictions in Australia; a lack of information sharing among environmental authorities and administrative regimes; significantly incomplete (in terms of number of sites and the extent of available information on the sites) contaminated sites registers; fee-paying registers in some jurisdiction; and the lack of known contaminated site information by environmental authorities.

Based on the information collected from the first phase, Phase Two investigates the annual report disclosures in relation to contaminated sites of four high profile Australian companies that have known contaminated sites. The actual contaminated site disclosures by the companies are then compared to the relevant reporting requirements. The results indicate that all the four companies, although the degree of non-disclosure varies among them, uniformly did not disclose sufficient information about their contaminated sites to comply with the requirements of financial reporting.

Table 8.1 Research map

Phase	Research Objectives	Research Questions	Research Design and Methods	Research Outcomes
One	<p><u>The 'where' question</u></p> <p>In order to identify contaminated sites within Australia, and the responsible parties for remediation, where—in terms of publically available information—can we find information relating to contaminated sites; what search processes are involved; and, how difficult are the search processes?</p>	<ol style="list-style-type: none"> 1. What procedures must be followed to identify both the location of contaminated sites within Australia, and the parties responsible for the associated remediation? 2. Is the search process involved in identifying contaminated sites of such a nature that an 'average member of the public' could realistically be expected to be able to find the information about contaminated sites? 3. What is the nature of publicly available information, and where is such information located? 4. What improvements, if any, appear necessary in relation to publicly available information pertaining to contaminated sites? 	<ul style="list-style-type: none"> • Review policy, legislative and administrative regimes • Review environmental authorities' annual reports • Website search in each jurisdiction • Media and NGO search • Two face-to-face interviews with EPA Victoria and Australian Conservation Foundation 	<ol style="list-style-type: none"> 1. Necessary procedures documented 2. An 'average member of the public' would be unable to find information 3. Available information is limited and dispersed 4. Much improvement in providing contaminated site information (e.g., a centralised contaminated site register), is necessary
Two	<p><u>The 'how' question</u></p> <p>To explore how Australian companies disclose information in relation to contaminated sites within annual reports</p>	<ol style="list-style-type: none"> 1. In respect of remediation obligations associated with contaminated sites, do Australian companies appear to comply with relevant financial reporting disclosure requirements? 	<ul style="list-style-type: none"> • Review Australian disclosure requirements • Identify four high profile Australian companies associated with contaminated sites • Compare the expected disclosures with actual disclosures by sample companies 	<ol style="list-style-type: none"> 1. The disclosures being made by the sample Australian companies reveals little in relation to existing and potential obligations pertaining to contaminated sites
Three	<p><u>The 'what theory' question</u></p> <p>What theory or theories to use in order to supply possible explanations to the findings of the Phase Two?</p>	<ol style="list-style-type: none"> 1. What theories offer explanatory power to the study? 2. How much is the overlap between legitimacy theory and institutional theory? 	<ul style="list-style-type: none"> • Critically review institutional theory and 'legitimacy theory' as used in both organisation literature and social and environmental accounting (SEA) literature 	<ol style="list-style-type: none"> 1. Legitimacy theory only distinctively developed in SEA 2. Institutional theory provides richer explanations

Four	<p>The 'why' question</p> <p>In respect of Australian companies' disclosure practices in relation to remediation obligations, what are the theoretical explanations supplied by the institutional theory framework</p>	<ol style="list-style-type: none"> 1. In terms of annual report disclosures relating to contaminated site remediation liabilities, how do Australian companies, in control of remediation sites, perceive the institutional expectations and associated institutional pressures exerted by various institutional constituents? 2. In responding to institutional expectations and pressures addressed in RQ1, do Australian companies have the capacity and interest to conform to their perceived institutional expectations and requirements? 3. In relation to annual report disclosure of contaminated site remediation liabilities, what is the strategy that Australian companies seem to adopt in their reporting decision? 4. How do auditors and the Australian Securities & Investments Commission (ASIC) exert (or do not exert) institutional expectations and requirements on Australian companies that are in control of contaminated sites. 	<ul style="list-style-type: none"> • Qualitative research • Method of data collection: semi-structured interviews • Methods of data analysis: transcribing, preliminary coding, final coding and interpretation • Coding: structural coding, provisional coding and pattern coding 	<ol style="list-style-type: none"> 1. Australian companies did not consider that external constituents were pressuring them to disclose contaminated site information, nor did they receive any criticisms of their current practices in relation to contaminated site disclosures 2. Australian companies are able but less willing to disclose contaminated site information 3. Avoidance strategy was adopted by Australian companies 4. Lack of awareness and pressures from the auditors and the ASIC
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Phase Three extensively explores the use of legitimacy theory and institutional theory within both the organisation literature and social and environmental accounting literature. Legitimacy theory has its institutional root and has been distinctively developed only within social and environmental accounting research. Following a discussion of the criticisms of legitimacy theory, it is proposed that institutional theory offers rich explanatory power for SEA research.

Extending Phase Three's theoretical framework, the fourth phase of the study, provides institutional explanations to the findings of Phase Two by analysing interviews conducted with companies, an auditor and a senior representative from the ASIC. In general in relation to disclosing contaminated site related information, the lack of institutional pressures exerted by external constituents, and the lack of pressures perceived by companies have contributed to the lack of disclosure by Australian companies. Organisations' internal processes are found to serve the function of decoupling, preventing the information on contaminated sites from flowing through to financial reporting processes, thus the sample companies are able to avoid reporting on such issues. The consequence of decoupling is that the internal processes provide an effective buffer from potential external scrutiny, thus avoiding potential legitimacy threats.

8.2 Implications of research findings

Discussion of the implications of Phase One (section 2.5), and Phase Two (section 3.5) has been individually addressed in the respective chapters. This section aims to provide an overarching discussion. The findings of the study have important implications for practices and research. In an effort to improve contaminated site disclosures, as well as to improve accountabilities of relevant parties, recommendations are made for environmental authorities, ASIC, accountants and auditors, AASB, and the management of companies.

8.2.1 Implications for practice

With heightened social awareness, living standards and social expectations on environmental issues worldwide, it is rather surprising that in Australia—a developed country—issues relating to contaminated sites, including financial reporting on contaminated sites, remain largely unnoticed and unchallenged.

The findings of this study have important implications for the practices of environmental and financial regulators, accounting and auditing professions, and the management of companies.

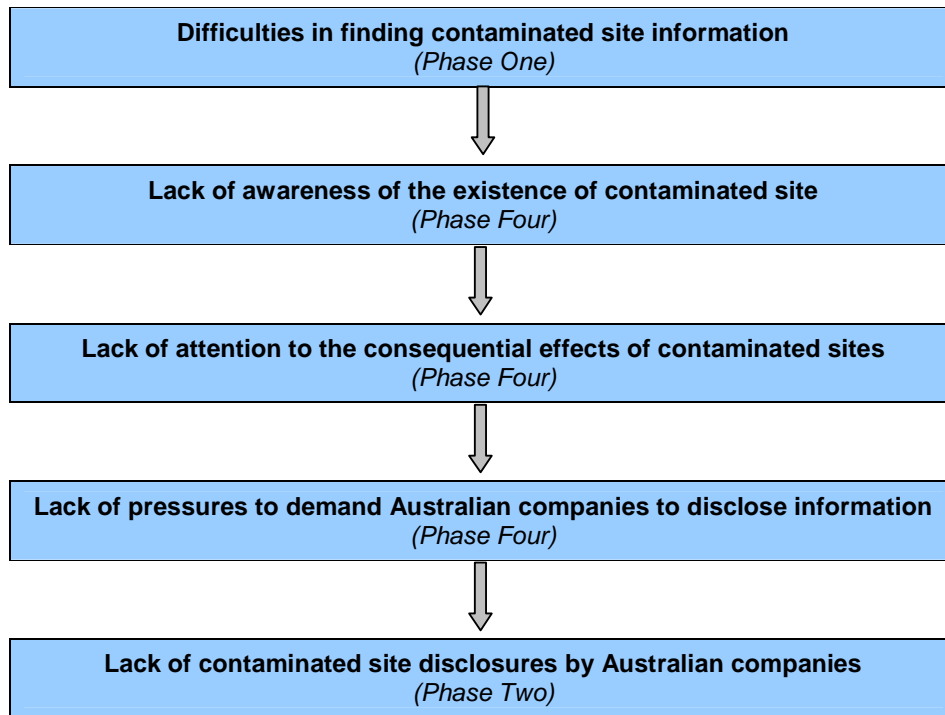
8.2.1.1 Implications for environmental regulators and the financial regulator (ASIC)

For environmental agencies, two issues are relevant. First, there are possibly a large number of existing contaminated sites, which are still unknown to the environmental authorities. The second issue relates to the information about the 'officially known' contaminated sites. Such information is largely held at the local government level and information is not necessarily filtered up to higher levels of government. This decentralisation of the information on contaminated sites significantly contributes to subsequent issues and difficulties such as: difficulties in identifying responsible parties, making polluters' names available to the public, making polluters remediate the sites, making polluters pay for remediation work, and making polluters accountable for their actions or inactions.

Figure 8.1 demonstrates the implications of difficulties in finding contaminated site information in Australia (results shown in Phase One). The difficulties in finding contaminated site information contributes to a lack of awareness of the *existence* of contaminated sites, which in turn contributes to a lack of attention to the *consequential effects* of contaminated sites. These consequential effects of contaminated sites include the harm to the environments and human beings, and mounting but unreported financial obligations for responsible parties to remediate these contaminated sites.

A lack of attention to the consequential effects of the harm of contaminated sites leads to a lack of pressures being exerted by relevant parties to demand that contaminated sites be remediated and contaminated site information be disclosed. Without receiving significant pressures for contaminated site information, responsible parties, including Australian companies, will have a greater degree of autonomy to decide to avoid disclosing contaminated site information (results shown in Phase Four). This ultimately leads to a lack of disclosures by Australian companies as they pertain to contaminated sites (results shown in Phase Two). Without sufficient information relating to contaminated sites being disclosed (by both the government agencies and the responsible parties), the task of remediating these sites, thus reducing the harm to the environment and human beings, remains a difficult, and maybe impossible, task.

Figure 8.1 Implications of difficulties in finding contaminated site information



As a regulator for financial reporting, and only if ASIC obtains sufficient information relating to contaminated sites (from environmental agencies), will ASIC be able to monitor and enforce companies' financial disclosures relating to contaminated sites. Currently, there is no such information sharing between environmental agencies and ASIC, on the matter of contaminated sites. This can be contrasted with the situation in the United States where detailed contaminated site information is available to the general public, free of charge. In addition, the nation's uncontrolled hazardous waste sites are managed by a federal government's program called 'Superfund'⁸⁰. The Superfund website provides detailed contaminated site information which includes site description, responsible parties, potential threats and contaminants, cleanup approach and progress, and contact details of relevant parties.

⁸⁰ Superfund is the name given to the environmental program established to address abandoned hazardous waste sites at a national level. It is also the name of the fund established by the *Comprehensive Environmental Response, Compensation and Liability Act of 1980*, as amended. This law was enacted in the wake of the discovery of toxic waste dumps such as Love Canal and Times Beach in the 1970s. It allows the US EPA to clean up such sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-lead cleanups. The Superfund cleanup process involves the steps taken to assess sites, place them on the National Priorities List, and establish and implement appropriate cleanup plans.

It should also be noted that the implications of the findings of this thesis was taken into account by NSW government, when debating on the availability of information relating to NSW contaminated site register. An amendment was moved, taking direct reference to the findings of the thesis, to the then proposed *Contaminated Land Management Amendment Bill 2008* to address the difficulties in finding contaminated site information and to 'enhance public access to contaminated land information' (Parliament of New South Wales Legislative Council 2008, p. 12170). Subsequently in 2011, the *Protection of the Environment Operations Act 1997* (POEO Act) was also amended by the *Protection of the Environment Legislation Amendment Act 2011* aiming to improve the provision of the contaminated site related information to the public.

Based on the implications discussed above, recommendations are made to environmental regulators and ASIC separately.

Recommendations for environmental regulators

Three recommendations are made to environmental regulators. Firstly, it is recommended that a nation-wide policy on assessment and remediation of contaminated sites be endorsed by each jurisdiction and to be implemented in each jurisdiction's legislative and administrative frameworks. This will reduce confusion caused by the inconsistencies and reduce the inefficiencies in government resources caused by inconsistencies. Strengthened legislative and administrative powers held by environmental agencies to enable them to actively identify contaminated sites, impose compulsory remediation (currently EPAs take a hands-off approach to remediation and most remediation works are voluntary based, driven by commercial incentives from redevelopment of the land), and shortening the remediation period allowed. Shortening the remediation period brings two benefits. Firstly, the spread of contaminants is reduced by shortened the polluting period. Secondly, a shortened period may make the present value of the remediation cost material, and thus the associated obligations should be disclosed in companies' financial reports.

Secondly, environmental policy makers are recommended to consider establishing a nation-wide contaminated site register, which is publicly available and free of charge. Making a free register available will incur a significant amount of initial resources outflow and maintenance costs, but the costs need to be compared to the social, environmental and economic benefits generated in the longer term. Apart from the environmental benefits of having more contaminated sites remediated (thus reducing the harm to environments and humans), making such information available will also expose polluters to public scrutiny, which may in turn reduce or prevent future site contamination.

Knowing contaminated site information and the potential risks, stakeholders such as shareholders, creditors, analysts, auditors, the ASIC, NGOs and the local communities will be potentially able to exert pressures to have contaminated sites properly remediated and the responsible parties to be made accountable. Other benefits such as improved transparency and public confidence, improved right-to-know, and better health from less pollution also need to be considered. Communications with the US Superfund are also suggested to learn from their experiences in relation to their register and regulation.

The third recommendation is to establish a contaminated site database shared by environmental agencies and the ASIC. Environmental authorities in different jurisdictions and ASIC are thus able to share and use information for their own purposes. The source of the information from this database is based on the nation-wide contaminated site register but may also include some additional internal communication between the environmental agencies and ASIC.

Recommendations for the ASIC

ASIC is suggested to actively communicate with environmental authorities and to increase its monitoring activities on certain industries such as mining and chemical companies for contaminated site related disclosures. ASIC may select and request sample companies to explain the breakdown of relevant remediation provisions and relevant information/evidence to support calculations in annual reports. ASIC may also include remediation provisions as one of the yearly focuses announced by its financial reporting surveillance program, and audit inspection and surveillance program. A tightened enforcement of reporting contributes to higher quality of financial reporting, and to public confidence.

8.2.1.2 Implications for accountants and auditors

In terms of the implications to accountants and auditors, the findings demonstrate that accountants may have a tendency to under-provide, or not provide, for remediation provisions. This may be due to the lack of understanding of the issue and the lack of information resulting from the decoupling of internal company processes from external financial reporting. The common view of accountants in relation to remediation provisions is that it is difficult to recognise the provisions due to the uncertainty, measurability and materiality. Auditors are also unaware of the potential risks associated with contaminated sites, thus exert little or no pressures on their clients in respect of this issue. The investigation also suggests current reporting requirements may not sufficiently provide guidance for reporting contaminated sites.

Based on the implications for accountants and auditors, recommendations are made for accountants and auditors, and the AASB.

Recommendations for accountants and auditors

It is recommended that accountants develop clear accounting guidelines and internal reporting procedures that take into consideration contaminated sites. Developing a site register and site life plan can provide a complete record of contaminated sites and form a basis for financial reporting. The prevailing view on remediation provisions is that they are difficult (due to uncertainty or measurability) to recognise or are immaterial, also needs to be changed, as this view may be in conflict with reporting requirements.

Auditors are suggested to actively seek contaminated site related information and ask their clients to provide sufficient evidence to conduct the audit.

Recommendations for AASB

There are limited accounting standards and guidelines that are relevant to remediation obligations and expenses. Although AASB137 addresses provisions, how to apply such standards, in particular quantifying obligations, is still subject to significant professional judgement. Given the significant amount of environmental costs involved each year (according to Australian State of the Environment Committee 2011, the remediation costs in Australian are around \$2 billion per year), to produce a clear guideline on environmental liabilities including remediation obligations would be a worthwhile exercise for the AASB.

8.2.1.3 The management of companies

The findings of the study also have implications for the management of companies, especially for those companies operating in environment-sensitive industries. The nature of operations in industries such as mining, iron and steel making, chemical production and storage, oil refineries, manufacturing, tanneries, or farm livestock dips, means companies in these industries have higher risks in relation to being responsible for creating, or contributing to, contaminated sites. Contaminated sites not only pose significant risks for the environment and the health of the public, but can also require significant financial resources to remediate. Operations within these industries are subject to highly regulated health, safety and environmental expectations. As regulatory standards, environmental standards, technologies and social expectations continue to develop over time, companies may be exposed to increased litigation and public scrutiny. The compliance costs and environmental remediation costs will increase. The findings of the study indicate, however, companies' current practices do not equip them sufficiently to address the heightened business risks.

Recommendations for the management of companies

It is recommended that companies operating within environmental sensitive industries, need to more actively take into account the risks associated with contaminated sites, and to actively account for contaminated site remediation. This will help to prevent a potential

reputation crisis (being scrutinised by society) and financial risks that could be crucial to the survival of businesses. Relevant internal processes need to be implemented to ensure contaminated site information is taken into account.

Having discussed the implications for practices, attention is now diverted to the implications for research.

8.2.2 Implications for research

Implications of the findings for research are discussed in terms of the implications for social and environmental accounting research, and contributions to theory.

Although there is a rich body of literature in social and environmental accounting research, most is related to voluntary social and environmental accounting. A common view on voluntary disclosures is that they are self-laudatory and commonly less than objective (Deegan & Gordon 1996; Deegan & Rankin 1996). Positive news on social and environmental performances is often disclosed, whereas negative news is often hidden or suppressed in companies' annual reports. This study, with a focus on financial environmental obligation disclosures in Australia, indicates that disclosures on environmental liabilities, in particular contaminated sites, are limited. It reveals environmental liability disclosures—often being viewed as 'negative news' of the company—also suffers from 'being hidden' and 'being suppressed' in financial reports. This study provides Australian evidence relating to financial reporting of environmental liabilities. It shows that results generated within overseas studies (for example, Repetto 2004) are also found within the Australian context.

This study devotes a separate phase—Phase Three—to extensively review legitimacy theory and institutional theory. This phase arose because the researcher initially struggled to determine what was the 'best' or most appropriate theory to use within the context of this thesis and the more she delved into the issue various interesting issues came to light—not least of which was whether legitimacy theory was a theory in its own right, or whether it provided explanations which were different to those available from institutional theory.

Within the SEA literature, legitimacy theory has commonly been applied and institutional theory has gradually attracted more attention. In terms of legitimacy theory, this research sources back its often ignored institutional root, and critically reviews its distinctive development within the SEA literature. The over-emphasis of the strategic aspect and the under-application of the institutional aspect of the concept of 'organisational legitimacy' within legitimacy theory—as it currently used by SEA researchers—is criticised. It is then proposed that institutional theory offers greater explanatory power to SEA research. Phase Four then extends and enriches this theoretical framework by applying the framework, as an explanatory tool, to the understanding of contaminated site disclosures within the Australian

context. This research enriches and extends intuitional theory by adding SEA context and thus contributes to the theoretical developments of institutional theory. The institutional framework adopted in this research has great potential to be applied to other SEA-related research in the future. Suggested future studies are discussed in section 8.4 Future Research.

Taken together, this study highlights a lack of stakeholder awareness and pressure in relation to contaminated sites. This study also highlights the complexity of the issue, which involves a range of factors such as regulative, administrative, technical, social, economic and political factors. Unless all of the stakeholders collaborate to tackle the issue of contaminated sites, ensuring quality financial information in relation to contaminated sites disclosed in annual reports may remain to be a challenging task. Much change is needed.

8.3 Limitations

Central limitations of the study are related to the interview method chosen, and sample size.

Interviews were chosen as the data collection method (Phase Four). The setting of the interview is not a natural field setting—instead it is a designated place. The researcher's presence may bias the interviewee's responses. Interviewees may have their own agenda and thus provide biased information, or they may be unwilling or uncomfortable to answer certain questions.

The other limitation relates to sample size. There are a limited number of contaminated sites identified in Phase Two, and a limited number of interviews were conducted in Phase Four. It is not possible to identify a large sample due to a lack of regulatory publication of companies with contaminated sites (Deegan & Ji 2008). That is, a large-scale investigation is not possible given environmental authorities themselves do not have a complete list of contaminated sites. As a result of the limited information collected in relation to known contaminated sites (Phase Two), the sample companies that are associated with known contaminated sites is limited, which in turn limits the number of possible interviews (Phase Four). In short, the samples are limited due to the lack of information provided by environmental protection agencies and the sensitivities perceived by the participant companies and auditors. This in turn highlights that there are much to be done to tackle the issue of contaminated sites and the related financial disclosures. It is noted that a limited number of companies and interviews has implications for the generalisability of the findings of the study.

8.4 Future research

Future research opportunities are presented in terms of SEA research, theory application and development, and research methods.

Future SEA research may pursue further the issue of disclosures in relation to contaminated sites within Australia. This can be done by extending the scope of the study to other disclosures, such as sustainability reporting and company's website disclosures, on contaminated sites. This may allow a comparison of how companies disclose contaminated site information in financial reporting versus sustainability reporting. This comparison would highlight potentially different practices and strategies that organisations use for disclosure of contaminated sites through different channels.

If a company discloses no information in relation to contaminated sites in the financial report, and discloses 'positive news' on how the company remediates its contaminated sites, researchers may further investigate the 'why' questions. This may render fruitful insights into disclosure practices. Longitudinal studies on companies' disclosures relating to contaminated sites, either in financial reports or in sustainability reports, may also reveal institutional changes and the relevant factors that have contributed to such changes.

Institutional theory offers rich explanatory potential to SEA research. Apart from institutional factors that this research investigates, future studies may investigate how institutional expectations and pressures change over time, in terms of contaminated site disclosures.

Case studies on particular sites can be conducted by interviewing personal and studying the records of sites from the sites' initial production phase, to the closure of the sites and at the completion of remediation work. This study would provide a longitudinal view of the life cycle of contaminated sites together with the relevant accounting processes, to provide a rich understanding of relevant processes and to provide recommendations to improve contaminated site disclosures. Case studies can be conducted within an organisation or within an industry. Interviewing other stakeholders, such as investors, creditors, professional bodies, and credit agencies, on contaminated site disclosures, may also offer some complimentary understandings to the reporting practices on contaminated site disclosure. Apart from document analysis and interview, action research offers active interactions with the participants aiming to improve the quality of disclosures. This may contribute to better practices and a better understanding of contaminated site disclosures.

8.5 Concluding remarks

This study explores and demonstrates a series of issues associated with contaminated sites with a focus on financial disclosures in relation to contaminated sites within an Australian

context. These complex and interconnected issues are: the inconsistencies in regulative and administrative regimes in jurisdictions; the inconsistencies in legislative and administrative powers on the assessment and remediation of contaminated sites; the insufficiencies in the publically available information on contaminated sites; the lack of disclosures by Australian companies in control of contaminated sites; the lack of external stakeholders' awareness and pressures on contaminated site disclosure; the lack of perceived pressures on contaminated site disclosures by companies; the lack of willingness to conform to financial reporting requirements as they pertain to contaminated sites; and the current prevailing reporting practices in relation to contaminated sites that prevent meaningful disclosures.

To make financial disclosures in relation to contaminated sites meaningful to stakeholders, and at a broader level to reduce the harm brought by contaminated sites, significant changes are urged. These changes include: consistent and tightened requirements in environmental regulations and financial reporting, stronger enforcements by government agencies with respect to physical site remediation and contaminated site disclosures (both environmental authorities and ASIC), improved information availability on contaminated sites, better reporting practices on contaminated sites, and heightened pressures exerted from shareholders, creditors, auditors, analysts, NGOs and local communities.

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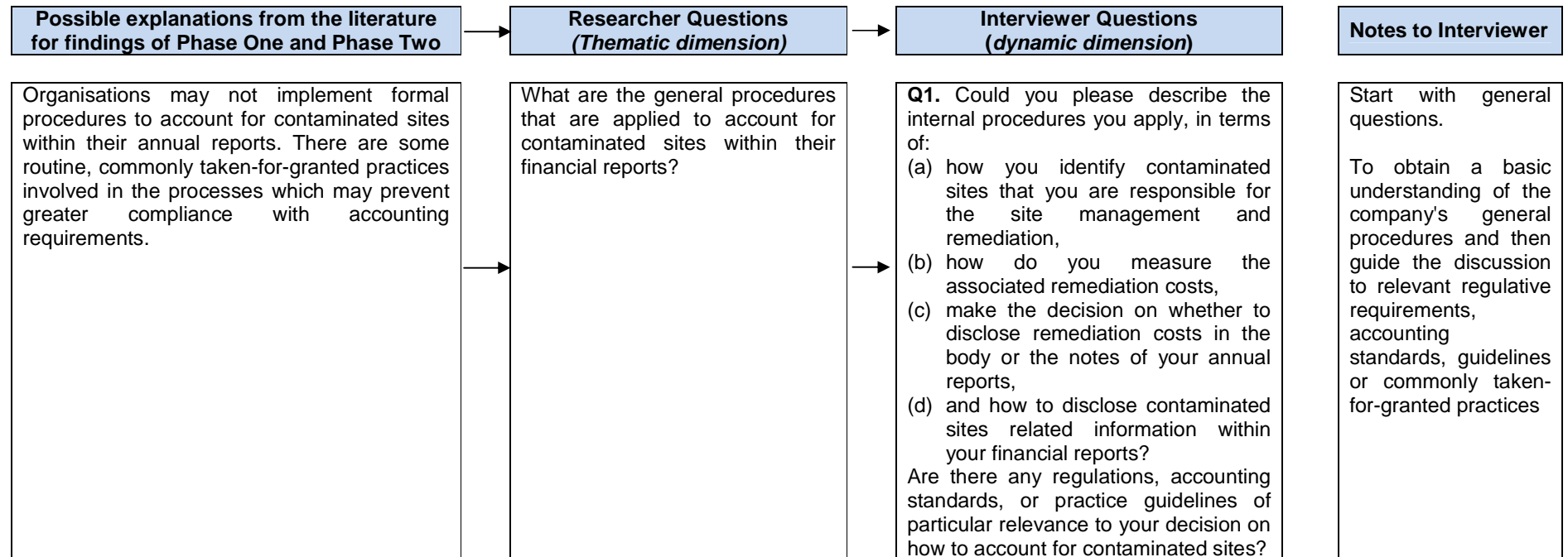
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APPENDIX

Appendix 1 Question Developments - Interviewing Senior Accountants



Organisations may confront some issues when preparing contaminated site-related information which may prevent greater compliance with accounting requirements. These issues may include some or all of the possible explanations that are listed below. In addition, there may exist some other unexpected issues that are worth to exploring.



Are there any specific accounting issues raised during the processes of preparing these accounts as they pertain to contaminated sites? If yes, what are they?



Q2. During the processes that you have described, do you encounter any issues, for example the complexities in laws and regulations on site contamination and remediation, the uncertainties involved in measuring remediation liabilities, lack of specific guidelines, on how to account for contaminated sites? If yes, what are they?

Participant's response may involve some or all of the institutional factors that will be explored later. Depending on their response, interviewer may probe issues further without strictly following the order of the interviewer questions listed. Interviewer may explore other unexpected issues that may emerge from the interview.

Organisations may not be aware of all of the expectations and demands from relevant external constituents to comply with relevant accounting standards and to disclose more specific contaminated site related information in their annual reports. There may be a gap existing between the organisation's perceived institutional expectations (exerted by institutional constituents), and the actual expectations from the external institutional constituents. If this gap exists, organisations may, or may not, be aware that there is an apparent gap between what they are disclosing in their annual reports, and what they are expected to disclose by their external constituents.



Are organisations aware of various expectations (regulative, normative and cultural-cognitive) from institutional constituents pertaining to site remediation disclosures within their annual reports?

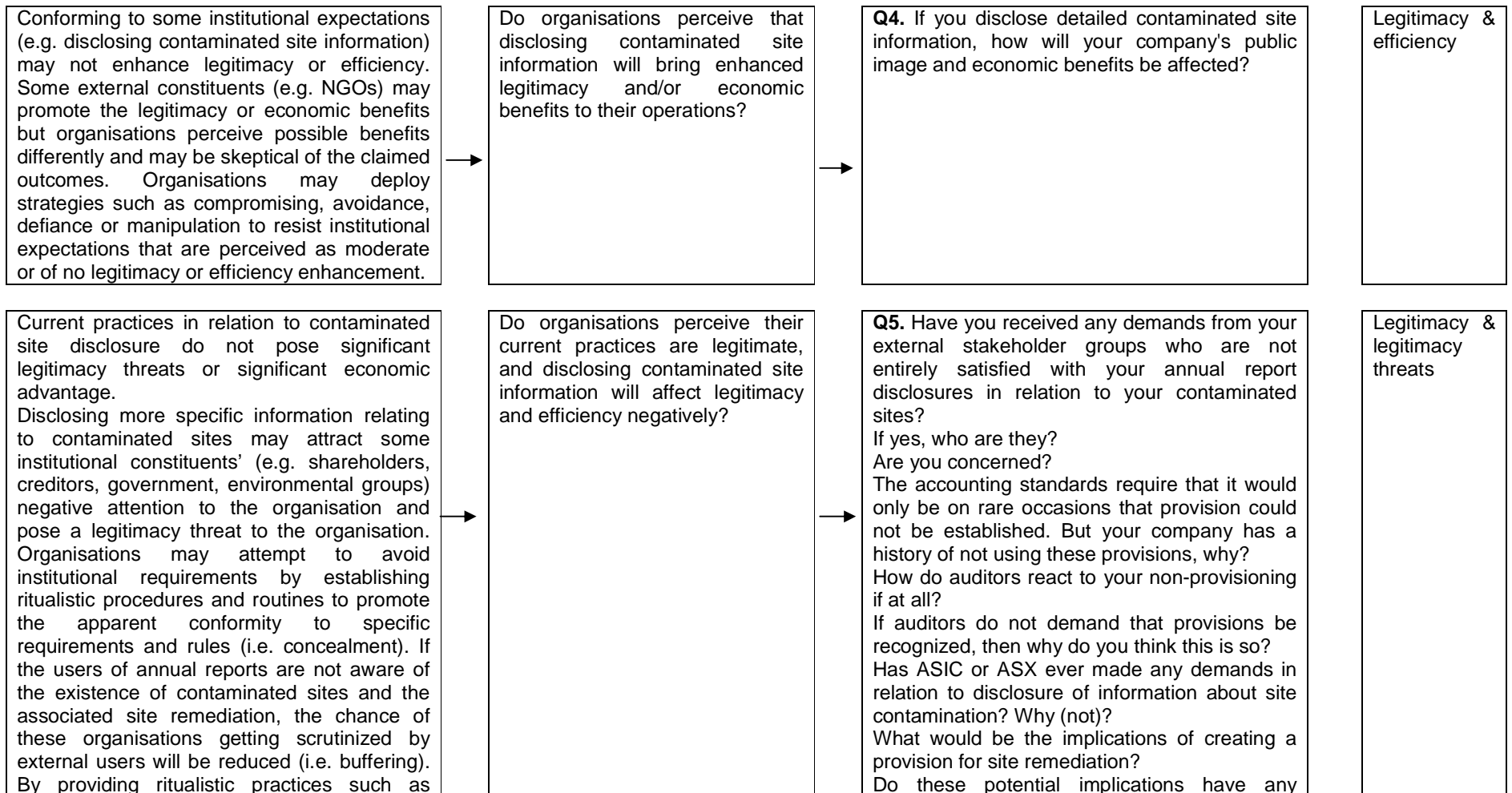


Q3. Do you perceive any expectations or demand relating to disclosing site contamination information in your annual report? If yes, which groups exert these pressures [Who]? What are their expectations (that is what they want to know) and demands [Contents]? How do these groups exert pressures [Mechanism]?

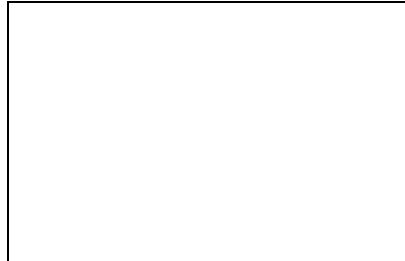
Awareness of institutional pressures

Five institutional factors:

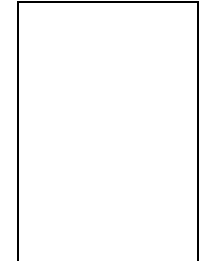
1. Cause: legitimacy and efficiency



preparing annual reports regularly, organisations promote the apparent compliance to specific accounting rules and regulations such as Corporations Act and GAAP (concealment). By confirming that site contamination exists, organisations also make their financial commitments to site contamination real, increasing the cost of doing business.



influence on your decision to recognize a provision?
Is it because non-provisioning is what other organisations do? Do you know the likely costs of cleanup for internal management purpose?



2 Constituents: multiplicity and dependence

Multiple conflicting pressures exerted by institutional constituents restrict organisation's ability to conform. Having site contamination information disclosed within annual reports may displease shareholders and creditors as potential profit deductions caused by these contaminated sites, however they may be demanded by relevant regulatory agencies, accounting standards board and other stakeholders. Conflicting expectations also decrease the degree of unconscious conformity. Conflicting expectations creates more opportunity for organisations to trade-off perceived benefit and cost involved in a particular strategies adopted.

Do multiple institutional constituents with conflicting expectations exist?

Q6. Do you think there are conflicting expectations and demands among your external stakeholder groups in relation to contaminated site disclosures within annual reports? To what extent? How do you trade-off different demands, or is not this an issue?

Multiplicity

The degree of dependence on a particular institutional constituent is associated with organisation's decision to conform or resist. In a situation where this organisation is only moderately dependent on particular groups (such as the general public, or environmental groups), ceremonial conformity, symbolic gestures of compliance may be adopted by the organisation.



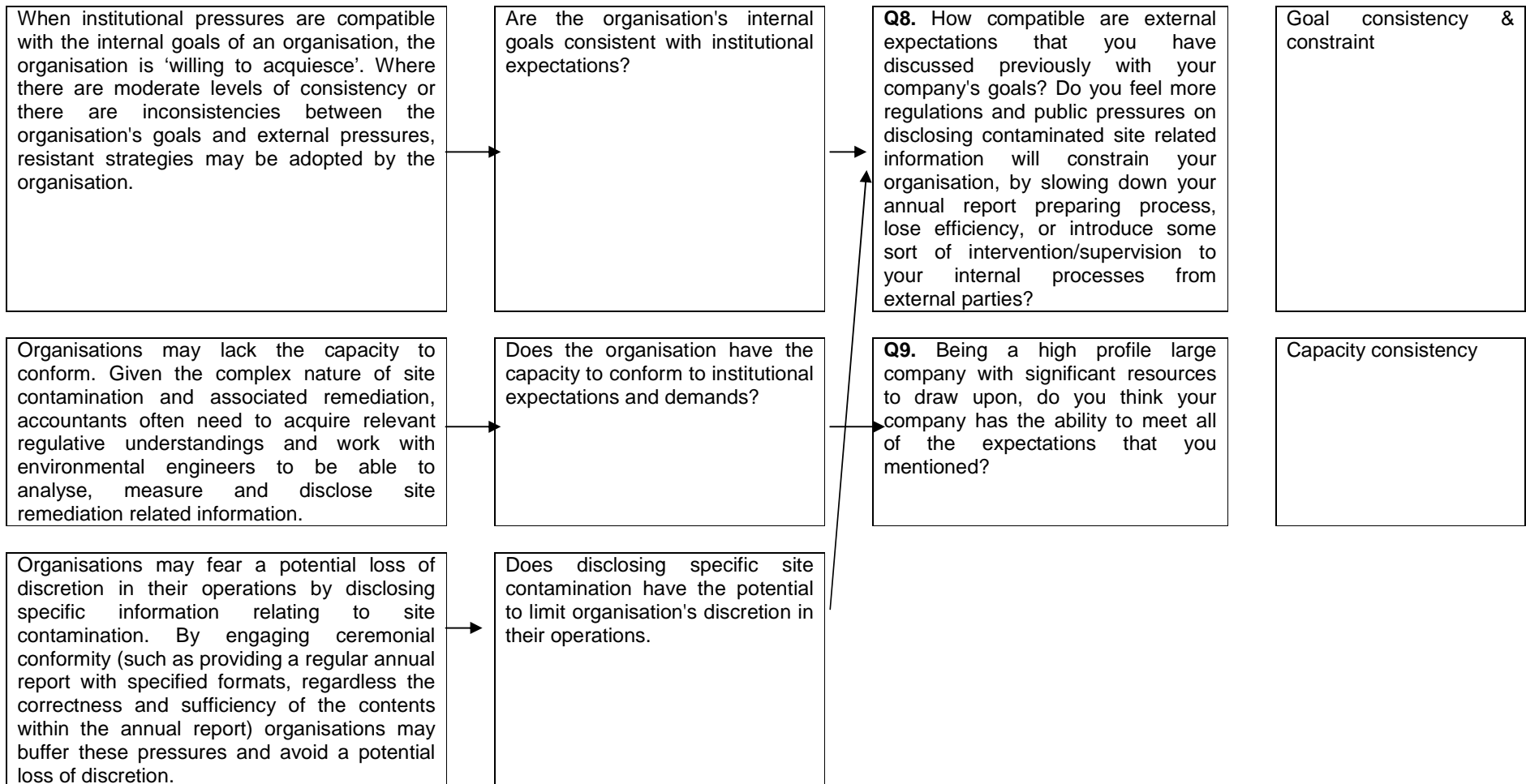
To what extent does an organisation's survival depends on particular institutional constituents?



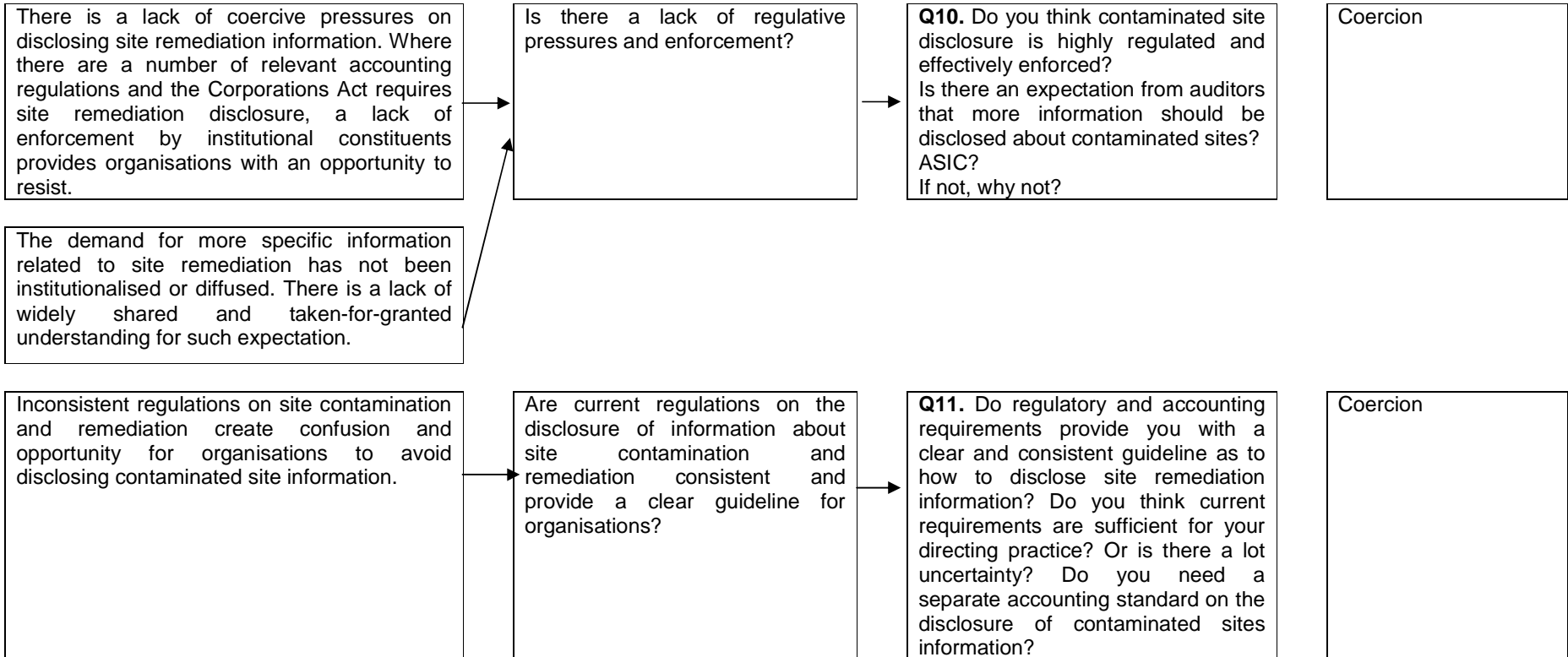
Q7. How important are external stakeholders are to your company's survival?

Dependency

3 Content: goals and capacity consistency and constraint



4 Control: coercion and diffusion



Current practice has diffused widely and has obtained its dominant status. 'This is the way that things are done.' 'This is the way others have done and have found to work.' 'This way is the legitimate way'. Doing otherwise is simply unthinkable. Broadly diffused rules (dominant institution) represent a widely shared understanding of legitimate practice. If the issues, such as probability, measurability and materiality prevent further disclosure of site remediation, are widely agreed and the agreement is widely diffused, organisations are less likely to disclose contaminated site information.

Limited diffusion of alternative norms and values also prevent organisations being aware of these alternatives, organisations therefore unable to conform.

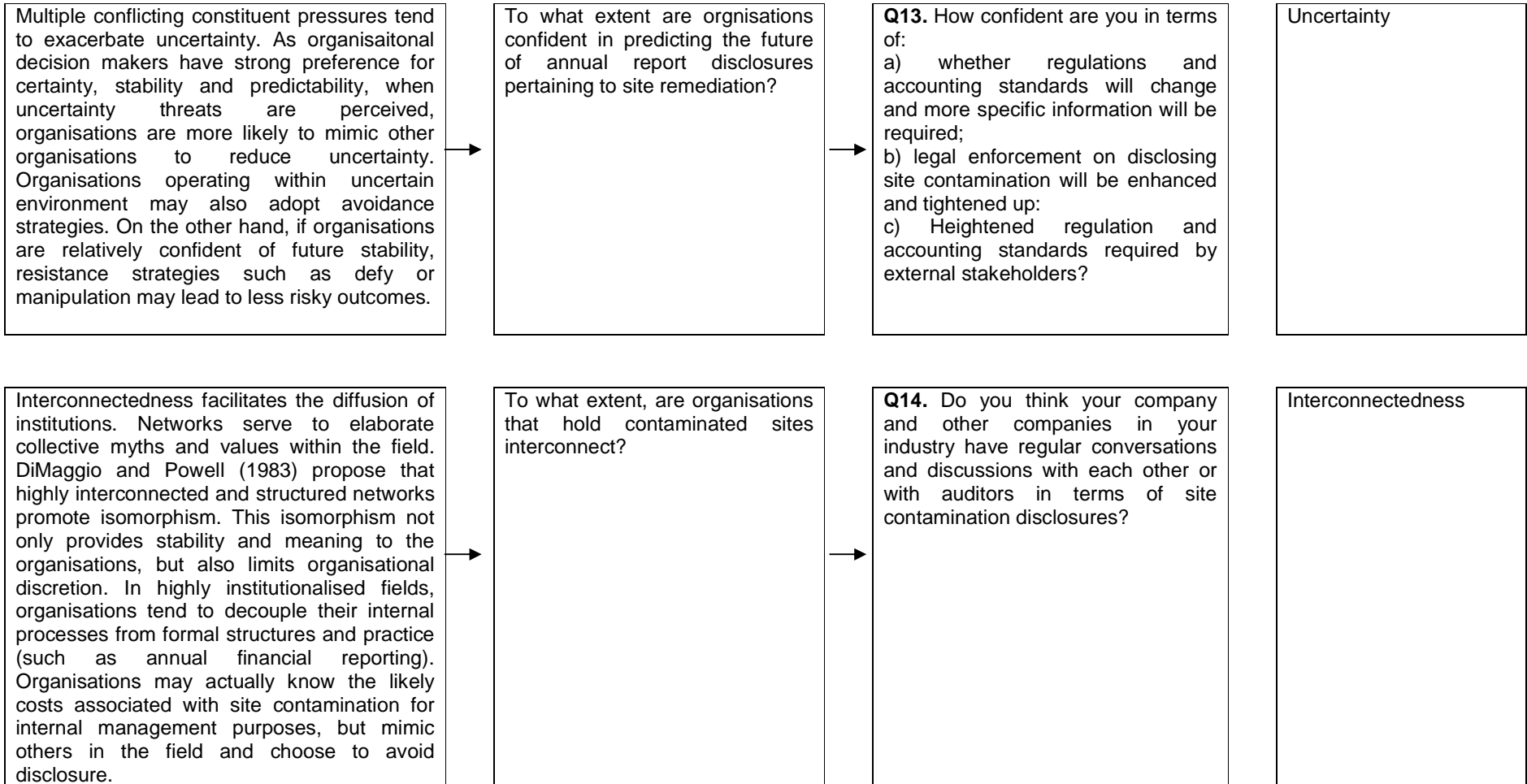
Does the current practice of contaminated site disclosure obtain dominant status and is it widely shared and taken-for-granted?

Q12. Do you think your current practice is widely shared by other companies that hold contaminated sites? Do you think it is a widely accepted view that measurability and materiality prevent future disclosure of site remediation? How do you reconcile this with AASB137 that states only in 'extremely rare case' that a liability exists but cannot be recognized as a provision?

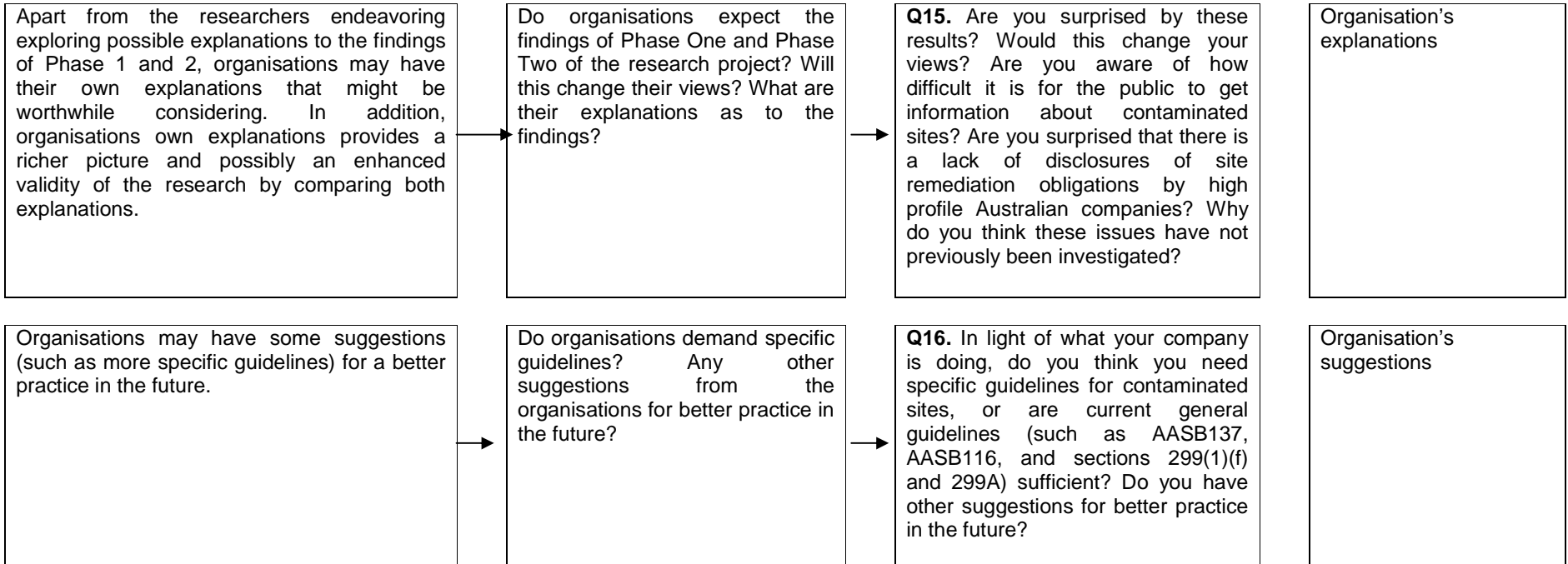
For organisations to continually fail to recognize provisions means that 'extremely rare cases' are coming up frequently – this is illogical. There seems to be a difference in opinion between the accounting standard setters and companies. Where do the auditors sit on this – are they prepared to accept the existence of many 'extremely rare cases'?

Diffusion

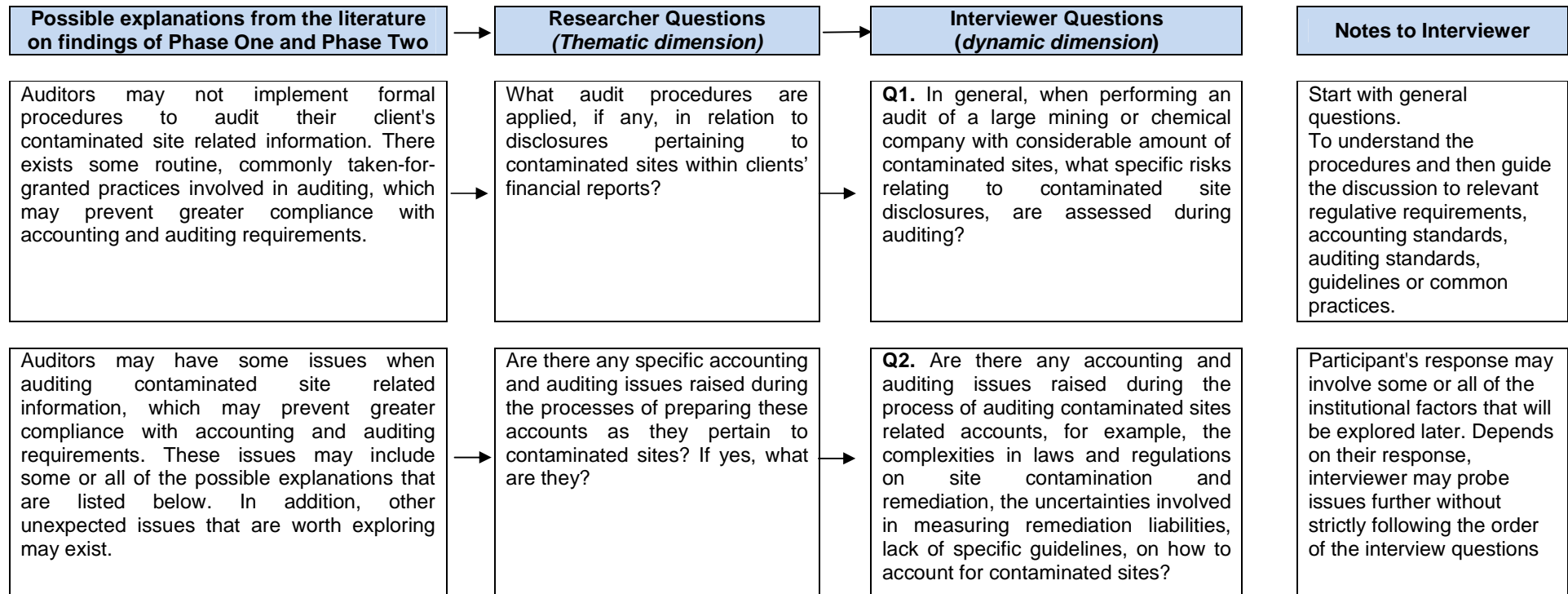
5 Context: uncertainty and interconnectedness



Further Questions (to explore companies' explanations and expectations in response to the findings from Phase 1 and 2 of the PhD studies)



Appendix 2 Question Development - Interviewing Auditors



Auditors may not be aware of all of the expectations and demands from relevant external constituents.



Are auditors aware of various expectations from institutional constituents pertaining to site remediation disclosures?

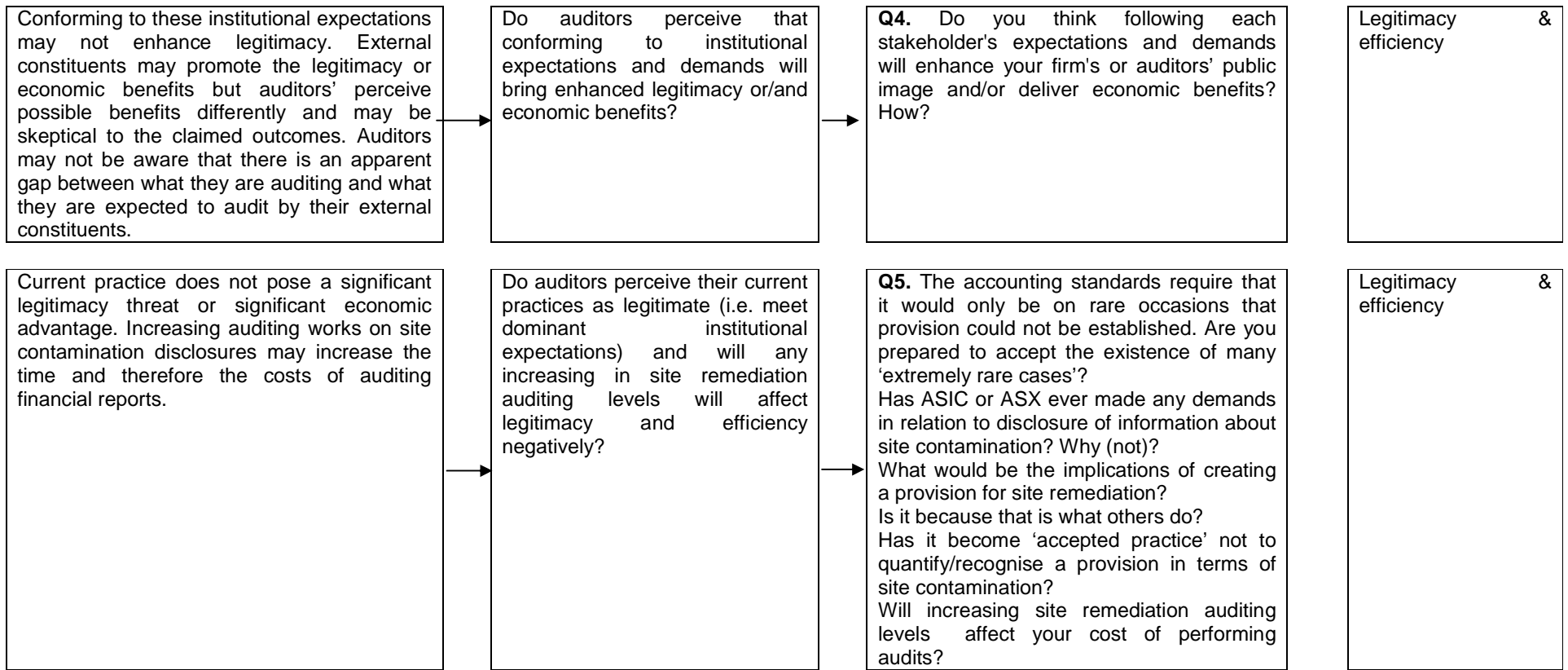


Q3. Do you perceive any expectations or demands, such as the ASIC, Accounting and Auditing Standards boards, environmental bodies or the general public, relating to auditing your client's financial reports pertaining to site contamination information?
If yes, which groups exert these pressures [Who]?
What are their expectations and demands [Contents]?
How do these groups exert these pressures [Mechanisms]?

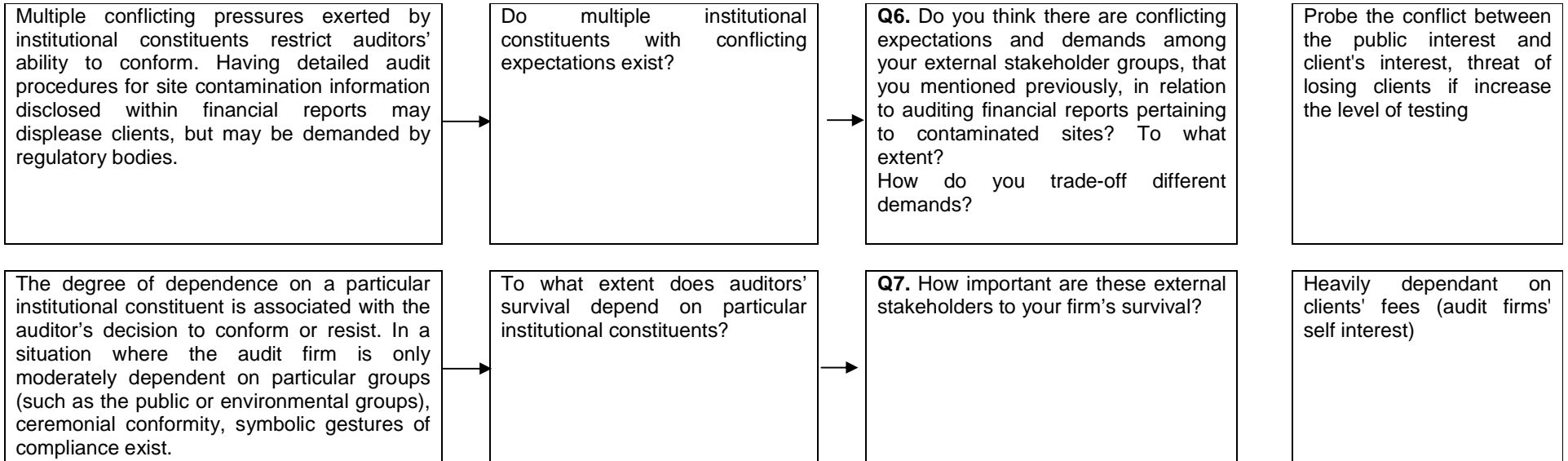
Awareness

Five institutional factors:

1. Cause: legitimacy and efficiency



2 Constituents: multiplicity and dependence



3 Content: goals and capacity consistency and constraint

When institutional pressures are compatible with the internal goals of the audit firm, the audit firm is willing to acquiesce. Where there is a moderate level of consistency or inconsistencies between the audit firm's goals and external pressures, resistant to pressures is more likely to exist.

Are the audit firms' internal goals consistent with institutional expectations?

Q8. How compatible are external expectations with your firms' own organisational goals? Do you feel more regulations and public pressures on disclosing contaminated site related information will constrain your organisation by slowing down financial report auditing processes?

Audit firms' organisational goals may be maximising fees from their clients, which may be in conflict with other external stakeholders.

Audit firms may lack capacity to conform. Given the complex nature of site contamination and associated remediation, auditors often need to acquire relevant regulative understandings and work with experts to be able to perform auditing tasks.

Does the audit firm have the capacity to conform to institutional expectations and demands?

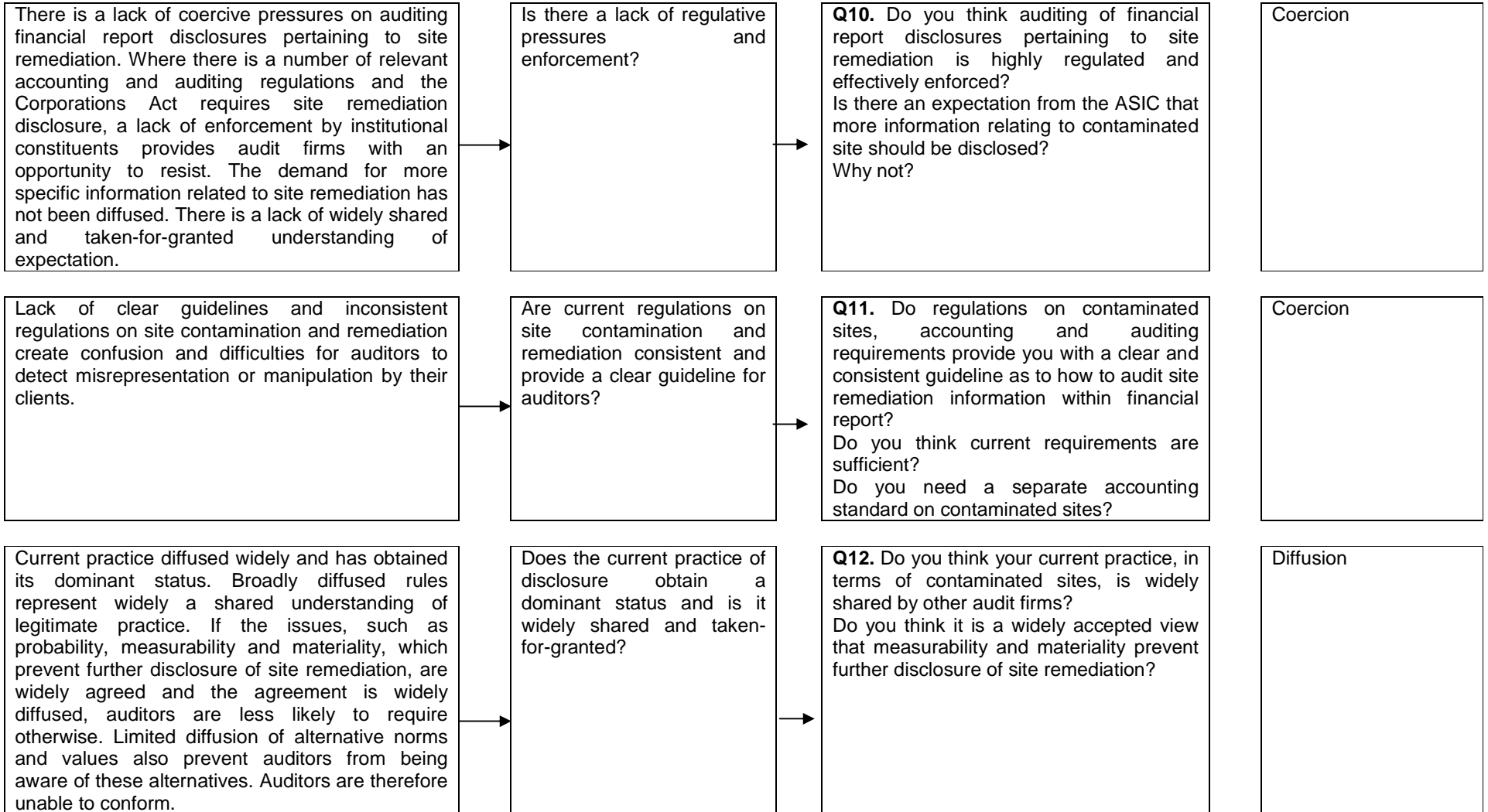
Q9. Being a high profile large audit firm, do you think your firm has the ability to meet all of the expectations that you mentioned?

capacity

Auditors may fear of potential loss of discretion on their operations by following specific auditing procedures relating to site contamination. By engaging in ceremonial conformity auditors may buffer these pressures, avoid potential loss of discretion and maintain autonomy.

Do the following specific auditing procedures relating to site contamination have the potential to limit organisation's discretion on their operations?

4 Control: coercion and diffusion



5 Context: uncertainty and interconnectedness

As auditors have strong preference for certainty, stability and predictability, when uncertainty threats are perceived, auditors are more likely to mimic other auditors to reduce uncertainty. Auditors operating within uncertain environments may also adopt avoidance strategies. On the other hand, if auditors are relatively confident of future stability, resisting strategies, such as defy or manipulation, lead to less risky outcomes.

To what extent are auditors confident in predicting the future of auditing financial report disclosures pertaining to site remediation?

Q13. How confident are you in terms of:
a) whether regulations, accounting and auditing standards will change and more specific information is required; b) legal enforcement on disclosing site contamination will be enhanced and tightened up; c) Heightened regulation, accounting and auditing standards required by external stakeholders?

Uncertainty

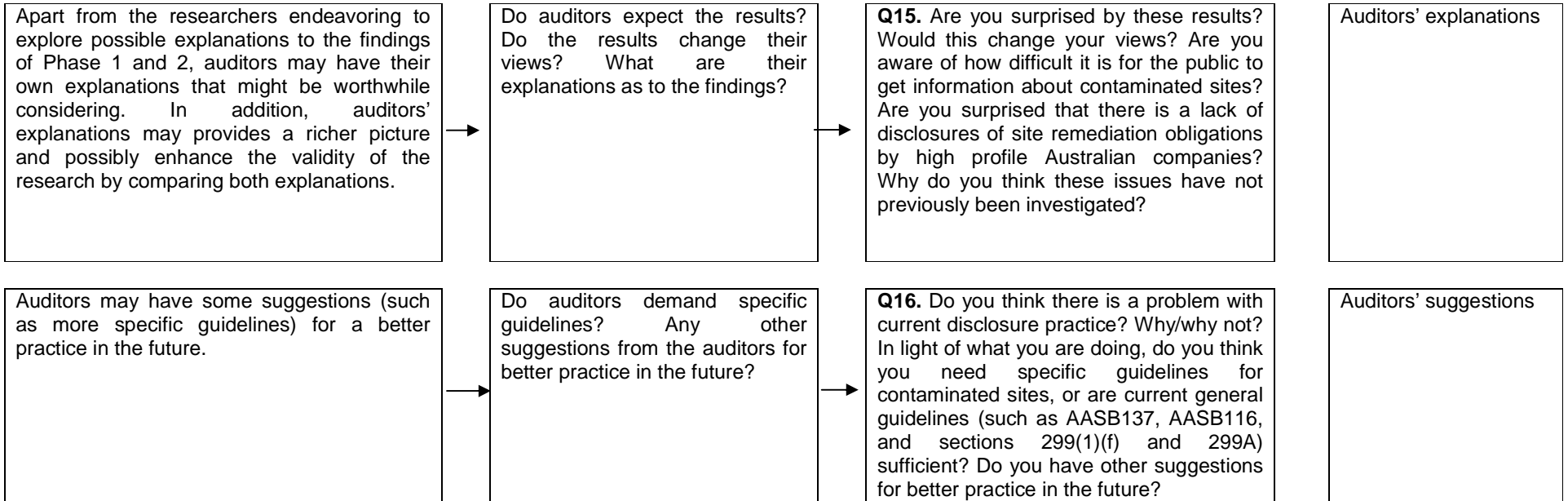
Interconnectedness facilitates the diffusion of institutions. This network serves to "elaborate collective myths and values" within the field.

To what extent, do auditors whose clients hold contaminated sites interconnect to each other?

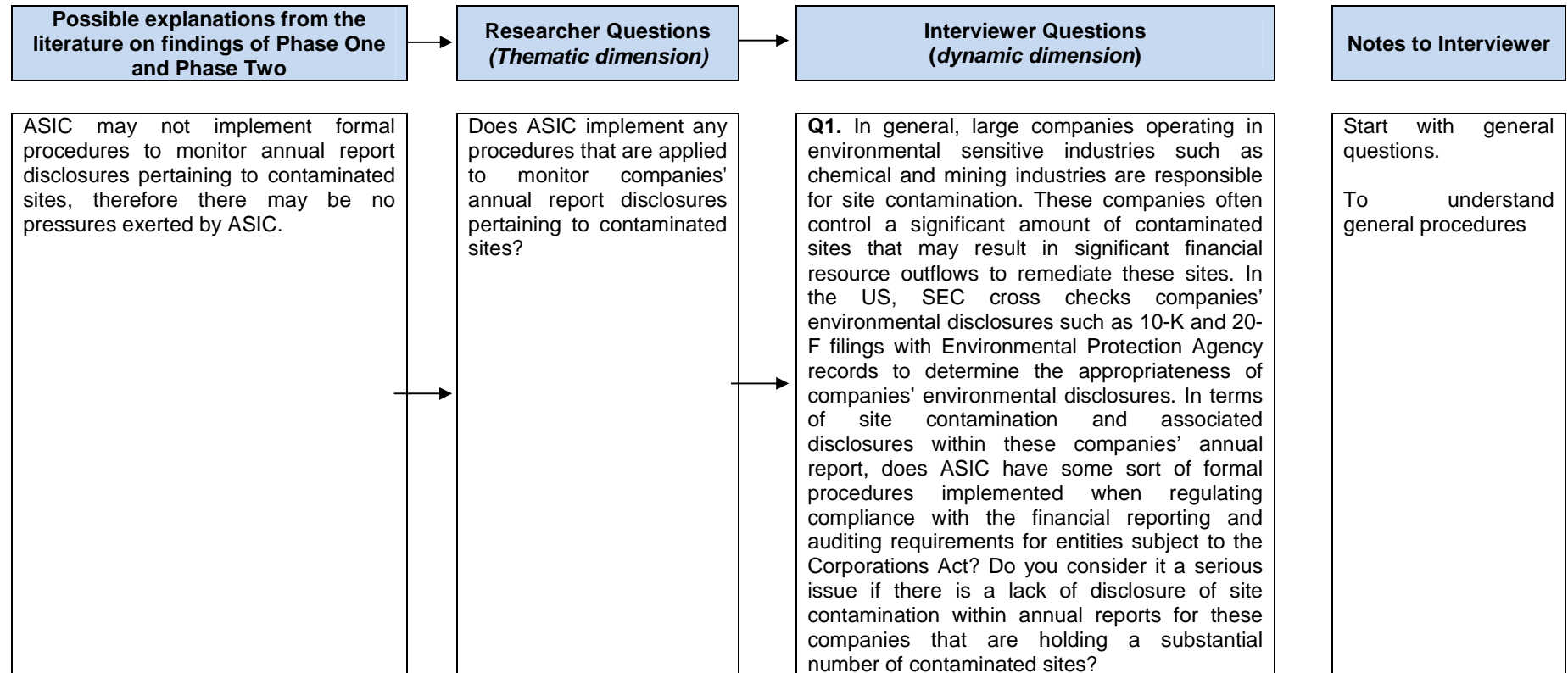
Q14. Does your firm and other audit firms have regular conversations and discussions related to the area of site contamination disclosures?

Interconnectedness

Further Questions (to explore auditors' explanations and expectations in respond to the findings from Phase 1 and 2 of the PhD studies)



Appendix 3 Question Development - Interviewing the ASIC



ASIC may confront some issues when regulating compliance with the financial reporting and auditing requirements for entities holding contaminated sites, which may prevent greater compliance with accounting requirements. These issues may include some or all of the possible explanations that listed below. In addition, there may exist other unexpected issues that may be worthwhile exploring.

Are there any specific issues raised during the process of monitoring as they pertain to contaminated sites? If yes, what are they?

Q2. With respect to contaminated sites, are there any accounting and auditing issues raised during the process of monitoring companies' compliance with relevant regulations and requirements, for example the complexities in laws and regulations on site contamination and remediation, the uncertainties involved in measuring remediation liabilities, lack of specific guidelines, on how to account for contaminated sites?? If yes, what are they?

Participant's response may involve some or all of the institutional factors that will be explored later. Depends on their response, interviewer may probe issues further without strictly follow the order of the interviewer questions listed.

There is a lack of coercive pressures on regulating annual report disclosures pertaining to site remediation. Where there are a number of relevant accounting and auditing regulations and the Corporations Act requiring site remediation disclosure, a lack of enforcement by ASIC provides organisations an opportunity to resist.

Is there a lack of regulative pressures and enforcement?

Q3. Do you think annual report disclosures pertaining to site remediation are appropriately regulated and enforced by ASIC? The results of reviews of financial reports for the year ended 30 June 2011 performed by ASIC Financial Reporting Surveillance program, have concerns that companies are overusing s299 and s299A's "unreasonable prejudice" exemption to avoid necessary disclosures within "Operating and Financial Review" section. Do you consider companies should disclose contaminated site information, if their contaminated sites are subject to relevant environmental regulation, in their "Operating and Financial Review" section of the financial report?

Coercion

Inconsistent regulations on site contamination and remediation create confusion and difficulties for the regulator to detect misrepresentation or manipulation by companies.

Are current regulations on site contamination and remediation consistent and do they provide a clear guideline to ASIC?

Q4. Do regulations on contaminated sites, accounting and auditing requirements provide you with a clear and consistent guideline as to how to regulate and monitor contaminated site related disclosures in financial report? Do you think current requirements are sufficient to your practice?

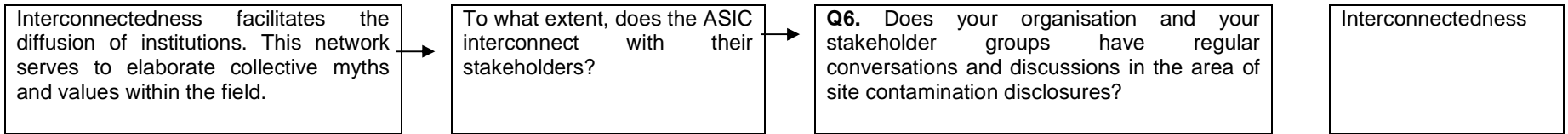
Coercion

Current practice has been widely diffused and has gained strong support from dominant institutional constituents and obtained its habitual routine status. "This is the way things are done". "This is the way that we have found to work". "This is the legitimate way." Doing otherwise is simply unthinkable. Broadly diffused rules (dominant institution) represent widely shared understanding (cognitive institution) of legitimate practice. If the issues, such as probability, measurability and materiality, which prevent further disclosure of site remediation, are widely agreed and the agreement is widely diffused, organisations are less likely to disclose otherwise, and ASIC is less likely to require otherwise.

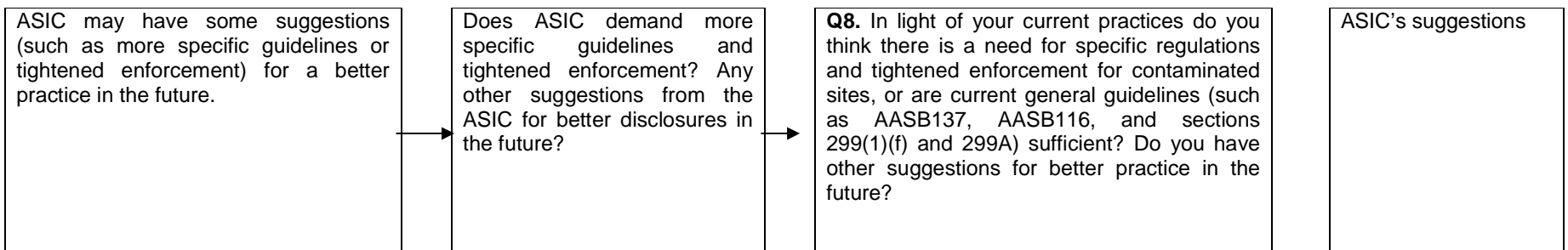
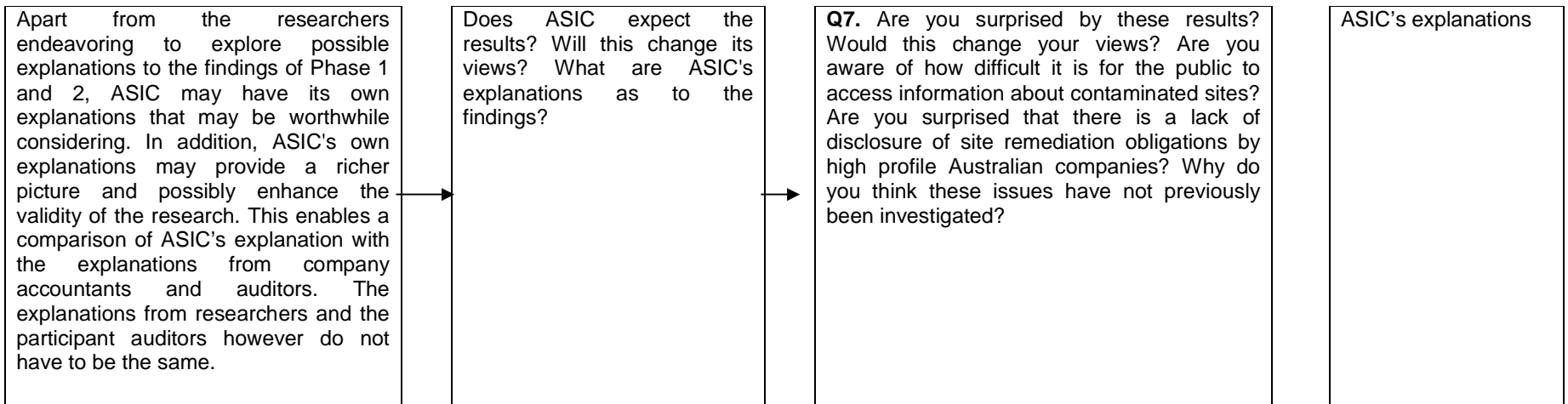
Do current practices of disclosure obtain a dominant status and are they widely shared and taken-for-granted, and therefore accepted by ASIC?

Q5. Do you think it is a widely accepted view that measurability and materiality prevent disclosure of site remediation and has this become an accepted tactic to avoid disclosure??
The accounting standards require that it would only be on rare occasions that a provision could not be established. Some companies however have a history of not recognising these provisions. For organisations to continually fail to recognize provisions means that "extremely rare cases" are frequently occurring – is this illogical? There seems to be a difference in opinion between the accounting standard setters and the companies. Are you prepared to accept the existence of many "extremely rare cases"? Why?

Diffusion



Further Questions (to explore ASIC's explanations and expectations in respond to the findings from Phase 1 and 2 of the PhD studies)



Appendix 4 Interview Protocol for Companies, Auditors and the ASIC

Structure of the interviews

- Self- introduction
- Researchers to broadly define ‘contaminated sites’
- Explain that we are investigating site contamination disclosures within financial reports
- Ask questions that have developed from Appendix One

(Questions are a guide only. They serve the purpose to lead to open-ended discussions relating to the proposed topics)

(Researchers to use introductory questions, follow-up questions, probing questions, specifying questions, direct questions, indirect questions, and structure questions⁸¹ accordingly during the interviews)

Instructions to the interviewer (opening statement)

Thank you for your willingness to participate and be interviewed here. This interview aims to understand your views relating to various issues associated with contaminated site remediation disclosures within annual reports. This interview will be audio taped and used in conjunction with the interview notes to understand your views on associated issues. The interview will take about 30 minutes.

Before we start do you have any questions?

Key interview questions and notes to interviewer

(Make sure attentive listening, at ease and clear about what you want to know. Always seek clarification the meanings of the answers with respect to the categories to be used later in coding process)

Interview questions	Notes to interviewers	Brief Notes taken during interview
<i>Instruction: place the second last column "Interview Questions" from Appendix One, Two or Three into this column</i>	<i>Instruction: place the last column "Notes to interviewers" from Appendix One, Two or Three into this column</i>	<i>Instruction: this space is designed for interviewers to take brief notes relating to the specific interview question asked during the interview</i>

⁸¹ Researcher to refer to Kvale (2007, pp60-63) for how to use these types of questions during an interview.

Debriefing

- Asking if the participant has anything more to say: "I have no further questions. Is there anything else you would like to bring up, or ask about, before we finish the interview?"
- Or interviewer mention some of the main points she has learnt from the interview

After interview

It is worthwhile for the interviewer to set aside 20 minutes of quiet time after each interview to reflect on what has been learnt from the particular interview (write down notes or tape record thoughts)

Appendix 5 Structural Coding List –Accountants

SC1000 Management of contaminated sites

SC1100 Members of the team

SC1110 Lack of clear responsibility

SC1200 Avoiding testing sites

SC1210 Too hard to quantify - measurability

SC1220 Possible consequences of testing

SC1300 Internal knowledge of the sites

SC1400 Financial reporting on the sites

SC1410 Grey area of reporting

SC1420 Practices in reality verses ideal

SC1430 Avoid to provide unless have to

SC1440 If have to, delay disclosures

SC2000 Capacity to report

SC3000 Internal control

SC3100 Letter of assurance

SC4000 Possible reasons

SC4100 Carbon topic takes over

SC4200 Multidiscipline

SC 5000 Financial report usefulness

SC5100 Standard phasing

SC5200 Dry

SC6000 Specific sites

SC7000 In line with other companies

SC8000 Forecast for future

Appendix 6 Structural Coding List – Auditors

SA1000 Complexity of the issue

- SA1100 Different remediation standards by companies
- SA1200 Determine the timing of remediation
- SA1300 Determine the discounting period and rate
- SA1400 Different accounting treatment of obligations by companies
- SA1500 Different business activities of the company

SA2000 Auditor's normal procedures relating to contaminated sites

- SA2100 Focus on how the amount is calculated by the company
- SA2200 Rely on externally provided evidence
 - SA2210 Review the scope of 3rd party engagement
 - SA2220 3rd party hired and paid by the client
- SA2300 Review the time frame on remediation
- SA2400 Review the risk-free discount rate
- SA2500 Review any changes in estimate

SA3000 In a situation the client does not provide remediation obligation

- SA3100 Understand the business by conversation with the client
- SA3200 Consider regulations and laws
- SA3300 Check the completeness of the provision
- SA3400 Consider the nature of the business
- SA3500 Have not experienced that sites should be booked but not
- SA3600 Risk base approach
- SA3700 Going concern assumption

SA4000 Rationale for auditor's practices

- SA4100 Dealing with large reputable companies
- SA4200 Companies have test program implemented
- SA4300 EPA's role to order remediation not auditors
- SA4400 Audit expectations gap—management's responsibility not auditors
- SA4500 Auditor only to check the appropriateness in the circumstances
- SA4600 Other audit firms do the same—legitimacy

SA5000 No pressures on contaminated sites

- SA5100 Current practice legitimate
- SA5200 No much impact on P&L

SA5300 The balance of provisions generally going down

SA5400 Not a 'hot issue'

SA5450 Other hot issues

SA5510 Impairment

SA5520 Going concern

SA5510 Goodwill amortisation

SA5510 Short-term issues focused by shareholders

SA5510 Revenue expense recognition

SA5510 Remuneration report

SA6000 Possible reasons

SA6100 Other 'hot topics' take over

SA6200 Multidiscipline

SA6300 Auditors are not soil contamination experts

SA6400 No clear guidelines

SA7000 Specific sites

SA8000 Forecast for future

SA8100 More transparency in reporting

SA8200 Integrated reporting

SA8300 Sites grouped by countries

Appendix 7 Structural Coding List - ASIC

SS1000 ASIC

SS1100 Awareness

SS1120 Mining sites

SS1130 Chemical sites

SS1200 Lack of information to determine appropriateness of financial reports

SS1210 Lack of the breakdowns of relevant financial information

SS1220 No information sharing with environmental agencies

SS1300 Enforcement

SS1310 No enforcement on remediation obligation disclosures

SS1320 Only can suggest instead of enforcement

SS1330 Lack of information to determine

SS1400 Focus changes each year

SS1410 Priority set by the commissioner's perception of the market

SS1420 Focus discussed internally first

SS2000 Corporations' financial reporting on contaminated sites

SS2100 Self-serving strategy

SS2200 Materiality

SS2210 Level of detail in financial reports

SS2220 Discounted present value

SS2230 Holding sites for more than 20 years

SS2240 Material if reputation threatened

SS2300 Measurability

SS2310 Weak argument

SS2320 Corporations must know the minimum costs

SS2400 Provisions

SS2410 Could provide but did not disclose

SS2420 Corporations must know the minimum costs

SS2430 Constructive obligation as provisions

SS2440 Should be provision instead of contingent liability

SS2450 Contingent liabilities

SS3000 Auditors

SS3100 Have necessary information to determine the appropriateness

- SS3200 Routinely review
- SS3300 Lack of environmental knowledge
- SS3400 Audit committees
- SS3500 Risk management and policy

SS4000 Environmental agencies

- SS4100 To shorten the period of remediation (which affects materiality criteria)
- SS4200 Stringent environmental regulation
- SS4300 Nation-wide contaminated site register
- SS4400 Sharing information between agencies and the ASIC

SS5000 Other stakeholders

- SS5100 NGOs
- SS5200 Media

Appendix 8 Provisional Coding List - Companies

PC1000 Pillars of institutions

- PC1100 Regulative institutions
- PC1200 Normative institutions
- PC1300 Cultural-cognitive institutions
- PC1400 Dominant Institutions

PC2000 Institutional pressures

- PC2100 Legitimacy
- PC2200 Efficiency
- PC2300 Multiplicity
 - PC2310 Competing expectations
 - PC2320 Constituents' awareness
 - PC2330 Constituents' expectations and pressures
- PC2400 Dependency
- PC2500 Consistency
- PC2600 Constraint
- PC2700 Coercion
- PC2800 Diffusion
- PC2900 Uncertainty
- PC2010 Interconnectedness
- PC2020 Lack of pressures

PC3000 Organisational interest and agency

- PC3100 Awareness of the pressures
- PC3200 Willingness to conform (self-interest)
- PC3300 Ability to conform

PC4000 Organisational strategic responses

- PC4100 Acquiesce
- PC4200 Compromise
- PC4300 Avoidance
 - PC4310 Concealment
 - PC4320 Buffer
 - PC4330 Escape
- PC4400 Defy
- PC4500 Manipulate

Appendix 9 Provisional Coding List - Auditors

PA1000 Awareness of potential issues associated with disclosing site remediation

PA1100 Not aware-rare

PA2000 Expectations on disclosures and auditor's role

PA2100 Accounting policy—significant estimates

PA2200 Should be provisions instead of contingent liabilities

PA2300 Management's responsibility for accounts not auditors

PA2400 External experts' reports

PA3000 Pressures exerted

PA3100 Ask for external evidence on the amount

PA3200 No pressures exerted on contaminated sites

PA3300 Auditor's interests in other areas

PA4000 Pressures perceived from stakeholder groups

PA4100 ASIC

PA4200 Shareholders

PA4300 Analysts

PA4400 NGOs and communities

PA4500 Companies

PA4500 Interest misplacement

PA4500 No legitimacy threat

PA4500 unaware

PA5000 Formal auditing processes

PA5100 Information decoupling

PA5110 No information from EPAs

PA5120 Rely on third party estimates but do not talk to them

PA5200 Tend to check what is there

PA5300 Standard and symbolic processes—legitimacy

PA5400 Tend to focus on the unwinding of discount and depreciation

PA6000 Institutions on contaminated sites

PA6100 Dominant institution—low risk

PA6200 Haven't seen any issue relating to contaminated sites

PA6300 A topic that people are not concerned

PA6400 Regulative institutions

PA6500 Infusion

PA6600 Contaminated sites do not have much impact on P&L

PA6700 The balance of provisions generally going down

PA6800 Whether to remediate is a business decision instead of legal/moral

decision

PA7000 Issues relating to auditing

PA7100 Lack of guidelines on quantifying provision

PA7200 Complexity

PA7300 Not a soil contamination expert

PA7400 Other 'hot topics' distracting

PA8000 Possible solutions

Appendix 10 Provisional Coding List - ASIC

PS1000 Awareness of potential issues associated with disclosing site remediation

PS1100 Mining site restoration

PS1200 Unaware of chemical sites

PS2000 Expectations on disclosures

PS2100 Management discussions and analysis

PS2200 Companies must have know the costs

PS2300 Should be provisions instead of contingent liabilities

PS2400 Auditors should have known

PS2500 Information is material if reputation affected

PS2600 More concern on non-expensed than expensed but non-disclosure

PS2700 Carve out unreasonable prejudice

PS2800 Audit committee and risk management

PS3000 Pressures exerted

PS3100 Through regulatory guide

PS3200 Suggestions instead of enforcement

PS3300 Possible project to investigate this issue

PS4000 Issues relating to monitoring and enforcement

PS4100 Unsure of the disclosing appropriateness

PS4110 Lack of sufficient information to compare

PS4111 Lack of companies' information

PS4112 Lack of information from EPAs

PS4120 Level of detail for presentations

PS4130 Provisions may be hidden

PS4200 Materiality

PS4300 ASIC's focuses change each year

PS4400 Auditor may lack of technical skills relating to contaminated sites

PS4500 Companies may self-serving

PS4600 EPAs

PS4610 More stringent environmental regulation

PS4620 Sharing information with the ASIC

PS4630 Nation-wide contaminated site register available publicly

PS5000 Pressures from other stakeholder groups

PS5100 NGOs

PS5200 Media

PS6000 Possible solutions