

OTTER CREEK MINE

EXHIBIT 308A: OPERATIONS PLAN

1.0 Introduction

Otter Creek Mine will utilize conventional surface mining and reclamation procedures and techniques, with adjustments in design and implementation to address site-specific considerations. This Exhibit includes:

- A general description of the surface mining and reclamation process;
- A detailed description of the initial mine development sequence;
- The general Operations Plan, including anticipated annual and total production of coal;
- A description of mine engineering techniques;
- Reference to other Exhibits addressing specific components of the Operations Plan; and
- Miscellaneous performance standards not addressed elsewhere in Subchapter 3.

2.0 General Discussion

The surface mining process includes the following steps, each of which is discussed below:

- Soil salvage and storage;
- Overburden drilling and blasting;
- Overburden stripping;
- Coal drilling and blasting;
- Coal loading and transport from the pit;
- Coal preparation and loading onto trains;
- Grading of excavated overburden (spoil) to the post-mining topography;
- Soil redistribution;
- Revegetation; and
- Surface and groundwater management.

2.1 Soil Salvage and Storage

Prior to any mining related disturbance, soil is salvaged for use in reclamation. As part of environmental baseline studies, a soil survey was conducted to determine the nature and quantity of the soil resource suitable for use in reclamation. Baseline Report 304L - Soils Report, includes a soils map, mapping unit descriptions, soils analysis data and soil suitability assessments, including physical and chemical limitations; Exhibit 313E – Soil Handling, describes soil salvage and replacement as a component of the reclamation plan.

Soil salvage is typically accomplished using scrapers, although other equipment may be utilized. Where practicable, the topsoil or “A” horizon is salvaged and stored separately from the subsoil (“B” and “C” horizons). Where the “A” horizon is very thin, eroded or poorly developed, and surface soil characteristics are conducive to plant growth, soil is salvaged in a single lift. Initially, salvaged soil is stored in stockpiles for later use in reclamation. Once mining has advanced to the point where graded spoil is available, salvaged soil is redistributed directly on graded spoil to avoid double handling and maximize regeneration of native plant species from living plant materials contained in the soil.

2.2 Overburden Drilling and Blasting

The overburden must be fragmented so that it can be excavated to uncover the coal seam. After soil salvage, blast holes are drilled through the overburden to the top of the coal seam on a pre-engineered spacing (or pattern) and loaded with explosives. Ammonium Nitrate and Fuel Oil (ANFO) and/or emulsion are the primary blasting agents. Blasting procedures are described in detail in Exhibit 310A – Blasting Plan.

2.3 Overburden Stripping

The primary overburden stripping machine is the dragline. Once the overburden is fragmented by blasting, the dragline uncovers the coal in long narrow pits, ranging from 150 to 250 feet wide based on pit geometry and may be up to several miles in length. The dragline bucket is pulled vertically on the digging face filling it with overburden; the machine then swings to the side and dumps the excavated overburden in the adjacent pit from which the coal uncovered in the

previous pass has been removed. The result is a series of parallel spoil ridges prior to implementation of reclamation procedures.

In thicker overburden areas, pre-stripping ahead of the dragline may be conducted. Pre-stripping will be performed using scrapers, dozers, or truck/loader or truck/shovel fleets. Other support equipment may be used to assist the dragline in the following operations.

Box Cut. The box cut is the initial cut where there is no adjacent empty pit in which to place excavated spoil. When a box cut is excavated using a dragline, spoil is placed on adjacent unmined ground. In deeper overburden, the dragline may not be able to reach the coal seam or have enough spoil room to place the spoil. At Otter Creek Mine, the thinnest overburden is nearly 100 feet, so the box cut may be established using a dragline, mobile equipment or a combination of equipment. Excess box cut spoil is placed in an out-of-pit storage area. Once the coal is removed, the empty box cut provides space for placement of spoil from the next cut.

Pre-Stripping. Where overburden depths exceed dragline digging capabilities, pre-stripping using mobile equipment is used to remove excess material to establish the overburden bench for cast blasting. The excavated spoil is hauled to the spoil side and dumped over dragline spoil peaks.

Interburden Stripping. In the southern part of the mine plan area, the Knobloch coal is split by interburden ranging in thickness from near zero up to 60 feet or more. In this area, the interburden is excavated and removed using mobile equipment, and placed in a nearby pit from which the coal has been removed, where it is covered by dragline spoil from the next pass.

2.4 Coal Drilling and Blasting

The coal must be fragmented by blasting so that it can be loaded into haul trucks using either a shovel or loader operation. The top of the coal seam is cleaned of remaining overburden using mobile equipment prior to drilling and loading of blast holes. Depending on the conditions, coal blasting may utilize emulsion, ANFO or a mixture of both as the blasting agent. Coal blasting procedures are described in detail in Exhibit 310A – Blasting Plan.

2.5 Coal Loading and Hauling

Depending on loading equipment utilized and/or coal quality management considerations, coal removal may occur by full seam thickness or by incremental benches. A shovel or loader(s) is used to load the fragmented coal into haul trucks for transport along the pit floor, up a ramp out of the pit and to the truck dump via the mine haul road system.

Ramp 1 will be constructed at the north end of the pit, and will have a “straight in” configuration to the pit bottom in order to access coal immediately as the dragline strips from north to south. This configuration will require a delayed reclamation zone up to 1000 feet wide and 2000 to 3000 feet behind the active pit in order to achieve the PMT with respect to re-establishing drainages to Threemile Creek. Ramps 2 and 3 will utilize “spoil side” ramps to avoid long perpendicular ramps and facilitate contemporaneous reclamation. The road system is described in Exhibit 321A – Transportation Facilities.

2.6 Coal Preparation and Shipment

The coal handling facility consists of truck dump, primary crushing system, secondary crushing system, conveyor galleries, silo storage, train loadout, and coal samplers. The flow sequence of the coal begins with haul trucks dumping the coal into the surge bin feeding the primary crusher to break up larger chunks. The coal is then conveyed to the secondary crushing system and then to an active storage facility where it is available for loading onto trains. Coal handling and mine facilities are described in Exhibit 308C – Mine Facilities; the rail loop and access roads are described in Exhibit 321A – Transportation Facilities.

2.7 Grading of Spoil

Spoils are graded to achieve the pre-engineered post-mining topography, which is discussed in Exhibit 313C – Backfilling and Grading. Backfilling may be supplemented by mobile equipment placing pre-stripped and/or stockpiled overburden spoil onto reclamation. Final grading is accomplished primarily by dozers and scrapers.

Grading begins as soon as sufficient areas of backfilled spoil are available, and continues contemporaneously with mining activities as the active pit advances across the landscape.

The backfilling and grading plan also incorporates design and construction of drainage basins to re-establish surface water drainage patterns and promote hydrologic balance. Please refer to Exhibit 313D – Reclamation of Drainage Basins.

Final pit closure plans are also included in the backfilling and grading plan. When the pit advance is no longer possible due to uneconomic overburden depth or adverse coal and/or surface ownership, the final open pit must be reclaimed to reestablish drainage patterns and facilitate the post-mining land use. Final pit backfilling is accomplished by a combination of grading of material from the highwall and spoil (low wall) sides, haulage of spoil from storage, and utilization of bluff extensions where feasible and consistent with regulatory requirements.

2.8 Soil Redistribution

Soil is redistributed in a manner to provide a suitable plant growth medium in order to achieve revegetation and land use objectives. Prior to soil placement, the graded soil surface is scarified to relieve compaction. Quantity, quality and placement of soil are discussed in detail in Exhibit 313E – Soil Handling.

Selectively handled overburden of suitable quality may be utilized to supplement soil thickness where indicated by graded overburden quality or revegetation goals. Exhibit 313F – Soil Testing Plan describes quality monitoring of graded spoil and soil and/or soil substitute.

2.9 Revegetation

The surface of redistributed soil is prepared and seeded using a diverse mixture of native plant species to achieve the predominant post-mining land use of grazing land. Introduced species will be utilized where the post-mining land use is pastureland. Land use goals are discussed in Exhibit 313A – Post-Mining Land Use. Seeding is supplemented with tree and shrub seedlings planted in suitable locations for wildlife habitat enhancement. Revegetation procedures, seed

mixes, monitoring and performance standards are discussed in Exhibit 313G – Revegetation Plan.

2.10 Surface and Groundwater Management

Control of surface drainage and pit dewatering is described in detail in Exhibit 314A – Protection of the Hydrologic Balance. Management of surface water runoff begins before initial mining disturbance by establishment of sediment ponds to capture and detain rainfall and snow melt runoff from disturbed areas. Initially, excavated ponds will be established along the Drainage Control Service Road (Map 8-Mine Plan) to control drainage from initial development and temporary spoil storage areas. Once the box cut is established, it will intercept all upstream drainage, and primary sediment control will be established in the box cut footprint.

Based on pre-mining hydrologic investigations, significant volumes of groundwater are anticipated in the box cut. Initial pit inflow will be removed by pumping and routed to an excavated pond in an unmined area within the mining area footprint. As ponds are established in the box cut backfill, they will be utilized for pit dewatering. These ponds will be designed to contain dewatering volume plus runoff up to a 100-year, 24-hour event without discharging. Initially, since runoff will be intercepted by the pit, ponds will be utilized primarily to contain pit dewater. As reclaimed watersheds are constructed in the reclaimed topography, runoff will become a larger component as pit dewater diminishes with the advancing pit. Dewater will be routed to ponds via ditches along the ramp roads.

3.0 Initial Mine Development

Initial mine development is sequenced to establish roads, ditches and incised sediment ponds to route and detain runoff for sediment control prior to further disturbance in affected watersheds. To the extent possible, roads and sediment ponds are contained within the mining footprint to minimize associated disturbance. Also, by locating roads and sediment ponds within the mining footprint, efficiency is enhanced by minimizing earth moving that does not uncover coal. Mine facilities are located away from Otter Creek in areas where runoff can be routed to the internal drainage control system.

Initial mine development is also designed and sequenced to minimize spoil placed in storage outside of the mining footprint. Excavation of the boxcut will employ mobile equipment and will be wide enough to allow sufficient room for haul back of boxcut spoils once the initial block of coal has been mined out. Please refer to Figure 1. This is possible because the loose spoil volume is not sufficient to fill the pit after coal removal. Spoil material will either be placed in out-of-pit storage areas, along the lowwall to minimize groundwater inflow or used to construct the Main Haul Road. A slot sufficient for placement of the first dragline cut spoil will be left in the boxcuts as illustrated in Figure 1.

The dragline will be erected concurrently with establishment of the box cut. The location of the dragline erection site will allow the dragline to begin digging with a minimum of deadheading. Also, the plan is flexible to allow additional mobile equipment stripping beyond the box cut if necessary pending completion of the dragline erection.

A detailed projected sequence for initial mine development is contained in Appendix A. This sequence is intended to demonstrate how the dual objectives of drainage control and mine pit development are to be achieved, but the actual development sequence may be modified to adjust to field conditions and timing considerations.

4.0 General Operations Plan

The mine plan is designed for a nominal production rate of approximately 20 million tons of coal annually for 17- 20 years, with total estimated recovery of about 320 million tons. Production is projected to ramp up in early years and downward in later years as mining is shifted to Tract 1 or 3. Coal recovery is addressed in detail in Exhibit 322A – Coal Conservation Plan. Actual annual production may vary considerably depending on market conditions and/or other business considerations.

Map 1 – Mine Sequence, shows the anticipated progression of mining by year. Any or all of these mining sequence estimates can, and likely will, be affected by: market fluctuations, shifts in mining areas necessary to maintain specific coal quality requirements, pit turns, and necessary operating changes identified by short range and long range planning. These situations are difficult to predict affecting the ability to develop a precise year-by-year plan. Mining activities will consequently expand and contract in reaction to current pit situations and market conditions. Due to this variability, the lines shown on the mining sequence exhibits are simply best estimates at the time of preparation of the exhibit. The annual report submitted for this permit will give notice of any operational adjustments for the applicable report periods and will refine sequence projections.

Major equipment types to be used to conduct the operations are listed in Exhibit 308B – Equipment List.

5.0 Engineering Techniques

Engineering techniques utilized in the planning and operation of Otter Creek Mine fall into the following categories:

- Mine Design and Permitting;
- Long Range Planning;
- Short Range Planning;
- Production Monitoring; and
- Allocation of Production.

All surveying, mapping and engineering functions utilize the North American Datum of 1983 (NAD 83) coordinate system.

5.1 Mine Design and Permitting

Engineering aspects of mine design and permitting are diverse and include the following:

Mine Design. Design of the mine plan includes coal and overburden volumetrics, pit layout, coal quality and equipment selection based on production rate and equipment efficiencies.

Volumetrics are quantified using three-dimensional mining software applications such as MinCom or Carlson. The volumetric model constructed for mine design is the starting point for long range planning during mine operation, discussed below.

Constructed Facilities Design. Design of constructed facilities includes elements of process, structural and civil engineering applications. Exhibit 308C – Mine Facilities, describes the facilities layout, function and capacity.

Transportation Design. Exhibit 321A – Transportation Facilities, includes design information for access roads, haul roads and the rail loop.

Drainage Control Design. Design information for ponds and embankments is included in Exhibit 315A – Ponds and Embankments. See also Exhibit 314A – Protection of the Hydrologic Balance.

Reclamation Design. Design of post-mining topography is addressed in Exhibit 313C – Backfilling and Grading. See also Exhibit 313D – Reclamation of Drainage Basins.

5.2 Long Range Planning

The long range mine operations planning function uses the basic mine design as its starting point, and typically looks at mine planning on one-year, five year and life of mine horizons, based on projected customer requirements, for the life of the mining operation. The plan utilizes three-dimensional volumetric modeling techniques to model and project soil, overburden, coal quality and coal volumes to be moved, as well as reclamation quantities and acreages. Volumetric data, in combination with equipment efficiencies form the basis for projecting equipment selection, employment staffing level, and ultimately, cost of production. The long range planning function prepares the budget projection, which is updated each year.

5.3 Short Range Planning

Short range planning utilizes the budget information to schedule equipment and manpower on a short-term basis, typically one month or less, to assure that coal is available to meet shipping

schedules. It is an ongoing process that schedules all aspects of the day-to-day operation of the mine.

5.4 Production Monitoring

Production monitoring involves regular monthly pit surveys, either on the ground using Global Positioning Systems (GPS) surveying instruments, or aerial photogrammetry. The purpose is to measure directly quantities of soil and overburden moved and volume of coal uncovered and mined during each monthly period. This information is fed back into the long-term and short-term planning functions to fine tune those processes, optimize performance and maximize efficiencies.

5.5 Production Allocation

Otter Creek Mine produces coal from a combination of State of Montana and private leases that are in a checkerboard pattern. Accurate allocation of coal production is required for determination of tonnage produced by lease and monthly payment of royalties. The first step is to obtain accurate surveys of lease boundaries, which are incorporated into the volumetric model. Data from monthly production monitoring is then utilized to calculate volume mined by lease and allocate it accordingly.

6.0 Miscellaneous Operational Components

The preceding narrative sections include references to several exhibits relevant to the Operations Plan. Following is a list of other exhibits not specifically referenced in these discussions.

- Exhibit 308D – Waste Handling and Disposal
- Exhibit 308E – Noxious Weed Management Plan
- Exhibit 311A – Air Pollution Control Plan
- Exhibit 312A – Fish and Wildlife Plan
- Exhibit 313H – Management of Bore Holes
- Exhibit 314A –Hydrologic Balance Protection
- Exhibit 314B - Hydrologic Monitoring
- Exhibit 315A – Ponds and Embankments

7.0 Miscellaneous Performance Standards

There are several performance standards under Subchapter 5 that have no counterpart in the application requirements of Subchapter 3. These are addressed below.

7.1 ARM 17.24.517 Slides and Other Damage

(1) The requirement for an undisturbed natural barrier, as approved by the Montana Department of Environmental Quality (MDEQ), to be provided beginning at the elevation of the lowest coal seam to be mined and extending from the outslope for such distance as may be determined by MDEQ as is needed to assure stability, is appropriate for contour stripping, but is not applicable to an area strip mining operation.

(2) Whenever a slide that may have a potential adverse effect on public property, health, safety, or the environment occurs, Otter Creek Coal, LLC (OCC) will notify MDEQ by the fastest available means and comply with any remedial measures required by the department.

7.2 ARM 17.24.518 Buffer Zones

(1) All mining activities, including highwall reduction and related reclamation, will cease at least 100 feet from a property line, permanent structure, unmineable or unreclaimable steep or precipitous terrain, or any area determined by MDEQ to be of unique scenic, historical, cultural, or other unique value.

7.3 ARM 17.24.521 Temporary Cessation of Operations

(1) OCC will effectively secure surface facilities in areas in which there are no current operations, but in which operations are to be resumed under an approved permit. The requirements of the approved permit will be observed during any period of temporary cessation.

(2) Before temporary cessation of mining and reclamation operations extends for a period of 30 days or more, or as soon as it is known that a temporary cessation will extend beyond 30 days, OCC will submit to MDEQ a notice of intention to temporarily cease mining and reclamation operations. This notice will include a statement of the exact number of acres that will have been affected in the permit area, prior to such temporary cessation; the extent and kind of reclamation of those areas that will have been accomplished; and identification of the backfilling, grading,

revegetation, environmental monitoring, and water treatment activities that will continue during the temporary cessation.

7.4 ARM 17.24.522 Permanent Cessation of Operations

(1) In the event of permanent cessation of operations, OCC will close or backfill and otherwise permanently reclaim all affected areas, in accordance with the Act, rules adopted thereunder, and the permit as approved by MDEQ. This will occur regardless of whether the permit has expired, or has been revoked or suspended.

(2) All surface and underground openings, equipment, structures, or other facilities not required for monitoring, unless approved by MDEQ as suitable for the post-mining land use or environmental monitoring, will be removed and the affected land reclaimed.

(3) Equipment needed for reclamation will not be removed from the mine until reclamation is complete.

7.5 ARM 17.24.524 Signs and Markers

(1) All signs required to be posted by OCC will be of a standard design throughout the operation that can be seen and read easily and will be made of durable material. Signs will not be placed where their visibility is reduced by parked vehicles, splashed mud, or other causes. The signs and other markers will be maintained during all operations to which they pertain and will conform to local ordinances and codes, where applicable.

(2) Signs identifying the mine area will be displayed at all points of access to the permit area from public roads and highways. Signs will show the name, business address and telephone number of the permittee, identification numbers of current mining and reclamation permits and the mine safety and health administration identification number for the site, and, if the operation is conducted by a contractor, the name, business address and telephone number of the person who conducts the mining activities. Such signs will not be removed until after release of all bonds.

(3) The perimeter of the permit area will be clearly marked by durable and easily recognized markers or by other means approved by MDEQ. Each marker will be visible from each adjacent

marker, or markers will be joined by fencing or other durable means approved by MDEQ. Such markers will be designed so that their visibility will not be reduced in general by operation of equipment, weather effects, and other normally occurring effects. The markers will be in place before the start of any mining activities.

(4) Boundaries of buffer zones will be marked separately and distinctly from perimeter markers wherever the boundaries of both do not coincide. Wherever the boundaries do coincide, only perimeter markers will be used.

(5) Signs reading "Blasting Area" will be displayed conspicuously along the edge of any blasting area that comes within 50 feet of any road within the permit area, or within 100 feet of any public road right-of-way. OCC will also:

(a) conspicuously flag, or post within the blasting area, the immediate vicinity of charged holes; and

(b) place at all entrances to the permit area from public roads or highways conspicuous signs that state "Warning! Explosives in Use" and that clearly explain the blast warning and all clear signals in use and explain the marking of blast areas.

(6) Where soil or other vegetation-supporting material is segregated and stockpiled, the stockpiled materials will be clearly marked. Markers will remain in place until the material is removed.