

W.A. No. ....

NAME ..... J E L

SUBJECT ..... EXTERNAL PUBLICATIONS

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PROPERTY FILE

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THE J & L PROJECT  
SOUTHEASTERN, BRITISH COLUMBIA  
CANADA

SELCO DIVISION-  
BP RESOURCES CANADA LIMITED/  
PAN AMERICAN RESOURCES INC.  
JOINT VENTURE

PROPERTY FILE

## J & L PROJECT - B.C., CANADA

### INTRODUCTION

BP's wholly owned subsidiary, Pivak Explorco Limited, optioned the J & L property in April of 1982. Investigations began in the summer of 1982 with an initial program of an airborne geophysical survey and surface mapping and rock chip sampling. This was followed, during 1983 and 1984, by an underground exploration program which included mapping, sampling and diamond drilling and additional surface mapping, sampling, prospecting and geophysics as well as environmental monitoring and metallurgical testing.

### LOCATION

The J & L property is located approximately 32 air kilometres north of the town of Revelstoke, at latitude  $51^{\circ}-17'$  N and longitude  $118^{\circ}-08'$  W.

Present, year round, access to the property is provided by 35 kilometres of paved road (Highway 23) from Revelstoke and hence by 11 kilometres of rough bush road. The site is close to two major hydroelectrical installations and Revelstoke lies astride the Trans Canada Highway and the C.P.R. main rail line connecting Calgary and Vancouver. Existing environmental studies suggest that a mining operation at the J & L would have a minimal impact on the environment.

OWNERSHIP

The property consists of 10 crown granted mineral claims and 28 claim blocks with 285 claim units encompassing some 7300 hectares. Pivak Explorco Limited of Toronto is the registered owner. The property has been explored as a joint venture between Pivak and Pan American Resources Inc. of Vancouver.

GEOLOGY

The gold-silver-lead-zinc-arsenic bearing Main Zone at the J & L is hosted by northwest trending, east dipping metasediments and sediments of the Hamill Group, Lower Cambrian age. Essentially, the mineralized zone, which is comprised of galena, sphalerite, arsenopyrite, lead-antimony sulphosalts, pyrite, quartz and sericite, is found within vitric and phyllitic quartzites and shows a close spatial relationship to structurally underlying grey banded to carbonaceous limestone units. The mineralization has been traced, on surface and underground, for a strike length of 3.34 kilometres, is still "open" to the north and at depth and has been observed in widths up to 13 metres. Regionally, the Hamill Group forms isoclinally folded inliers within Cambrian calcareous phyllites and Badshot limestones and are in fault contact with Lardeau Group phyllites and dioritic intrusives to the west.

The Main Zone has undergone a long and complex structural history with at least five phases of deformation. The ore body is a massive sulphide sheet which dips, approximately,  $55^{\circ}$  to the east. Pervasive sericitic alteration is extensively developed within the mineralized zone and its' immediate hangingwall and parts of the footwall sequences.

#### PROJECT DEFINITION - PHASES I & II

The three primary objectives of these programs were:

1. to map the surficial geology and trace out and sample the Main Zone and any additional mineralized zones found within the J & L claim area,
2. to conduct airborne and follow-up ground electromagnetic and magnetic surveys in an effort to delineate the structure which hosts the Main Zone, trace any extension of this structure and locate any similar structures in the area,
3. to conduct an underground drift-drill evaluation of the Main Zone.

#### SURFACE EXPLORATION

The surface exploration outlined six sulphide zones, two of which appear to be of economic importance. These mineralized zones are confined to the Hamill Group metasediments.

The Main Zone, which pinched out to the south, was traced for a strike length of 1850 metres south of the 830 metre portals and vertically for 550 metres.

The North Zone, which appears to be the strike extension of the Main Zone, was traced for 1500 metres northwest of the 830 metre portals and is still open to the north. Mineralization is relatively narrow and discontinuous, but one section averaged 3.1 g/t gold, 20.8 g/t silver, 0.27% lead, 0.09% zinc and 1.881% arsenic over a true width of 2.11 metres.

#### GEOPHYSICS

Two airborne surveys outlined 14 anomalies within the J & L claim area, but it appeared that the Main Zone was not detected. Subsequent ground follow-up of the anomalies proved negative and also failed to identify the Main Zone.

#### UNDERGROUND EXPLORATION

The underground track development at the 830 metre level consisted of 671 metres of geologically controlled drifting along the Main Zone and a total of 353 metres in five survey controlled hangingwall crosscuts. The drifting is an extension of development work done by Westairs Mines Limited in 1964.

Sixty-four diamond drill holes which totalled 2640 metres were drilled from the crosscuts and the drift walls in order to test the zone up and down dip, and at the drift level.

Weststairs Mines Limited outlined a zone on the 830 metre level which averaged 4.1 g/t gold, 44.2 g/t silver, 1.99% lead and 2.65% zinc over a true width of 1.88 metres. Results from the drift level extension indicated three new separate zones:

ZONE 1: 4.5 g/t gold, 49.5 g/t silver, 1.43% lead, 2.84% zinc, and 3.503% arsenic over a true width of 3.58 metres and length of 196 metres.

ZONE 2: 7.3 g/t gold, 43.6 g/t silver, 1.67% lead, 3.11% zinc, and 5.028% arsenic over a true width of 4.09 metres and length of 143 metres.

ZONE 3: 2.8 g/t gold, 26.0 g/t silver, 1.43% lead, 3.48% zinc and 1.432% arsenic over a true width of 4.04 metres and length of 73 metres (open along strike).

Results also indicated that the significant mineralization is confined to the Main Zone and its' immediate enveloping stratigraphy. Trends of zone thinning up dip and increasing grade and/or thickness with depth was noted in the drilling.

The recently defined zones along with the zone outlined by Weststairs Mines Limited were the basis for subsequent calculations of the mineral inventory.

#### MINERAL INVENTORY ESTIMATE

For preliminary assessment purposes a mineral inventory has been calculated using an arbitrary cut-off grade of 0.10 oz gold per tonne equivalent or \$50.00 per tonne across 1.60 metres true thickness. Metal prices assumed in Canadian dollars are gold \$500 per oz, silver \$10 per oz, zinc \$0.50 per pound, lead \$0.25 per pound, arsenic - no value.

Calculations indicate a potential tonnage of 3,370,900 tonnes grading 5.86 g/t gold, 59.14 g/t silver, 2.15% lead, 4.04% zinc, and 4.86% arsenic has been blocked out between surface and the 530 metre level about a strike length of 800 metres.

#### MINING POTENTIAL OF THE J & L MAIN ZONE

The Main Zone has been traced for 1850 metres on surface, south from the 830 metre portals, thus we can reasonably expect that a total of at least 9.0 million tonnes, at a grade similar to that already blocked out, will be outlined by further exploration. The North Zone could add to this potential.



METALLURGICAL STUDIES

Preliminary test work on three of the four submitted composites showed a steady improvement in recoveries with 65-75% of the lead, 80-85% of the zinc, 75-85% of the silver and 75-80% of the gold present in the lead-zinc and arsenopyrite-pyrite concentrates. Approximately 40% of the precious metals report with the lead and zinc concentrates while the arsenopyrite-pyrite concentrate accounts for 60% of the precious metal values.

Test results from composite 4 have indicated recovery problems with only 36% of the lead and 58% of the zinc reporting in the cleaner concentrates.

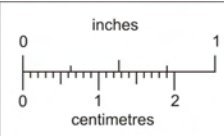
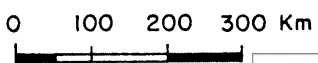
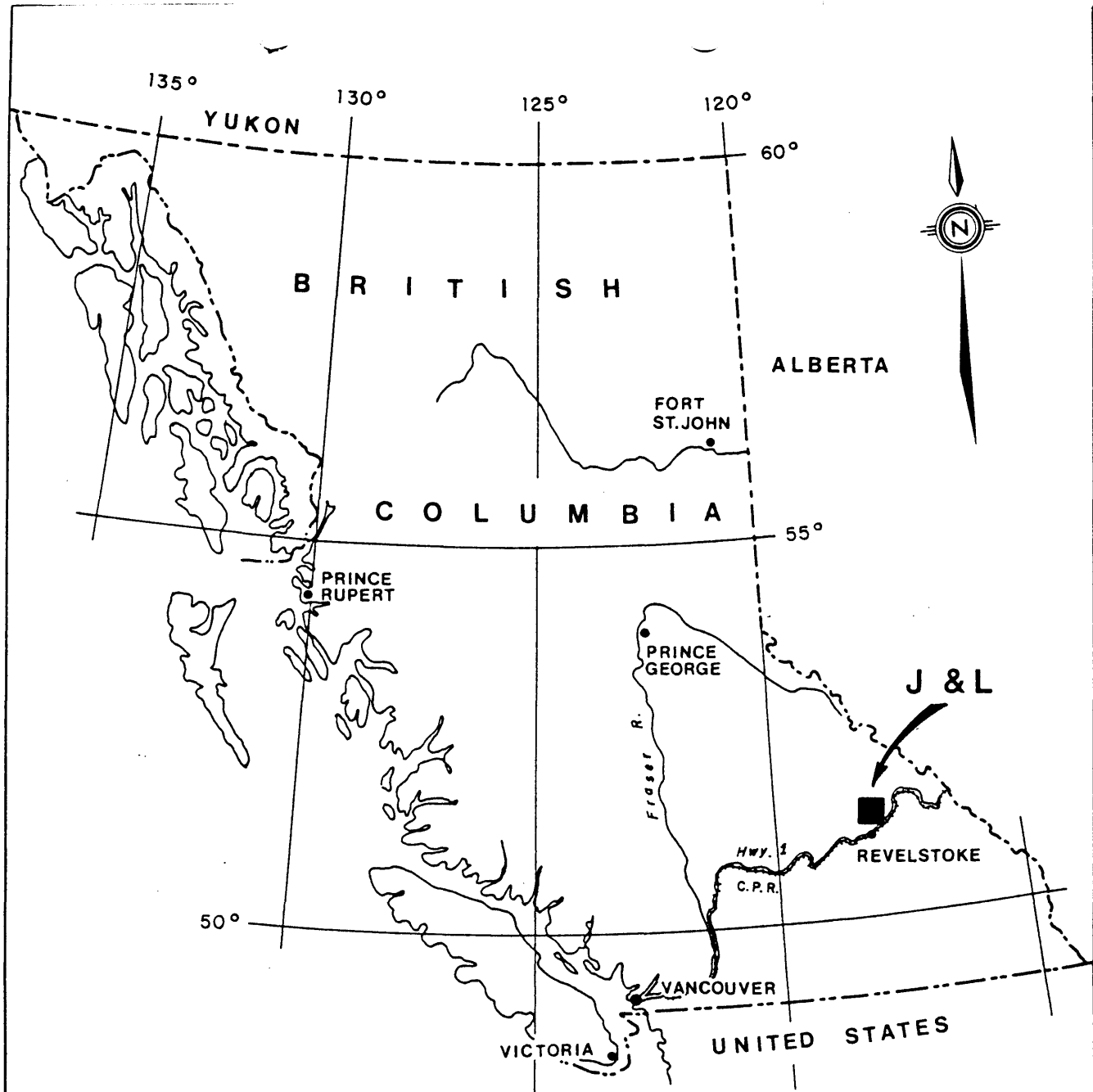
Recent test results on new composites appear somewhat improved with recoveries of 70% of the lead and 70-80% of the zinc present in their separate concentrates. It should be noted that 30-35% of the gold and 60-65% of the silver reports to the lead concentrate, 10-15% of the silver reports to the zinc concentrate and 55-60% of the gold reports to the arsenopyrite-pyrite concentrate.

ENVIRONMENTAL MONITORING

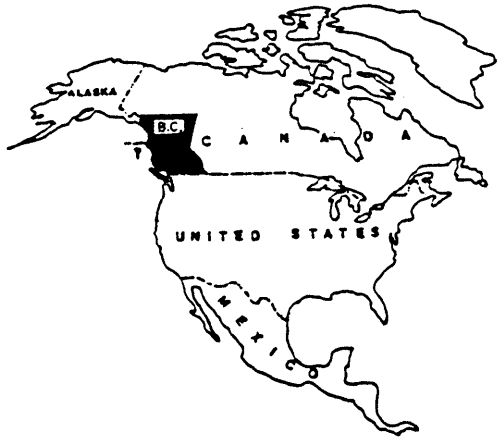
Samples of the surface waters draining the property have been collected on a bi-monthly basis since the inception of the underground program. Results from 79 water samples indicate that there has been no contamination from the underground development.

SITE STUDY

A preliminary study by Knight and Piesold Ltd. of Vancouver indicated that the local topography of the J & L site lends itself to an efficient overall design of mill, tailings storage facility and effluent treatment ponds that should not present any undue difficulties.



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# J & L PROJECT LOCATION