



**CANYON COAL MINE
ENVIRONMENTAL
MANAGEMENT SYSTEM**

Document Owner: General Manager

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WHC_PLN_CAN_ENVIRONMENTAL MANAGEMENT STRATEGY

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ACRONYMS USED THROUGHOUT THIS DOCUMENT

AR	-	Annual Review (incorporates former Annual Environmental Management Report)
ANZECC		Australian and New Zealand Environment Consultative Council
CCC		Community Consultative Committee
DA	-	Development Application
DPE	-	Department of Planning and Environment
DRG	-	Department of Planning and Environment - Division of Resources and Geoscience
EIS	-	Environmental Impact Statement
EMS	-	Environmental Management Strategy
EPA	-	Environment Protection Authority
GSC	-	Gunnedah Shire Council
MOP	-	Mining Operations Plan
NSC	-	Narrabri Shire Council
SEE	-	Statement of Environmental Effects
WHC	-	Whitehaven Coal



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1 INTRODUCTION

The Whitehaven Coal Mine (now known as Canyon Coal Mine) is located within the Narrabri Shire, approximately 30 km north-west of Gunnedah and 15 km east of Boggabri in the Gunnedah coalfields of NSW (Figure 1). The mine is approved under DA 8-1-2005, as modified.

The mine commenced operations in 2000 and ceased mining in 2009 following exhaustion of the resource. The site has undergone extensive rehabilitation and the majority of surface infrastructure, including all coal handling and processing infrastructure, has been removed.

Some minor infrastructure currently remains at the site, including the explosives magazine compound and hardstand areas, for ongoing use by nearby Whitehaven Coal (WHC) operations and contractors. Unsealed access roads remain on site for access to rehabilitation areas and the water management structures. In addition, a maintenance facility has been constructed to provide a laydown area and maintenance equipment storage facilities for use by WHC operations and contractors, under Narrabri Shire Council approval DA 31/2012.

As has been the case with all activities undertaken since the mine's commencement in 2000, the operations at the Whitehaven Coal Mine will be managed in an integrated manner:

- In accordance with the Development Consent,; and
- In a way which provides for the Mine's decommissioning, final rehabilitation and, ultimately, lease relinquishment and/or satisfaction of long-term performance objectives or obligations.

This Environmental Management Strategy (EMS) describes the overall framework for environmental management at the Mine in accordance with Schedule 5 Condition 1 of DA 8-1-2005 as modified, and addresses the principal strategies to be adopted, including compliance management and monitoring, conflict resolution and consultation/information dissemination processes.

2 DESCRIPTION OF THE DEVELOPMENT

The mine lies within Mining Leases (MLs) 1464 and 1471 which incorporate parts of WHC's "Whitehaven" and "Womboola" properties and a section of the "Merton" property which was sub-divided off and acquired by the Company in 2000.

Approved activities which will or may be undertaken include:

- Rehabilitation maintenance works, and
- Rehabilitation monitoring and reporting.

Figure 2 identifies the relevant features of the site. Approved hours of operation are 7am to 10pm Monday to Saturday, excluding public holidays.



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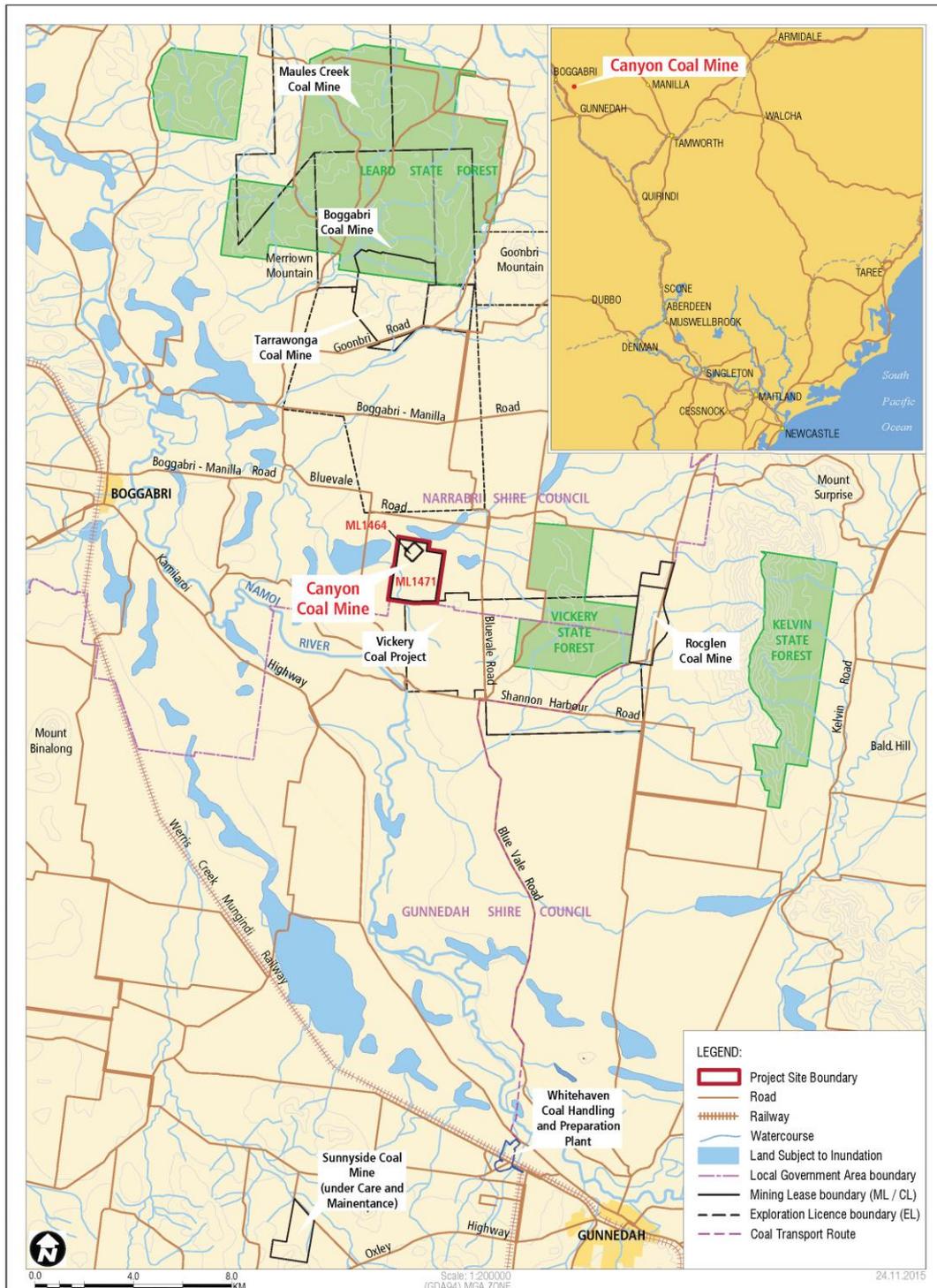


Figure 1 - Project Locality



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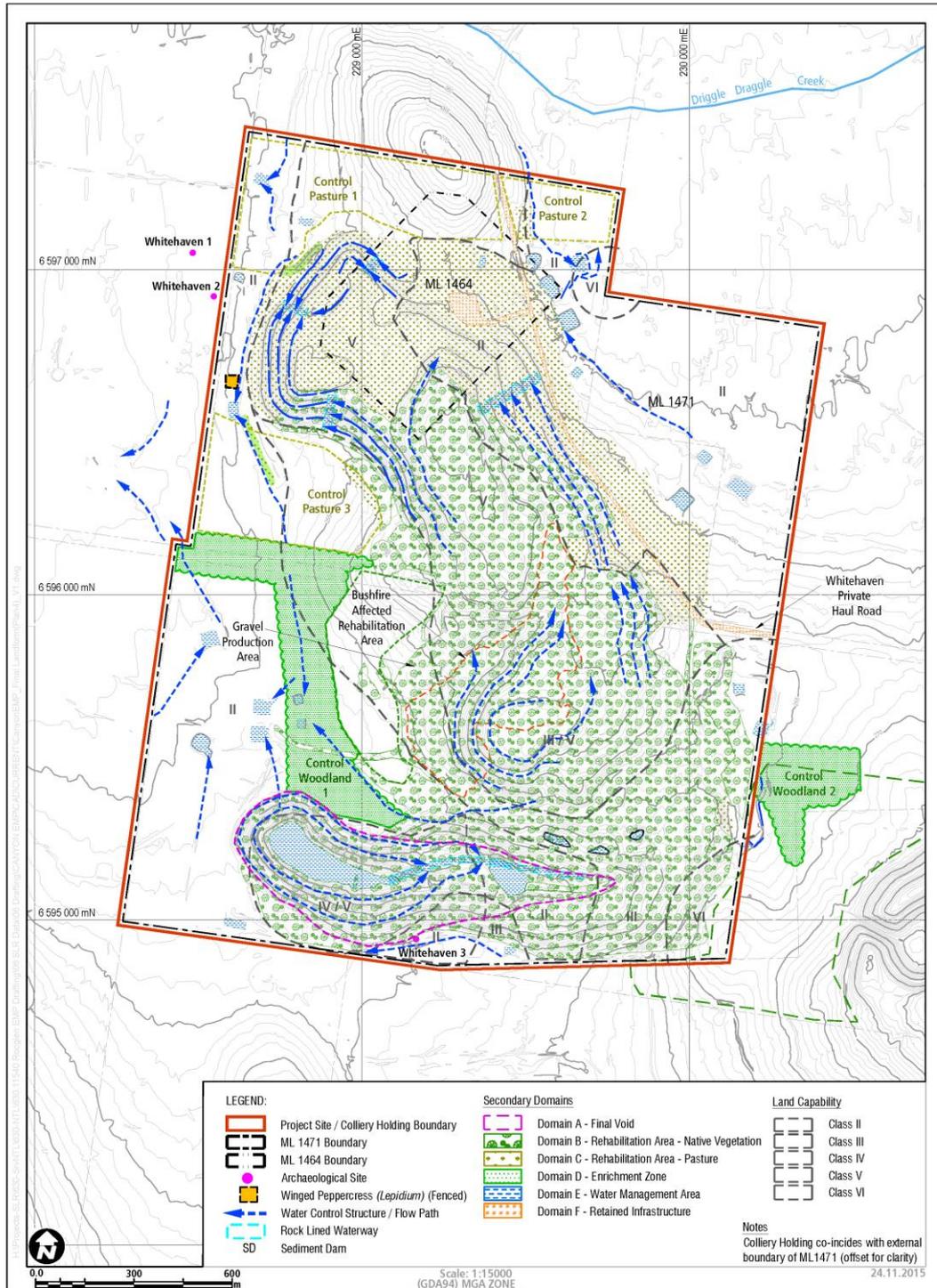


Figure 2 - Site Layout



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3 STATUTORY REQUIREMENTS

3.1 Approvals, Licences, Permits and Leases

All remaining activities to be conducted at or in association with the site will be undertaken in accordance with the Development Consent 8-1-2005, as modified, and any other relevant approvals, licences and leases.

3.2 Legislation

The key reference documents include the following Acts and their respective regulations.

- *Mining Act 1992.*
- *Explosives Act 2003.*
- *Work, Health and Safety (Mining) Act, 2013.*
- *Environmental Planning and Assessment Act 1979.*
- *Protection of the Environment Operations Act 1997.*
- *Environment Protection and Biodiversity Conservation Act 1999.*
- *National Parks and Wildlife Act 1974.*
- *Water Act 1912.*
- *Water Management Act 2000.*
- *Fisheries Management Act 1994.*
- *Roads Act 1993.*
- *Local Government Act 1993.*
- *Contaminated Land Management Act 1997.*
- *Soil Conservation Act 1938.*
- *Threatened Species Conservation Act 1995.*
- *Waste Avoidance and Resource Recovery Act 2001.*
- *Protection of the Environment Operations (Waste) Regulation 2005.*

3.3 Policies and Guidelines for Mining

The following DPE and DRG policies and guidelines may relate the site:

- EDP11 Rehabilitation Security Deposits Policy
- EDP10 Public Access to Environmental Information Policy
- ESG1 Rehabilitation Cost Estimate Guideline



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- Division of Resources and Energy Schedule of Rehabilitation Costs
- ESG2 Guideline for Review of Environmental Factors
- ESG3 Mining Operations Plan MOP Guidelines September 2013
- ESG4 Environmental Compliance Reporting Guidelines for Coal and Mineral Prospecting Operations. Environmental Management Report and Environmental and Rehabilitation Report
- ESB28 Environmental Incident Reporting Requirements
- EDG01 Borehole Sealing Requirements on Land: Coal Exploration
- EDG10 Surface Disturbance Notice Guideline for Exploration Activities
- EDG13 Exploration Licence Rehabilitation and Relinquishment Report
- ESB26 Rehabilitation Cost Calculation Tool
- MDG1002 Environmental Management Plans and Guidelines for Annual Reporting for Coal Leases NSW
- MDG1006 Spontaneous Combustion Management Code
- MDG1010 Risk Management Handbook for the Mining Industry
- NSW Government Annual Review Guideline
- NSW Government Independent Audit Guideline
- NSW Government Web Based Reporting Guideline

Other State and Federal Government Policies and Guidelines considered include:

- Australian Minerals & Energy Environment Foundation (AMEEF) – Best Practice Environmental Management in Mining series.
- NSW Aquifer Interference Policy (2012).
- NSW Minerals Council (1999) – Guidelines for Best Practice Community Consultation in the NSW Mining and Extractive Industries.
- Australian and New Zealand Environment Control Council and Agricultural and Resource Management Council of Australia and New Zealand (ANZECC & ARMCANZ) (2000) – Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- DECC (2004) – Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation.
- DECCW (2010) – Aboriginal Cultural Heritage Consultation Requirements for Proponents.
- EPA (2014) – Waste Classification Guidelines



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- State Groundwater Dependant Ecosystem Policy (2002).
- Farm Dams Policy (1999).
- NSW Salinity Strategy (2000).
- NSW Water Conservation Strategy (2000).

3.4 Miscellaneous Standards and Guidelines

3.4.1 Standards (or their most recent versions)

- AS / NZS 3580.1.1:2007 – Methods for Sampling and Analysis of Ambient Air: Guide to Siting Air Monitoring Equipment.
- AS 3580.14-2014 – Methods for Sampling and Analysis of Ambient Air – Meteorological Monitoring for Ambient Air Quality Monitoring Applications.
- AS 2601:2001 – Demolition of Structures.
- AS 3580.10.1:2003 (R2014) – Methods for Sampling and Analysis of Ambient Air: Determination of Particulate Matter – Deposited Matter – Gravimetric Method.
- AS 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting.
- AS / NZS 3580.9.6:2003 (R2014) – Methods for Sampling and Analysis of Ambient Air: Determination of Suspended Particulate Matter, PM₁₀ High Volume Sampler with Size – Selective Inlet – Gravimetric Method.
- AS / NZS 3580.9.3:2015 – Methods for Sampling and Analysis of Ambient Air: Determination of Suspended Particulate Matter, Total Suspended Particulate Matter (TSP) High Volume Sampler – Gravimetric Method.
- AS / NZS / ISO 19011:2003 - Guidelines for Quality and/or Environmental Management Systems Auditing.

3.4.2 Approved Methods and Codes

- NSW DEC (2006) – Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.
- NSW EPA (2005) – Approved Methods and Guidance for Modelling in Assessment of Air Pollutants in NSW.
- Landcom (2004) – Managing Urban Stormwater: Soils and Construction.
- Australian and New Zealand Minerals and Energy Council (ANZMEC) (2000) – Strategic Framework for Mine Closure.
- NSW Minerals Council (2007) – Rehabilitation by Design, Practice Notes.



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4 ENVIRONMENTAL MANAGEMENT RESPONSIBILITY

The General Manager – Open Cut Operations is responsible for all activities and all personnel at the site, including their compliance with all applicable laws, regulations, licences, approvals and WHC requirements.

The site Environmental Officer, with support from the Group Environment Team, assists and advises WHC management with the environmental requirements of the site.

Contractors engaged to undertake works at the site are required to operate in accordance with WHC requirements.

5 ENVIRONMENTAL PERFORMANCE – MANAGEMENT AND MONITORING

There are several monitoring programs that are no longer undertaken due to the site now being in closure. These include the following:

- Blast monitoring;
- Noise monitoring.

Continued environmental management and monitoring of the site will be undertaken in accordance with the following plans:

- Archaeology and Cultural Heritage Management Plan
- Air Quality Monitoring Program
- Biodiversity Offset Management Plan
- Closure Mining Operations Plan
- Rehabilitation Monitoring Program
- Water Management Plan

Monthly environmental inspections, Annual Reviews and all other monitoring programs, are undertaken as a means of evaluating the site's environmental performance. The outcome of these inspections will prompt any relevant actions to be undertaken to manage, mitigate or remove identified potential problems.

6 INFORMATION DISSEMINATION, COMPLAINTS MANAGEMENT AND DISPUTE RESOLUTION

6.1 Information Dissemination

Dissemination of information to the local community and relevant agencies regarding the mining operation, its progress and environmental management performance, will be achieved by both formal and informal means including the following.

Community Consultative Committee (CCC)



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As agreed with DPE, the Vickery CCC will be utilised as a means of communicating information to the community regarding the Canyon site. The CCC comprises an independent chair and appropriate representation from Whitehaven, Gunnedah Shire Council, Narrabri Shire Council and the local community.

The minutes of the CCC meetings are available on the Whitehaven website.

WHC will provide the opportunity for the CCC and local residents, landholders, schools and community groups to visit the mine, as well as maintaining an open door policy for interested local residents, where practically possible. The extent of visitation to the site will ultimately be governed by ensuring site standards for safety are maintained at all times.

Copies of all management plans/strategies or monitoring programs, together with the results of independent audits undertaken in accordance with DA 8-1-2005 will be made publicly available on the Whitehaven website.

Annual Review

Each year, WHC will prepare an Annual Review which, in addition to the reporting requirements from DRG will (in accordance with Schedule 5, Condition 5 of DA 8-1-2005):

- Identify the standards and performance measures that apply to the development;
- Include a summary of the complaints received during the past year, and compare this to the complaints received in the previous 5 years;
- Include a summary of monitoring results on the development during the past year;
- Include an analysis of these monitoring results against the relevant:
 - limits/criteria in this consent
 - monitoring results from previous years; and
 - predictions in the EIS and Statement of Environmental Effects (SEEs) prepared for the development;
- Identify any trends in the monitoring over the life of the development;
- Identify and discuss any non-compliances during the previous year; and
- Describe what actions were, or are being, taken to ensure compliance.

In accordance with contemporary approvals, and to meet the intent of Schedule 5 Conditions 10 and 11 of DA 8-1-2005, access to information will also be provided via placement of documentation on the WHC website.

Other Methods

Visits by relevant government agencies, e.g. EPA, DRG and DPE, to inspect the mine site and WHC's performance will be documented together with the provision of reports or information as requested.

WHC will maintain regular formal and informal contact with relevant government agencies.

WHC will provide reports to relevant government agencies in the event of a non-compliance or a potential non-compliance with respect to statutory criteria or guidelines.



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In addition to the above, Whitehaven may also utilise the local press to present feature articles on the mine's progress.

6.2 Complaint Management Procedure

The following complaints management protocol will be followed:

- A publicly advertised telephone complaints line is in place to receive complaints during operating hours and record complaints at other times.
- Each complaint received will be recorded on a Complaints Register, which will include the following details:
 - The date and time of complaint.
 - Any personal details the complainant wishes to provide or if no such details are provided a note to that effect.
 - The nature of the complaint.
 - The action taken by WHC in relation to the complaint, including any follow-up contact with the complainant.
 - If no action was taken by WHC, the reason why no action was taken.
- The Environmental Officer will be responsible for ensuring that an initial response is provided within 24 hours of receipt of a complaint.
- The cause of the complaint and any required remedial actions identified.
- Additional measures will be undertaken as required to address the complaint. This may include visiting the complainant, or inviting the complainant to the mine site.
- Once the identified measures are undertaken, the Environmental Officer will sign off on the relevant complaint within the Complaints Register.
- If necessary, the Environmental Officer will follow-up to confirm the source of the complaint is adequately mitigated.
- A copy of the Complaints Register will be kept by WHC and made available to the complainant (on request). A summary of complaints received every 12 months will be provided in the Annual Review.

Based on the nature of individual complaints, specific contingency measures may be implemented to the (reasonable) satisfaction of the complainant. The Environmental Officer retains responsibility to ensure that complaints received are properly recorded and addressed appropriately.

6.3 Dispute Resolution

With respect to landowner complaints or issues pertaining to purported exceedances of the air quality or noise criteria identified in DA 8-1-2005, and if the landowner requests an



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independent review of the air quality or noise impacts, the procedures identified in DA 8-1-2005 Schedule 4 Conditions 2-5 will be adopted.

6.4 Response to Non-Compliances

Compliance with all approvals, plans and procedures will be the responsibility of all personnel (staff and contractors) employed on or in association with the mine.

The site Environmental Officer will undertake monthly environmental inspections. From these, directions will be initiated identifying any remediation/rectification work required, and areas of actual or potential non-compliance. Internal audits of compliance with primary approvals will be undertaken on at least an annual basis as part of preparation the preparation of the Annual Review.

Any non-compliance with regulations, licences or approvals will be reported to the relevant authority, together with details of the corrective actions taken to avoid future occurrences. Areas of potential non-compliance which have the potential to cause environmental harm or result in complaints will also be reported to the relevant authority.

A review of the mine's compliance with all conditions of DA 8-1-2005, ML 1464 and ML 1471 will be undertaken during preparation of each Annual Review.

Additionally, an independent environmental audit will be undertaken once every three years and the report submitted to the Secretary and made available to the public on Whitehaven's website. The independent audit will be undertaken by an appropriately certified auditor in accordance with AS/NZS ISO 19011:2003 "Guidelines for Quality and/or Environmental Management Systems Auditing" or equivalent updated versions of these guidelines.

6.5 Cumulative Impact Management

The site ceased mining in 2009 and as such has a low potential for creation of cumulative impacts.

6.6 Emergency Response

WHC's Emergency Management System, though primarily prepared in accordance with WHS requirements, extends to environmental emergencies.

Although there are specific procedures for individual situations, all incorporate three basic steps:

1. Notification of the emergency (internal and/or external);
2. Protection of personnel as a first priority; and
3. Protection of the environment, plant and equipment.

Initially each of steps (2) and (3) would use internal resources, with assistance from external resources called upon as and when necessary.



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Any emergency situations or incidents, which do or could potentially have caused environmental harm, will be reported to EPA and other relevant authorities.

6.7 Document Review

This EMS will be reviewed, and if necessary revised, in accordance with Schedule 5 Condition 2 and Schedule 5 Condition 12 of the DA 8-1-2005, as modified.