



Clearing and Grubbing Procedure

All Sites

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Authorisation

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1 Introduction

Clearing and grubbing (also known as pre-stripping) is an important step when preparing land to allow for mining and mining related activities. Clearing and grubbing involves the removal of all vegetation, organic matter and topsoil, which is stockpiled until such time as it is replaced during rehabilitation. Undertaking clearing and grubbing correctly is critical to maintaining seed viability and ultimately rehabilitation success and tenure relinquishment.

2 Purpose

The purpose of this procedure is to outline the minimum requirements when undertaking clearing and grubbing to ensure impacts to the environment are minimised and compliance with all regulatory requirements.

3 Scope

This procedure applies to all Atlas controlled sites and their activities, employees, contractors and visitors, and is subject to the requirements of the Atlas Health, Safety and Environment (HSE) Standards and applicable environmental legislation.

4 Definitions

Table 1: Definitions

Term	Definition
Atlas	Atlas Iron Pty Ltd
Change in land use	Change from one previously disturbed land use to another such as a change from borrow pit to workshop.
Clearing	As defined in section 51A of the EP Act, clearing means: (a) the killing or destruction of; or (b) the removal of; or (c) the severing or ringbarking of trunks or stems of; or (d) the doing of any other substantial damage to, some or all of the native vegetation in an area, and includes the draining or flooding of land, the burning of vegetation, the grazing of stock, or any other act or activity, that causes — (e) the killing or destruction of; or (f) the severing of trunks or stems of; or (g) any other substantial damage to, some or all of the native vegetation in an area.
GDP	Ground disturbance permit
Ground disturbance	Any change in land use or disturbance of ground including (but not limited to): clearing of vegetation, clearing of regrowth, driving off tracks, excavations, geotechnical investigations, drilling, installation of buildings, construction of roads, disturbance of rehabilitated areas.
Ground engaging plant	Equipment with ground engaging tools (GET)

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Term	Definition
Grubbing	Removal of stumps, roots and vegetation matter from the ground surface after clearing
InControl	Atlas' incident reporting system
Mature tree	Anything 2 m or higher
Mobile plant and equipment	All vehicles or mobile equipment including but not limited to: <ul style="list-style-type: none"> • Dump trucks, loaders, dozers, graders, excavators and rollers. • Mobile crushing and screening plants. • Drill rigs (exploration, production, water boring) and support vehicles. • Ground engaging tools (GET). • Rehabilitation equipment including seeders and tractors. • Pipe laying equipment. (excludes LVs, road trains and delivery trucks)
Native vegetation	As defined in sections 3(1) and 51A of the EP Act and Regulations, native vegetation means indigenous aquatic or terrestrial vegetation, and includes dead vegetation unless that dead vegetation is of a class declared by regulation to be excluded from this definition but does not include vegetation in a plantation (unless planted as required under this Act or another law, e.g., rehabilitation).
Riparian vegetation	Plant habitats and communities that are found along margins and banks of rivers and creeks. Note that most of these systems are ephemeral and may be dry at the time of clearing.
Shall	Mandatory.
Should	Highly desirable but not mandatory.
Subsoil	Soil below topsoil that is advantageous to recover where possible (between 200 and 500 mm), to help address likely site topsoil deficit and support rehabilitation activities.
Topsoil	Is the upper most layer of soil to be recovered to a minimum depth 200 mm where possible, which holds the highest concentration of organic matter and microorganisms, is an important soil seed bank and critical limited resource in support of rehabilitation. Topsoil depths vary across a site usually in association with landform.

5 Responsibilities

Table 2: Roles and responsibilities

Roles	Responsibilities
Environmental Advisor	<ul style="list-style-type: none"> • Undertake pre-clearing inspection to identify and delineate weed-infected areas (excluding exploration sites). • Undertake regular inspections during clearing to ensure sufficient depth of topsoil / subsoil is being recovered and stockpiled appropriately. • Install signage on topsoil stockpiles. • Manage topsoil stockpiles. • Document any non-compliance with this procedure.
Operator – person directly undertaking the ground disturbance activity	<ul style="list-style-type: none"> • Understand and comply with this procedure. • Understand and comply with all conditions of the approved GDP. • Understand and comply with the GDP Procedure.



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Roles	Responsibilities
Surveyor	<ul style="list-style-type: none">Record the locations of and volume of topsoil / subsoil / vegetation in each stockpile within the site topsoil register.
All employees and contractors	<ul style="list-style-type: none">Adhere to this procedure and any advice/instruction issued to them from the Environmental Advisor (or nominated responsible person).Report all incidents and non-compliance with this procedure to your Supervisor as soon as possible.

6 Procedure

6.1 Ground Disturbance Permit

Prior to any ground disturbance or change in land use (including but not limited to clearing of native vegetation, driving off tracks, earthworks/excavations, geotechnical investigations and drilling), a Ground Disturbance Permit (GDP) must be applied for and approved in accordance with the Ground Disturbance Permit Procedure. The purpose of the GDP is to ensure all ground disturbance is undertaken in accordance with Atlas standards and any regulatory requirements of the Project.

In the event of a difference between the guidance provided in this procedure and the conditions stipulated in an approved GDP, the conditions in the GDP take precedence due to their specific nature.

6.2 Weed Hygiene

All plant and equipment shall be certified as free of soil, seeds and organic material before entering site in accordance with the Weed Hygiene Procedure.

Weed-infested areas within the planned clearing area shall be identified and delineated in the field. All attempts should be made to ensure weed infested topsoil does not contaminate 'clean' topsoil.

Weed-infested topsoil shall be cleared and stockpiled separately and signposted as such.

6.3 Clearing and Grubbing

In accordance with Section 6.1, all clearing and grubbing should be undertaken in accordance with an approved GDP, which includes the delineation of GDP boundary prior to any works commencing.

When undertaking clearing and grubbing the following values should be actively avoided and conserved wherever possible:

- Mature trees. Where trees cannot be avoided, felling shall occur within the limits of the GDP boundary (i.e., felled tree must fall within the GDP boundary). All felled trees shall be retained for use in rehabilitation.
- Riparian vegetation (i.e., vegetation growing in association with a watercourse).

Clearing and grubbing shall:

- Only be undertaken by operators carrying a hand held GPS loaded with the relevant GDP data where machine control is not fitted to the machine.
- Only be undertaken in dry conditions (visibly dry surface) as wet topsoil becomes compacted and results in poor seed viability.



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- Not take place during a Total Fire Ban unless the appropriate exemptions have been obtained (this is the responsibility of the GDP owner under the GDP procedure). All clearing undertaken for exploration purposes should also comply with the Exploration Bushfire Management Plan.
- Ensure topsoil is stripped to minimum depth of 200 mm below the natural surface, where available, or unless otherwise stated in GDP conditions. Subsoil (i.e., deeper than 200 mm below natural ground), where available, should be stripped to a greater depth up to 500 mm where practicable, as soil is a critical limited rehabilitation resource across all Atlas sites. Harvested topsoil/subsoil shall not be used for the construction of windrows. For exploration drilling programs, topsoil, subsoil and vegetation may be pushed to the edge of disturbed pads for collection and stockpiling during post exploration mining activities.
- Only occur when appropriate controls are in place to manage rill, fly rock and sediment laden runoff to ensure material remains inside the GDP application area.

6.4 Topsoil, Subsoil and Vegetation Stockpiles

Topsoil, subsoil, and vegetation are critical resources that are used in the rehabilitation process. In order to protect these resources and their preserve their value in future rehabilitation, the following points shall be adhered to when stockpiling:

- Stockpiles shall be established in suitable locations to minimise haulage and handling, and as close to the original source as possible. Locations must be identified when preparing the GDP.
- Stockpiles locations shall be selected to ensure material is not subject to excessive surface water flows or wind erosion, in order to reduce material loss (i.e. not on the sides of hills or in drainage lines).
- Erosion controls shall be established around stockpiles where necessary.
- Stockpiles shall not be located where there is a risk of contamination, e.g. near sprayfield operations (biological contaminants) or blasting operations (fly rock and ANFO contamination)
- Topsoil shall be paddock dumped into stockpiles not exceeding two (2) metres in height. Vegetation and subsoil stockpiles may exceed 2 metres. Topsoil (first 200 mm) and subsoil (200 mm to 500 mm) shall be stockpiled separately and signed accordingly.
- Material (topsoil, subsoil, and vegetation) shall not be stockpiled in windrows or used to create windrows, and shall not be located adjacent to haul roads without additional protection (e.g. bunds).
- Topsoil stockpiles shall not be trammed over by tracked machinery for tidying-up purposes (i.e. flattening off). This is to ensure that seed viability within the topsoil is maintained. The bucket of an excavator may be used to gently flatten stockpiles instead.

6.5 Post-clearing

On completion of clearing and grubbing the Environmental Advisor (or nominated person) shall inspect the cleared area to confirm all available topsoil and/or subsoil has been recovered prior to any further works taking place (e.g., construction). No vegetation or organic matter should remain on the cleared surface (this indicates topsoil). The Environmental Advisor will also be responsible for signposting all stockpiles.

In accordance with the GDP and GDP Procedure once clearing and grubbing is complete a Surveyor (or nominated person) will then pick-up all cleared areas. The Surveyor (or nominated person) and will also record the volume of topsoil / vegetation / subsoil in each stockpile within the site topsoil register.



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6.6 Non-compliance

Any deviation or non-compliance to this procedure is considered an environmental incident and must be recorded in InControl, and investigated accordingly.

7 References

7.1 Internal Document References

Document Number	Document Title
950-EN-FRM-0002	Ground Disturbance Permit Form
950-EN-PRO-0006	Ground Disturbance Permit Procedure
950-EN-PRO-0015	Weed Hygiene Procedure

7.2 External references

External Reference (Legislation, Guidelines, Standards and Codes of Practice)
None