

Victorian Desalination Project | Independent Reviewer & Environmental Auditor

IR&EA REPORT

COMPLIANCE WITH ENVIRONMENTAL PERFORMANCE
REQUIREMENTS QUARTER 1 2010

QUARTERLY REPORT TO THE MINISTER FOR ENVIRONMENT AND
CLIMATE CHANGE

APRIL 2010

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SUMMARY

The Victorian Desalination Project (VDP) is being constructed on the coast in South Gippsland near Wonthaggi by the AquaSure consortium in a public-private partnership with the Victorian Government. The Project includes the desalination plant, a pipeline to transfer water to the Melbourne water distribution network near Cardinia, and an underground power supply, which will be largely in the same alignment as the pipeline. AquaSure has contracted with Thies Degrémont Joint Venture ('TDJV') to design and construct, and with Degrémont Thies Services ('DTSJV') to operate and maintain, the VDP.

The overall environmental management framework for the VDP was initially defined in the Environmental Effects Statement (EES) for the reference project. This framework was further refined and included in the Project Deed as contractual requirements for both the Design and Construction (D&C) and Operations and Maintenance (O&M) Stages of the Project. The main components of the Environmental Management Framework are:

- The Project must be designed and constructed in accordance with a set of documented Environmental Performance Requirements, included in Appendix S3 of the Project Deed. In addition, Commonwealth and Victorian environmental legal requirements must be met.
- An Environmental Management System and Environmental Management Plans to support delivery of compliance with the Environmental Performance Requirements; and
- Additional requirements in the Project Deed to support environmental management.

The Independent Reviewer and Environmental Auditor (IR&EA) provides independent oversight of design engineering, construction, and environmental performance of the VDP. The IR&EA is jointly appointed by the State Government and AquaSure; the consortium building the VDP, and which will subsequently operate it. In particular, the IR&EA audits the Project Activities to assess whether the environmental requirements of the Project are being met. The Department of Sustainability and Environment (DSE) Capital Projects Division administers the Contract with AquaSure on behalf of the State.

This report provides a summary of the IR&EA's monthly environmental audit outcomes, from January – March 2010.

Works commenced at the desalination plant site on the coast near Wonthaggi on 30 September 2009. The works during the reporting period at the plant site included:

- continuing site establishment activities, such as the construction of temporary construction roads and facilities (offices, storage areas etc);

- bulk earthworks to excavate the building footprints and the box cut; and
- initial civil works.

Vegetation clearing and construction of haul roads and Right of Ways (ROWs) continued along the end of the utilities corridor. Pipe laying commenced at the beginning of February 2010.

During the reporting period a total of 17 new formal audit findings were raised, and 13 open audit findings from the previous reporting period were carried over. Audit findings continue to be principally related to documentation and records supporting environmental management. Collectively the findings demonstrate that on-ground environmental risks continue to be managed in accordance with the overall requirements of the environmental management system (EMS) and environmental management plans (EMPs).

The environmental management documentation is evolving to reflect actual practice, and to establish processes and systems to demonstrate implementation of the EMS and EMPs. A revision of the environmental management documentation was approved by the State during the reporting period. Comments were provided by the IR&EA, as required in the Project Deed, for consideration during the next, more comprehensive, revision. This revision is expected to be sent to the State for consideration during the next reporting period.

The conclusions in relation to the objectives for the Environmental Audits in the Project Deed are given below.

Operation of the Environmental Management System

A revision to the AquaSure EMS and subordinate environmental management documentation was approved by the State during the reporting period. The IR&EA provided comments on the revised documentation, as required by the Project Deed. The revised documentation, while an improvement, is not yet providing the required guidance for environmental management on the Project. It is anticipated that the major revision of project environmental management documentation currently underway will more closely align on-ground environmental management practices and documentation, and align environmental management roles and responsibilities with those required by the Project Deed.

Implementation of each component of the EMP

The implementation of the Plant and General, and the Utilities Area EMPs is well advanced, and for those aspects of the Project Activities audited in the reporting environmental risks at the plant site and along the pipeline alignment were generally managed in accordance with the environmental requirements.

Other Environmental requirements

In order for AquaSure to demonstrate compliance with the Environmental Performance Requirements and Project Approvals, a formal system for the identification and tracking of compliance requirements is needed. AquaSure and TDJV are developing a compliance management tool; however, this was not complete during the reporting period. Once this tool is finalised to the satisfaction of the IREA, it will form a key element of the IREA Environmental Audit program to assess compliance with the Environmental Requirements. A preliminary audit of compliance with the Project Performance Requirements determined that the ongoing development of the AquaSure compliance management system requires some further work, in particular specification of detailed compliance criteria.

1 INTRODUCTION

The Victorian Desalination Project (VDP) is being constructed on the coast in South Gippsland near Wonthaggi by the AquaSure consortium in a public-private partnership with the Victorian Government. The project includes the desalination plant, a pipeline to transfer water to the Melbourne water distribution network near Cardinia, and an underground power supply, which will be largely in the same alignment as the pipeline.

Environmental management for both the design and construction, and operational stages of the VDP was a major part of planning for the Project. The Project was the subject of a comprehensive Environmental Effects Statement, including a Panel hearing, and requires compliance with a range of environmental requirements and approvals as outlined in the Project Deed between the State and AquaSure. Design and construction of the VDP is being carried out under a formal environmental management framework which includes an overarching Project Environmental Management System (EMS), and specific Environmental Management Plans (EMPs) for the overall Design and Construction phase, and for each area of construction (the plant site, the pipeline and power supply corridor, and the marine works). The operational and maintenance stage similarly will operate under specific Environmental Management Plans. In addition a range of environmental requirements have been defined relating to the design and operation of the desalination plant, and to the construction activities.

The Independent Reviewer and Environmental Auditor (IR&EA) provides independent oversight of design engineering, construction, and environmental performance of the VDP. The IR&EA is jointly appointed by the State Government and AquaSure; the consortium building the VDP, and which will subsequently operate it. In particular, the IR&EA audits the Project Activities to assess whether the environmental requirements of the Project are being met. The Department of Sustainability and Environment (DSE) Capital Projects Division administers the Contract with AquaSure on behalf of the State.

This report provides a summary of the IR&EA's monthly environmental audit outcomes from January - March 2010.

2 THE VDP ENVIRONMENTAL MANAGEMENT FRAMEWORK

The overall environmental management framework for the VDP was initially defined in the Environmental Effects Statement (EES) for the reference project. This framework was further refined and included in the Project Deed as contractual requirements for both the Design and Construction (D&C) and Operations and Maintenance (O&M) Stages of the Project. The main components of the Environmental Management Framework are:

- The Project must be designed and constructed in accordance with a set of documented Environmental Performance Requirements, included in Appendix S3 of the Project Deed. In addition, Commonwealth and Victorian environmental legal requirements must be met.
- An Environmental Management System and Environmental Management Plans to support delivery of compliance with the Environmental Performance Requirements; and
- Additional requirements in the Project Deed to support environmental management.

The main elements of the Environmental Management Framework for the D&C stage are summarised below.

2.1 Environmental performance requirements

The Project Deed, in Appendix S3, sets out over 200 individual Environmental Performance Requirements in 38 environmental areas. They apply variously to the D&C and/or the O&M stages of the Project, and are required to be met as a condition of the Project Deed. Many of the Environmental Performance Requirements must be considered in the design of the desalination plant, to ensure that operational environmental performance requirements can be met.

Some of the Environmental Performance requirements are relevant to construction activities. The D&C EMPs should effectively incorporate these requirements, and include mechanisms to ensure that they are met.

Specific project approvals, and general environmental requirements are necessary under both Commonwealth and Victorian legislation. Some of the key environmental legal requirements derive from the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), and Victorian legislation including the *Environment Effects Act 1978*, the *Environment Protection Act 1970*, the *Planning and Environment Act 1987*, the *Flora and Fauna Guarantee Act 1988* and the *Wildlife Act 1975*. A full list of applicable legislation is given in the EES (Technical Appendix 2).

AquaSure must have a process to manage the identification of the compliance requirements associated with all the Environmental Performance Requirements, including approvals, to identify how it will comply with these requirements, and to track the progress of compliance actions.

2.2 EMS and EMPs

The Project is being designed and constructed, and will be operated, under the guidance of a set of formal environmental management documents:

- AquaSure maintains an overarching project Environmental Management System (EMS), which is required to be independently certified to the Australian and International standard AS/NZS ISO 14001:2004¹. The EMS guides all aspects of environmental management for the project, including on-the-ground management of environmental issues and risks, as well as supporting mechanisms such as compliance management, delivery of relevant training, communication, auditing, inspections and monitoring.
- Specific documented Environmental Management Plans (EMPs) for the Plant Site, the Utilities corridor (covering the construction of the transfer pipeline and the underground power supply), and the marine intake and outlet structures. These Area EMPs are consistent with the Project EMS, and include explicit requirements defined in Appendix S3 of the Project Deed. They are managed by AquaSure as part of their obligations under the Project Deed, and maintained by the D&C contractor, Thiess Degrémont Joint Venture (TDJV).

2.3 Other Project environmental requirements

The Project Deed defines a number of other environmental conditions. The key ones are included in Appendix S3 and include:

- The appointment by AquaSure of a suitably qualified Environmental Management Representative (EMR), with appropriate resources to manage the implementation of the EMPs and to monitor compliance with the Environmental Requirements.
- Requirements for management of environmental incidents, provision of environmental training, control by AquaSure of subcontractors, and reporting and auditing.

The Project Deed also includes requirements for revision and approval of the EMS and EMPs, and for communication on environmental matters between AquaSure and the State and the IR&EA.

2.4 IR&EA Environmental Audits

The IR&EA is required under the Project Deed to conduct monthly audits of the Project Activities to determine whether they have been undertaken in accordance with the Environmental Management System, the Environmental Management Plan and the Environmental Requirements.

The Independent Environmental Audits are carried out on a rolling monthly basis. Audit and surveillance activities include field surveillance of construction activities, formal audits of the EMS

¹ AS/NZS ISO 14001:2004. Environmental management systems. Requirements with guidance for use.

and subordinate D&C and Area EMPs, and review of design documentation for compliance with design-based environmental performance requirements.

A risk-based approach is used to select the monthly activities and areas for surveillance and audit. AquaSure is required by the Project Deed to provide a certificate to the IR&EA and the State confirming that the Project Activities have been carried out in accordance with the EMP and the Environmental Requirements. These certificates are to be provided monthly on the first business day of each month.

The IR&EA has developed a Verification and Monitoring Plan under which all audit and surveillance activities are carried out.

Monthly Environmental Audit reports are provided to AquaSure and the State, providing a summary of the audit activities, findings and conclusions.

Quarterly reports are prepared for the State to provide to the Minister for Environment and Climate Change on performance against the environmental requirements of the Project Deed, based on the findings of the Environmental Audits. This report provides a summary of the environmental audit activities and outcomes conducted from January – March 2010. In addition the Design Review and Certification process provides evidence that the Project design is in accordance with the requirements of the Environmental Performance Requirements defined in the Project Deed.

3 CONDUCT OF ENVIRONMENTAL AUDITS

The overall conduct of the environmental audits is consistent with the conduct of audit activities given in ISO 19011:2002². The required timing of audit activities, including conducting audits and reporting, is defined in the Project Deed. An overview of the audit process is provided below and is shown in **Figure 1** at the end of this section.

The environmental audits assess whether environmental management arrangements, as defined by AquaSure and approved by the State, in the EMS and D&C and Area EMPs, are being implemented. The environmental audits also address whether environmental risks are being adequately managed, and whether the Project Environmental Requirements are being met.

3.1 Audit objective

The objective for the environmental audit is given in clause 13.9 of the Project Deed, which requires that “*the Independent Reviewer & Environmental Auditor ... form an opinion as to whether or not the Environmental Management Plan and Environmental Requirements are being complied with, ... [and] to assess performance in relation to:*

- *the operation of the Environmental Management System;*
- *the implementation of each component of the Environmental Management Plan; and*
- *each other Environmental Requirement.”*

Environmental requirements are set out in Appendix S3 (Environmental Requirements) of the Project Deed, Environmental Approvals, and Ministers’ requirements.

The Environmental Audits focus on:

Construction-related Environmental Performance Requirements (including conditions of environmental approvals), which are the subject of a monthly rolling audit program designed to determine conformance with the EMS and D&C EMPs;

Specific requirements of the EMS, D&C EMP, D&C Area EMPs, and subordinate documents which relate to the implementation of the overall Environmental Management System and EMPs; and

Design-related Environmental Performance Requirements, conformance with which is assessed through audits of AquaSure/TDJV’s internal processes for integrating Performance Requirements into design requirements, and during the Design Review and Certification process.

² ISO 19011:2003. Guidelines for quality and/or environmental management systems auditing

3.2 Pre-audit activities

The audit activities for each month period are determined through the following activities:

1. **Review of the Construction Program** to identify the Project Activities occurring during the audit period.
2. **Review of the AquaSure/TDJV Environmental Risk Registers** to identify environmental risks relevant to the identified Project Activities, and the related identified controls (EMP Sub-Plans or other requirements). The relevant elements of the controls form part of the audit criteria.
3. **Review of the IR&EA field surveillance checklist and results of previous audits** to identify any areas in which the planned environmental arrangements may not be met.
4. **Review of EMS and EMP requirements.** EMS and EMP requirements not directly related to control of identified environmental risks (e.g. training, communication, document and record management requirements) are reviewed to identify any key requirements which should form part of the audit.
5. **Review of the relevant environmental approvals.** The environmental approvals relevant to the identified Project Activities are reviewed to identify compliance requirements. The key compliance requirements are usually integrated into the Area EMPs, and are included as part of the audit criteria.
6. **Review of AquaSure and TDJV records** relating to: internal audits; environmental monitoring; non-conformance, corrective and preventive actions; and incidents.
7. **Confirmation of audit criteria and development of checklists.** Audit criteria are developed from the audit areas identified in the tasks above and included in checklists which were used to guide audit interviews, records reviews and inspections.

3.3 Audit Scope

A scope for each audit is defined, and generally includes:

- AquaSure EMS implementation, including the responsibilities of the Environmental Management Representative (EMR) as required in the Project Scope and Project Requirements Appendix S3;
- Implementation of the requirements of the D&C EMP;
- Implementation of the D&C Area EMPs as related to high risk areas as identified by the AquaSure/TDJV environmental risk identification and management processes.

3.4 Audit reference documents

Audit reference documents are defined, relevant to the project activities and audit scope. These are generally the relevant EMP, and particularly the relevant sub-plan. Specific audit issues are identified from the reference documents, and included in a checklist. The completed audit checklists, including a summary of the audit evidence obtained, are included in the monthly environmental audit reports.

3.5 Audit activities

Audit and surveillance activities include:

- Field surveillance of construction activities;
- Formal audits of the EMS and subordinate D&C and Area EMPs, both in the field to check on-ground compliance with environmental management arrangements, and office-based audits to assess the implementation of necessary environmental management procedures and processes; and
- Review of design documentation for compliance with design-based environmental performance requirements.

Activities and areas for surveillance and audit activities are chosen monthly on a risk basis.

3.6 Audit findings classification

Audit findings are classified according to the following definitions:

Non-compliance: The absence of, or the failure to implement and maintain, one or more requirements of the relevant EMP or subordinate documentation, or a situation, which would, on the basis of available objective evidence raise significant doubt as to the effectiveness of environmental management.

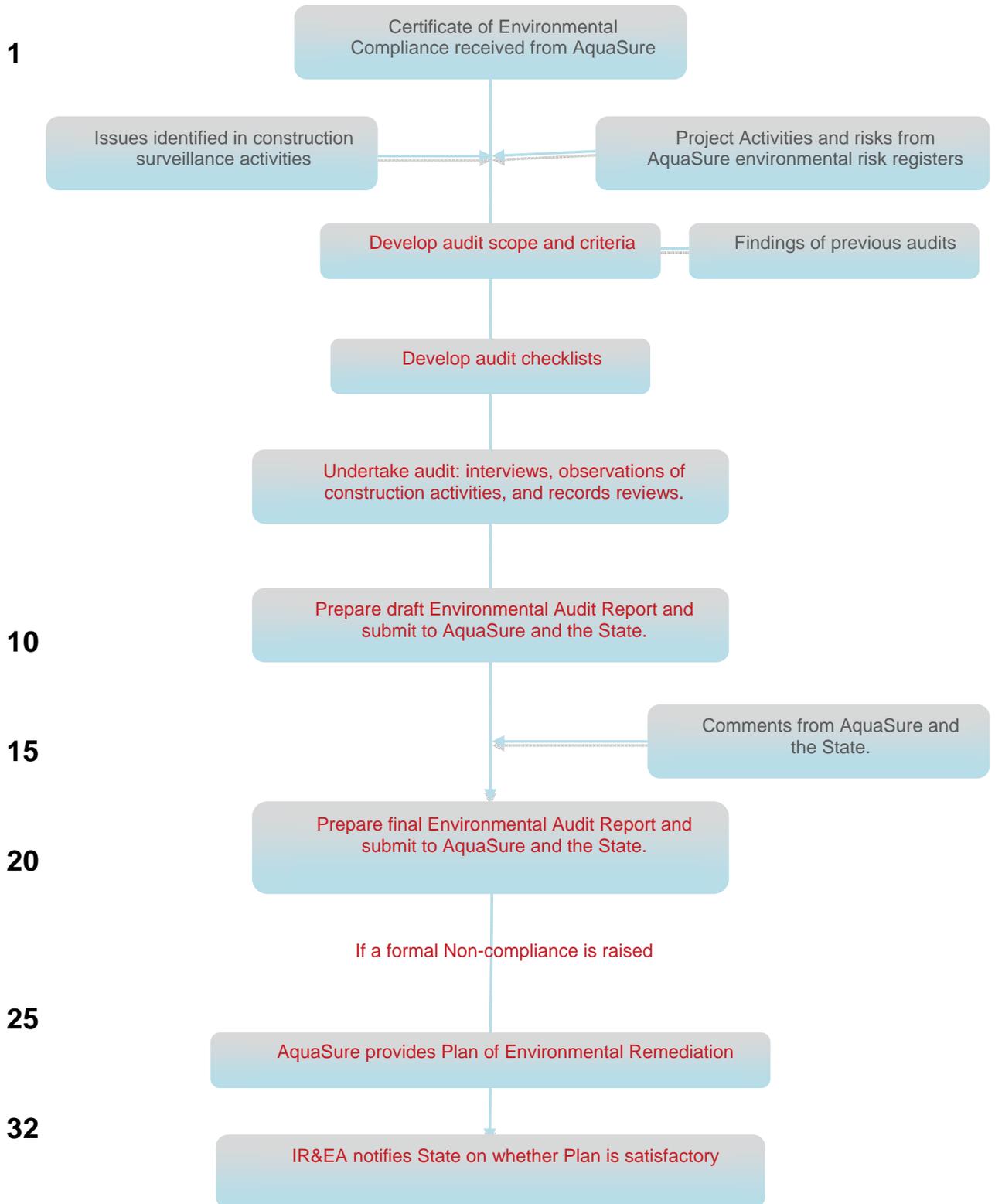
Note: A non-compliance may be an individual non-compliance or a number of minor but related audit non-conformances, which when considered in total are judged to constitute a non-compliance.

Area for improvement: A deficiency in the implementation of the relevant EMP or subordinate documentation judged to be a risk to the environment, or to environmental management, without constituting an overall failure in the area concerned.

Observation: An audit finding which may relate to an incidental or isolated system discrepancy, which does not compromise the effectiveness of environmental management, or constitute an actual or potential environmental risk.

Figure 1. Overview of the environmental audit process

**Business days
from start of month**



4 PROJECT ACTIVITIES AND ENVIRONMENTAL AUDITS

4.1 Project activities

4.1.1 Desalination plant site

Works during January - March 2010 included site establishment activities, such as the construction of temporary construction roads and facilities (offices, storage areas etc), bulk earthworks to excavate the building footprints and the box cut, and installation of environmental monitoring equipment and environmental controls. Views of these construction activities are shown in Figures 2 and 3.

Figure 2. Box cut excavation, February 2010



Figure 3. DMPF pad concrete pour, February 2010



4.1.2 *Utilities corridor*

Vegetation clearing, and construction of haul roads and Right of Ways (ROWs) continued along the utilities corridor. Trenching and pipe laying commenced in February 2010. Views of works in the utilities corridor are shown in Figures 4 and 5.

Figure 4. Grading the utilities corridor. January 2010.



Figure 5. Placing bedding sand in pipe trench. March 2010.



4.2 Environmental audits

The IR&EA conducted the following audits during the reporting period:

Audit No	Date	Scope
7	7 January 2010	Field audit of the implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
8	11 January 2010	Field audit of the implementation of key requirements and sub-plans of the D&C Utilities Area EMP
9	14 January 2010	Office audit of the implementation of the EMR's responsibilities and the relevant requirements of the Project Deed.
10	18 January 2010	Office audit of the documentation and records related to the requirements of the D&C EMP
11	14 January 2010	Office audit of the management of compliance with project environmental requirements
12	3 February 2010	Field audit of the implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
13	8 February 2010	Field audit of the implementation of key requirements and sub-plans of the D&C Utilities Area EMP
14	9 February 2010	Office audit of the implementation of the EMR's responsibilities and the relevant requirements of the Project Deed
15	1 February 2010	Office audit of the documentation and records related to the requirements of the D&C EMP
16	12 March 2010	Field audit of the implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
17	10 March 2010	Field audit of the implementation of key requirements and sub-plans of the D&C Utilities Area EMP
18	16 March 2010	Office audit of the implementation of the EMR's responsibilities and the relevant requirements of the Project Deed
19	11 March 2010	Office audit of the documentation and records related to the requirements of the D&C EMP

5 AUDIT FINDINGS AND CONCLUSIONS

5.1 Audit findings

During the reporting period a total of 17 formal audit findings were raised. A list of these, and corrective and preventive actions to the end of March 2010 taken by AquaSure and TDJV to close these findings is given in Appendix 1. A summary of the numbers of audit findings is given in Table 1 below.

Table 1. Summary of environmental audit findings Q1 2010

Audit No.	Audit Date	No. NCs	No. Afls	No. Obs
7	7 January 2010	-	-	1
8	11 January 2010	-	-	3
9	14 January 2010	-	-	-
10	18 January 2010	-	-	1
11	14 January 2010	-	1	1
12	3 February 2010	-	-	2
13	8 February 2010	-	-	4
14	9 February 2010	-	1	-
15	1 February 2010	-	1	-
16	12 March 2010	-	1	-
17	10 March 2010	-	1	-
18	16 March 2010	-	-	-
19	11 March 2010	-	-	-
Totals		0	5	12

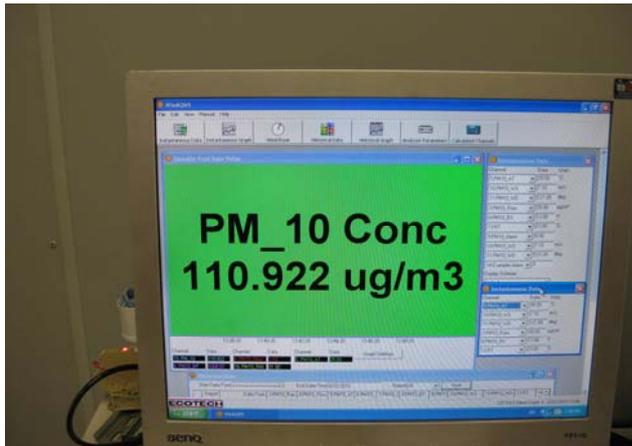
NC: Non-compliance Afl: Area for Improvement Obs: Observation

Eight of the 13 audit findings open at the beginning of the reporting period were closed. During the reporting period, 8 findings were added and 9 closed, yielding a net 12 audit findings that remain open.

The findings largely related to requirements for clarification of the intent of some elements of the environmental management documentation. Several findings were concerned with fine-tuning

environmental monitoring and reporting requirements in the EMPs to ensure that appropriate monitoring as undertaken, and reported. A view of a real-time monitoring alert is shown in Figure 6.

Figure 6. On-line, real-time dust alert. Plant site February 2010.



Collectively the findings demonstrate that for those aspects of the Project Activities audited in the reporting period, on-ground environmental risks are managed generally in accordance with the overall requirements of the EMS and EMPs. The revision of the environmental management documentation approved by the State in February went some way to achieving consistency between the documentation and environmental management practices; however the environmental management documentation is still under review, and requires revision to align with on-ground practice. The IR&EA is aware that this revision is underway.

Views of dust control operations are shown in Figures 7 and 8.

Figure 7. Response to dust alert. Plant site February 2010.



Figure 8. Road sweeper, utilities alignment, February 2010.



Demonstration of compliance with the EMS, EMPs and Project Environmental Requirements is a key element of AquaSure's environmental management arrangements. This requires a documented compliance management system to:

- identify the requirements for compliance (i.e. what actions are required), and
- monitor and report on the progress of the identified requirements.

Since the last reporting period, AquaSure and TDJV have been developing a compliance management tool. Progress on completion of the compliance management system has taken some time.

Figure 9. Waterway crossing, Utilities alignment, March 2010.



A view of signage installed at a waterway crossing in a utilities works area is shown in Figure 9.

The certification by the IR&EA of the Site Implementation Plans, which include details of construction requirements and methodologies, is contingent on evidence of compliance with the D&C EMP and the Environmental Requirements. The pertinent parts of the relevant D&C Area EMP, and Site Environmental Plan are included in the Site Implementation Packages.

5.2 Audit conclusions

The conclusions in relation to the objectives for the Environmental Audits in the Project Deed are given below.

5.2.1 Operation of the Environmental Management System

A revision to the AquaSure EMS and subordinate environmental management documentation was approved by the State during the reporting period. The IR&EA provided comments on the revised documentation, as required by the Project Deed. The revised documentation, while an improvement, is not yet consistent with environmental management practice for the Project. It is anticipated that the revision of project environmental management documentation currently underway will improve the consistency of on-ground environmental management practices with documentation, and align environmental management roles and responsibilities with those required by the Project Deed.

5.2.2 Implementation of each component of the EMP

The implementation of the Plant and General, and the Utilities Area EMPs is well advanced, and those aspects of the Project Activities assessed during audit of the reporting of environmental risks at the plant site and along the pipeline alignment were generally managed in accordance with the environmental requirements.

5.2.3 Other Environmental requirements

In order for AquaSure to demonstrate compliance with the Environmental Performance Requirements and Project Approvals, a formal system for the identification and tracking of compliance requirements is needed. AquaSure and TDJV are developing a compliance management tool; however, this was not complete during the reporting period. Once this tool is finalised to the satisfaction of the IREA, it will form a key element of the IREA Environmental Audit program to assess compliance with the Environmental Requirements. A preliminary audit of compliance with the Project Performance Requirements determined that the ongoing development of the AquaSure compliance management system requires some further work, in particular specification of detailed compliance criteria.

Appendix 1. Environmental audit findings Q1 2010

The following table summarises the audit findings which were open at the beginning of the reporting period, and those raised during the reporting period.

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
		1/05	Obs	Attachment D of the D&C EMP (the Environmental Legal Register) does not include specific compliance requirements (the relevance to the Project) as required by clause 3.6.1 of the D&C EMP.	January 2010: Not finalised at the time of the audit. See also the Compliance Management audit and findings number 11/01 and 11/02. February 2010: Closed and replaced with finding 11/02	Closed Audit No 15 February 2010
2	Nov-09	2/01	Afl	The Project Deed, Appendix S3, clause 7 (a) requires that AquaSure is responsible for <i>"[a]n organisational process defining the mechanism/structure of reporting must be developed to the satisfaction of the State to ensure that the Independent Reviewer & Environmental Auditor and the State receive all relevant environmental and monitoring and auditing reports and non-compliance, preventative and control actions."</i> Evidence was available to demonstrate that the relevant information is, or will be, generated by AquaSure, however, there is no mechanism to ensure that the IR&EA and the State receive this information.	AquaSure response: The EMS should be updated in Section 6.1 to state that all environmental and monitoring and auditing reports and records of noncompliance will be forwarded to the State and the IR&EA through AquaSure within 5 working days of receipt from TDJV Environment Manager. The D&C EMP and Area EMPs should be updated in the appropriate sections to reflect that the TDJV Env Manager will forward all environmental and monitoring and auditing reports and records of noncompliance to the EMR within 5 days of receipt of final reports. January 2010: Action still to be finalised. February 2010: Action still to be finalised. The EMR advised that the EMS and EMPs were to be comprehensively revised, and this amendment will be included in this revision. March 2010: The mechanism needs to be resolved and incorporated into the revised EMS and EMPs.	Remains open
		2/02	Afl	The roles and responsibilities of the Environmental Management	AquaSure EMR is to use the Thiess HSE database as the	Remains

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
				<p>Representative as defined in Appendix S3, Clause 2 of the PS&PR have not been implemented in the following areas:</p> <ul style="list-style-type: none"> no system has been implemented for EMR's corrective actions and continuous improvements (subclause (vi)); 	<p>tracking tool for the EMR's corrective actions and continuous improvements.</p> <p>January 2010: the identified actions are still being implemented.</p> <p>February 2010: AquaSure is developing and implementing a Quality Management System, including a non-conformance management procedure and register. The EMR intends to use this system when it is implemented.</p> <p>March 2010: The AquaSure QMS is still in development and the EMR's action spreadsheet continues to be used for non-conformities.</p>	open
	2/03		Obs	The D&C EMP at section 4.3.1 and Attachment J defines broad training requirements, however there are no competency criteria defined in the supporting systems for essential environmental training, and no records are maintained of required competencies.	<p>December 2009: Area Environmental Managers have been requested to identify required competencies (email from TDJV Environmental Manager to Area Environmental Managers sighted). Action is due 12 December.</p> <p>January 2010: a response from the Plant and General Area Environmental Manager, dated 6 January was sighted. Actions not complete at the time of the audit.</p> <p>February 2010: Actions not completed at the time of the audit.</p> <p>March 2010: Actions not completed at the time of the audit</p>	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
		2/04	Obs	<p>The roles and responsibilities of the Environmental Management Representative as defined in Appendix S3, Clause 2 of the PS&PR have been only partially implemented in the following areas:</p> <ul style="list-style-type: none"> the role of the EMR in environmental communication channels is not clearly defined (subclause (vii)). <p>While the EMR provided evidence of involvement in internal and external environmental communications, these responsibilities are not formally defined in the EMS. The EMS Manual (at section 4.4.2) references the Community Involvement Plan, which does not include defined communications responsibilities for the EMR.</p>	<p>December 2009: Update EMS s4.4.2 & s4.4.3, and the AquaSure CIP, to reflect what external communication input the EMR is involved with.</p> <p>January 2010: the identified action is still being implemented</p> <p>February 2010: the identified action is still being implemented</p> <p>March 2010: the identified action is still being implemented</p>	Remains open
3	Dec-09	3/01	Obs	<p>D&C Plant & General EMP Hazardous materials sub-plan: A chemicals register and MSDS register are available. Three chemicals in use at the truck servicing area were randomly selected and a check was made for the availability of MSDS. MSDSs were not available for two of these chemicals (SynTrans Max and Easy Shift 75w-90, manufactured by Caltex).</p>	<p>January 2010: A review of MSDS has been carried out by RTL. The two missing MSDSs as well as MSDS for Dust Bind has been included in the MSDS Register.</p>	Closed Audit No 7 Jan '10
3	Dec-09	3/02	Obs	<p>D&C Plant & General EMP Hazardous materials sub-plan: During the site inspection a truck was observed being serviced in an uncovered area paved with crushed rock. No drip trays were in use, and minor oil staining was evident. The mechanic advised that oil was vacuumed out. The area is being used temporarily until the permanent site servicing area is completed. However current practices are not best environmental management practice, and represent a risk of minor soil contamination.</p>	<p>January 2010: Although no trucks were being serviced at the time of the site inspection, drip trays for trucks were available in the service area.</p>	Closed Audit No 7 Jan '10
4	Dec-09	4/01	Afl	<p>D&C Utilities EMP Licence, permits and approvals requirements. A revised (but not yet complete or authorised) Att. G1 Obligations Register was sighted which now includes specific compliance requirements for each approval. It was noted that the means to comply described were monitoring and inspection mechanisms, rather than compliance measures. Some required approvals were available (FFG permits for protected flora and fish, a Wildlife Act permit, and a MW permit for works on a Class C Waterway); however not all required approvals were available to the Area Environmental Manager.</p>	<p>Area for improvement noted. Collation of electronic and hard copy approvals, permits and licences for the project, and updating AEMP Attachments E, F and G being underway.</p> <p>January 2010: The Obligations Register is being updated and a hard copy and scanned copy are maintained. Most required approvals were sighted.</p>	Closed Audit No 8, Jan '10

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
4	Dec-09	4/02	Afl	D&C Utilities EMP Evaluation of compliance: While the required pre-construction and construction monitoring appeared to have been conducted as required, no monitoring records were available. Evidence was sighted that weed assessments had been conducted (an email from the sub-consultant, Ecology Partners dated 4/11/2009). It was advised that flora and fauna surveys had commenced, but records were not available. It was advised that reports had not been received from sub-consultants.	Area for improvement noted. Collation of data from subconsultant has commenced. January 2010: Ecology Partners have provided raw flora and fauna datasheets but the report is yet to be submitted. The auditors were informed that PLJV are preparing a pro forma for Ecology Partners to sign off on the project consequences.	Closed Audit No 8, Jan '10
4	Dec-09	4/03	NC	D&C Utilities EMP Water quality and erosion management: No soil analysis has been undertaken or planned to understand potential erosion risks as required in the sub-plan (Table 5 Controls, management and mitigation measures).	January 2010: Technical Appendices 60 and 61 of the Environmental Effects Statement provide an assessment of the soil types along the Transfer Pipeline corridor (after DPI 2008, Sargeant and Imhof 2003, Grant and Ferguson 1978, Grant 1972) including geomorphical process with management implications including areas along the utilities corridor that are likely have dispersive soils, be susceptible to soil creep, slope wash, slope failure, scouring etc. Section 2.9 (Erodible soils) of Technical Appendices 61 concluded Most areas of the Pipeline corridor are of low to moderate slope and areas of steep slope are restricted to small parts of the Kilcunda ridge south of Woolamai. These areas, along with areas with potential for other soil related management issues identified in the EES Technical Appendices 60 and 61 will be used to update the SEPs and determine the appropriate sediment and erosion controls to be implemented onsite. Soil types are already incorporated on the march chart	Closed Audit No 8, Jan '10

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
5	Dec-09	5/01	Obs	<p>EMS Manual Legal and other requirements: The EMR has not yet established a mechanism to identify any new legal or other compliance requirements and ensure these are included in relevant registers, communicated to the AquaSure team and taken into account in environmental management arrangements. The EMR was not aware of the requirement from EPA to manage construction wastes in the marine environment (letter from EPA to AquaSure dated 13 September 2009).</p>	<p>AquaSure response: Section entitled “Legal and other requirements” (page 30) of the current version of the EMS states that the TDJV Environment Manager and TDJV Environment and Community Manager will be responsible for ensuring that any “new obligations are recognised and captured...”. Currently, TDJV Environment Manager receives a monthly update through EnviroLaw and forwards this information to Area Environmental Managers, to update documentation/ approaches as appropriate. This was checked with these Area Managers, and the EMR is satisfied that this system is working (although no changes/ new obligations have been noted for the first three months of the project). This system was checked as part of the EMR December audit.</p> <p>Verification: The response addresses the requirements for legislative requirements, but not for the full scope of project environmental requirements. The process outlined by the EMR is not controlled through the EMS, but relies on the D&C EMP and Area EMPs. Accordingly AquaSure cannot demonstrate independent management of legal and other requirements.</p> <p>February 2010: The EMR will develop a process to ensure that AquaSure manages the identification and management of compliance requirements. A correspondence register is being implemented to track correspondence and actions arising from this between AquaSure and TDJV.</p> <p>March 2010: No further action.</p>	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
5	Dec-09	5/02	NC	<p>EMS Manual Control of EMS Manual documentation. The EMR advised that the revised project EMS and subordinate EMPs had been submitted to the State by TDJV and that the EMR was not formally included in the transmittal, and had not formally authorised the documentation (although comments had been provided). Project Deed 60.1 (e): No evidence was available to demonstrate that the State had approved the EMS documentation published on the AquaSure web site. The revised EMS documentation had not been provided to the IR&EA for review. The revised EMS documentation has not been formally provided to the IR&EA.</p>	<p>AquaSure response: Action: Aquasure/ TDJV is to formally submit the amended versions of the EMS and EMPs as they appear on the website (entire documents, not just those on the website) to DSE for consent by the State – this has been actioned with formal request for review and consent to the amendments (as required under Project Deed 60.1(e)).</p> <p>Action: EMR will formally approve revised version of EMS</p> <p>Action: When/if consent has been provided by the State, Aquasure will formally provide copies of each revised document (EMS and EMPs) to the State and the IR&EA (as required under Project Deed 60.1(e)).</p> <p>Action: EMR will work with TDJV Environmental Team to develop an action plan to further refine the EMPs and associated procedural communication/ document exchange processes/ systems between Aquasure and TDJV.</p> <p>.Verification: January 2010: The identified actions are appropriate. These had not been completed at the time of the audit. February 2010: The identified actions had been completed.</p>	Closed Audit No 14, February 2010
6	Dec-09	6/01	Obs	<p>D&C EMP Internal communication: The Area Environmental Managers provide comment on relevant Design Packages. Emails from design teams to the Area Environmental Managers requesting sign off of the Design Package were sighted. The revised D&C EMP includes this overall requirement for interaction, and this appears to be a well understood work practice, however, there is no documented procedure defining the required accountabilities, responsibilities and authorities for environmental input to Design Packages.</p>	<p>January 2010: No progress has been made on the findings since the last audit.</p> <p>February 2010: The TDJV Design Review flow chart was sighted. This requires environmental input to and sign-off of design packages. Environmental sign off of DP2-001 Stage 2 was sighted</p>	Closed audit No 15, Feb 2010

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
7	Jan-10	7/01	Obs	D&C Plant and General Area EMP; Communication. The last Tool Box meeting was held on 29/10/09. The D&C Plant and General Area EMP requires weekly toolbox meetings. A proposed revision to a regular, but undefined frequency was sighted and it was advised that monthly tool box meetings were planned..	February 2010: Toolbox materials (on waste management and spill response) and sample attendance sheets from 21 January were sighted. The Area Environment Manager advised that another toolbox will be held in February.	Closed Audit No 12. Feb 10
8	Jan-10	8/01	Obs	D&C Utilities EMP. Operational Management Controls. The Area Environmental Manager currently authorises the Site Environmental Plans verbally. The formal authorisations and process for authorisation of the SEPs is not documented. The process of the SEPs being uploaded on the system by the Document Controller as per PLJV AEM direction was described-	February 2010: An authorisation box is to be reintroduced to demonstrate formal approval by AEM.	Closed Audit No 13 February 2010.
8	Jan-10	8/02	Obs	D&C Utilities EMP, Flora and Fauna sub-plan. The depot at Livestock Way was observed to have blackberries and other weeds growing on the boundary of the property. A plan for dealing with weeds at depots needs to be considered.-	February 2010: Contractor is to be appointed to carry out weed management. To be followed up at the next audit. March 2010: No further action has been taken.	Remains open
8	Jan-10	8/03	Obs	D&C Utilities EMP, Flora and Fauna sub-plan. It was noted that the Biosecurity vehicle had no spill kit on board but spill kits were present on Plant and Trucks. It was also noted that the same label was used to identify concentrated and diluted Hibitane and Phytophora Clean-	Verification: February 2010 Chemical containers were observed to be appropriately labelled. Spill kits are available on the vehicle.	Closed Audit No 13, February 2010.
10	Jan-10	10/01	Obs	D&C EMP Environmental monitoring. The D&C EMP MIRA schedule has not been reviewed or updated since the EMP was approved. The EMP change register documents changes to the D&C Utilities EMP MIRA schedule in late November 2009 and to the D&C Plant and General Area EMP on 11 December 2009. These have not been consolidated into a project wide D&C EMP revised MIRA schedule, nor has the D&C EMP MIRA schedule been reviewed monthly as given in the D&C EMP. Accordingly, TDJV cannot demonstrate overall management of project environmental monitoring requirements.	February 2010: No progress. Revision of MIRA schedule is part of overall D&C EMP revision. March 2010: the TDJV Environment Manager advised that the MIRA Schedule is to be removed from the next revision of the D&C EMP. A discussion was held on the appropriate level of authority and responsibility for approving and conducting monitoring.	Remains open

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11	Jan-10	11/01	Obs	D&C EMP, Legal and other requirements. Attachment D (Environmental Legislation Register) has not been revised. While it includes reference to relevant environmental legislation, there are no clear links from this register to the Environmental Compliance Record, so that specific compliance obligations, and their management within the D&C EMP are cross-referenced.	February 2010: Att D has been removed from the revised D&C EMP. Legal requirements are to be included in the Compliance Tool under development	Closed Audit No 15, Feb 2010
11	Jan-10	11/02	Afl	D&C EMP, Legal and other requirements. While the Environmental Compliance Record identifies environmental obligations and compliance methodologies, compliance criteria, particularly for PRs, have generally not been defined. Compliance criteria are not always clear in many of the PRs and should be defined	February 2010: The compliance tool is still being developed. March 2010: Good progress has been made in the development of compliance criteria for design-related PRs. These are still to be completed, and criteria developed for construction-related PRs.	Remains open
12	Feb-10	12/01	Obs	D&C Plant & General Area EMP. The SEP is currently being revised, however there is no documented and efficient process for replacing hard copies of SEPs already issued with current Work Packs. This is part of a broader lack of clear and documented document control procedures for the project environmental documentation.	March 2010: Action is still pending. The SEPs will be issued through Incite, with the onus on the recipient to up-date relevant WAPs and WPs.	
12	Feb-10	12/02	Obs	D&C Plant & General Area EMP. Air quality sub-plan, It was noted that the alarm on the on-line dust monitor relates to 5 minute averages, and that the Area EMP Air Quality sub-plan documents 10 minute averages as the EPA agreed trigger levels.	The alarm level on the data logger has been changed to reflect the EMP requirements. An email to Ecotech from the Area Environmental Manager dated 18 February was sighted.	Closed Audit No 16, March 10.
13	8-Feb-2010	13/01	Obs	D&C Utilities EMP Monitoring & Measurement. The dust levels for PM10 are being reported to EPA against the values in the NEPM instead of the SEPP (Air Quality Management), which is required in the Performance Requirements and referenced in the Air Quality Sub-Plan.	The EPA has confirmed the air quality monitoring data are not required to be reported. Monthly data are aggregated and reviewed for internal TDJV reporting. These reports now include SEPP levels as require by the D&C Utilities EMP (reports sighted).	Closed Audit No 17, March 10.
13	8-Feb-2010	13/02	Obs	D&C Utilities EMP. Communication. The complaints register maintained by the Area Community Involvement Manager shows that two dust complaints have been received, on 2 & 4/2/10. Polymer bonding (Gluon 240) has been proposed to minimise the impact. Close out and verification of these actions cannot be tracked in the Community Involvement Complaints Register, and the complaints are not included in the Thiess HSE database (which has the capability to track closing out of actions).	The Community Liaison Group now uses a web base contact management system (Consultation Manager; also used by DSE). This systems allows for the tracking of contacts with the public, including correspondence and actions, including close-out of actions. The Area Environmental manager is a registered user, and can be assigned actions. An interaction can be tagged as a complaint and tracked and reported as such. The monthly report includes statistics in correspondence (sighted).	Closed Audit No 17, March 10.

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
13	8-Feb-2010	13/03	Obs	D&C Utilities EMP. Flora and fauna sub plan. A Bio- Security Wash Down point sign was located at KP 58.5 however no wash down equipment was provided. Stripping of topsoil has been completed in the area, but topsoil was still being handled.	The sign has been removed (see photo).	Closed Audit No 17, March 10.
13	8-Feb-2010	13/04	Obs	D&C Utilities EMP. Access and activities on agricultural land sub plan. No information on weed infestations has been obtained from landholders as defined in the sub plan. It was advised by the Area Environment Manager that this requirement is to be removed from revised version of the Sub-Plan.	The pre-condition report includes photos which incidentally captures existing pasture including any weed issues. Rehabilitation plans are endorsed by an Independent Rehabilitation Consultant, and include any required weed management.	Closed Audit No 17, March 10.
14	9-Feb-2010	14/01	Afl	EMS Manual. Operational control. While on-ground environmental management generally adequately address the environmental risks, documentation of environmental management requirements does not reflect current practice in some areas. See, for example, finding numbers 4/03 (erosion management), 11/01 (compliance management), 12/02 (air quality management), 13/01 (air quality monitoring) and 13/04 (weed management). It is noted that the EMR is conducting a review of environmental management documentation that should bring into line the on-ground practices and associated documentation.	March 2010: The EMS and EMPs are under still review.	Remains open
15	1-Feb-2010	15/01	Afl	D&C EMP 4.5 Control of EMS Manual documentation. The process for the authorisation, issue and control of D&C EMP documentation (and subordinate D&C Area EMP documentation) is not defined or documented.	March 2010: definition of document control requirements is part of the overall revision of the EMPs.	Remains open
16	12-Mar-2010	16/01	Afl	D&C Plant and General Area EMP, 5.1 Monitoring & Measurement. Water quality monitoring: The D&C Plant and General Area MIRA schedule and the Water Quality and Erosion Management sub-plan require water quality monitoring within 12 hours of substantial rainfall. Following rain on Saturday 6/3 and Sunday 7/3, water quality monitoring was undertaken on the following Tuesday in the Wonthaggi Drain, i.e approximately 48 hours after the rainfall 'Substantial rainfall' has not been adequately defined either in terms of an absolute amount of rain, or in terms of site conditions and the potential for discharge from the site.		

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17	10-Mar-2010	17/01	Afl	<p>D&C Utilities EMP, 5.1 Monitoring & Measurement. The D&C Utilities EMP requires water quality monitoring for pipe-jacked waterways for one month prior to works. The EPBC Management Plan has a similar requirement. Water quality monitoring commenced on 2/2/2010, however no data are available from the subcontractors. It was advised that continuous turbidity monitoring had not been conducted as required in the D&C Utilities Water Quality and Erosion Control Sub-plan.</p> <p>It was noted that the D&C Utilities Water Quality and Erosion Control Sub-plan, the MIRA schedule (Att L1 to the D&C Utilities EMP) and the EPBC Management plan are not consistent. It was further noted that the terms 'works' or 'construction' used in the motoring plans are not adequately defined</p>		