

Being a good neighbour

Mining operations sometimes get a bad rap for being dirty and noisy places, but nothing can be said along those lines about Construction Aggregate's 405-hectare gravel pit near Sechelt, B.C. (about 50 kms northeast of Vancouver) where great effort is made to ensure that nothing harms the environment. In fact, nothing goes to waste. Even the tree stumps are given to the Department of Fisheries and Oceans for stream enhancement projects.

Construction Aggregates Limited (CAL), part of the worldwide Heidelberg Cement Group, has won a number of community, reclamation and environmental awards for the gravel pit it operates in this small community on B.C.'s scenic Sunshine Coast.

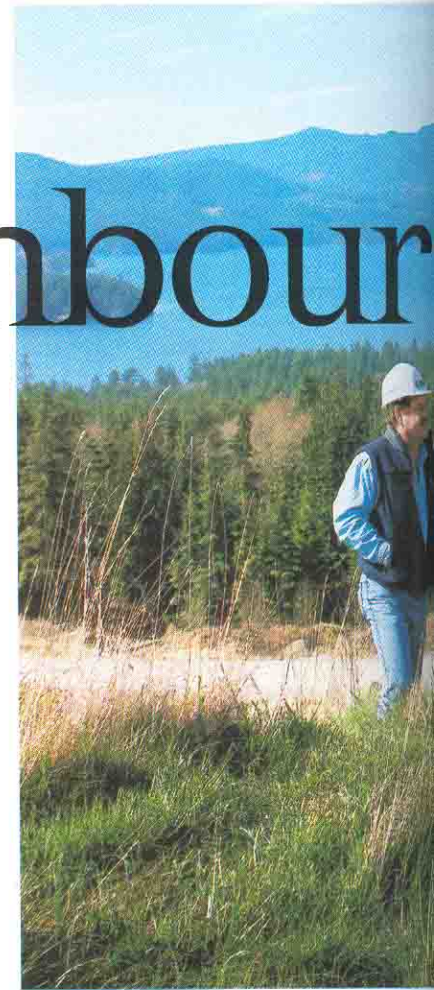
The awards the company are proudest of are the 1998 B.C. Ministry of Environment award for 'Ecological and Sustainable Approach to Mining and Reclamation,' and the 2000 Reclamation Citation from the

Technical & Research Committee on Reclamation, a provincial reclamation association.

Over the last five years, CAL has formed a strong relationship with Sylvis Environmental and together they have pioneered mine reclamation techniques using wastewater effluent and biosolids from the communities of Sechelt and Gibsons (population about 15,000), and pulp-mill biosolids from the nearby Howe Sound Pulp & Paper mill.

"We recycle about 95 per cent of all the water that we use and we also use all the surface runoff that we are required to collect. We are aiming to be free of the local water supply by December, 2002," says mine manager Chuck Cookney.

The ambitious mine reclamation program started around 1995 when the town of Sechelt approached CAL to see if it would be interested in using wastewater effluent from the nearby treatment plant for washing its gravel. The Department of Health wouldn't allow the use of domestic

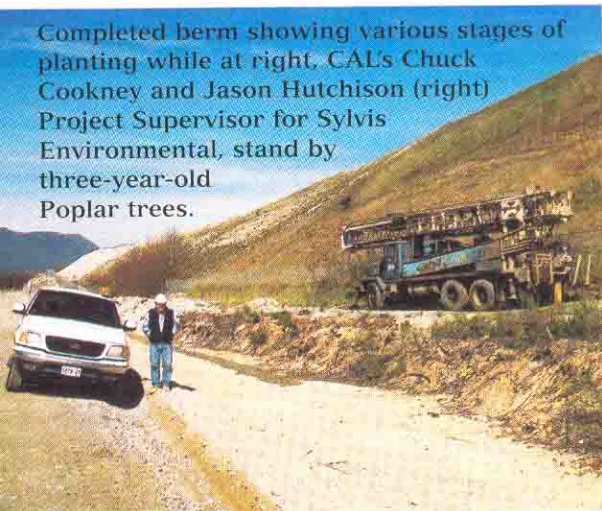


wastewater effluent for washing gravel because mine employees would come into contact with it. The other downside was the potential for introducing organic contaminants into the high quality concrete aggregate that is mined at this pit.

A couple of years later, in 1997, Sylvis Environmental approached both Canadian Forest Products (CANFOR) and CAL to facilitate an experiment whereby an inactive part of the mine would be used in a reforestation project using locally generated residuals for nourishing the plants. Sylvis planned to use the pulp mill biosolids to fertilize a popular hybrid tree farm eventually to be used for making high quality pulp.

The BC Mines office had granted permits for the experiment, but provincial funding was not secured so the tree farm that CANFOR and Sylvis proposed did not come to bear.

Between the Sechelt and CANFOR proposals, however, the man-



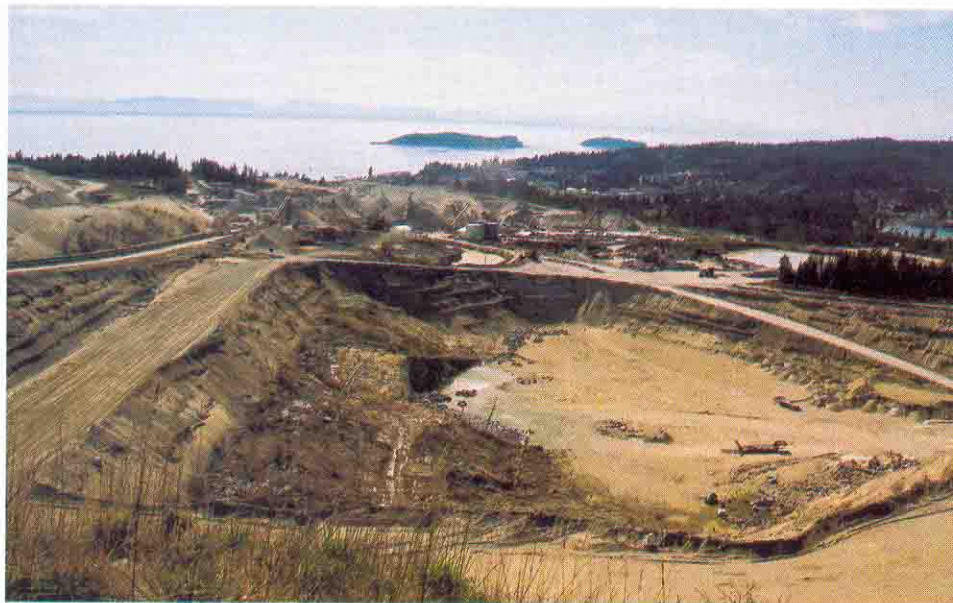
Completed berm showing various stages of planting while at right, CAL's Chuck Cookney and Jason Hutchison (right) Project Supervisor for Sylvis Environmental, stand by three-year-old Poplar trees.



Mine Manager Chuck Cookney (left) overlooks the gravel pit from one of the many reclaimed berms surrounding the site. Photo on right shows overall setting of the pit.

agement at CAL decided there was enough expertise, community interest and support to go ahead with their own land reclamation projects involving biosolids and wastewater.

“All we are required to do here, in terms of reclamation, is to slope, seed and fertilize the cuts with a chemical product. What we have chosen to do, however, is over and above the require-



ments. It costs about five to six times more because the wastewater and biosolids that we use for irrigation and fertilizer is waste that must be properly managed. Through seismic investigations we know that we have at least 240,000,000 million tonnes of reserves. We mine about 5.2 to 6 million tonnes a year and we have permits in place until 2038, so it's important to be a good neighbour in this community,” says Cookney.

Without these initiatives, all of the biosolids would be disposed of in landfills and the wastewater effluent would be discharged to the ocean.

The reclamation projects fit loosely into one of four categories; 1) reclamation around the plant site done solely to reduce the noise and the visual impact to Sechelt, 2) overburden berm reclamation around the active areas of the mine, 3) mine waste dumpsite reclamation, and, 4) development of a mini hybrid poplar tree farm.

The slopes in the first three cases described above are prepared in much the same way. They are dressed conventionally at 2:1, and that's where convention ends.

Local high school students are paid contractors' rates (minus the supervision costs) to run up and down the slopes which creates depressions where the biomix that is cast down from the top of the slope will collect.

The biomix is a secret recipe that includes pulp mill biosolids, mine waste and other goodies. The slope is then seeded and irrigated with effluent from Sechelt and Gibsons. They use a grass with a broad root system that stays short and green. For now they have settled on sheep's fescue.

Other grasses they experimented with worked well but didn't stay green after the first year, and when you're trying to keep the neighbours happy, aesthetics is everything. They are currently experimenting with native grass species.

The tree farm areas are treated a little differently. Tree whips are planted in a foot of biomix, the area seeded and irrigated with wastewater effluent. Here short grass becomes really important because in long grass, the voles that attack the

saplings can hide from the eagles and other raptors that would otherwise take care of the problem.

The Sechelt pit has a number of eagles that fly around the mine because of the nearby dumpsite and they are welcome visitors as evidenced by the several manmade eagle's nests around the pit's edges.

So far there are about 1,600, one-year-old trees and about 800 three-year-old trees. The trees are expected to be marketable for their white



A custom-built, off-road truck is used to spread a reclamation mix throughout CAL's property.

fibers at about nine to 12 years old.

“Revenue generation isn't our prime objective here. As with any agricultural endeavour, there are no guarantees anyway,” says Cookney.

“We're not really interested in becoming tree farmers, but if it takes off we will probably enter into a long-term arrangement with a management contractor for the tree farm.” ♦