

## Limestone Property Evaluations. (1)

## 1. Dahi Lake Quarry (acid neut. 19.9 meq HCl/g)

- a) Location: <sup>38</sup> ~~5~~ Km west of Prince George
- b)  $\frac{1}{4}$ " reject material quoted at \$4.40/t.
- c) Minimum hauling price \$13.75/t (Motorways).  
Maximum hauling price \$20/t (Kode Contracting).  
Average hauling price \$20/t.
- d) Quarry open May 1 - Oct 31, 7:30 am - 4:30 pm.
- e) For Equity requirement of 8000 t/yr, annual cost would be 160,000.00 + 35,200 ~ 200,000.

Used 95% pure 1" -  $\frac{1}{4}$ " washed & screened.

$$\begin{aligned} & \$13/t = \$104,000/yr + \$20/t \text{ hauling} = 160,000 \\ & \text{Total cost } \$264,000.00 \text{ at } 8000 \text{ t/yr lime} \\ & \text{consumption (95\% - 98\% pure limestone).} \end{aligned}$$

2. Terrace Limestone Quarry: ~~AMD Claim~~ (acid neut 19.0 meq HCl/g).

- a) Location: 10 km east of Terrace on Copper Mountain.
- b) Good limestone but cross-cut by andesitic dykes; estimate 1-3% dyke material.
- c) Drilling and blasting cost estimates:  
\$2.50/t based on avg. cost of \$5 to \$7 per cubic meter. Cost \$20,000 to break 8000 t per year.
- d) Initial costs and obstacles:
- i) Upgrading of existing road
  - ii) Negotiations with B.C. Tel to remove <sup>power</sup> cable buried under road
  - iii) Purchase of truck to haul limestone to bottom of Copper Mountain
  - iv) Storage facilities at bottom of Copper Mountain:
- v) Hauling of limestone to minesite: 300 km at

estimated cost of ~~20/t~~ 20/t AT 8000t (2)  
per year, cost is \$160,000.

vi) Mining of limestone could only occur during  
~~summer months~~ June to end of Nov.

vii) AT requirement of 8000t/yr, cost is  
\$2.50 + \$25 per tonne plus initial capital  
cost of drill + truck + storage.

Yearly cost is \$220,000 excluding  
truck and drill

3. Carl Szydlik limestone (and neut. 18.5 meq HCl/g)

a) Location: within 1 or 2 km of Topley. Granite road.

b) Assume Motorways hauls rock at \$250 per round  
trip (\$14/t). AT 8000t/yr, cost is \$112,000/yr.

c) Tonnage of property is unknown.

d) Drilling and blasting costs:

\$2.50/t based on avg. cost of \$5 to \$7  
per cubic meter = \$20,000 per year.

e) Requirements

i) Property option negotiations with Carl Szydlik.

ii) More neutralization tests

iii) Tonnage determination.

f) Estimated cost \$20,000 + \$112,000  
= \$132,000.

4. Marl property: Paul Wadsworth (acid neut. 17.8 meq HCl/g)

- a) Location: 2 km north of Ritchie, north side Skeena River.
- b) No drilling and blasting required.
- c) Estimated 70,000 t of marl. This must be confirmed by exploration drilling.
- d) Negative factors:
  - i) Extensive drying of material necessary
  - ii) Swamp must be drained.
  - iii) On-site storage facilities must be built
  - iv) Material may be too fine-grained, to use.
  - v) Material must be kept dry at minesite.

5. CART Claim: Fulton Lake (avg acid neut 16.1 meq HCl/g)

- a) Location: 12 km NE of Fulton Lake. Owned by Equity.
- b) Drilling and blasting costs  
 $2.50/t$  based on avg cost of \$5 to \$7 per  $m^3$  ~~\$20,000 per year~~ + \$1/t loading & misc
- c) Hauling: est ~~\$8/t~~ ~~MT~~ ~~for 8000 t/year~~  
 $\frac{20 \times 700 \text{ km}}{325 \text{ km}} = 6.15$  say \$8/t
- d) Requirements:
  - i) Additional mapping and testing.
  - ii) Initial tests indicate neutralizing potential may be too low.

e) Avg yearly cost: ~~\$20,000~~ \$8/t + \$2.50/t + \$1.00/t = 11.50/t = \$92,000.

6. Fulton Lake Limestone (Lid Westgarde). (acid cont. 15.71 meq HCl/g).

Not considered. due to low neutralizing capability.

7. Purchase of a vertical calcining unit for estimated cost of Can. 5,000,000.

a) Should be considered if limestone usage is to be sustained for more than 5 years

\$132/t → 4500/yr  
→ \$600,000 & costs in for lime.

~~\$5,000,000~~  
264,000 ~~160,000~~ + \$240,000 to burn

~~Take 4 years~~  
\$500,000  
Cost ~~\$400,000~~ /yr to make lime.  
= ~~\$200,000~~ /yr \$500,000 \$100,000/yr  
50  
Take ~~35~~ yrs to payback  
caliner Probably ~~35~~ 50 yrs  
to make payback.

Costs for environment: \$1.1 million /yr.  
At 5% interest, bond size  
would be  $\frac{100 \times 1,100,000}{5} \rightarrow 22,000,000$

However By Reducing Cost By 200,000/yr Bond Size  
would be  $\frac{100 \times 900,000}{5} = 18,000,000$  THIS REPRESENTS  
A SAVING OF 4,000,000 IN BOND @ TERMINATION OF OPERATIONS.  
\* IS SUFFICIENT TO COVER KILN INSTALLATION.

Assume 8000 t/yr requirement

| Property    | acid react<br>meq HCl/g | Drilling+Blasting | Hauling | Extra               | Comments | Total<br>Cost |
|-------------|-------------------------|-------------------|---------|---------------------|----------|---------------|
| Dahl LK     | 19.9                    | N/A               | * 20/t  | * 4.40/t<br>loading |          | * 195,200     |
| Terra<br>Ls | 19.0                    | 2.50/t            |         |                     |          |               |