

8.1. INFRASTRUCTURE--CAPITAL COSTS

8.1.3. LOADING FACILITIES

8.1.3.1. LOAD-OUT FACILITIES

Load-out facility capital costs are based on the equipment needed to transport, store, and load-out for shipment concentrates from a mill via truck or train. Total storage capacity is equal to 2 days production of the concentrate from the mill. The load-out facility capital cost includes all costs associated with acquisition and installation of conveyors, storage bins, and bucket elevators. This curve is chiefly applicable to low-grade deposits, such as copper or molybdenum deposits. As such, it will cover operations which mine between 2,000 and 60,000 mt of ore per day. The total capital cost is based on a single cost curve having on a production rate (X), in metric tons of concentrate transferred from a mill to storage bins in a 24-h period. The curve is valid for operations between 150 and 1,500 mtpd, operating one shift per day.

BASE CURVE

The load-out facility capital cost derived from the curve is a combination of the following costs:

Construction labor cost.....	11%
Construction supply cost.....	31%
Purchased equipment cost.....	58%

A typical breakdown of the load-out facility's major cost components is

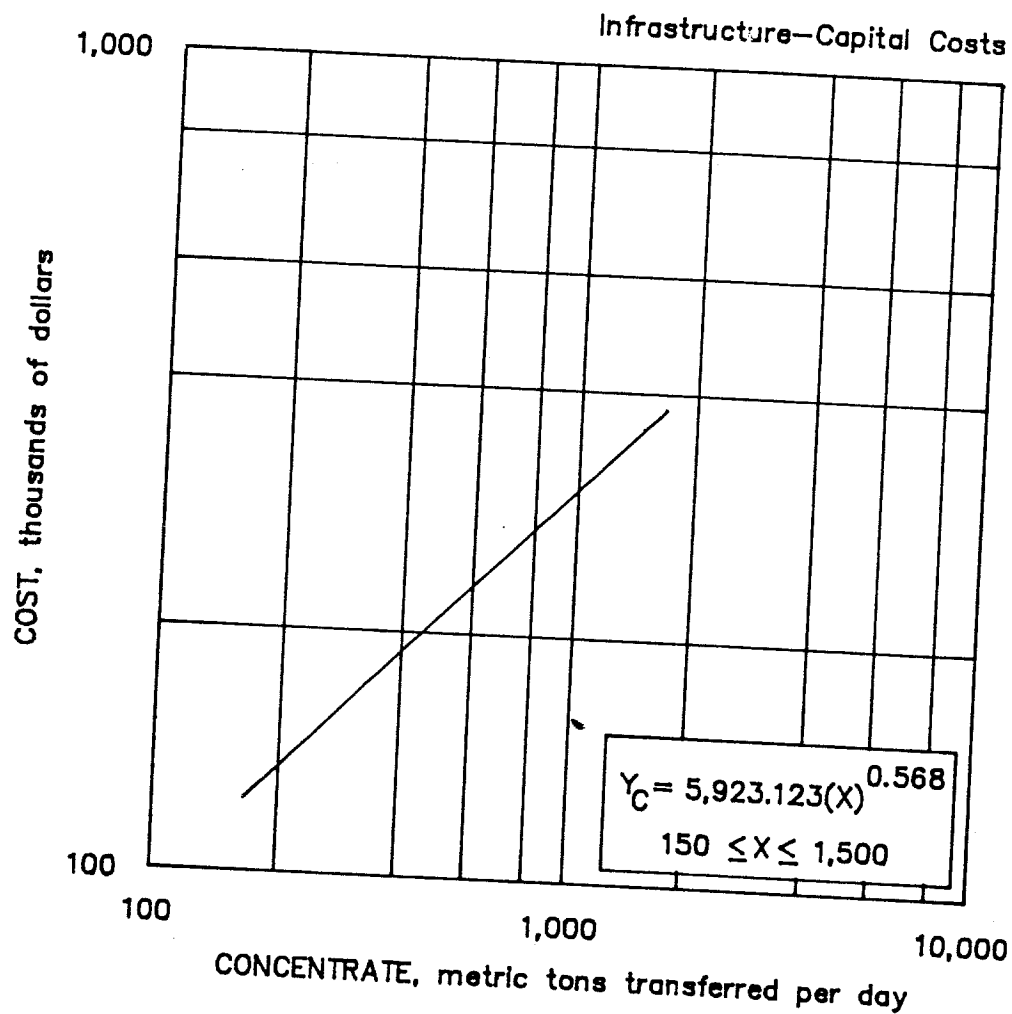
Bins and activators.....	78%
Bucket elevators.....	7%
Conveyors.....	15%

The total load-out facility capital cost is $(Y_C) = 5,923.123(X)^{0.568}$ and is distributed as follows:

- (L) Construction labor cost $(Y_L) = 651.543(X)^{0.568}$
 (S) Construction supply cost $(Y_S) = 1,836.168(X)^{0.568}$
 (E) Purchased equipment cost $(Y_E) = 3,435.411(X)^{0.568}$

ADJUSTMENT FACTOR

Secondary Concentrate Loadout Milling operations often recover and concentrate secondary minerals such as molybdenum and uranium. The quantities recovered are seldom large in comparison to the primary mineral, running between less than 1 up to 125 mt per day. The basic facilities used for loading out such material usually consist of a small storage bin, a vibrating conveyor for filling 37 to 55 gal drums, a roller conveyor for transporting drums, and a fork-lift for loading drums into trucks or rail cars. These types of facilities are not included in this cost curve. If such operations occur at the proposed mill, the curve must be adjusted accordingly.



8.1.3.1. Loading facilities
LOAD-OUT FACILITIES

8.1. INFRASTRUCTURE--CAPITAL COSTS

8.1.3. LOADING FACILITIES

8.1.3.2. OFF-LOADING FACILITIES

Off-loading facility capital costs are based on installation of equipment used in transporting ore from a reception point to storage bins adjacent to the mill during a two-shift-per-day operation. Storage capacity is between 800 and 12,000 mt of ore. Examples of the types of material stored would be coarse metallic ore, crushed limestone, and coal. For situations where larger storage facilities are needed, see the section 8.1.2.3., stockpile storage facilities. Off-loading facility capital costs includes all costs associated with acquisition and installation of the conveyors, feeders, and storages bins required for this task.

The total capital cost is based on a single cost curve having on a production rate (X), in metric tons of ore off-loaded and stored in bins for use by the mill per day. The curves are valid for operations between 800 and 12,000 mtpd, operating two shifts per day.

BASE CURVE

The off-loading facility capital cost derived from the curve is a combination of the following costs:

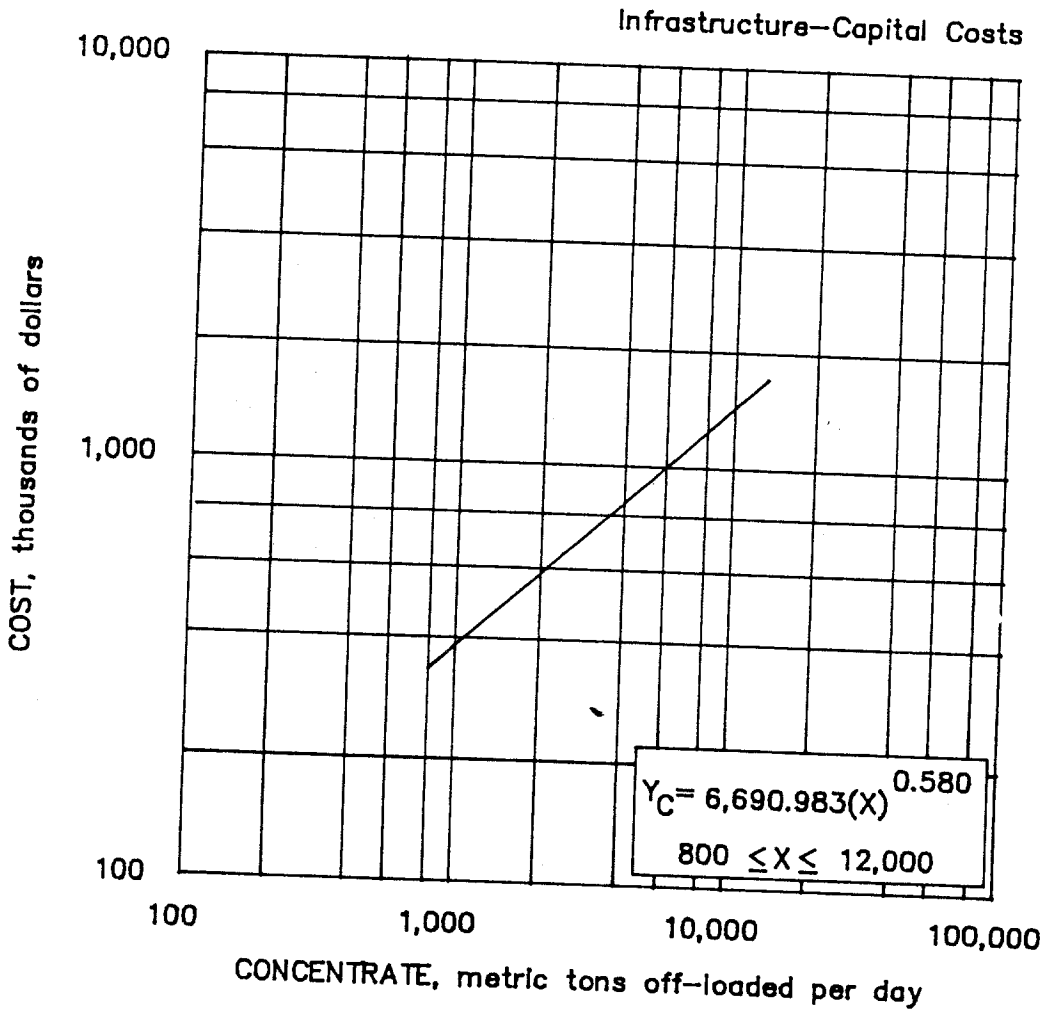
Construction labor cost.....	43%
Construction supply cost.....	45%
Purchased equipment cost.....	12%

A typical breakdown of the off-loading facility's major cost components is

Bins and activators.....	84%
Conveyors and feeders.....	13%
Ramps and retaining walls.	3%

The total off-loading facility capital cost is $(Y_C) = 6,690.983(X)^{0.580}$ and is distributed as follows:

(L) <u>Construction labor cost</u>	$(Y_L) = 2,877.123(X)^{0.580}$
(S) <u>Construction supply cost</u>	$(Y_S) = 3,010.942(X)^{0.580}$
(E) <u>Purchased equipment cost</u>	$(Y_E) = 802.918(X)^{0.580}$



8.1.3.2. Loading facilities
OFF-LOADING FACILITIES