

Source:

Moffatt & Nichol 2009. Capitol Lake Alternatives Analysis Dredging and Disposal Addendum.
Section 2.4, page 10

2.5 Reclamation at the TransAlta Mine Pit

The TransAlta mine pit has the capacity to take up to 50 million cubic yards of dredged material, based on discussions between Moffatt & Nichol staff and representatives of TransAlta. Considerations for material placement at the TransAlta mine pit are similar to those for the Lakeside Industries quarry in Centralia, which was discussed in the *2008 Dredging and Disposal Analysis*. Material to be used for mine reclamation would be mechanically dredged from Capitol Lake, transported onto gondolas, and transported by rail to the placement site. Two differences between the TransAlta mine and the Lakeside Industries quarry have been identified:

- The Lakeside Industries quarry reclamation site only accepts material capable of being reworked by bulldozer. This limits the acceptable water content of the material: the *2008 Dredging and Disposal Analysis* assumes cement-based solidification / stabilization. This is not a requirement for the TransAlta mine pit.
- A rail spur must be constructed for both sites to allow direct unloading of the gondolas. This rail spur would be longer, and therefore more costly, at the TransAlta mine (10,000 feet versus 5,000 feet at Lakeside Industries, at a cost of \$2.2 million versus \$1.1 million).

Disposal costs are similar for the two sites. The cost differences are relatively minor: approximately 10 percent difference for initial lake dredging, with the TransAlta mine pit being less costly. Table 3 provides a cost breakdown for this case, based on a dredge volume of 875,000 cubic yards.

Table 3. Cost of Mechanical Dredging to TransAlta Mine Site: Lake Alternative

Item	Unit	Qty	Unit Cost	Extended Cost (millions)
Mobilization/Demobilization	LS	1	\$1.3M	\$1.3
Temporary transfer docks	SF	3,000	\$200	\$0.6
Rail spur	LS	1	\$2.2M	\$2.2
Daily operation costs	DAY	550	\$46,400	\$25.5
Disposal, reclamation site, includes rail haul	CY	875,000	\$14	\$12.3
Construction Cost				\$41.9
Contingency (30%)				\$12.6
WSST (8.5%)				\$3.6
Total Cost				\$58.0

This corresponds to a unit cost of \$66 per yard – which again compares favorably with the units costs for other options considered in the *2008 Dredging and Disposal Analysis*.