

Chapter 2: SURFACE MINING AND DREDGE AND PLACER OPERATIONS

This chapter describes procedures for preventing and minimizing water pollution during construction and mining.

When locating the boundaries of a surface mine, a buffer zone of undisturbed riparian vegetation must be left between the area to be worked and an existing stream channel or live body of water. If this is not possible, a stream alteration permit will be required from the Idaho Department of Water Resources (IDWR). Consult the Stream Channel Alteration Rules and Regulations issued by the Idaho Department of Water Resources and the following BMP's:

- | | |
|--------------------------------|-----------------------------------|
| III.8 Stream Alteration | V.3 Vegetated Buffer Strip |
| | V.5 Brush Sediment Barrier |
| | V.7 Slash Filter Windrow |

During the initial site preparation-construction phase of any surface mining operation, limit the amount of unvegetated ground. Best management practices should be installed prior to construction to limit and control runoff from unvegetated areas. Refer to the following BMP's:

- V.1 Straw Bale Barriers**
- V.4 Silt Fence**
- V.5 Brush Sediment Barriers**
- V.6 Sediment Ponds**
- V.8 Log and Brush Check Dams**

Design of open pits should include measures which prevent surface water from entering the workings. This can be accomplished by minimizing development near surface waters or by diverting streams and/or other surface water around developed areas. There may be situations, after mining is completed, where allowing surface water to flow into a pit would be preferable to creating or maintaining diversions around the pit. If water enters the pit, it may act as a recharge area to ground water and filter out sediments. Refer to the following BMP's:

- III.1 Diversion Dike**
- III.8 Stream Alteration**

When mining begins, topsoil and overburden should be segregated and stockpiled for use in reclamation. Topsoil stockpiles that will not be used within a year should be graded and seeded to prevent wind and water erosion and to help keep nutrients in the soil. Limit unnecessary materials handling by locating stockpiles away from potentially affected lands.

Each phase of the operation should be reclaimed concurrently during mining. This will help reduce erosion and water quality impacts and will spread reclamation costs over the life of the mine. During operations, inspect and clean sediment control structures to maintain their efficiency. If the best management practices are not effectively controlling sediment, consider an alternative best management practice or series of best management practices.

Before mining operations begin and during mining, an operator must consider, and plan for, how the site will be reclaimed. Reclamation measures may include but are not limited to:

1. Open pits should be backfilled where economically possible. Fill the pit or quarry with waste material and regrade to blend with the surrounding contour. Benching or terracing should also be considered to break up long slope lengths and control erosion. Establish positive drainage so that stagnant water ponds will not be created in backfilled pits. Use available topsoil or similar productive material to prepare the pit surface for revegetation. Note: A six (6) inch deep layer of topsoil is the minimum for revegetation efforts; and a twelve (12) inch deep layer is preferred.

If it is not practical to backfill the pit, the benches should be maintained as they provide stable surfaces for vegetative growth. When possible, the benches should be ripped, topsoiled, and seeded. Refer to the following BMP's:

- | | | | |
|------|------------------|------|------------------------------|
| I.3 | Mulch-Straw | II.1 | Topsoiling |
| I.4 | Mulch-Wood Chips | II.2 | Seedbed Preparation |
| | | II.3 | General Planting and Seeding |
| | | II.4 | Broadcast Seeding |
| | | II.8 | Fertilizer Use |
| IV.1 | Serration | | |
| IV.2 | Benching | | |

2. Other surface mining operations should be recontoured to the approximate original contour, topsoil replaced and seeded. Refer to the following BMP's:

- | | | | |
|-----|------------------|------|----------------------------------|
| I.3 | Mulch-Straw | II.1 | Topsoiling |
| I.4 | Mulch-Wood Chips | II.2 | Seedbed Preparation |
| | | II.3 | General Planting and Seeding |
| | | II.4 | Broadcast Seeding |
| | | II.5 | Drill Seeding |
| | | II.6 | Vegetative Planting |
| | | II.8 | Fertilizer Use |
| | | II.9 | Maintenance of Revegetated Areas |