

Charbon Rehabilitation Audit Action Plan

- Charbon has reviewed the below Audit Action Summary and agrees to action all recommendations and requirements listed.

Monitoring Location (Error! Reference source not found. to 3)	Coordinates ¹		Plates	Rehabilitation Area and Status (if applicable)	Audit Code	Issues Observed	Details of Actions Required	Target Completion Date
	Easting	Northing						
1	217718	6356012	1a, 1b, 1c	Reject Emplacement Areas	Care and Maintenance Action Site	Future rehabilitation monitoring location that requires a large volume of material for capping. It was noticed during the audit that active mining areas are a long distance from this monitoring location. Rehabilitation planning was discussed during the audit, along with the desired final landform.	Maintain involvement with mining planning as to scheduling of capping material requirements.	December 2015
2	217324	6354741	2a, 2b, 2c	Forest Rehabilitation approximately 10 to 12 years old	Care and Maintenance Action Site	High stem density and adequate diversity of species within this older rehabilitation area was observed. Approximately 80% to 100% canopy cover was present due to a high density of trees. Self-thinning is expected to start in the next 5 years due to some Acacia species nearing the end of their expected lifespan and Eucalyptus species becoming dominant.	Continue to monitor tree and understorey success and the presence of weeds. Also monitor and repair any active erosion gullies.	Ongoing Monitoring – minimum every 2 years.

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						<p>Very few weeds observed.</p> <p>Minimal erosion concerns are present at this monitoring location as the soil surface contains grasses, pasture and leaf litter. In addition, remnants of deep ripping and rough surfaces were observed, which slows water flow and encourages infiltration.</p>		
3	218345	6353717	3a, 3b, 3c, 3d, 3e	Woodland Rehabilitation various ages.	General Action Required	<p>Varied success of pasture and tree species was observed at this monitoring location. Supplemental tubestock planting was noted in the pasture area.</p> <p>This monitoring location contained a moderately high density of weed species which should be monitored and managed once the trees are high enough to be easily identifiable.</p> <p>Historical erosion issues with contour bank failure was discussed as well as the option of re-building the bank to spill to the southern area away from the current</p>	<p>Tree emergence should be monitored and if deemed necessary should be supplemented with tubestock to obtain desired species mix.</p> <p>It is recommended that the Proponent wait a year or two to allow trees to emerge and become obvious before a weed spraying program is implemented at this monitoring location. Some noxious weed species may be targeted if outbreaks become detrimental to the area.</p> <p>Erosion along banks or in drainage lines should be monitored and repaired. Re-shaping the landform</p>	<p>Ongoing monitoring and management pre and post-mining.</p> <p>By December 2015, much of this area should be rehabilitated with initial monitoring undertaken.</p>

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						<p>sedimentation dam.</p> <p>Good stands of established trees were noted with some Acacia species dying due to age. This tree establishment forms a strong basis for a diverse rehabilitation. Natural colonisation from mature trees in adjacent forest were noted.</p> <p>Some areas require earthworks and revegetation following the cessation of mining activities.</p>	<p>as areas become available should continue to achieve gentle slopes (Less than 10 degrees) as the final landform.</p> <p>It is recommended that trials continue to identify best surface ameliorants and subsoil use on rehabilitation areas.</p>	
4	218361	6350869	4a, 4b, 4c, 4d, 4e, 4f, 4g	Woodland Rehabilitation less than 12 months old	General Action Required	<p>This area has recently been shaped, ripped and aerial seeded. Some trees have already germinated (mainly Acacia species), however they are difficult to identify given the high density of weed species.</p> <p>The presence of forest timber and debris provided erosion control and habitat for various small animals as noted by the presence of scats. Any attempt to spray</p>	<p>Tree emergence should be monitored and if deemed necessary, supplemented with tubestock, or re-seeding to obtain desired species mix.</p> <p>It is recommended that weed species are monitored and managed to ensure that trees are not put at risk of spray drift.</p> <p>Erosion along banks or in drainage lines should be monitored and if</p>	Ongoing monitoring and management pre and post-mining.

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						<p>weeds at this stage would prove detrimental to emerging trees and pastures.</p> <p>Various surface ameliorants were noted with higher pasture success recorded in areas that contained a high density of organic matter material such as mulch, as these areas had a higher water holding capacity.</p> <p>Diversion banks within this monitoring location require monitoring for sediment build up and to ensure that they are working, to ensure that repairs are made in a timely manner.</p> <p>De-silting of sediment dams will also be required to ensure capacity is available and to reduce sealing of the base of the dams.</p>	<p>necessary, repaired.</p> <p>Site materials and mining equipment should be cleaned and disposed of following cessation of mining activities.</p>	

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5	217972	6350353	5a, 5b, 5c	Dumping/ Reshaping to be undertaken. Future rehabilitation area.	General Action Required	<p>Monitoring location 5 consists of dumped overburden material, steep slopes and a concentrated drainage line which flows into a site-managed sedimentation dam and then off-site.</p> <p>This area requires specific design measures to ensure a stable surface is achieved. The addition of organic matter, soil ameliorants, etc. may be required to ensure successful germination of pasture species to minimise erosion and sedimentation risks.</p> <p>Diversion drains are required to reduce run-on water. Steep slopes are evident in the natural surroundings adjacent this site and extra effort and care is required to stabilise these slopes whilst rehabilitation is established.</p>	<p>Surface water diversion structures should be designed to reduce potential run on volumes.</p> <p>The landform should be designed to reduce the risks of surface erosion surface preparations such as deep ripping, use of mulch etc. should be planned early to ensure successful germination of pasture species to help stabilise the soil.</p>	December 2015
6	216690	6350183	6a, 6b, 6c	Partially completed landform. Future rehabilitation area.	General Action Required	This partially re-shaped area is proposed to be rehabilitated in 2015 and requires surface earthworks to implement diversion and contour drains, and surface	It is recommended that re-shaping and surface earthworks are undertaken prior to rehabilitation.	December 2015

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						preparation prior to rehabilitation.		
7	216672	6350179	7a	Weed Management around site	Observation	It was noted during the audit that Blackberry had been sprayed around site and was dying. The annual weed spraying program was discussed during the audit.	Not Required.	Not Applicable
8	Various sites		8a	Temporary erosion and sediment control measures	Care and Maintenance Action Site	It was noted during the audit that there were several temporary erosion and sedimentation structures such as silt fences aiming to catch sediment laden water from disturbance areas.	The regular monitoring and repair of these fences should continue to be undertaken. It is anticipated that several structures will no longer be required (i.e. when sites are adequately vegetated) and should be removed from the site.	Ongoing Management
9	Various sites		9a	Topsoil Stockpiles	Care and Maintenance Action Site	During the audit, the current practice of recording details of soil stockpiles onto GIS was discussed. These records are maintained and communicated through toolbox talks, signage etc.	Continue to ensure that stockpile locations are logged and up to date on GIS records	July 2015

¹GDA 1994 MGA Zone 56