

GRAYMONT

Operational Environmental Management Plan

Galong, NSW

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The Applicant shall undertake water quality monitoring as detailed in the Soil and Water Monitoring and Management Plan described in condition 6.4 of this consent, to the satisfaction of the Secretary..... **Error! Bookmark not defined.**

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1 PURPOSE

The purpose of this document is to detail an environmental management framework for activities resulting from the influence of mining and associate operational activities.

2 SCOPE

This Plan covers the Galong Limestone mine. This plan applies to all owned and leased operational and non-operational properties. This plan therefore applies to the following land:

Table 1 - Land to which this Plan applies

Land description	Tenure	Area (ha)
Mining Lease (ML) No 1496	Leased	160 ha
<i>Mining Lease (ML) No 1745</i>	<i>Leased</i>	<i>43.43 ha</i>

3 DOCUMENT APPROVAL

Rev	Date	Prepared By	Reviewed By	Approved By
0	07/2018	David Lale	Ian Oppy	Steve D'Souza
1	12/2020	Colin Mitchell-Harries		Sylvio Livolsi
2	Nov 2022	Nicole Sullivan – HSE Specialist	Wayne Trenning Don Cheong	
3	March 2023	Don Cheong	Nicole Sullivan	Wayne Trenning

4 REFERENCES

4.1 Internal Documents

- Graymont Health, Safety and Environmental Policy
- Graymont Environmental Sustainability Strategy
- Galong Limestone Mine Forward Program 2022 - 2025
- Rehabilitation Management Plan 2022
- 2GA P10.201.01 Emergency Management Plan
- BushFire Management Plan

4.2 External Documents

- Statement of Environmental Effects, Galong Project 320 2015
- EPA POEO Environmental Protection Licence Galong 4660
- Australian Water Quality Guidelines for Fresh and Marine Waters (Australian and New Zealand Environment and Conservation Council (ANZECC), 2000).
- Aquaterra “Hydrogeological Review for the Galong Limestone Mine” 13 October 2009

5 CONDITIONS OF APPROVAL

All legislation and regulations associated with site operations are included in the sites legal register.

The following table identifies specific conditions of approval and their corresponding requirements relevant to site operations in relation to land use management.

Consents, Lease, Approvals and Licences

Table 2 – Applicable Conditions of Approval

Relevant Approval	Issuing / Responsible Authority	Relevant Condition
Mining Lease 1496	Dept. Of Mineral Resources	<p>Approval: 16th November 2001. Renewal: 15th November 2043</p> <p>Section 2 – mining operations to be conducted in accordance with a Mining Operations Plan (MOP), which identifies specific land use activities. The Plan details the site’s water management systems.</p> <p>Section 12(a) – rehabilitation of disturbed land as per the MOP.</p> <p>Section 12(b) – storage of topsoil.</p> <p>Section 14 – activities that pollute as per the MOP and regulator approval.</p> <p>Section 16 – fencing and gates owned by landholders.</p> <p>Section 18 – access tracks.</p> <p>Section 19 – vegetation clearing.</p>
Mining Lease 1745	Dept. Of Mineral Resources	<p>Approval: 21st October 2016. Renewal: 21st October 2037</p> <p>Section 2 – rehabilitation of disturbed land as per the MOP.</p> <p>Section 3 - The lease holder must comply with an approved Mining Operations Plan (MOP) in carrying out any significant surface disturbing activities, including mining operations, mining purposes and prospecting.</p> <p>Section 3.b Identify the post mining land use and set out a detailed rehabilitation strategy</p> <p>Section 3(f) – preparation of a Rehabilitation Report</p> <p>Section 4 – preparation of a Compliance Report</p>

Relevant Approval	Issuing / Responsible Authority	Relevant Condition
<p>DA (03-025) Limestone mine and processing</p> <p>To alter the existing area of mining operations. The expansion of the mine and increased production for a period of forty (40) years, the consent allows for the production of 500,000tpa limestone for forty (40) years and the transport of 200,000tpa of crushed and processed limestone product including lime along designed transport routes.</p> <p>DAT.03-025 Mod 3 issued 15/07/2015</p> <p>Increased dispatch limits to allow a maximum of 310,000 tonnes to be transported on haulage routes.</p> <p>DA T.03-025 Mod 4 issued 9/4/2019</p> <p>Increase dispatch limits to allow 430,000 tonnes per annum to be transported on haulage routes.</p> <p>DA T.03-025 Mod 5 issued 27/9/2022</p> <p>Operation of two mobile crushing plants.</p>	<p>Hilltops Council</p>	<p>Approval: 17th December 2003. Expiry: 16th Dec 2043</p> <p>Section 5 – implement measures to minimise harm to the environment.</p> <p>Section 20 – site boundaries identification.</p> <p>Section 24 – heritage.</p> <p>Section 25 – vegetation clearing as per the Native Vegetation Conservation Act 1997 and the Mining Act 1992.</p> <p>Section 37 – a plan of management for noxious weeds.</p> <p>Sections 39 to 42, 53 to 58, 62 & 63 – rehabilitation.</p> <p>Section 44 – feral animal management.</p> <p>Sections 45 to 51 - Aboriginal heritage.</p> <p>Sections 52, 59 to 61 – vegetation clearing.</p> <p>The site will undertake groundwater monitoring, including standing water levels using a piezometer.</p> <p>Stormwater collected within the site will be discharged to detention ponds/dams prior to release into Limestone Creek.</p>
<p>Development Application</p> <p>317-7-2003-i</p> <p>For the construction and operation of a limestone kiln to produce 200,000tpa of quicklime.</p> <p>DA 317-7-2003-I Mod 4 issued 30/3/2023</p> <p>For the temporary haulage and storage of 10,000 tonnes of coal.</p>	<p>NSW Dept. Planning & Environment</p>	<p>Approval: 11th December 2003</p> <p>For the construction and operation of a limestone kiln to produce 200,000tpa of quicklime.</p> <p>The construction and use of surface water detention/storage basins to collect surface water run-off.</p> <p>Site will undertake water quality monitoring activities.</p> <p>Condition 6.3, 6.5 – Consultation re preparation of the OEMP with the Department & EPA.</p> <p>Multiple emails and recommendations on file re previous submissions on file e.g. EPL 4660, AEMR review and feedback</p> <p>Mod 4</p> <p>Condition 3.25A, B and C: Coal haulage to a maximum of 12 heavy vehicle movements per day until 31 December 2023; during the hours of 7am-7pm Monday to Saturday, utilising the approved heavy vehicle haulage route.</p> <p>Condition 6.5A: Prior to commencing additional coal haulage, the OEMP must be reviewed and updated with procedures and control measures committed to in the application documentation.</p>

		<p>Condition 7.3: An Annual Review report must be prepared and submitted to the Department of Planning and Environment, the EPA and Council, with inclusions as detailed in the consent.</p> <p>Submissions Report 230307: Coal stockpile depletion by end of June 2024.</p>
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Relevant Approval	Issuing / Responsible Authority	Relevant Condition
<p>Complying Development Certificate</p> <p>CD 04 – 2017</p> <p>The upgrade of processing equipment to produce Hydrated lime. Processing equipment to be upgraded includes the following:</p> <p>Hydrator plant & building Material transfer equipment Storage silos x 6 Bagging plant & packaging equipment Weighbridge</p>	<p>Hilltops Council</p>	<p>Approval: 11 September 2017 Expiry: 11 September 2022</p>
<p>OSM 479</p> <p>Approval to operate</p>	<p>Hilltops Council</p>	<p>Approval: 13 October 2016 Expiry: TBA – Awaiting Council An onsite waste water management system (WWMS)</p>

Relevant Approval	Issuing / Responsible Authority	Relevant Condition
Environmental Protection Licence No. 4660	NSW EPA	Condition 2 Discharges to air and water and application to land - P1 Location of monitoring/discharge points and areas Condition 3 Limit conditions – L1 Pollution of waters L2 Load Limits L3 Concentration Limits L4 Noise Limits L5 Blasting Condition 5 Monitoring and recording conditions - M1 Monitoring records Condition 6 Reporting conditions
WAL 30047 Water Access Licence	DPI Water	Issued: 7 June 2013 Category: Aquifer Share Component: Share – 157 Units Written records are required to log water usage. The maximum amount of water extracted will not exceed the documented share volume.
40CA411901 Water Supply Works & Water Use Approval.	DPI Water	This approval relates to WAL 30047 and is attached to Lot 101 and 102, DP1083781 This approval provides extraction from the pit and bore 1 & 2. Note that pit water is combined surface and groundwater Issued: 16 January 2012 Expires: 15 January 2025
WAL 28703 Water Access Licence	DPI Water	held by Bobbara Pastoral Company
40CA411879 Water Supply Works & Water Use Approval	DPI Water	This approval relates to WAL 28703 and is attached to Lot 102, DP1083781 Issued: 16 January 2012 Expires: 15 January 2025
U6-95313/07/0 LPG Tanks Cert. Of Plant Item Registration	SafeWork NSW	Registration is renewed annually. This process is the responsibility of the tank's controller, Elgas Ltd.

Relevant Approval	Relevant Condition
Protection of the Environment Operations Act 1997	Section 142A – pollution of land is an offence.
NSW Contaminated Land Management Act 1997	Sections 60(1), 60(2) & 60(3) – notification of EPA if contamination of land has occurred.
<i>NSW Local Land Services Act 2013</i>	<i>Part 5a Land Management (native vegetation) Division 5, 6</i>
<i>NSW Biosecurity Act 2015</i>	<i>Section 13 - Biosecurity Impact Division 3 – Part 3 – general biosecurity duty Schedule 1</i>
National Parks and Wildlife Act 1974	Sections 86 & 89A – Aboriginal heritage. Section 98(2) – harming protected fauna. Section 112 – harming of snakes. Section 117(1) – possession of protected native plants. Section 118(1) & (2) – harming endangered or threatened species. Section 118C and D – damage to habitat of endangered species.
Heritage Act 1977	Section 139(1)&(2) - Excavation permit required in certain circumstances.
<i>NSW Biodiversity Conservation Act 2016</i>	<i>Division 1 - Offences</i>
Environment Protection and Biodiversity Conservation Act 1999	Section 18 – impacts on threatened species or endangered communities. Section 20 – impact on migratory species. Section 196(1) – impacts on threatened species or communities
Aboriginal and Torres Strait Islander Heritage (<i>Interim Protection</i>) Amendment Act 1986	Section 20(1) – discovery of Aboriginal remains. Section 22 – significant Aboriginal areas.

6 TARGETS AND KEY PERFORMANCE INDICATORS

Information collected via monitoring will be used to verify compliance with the following targets, KPI's and legal requirements and assess impacts on the local environment. Targets have been set to either comply with relevant legal requirements and/or to strive for continuous improvement in site operations. Targets and KPI's have been set in accordance with the Company Wide Procedure – EHS Objectives, Targets, Plans and Performance Measures.

The following KPI's are used to measure environmental performance against the targets stated in the table below:

Table 3 – Environmental Management and Key Performance Indicators (KPI's)

Target	Key Performance Indicator
Land Use	
Progressively improve the biodiversity within rehabilitated areas	Number of species surveyed within rehabilitated areas
Achieve an 80% success rate of rehabilitation	Area of successful rehabilitation versus area of unsuccessful rehabilitation
No reduction in the number or loss of key species	Compare past and present site wide vegetation survey's to determine impact on key species.
Water Management	
Managing the yearly extraction limit of water.	Water extraction amount within access licence limits.
Meeting the monthly water sampling requirements.	Water monitoring will be undertaken within the specified monthly time frames.
Reporting of water monitoring data according to agreed requirements.	Reporting of water monitoring data will occur within the given monthly time frames.
Waste Management	
10% of solid waste is recycled from site	Total volume of solid waste produced versus volume of solid waste recycled
10% reduction of waste per tonne of product produced	Total volume of waste divided by total volume of product produced over 12 months
Achieve at least two onsite waste avoidance, reuse or recycling initiatives per year	Documented evidence of waste initiatives
Noise & Vibration	
No breaches of licence condition 4 & 5 (EPL No. 4660)	Noise & blast monitoring results
Zero community complaints regarding noise and vibration in the local environment	No. of confirmed complaints received and logged in Graymont's environmental incident reporting system related to noise and vibration

All ambient noise monitoring results to meet the NSW Industrial Noise Policy ambient noise criteria	Number of exceedances of noise criteria from NSW Industrial Noise Policy of ambient noise monitoring results
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7 RESPONSIBILITY

The following people are the key Sibelco personnel responsible for the implementation and review of this Management Plan.

Table 4 – Key Land Management Responsibility

Personnel	Summary of Responsibility
Plant Manager	<ul style="list-style-type: none"> • Ensure the implementation of all control, monitoring and reporting measures as specified in this Plan; • Ensure compliance with Conditions of Approval; • Participate in the annual review of the Plan; • Approve amendments to the Plan; and • Consult with State Environmental Advisor regarding communication with government agencies.
HSE Specialist	<ul style="list-style-type: none"> • Put systems in place to implement the controls, monitoring and reporting measures specified in this Plan; • Conduct inspections, monitoring and reporting as per this Plan; and • Participate in the annual review of the Plan.
Regional Manager	<ul style="list-style-type: none"> • Ensure performance targets specified in this plan are being met; • Participate in the annual review of the Plan where required; and • Consult with State Environmental Advisor regarding communication with government agencies.
NSW Environmental Advisor	<ul style="list-style-type: none"> • Provide technical advice in the development and implementation of the Plan; • Participate in the annual review of the Plan; • Conduct biennial environmental audits of site operations against performance. • Communicate with government agencies on environmental matters in consultation with the Operations and Regional Managers as required.
Hydrogeologist	<ul style="list-style-type: none"> • Provide technical advice in the development and implementation of the Plan;
Blast monitoring consultant	<ul style="list-style-type: none"> • Undertake noise and/or blast testing in accordance with EPL 4660 Condition 5

8 LAND USE MANAGEMENT

8.1 Scope

This Plan covers the Galong Limestone mine site specific approach to land use management. This plan applies to all owned and leased operational and non-operational properties. This plan therefore applies to the following land:

8.2 Objectives

The objectives of this Environmental Management Plan are:

- to undertake a strategic and integrated approach to land management that recognises the current and potential use of land to maximise environmental outcomes, economic return and maintain access to future resource;
- to protect heritage items/aspects, flora and fauna and preserve biodiversity;
- to ensure rehabilitation is considered and incorporated throughout the design, development, operation and closure of sites to optimise post closure social, environmental and economic outcomes;
- where site contamination has occurred, properly identify and manage the contamination to protect the health and safety of personnel and the community and to minimise or eliminate environmental impact; and
- To satisfy the Graymont Australia requirements outlined within the Company Wide Procedure for Land Management

8.3 Definitions

- Riparian zone: An area where land and a watercourse interacts, having an influence on one another.

8.4 Flora

The vegetation surrounding the Galong limestone mine comprises three types of vegetation communities.

1. Highly modified pasture. This area is dominated by pasture improvement and cropping practices and therefore populated by introduced plant species. When the area is not under crop, plant species making up exotic grasses, legumes and weeds are found. Scattered communities of gum trees provide shelter for livestock.
2. Unimproved pasture. These areas are characterised by rock exposure and not suitable to pasture or cropping. Species found in this area are grasses (mainly Tall Speargrass and Redleg Grass), some exotic grass, legume and weed species. The area also comprises a mixture of gum trees.
3. Riparian community. Is the corridor found along Limestone Creek. The area comprises a combination of native and introduced grass species, as well as a mixture of gum trees.

There are no threatened plant species identified to occur on the site.

The site does contain remnant vegetation that can be described as representative of the following endangered ecological communities:

- White Box, Yellow Box, Blakely's Red Gum Woodland Community (NSW listing)
- White Box, Yellow Box, Blakely's Red Gum, Apple Box Community (Commonwealth listing)

Both of these communities have been assessed, it has been determined that no significant impact on any endangered ecological community would occur as a result of the activities at the site.

There are no threatened fauna species (NSW or Commonwealth listing) identified to occur on the site.

Native species located on the mining lease are protected from collection and being taken away unless authorised by the site manager.

A vegetation map is attached as Appendix A.

8.5 Vegetation Clearing

Significant vegetation clearing of native populations can only be conducted with the prior approval from the Department of Planning and Environment.

The 10,000 tonne additional coal stockpile storage area and access road will be constructed in a previously disturbed area, as indicated in Figure F3-2 Graymont Galong Kiln MOD 4 Modification Report 221122, including the following:

- The stockpile storage pad will be approximately 110m x 65m (with additional drainage works back to the existing mine and related bunding).
- The access road will be approximately 8m wide (plus additional bunding and associated drainage).

8.6 Fauna

The fauna status in the area corresponds closely to the three vegetation communities listed above.

The Improved pasture area is considered to be of low fauna value. The area has the occasional presence of kangaroos and supports a number of common bird, reptile and amphibian species.

The unimproved pasture areas are considered small, disturbed and unlikely to support significant fauna. The area is considered to be richer in fauna than improved pasture areas, due to the existence of food and habitat for some native species.

The riparian habitat centres along the main watercourse within the area, Limestone Creek. It provides an important corridor for fauna movement and foraging, shelter, nesting and roosting sites for birds, bats, terrestrial and arboreal animals and invertebrates. Riparian vegetation within 20 metres of Limestone Creek will not be removed.

8.7 Chemical Storage

Apart from the fuel and gas storage facilities and general workshop materials there are no hazardous materials stored on site.

LPG Tank Storage

The gas used for kiln start up and coal drying is stored in a 20,000ltrs LPG tank supplied by ELGAS Ltd. Gas will continue to be used for maintaining bag house operating temperatures for the current coal mill that has been converted to aglime production. The LPG tank has appropriate vehicle protection.

Diesel Tank Storage x 2

- 1) A 35,000 litre diesel tank is located on a concrete slab adjacent to the workshop. The tank is double skinned and does not require bunding. The workshop has a sealed floor. The storage is designed and installed with reference to Work Cover's Storage and Handling of Dangerous Goods, Code of Practice 2005 and in particular AS 1940-2004 – Storage and Handling of flammable and combustible liquids. Diesel will continue to be used on site.
- 2) An additional 65,000 litre diesel tank is located adjacent to the haul road in the mining area, the tank is double skinned and does not require bunding.

Coal Storage

Coal is currently stored on site in a covered, two sided shed.

Current coal storage is 250 tonnes

See map attached as Appendix B for Coal Storage areas on site.

The temporary storage of an additional 10,000 tonnes of coal was approved by the Department of Planning & Environment (DA-317-7-2003-I MOD4, determined 29 March 2023). The coal stockpile and pad will be constructed and operated in accordance with the design detailed in the Graymont Galong Kiln MOD 4 Modification Report 221122. The coal stockpile design and mitigation measures address the requirements of MDG 28 Safety requirements for Coal Stockpiles and Reclaim Tunnels (NSW T&I, 2013), including the following:

- Stockpile height limited to a nominal 2.5m
- Ramp designed to access the top level
- Spontaneous combustion and fire risks will be mitigated by wind protection (2.5m high boundary bunds), low stockpile height, construction method, good drainage, and access to top and sides.
- Daily inspection
- Coal stockpile work limited to times of good visibility
- Operators working on the coal stockpile will be trained and competent
- No hot work will be permitted on the coal stockpile
- Stockpile footprint will be surveyed and clearly marked. Ramps will be clearly marked

Additional environmental control measures for the coal storage are addressed in this OEMP.

8.8 Heritage

8.8.1 Aboriginal Heritage

The current approved area for mining has in the past been heavily impacted upon by agricultural practices. As such and when assessed it was determined that this area would be unlikely to contain any sites of aboriginal heritage significance, as per the AHIM's survey conducted in 2011.

The site has liaised with members of the Burfi Ngunwal Aboriginal Corporation and the Yass / Onerwal Aboriginal Land Council in accordance with Condition No 47 of DA T.03-025, representatives from relevant Aboriginal groups have monitored the removal of the top 50cm of topsoil and subsoil during pre-stripping operations.

For current and future works onsite, should any Aboriginal objects be uncovered during day-to-day operations, the work should cease and the NSW National Parks and Wildlife Service [NPWS] be contacted for advice. It is considered an offence to disturb or destroy Aboriginal objects without the permission of the Director-General NSW NPWS. All site personnel and contractors are to be aware of the above-mentioned expectations with regards to preserving Aboriginal heritage.

8.8.2 European Heritage

A historic well exists on the site just north of the present office and car park. Following discussions with relevant heritage groups and the Harden Shire Council, and with regard to requirements under Condition 24 of DA T.03-025 the well area remains fenced and the site preserved.

8.9 Soil Management

The following procedure will be implemented during land preparation:

1. The Site Manager will ensure that a job risk assessment is undertaken prior to commencing works, detailing the following procedures and risks relating to clearing.
2. Mining Superintendent will ensure that personnel involved in the works are briefed on the risks and controls detailed in the job risk assessment.
3. Mining Superintendent will ensure that the limit of clearing (as shown in attachment 9) is delineated with pegs, fencing or flagging tape.
4. Mining Superintendent will ensure that an inspection is undertaken prior to commencing clearing works within the area to be disturbed, to check for the presence of fauna or active nests. Fauna or active nests found will be relocated or encouraged to move from the area.
5. The works Supervisor will ensure that topsoil (including vegetation) is stripped separately from subsoil.

6. The works Supervisor will ensure that vegetation, topsoil and subsoil is directly used for rehabilitation or stockpiled separately for future re-use.
7. The works Supervisor will ensure that topsoil is stockpiled as follows:
 - stockpile height limited to 2m
 - handling of topsoil to be minimised
 - stockpile to be accessible for weed control
 - stockpile to be signposted to indicate the extent and nature of the material and to avoid disturbance
 - stockpile to be re-vegetated with suitable covercrop as described in section 4.5.1, in order to stabilise the soil and maintain biological processes
 - weeds on the stockpile will be routinely sprayed, as part of the site weed management program.
8. The works Supervisor will ensure appropriate erosion and sedimentation controls are implemented to protect stockpiles.

8.10 Rehabilitation

Galong has a comprehensive Rehabilitation Management Plan along with a supporting Forward Plan that is in place for the period 16 November 2022 to 15 November 2025.

Both the Forward Plan and the Management Plan outlines what Galong will achieve in the rehabilitation area.

8.11 Spill Management

Galong has also implemented a Pollution Incident Response Management Plan (PIRMP) which focuses on the management of pollution incidents at Galong.

The purpose of the PIRMP is to ensure site readiness in the event of a pollution incident or product spill. The PIRMP applies to all pollution incidents / product spills that occur at the site as a result of activities carried out by Graymont.

Summary of pollution response is as follows:

- Stop work
- Consider safety
- Control
- Contain
- Notify/Report
- Clean-up

8.12 Traffic and transport

Haulage of the additional 10,000 tonnes of coal will be undertaken within the hours of 7:00am and 7:00pm Monday to Saturday. A maximum of 12 heavy vehicle movements (6 in / 6 out) per day is permitted. Coal haulage will utilize the approved heavy vehicle haulage route south of Eubindal Road to the Galong/Burley Griffin Way intersection, via Eubindal Road, Galong Road, Ryan Street and Crescent Street.

During the haulage of the additional 10,000 tonnes of coal, the pavement condition between Burley Griffin Way and the Project site will be monitored to assess the potential impact of heavy vehicles on the road surface and remediate as needed.

Pavement condition monitoring will involve:

- One week prior to considerable increase in coal truck haulage (above normal), complete a baseline condition monitoring report between Burley Griffin Way intersection with Bouyeo Rd and site, including photographs of existing pavement condition.
- Periodic inspection of road condition between Burley Griffin Way intersection with Bouyeo Rd and site, and compare with baseline report.
 - o Frequency of periodic inspection to be determined based on intensity of coal haulage movements
- Notify and request road remediation to Hilltops Council
 - o Note: Graymont Galong pays quarterly coal haulage contributions

9 WATER MANAGEMENT

9.1 Purpose

This plan outlines the site's water management practices. It aims to specify the actions undertaken at Galong necessary to mitigate the impacts of site operations on water resources and to comply with legal and other obligations relating to water.

9.2 Scope

This Plan details the management of water at Galong, NSW and applies to all Graymont controlled activities for this site and covers all new developments, any construction activities and onsite operations through to site closure.

The plan covers the following activities:

- water extraction,
- water harvesting,
- dewatering,
- transport,
- water storage,
- water usage (potable and process water),
- direct and indirect discharge involving surface water (including run-off),
- impounded water
- groundwater; and
- erosion and sediment control

9.3 Definitions

AHD: Australian Height Datum. The height in metres either above or below sea level, where sea level is 0.00 metres.

Aquifer: A saturated permeable unit of rock or soil which is able to transmit significant quantities of water under ordinary hydraulic gradients.

Clean Water: Water from undisturbed vegetated parts of the site. Fit for diversion or direct discharge to receiving streams. Clean water also includes collected rainwater and mains water.

Contaminated Water: Water containing potential contaminants or pollutants and not fit for discharge.

Dirty water: Water from disturbed but otherwise uncontaminated parts of the site. May be discharged after treatment to remove suspended solids.

Ground Water: Water that occurs beneath the water table in rock or soil that is fully saturated.

Surface Water: Water in a watercourse, lake or wetland, or any water flowing over land.

JDE: Site Action Management System

ECATS Environmental Compliance Action Tracking System

9.4 Environmental Risk

All environmental risks associated with site operations have been assessed in accordance with Graymont's Risk Management Procedure. An environmental risk register has been developed which details the environmental risks associated with the impact on water resources.

The following are considered the highest environmental risk events relating to water for the Galong site:

- Overflow of turbid water into watercourse.
- Water reacting with quicklime and leaching into groundwater.
- Contaminated surface water runoff moving offsite to watercourse.
- Diesel from a spill leaching into groundwater.

9.5 Existing Environment

9.5.1 Surface Water

The current surface water management control structures (see Appendix B) comprise the following:

9.5.1.1 Southern Catchment

The former "Main Retention Dam" now with an impermeable floor functions as the Sediment Basin for the catchment of all water in the southern part of the mine site.

The larger Retention Basin (also constructed with an impermeable floor) located to the north of the above Sediment Basin is capable of holding 1 in 10 year ARI, 72 hour storm runoff (1.5ML).

This basin is used to supply water for dust suppression and for the truck wash facility. Sediment from the truck wash facility collects in three underground tanks prior to water being returned into the Retention Basin. This basin operates with a working volume of 0.5ML and has the capacity to hold 1.5ML of storm water storage.

9.5.1.2 Northern Catchment

The northern catchment area drains towards the northern retention basin. A separate settlement basin was not constructed as originally proposed due primarily to agricultural limestone being stockpiled within the required basin area. The retention basin is constructed to meet the OEH-EPA criteria of a 1 in 10 year ARI 72 hour storm, with a capacity of 1.93 ML.

During 2011 sales of agricultural limestone ex-stockpile increased with a corresponding reduction in stockpiled material. A redesign for the Northern Catchment area was completed that allowed for the continuation of agricultural limestone stockpiling.

9.5.1.3 Other Water Supplies and utilisation

Town water for potable and ablutions purposes is supplied via a polyethylene pipeline from a supply line alongside Eubindal Road.

Two 0.115ML fire fighting water tanks are located within the coal storage access road loop.

The site's water tanker can carry 10,000 litres.

9.5.1.4 Additional coal storage area

The stockpile pad for storage of additional 10,000 tonnes of coal will be constructed with a drainage system and associated bunding to ensure that water flows to the south-east corner and is retained within the site's existing water management system (refer to Figure F3-2, Graymont Galong Kiln MOD 4 Modification Report 221122).

9.6 Groundwater

The groundwater in the mine area is of low salinity and is reported to be better quality than the surface water in Limestone Creek upstream from the mine. The stream flow water quality improves downstream from the mine due to the discharge of mine inflow water to the creek.

The main water inflow to the open-cut occurs from a fracture system exposed on the southern wall of the pit. In addition, smaller seepages have been noted from a location on the north-western face, at a higher bench level.

9.7 Surrounding Water Use

The mine site is located within the catchment of Limestone Creek, which covers an area of approximately 38km², of which approximately 7.6km² is located upstream of the mine site. Limestone Creek joins with Rocky Ponds Creek 2km from the Project Site.

The groundwater that accumulates in the open-cut mine is of a quality suitable for irrigation, stock and some domestic purposes. Bobbara Pastoral Company have a bore licence issued by the Department of Primary Industry - Water to extract groundwater from the open-cut for irrigation purposes.

9.8 Control Measures

The following table outlines the control measures which would be employed to ensure that extracted mine water is not mixed with potentially contaminated storm water prior to discharging to the creek

Frequency of inspection or maintenance has been determined based **on risk**.

Table 5 - Water Control Measures

Controls	Timing / Frequency	Evidence of Implementation
Mining services designed stockpile (stockpiling away from creek, designed drainage, vegetation cover)	Weekly	Mining Diary
Test of Pollution Incident Response Management Plan (PIRMP)	Annually	Environmental Compliance Action Tracking System (ECATS)
Erosion and sediment controls.	Ongoing	Monthly EHS Inspection
Water Meter Readings.	Monthly	Monthly Report
Spill Kits Any spills to be immediately contained and absorbed with suitable material. Checked for use and refill monthly	Monthly	Monthly HSE Checklist
Pit inspections	Daily	Mining Diary
Pre-start inspections	Daily	Pre-start checklists
Regular servicing of equipment	Ongoing	Service logs
Diesel Tank is self-bunded and bollarded. SDS Available	Ongoing	Monthly HSE inspections
Chemical storage is self-bunded. SDS is available	Ongoing	Monthly HSE inspections
Effluent storage pit. A licenced contractor used to pump pit out.	Biannually	Work records
Dams are suitably designed. Dams are desilted by site when headboard is reduced. Approx every 2 years	Ongoing	Work records

9.9 Monitoring

The following section describes the site's water monitoring program. The program is designed to qualify and quantify the extent to which the key objectives of this plan are being achieved. All monitoring is conducted by a suitably qualified/trained person.

Surface water and groundwater sampling and preservation of samples must be conducted in accordance with AS/NZS 5667 Water Quality - Sampling. A site-specific SOP exists for this task to ensure all safety and sampling requirements are met.

All water quality samples are sent to a laboratory for analysis that is NATA accredited for the parameters listed in the following tables. Responsibilities for onsite water monitoring are detailed in Section 7.

9.10 Inspections and Audits

Table 6 - Inspection and Auditing Requirements

Description of Monitoring	Timing / Frequency	Inspection / Audit Tool:
An environmental site inspection of the premises will be conducted by site personnel as part of the EHS site inspection process. All control measures under this Plan will be assessed under this process.	Monthly	Site House Keeping Inspections
An environmental compliance audit will be conducted by the NSW Environmental Advisor to determine statutory compliance with all approval and licence conditions. Compliance with this Management Plan will also be assessed.	Biennially	Site Environmental Audit template

All corrective actions generated from these inspections and audits are to be entered into the site action management system, responsibilities assigned, actioned and closed out within the specified time.

9.11 Surface Water Monitoring Program

Surface water within the site flows predominantly towards Limestone Creek. The water is intercepted by 2 sediment basins before discharging into Limestone Creek during high rainfall events. Water sampling of 4 points located both on and off site is conducted monthly. Sites are indicated in Appendix F

Table 7 - Surface Water Monitoring Program

ID.	Location	Purpose	Frequency	Parameters	Sampling Method
A (off site)	Top of creek	Upstream water quality	Monthly	pH Conductivity Total Dissolved Solids	Grab Sample
B (on site)	Pit	Water quality on site.	Monthly	Dissolved Iron Dissolved Zinc Dissolved Copper Dissolved Cadmium	
C (off site)	Bottom of creek	Downstream water quality	Monthly	Dissolved Lead Nitrates Orthophosphorous	
D (on site)	Settling dam	Water quality on site	Monthly	T.Kjel.N (calc) Total Oil and Grease Total Nitrogen	

Surface water onsite continued to be managed by directing water either to the sediment basins or into the mine void. Clean offsite runoff was directed northwards around the site towards Limestone Creek using farm contour banks and dams. These controls continue to be monitored to ensure that are maintained in good order.

The EPL 4660 and WAL 30047 do not have any licence limits relating to water discharge. Routine monitoring of surface and pit water is conducted to determine historical trends for quality changes / comparative purposes

DA 317 notes the licence requirements for an old “take and use” licence. This relates to taking and using water but doesn’t relate to discharge. The old licence had limits however did not relate to the licence scope.

The changes to water licence management from a “take and use” licence to WAL 30047 automatically removed the limits as they were not applicable.

9.12 Discharge to Limestone Creek

There is no licence requirement to monitor the water quality of the pit, however this data is used to provide information relating to concentration limits of standard water analytes

As part of the site pit dewatering program, pit water can be pumped to Limestone creek during periods of high flow to reduce likelihood of material harm as per section 120 of the POEO Act

9.13 Groundwater Monitoring Program

Groundwater monitoring is based on an observation of groundwater levels using a piezometer. There is no requirement to monitor the water quality of the boreholes due to the generally stable baseline water quality within the mine. Regional northerly trending groundwater flow in the limestone aquifer is locally disrupted by pit dewatering in the quarry.

The monitoring of groundwater expands understanding of water sources for the pit. Review of information shows the percentage of surface and groundwater contributions to the pit water volumes

The licence sets limits for groundwater extraction via water in the pit sump, however the surface water % contribution of pit water does not contribute to the annual extraction limit.

Table 8 – Groundwater Monitoring Program

Bore Id.	Aquifer	Purpose	Frequency	Parameters
P1, P1a, P2, P3, P5, P8 and P9	Limestone Aquifer	Groundwater Level	Quarterly	Water level in millimetres

9.14 Water Consumption Monitoring Program

The site has a program in place to monitor water usage from water pumped from the pit. The water gauges in place monitor the amount of water pumped out of the pit and consumed on site, the amount of water being pumped to Bobbara station for agricultural use and the amount of water being pumped into the creek via two pumping courses.

Table 9 – Water Consumption Monitoring Locations

Description of Monitoring	Timing Frequency	Monitoring Method
Meter 1 (#58530) Line out of Pit	Quarterly	Physical Reading
Meter 2 (# 32802) Line to Bobbara Station	Quarterly	Physical Reading
Meter 3 (# 15284) Line to Creek	Quarterly	Physical Reading
Meter 5 (#62744) Laydown Yard	Quarterly	Physical Reading
Bobbara Town Water (#3378)	Quarterly	Physical Reading

9.15 Reporting

Management at site have a responsibility to submit periodic reports as part of the sound environmental management of the site and the surrounding areas. This allows the site to provide operational updates on activities that have the potential to affect the environment.

The following table provides a summary on the site's relevant reporting requirements:

Table 10 – Water Reporting Requirements

Description of Reporting	Frequency of Reporting	Reporting Tool	Receiving Body
Annual Return for Env. Protection Licence	Annually	Online Annual Return Template	Environmental Protection Authority
Environmental Program Report	Quarterly	Graymont Program Report Template	Regional Manager
Water related complaints	Immediate	eCATS	As per Graymont incident notification and investigation procedure
Water related environmental incidents	Immediate	eCATS	As per Graymont incident notification and investigation procedure
Annual Rehabilitation Report (ARR)	Annually	Documented Report	Department of <i>Industry</i> (circulation also to <i>Hilltops</i> Council, Environmental Protection Authority, and Department of Planning)

10 AIR QUALITY MANAGEMENT

10.1 Purpose

This section of the plan outlines the site's air quality monitoring requirements. It aims to specify the actions undertaken at Galong necessary to mitigate the impacts of site operations on air quality and to comply with legal and other obligations.

10.2 Scope

This Plan details the management of air quality at Galong, NSW and applies to all Graymont controlled activities for this site and covers all new developments, any construction activities and onsite operations through to site closure.

10.3 Background

Environmental Protection Licence

EPA advised site of proposed licence variation conditions to (EPL 4660) in December 2015 regarding the submission by Sibelco to modify DA 317-7-2003i (Mod 3) – (operation of lime kiln).

The main intent of the licence variation was to ensure that the new licence conditions reflected standards contained in Part 5 of the *Protection of the Environment Operations (Clean Air) Regulation 2010* with regards to in-stack emission limits for industrial activities in NSW.

In May 2016 the EPA issued Notice of Licence Variation No. 1535156. The Notice made the following changes:

- Licence to permit operations of the refurbished lime kiln to resume
- Re-introduction of air emission monitoring requirements

No variation to the licence was required for Hydrator operation. As per the EPA letter dated 12.7.2018, initial emissions testing post commissioning is required to ensure OEM performance standard of 10mg/m³. Further emission testing for 2 years to ensure continued compliance to 10mg/m³.

Any non-conformance requires corrective action

10.4 Monitoring

The following points referred to in the table below are identified in Galong - 4660 - POEO Licence (version 12th May 2016) for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Table 11 – Location of monitoring/discharge points and areas

EPA ID #	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Air emission monitoring	Discharge to Air	Lime kiln stack
2	Air emission monitoring	Discharge to Air	Coal Mill exhaust
3	Dust monitoring		Dust monitoring gauge labelled " DG1 " on the plan titled "Galong Limestone Mine and Kiln Plan 1 - Dust Monitoring Gauge Locations", dated June 2010 (DOC10/31773).
4	Dust monitoring		Dust monitoring gauge labelled " DG2 " on the plan titled "Galong Limestone Mine and Kiln Plan 1 - Dust Monitoring Gauge Locations", dated June 2010 (DOC10/31773).
5	Dust monitoring		Dust monitoring gauge labelled " DG3 " on the plan titled "Galong Limestone Mine and Kiln Plan 1 - Dust Monitoring Gauge Locations", dated June 2010 (DOC10/31773).
6	Dust monitoring		Dust monitoring gauge labelled " DG4 " on the plan titled "Galong Limestone Mine and Kiln Plan 1 - Dust Monitoring Gauge Locations", dated June 2010 (DOC10/31773).

10.5 Concentration Limits

Table 12 – Air Concentration limits as per EPL 4660

Monitoring Point	Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period	Frequency
1	Solid Particles	mg / m3	100	Dry, 273K, 101.3 kPa	7%	TM 16	Yearly
	Nitrogen Oxides	mg / m3	2000	Dry, 273K, 101.3 kPa	7%	TM 11	Yearly
	Total Fluoride	mg / m3	50	Dry, 273K, 101.3 kPa	7%	TM 9	Yearly
	Dry Gas Density	Kg / m3	*	---	---	TM 23	Yearly
	Lead	mg / m3	*	---	---	TM 12, 13, 14	Yearly
	Mercury	mg / m3	*	---	---	TM 12, 13, 14	Yearly
	Moisture	%	*	---	---	TM 22	Yearly
	Molecular weight of stack gasses	g / g mole	*	---	---	TM 23	Yearly
	Oxygen (O2)	%	*	---	---	TM 25	Yearly
	Sulphur Oxides	mg / m3	*	---	---	TM 4	Yearly
	Temperature	°C	*	---	---	TM 2	Yearly
	Velocity	m / s	*	---	---	TM 2	Yearly
	Volumetric Flow Rate	m3 / s	*	---	---	TM 2	Yearly
2	Solid Particles	mg / m3	100	Dry, 272K, 101.3 kPa	NA	TM 15	Yearly
3,4,5,6	Particulates – Deposited Matter	g / m2 / month	NA**	---	NA	AM 19	Monthly

* - No EPL limit

** Comparison against EPA criterion of 4 g/m2.month, which is as an annual average for an acceptable level of deposited dust, measured as insoluble solids.

10.6 Key Hazards & Risks

The following activities (hazards) pose a medium to high risk to the environment and the community from environmental emissions and fugitive dusts.

Table 13 - Key risks associated with site environmental emissions and fugitive dust

Activity (Hazard)	Risk
Product crushing, screening and milling	Fugitive dusts leaving site resulting in exceedance of deposited dust levels at sensitive receivers
Product handling and stockpiling	
Blasting	
Road trucks hauling product through Galong Village	Product deposited on road trucks falling / blowing off resulting in nuisance dust from vehicles moving through Galong village
Kiln Operation	Kiln emissions exceed licence limits
Coal Milling Operation	Coal mill emissions exceed licence limits
Hydrator operation	Dust collector operation do not conform to manufacturers OEM specification resulting in licence parameters being set for Hydrator emissions

10.7 Control Measures

The proposed controls to mitigate the potential risks from the hazards listed above are outlined in the table below. The frequency of each control and the records that are maintained to demonstrate that the control is implemented is also provided.

The additional coal storage area will be uncovered and constructed to include ramps to allow watering to reduce dust and provide access.

Table 14 - Environmental emissions and fugitive dust control measures

Controls	Timing / Frequency	Evidence of Implementation
Maintain all dust collectors on site to ensure operating efficiently	As per maintenance schedule	Maintenance log
Maintain kiln operation parameters to ensure operating efficiently	As per Maertz recommendations	Operators log
Watering of site internal roads	Daily as required	Pre-start checks noting Water truck operation hours Operational efficiency tracking of mobile plant
Stack emission testing: - Kiln - Coal Mill	Annually	Stack emission testing reports Publication of emission results on Graymont website
Stack Emission testing: - Hydrator	Annually for 3 years	As per EPA letter dated 12.7.2018 Initial emissions testing post commissioning to ensure OEM performance standard of 10mg/m3 Further emission testing for 2 years to ensure continued compliance to 10mg/m3. Results to be submitted via ARR

11 NOISE AND VIBRATION MANAGEMENT

11.1 Purpose

The objectives of this section relating to Environmental Noise and Vibration Management is to outline how site will eliminate or minimise material and non-trivial noise and vibration from Graymont's operations and their potential impacts on the environment and the community;

11.2 Scope

This Plan covers the environmental risk of environmental noise and vibration generated from activities conducted on this site.

The Plan applies to all material and non-trivial environmental noise and vibration emissions resulting from all Graymont controlled activities and covers onsite operations through to site closure.

This Plan does not cover the Occupational Health and Safety hazards and risks from noise and vibration onsite. These hazards and risks are covered by the Key Risk Requirement for Occupational Noise Exposures and associated legislation.

11.3 Background noise levels

Heggies Australia were commissioned to conduct compliance monitoring for the Galong Kiln operation in 2005 to determine compliance to the Development Consent DAT03-025

In 2015 SLR were commissioned to conduct a noise impact assessment for the proposed change in quarry product despatch volume to 320,000t/yr

In 2018 SLR were commissioned to conduct a noise impact assessment for the proposed change in quarry product despatch volume to 430,000t/yr

11.4 Surrounding land use

The surrounding land use is predominantly rural agriculture. Galong village is 4.3 km distance (direct line to the nearest dwelling)

Table 15 - Description of surrounding land uses and sensitive receptors

Direction (N/S/E/W)	Description of resident, business, activity, land use?	Sensitive Receptor (Yes/No)?	Distance from premises (km)	Issues (if applicable)?
NW	Farmhouse Eubindal road	Yes	2.3	Blast monitoring point
NNW	Farmhouse Eubindal road	Yes	3.2	
S	Farmhouse Bobbara road	Yes	3.4	
W	House Galong	Yes	4.3	Closest house on Ryan St Galong
W	Houses Galong	Yes	4.4	Houses along Ryan St Galong
SE	Farmhouse Armours road	No	4.5	
E	Farmhouse Hughstonia road	No	4.7	
NW	St Clements Monastery Kalangan Road	Yes	5.7	

11.5 Key Hazards & Risks

The following activities (hazards) pose a medium to high risk to the environment and the community from environmental noise and vibration.

Table 16 - Key risks associated with site environmental noise and vibration

Activity (Hazard)	Risk
Product crushing, screening and milling	Exceedance of noise levels at sensitive receivers
Blasting	Causing structural damage to third party property from ground vibrations
Road trucks hauling product through Galong Village	Excessive speed of road trucks resulting in increased noise from vehicles moving through Galong village

11.6 Control Measures

The proposed controls to mitigate the potential risks from the hazards listed above are outlined in the table below. The frequency of each control and the records that are maintained to demonstrate that the control is implemented is also provided.

Table 17 - Environmental noise and vibration control measures

Controls	Timing / Frequency	Evidence of Implementation
Maintain equipment to ensure it is operating efficiently	As per maintenance schedule	Maintenance log
Notify local residents (sensitive receptors) and emergency services of blasting schedule	2 days prior to blasting event	Via site entry road sign and email
Reduce vehicle speeds near sensitive receptors	Ongoing	Truck driver Induction training Speed advisory signs in 2 positions along Ryan St Galong
Acoustically treating affected dwellings in Galong	By end 2018	Initial acoustic report Interim and Final treatment reports for each dwelling

11.7 Monitoring

This section outlines the various modes of monitoring onsite to quantitatively track and observe environmental noise and vibration emanating from site.

11.7.1 Inspections and Audits

Table 18 - Inspection and auditing measures

Description of monitoring	Timing / Frequency	Inspection/audit tool
An environmental site inspection of the premises will be conducted by Site Personnel as part of the EHS site inspection process. All control measures under this Plan will be assessed under this process.	Monthly	Site EHS Inspection checklist
An environmental compliance audit will be conducted by the NSW Environmental Advisor to determine statutory compliance with all approval and licence conditions. Compliance with this Management Plan will also be assessed.	Biennially	Environmental Audit report

All corrective actions generated from these inspections and audits are to be entered into the Site Action Management System, responsibilities assigned, actioned and closed out within the specified time.

11.7.2 Noise and Vibration Monitoring

Table 19 - Noise and vibration monitoring measures

Description of monitoring	Timing/ Frequency	Parameters	Monitoring Method
Blast monitoring at monitoring location Eubindal road as shown in appendix F	During blasting event	Air blast overpressure; Ground vibration levels	via external blast contractor

11.8 Reporting

The following table details the reporting requirements for environmental noise and vibration under this Plan.

Table 20 - Reporting Requirements - Environmental Noise and Vibration

Description of reporting	Frequency of reporting	Reporting tool	Reporting to:
Blast monitoring results as per EPA condition EPL 4660 L5	Each blast	Graymont Monitoring data form	Graymont website
Annual Return including all relevant licensed based monitoring reports	Annually	Annual Return	NSW EPA
Annual Environmental Management Report	Annually	ARR	NSW EPA NSW Dept of Water
Noise and vibration complaints	Within 48 hours of occurring	eCATS	As per Graymont incident notification matrix
Noise and vibration related environmental incidents	Within 48 hours of occurring	eCATS	As per Graymont incident notification matrix

Table 21 - Blast Management Criteria

Ground Vibration Peak Particle velocity*	Not to exceed 5mm/s for more than 5% of total blasts / reporting period	Not to exceed 10 mm/s at any time
Air Blast Overpressure level*	No to exceed 115 dB (Lin Peak) for more than 5% of total blasts / reporting period	Not to exceed 120 dB at any time

*At any residence or noise sensitive location that is not owned by the licensee

12 WEED & PEST MANAGEMENT

12.1 Purpose

This plan outlines the site's weed and pest management practices. It aims to specify the actions undertaken at Galong necessary to mitigate the impacts of site operations on the local environment.

12.2 Scope

This section of the plan applies to controlling Of Weeds and Pests on the Galong site.

12.3 Feral Animal Management

White land snails are of a concern in the local area, and as such are regularly controlled. Options for control include:

- Grazing of non-operational areas of the mining lease– access road, rear of stockpiles
- Baiting with snail bait on a yearly basis, especially during mating season, following rain events or as suggested by Local Land Services
- Cool burning of affected grassed areas of the site.

12.4 Weed Management

In accordance with Condition No. 37 of Development Consent DA T.03-025 and Condition NO. 6.46 of Development Consent DA-317-7-2003-i weed species need to be identified and a plan established for their management on site.

Weeds may be found on the following locations on site:

- open grassy areas,
- on the outside perimeter of structures,
- underneath stairwells leading up to structures,
- on banks and settling dam structures,
- bund walls,
- paddocks
- overburden emplacements,
- soil stockpiles

Under consultation from the Southern Slopes Noxious Plants Authority ten weed species have been identified that surround the Galong Limestone Mine, and include the following:

Scotch Thistle (5 HA)	St John's Wort (<1HA)
Tree of Heaven (<1HA)	Wild Radish (<1HA)
Slender Thistle	Variegated Thistle
Horehound	Paterson's Curse
Californian Thistle	Narrawa Burr

In order to avoid propagation of weed species, routine weed control is undertaken in the above-stated areas on site. Weed control is undertaken by chemical spraying. Spraying should be targeted in early Autumn and also in early Spring.

Local Pest & Weed Control contractors are contacted to attend site to spray weeds and check pest and rodent baits on a regular basis until weed and pest control is effective.

Galong personnel will be responsible for weed management and all personnel involved in this task will be certified and hold a current Chem Cert qualification.

A plan of areas of weeds is detailed in Appendix D.

13 WASTE MANAGEMENT

13.1 Purpose

The purpose of this Waste Management Plan are:

- To avoid generation of waste material as far as practicable,
- To ensure environmentally safe and effective management of wastes generated by operations,
- Where waste is generated, controls should be put in place to reduce, reuse or recycle waste generated,
- Ensure appropriate classification and disposal of waste where required, and
- To meet the Sibelco Key Risk Requirements for Waste Management.

13.2 Scope

This Plan covers the management of waste produced from activities conducted at Graymont Galong Limestone Operations.

This Plan applies to all solid and liquid wastes generated, stored, handled and disposed of from all Sibelco controlled activities that are non-production related. It covers all new developments, any construction activities and onsite operations through to site closure.

This section of the plan does not cover production waste such as overburden and dirty water. Overburden and dirty water is managed under the sections for Land use and Water Management respectively.

13.3 Definitions

- CWP – Company Wide Procedure
KPI – Key Performance Indicator
JDE – Site Action Management (System)

13.4 Waste Inventory

The following table provides an inventory of waste generated on site including the waste generating activity, a description of waste (waste type) volume of waste generated, and a description of the potential environmental hazards and risk associated with the waste produced.

Galong operations identifies and characterises solid and liquid wastes generated, stored, handled and disposed of. A risk assessment is undertaken to determine environmental risks associated with storage of waste. The site's Hazardous Substances Register builds from the inventory.

Table 22 – Waste Inventory

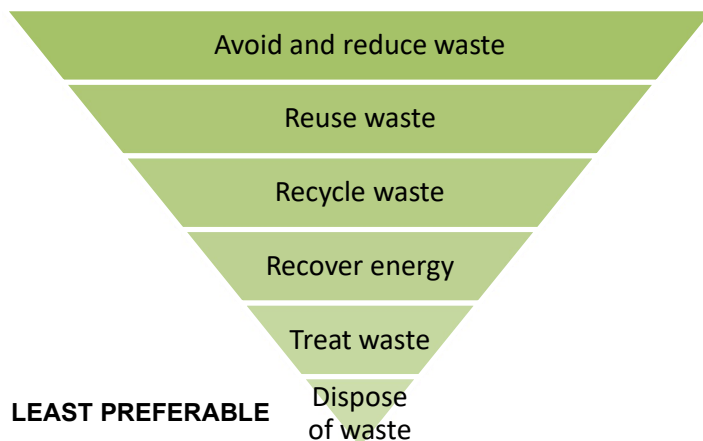
Waste Type	Activities that Generate this Waste	Estimated Volume	Environmental Hazard and Risk
General waste (e.g. food scraps, consumables etc)	Lunch room and administration facilities	200 kg per month	Incorrect storage of waste causing windblown rubbish crossing site boundary. Incorrect storage of waste encouraging pest and vermin infestation.
Liquid waste	Waste oil generated from maintenance of plant equipment and vehicles	2500 litres per month	Incorrect storage causing oil spill on ground and the environment. Incorrect disposal of waste oil causing environmental impact offsite.
Oil filters / Grease Cartridges	Mobile plant maintenance	150 kg per month	Incorrect storage causing oil spill on ground and the environment. Incorrect disposal of waste oil causing environmental impact offsite.
Paper, Cardboard	Admin, Deliveries	100 kg per month	Incorrect disposal in general waste bins causing overflow of general waste.
Plastic bottles, aluminium cans	Consumables	50 kg per month	Incorrect disposal in general waste bins causing overflow of general waste.

13.5 The Waste Hierarchy

The Waste Management Hierarchy provides guidance on the order of preference to achieve efficient use of resources.

Figure 1 – The Waste Management Hierarchy

MOST PREFERABLE



In compliance to CWP 6.123, the Galong limestone operations will ensure that it adheres to the principles of the waste management hierarchy, with a preference in the following order:

1. Waste avoidance and reduction at source,
2. Reuse and recycling, and
3. Waste treatment and/or disposal.

13.6 Control Measures

The following controls measures are in place to 1) avoid or reduce the waste generated onsite, 2) manage the storage of waste onsite to ensure that waste does not enter the environment, and 3) ensure appropriate treatment and/or disposal of waste.

Table 23 – Waste control measures

Generation		
Controls	Timing / Frequency	Evidence of Implementation
Green waste to be mulched and used on site for landscaping and rehabilitation (where feasible)	When required	Site Inspection
Investigate using alternative suppliers of administrative equipment where less packaging is used	When required	Supplier contract
Absorbent pads and sawdust used to absorb hydrocarbon based spills in workshop areas. No wash down of hardstands with water conducted	Ongoing	Absorbent materials fully stocked in workshop areas
Waste recycling bins are provided at specific locations around administration buildings to divert waste from landfill	Ongoing	Waste contractor invoices
Clean water surface water/runoff to be diverted around mine facilities	Ongoing	Site Inspection
Storage		
Controls	Timing / Frequency	Evidence of Implementation
Maintaining a dedicated safe storage area for waste oil	Ongoing	Site Inspection
Waste oil storage containers are stored in a bunded area	Ongoing	Site Inspection
All domestic waste is stored within onsite waste bins	Ongoing	Site Inspection
Waste chemicals (including) solvents are to be segregated and stored appropriately awaiting collection by licensed waste contractor for suitable offsite recycling/disposal	Ongoing	Waste Contractor invoices

Treatment/Disposal		
Controls	Timing / Frequency	Evidence of Implementation
Correct classification and disposal of hazardous waste by an approved controlled waste contractor	As required	Waste Contractor invoices
General wastes from operations (food etc) to be disposed of at an appropriately licensed waste management facility	Ongoing	Waste Contractor invoices
Recyclable wastes from operations (e.g. paper, cardboard, glass) to be separated on site and collected by a waste contractor for recycling	Ongoing	Waste Contractor invoices
Waste metal materials to be separated onsite and collected by scrap steel recycling contractor or transported to appropriate waste management facility for recycling	As required	Waste Contractor invoices
Sewerage for site facilities is collected onsite in aerated septic sewer system and treated wastewater is reused on site for irrigation	Ongoing	Licence to operate – OSM 479
Waste oils and greases to be segregated and stored appropriately until collection by a licensed waste contractor for appropriate offsite recycling/disposal	Ongoing	Waste contractor invoices.
Waste oil/greases filters to be segregated and stored appropriately until collection by a licensed waste contractor for appropriate offsite recycling/disposal	Ongoing	Waste contractor invoices.
The compacted base and access road for the 10,000 tonne coal storage, would be stripped and placed in the overburden emplacement.	Following depletion of coal stockpile (end of June 2024)	

13.7 Monitoring

The volumes of waste generated stored and recycled onsite are required to be monitored. The Graymont Site *Inspection Checklist* should be used to record this information. Furthermore inspections of waste storage areas and audits of waste control measures will be required. The following table details the monitoring requirements for onsite waste management.

Table 24 – General Inspection and Auditing Requirements

Description of Monitoring	Timing/ Frequency	Inspection/Audit Tool:
An environmental site inspection of the premises will be conducted by the HSEQ Specialist as part of the EHS site inspection process. All control measures under this Plan will be assessed under this process.	Monthly	Site EHS Inspection checklist
An environmental compliance audit will be conducted by the NSW Environmental Advisor to determine statutory compliance with all approval and licence conditions. Compliance with this Management Plan will also be assessed.	Biennially	Site Environmental Audit template

All corrective actions generated from these inspections and audits are to be entered into eCATS, responsibilities assigned, actioned and closed out within the specified time period.

Table 25 – Monitoring Measures - Waste

Description of Monitoring	Timing/ Frequency	Monitoring Method
Inspection of clean water diversion bunds and drainage	Monthly	Site Inspection
Volume of general and recyclable waste removed by waste constructor offsite	Quarterly	Contractor invoices
Volume of waste oil generated onsite and disposed of offsite	Annually	Contractor invoices for disposal offsite

13.8 Reporting

The following table details the reporting requirements for waste management under this Plan.

Table 26– Reporting Requirements - Waste

Description of Reporting	Frequency of Reporting	Reporting Tool	Reporting to:
Environmental Program Report	Quarterly	Program Report template	Regional Manager;
Annual Return including all relevant licensed based monitoring reports	Annually	Annual Return template	NSW EPA
ARR (or Works Plans report, PoO report, MARP report etc)	Annually	As per guidelines	NSW Dept of Industry
Waste related complaints	Within 48 hours of occurring	eCATS	As per Graymont incident notification matrix
Waste related environmental incidents	Within 48 hours of occurring	eCATS	As per Graymont incident notification matrix

14 ENVIRONMENTAL ENHANCEMENT STRATEGY

14.1 Purpose

The purpose of this section of the Plan is to outline how the site will comply with the requirement to have an Environmental Enhancement Strategy (EES).

14.2 Scope

Development Approval 317-7-2003-i (2003) Section 6.6 states that;

The Applicant shall prepare an annual Environmental Enhancement Strategy with an aim to off-set the impacts of the development. The Strategy shall be prepared in consultation with the community, including but not limited to the Community Liaison Group (CLG), for the approval of the Director-General. The Strategy shall describe works including, but not limited to:

- a) identification of the potential off-site projects, based in the local area, which may be undertaken to enhance the local community, including tree planting and the guaranteed provision of agricultural lime to the local market (local meaning Galong and surrounds);
- b) a description of which projects will be undertaken;
- c) a justification for excluding any of the projects identified in part a).

14.3 Procedure

The purpose of the Strategy is to offset the impacts of the development. The Strategy should include details that clearly describes the consultation with the community, environmental impact to be offset, its aim/purpose (or, expected project outcome/enhancement), project status and the expected project completion date.

The Strategy presents an update on the in-progress projects identified in the previous EES submission to the Department, as well as the potential off-site projects the Galong Limestone Mine envisages to undertake within the next year.

The Strategy should clearly identify the sites for potential projects where enhancement will occur, and provide commitments for completing projects, or identify where it is appropriate for enhancement projects to be ongoing (i.e weed management).

The provision of agricultural lime to the local market must be addressed in the Strategy.

Current projects (including ongoing projects) should be separated from projects which are planned but have not yet commenced.

The EES must be ratified by site management and submitted to the Secretary of the Dept. Planning & Environment by the end of May each year for approval.

15 INCIDENTS, COMPLAINTS AND REGULATORY BREACHES

The following section details Graymont's management approach in responding to, investigating and acting on incidents, complaints and regulatory breaches. All major environmental incidents, community complaints and regulatory breaches are recorded and tracked through Graymont's environmental incident reporting system. Corrective actions arising from these events are documented and tracked in the system where responsibilities are assigned and completion dates established. Progress on open actions is reported regularly to senior management ensuring such events are managed in a timely manner.

15.1 Incidents

Graymont also has in place a site-specific Pollution Incident Response Management Plan (PIRMP). The PIRMP identifies the pollution hazards on site, the proactive mitigation of risks and the response process in the event of a pollution incident.

In the event of any environmental incident, site personnel will implement the PIRMP and report the incident and its severity in Graymont's environmental incident reporting system. Site personnel will notify the Group Health, Safety & Environment Team dependent on the severity of the incident and an investigation will follow. Site personnel and the Group Health, Safety & Environment Team will assess the incident and determine whether notification of external agencies is required.

Environmental incidents that cause or threaten to cause material harm will be immediately notified to regulatory agencies, including the EPA and Department of Planning and Environment. Notification in writing is required via the Department of Planning and Environment Major Projects website.

If required, corrective actions will be developed and assigned to specified personnel to minimise the impact of the incident and/or to minimise the risk of future incidents. Corrective actions will be documented and tracked in the action management system and the incident will be closed out once all corrective actions are complete.

Any environmental incident will prompt a review of the sites legal compliance and environmental risk registers. The Site Action Plan will be updated to include any corrective actions.

15.2 Emergency Response

Galong has in place an Emergency Management Plan (642-P10.201.01) which details actions in the event of an emergency onsite. The procedure covers the actions required in the event of an unplanned event which has the potential to cause significant environmental impact. Site personnel and the Group Health, Safety & Environment Team will assess the incident and determine the notification process for external agencies.

15.3 Complaints

In the event of any community complaint, the receiver of the complaint shall document details from the complainant. As a minimum, the following information will be collected and entered in the Complaints Register and environmental incident reporting system:

- the date and time of the complaint;
- the method by which the complaint was made;
- any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- the nature of the complaint;

- any actions taken in relation to the complaint, including any follow-up contact with the complainant; and
- if no action was taken, the reasons why no action was taken.

Additional information will be documented if required under licence condition. All information will be logged in the environmental incident reporting system. Site personnel will conduct an initial investigation to verify the complaint. If the investigation has determined that the source of the complaint is from site activities, corrective actions will be developed and assigned to specified site personnel to rectify the cause of complaint or minimise any future events from occurring. Site personnel will respond to the complaint (if contact details are available) with the outcome of its investigation and advise of any actions that have or will be taken to prevent or minimise future impacts. The outcomes of the investigation and the close out of any corrective actions will be documented in Graymont's environmental incident reporting system.

Any environmental complaint will prompt a review of the sites legal compliance and environmental risk registers. The Site Action Plan will be updated to include any corrective actions.

15.4 Regulatory Breach

Any verified regulatory breach (i.e. breach of regulations, licence condition or conditions of approval) will be logged in the environmental incident reporting system as a breach. Relevant external agencies will be notified in accordance with any prescribed legislation or specific conditions of approval.

Non-compliance with DA 317-7-2003-i MOD4 will be notified to the Department of Planning and Environment through the Major Projects website, within 7 days, in accordance with the requirements of the consent (condition 7.2).

A detailed investigation will follow to determine the root cause of the breach. Graymont will document this investigation in writing and provide a report to the relevant government agencies within an agreed timeframe. The report will detail the investigation findings and any short term and/or long term actions that have or will be taken to prevent future breaches from occurring.

Any compliance breach will prompt a review of the sites legal compliance and environmental risk registers. The Site Action Plan will be updated to include any corrective actions.

16 CHANGES TO OPERATION

Any assessment of new development or operational changes must be conducted in accordance with:

1. Planning, Design, Construct & Commission (*CWP 6.120*);
2. Managing Change Procedure (*CWP 6.002*);
3. Environmental Approvals, Licences and Permits Procedure (*CWP 1.107*); and
4. Risk Management (*CWP 6.000*).

The environmental assessment must confirm that water management under normal and worst case conditions will comply with State or national water quality regulations, criteria and/or licence conditions

The environmental assessment must confirm that waste management under normal and worst case conditions will comply with State or national waste management regulations, criteria and/or licence conditions.

17 TRAINING

As a minimum all onsite staff and contractors shall be made aware of the requirements under this site specific Management Plan. Key elements of this Plan will be covered in all site induction materials. All site personnel responsible for implementing this Management shall ensure they have the appropriate training and competencies to ensure this Plan is implemented correctly and fully.

All training shall be determined and implemented in accordance with the Graymont EHS Training Procedure (*CWP 7.501*).

18 REVIEW

Site performance will be reviewed on a quarterly basis by senior management via the Environment Program Reports. Any recommendations from this review shall be passed to the Plant Manager for consideration.

Incidents, complaints and regulatory breaches will prompt a review of the sites environmental compliance and risk registers. This will ensure these registers accurately reflect the legal obligations and environmental risk of site operations.

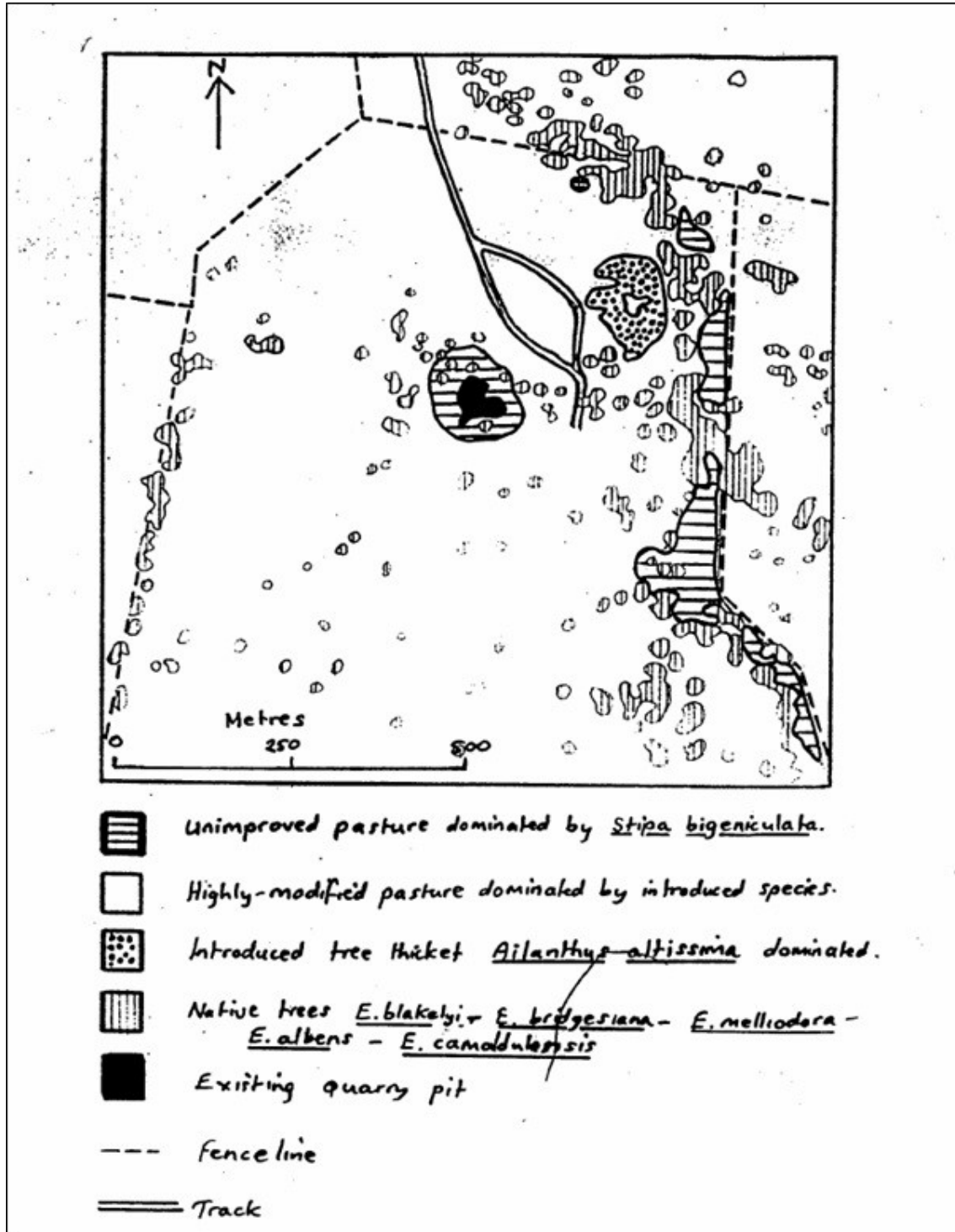
This Plan will be reviewed on an annual basis. The review shall be conducted with the HSEQ Specialist, the NSW Environmental Advisor and the Operations Manager. The Regional Manager and Sustainability Manager shall also review the Plan depending on the perceived risk of site operations.

The review will involve the examination of all monitoring data, complaints, incidents, regulatory breaches (should they occur) and comparing this data and information to mandatory limits and internal KPI's.

Procedural changes or a review of targets and/or KPI's should be employed if targets are not met. A review of the site environmental compliance and risk registers will also occur at this stage to ensure completeness and that this Plan adequately controls these obligations and risks.

Any amendments to this Plan will be approved by the Sustainability Manager and Plant Manager.








Appendix A- Vegetation Mapping



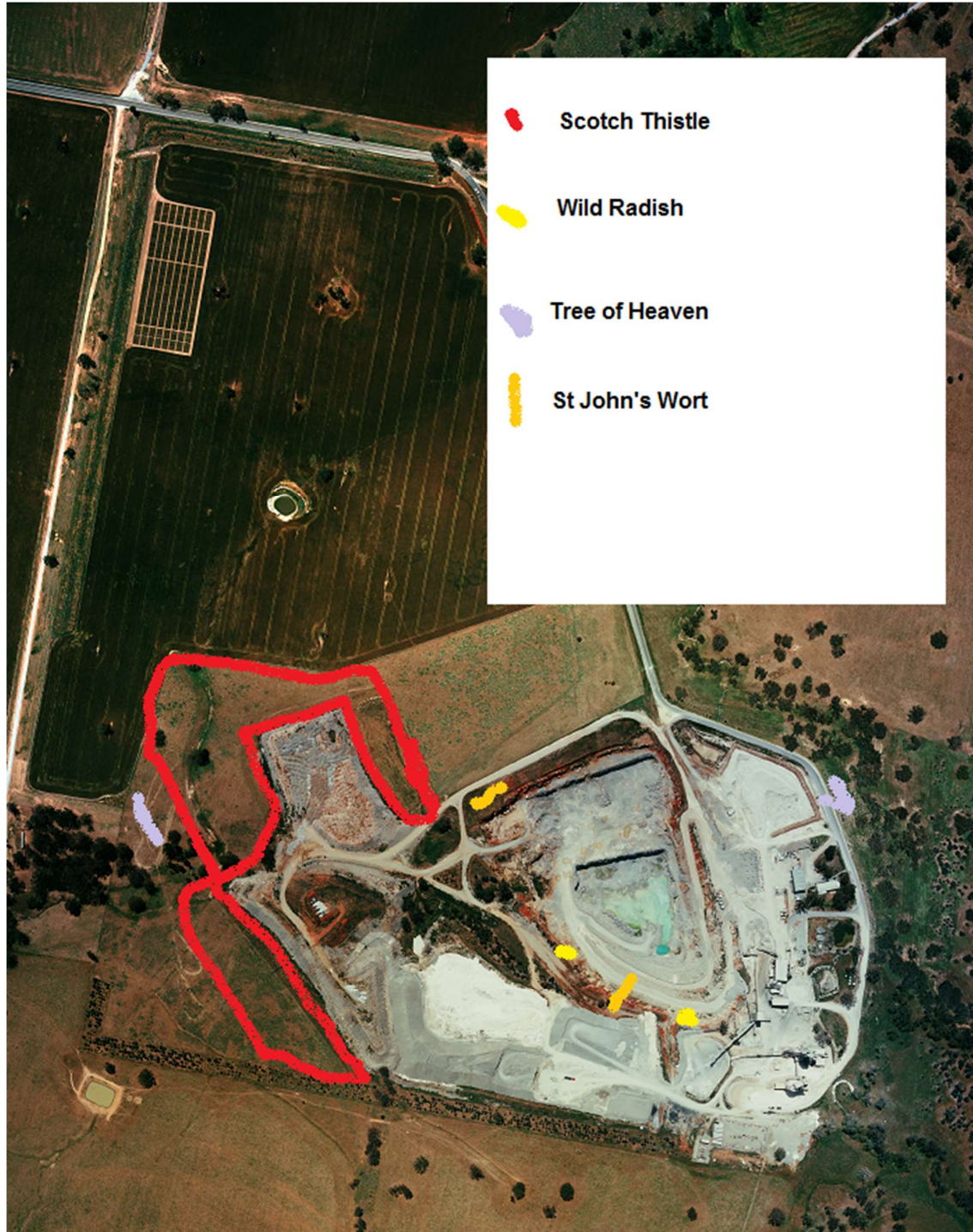
Source: Statement of Environmental Effects. R. W. Corkery. Rprt No. 536/01. Oct 2000

Appendix B – Water Retention, Chemical Storage and Possible Pollutants



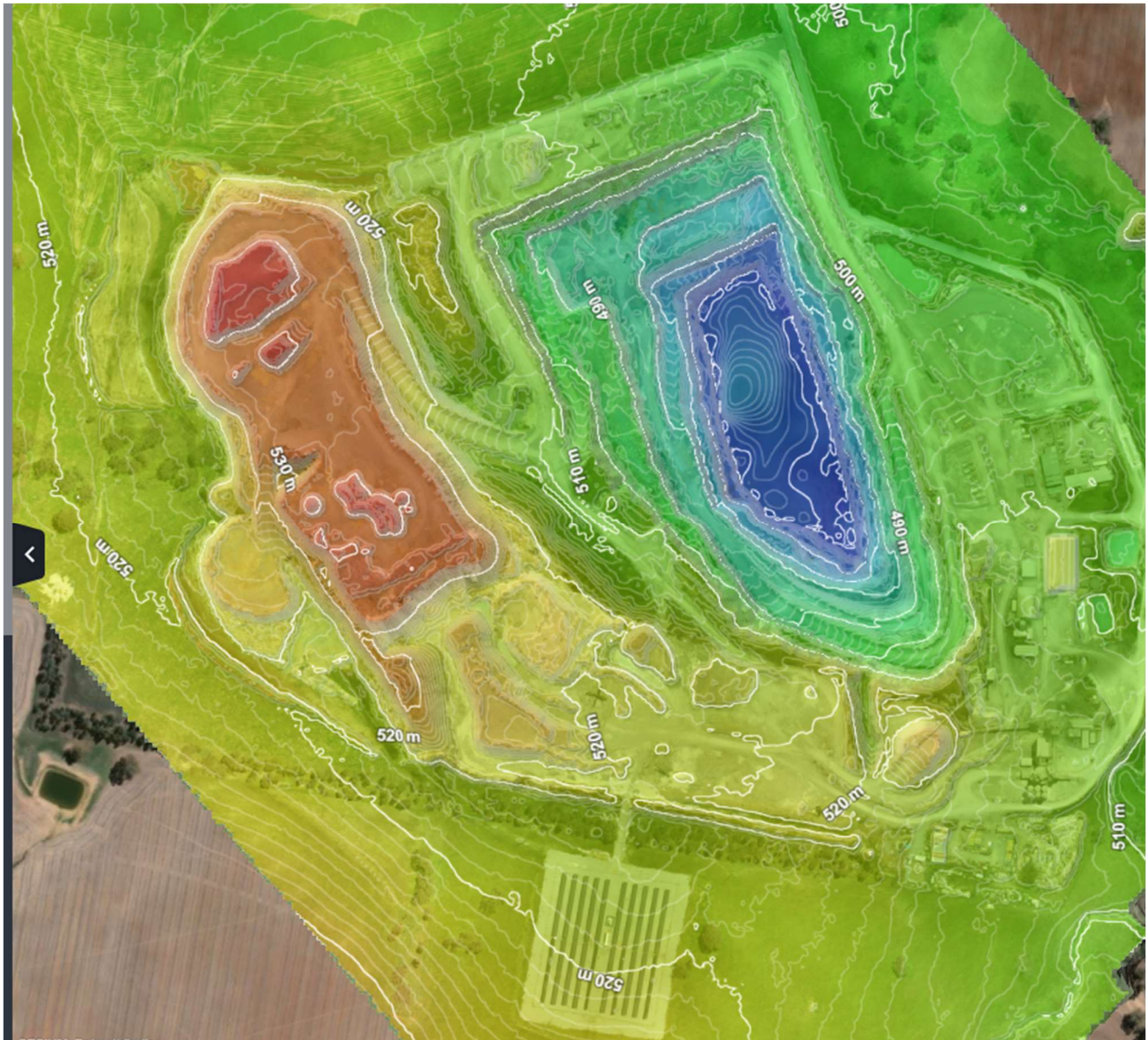
- Settling / Catchment Ponds 
- Coal Shed 
- Oil Storage Shed 
- 34,000l Diesel Tank 
- 65,000l Diesel Tank 
- Limestone Creek 
- Truck Loading Areas 

Appendix C – Areas Of Weeds



Source: Noxious Plants Certificate. Ref: Har_12449903. Southern Slopes Noxious Plants Authority. 24 November, 2014.

Appendix D – Site Plan



Appendix E – Monitoring Positions

Dust Gauges



SURFACE WATER MONIOTRING POINTS



PIEZO MONITORING POINTS



PIEZO MONITORING POINTS

