

1990 "SNAPSHOT" REVIEW FORM

861875

Property/ProjectAuthors

Name : J&L

NTS : 82M, N

Claims : 367 units & crown grants

Ross Beaty

Acreage: 18,300

Commodities: Au, Zn, Pb, Ag

Agreements Equinox Resources Ltd. holds option to acquire 50% working interest in property and 40% equity interest in Pan American Minerals Corp. which holds other 50% property interest. Equinox also manages Pan American and controls its board of directors.

History

Past Exploration Techniques	By Whom	Amount	Type	Cost
1896-46 Prospecting, shafts	Various	--	--	?
1962-67 Drifting, roads	Weststairs Mines	578 m	drifting	\$1,000,000

Past Development (if any)	By Whom	Amount	Type	Cost
1982-85 Drifting, u/g drilling, metallurg. tests	BP-Selco	871 m drifts, 2640 m drilling		\$3,100,000
1986 Bulk samples, metallurg. tests	Noranda	28-200 kg samples		\$350,000
1987-88 u/g drilling, metallurg. tests	Pan American	1904 m drilling 120 m raises		\$1,800,000
1988-89 u/g drilling, bulk sampling	Equinox	3000 m drilling, 270 t bulk sample		\$2,100,000
			Total	<u>\$8,350,000</u>

Geology

Regional In Selkirk Mtns. east of Columbia River. Complexly deformed Hadrynian Horsethief Creek Group, Lower Cambrian Hamill Group and Badshot FM metasedimentary and metavolcanic rocks. Many Pb-Zn, Cu and Au showings.

Local Cambrian Hamill Group quartzite, schist, phyllite and limestone host 3-4 km long arsenical massive sulphide "sheet" within highly deformed shear zone. Mineralization parallels structural features and perhaps bedding.

Alteration/

Ore Forming Minerals Pyrite, arsenopyrite, sphalerite, galena, sulfosalts form mineralization in bands, lenses and stringers, varying from 0.1-12 m wide and averaging 2.7 m. Footwall ore is massive apy-rich with most gold; hanging wall tends to be clean (no As) sph-gn.

Current Exploration Results

1988-1989

i) **Geology**: Mineralization is exposed at surface in J&L showing for 3.34 km and in many other showings (A & E, Roseberry). Underground, ore zone shows strong spatial relation to phyllite/limestone contact and shows remarkable continuity along 143° strike and down 55° dip. Of 116 holes drilled into zone from underground, all intersected zone. Footwall ore is milled, massive apy-sph-py; hanging wall ore is disseminated sph-gn-py. Genesis unknown.

ii) **Metallurgy**: Gold is refractory being associated with arsenopyrite. Main problem has been producing clean Pb-Zn concentrate. Preferred flowsheet is sink/float upgrading, Pb-Zn flotation, pressure leaching of tailings, cyanidation to yield dore and production of insoluble As tailings.

iii) **Geophysics**: 1095 km airborne EM failed to detect ore zone due to steep terrain, complex geology and 2.5 m ore zone width.

iv) **Sampling**: 116 u/g drill holes, 1012 m drifts in two levels, 100 m raises, extensive surface and u/g sampling and mapping, 28-200 kg sample, 270 tonne bulk sample

	Proven & probable: 808,200 t @ 7.2 g/t Au, 66 g/t Ag, 5.2% Zn, 2.6% Pb, 4.7% As
Reserves:	Geological, possible & Prob. & Poss. (50 m beyond probable): 1,478,000 t @ 7.9 g/t Au, 62 g/t Ag, 4.7% Zn, 2.3% Pb, 4.5% As
	Number of zones one zone
	Possible(BP-Selco)=11,438,000 tonnes Possible(Noranda)= 12,370,000 tonnes
	Average grade (mineable reserve) 7.83 g/t Au, 62 g/t Ag, 4.9% Zn, 2.3% Pb
	Average thickness 2.7 m
	Cut-off grade 6.0 g/t Au equivalent; 1.6 m minimum mining width
	Number of sample points >200
Costs:	Recent exploration costs, i.e. (relating to above) \$2,000,000
	Projected exploration costs of program to development (if any) \$4,000,000
	Projected development costs given positive economics \$50,000,000
	Projected operating costs given positive economics C\$77/tonne, with C\$140/tonne average net smelter return US\$220/oz gold

June 27, 1988

To: R.T. Heard
From: N.C. Carter
Re: J&L DEPOSIT, REVELSTOKE, B.C.

1. The J&L deposit is a tabular body consisting of banded massive sulfides - mainly pyrite, pyrrhotite, arsenopyrite, chalcopyrite, sphalerite and galena - hosted by late Proterozoic-early Paleozoic sediments and lesser volcanic rocks. The zone strikes northwesterly, dips 55° northeast and has been traced 6,000 ft. along strike and 1,500 ft. down dip. Underground development and drilling indicates reasonably assured reserves of 3.7 million tons grading 0.17 oz/ton gold, 1.72 oz/ton silver, 2.15% lead, 4.04% zinc and 4.86% arsenic.
2. Good continuity has been noted in drill holes and reasonable potential for 10-12 million tons of grades similar to above appears possible.
3. Quality of work since the early 1980's is good.
4. Geological setting is similar to the nearby Noranda Goldstream mine (currently idle) - Noranda held an option on J&L in 1986 which lapsed in 1987, although it is significant that Reinertson told us that he definitely wanted to proceed - somebody fumbled the ball in the Noranda organization. (It is significant that Reinertson was solely responsible for Noranda securing Goldstream in 1974).
5. Significant additional underground exploration and development on the BP-Selco level is impractical because of apparent ventilation problems. Noranda recommended a new decline.
6. The bottom line on the viability of this deposit is metallurgy - what to do with the arsenio? I think I told you Bill Bacon's story of J&L being the major lab exercise in the Mineral Dressing course he took at UBC in the 1930's. Noranda's principal expenditures in 1986 were \$200,000 spent by Noranda Research on metallurgical studies - Pan American spent \$100,000 in 1987/88 and plan to spend an additional \$260,000 in 1988.

Reinertson indicated last fall that Noranda had made significant progress in this regard and that was the main reason he wanted to keep the property.

N.C. CARTER, Ph.D., P.Eng.
CONSULTING GEOLOGIST



Summary Report On The J & L Property - Revelstoke, B.C.
March 1988

Type of Deposit: Polymetallic. Best values in gold, zinc, lead, and silver in decreasing order. Banded massive sulphides - sphalerite, galena, pyrite, arsenopyrite, with minor chalcopyrite and pyrrhotite across widths from two to twelve feet. A bedding plane deposit of controversial origin. Has been called sedimentary exhalative, bedding plane replacement, bedding shear, vein. Structure dips at 55 degrees and mineralization persists for 6,000 feet laterally and 1,500 feet vertically. Open at depth.

Tonnage and Grade: Data base is too sparse to firmly categorize mineral reserves. "Best" terms and numbers are "reasonably assured" tonnage of 3.7 million grading 0.17 oz gold, 1.72 oz silver per ton, 2.15% lead, 4.04% zinc, and 4.86% arsenic across in excess of 6.5 feet. Estimates of potential tonnage in the structure because of its continuity and depth are as high as 10 million tons.

Geology and Structure: Well bedded sedimentary series of quartzites, argillites, limestones, & silicified chloritic schists of probable Cambrian age. Minor faulting and slipping. Individual beds isoclinally folded and contorted within themselves. Mineralized "bed" at contact of limestone on footwall and impure quartzite on hangingwall. Striking 320 degrees and dipping easterly at 55 degrees.

Location: Twenty miles north of Revelstoke, B.C. on paved highway thence six miles easterly on all weather logging road. Elevation at lowest portal is 2,700 feet A.S.L. Excellent infrastructure including access to B.C. Hydro power.

History: Discovered in 1880. Intermittent work to present time. Total spent from all parties - \$6 million. Major underground drifting and diamond drilling done in 1960's by Westairs Mines Ltd. of New Brunswick, B.P. - Selco in 1983 and 1984, Pan American Minerals in 1987. Total of 6,100 feet of drifts and cross cuts, 500 feet of raising and 15,000 feet of underground diamond drilling. Noranda had property under option in 1986 and worked on metallurgy.

Involvement by Pan American Minerals: Obtained infinite term lease on property in 1980 from owner Ted Arnold of Oakhurst, N.J. subject to annual advance royalty payment of \$100,000 during lease tenure. All production from property subject to 11% net profits interest (after pre production expense pay back) in years where the 11% interest exceeds \$100,000. Pan American optioned the property to B.P. - Selco from 1983 to 1985 in which period B.P. - Selco spent more than \$3 million. Pan Am optioned the property to Noranda in 1986 in which period Noranda spent \$200,000 on appraising and metallurgical testing. Noranda has no retained interest but B.P. - Selco retains the right to "back-in" for 25% working interest in Pan Am's lease agreement with Arnold after Pan Am has spent or caused

to be spent \$2 million on the property. The \$2 million threshold will probably be reached in the second quarter of 1988. In 1987 and the first quarter of 1988 Pan Am spent \$1.2 million on the property for diamond drilling, cross cutting, and raising, along with \$100,000 on metallurgical testing.

Future Plans by Pan American: The metallurgical testing resulted in the development of three promising flow sheets for J & L. The company plans to spend an additional \$260,000 on final metallurgical feasibility. In conjunction with the metallurgy continued underground development is planned on a modest scale until final metallurgical conclusions are derived. Should these prove positive the property can be advanced rapidly into a combination program of mine preparation and feasibility study. This accelerated program can commence in the second half of 1988. Preliminary planning, scheduling and budgeting has started. The property is at the stage in its development where major funding will be needed.

K. G. Sanders

K.G. SANDERS, P. Eng.

March 18, 1988

Pan American Minerals Corp.

572- 885 Dunsmuir Street, Vancouver, B.C. V6C 1N5
Telephone: (604) 669-3404

NEWS RELEASE

Pan American Minerals Corp. (the "Company") is pleased to announce the results of the 1987 - 1988 underground diamond drilling program at the J & L property near Revelstoke, B.C. Twenty holes were completed and sixteen of these are below the lowest level at the property.

These results are currently being included in an assessment of mineral reserves below the existing workings to a depth of 250 feet. Figures published by B.P. - Selco for mineral reserves are 3.71 million tons grading 0.17 oz. gold, 1.72 oz. silver, 2.15% lead and 4.04% zinc. The following holes cover an area 1,300 feet along strike to a depth of 250 feet and are being combined with ten B.P. - Selco holes for the reserve calculations.

Hole #	Mining Width (Horiz.) Ft.	Au oz./ton	Ag oz./ton	Pb %	Zn %
87-01	5.2	0.232	7.17	8.57	9.06
87-02	9.6	0.143	4.86	3.88	8.88
87-03	6.8	0.147	3.34	4.80	9.54
87-04	4.8	0.259	4.08	4.11	6.75
87-09	5.4	0.106	1.30	2.00	4.07
87-10	4.0	0.340	2.15	1.97	4.34
87-11	2.4	0.301	5.83	6.29	8.65
87-12	4.8	0.233	1.44	2.71	5.10
87-17	5.8	0.306	1.25	1.25	2.02
87-18	7.6	0.266	1.99	1.99	3.00
87-19	5.1	0.400	2.97	2.53	7.84
87-20	7.0	0.214	2.84	2.39	7.43
87-21*	4.1	0.119	2.84	2.04	7.21
87-22*	2.0	0.253	5.25	10.60	17.70
87-25	5.4	0.198	5.42	2.54	3.57
87-26	4.8	0.098	3.43	5.33	5.40
87-27	10.4	0.426	3.16	2.99	5.78
87-28	8.4	0.144	0.93	0.72	1.50
87-29*	13.6	0.178	1.55	0.94	1.30
87-30*	3.6	0.277	1.09	0.80	3.06

*Above the lowest level.

DATED at Vancouver, B.C., this 9th day of March, 1988.



KENNETH SANDERS, President

The Vancouver Stock Exchange has neither approved nor disapproved the information contained herein.

Pan American Minerals Corp.

572 - 885 Dunsmuir Street, Vancouver, B.C. V6C 1N5
Telephone: (604) 669-3404

News Release

Pan American Minerals Corp. today reported assay results from the underground raise and bulk sampling program carried out in 1987 and 1988 at the J & L property near Revelstoke, B.C.


	Gold oz/ton	Silver oz/ton	Lead %	Zinc %	Raise Length Feet	Number of Bulk Samples
Raise #1	0.157	1.70	1.60	2.25	107.5	77
Raise #2	0.145	1.65	2.08	3.01	104.7	91
Raise #3	0.274	2.38	2.53	5.59	92.5	85
Raise #4	0.094	2.04	3.72	5.07	99.1	78
Average	0.169	1.94	2.47	3.98	403.8	331

These compare favorably with 2,688 feet of continuous drifting by B.P. - Selco on the 834 level and reported by Noranda staff in 1987 to be 0.195 oz gold, 2.0 oz silver, 2.56% lead, 4.48% zinc for more than 1,000 samples.

The average structure width in drifting was 4.92 feet compared with the width in the raises of 5.5 feet.

The raise program was carried out with minimum geological supervision and therefore the results are considered to reflect some dilution. In excess of 1,000 tons of raise material was produced and crushed to minus 3/4 inch in the bulk sampling program and is being used to establish definitive milling procedures.

DATED at Vancouver, B.C., this 16th day of March, 1988.


KENNETH SANDERS, President

The Vancouver Stock Exchange has neither approved nor disapproved the information contained herein.

Pan American Minerals Corp.

572 - 885 Dunsmuir Street, Vancouver, B.C. V6C 1N5
Telephone: (604) 669-3404

News Release

Pan American Minerals Corp. (the Company) is pleased to announce the appointment of Mr. Robert C. Smith to the Board of Directors. Mr. Smith is a metallurgical engineer of broad experience in the mineral industry for the past 34 years. Two of his recent assignments were at Westmin Resources where he served as senior metallurgist in the major plant expansion on Vancouver Island and Cyprus Anvil where he was mill superintendent at Faro, Yukon Territories.

Mr. Smith supervised the metallurgical program on the Company's J & L property in 1987. In the 1987 tax year the Company obtained \$1,187,500 by way of "flow through" shares at prices of \$2.75 and \$2.30; \$104,000 of this was spent on metallurgy.

Three milling flow sheets were developed to process J & L material with good percentage recoveries of all the contained metals. A combined recovery using the Arseno Process was 78 percent of all the metals which included 77 percent of the gold and 83 percent of the silver. Using a bacterial oxidation process on the pyrite - arsenopyrite portion of the mineralization gold and silver recoveries were 86 and 74 percent respectively. A totally hydrometallurgical process called the Cashman Process has indicated recoveries to be more than 85 percent of all the metals including gold.

The metallurgy budget for 1988 is \$260,000 and will assess the three flow sheets in detail so that capital and operating costs can be compared.

DATED at Vancouver, B.C., this 21st day of March, 1988.



KENNETH SANDERS, President

Neither the Vancouver Stock Exchange nor the Toronto Stock Exchange has approved or disapproved of the information contained herein.