

## LAND MANAGEMENT

### Erosion and Sediment Control Management Plan

Objective	<p>To:</p> <ul style="list-style-type: none"> <li>• Ensure that statutory requirements and corporate standards are met;</li> <li>• Manage the activities in a way that minimises erosion and sedimentation impacts to environment and neighbours, and limits interference to mining production;</li> <li>• Protect natural and rehabilitated landforms and minimise erosion; and</li> <li>• Minimise sedimentation of natural waterbodies and watercourses.</li> </ul>
Scope	<p>HVO Environmental Protection Licence boundary, including:</p> <ul style="list-style-type: none"> <li>• Pits</li> <li>• Pre-strip Areas</li> <li>• Rehabilitation Areas</li> <li>• CPPs</li> <li>• Loading Points</li> <li>• Hunter River</li> <li>• Wollombi Brook</li> <li>• Carrington Billabong</li> <li>• Downstream water users</li> </ul>
Key Environmental Issues	<p>Land disturbance impacts associated with construction, operational and rehabilitation activities that may increase risk of erosion and sedimentation of natural watercourses and water bodies.</p>
Performance Criteria	<p>The objectives will be achieved if erosion and sediment controls are in place where required and maintenance activities are carried out on a regular basis.</p> <p>In addition, water quality results for total suspended solids that are comparable to background data, EIS predictions or historical trends.</p>
Control Measures	<p><i>Disturbance from Construction, Mining and Rehabilitation Activities</i></p> <ul style="list-style-type: none"> <li>• The extent of disturbance (including trafficable areas) will be minimised and identified using barriers and signage.</li> <li>• Prior to disturbance of land, appropriate erosion and sediment controls will be established and approved by Environmental Services. A combination of temporary and permanent measures may be necessary for disturbances associated with construction, mining, landscaping and rehabilitation.</li> <li>• Runoff from undisturbed catchments will be diverted around the disturbance areas via diversion drains and banks to discharge into natural watercourses, where practicable.</li> <li>• Where practicable, runoff from disturbed and rehabilitated areas will be diverted into sediment dams (designed to a 1:20 year storm event) and allowed to settle prior to discharge into the natural system.</li> <li>• Drains, diversion banks and channels will be compacted and stabilized as they are constructed and scour protection will be provided as necessary.</li> <li>• Temporary erosion and sediment control measures that may be used include silt fences and hay bales.</li> <li>• All erosion and sediment control measures will remain in place until exposed areas are rehabilitated and stabilised.</li> <li>• Progressive rehabilitation of mined areas will be undertaken as soon as possible. Reshaped areas awaiting revegetation will be cultivated on the contour to maximise infiltration.</li> <li>• Topsoil will be stockpiled for reuse and all stockpiles will be managed as noted in the <i>Topsoil Stripping and Stockpiling Management Plan</i>.</li> </ul>

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<p><b>Control Measures (cont)</b></p>	<ul style="list-style-type: none"> <li>Soil and/or vegetation material that is removed from the area of operation will not be placed in a position where it could be swept into the Hunter River.</li> </ul> <p><i>Non-Disturbance Areas</i></p> <ul style="list-style-type: none"> <li>No interference with the stability of watercourses/water bodies outside the DA areas will occur.</li> <li>A buffer zone to the mine workings, of a minimum of 150 metres, or less if otherwise agreed by DLWC, from the boundary of the Hunter River system comprising the river banks and adjacent alluvium excepting the area of Hobden Gully.</li> </ul> <p><i>Disturbance from Decommissioning Activities</i></p> <ul style="list-style-type: none"> <li>Erosion and sediment control structures will remain in place to divert water away from the final void.</li> <li>Sediment dams will remain as farm dams to enhance the value of the resultant land for agriculture purposes, where practicable.</li> </ul> <p>(Water quality and levee management are addressed in the HVO Surface Water Management Plan).</p>
<p><b>Monitoring and Inspection</b></p>	<ul style="list-style-type: none"> <li>Erosion and sediment controls (dams, sediment traps, contour banks, channels and diversions, silts fences and hay bales) will be inspected weekly and after significant rainfall events.</li> <li>Monitoring of water quality from sedimentation dams will be undertaken during overflow events. This will include measurement of suspended solids, pH and EC or as required by EPA Licence Conditions.</li> <li>All surface water management structures will be inspected at least quarterly to ensure the integrity of the system is maintained.</li> <li>All sediment dams will be inspected quarterly to ensure they have at least 75% of their capacity available for runoff/sediment retention. Desilting will be undertaken as soon as practicable, with silt being disposed of to an area approved by CNA.</li> </ul>
<p><b>Incident Management</b></p>	<p><i>Incident Reporting</i> Incident reporting as per CNA Environmental Procedure <i>Incident Management and Reporting</i> (EP1.8).</p> <p><i>Complaints Management</i> Complaints management as per CNA Environmental Procedure <i>Communications</i> (EP1.9).</p> <p><i>Incident Response – Incident or Complaint</i> Investigate event and identify location and operations to determine if additional management measures are required.</p>
<p><b>Performance Reporting</b></p>	<p>Reporting in Annual Environmental Management Report of:</p> <ul style="list-style-type: none"> <li>Monitoring results;</li> <li>Performance against implementation of control measures; and</li> <li>Review of disturbance activities and rehabilitation performance.</li> </ul>

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Key Documents	<p><i>Development Consents</i></p> <p>DA 450-10-2003, Conditions 4.23(b) and 4.25; DA 114-12-98, Conditions 3.2(d), 3.4(a iii) and 3.5; and DA 215/97, Conditions 8(ii), 23 and 25.</p> <p><i>Licences</i></p> <p>EPL 640.</p> <p><i>External Guidelines</i></p> <p>DLWC (now DWE) <i>Guidelines for Establishing Stable Drainage Lines on Rehabilitated Minesites</i> NSW Department of Housing <i>Managing Urban Stormwater: Soils and Construction Manuals</i>.</p> <p><i>EMS Documents</i></p> <p>RT Environment Standard <i>Land Use Stewardship</i> (V1.0); CNA Environmental Procedure <i>Rehabilitation</i> (EP5.1); and HVO Surface Water Management Plan.</p> <p><i>Forms</i></p> <p>Ground Disturbance Permit.</p>
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