

889592

(7)

→ Willow CK.

JOS  
02.6/97

# VOLUME I - REPORT

## Willow Creek Project Report



Prepared for:

# PINE VALLEY COAL LTD.

AUGUST 1997

Prepared by:



**NORECOL DAMES & MOORE**

A DAMES & MOORE SUBSIDIARY

**NorWest**  
Mine Services Ltd.



**PITEAU ASSOCIATES**  
GEOTECHNICAL AND  
HYDROGEOLOGICAL CONSULTANTS

## PROJECT ECONOMICS AND SCHEDULE

*45 km W of Chetwynd*

Coal production will be in the order of 900,000 metric tonnes per year with a mine life (projected from 1997 reserves) of 15 years. The number of employees required for construction will be 50 to 70 and for operation 100 to 120. Economic benefits will include capital spending of approximately \$20 million to build the mine, plant and infrastructure, total taxes payable over the projected mine life of \$57 million, employment of 2502 person years, and gross revenues of approximately \$270 million.

The project development schedule calls for project approval by February of 1998, preliminary timber removal during winter of 1998 (February - March), pre-stripping for open pit operation and construction of the wash plant in spring and summer of 1998. Operation is targeted to begin prior to the end of 1998. Mine life is presently estimated at 15 years, with potential to extend.

## GEOLOGY

The Pine Valley Property covers a series of large-scale, northwesterly trending anticlines and synclines that expose the coal seams of the Gething Formation. The Pine Valley Property is centred around the Pine River Anticline and the Fisher Creek Syncline, a pair of large-scale, southwesterly plunging concentric folds. These folds, and the subsidiary folds on their flanks, bring the coal seams of the Gething Formation to the surface in the various mining areas. In northeastern British Columbia, the Gething Formation coals, particularly those in the upper part of the Formation, are generally suitable for use as metallurgical (coking) coals. The rank of the Gething Formation coals range from low-volatile to high-volatile A bituminous, determined by vitrinite reflectance and proximate analysis of coal samples. For most of the coal seams, the sulphur content of 1.7 SG floats is between 0.5% and 0.75%.

## MINING

Mining will be conducted in two areas, designated north and central. Open pit methods will be used. Results from the block modelling process indicated the Willow Creek project, including both the North and Central mining regions, has a mineable reserve of 15,652,000 run-of-mine tonnes (romt) of coal with 58,810,000 banked cubic metres (bcm) of rock. The resulting average run of mine (ROM) coal stripping ration is 3.76:1 (bcm:romt). Typically the proposed sequence of mining within each mining phase will be from north to south. This is to take advantage of gravity with respect to the waste haul, and to maximize internal backfilling opportunities. Internal backfilling of mined-out pits during the scheduling of waste disposal has been maximized. For those areas where internal backfilling is either not possible or practical, external dumping areas have been identified. Wherever possible, these external dumping areas have been utilized for access purposes in order to prevent unnecessary road construction and to minimize the total disturbance area.

### **1. Impacts on industry output**

The Project is expected to impact industry output in the BC economy by over \$400 million during its fifteen year duration. The direct and induced effects arising from expenditures on wages and benefits are expected to total approximately \$140 million. Expected direct and indirect effects from other production inputs total over \$180 million and those arising from operating surplus near \$85 million.

### **2. Impacts on GDP**

The Project is also expected to impact the GDP of BC's economy by over \$90 million over the course of its operation. Direct and indirect effects expected from expenditures on wages and benefits total \$53 million while those from operating surplus total \$40 million.

### **3. Impacts on employment**

In terms of employment benefits, the direct and indirect impacts of jobs created by the project are expected to total approximately 2,500 person years of employment over the course of its operation.