



**NSW  
Resources  
Regulator**

**COMPLIANCE AUDIT PROGRAM**

# **EL8398 GEMINI & BLUE MOUNTAIN EXPLORATION DRILLING PROGRAM**

**Scorpio Resources Pty Ltd**



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# 1. Introduction

## 1.1. Background

Exploration licence 8398 (EL8398) was granted to Scorpio Resources Pty Ltd in October 2015. The exploration area is about 32 kilometres north-west of Mount Hope in Central NSW.

There have been several exploration drilling programs undertaken on EL8398 in the last five years.

In May 2020, Scorpio Resources was granted funding for the drilling program under the NSW Government New Frontiers Co-operative Drilling Program. The three most recent programs are summarised in Table 1.

*Table 1 Summary of recent exploration drilling programs on EL8398*

Program	Activities
Project Gemini – Stage 1 RC scissor	<ul style="list-style-type: none"> <li>13 RC drill holes at the Blue Mountain prospect</li> </ul>
Blue Mountain stage 3 RC and core infill drilling	<ul style="list-style-type: none"> <li>37 RC drill holes at Blue Mountain prospect</li> <li>13 diamond drill holes at Blue Mountain prospect</li> <li>2 RC drill holes at Zeus prospect</li> </ul>
Blue Mountain and Zeus RC/diamond drilling stage 4	<ul style="list-style-type: none"> <li>10 RC drill holes at Blue Mountain prospect</li> <li>20 diamond drill holes at the Blue Mountain prospect</li> <li>10 RC drill holes at the Zeus prospect</li> <li>2 diamond drill holes at the Zeus prospect</li> </ul>

These programs were approved by the NSW Resources Regulator within the Department of Regional NSW between December 2019 and June 2020. In May 2020, Scorpio Resources was granted funding under the NSW Government’s New Frontiers Co-operative Drilling Grants program for the Gemini/Blue Mountain project.

As part of the Regulator's compliance audit program, an audit of the exploration activities associated with the Blue Mountain project within EL8398 was undertaken on 29 September 2020.

## 1.2. Audit objectives

The objectives of the audit were to:

- undertake a compliance audit of the Scorpio Resources Pty Ltd exploration activities against the requirements of the *Mining Act 1992* and the conditions of the exploration licence and activity approvals issued pursuant to that Act.
- assess the operational performance of the exploration activities and the ability of the title holder and/or its operator to implement management systems and controls to provide for sustainable management of the operations.

## 1.3. Audit scope

The scope of the audit included:

- the exploration activities associated with the Scorpio Resources exploration project, including:
  - exploration activities within EL8398, including a selected sample of exploration drillholes
  - borehole sealing and rehabilitation activities for selected drilling activities undertaken since April 2019.
- a review of documents and records pertaining to the exploration activities
- the assessment of compliance for the period commencing 18 April 2019 and ending 29 September 2020.

## 1.4. Audit criteria

The audit criteria against which compliance was assessed included:

- *Mining Act 1992*, specifically, Sections 5, 30, 140, 163C to 163E, 163G, 378D
- Mining Regulation 2016, specifically clauses 59 to 68
- Conditions attached to EL8398 (granted 7 October 2015 and last renewed 18 April 2019)

- Exploration activities application (ESF4) dated 7 November 2019 for Project Gemini – Stage 1 RC Scissor, and associated approval dated 11 December 2019
- Exploration activities application (ESF4) dated 19 December 2019 for Blue Mountain Stage 3 RC and Core Infill Drilling, and associated approval dated 12 February 2020
- Exploration activities application (ESF4) dated 28 May 2020 for Blue Mountain and Zeus RC/Diamond drilling Stage 4, and associated approval dated 11 June 2020
- *Exploration Code of Practice: Environmental Management* (Version 2, April 2017)
- *Exploration Code of Practice: Rehabilitation* (Version 2, April 2017)
- *Exploration Code of Practice: Community Consultation* (Version 1.1, May 2016)
- *Exploration Code of Practice: Produced Water Management, Storage and Transfer* (Version 2, April 2017)
- *Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales* (Version 2, March 2016)
- *Exploration Guideline: Annual activity reporting for prospecting titles* (Version 2a, April 2016) published by the (then) NSW Department of Industry, Skills and Regional Development, Division of Resources and Energy
- *ESG4: Guideline for Preparing an Environmental and Rehabilitation Compliance Report* (Version 2.3, March 2019) published by the NSW Resources Regulator

## 1.5. Publishing and disclosure of information

This audit report will be published on the Regulator’s website consistent with Section 365 of the *Mining Act 1992*.

This audit report may be publicly disclosed consistent with the *Government Information (Public Access) Act 2009*.



## 2. Audit methods

The audit process involved the interview of site personnel, a review of documentation and samples of records provided by the title holder and/or operator and a site inspection of the operations to determine the level of compliance of the operations and assess the status of the operational performance. The audit process and methodology are described in more detail in the sections below.

### 2.1. Opening meeting

The opening meeting was held onsite on 29 September 2020. The audit team was introduced, and the scope of their responsibilities was conveyed to the auditees. The objectives and scope of the audit were outlined. The methods to be used by the team to conduct the audit were explained, including interview of personnel, review of documentation, examination of records and a site inspection to assess specific compliance requirements.

### 2.2. Site interviews and inspections

#### 2.2.1. Data collection and verification

Where possible, documents and data collected during the audit process were reviewed on site. Several documents were unable to be reviewed on site and were provided following the site visit.

All information obtained during the audit process was verified by the audit team where possible. For example, statements made by site personnel were verified by viewing documentation and/or site inspections where possible. Where suitable verification could not be provided, this has been identified in the audit findings as not determined.

#### 2.2.2. Site inspections

A site inspection was undertaken of the following drill sites:

- RC drill hole 19BMRC023 – hole plugged and rehabilitated
- RC drill hole 19BMRC048 – hole plugged and rehabilitated
- IP Line 6393600N
- RC drill hole 19BMRC035 – drilled for the purposes of a water bore



- RC drill hole 19BMRC028 – groundwater issue
- diamond drill hole 20BMDD010 – pad ready for next diamond drill hole
- diamond drill hole 20BMDD011 - current drilling
- core yard and sample storage.

## 2.3. Closing meeting

The closing meeting was held onsite on 29 September 2020. The objectives of this meeting were to discuss any outstanding matters, present preliminary findings and outline the process for finalising the audit report.

## 2.4. Compliance assessment definitions

The reporting of results from the compliance audit was determined based on the definitions presented below in Table 2.

Table 2 Audit assessment categories

ASSESSMENT	CRITERIA
<b>Compliance</b>	Sufficient and appropriate evidence is available to demonstrate the particular requirement has been complied with.
<b>Non-compliance</b>	<p>Clear evidence has been collected to demonstrate the particular requirement has not been complied with. There are three subcategories of non-compliance reflecting the severity and level of risk associated with the non-compliance:</p> <p><b>NC1</b> – the absence of planning or implementation of a required operational element which has the potential to result in a significant risk.</p> <p><b>NC2</b> – an isolated lapse or absence of control in the implementation of an operational element which is unlikely to result in a significant risk.</p> <p><b>NC3</b> – an administrative or reporting non-compliance which does not have a direct environmental or safety significance.</p> <p>Note: The identification of a non-compliance in this audit may or may not constitute a breach of, or offence under, the <i>Mining Act 1992</i>. Non-compliances identified in this audit report may be further investigated by the Regulator and regulatory actions may be undertaken.</p>

ASSESSMENT	CRITERIA
<b>Observation of concern</b>	<p>Where an auditee may be compliant at the time of the audit but there are issues that exist that could result in the potential for future non-compliance if not addressed.</p> <p>Observation of concern was also used where an issue may not have particular compliance requirements, but which was not conducive to good management or best practice.</p>
<b>Suggestion for improvement</b>	<p>Where changes in processes or activities inspected or evaluated at the time of the audit could deliver improvement in relation to risk minimisation, sustainable outcomes and management practices.</p>
<b>Not determined</b>	<p>The necessary evidence has not been collected to enable an assessment of compliance to be made within the scope of the audit.</p> <p>Reasons why the audit team could not collect the required information include:</p> <ul style="list-style-type: none"> <li>■ insufficient information on the file relating to the period covered by the audit or insufficient evidence collected to reach a conclusion</li> <li>■ the wording on the criteria (approval condition) meant that no evidence could be gathered, or it was too difficult to gather the evidence.</li> </ul> <p>A ‘not determined’ assessment was also made where the condition was outside of the scope of the audit.</p>
<b>Not applicable</b>	<p>The circumstances of the authorisation or title holder have changed and are no longer relevant (e.g. no longer mining, mining equipment and plant has been removed).</p> <p>An invoking element in the criteria was not activated within the scope of the audit.</p>

## 2.5. Reporting

Following completion of the site audit, the audit checklists were completed, and audit notes were reviewed to compile a list of outstanding matters to be noted in the audit report. This report was prepared to provide an overview of the operational performance of the site in relation to the exploration activities and identify any non-compliances or observations of concern noted by the auditors during the documentation review and interviews.

The draft audit findings were forwarded to Scorpio Resources for comment. Consideration was given to the representations made during the finalisation of the audit report as discussed in the audit findings.

## 3. Audit findings

### 3.1. Work program

Condition 1 of EL8398 requires the licence holder to carry out the operations described in the approved work program. Work program WP-EL8398-2018-2024 was approved by the (then) Division of Resources and Energy (DRE) on 18 October 2018 as part of the renewal of EL8398.

Scorpio Resources were in year two of the approved work program. Proposed activities for years one and two are summarised below in Table 3.

Table 3 Summary of approved work program activities

Year one (18/4/2019 to 7/10/2019)	Year two (8/10/2019 to 7/10/2020)
Geophysical surveys (IP, DHEM)	Geological mapping
Exploration drilling (RC and core)	Petrographic and XRD investigation
Regional and detailed geological mapping	Multi-element geochemistry
Geochemistry (soil and rock chip)	Geophysics
Prospect assessment	Drilling (both RC and core)

Diamond drilling was in progress at the time of the audit site inspection and RC drilling had been completed in 2019. An example of an IP line was inspected during the site inspection. Generally, evidence was available to confirm that the exploration work program is progressing as planned.

Scorpio Resources are using the services of a tenement manager (Hetherington Exploration and Mining Title Services Pty Ltd) who prepare a monthly tenement obligations report that tracks progress against the approved work program among other things. This process assists in tracking the progress of the work program and identifying where variations to the approved work program may be required.

Exploration data is maintained by the Scorpio Resources geologists and submitted to the Department's Mining Exploration and Geoscience (MEG) with the annual activity reports as required.

## 3.2. Access agreements

Section 140 of the *Mining Act 1992* states, ‘the holder of a prospecting title must not carry out prospecting operations on any particular area of land except in accordance with an access arrangement or arrangements applying to that area of land’. The access arrangement is required to be agreed in writing between the holder of the prospecting title and each landholder of that area of land.

Access agreements were observed to be in place for the properties upon which drilling was undertaken, for example, a land access agreement was signed on 8 December 2017 for the ‘Big Amp’ agricultural holding. A new land access agreement was entered into with respect to this property in July 2020 to enable diamond drilling operations to be undertaken. The current drilling on the Big Amp property was being undertaken in accordance with the July 2020 land access agreement.

## 3.3. Native title and exempted areas

Condition 2 of EL8398 requires the licence holder to obtain the prior written consent of the Minister before carrying out any activities on land on which native title had not been extinguished. Similarly, Section 30 of the *Mining Act 1992* requires the consent of the Minister before a licence holder undertakes any activities within an exempted area.

Hetherington Exploration and Mining Title Services Pty Ltd has prepared native title clearance reports for the Scorpio Resources ‘Cobar Project’ which included lands within EL8398. The reports provided evidence for the extinguishment of native title on perpetual western lands leases within the area and on other areas within the tenements. This evidence was accepted by the (then) Department of Planning and Environment’s Division of Resources and Geoscience in August 2017 and May 2019. Given the extinguishment of native title, further approvals under condition 2 of EL8398 were not required.

Tenure mapping of the licence area showed that several travelling stock reserves and road reserves exist within EL8398 and these areas fall within the definition of an exempted area under Section 30 of the *Mining Act 1992*. An application for the Minister’s consent was lodged by Scorpio Resources and was approved by (then) Resources and Geoscience in December 2017.

It was noted that no activities were conducted on these areas until after receipt of confirmation of the extinguishment of native title and receipt of the Minister’s consent to prospect on exempted areas.

## 3.4. Community consultation

Condition 3 of EL8398 requires the licence holder to carry out community consultation in relation to the planning and conduct of exploration activities. Community consultation is required to be carried out in accordance with the requirements of *Exploration Code of Practice: Community Consultation*.

An assessment against the mandatory requirements of the code of practice was undertaken as documented in the following sections.

### 3.4.1. Risk assessment

Mandatory requirement 1 of the code of practice requires the title holder to conduct a risk assessment to identify and consider the range of opportunities and potential threats associated with community consultation and engagement.

Risk assessments for community consultation and engagement were noted to be undertaken for each type of exploration activity (for example, IP surveys and RC or diamond drilling). In most cases, the assessed impact activity level was low. The auditor concurs with the assessed impact activity level for the exploration activities being done. The risk assessments were documented as part of the community consultation strategy.

### 3.4.2. Community consultation strategy

Mandatory requirement 2 requires the preparation of a community consultation strategy to manage the risks identified in the risk assessment. Mandatory requirement 3 sets out the requirements for preparation of the community consultation strategy.

Scorpio Resources had prepared a community consultation strategy for all its tenements in the Cobar Basin project, which included EL8398. This strategy was commensurate with the activity impact assessment documented under mandatory requirement 1.

The 'Consolidated Community Consultation Strategy – Cobar Basin Project, updated September 2020' was reviewed during the audit and was found to address the requirements of the code of practice. For example:

- the risk assessment was documented in section 5
- the objectives of the consultation strategy were described in section 4
- stakeholder identification was addressed in section 6
- engagement mechanisms were identified in section 8
- section 9 of the strategy set out the requirements for monitoring and revising the strategy based on an evaluation of the landholder engagement activities.

### 3.4.3. Implementation and reporting

Mandatory requirement 4 requires the title holder to implement, monitor and report annually on the community consultation strategy.

Evidence was available to demonstrate that Scorpio Resources has generally implemented the community consultation strategy. For example:

- stakeholder engagement records
- community consultation log
- land access agreements.

A community consultation report for the 2018-2019 reporting year was submitted as part of the annual activity reporting required by condition 8 of EL8398. The report was reviewed by MEG and was found to be adequate. The 2018-2019 report was reviewed by the auditor and found to be generally consistent with the reporting guidance provided in appendix 1 of the code of practice.

The report documented the consultation activities undertaken during the reporting period for each stakeholder type (e.g. local community/landholders and station managers). It included records of the outcome of the consultation process and whether the community consultation objectives were achieved or not.

## 3.5. Exploration activity approvals

Section 23A of the *Mining Act 1992* requires the holder of an exploration licence to obtain an activity approval prior to carrying out assessable prospecting operations.

Several drilling programs have been undertaken on EL8398 over the last three years, with exploration activity approvals sought and granted for each program. The audit focussed on three of the most recent approvals as follows:

- Exploration activities application (ESF4) dated 7 November 2019 for Project Gemini – Stage 1 RC Scissor, and associated approval dated 11 December 2019
- Exploration activities application (ESF4) dated 19 December 2019 for Blue Mountain Stage 3 RC and Core Infill Drilling, and associated approval dated 12 February 2020
- Exploration activities application (ESF4) dated 28 May 2020 for Blue Mountain and Zeus RC/Diamond drilling Stage 4, and associated approval dated 11 June 2020.



Generally, evidence was available to confirm that activities were being carried out in accordance with the exploration activity approval and the codes of practice as documented in the following sections.

## 3.6. Environmental management

Condition 4 of EL8398 requires the licence holder to prevent or minimise, so far as is reasonably practicable, any harm to the environment arising from the activities carried out under the licence. Condition 2 of the exploration activity approval requires the licence holder to carry out the activity in compliance with Part B of the *Exploration Code of Practice: Environmental Management*.

The exploration drilling was temporarily suspended due to wet weather at the time of the audit, but the drill rig remained on site.

No evidence of environmental harm beyond that approved in the exploration activity approvals was observed at the sites visited during the site inspection. A Drillit drilling rig was set up on site 20BMDD011 at the time of the audit. The exploration drilling was observed to be generally undertaken in accordance with the Exploration Code of Practice: Environmental Management as documented in the following sections.

### 3.6.1. Use of chemicals, fuels and lubricants

Mandatory requirements 1.1 to 1.4 identify the requirements for the management of chemicals, fuels and lubricants used during exploration activities.

Section 4 of the Scorpio Resources *Rehabilitation Management Plan for Exploration Activities* listed several controls for the management of chemicals including:

- chemicals used during the program include biodegradable drilling fluids
- chemicals are to be stored in secure containers
- sites will be inspected for oil and diesel spills.

Scorpio Resources conducts a site induction for each drilling crew working on site. This induction was noted to include requirement for the use, handling and storage of chemicals, fuels and oils. Safety data sheets for chemicals were observed at the site office and Scorpio Resources staff advised that copies were also available at the drill rig. Procedures for the correct use, handling, storage and disposal of chemicals and fuels were also noted to have been prepared by Scorpio Resources. These procedures included requirements for spill management and clean up.

At the drill rig set up at 20BMDD011, it was observed that the drilling fluids were non-hazardous and non-dangerous and were stored and towed between sites in a trailer. An unbanded pallet containing

fuel jerry cans, oils and lubricants was observed adjacent to the drill rig (Figure 1). The lack of secondary containment for these was raised as observation of concern no. 1. Scorpio Resources provided photographs two days after the audit to demonstrate that secondary containment had been implemented through the use of bunding (Figure 2).

No drilling was in progress at the time of the audit, but it was observed that a rig nappy was in place under the drill rig (Figure 3) and a spill kit was observed on the back of the rig (Figure 4).

*Figure 1 Unbunded chemicals and oils at 20BMDD011*



*Figure 2 Bunding provided for chemicals following the site inspection*



Figure 3 Rig nappy in place under the rig at 20BMDD011



Figure 4 Yellow spill kit bin on the drill rig at 20BMDD011



### 3.6.2. Water

Mandatory requirements 2.1 and 2.2 require the licence holder to implement all measures to prevent, so far as reasonably practicable, causing adverse impacts on water quality and quantity, including groundwater levels and pressure.

Risk management controls for water were documented in Section 4 of the rehabilitation management plan and included:

- water to be extracted from the water bore will not exceed 3 megalitres per year
- groundwater quality will be monitored throughout the program
- surface water, if any encountered, will be diverted into a shallow turkey's nest bunded by soil and coir logs adjacent to a drill collar. Water will be left to evaporate naturally.

Water for drilling activities is sourced from the water bore at 19BMRC035 which is piped and used for exploration activities across the whole lease. Water quality is monitored whilst the bore hole is operational.

An above ground sump was observed in place for the drilling being conducted at 20BMDD011 (Figure 5). Dirty water and drill cuttings are removed from the sump at the end of each hole and disposed of by Sam's Waste Management to a licensed facility.

Figure 5 Aboveground sump in use at 20BMDD011



Scorpio Resources advised that there was limited data for groundwater in the area. Significant groundwater was not expected to be found during drilling based on a review of previous drilling logs for the area. However, a significant volume of groundwater was encountered unexpectedly at hole 19BMRC028. This issue was raised by the Regulator's inspectors during a site inspection in November 2019 where it was observed that measures were not implemented to minimise sediment movement from this drill site. It was observed during the audit that 19BMRC028 was capped and the site rehabilitated, with no evidence of impacts from water runoff.

A produced water management plan was subsequently developed by Scorpio Resources to outline controls to be implemented for future drilling. These controls included the use of coir logs and silt fences to ensure any water is captured and there is no run-off of silt-laden water. If water cannot be contained, drilling is to be stopped.

### 3.6.3. Noise and vibration

Mandatory requirement 3.1 requires the licence holder to implement all practicable noise management measures to ensure that noise levels meet acceptable noise criteria for sensitive receivers.

Diamond drilling is undertaken 24 hours per day, seven days per week. Given the remote location, the nearest sensitive receptor is Mount Hope Station about eight kilometres to the east of the Blue Mountain prospect, noise was not identified as an issue in the risk assessment completed for the program and no specific controls were required.



### 3.6.4. Air quality

Mandatory requirement 4.1 requires the title holder to implement all measures to prevent, so far as practicable, pollution caused by dust and other air pollutants.

Given the remote location of the drilling program, air quality was not identified as a significant issue in the risk assessment undertaken for the project. Generation of dust from the drilling process and from the use of gravel road and tracks was identified as a potential risk. Diamond drilling uses water during the drilling process and dust is not considered to be an issue for this type of drilling. Cyclones were reported to be used on the drilling rig when RC drilling to minimise dust generation.

For dust generated from vehicular use of the access tracks, the risk controls identified included a requirement for slow speeds to be maintained when driving on tracks. This requirement is communicated to the drilling crew as part of the site induction process. No significant dust was observed during the site inspection.

### 3.6.5. Waste management

Mandatory requirement 5.1 requires the title holder to manage all waste in a manner which does not, as far as practicable, cause harm to the environment.

It was noted that the risk controls for waste identified in the risk assessment included all general, exploration and contaminated wastes are to be removed from exploration sites at the end of the drilling program. No wastes were observed at any of the sites inspected during the audit. Waste management bins were observed to be available at the drill rig site.

For drilling fluid waste, Scorpio Resources uses Sam's Waste Management to remove wastes from the site. Examples of waste invoices were sighted to confirm that waste was removed by a licensed contractor.

### 3.6.6. Vegetation clearance and surface disturbance

Mandatory requirements 6.1 to 6.4 require the title holder to:

- minimise the extent of any vegetation clearing and surface disturbance to as low as practicable
- implement all measures to prevent, so far as practicable:
  - adverse impacts to fauna caused by vegetation clearing or surface disturbance
  - causing any land degradation or pollution of land and water

- harm to the environment when disturbing land in areas of potential or actual acid sulfate soils.

Clearing of native vegetation was identified as a potential risk in the risk assessment undertaken for the project. Controls identified included:

- native vegetation clearing is restricted to approved sites
- where possible drill sites will be placed in locations where clearing is not necessary
- inspections will be undertaken to identify vegetation that may be an important habitat for native species – this vegetation will not be disturbed.

The holes inspected during the audit were observed to be in cleared paddock areas. There was no evidence that any trees had been cleared and the Scorpio Resources geologist indicated that only minor areas of scrub had been cleared at some sites.

The current drilling site is shown in Figure 6. A constructed drill pad was not required, and no vegetation was removed, with the drill rig situated to avoid the trees.

Figure 6 Diamond drilling at 20BMDD011



### 3.6.7. Roads and tracks

Mandatory requirements 7.1 to 7.5 require the title holder to:

- consult with relevant landholders prior to establishing any new roads or tracks

- plan, design, construct and use roads and tracks in a manner which minimises the area and duration of disturbance
- construct any crossing of rivers, permanent and intermittent water lands and wetlands to prevent impacts on fish habitats
- refrain from using any unsealed road or track during wet conditions to prevent damage to that road or track
- repair all damage to existing roads and tracks resulting from exploration activities.

Section 4 of the rehabilitation management plan included controls for the use and rehabilitation of access tracks as follows:

- new access tracks are discussed with landholders, including preferred appropriate contractors to create tracks
- new tracks are constructed with appropriate drainage, erosion and sediment control measures
- the condition of access tracks is periodically reviewed
- tracks are not used during wet weather.

Scorpio Resources advised that access was mainly using existing farm access tracks. Where additional access tracks were required, these were discussed with the landholder before construction.

The access tracks inspected during the audit were observed to be maintained in good condition. As a result of wet weather in the Cobar region the week before the audit, Scorpio Resources advised that the drilling crew had been sent on a break and access to the site was restricted to prevent damage to roads and tracks until the site was drier. No damage to roads and tracks was observed during the audit.

### 3.6.8. Weeds, pest animals and disease

Mandatory requirement 8.1 requires the title holder to implement all practicable measures to prevent the introduction and spread of weeds, pest animals as well as animal and plant diseases.

Controls for weed infestation and plant disease were identified in the rehabilitation management plan. Generally, exploration staff were required to comply with any land holder biosecurity controls identified on property signage upon entering each property.



It was noted that the inspections undertaken as part of the rehabilitation monitoring program included an assessment of the presence and impact of weed species. No significant weed infestations were observed at any of the sites inspected during the audit.

### 3.6.9. Livestock protection

Mandatory requirement 9.1 requires the title holder to implement all measures to prevent, as far as practicable, causing adverse impacts to livestock.

Scorpio Resources advised that it maintained liaison with land owners during the exploration activities. Generally, livestock was moved from paddocks where drilling was taking place. Scorpio Resources advised that the landholder had requested, and the company had agreed, a three-month delay to the drilling program to avoid the breeding season for goats on the property.

### 3.6.10. Cultural heritage

Mandatory requirement 10.1 requires the title holder to implement all measures to prevent, so far as practicable, harm to Aboriginal cultural heritage and non-indigenous cultural heritage.

Scorpio Resources undertook searches of the Office of Environment and Heritage's Aboriginal Heritage Information Management System (AHIMS) as part of the preparation of its applications for exploration activity approval. These searches were updated annually to check for the listing of any new artefacts in the area. The AHIMS searches identified one known artefact but it was located in a remote area of the exploration licence and was not impacted by the drilling programs.

### 3.6.11. Fire prevention

Mandatory requirement 11.1 requires the title holder to implement all measures to prevent, as far as practicable, the ignition and spread of fire.

Scorpio Resources advised that fire suppression equipment was located on the drill rig. The drill rig was not operational at the time of the audit and the drilling crew were not on site to confirm this. However, it was observed that a fire trailer with water tank and pump (Figure 7) was located adjacent to the drill rig and would be easily accessible in the event of a fire.

Figure 7 Fire trailer at 20BMDD011



### 3.6.12. Risk assessment

Mandatory requirement 12.1 requires the title holder to monitor the risks associated with activities and, if the risk associated with an activity changes, implement revised environmental management controls.

A comprehensive environmental risk assessment, with controls identified, was prepared by Scorpio Resources and documented in Section 4 of the Scorpio Resources Rehabilitation Management Plan for Exploration Activities. Evidence was generally available to confirm that the controls were implemented.

## 3.7. Security deposit

Condition 5 of EL8398 requires the licence holder to provide a security deposit to secure funding for the fulfilment of obligations under the licence.

The security amount required was \$70,000, which departmental records confirm is held. The exploration activity approvals for drilling programs undertaken since August 2019 triggered the increase of security to \$70,000.

## 3.8. Rehabilitation

Condition 6 of EL8398 requires the title holder to carry out rehabilitation of all disturbance caused by activities carried out under the licence in accordance with the requirements of the *Exploration Code of Practice: Rehabilitation*.

An assessment against the mandatory requirements of the code of practice was undertaken for the 2019 and 2020 drilling programs as documented in the following sections.

### 3.8.1. Risk assessment

Mandatory requirement 1 requires the title holder to conduct a risk assessment to evaluate the range of potential threats and opportunities associated with rehabilitating disturbed areas to a condition that could support the intended final land use.

Scorpio Resources documented a comprehensive risk assessment as part of its rehabilitation management plan for exploration activities. This risk assessment included specific assessment of risk related to the management of the rehabilitation program. Controls appropriate for the risks were documented in the assessment.

The rehabilitation risks assessed included:

- insufficient skills and experience of rehabilitation personnel resulting in ineffective rehabilitation and environmental control
- lack of clearly defined rehabilitation responsibilities
- adoption of inappropriate or inadequate rehabilitation techniques and timeframes.

Generally, evidence was available to confirm that the identified controls were implemented.

### 3.8.2. Rehabilitation objectives and completion criteria

Mandatory requirement 2 requires the title holder, no later than 14 days prior to the commencement of surface disturbing activities, to provide to the Secretary a copy of specific, measurable, achievable, realistic and time-bound rehabilitation objectives and completion criteria. For higher risk prospecting operations, a rehabilitation management plan is required to be prepared and submitted with the rehabilitation objectives and completion criteria.

The exploration activity approval applications lodged by Scorpio Resources indicated that the total surface disturbance area was less than five hectares for each program individually. The individual drilling programs did not fall within the definition of a higher risk activity under the code of practice and a rehabilitation management plan was not required to be developed for each program. The cumulative surface disturbance for the three programs combined was more than five hectares and, as such, Scorpio Resources prepared a *Rehabilitation Management Plan for Exploration Activities* and submitted this to the Regulator for approval. The plan was approved by the Regulator on 26 June 2020.

Rehabilitation objectives and completion criteria were documented in the rehabilitation management plan submitted by Scorpio Resources before the commencement of drilling with these being accepted as satisfactory by the Regulator. The objectives and completion criteria were generally consistent with the guidance material provided in the code of practice and were considered adequate for the drilling program.

### 3.8.3. Rehabilitation program

Mandatory requirement 3 requires that the title holder develop, implement and complete a rehabilitation program (which includes a monitoring program) to rehabilitate disturbed areas to a condition that can support the intended final land use. Mandatory requirement 4 requires that the title holder commence rehabilitation of a site as soon as reasonably practicable following the completion of activities on that site.

Section 7 of the rehabilitation management plan describes the rehabilitation program including triggers for rehabilitation and monitoring activities and a proposed rehabilitation and monitoring program schedule. Most of the drill holes inspected during the audit had been rehabilitated, the exception being the hole currently being drilled at 20BMDD011 and the pad prepared for the next hole at 20BMDD010. The drill site at the water bore at 19BMRC035 was rehabilitated prior to the construction of the water bore infrastructure.

Monitoring of rehabilitation is done at defined intervals using the general environmental management plan checklist which is completed for each site. Monitoring is done at three months, six months and 12 months following rehabilitation of each drill site. The checklist was noted to include the different stages of rehabilitation including:

- decommissioning
- initial rehabilitation
- post-rehabilitation monitoring.

Several example of completed checklists were reviewed during the audit. It was noted that the checklists identified when additional rehabilitation activities were required. For example, the checklist for site 20BMRC067 on the 26 April 2020 identified that reseedling was required due to a failure to germinate.

Examples of completed initial rehabilitation of holes drilled in the 2019 and 2020 programs are shown in Figure 8, Figure 9, Figure 10 and Figure 11.



Figure 8 Rehabilitation at 19BMRC048



Figure 9 Rehabilitation on IP line 6393600



Figure 10 Rehabilitation at 19BMRC028



Figure 11 Rehabilitation around water bore at  
19BMRC035



### 3.9. Annual activity reporting

Section 163C of the *Mining Act 1992*, clause 59 of the Mining Regulation 2016 and condition 8 of EL8398 require the licence holder to submit an activity report annually within one calendar month following the grant anniversary date. Annual activity reports are required to be prepared in accordance with the *Exploration guideline: Annual activity reporting for prospecting titles*.

During the audit scope period, Scorpio Resources had been submitting annual activity reports comprising:

- annual geological report
- revised work program
- environmental rehabilitation and compliance report
- community consultation report.

Reports for the 2019 reporting year were reviewed during the audit:

- Annual exploration report EL8398 7 October 2018 to 6 October 2019
- EL8398 Prospecting Title Work Program, year one submission
- Environmental and Rehabilitation Compliance Report for EL8398, 7 October 2018 to 6 October 2019
- Community Consultation Report for EL8398, 7 October 2018 to 6 October 2019.

Generally, reports were found to be in accordance with the MEG's and/or the Regulator's templates and guidance material. MEG has reviewed the annual exploration reports, and the community consultation reports, and assessed these reports as satisfactory.

The tenement manager for Scorpio Resources prepares a monthly tenement report which tracks when renewals and reports for each tenement are due. Departmental records show that reports were received within the timeframes required.

### 3.10. Core and sample storage

Clause 65 of the Mining Regulation 2016 requires the holder of an authority to, so far as is reasonably practicable, collect, retain and preserve:

- all drill cores remaining after sampling
- characteristic samples of the rock or strata encountered in any drill holes.

All cores and samples collected are required to be labelled, stored and managed in a manner that preserves the integrity of the core or samples.

Both cores and samples have been collected from the exploration drilling programs on EL8398, with these being stored at the exploration camp on the Mount Solitary property at Mount Hope. Core and sample storage was inspected during the audit.

Cores were observed to be stored in modular plastic core trays, stacked by hole number on plastic pallets and covered with lids (Figure 12). Each tray was observed to be labelled with hole number, tray number and depth. An example of core in a core tray is shown in Figure 13.

Chip samples were observed to be stored in modular plastic chip trays, stored by hole number in a well organised shipping container (Figure 14). Each chip tray was labelled with the hole number and depth (Figure 15).

Figure 12 Core storage in modular core trays with lids



Figure 13 Example of core in core tray





Figure 14 Well organised chip sample storage in shipping container



Figure 15 Example of labelling on chip trays



### 3.11. Record keeping

Sections 163D and 163E of the *Mining Act 1992* relate to the creation and maintenance of records required under the *Mining Act 1992*, the regulations, or a condition of title. Records must be kept in a legible form for production to any inspector and must be maintained for a period of four years after the expiry or cancellation of the title. Specific requirements for the types of records to be maintained for exploration activities are detailed in the mandatory requirements of the exploration codes of practice as follows:

- mandatory requirement 6 of the rehabilitation code of practice
- mandatory requirement 13.1 of the environmental management code of practice
- mandatory requirement 5 of the community consultation code of practice.

Records reviewed during the audit demonstrated that Scorpio Resources has generally maintained records as required by the licence conditions and the exploration codes of practice. Records were observed to be well organised in either electronic or hard copy format, and readily retrievable when requested during the audit. Examples of records reviewed included:

- tenement monthly reports
- land access agreements
- native title clearance reports

- exploration activity approvals
- drilling registers
- risk assessments for environmental management (including rehabilitation) and community consultation
- waste management invoices for disposal of drilling fluids
- AHIMS searches
- RC drilling environmental management plan checklists
- general environmental management plan checklists
- rehabilitation management plan, including objectives and completion criteria
- photographic records
- community consultation log
- community consultation strategy
- annual activity reporting.

## 4. Compliance management

### 4.1. Identifying compliance obligations

Identifying compliance obligations is a critical step in the development of an effective compliance management system. Compliance obligations for an exploration project can include:

- regulatory requirements (for example, the *Mining Act 1992*)
- conditions imposed on the grant, renewal, or transfer of exploration licences
- exploration activity approvals
- exploration codes of practice
- specific commitments made by the organisation (for example, commitments made in the approved exploration activity application).

Once identified, compliance obligations should be reviewed periodically to identify any changes in those obligations (for example, changes in legislation).

Generally, evidence was available to confirm that compliance obligations have been identified and understood. The Scorpio Resources staff interviewed during the audit were conversant with the exploration activity approvals and the exploration codes of practice and had established systems to track compliance with these requirements.

Scorpio Resources used a tenement manager to monitor and manage the tenement obligations such as reporting and renewals, and progress against the approved work program.

### 4.2. Subcontractor management

Contractors are often used to undertake specialist tasks, for example, exploration drilling. Whilst the responsibility for compliance or the implementation of environmental controls is often passed to the contractor, the licence holder will retain accountability for compliance with its licence conditions and other compliance obligations. It is important that the licence holder exercises management control of its contractors by specifying contract requirements, providing oversight of contracted works, and evaluating the performance of the contractor during the contracted works.

Scorpio Resources were using a contract driller for the drilling program. Evidence was sighted to indicate that Scorpio Resources obtains critical records from the contractor. Monitoring of the drilling works was completed by the Scorpio Resources geologists while on site.

### 4.3. Inspections, monitoring and evaluation

An effective inspection, monitoring and evaluation process is required to:

- monitor the implementation of the risk controls
- evaluate the effectiveness of those controls based on an assessment of inspection and monitoring data
- implement an adaptive management approach if monitoring shows that controls may be ineffective.

Evidence was available to demonstrate that a robust monitoring and inspection program has been developed and implemented by Scorpio Resources. For example, the *RC Drilling Environmental Management Plan checklist* is completed for each hole, with the *General Environmental Management Plan checklist* completed at three months, six months and 12 months after drilling is completed to monitor rehabilitation success.

Where issues are identified (for example reseeding was identified as being required at 20BMRC067), actions are recorded and tracked.

### 4.4. Title holder response to draft audit findings

Scorpio Resources was provided with a copy of the draft audit report and invited to submit a response to the draft audit findings.

The response provided by Scorpio Resources provided clarification of the native title clearance process and corrected some minor errors in the text. Scorpio Resources was satisfied with the conclusions of the draft audit report and accepted the overall findings of the Regulator.

## 5. Audit conclusions

From the evidence gathered during the audit, it was concluded that Scorpio Resources has achieved a high level of compliance with the requirements of the exploration licence, exploration activity approval and the exploration codes of practice. Drilling was not in progress at the time of the site inspection, but the drill rig was on site, enabling an assessment of the environmental management requirements of the exploration code of practice to be completed.

The Scorpio Resources staff had a good knowledge of the environmental issues and controls associated with the drilling activities. Evidence was generally available to confirm implementation of the controls. Drill holes have been progressively rehabilitated, and evidence was available to demonstrate a visual monitoring program at set intervals up to one year after drilling has been implemented. Robust and comprehensive inspection and monitoring systems have been developed, with these inspections being documented on inspection checklists.

One observation of concern was identified during the audit as summarised in Table 4.

*Table 4 Summary of observations of concern*

OBSERVATION OF CONCERN NO.	DESCRIPTION OF ISSUE	RECOMMENDATION
1	An unbanded pallet containing fuel jerry cans, oils and lubricants was observed adjacent to the drill rig at 20BMDD011. No secondary containment was provided for these chemicals.	Scorpio Resources provided photographs two days after the audit to demonstrate that secondary containment had been implemented through the use of bunding.