Management of Wood Chips on Public Land

Purpose

This directive provides information and direction to Alberta Sustainable Resource Development (ASRD) staff and industry operators on the management of wood chips. This directive does not apply to coarse woody debris (i.e., branch, bole, stumps etc).

This directive pertains to the surface application of wood chips and the mixing of wood chips with surface soils prior to soil salvage, storage and placement. This directive does not supersede legislation, regulations, guidelines or conditions placed on the disposition approval by other ASRD divisions or regulatory bodies.

Context

Mulching is used as a method of disposing and managing of woody debris in a number of situations including oil sands mining, in-situ development, geophysical operations, conventional oil and gas development, exploration for metallic and industrial minerals, and coal and oil sands exploration. The information in this directive applies to the above disturbance types, but is not limited to those listed.

Background Information on Mixing of Wood Chips and Management of Surface Wood Chips

Drivable Wood Fibre Surfaces

The use of wood fibre roads has been approved by ASRD with the provision that this material be removed at some point. Some material will likely be left in place when the roads are removed but there are currently no standards to give direction for how much material can be left in place. Procedures and guidelines regarding the use of wood fibre roads on public lands are outlined in the ASRD, Lands Division Information Letter 2008-06 Drivable Wood Fibre Surfaces Directive – see below

Negative Impacts of Wood Chips in Reclamation

Research suggests that wood chips, when mixed with soils, can interfere with plant growth through a number of mechanisms including nutrient immobilization (especially nitrogen) and decay of plant tissues which releases chemicals. Wood chip spreading on top of soils may act as both a physical barrier to vegetation emergence. It may also release chemical toxins which can impact aquatic life. Additionally, wood chips spread over a site at significant depths may result in prolonged frozen soil conditions which reduces evapotranspiration and consequently can affect vegetation recruitment and other biological processes.

Beneficial Use of Wood Chips

Beneficial use of wood chips includes but is not limited to the reduction of industrial footprint, erosion control and protection of the soil resource. The use of wood chips for drivable wood fibre surfaces may reduce the number of borrow pits required to create clay-based access roads. Cured (dried) wood chips may also be considered for use in livestock handling and management operations such as in corrals
and associated laneways. Prior to such consideration, the disposition holder must receive consent from the agricultural disposition holder, and the district officer must provide written authorization (Temporary Field Authorization [TFA]) to the disposition holder prior to work commencement.

**Woody Debris Management Options**

Coarse woody debris can form an effective surface amendment promoting micro topography, serving as a source of moisture storage during dry periods, and helping to control erosion. This can promote greater plant and animal diversity following reclamation only if the woody materials are left in their original state following salvage (i.e., as branch and bole materials). Consideration should be given to storing this material and spreading it on top of reclamation soils if volumes are not excessive. Mulching of excessive coarse woody debris may be done in a manner which does not produce large amounts of wood chips and dominantly leaves recognizable branch and bole material. Where volumes of coarse woody material are high, creating unacceptable wild-fire risk or where volumes may impede vegetation re-establishment, burning of the material remains a sound management option.

**Direction**

In order to ensure that woody debris on disturbed sites is managed such that reclamation outcomes are not affected the following shall apply:

- Wood chips shall not be mixed in with forest floor and/or surface soil.
- On areas where a disposition holder chooses to spread wood chips, the holder shall ensure that the wood chips do not impede revegetation and/or impact reclamation requirements as specified in applicable standards/guidelines/codes of practice/approvals. Additionally, if a disposition holder chooses to spread wood chips, the disposition holder shall ensure the wood chip depth does not exceed five centimeters (5 cm). Where there is excessive >5 cm wood chips accumulation, it must be documented and a rationale must be provided. Documentation must indicate how any potentially negative effects on soil thermal properties and/or vegetation establishment have been addressed.

Wood chips shall not be spread on tame pasture and native rangelands such as native grasslands, forests and riparian areas.

**Procedure**

If a disposition holder chooses mulching as method of disposing and managing of residual woody debris, then the disposition holder shall discuss this option with the Area office for approval at the planning phase and through the applicable process (e.g., Environmental Field Reports, Temporary Field Authorization). Lands considered for mulching and disposal of woody debris which includes an agricultural disposition must have consent from the agricultural disposition holder. Written authorization from an Area Forest Officer/Area Land Use Officer is required prior to commencement of work.

**Authorities**

Public Lands Act (PLA), Alberta Environmental Protection and Enhancement Act (AEPEA), Forest and Prairie Protection Act (FPPA), and part 8 of the Mines and Minerals Act (MMA).
Further Information

Alberta Sustainable Resource Development: srd.alberta.ca
See: Information Letter 2008-06 Drivable Wood Fibre Surfaces in Maps, Forms and Publications
http://srd.alberta.ca/MapsFormsPublications/Forms/LandsForms/InformationLetters.aspx

Contacts
Oil Sands Branch, Lands Division
11th Floor Baker Centre
10025 - 106 Street
Edmonton, Alberta T5J 1G4
Telephone: (780) 644-8943

Land Management Branch, Lands Division
3rd Floor Petroleum Plaza South
9915 - 108 Street NW
Edmonton, Alberta T5K 2G8
Telephone: (780) 427-3570

Approved

Original signed
Neil Barker, Executive Director
Oil Sands Branch, Lands Division
Alberta Sustainable Resource Development

Original signed
Glenn Selland, Executive Director
Land Management Branch, Lands Division
Alberta Sustainable Resource Development