

GM 45810

REPORT ON ESTIMATE TON & GRADE OF GOLD DEPOSIT, BUFFADISON MINE

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Énergie et Ressources
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Québec 

ABITIBI RESOURCES LIMITED
REPORT ON ESTIMATES
TONS & GRADE OF GOLD DEPOSIT
BUFFADISON MINE

Louvicourt Twp. - Quebec

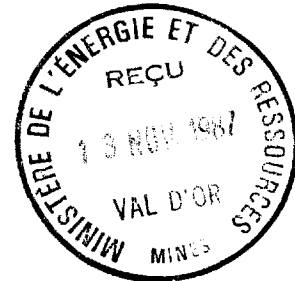
submitted

February 10, 1987

by

A. S. Bayne, P.Eng.
Ontario

Ministère de l'Énergie et des Ressources
Service de la Géoinformation
Date: 14 MAR 1988
No G.M.: 45810



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MAPS (see back of Report)

- Location Map - by Socomines Inc. Scale 1" = 3.9 miles.
- Property Map - by Socomines Inc. Scale 1" = 1320'.
- Plan showing 1983-84 Recent Drilling Results.
- Plan showing Mineral Occurrences. Scale 1" = 1000'.
- Surface Plan - Buffadison Shaft Area. Scale 1" = 50'.
- Geological Compilation Map. Scale 1" = 200'.
- Typical Vertical Drill Section (7200E). Scale 1" = 50'.

OBJECT AND SCOPE

On January 9, 1987, the Directors of Abitibi Resources Limited requested an independent study of the exploration progress on the Louvicourt Township properties.

The scope of our study, starting in Val d'Or, January 13, 1987, has included:-

1. A review of field data and reports from 1945 to the end of 1986 of the exploration of the areas of the former Bevcon-Buffadison mines.
2. Detailed examination of the drill logs and core assays reported during 1983-84-85-86.
3. Detailed examination and technical audit of the estimated tons and grade of gold-bearing material in the Buffadison mine, as presented by Geologica Inc., Consulting Geologists, Val d'Or.
4. An independent estimate of the potential tons and grade of gold mineralization in the Buffadison mine, as detailed on plans and vertical sections by former Buffadison Gold Mines Ltd. in 1948 and by Geologica Inc. in April 1986.
5. Examination of the speculative capital budget for further recommended work.

PROPERTY AND HISTORY

The active history of the Louvicourt property held by Abitibi Resources Ltd. and Mid-Canada Gold & Copper Mines Ltd. is well documented by various reports since 1945 and is well summarized in the report of Geologica Inc. dated April 30, 1986.

In 1945 the Buffadison Gold Mines property consisted of 14 claims (687 acres).

The holdings of the Abitibi Resources - Mid-Canada group now totals 2,415 acres.

The Buffadison mine closed in 1948 through lack of capital. The Bevcon mine, now part of the present holdings, closed in 1965 having produced \$14 million in gold bullion since 1951.

In March 1969, Dumont Nickel Corporation acquired the property. Geophysical surveys and drilling were carried out in the central and south part of the property.

In 1983-84, 43 drill holes totalling 33,390 feet were completed in the Buffadison and Bevcon mine areas, by Abitibi Resources Ltd. and Mid-Canada Gold & Copper Mines.

Results of numerous ore-grade core intersections are detailed in a report dated May 18, 1985, by Socomines Mining Consultants Ltd.

In 1984-85, geophysical surveys and 29,008 feet of core drilling were completed. Of this drilling, nineteen holes totalling 17,193 feet were drilled in the Buffadison mine area. This drilling is described in the 1986 report by Geologica Inc.

From November 18 to the end of 1986, five holes totalling 3,385 feet were drilled in the Buffadison mine vicinity. The results of these holes follow under "Economic Geology". Two more holes were completed by January 31, 1986, and the program is continuing.

A. S. BAYNE & COMPANY
CONSULTING ENGINEERS

45 RICHMOND STREET WEST
SUITE 1101
TORONTO, ONTARIO, CANADA
TEL: (416) 368-3283 M5H 1Z2

ADDRESS ALL CORRESPONDENCE .

255 BAMBURGH CIRCLE, SUITE PH-7, SCARBOROUGH, ONTARIO, M1W 3T6 TEL. (416) 496-1669

February 10, 1987

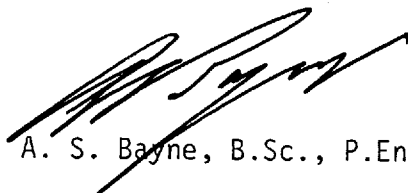
The President and Directors
Abitibi Resources Limited
1137 Third Street
Val d'Or, Quebec
J9P 4A9

Gentlemen:

Enclosed you will find my report of even date on your
Louvicourt Township gold property.

Particular studies have been made of the estimated tons
and grade indicated in the former Buffadison mine.

Yours sincerely,



A. S. Bayne, B.Sc., P.Eng.

ASB:TP

Encl.

ESTIMATED TONS AND GRADE

1. By Geologica Inc., April 1986:-

<u>Class</u>	<u>Average Width feet</u>	<u>Estimated Tons</u>	<u>Average* Au Assay oz/ton</u>
Proven Ore	2.3	25,821	0.27
Probable Ore	1.9	144,194	0.30
Inferred Ore	1.9	61,301	0.26
<u>Total</u>	<u>1.9</u>	<u>231,316</u>	<u>0.29</u>

*Individual assays over 1.00 oz/ton "cut" to 1.00 oz/ton.
Minimum assay included (cut-off) 0.10 oz/ton.

Mining recovery (98%) - 226,689 tons @ 0.29 oz/ton.
Assume 5-ft. mining width:

- Dilution (158%) - 358,169 tons @ 0.01 oz/ton
Estimated minable - 584,859 tons @ 0.12 oz/ton

2. By A. S. Bayne & Company, February 1987*:-

(a) Applying same limits as Geologica Inc.

<u>Class</u>	<u>Average Width feet</u>	<u>Estimated Tons</u>	<u>Average Au Assay* oz/ton</u>
Tons & Grade - Partly Proven	2.3	25,821	0.274
Tons & Grade - Projected Probable	1.9	143,750	0.313
Tons & Grade - Inferred Possible	1.9	59,865	0.269
<u>Total</u>	<u>1.95</u>	<u>229,436</u>	<u>0.297</u>

*See basic calculations, Appendix I.

(b) Cut-off factor (Width x Assay) applied to individual sections: WA > 0.50

<u>Class</u>	<u>Average Width feet</u>	<u>Estimated Tons</u>	<u>Average Au Assay oz/ton</u>
Tons & Grade - Partly Proven	2.30	25,821	0.274
Tons & Grade - Projected Probable	2.06	97,195	0.341
Tons & Grade - Inferred Possible	2.03	38,036	0.327
<u>Total</u>	<u>2.09</u>	<u>161,052</u>	<u>0.327</u>

Assume 5-ft. mining width:

- Vein recovery (100%) - 161,052 tons @ 0.327 oz/ton
- Waste dilution (139%) - 223,862 tons @ nil

Estimated minable - 384,914 tons @ 0.137 oz/ton

(c) Cut-off factor (Width x Assay) applied to individual sections: WA > 0.30

<u>Class</u>	<u>Average Width feet</u>	<u>Estimated Tons</u>	<u>Average Au Assay oz/ton</u>
Tons & Grade - Partly Proven	2.30	25,821	0.274
Tons & Grade - Projected Probable	1.92	136,342	0.321
Tons & Grade - Inferred Possible	<u>1.98</u>	<u>43,792</u>	<u>0.312</u>
<u>Total</u>	<u>1.98</u>	<u>205,955</u>	<u>0.313</u>

Assume 3-ft. mining width:

- Vein recovery (100%) - 205,955 tons @ 0.313 oz/ton
- Waste dilution (52%) - 107,097 tons @ nil

Estimated minable - 313,052 tons @ 0.206 oz/ton

ECONOMIC GEOLOGY

The difficulty of estimating the tons and grade from drill-core assays reported by Buffadison management in 1948 is illustrated by the following:

A surface hole drilled in 1947 cut the B Vein at the 825-foot level assaying 0.08 oz/ton over 1.5 feet on Section 6300E.

In 1948 drifting on the 805-foot level followed the vein along a strike length of 310 feet from Section 6200E. Channel and muck samples from drifts and raises averaged 0.63 oz/ton (uncut) or 0.47 oz/ton (cut) across an average vein width of 0.9 feet.

An 18-foot raise at 6200E averaged 3.90 oz/ton across 0.88 feet and a 63-foot raise at 6450E averaged 0.742 oz/ton across 1.18 feet.

The gold-bearing veins at both Buffadison and Bevcon occur in fracture zones near the north-dipping (about 70°) contact of the Louvicourt granodiorite pluton with volcanic rocks.

In 1945, Dr. H. S. Wilson, consulting geologist at Lamaque, was reported to have remarked on the similarity of the gold-bearing zones at the Buffadison property to those at Lamaque, about 40% quartz with associated pyrite; also that experience showed that if a favourable structure is drilled with substantial quartz content, there is no hesitation in exploring the section by mining and usually the material makes good grade ore even where (drill core) assays are negligible.

In 1970, an engineer colleague with 30 years experience in the Malartic/Val d'Or area advised the author of this report that his study of 20 years of production experience at the Lamaque mine on the ore from within the granodiorite stock graded 2.2 times the gold content indicated by the exploratory core drilling.

The Louvicourt pluton, most of which is covered by the 2,415-acre Abitibi Resources/Mid-Canada property, is probably an apophysis of the great Bourlamaque pluton to the north and west.

Since 1979, two major gold mines within the Bourlamaque pluton have been discovered and brought to profitable production by Belmoral Mines Ltd. in 1981 with a 1500-t.p.d. mill. The grade of ore at the George H. Dumont mine is reported at 0.21 oz/ton and at Belmoral Ferderber mine, 0.22 oz/ton.

The Lamaque mine was the first gold producer in the Val d'Or area. It is located in Bourlamaque Township, about 11 miles west of the Abitibi Resources property.

From 1935 to 1980, the Lamaque mill produced about 4,468,420 ounces (0.19 oz/ton) gold from 23,518,000 tons milled.

The major part of Lamaque ore was in quartz-filled fracture zones within a granodiorite stock thought to be an apophysis of the Bourlamaque pluton to the north.

The foregoing example of the 1947 core drilling and subsequent mine development of the Buffadison B Vein indicates the same results from further underground development as experienced by Lamaque.

CONCLUSIONS

1. Detailed study of the 1986 tons and grade estimates by Geologica Inc. evidence very conscientious work within conservative limitations in line with the best of practice.
2. Of the 1987 estimates reported herewith, the modifications following are deemed advisable:
 - (a) The estimate in foregoing 2(c) considers only 46 (of the 67 veins identified) veins with a minimum WA factor of 0.10 oz x 3 ft. = 0.30.

At the gold price of Can.\$500/oz., it is the author's opinion that a mine grade of 0.206 oz/3 feet can be profitably mined.

- (b) Until all core lengths flanking the visually sampled gold assays are sampled and assayed, the application of 0.01 oz/ton is not yet justified, although this may very well be later confirmed.

It is even possible that this fill-in sampling of cores may disclose cross-fracturing bearing gold values over substantial widths as experienced at the Bevcon mine. The dips of the Buffadison veins from 40° south to 40° north is good evidence of this possibility.

3. In 1985, sixteen surface drill holes cored 37 intersections in the Buffadison mine area. These yielded core assays from 0.10 oz/ton/1.0 ft. to 1.96 oz/ton/4.6 ft. at depths of 115 to over 1600 feet. These are detailed in Appendix A of the 1986 report by Geologica Inc., which also accompanies this 1987 report as Appendix II.

4. Core assays from the 1986 drilling were reported as follows:-

MA 86-1A	(489.5' - 491.0')	1.20 oz/t./1.5'
	(548.5' - 549.5')	0.36 oz/t./1.0'
MA 86-2	(261.0' - 266.0')	0.69 oz/t./5.0'
	(425.0' - 427.0')	0.16 oz/t./2.0'

MA 86-2	(532.0' - 533.0')	0.63 oz/t./1.0'
	(538.0' - 539.0')	0.37 oz/t./1.0'
	(544.5' - 546.0')	2.01 oz/t./1.5'
	(547.0' - 548.0')	0.06 oz/t./1.0'
Average	(532.0' - 548.0')	0.236 oz/t./16.0'
MA 86-3	(516.0' - 517.5')	1.88 oz/t./1.5'

These holes are shown on the Geological Compilation Map (Revised Jan.'87) herewith.

5. The 1983-86 work has considerably increased the gold-bearing potential of this property and has indicated extension of the mineralized zones to depths comparable to those at the Bevcon property (over 3,000 feet).

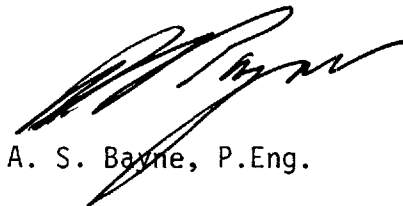
RECOMMENDATIONS

1. The work to date has justified implementing the recommended mine development and exploration projected in the April 1986 report by Geologica Inc.
2. The required speculative capital totalling \$7,120,000 appears to be realistically based on current local costs.
3. The work is scheduled in three phases over an 18-month period.

It is important that the expenditure be budgeted concurrently, subject to conditions encountered and results obtained by the successive stages of the work schedule.

Respectfully submitted,

A. S. BAYNE & COMPANY



A. S. Bayne, P.Eng.

APPENDIX A

1985 DRILLING RESULTS

LIST OF ASSAYS OVER 0.10 OZ/TON AU/FT

BUFFADISON SHAFT AREA

MA-85-1B	NIL		
MA-85-2	NIL		
MA-85-3	NIL		
MA-85-4	2.68 oz/ton Au / 1.0'	(399.0 - 400.0)	
	0.17 oz/ton Au / 1.0'	(453.0 - 454.0)	
	0.19 oz/ton Au / 2.0'	(533.0 - 535.0)>	
	1.34 oz/ton Au / 1.0'	(535.0 - 536.0)>	1.96/4.6 ft
	4.58 oz/ton Au / 1.6'	(536.0 - 537.6)>	
MA-85-5B	0.24 oz/ton Au / 1.0'	(458.0 - 459.0)	
	0.80 oz/ton Au / 1.5'	(482.0 - 483.5)>	0.42/4.0 ft
	0.20 oz/ton Au / 2.5'	(483.5 - 486.0)>	
	0.16 oz/ton Au / 1.0'	(575.0 - 576.0)	
	0.16 oz/ton Au / 1.0'	(597.2 - 598.2)	
MA-85-6	NIL		
MA-85-7	0.10 oz/ton Au / 1.0'	(469.3 - 470.3)	
	0.21 oz/ton Au / 2.5'	(614.5 - 617.0)	
MA-85-8	0.24 oz/ton Au / 1.0'	(116.5 - 117.5)	
MA-85-9	0.24 oz/ton Au / 1.0'	(391.0 - 392.0)	
	0.19 oz/ton Au / 1.0'	(474.5 - 475.5)	
MA-85-10B	NIL		
MA-85-11	NIL		
MA-85-12	0.14 oz/ton Au / 2.0'	(115.0 - 117.0)>	0.32/4.0 ft
	1.43 oz/ton Au / 1.0'	(118.0 - 119.0)>	
	0.13 oz/ton Au / 1.0'	(234.0 - 235.0)	
MA-85-13	NIL		
MA-85-14	0.12 oz/ton Au / 3.0'	(541.6 - 544.6)	
	0.56 oz/ton Au / 1.0'	(623.0 - 624.0)>	0.25/4.0 ft
	0.43 oz/ton Au / 1.0'	(626.0 - 627.0)>	

MA-85-15	0.11 oz/ton Au / 1.0'	(530.0 - 531.0)	
	0.12 oz/ton Au / 1.4'	(578.2 - 579.6)	
	0.11 oz/ton Au / 1.5'	(1602.5 - 1604.0)	
MA-85-18	0.23 oz/ton Au / 1.0'	(78.0 - 79.0)	
	0.15 oz/ton Au / 2.0'	(217.5 - 219.5)	
	0.54 oz/ton Au / 1.1'	(252.8 - 253.9)	> 0.18/4.2 ft
	0.13 oz/ton Au / 1.0'	(256.5 - 257.5)	>
	0.51 oz/ton Au / 1.0'	(338.0 - 339.0)	
	0.16 oz/ton Au / 1.5'	(379.5 - 381.0)	
MA-85-19	0.10 oz/ton Au / 2.5'	(107.2 - 109.7)	
	0.13 oz/ton Au / 1.0'	(131.0 - 132.0)	
	0.16 oz/ton Au / 2.5'	(162.5 - 165.0)	
	0.11 oz/ton Au / 1.5'	(226.0 - 227.5)	
MA-85-20	0.29 oz/ton Au / 1.0'	(430.0 - 431.0)	
	1.06 oz/ton Au / 1.0'	(453.0 - 454.0)	
	0.21 oz/ton Au / 1.8'	(485.2 - 487.0)	
	0.56 oz/ton Au / 1.0'	(504.0 - 505.0)	
	3.39 oz/ton Au / 1.5'	(520.0 - 521.5)	
MA-85-21	0.11 oz/ton Au / 1.0'	(366.0 - 367.0)	
	0.31 oz/ton Au / 1.0'	(406.5 - 407.5)	
	0.21 oz/ton Au / 1.0'	(433.7 - 434.7)	
	0.14 oz/ton Au / 1.5'	(533.0 - 534.5)	



February 10, 1987
A. S. Bayne, P.Eng.

-after Denis Page, Consulting Geologist

EXPLORATION DRILLING

"New Louvre" Area

MA-85-16B NIL

MA-85-17B2 NIL

"North Shear"

MA-85-22 0.12 oz/ton Au / 3.0' (2275.0 - 2278.0)

MA-85-23 NIL

SW Rhyolite Zone

MA-85-24 0.31 oz/ton Au / 3.0' (450.0 - 453.0)
 0.13 oz/ton Au / 1.0' (467.0 - 468.0)
 0.30 oz/ton Au / 1.0' (1036.0 - 1037.0)

"North Shear"

MA-85-25 1.86 oz/ton Au / 3.5' (278.5 - 282.0)

MA-85-26 NIL

MA-85-27 NIL

MA-85-28 NIL

MA-85-29 NIL

MA-85-30 NIL

SELECTED REFERENCES

- 1945 - 48 Reports of exploration and mine development by
Buffadison Gold Mines Ltd.
- 1979 Report of Feasibility Study and Production Development
Schedule on Gold-Copper Properties, Trans-Canada Copper
Mines Ltd., October 31/79 - A. S. Bayne & Company.
- 1985 Abitibi Resources Limited - Geological Report on its
Optioned Louvicourt Property - May 18/85 - Socomines Inc.
- 1986 Abitibi Resources Ltd. & Mid-Canada Gold & Copper Mines Ltd.
Joint Venture Geological Work & Ore Reserve Calculation
on the Louvicourt Property, April 30/86 - Geologica Inc.
Consulting Geologists.
- 1986 Diamond Drill Logs MA 86-1 to MA 86-5 - Abitibi Resources
Limited - Bevcon-Buffadison, Louvicourt Twp., Nov. 18/86
to Dec. 18/86 - Normand Lacroix, B.Sc.

ANALYSIS⁽¹⁾ SHOWING UNDERGROUND LOCATIONS OF GOLD-BEARING SECTIONS⁽²⁾
PARTLY EXPOSED IN 1947-48 MINE DEVELOPMENT BY BUFFADISON GOLD MINES LTD.

Report to Abitibi Resources

APPENDIX I Sheet 1

VEIN	SECTION		LENGTH EXPLORED feet	MINE LEVELS		Average Width feet	Average Weighted Assay Au ⁽³⁾ oz/ton	Short Tons	T x A Factor	DIP OF VEIN degrees	1948 MINE DEVELOPMENT	
	From	To		From feet	To feet							
A	7200E	7700E	500	-805	-825	0.9	0.85	1,706	1450.10	35 S	5th Level Drift & Raises	
B	6200E	6600E	400	-805	-845	0.9	0.63	2,632	1658.16	35 S	5th Level Drift & Raises	
B-1	6555E	6645E	90	-770	-805	6.0	0.16	2,250	360.00	35 S	5th Level Drift & Raises	
G	6395E	6505E	110	-633	-703	4.5	0.21	6,600	1386.00	35 S	4th Sublevel Drift & Raise	
J	6423E	6478E	55	-628	-658	1.0	1.42	229	325.18	35 S	4th Level Drift & DDH	
N	6568E	6633E	65	-688	-708	1.0	0.26	352	91.52	35 S	5th Level Drift & Raises	
Lower 22	7200E	7300E	100	-790	-820	4.5	0.21	8,886	1866.06	35 N	5th Level Drift & Raises	
Upper 22	7350E	7450E	100	-338	-378	1.0	0.53	750	397.50	35 N	2nd Level X-Cut	
22	7225E	7275E	50	-638	-658	1.0	0.38	416	158.08	40 N	4th - 5th Level Drifts & DDH	
74-P-2	7450E	7550E	100	-333	-383	4.8	0.14	2,000	280.00	45 N	2nd Level Drift	
TOTAL								<u>25,821 tons</u>	<u>7972.60</u>			
AVERAGE WIDTH						2.3 feet						
WEIGHTED AVERAGE GOLD ASSAY - uncut							0.309 oz/ton					
- cut							0.270 oz/ton					

REFERENCE NOTES:


- (1) 1947-48 by Buffadison Gold Mines Ltd.:
 - Geological Plans, 2nd, 4th, 5th and 6th Levels. Scale 1" = 30'.
 - Plans on Plane of Veins B, D, E, F, G, J, M and 22. Scale 1" = 30'.
 - Vertical Sections 6300E, 6520E, 6700E, 7100E, 7300E, 7700E, 8000E. Scale 1" = 50'.
 and
 1986 by K.A. Khobzi, Ing., M.Sc., Geologica Inc., Consulting Geologists:
 - Surface Plan, Former Buffadison Shaft Area. Scale 1" = 50'.
 - Geological Compilation (Surface Drill Hole) Maps. Scale 1" = 200'.
 - Vertical Sections 6200E to 8100E. Scale 1" = 50'.
- (2) Classed as Proven Ore by Geologica Inc.
- (3) Average uncut assay by Geologica Inc., 1986 - 0.30.
 "Cut" assay applied to calculations of average grade by Geologica Inc.
 - averaged after reducing assays above one ounce to 1.00 oz/ton.

Ministère de l'Énergie et des Ressources

Service de la Géoinformation

Date: 14 MAR 1988

No G.M.: 45810


A. S. Bayne, P.Eng.
4 February, 1987

PREVIOUS WORK

The history of the property goes back to 1931 when S.R. Jowsey staked the ground for C.A. Wyeth. It was then optioned by Dome Mines, who drilled 3000 feet before dropping the option in spite of good values obtained in the sampling of a trench (0.87 oz/t Au over 28 ft). Then, Louvre Gold Mines, Premier Gold Mining and Teck Hughes Exploration worked the property and drilled some 20,829 feet. Madison Gold Mine acquired the property in 1940.

The Buffadison Gold Mine Company acquired part of the property in 1945 and sank a shaft of 983 feet after drilling 25,286 feet on the extension of the Bevcourt orebody. When operations were suspended in 1948, a total of 8,573 feet of lateral advance had been completed and reserve of 200,000 tons averaging 0.457 oz/t Au were indicated, some ore was treated at the Perron mill.

In 1959 Buffadison transferred its claims to Bevcon Mines which mined and milled 133,948 tons of ore during the 1960-1964 period. The mine closed in 1965.

The Bevcourt section of the property owned at first by Louvre was acquired in 1944 by Bevcon Mines. A vertical shaft was sunk 2100 feet north-east of the Buffadison shaft and production was carried on from 1947 until 1951. In 1958

Bevcon acquired the adjacent property of Louvicourt Mines and treated some 89,667 tons of ore from that property. All the operations were suspended in 1965 when Bevcon Mines merged with Malartic Gold Fields. In 1970, the Bevcon Buffadison Louvicourt property was acquired by Dumont Nickel and subsequently transferred to Mid-Canada Gold and Copper Mines Ltd.

During the summer of 1980 line cutting and geophysical surveys were executed over the property, followed in 1983-84 by 33,390 ft of drilling in which numerous gold bearing quartz veins were intersected (see Socomines reports by Jean Lavallée). The ore body and the geology of the mine are discussed by J.H. Sharpe (report no. 135 1968) and by Pierre Sauvé (MB-85-04-1985).

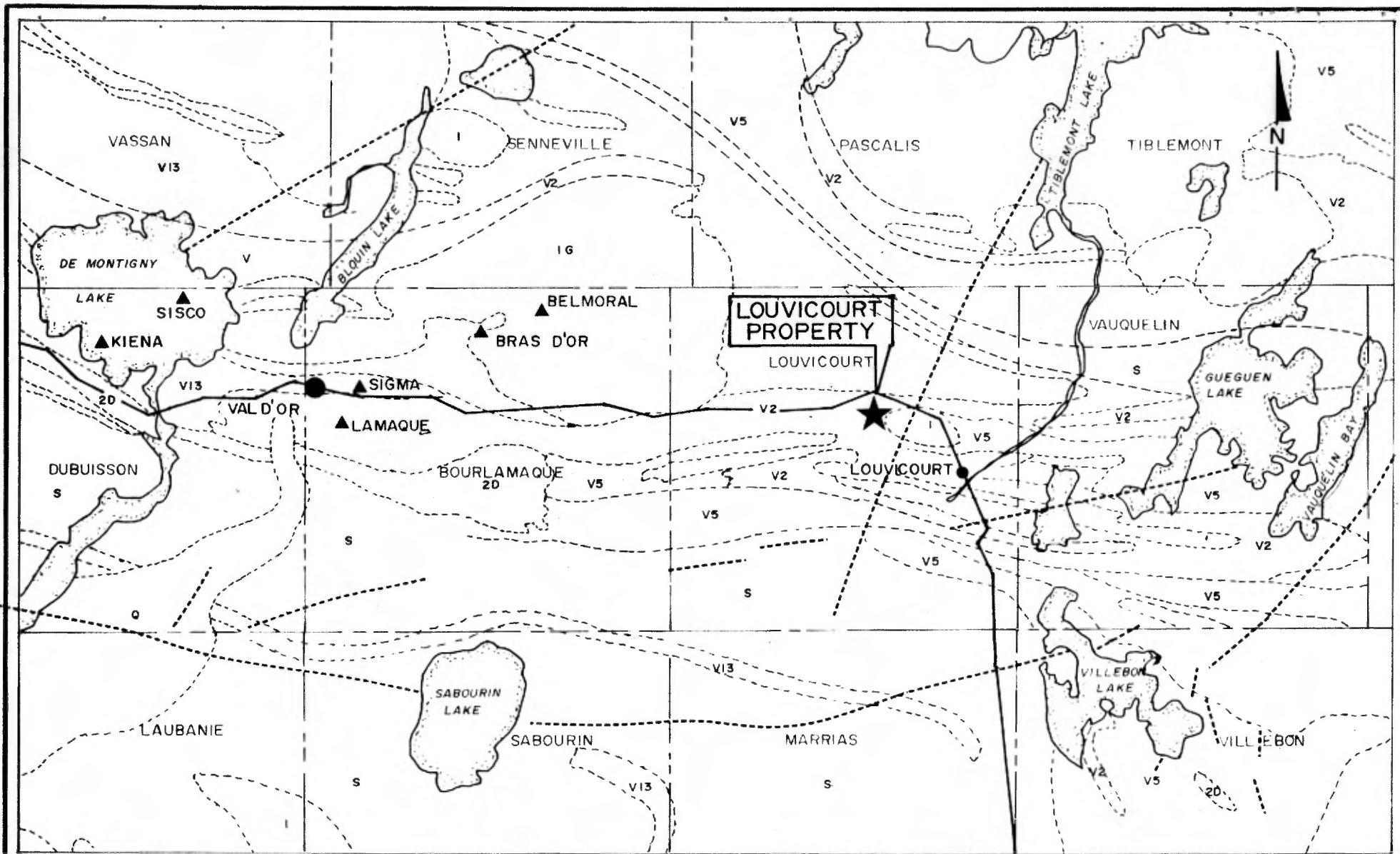
A report on estimated tons and grades by A.S. Bayne dated February 10, 1987 is also available, an estimate of the tonnage of the remnant mineralized body of Buffadison is 313,052 tons at 0.206 oz/t gold. This figure is confirmed by J.C. Caron in March 1987.

REGIONAL GEOLOGY

The bedrock of the area is made of volcanic, sedimentary and intrusive rocks belonging to the Abitibi-Wawa subprovince of the superior province of the Canadian Shield; all of them are archean in age except for proterozoic diabase dykes.

The eastward extension of the Cadillac Break is approximately located south of the property at the contact between metavolcanites of the Malartic formation and metasediments of the Pontiac Group. The Bevcon plug, which is a probable apophysis of the Bourlamarque batholith intrudes the volcanites and is the host of the mineralized zone.

Most of the ore bodies mined or discovered in the area are specially related to the Bourlamarque batholith and the Cadillac Break (Figure 3).



LEGEND

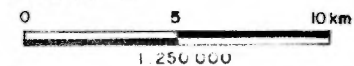
- V2 FELSIC VOLCANIC ROCKS
- V5 MAFIC VOLCANIC ROCKS
- V13 ULTRAMAFIC ROCKS
- S SEDIMENTARY CLASTIC ROCKS
- I GRANITOIDS ROCKS
- 1G GRANITE
- 2D DIORITE

- · - · - DIABASE DYKE
- - - - - GEOLOGICAL CONTACT
- ▲ GOLD DEPOSITS

**MID CANADA
GOLD AND COPPER MINES LTD
REGIONAL GEOLOGY
LOUVICOURT PROPERTY**

FIGURE 3

Scale:



GEOLOGY OF THE PROPERTY

The Bevcon-Buffadison property is located on the northern part of the Bevcon intrusive which is a quartz-diorite (tonalite and trondhjemite). This intrusive is injected in the lavas and pyroclastic rocks of the Malartic formation, 7 km north of the Pontiac metasedimentary schists. The Larder Lake - Cadillac Break, if extended enough to the east should be located on the border of these schists.

The Bevcon intrusive is altered and tectonized, it is cross cut by sheared zones striking east-west and dipping to the north almost vertically. These sheared zones are also more or less parallel to the main foliation of the area.

A quartz-albite porphyry dyke separates the mineralized zones. It has the same orientation than the subvertical sheared zones and it could have been injected in one of them. The veins, north of the porphyry dyke have the contact between the intrusive and the lavas as northern limit.

The gold bearing quartz veins are numerous. They are thin (from 1/2 to 30 inches). They have a dip from 30° to 40°. The veins north of the porphyry dyke have a southerly dip and those at the south have a northerly dip.

Gold is found exclusively in the quartz veins and specially inside pyrite crystals. Accessory minerals are rare and consist of ferrodolomite and or tourmaline.

The wallrock is generally strongly altered on a few inches on each side of the veins. This alteration consist in silicification, sericitization and sometimes in tourmalinization. Pyrite is disseminated and in small quantity (Figure 4).

Microfilm

PAGE DE DIMENSION HORS STANDARD

MICROFILMÉE SUR 35 MM ET

POSITIONNÉE À LA SUITE DES

PRÉSENTES PAGES STANDARDS

Numérique

PAGE DE DIMENSION HORS STANDARD

NUMÉRISÉE ET POSITIONNÉE À LA

SUITE DES PRÉSENTES PAGES STANDARDS

RECENT WORK

The 1986 campaign consisted in drilling 38 diamond drill holes along previously planned sections at the contact of the mineralized zone in order to better delineate the vertical and lateral extensions of the zone.

A total of 24,585 feet were drilled by J.P. Bérubé and logged at the Val d'Or office. 1294 samples covering 3 271.5 feet were assayed for gold at Laboratoire Minéralurgique 110750 Canada Inc.

Technical Data for D.D.H. are listed in Appendix A and best assays are described in Appendix B.

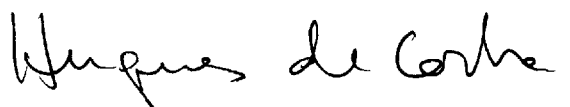
CONCLUSION

The results of the 1986-87 campaign confirm the values obtained during the preceding campaigns.

RECOMMENDATIONS

It seems, according to the previous recommendations and the results of the recent campaign, that the next step would be to go underground for further evaluation of the mineralized zone.

Dewatering of the Buffadison shaft would be done in a first phase followed by underground drilling in a second phase.



Hugues de Corta, B.Sc.

APPENDIX A

ABITIBI RESOURCES / MID-CANADA
 1986 Drilling Campaign
 (LOUVICOURT property)

HOLE #	LOCATION		AZIMUTH (degrees)	DIP (degrees)	LENGTH (feet)	SECTION
	STATION	LINE				
MA 86-1	77+10 W	4+30 S	-	90	125	7050 E
MA 86-1A	77+10 W	4+30 S	-	90	667	7050 E
MA 86-2	76+60 W	4+50 S	-	90	807	7100 E
MA 86-3	76+10 W	4+30 S	-	90	827	7150 E
MA 86-4	76+60 W	3+00 S	-	90	297	7100 E
MA 86-5	75+60 W	3+00 S	-	90	787	7200 E
MA 86-6	75+10 W	3+75 S	-	90	807	7250 E
MA 86-7	75+60 W	4+50 S	-	90	807	7200 E
MA 86-8	76+60 W	4+50 S	360	85	707	7100 E
MA 86-9	77+10 W	5+00 S	360	85	120	7050 E
MA 86-9A	77+10 W	5+00 S	360	85	627	7050 E
MA 86-10	76+10 W	5+30 S	360	85	607	7150 E
MA 86-11	72+60 W	3+75 S	-	90	757	7500 E
MA 86-12	72+60 W	4+50 S	-	90	857	7500 E
MA 86-13	74+10 W	4+50 S	360	86	807	7350 E
MA 86-14	74+80 W	5+00 S	360	85	797	7300 E
MA 86-15	73+60 W	5+75 S	360	78	787	7400 E
MA 86-16	68+60 W	8+25 S	180	85	407	7900 E
MA 86-17	68+60 W	8+25 S	180	60	457	7900 E
MA 86-18	69+60 W	8+25 S	180	85	407	7800 E

APPENDIX A

ABITIBI RESOURCES / MID-CANADA
 1988 Drilling Campaign
 (LOUVICOURT property)

HOLE #	LOCATION		AZIMUTH (degrees)	DIP (degrees)	LENGTH (feet)	SECTION
	STATION	LINE				
MA 86-19	69+60 W	8+25 S	180	60	457	7800 E
MA 86-20	70+60 W	8+25 S	180	85	657	7700 E
MA 86-21	70+60 W	8+25 S	180	66	607	7700 E
MA 86-22	71+60 W	8+25 S	180	85	597	7600 E
MA 86-23	71+60 W	8+25 S	180	70	387	7600 E
MA 86-24	72+60 W	8+25 S	180	85	587	7500 E
MA 86-25	72+60 W	8+25 S	180	71	577	7500 E
MA 86-26	72+60 W	8+25 S	180	56	407	7500 E
MA 86-27	73+60 W	8+25 S	180	75	607	7400 E
MA 86-28	73+60 W	8+25 S	180	61	427	7400 E
MA 86-29	74+60 W	8+25 S	180	75	607	7300 E
MA 86-30	74+60 W	8+25 S	180	60	417	7300 E
MA 86-31	71+60 W	5+75 S	360	80	897	7600 E
MA 86-32	70+60 W	7+00 S	180	84	697	7700 E
MA 86-33	70+60 W	6+00 S	360	78	892	7700 E
MA 86-34	72+60 W	7+00 S	180	78	817	7500 E
MA 86-35	72+60 W	10+25 S	180	75	807	7500 E
MA 86-36	72+60 W	11+75 S	180	75	837	7500 E
MA 86-37	70+60 W	10+50 S	180	75	823	7700 E
TOTAL:					24565	feet

APPENDIX B

ABITIBI RESOURCES / MID-CANADA
 1986 Drilling Campaign
 (LOUVICOURT property)

BEST ASSAYS

HOLE #	SECTION	From	To	Best assays	Vert.
				On Au/Ton	Depth (feet)
MA 86-1	7050 E				
MA 86-1A	7050 E	489.5	491.0	1.20	490
		548.0	249.5	0.36	550
MA 86-2	7100 E	425.0	427.0	0.16	426
		532.0	533.0	0.62	530
		538.0	539.0	0.37	540
		544.5	546.0	2.01	545
MA 86-3	7150 E	516.0	517.5	1.88	516
MA 86-4	7100 E			(L.V.)	
MA 86-5	7200 E			(L.V.)	
MA 86-6	7250 E			(L.V.)	
MA 86-7	7200 E			(L.V.)	
MA 86-8	7100 E			(L.V.)	
MA 86-9	7050 E			(L.V.)	
MA 86-9A	7050 E			(L.V.)	
MA 86-10	7150 E			(L.V.)	
MA 86-11	7500 E	587.5	588.5	0.35	588
		639.5	640.5	0.73	636
MA 86-12	7500 E			(L.V.)	
MA 86-13	7350 E	607.0	610.0	0.08	
		610.0	611.5	0.80	

APPENDIX B

ABITIBI RESOURCES / MID-CANADA
1986 Drilling Campaign
(LOUVICOURT property)

BEST ASSAYS

HOLE #	SECTION	From	To	Best assays On Au/Ton	Vert. Depth (feet)
MA 86-14	7300 E			(L.V.)	
MA 86-15	7400 E			(L.V.)	
MA 86-16	7900 E	148.5	150.5	0.19	148
		342.0	344.0	0.33	340
		344.0	345.0	0.18	342
		364.5	366.0	0.65	362
		387.0	388.0	0.54	385
MA 86-17	7900 E	182.0	183.0	0.27	160
MA 86-18	7800 E	74.0	75.5	0.24	74
		394.5	395.5	0.91	395
MA 86-19	7800 E	140.0	141.5	0.66	122
		171.0	172.0	0.68	138
MA 86-20	7700 E			(L.V.)	
MA 86-21	7700 E	134.0	135.5	0.53	125
		173.0	174.0	0.64	160
		212.0	213.0	3.65	195
MA 86-22	7600 E	228.5	229.5	0.43	
MA 86-23	7600 E	133.5	134.5	0.31	125
		138.5	139.5	0.30	130
		201.5	202.5	0.16	189
MA 86-24	7500 E	107.0	108.5	0.10	106
		217.0	218.0	0.71	216
		218.0	220.5	0.35	218
		224.5	227.0	0.21	225
		241.5	242.5	0.82	241

APPENDIX B

ABITIBI RESOURCES / MID-CANADA
1986 Drilling Campaign
(LOUVICOURT property)

BEST ASSAYS

HOLE #	SECTION	From	To	Best assays On Au/Ton	Vert. Depth (feet)
MA 86-25	7500 E	221.0	222.5	0.12	
MA 86-26	7500 E	147.5	148.5	0.18	
MA 86-27	7400 E	146.0	147.0	0.13	
		266.0	267.0	1.48	
		267.0	268.0	0.39	
MA 86-28	7400 E			(L.V.)	
MA 86-29	7300 E			(L.V.)	
MA 86-30	7300 E			(L.V.)	
MA 86-31	7600 E			(L.V.)	
MA 86-32	7700 E	451.0	452.0	0.16	
		481.0	482.0	0.06	
MA 86-33	7700 E	648.5	650.0	0.25	
		686.0	687.0	0.12	
		794.0	795.0	0.20	
MA 86-34	7500 E	103.5	105.0	0.14	
		114.5	115.5	0.24	
		152.0	153.0	0.22	
		168.0	169.0	2.20	
		171.0	176.0	0.12	
		443.5	445.0	0.08	
MA 86-35	7500 E			(L.V.)	
MA 86-36	7500 E	336.0	337.0	0.04	
MA 86-37	7700 E	112.0	117.0	0.04	

TONS & GRADE ESTIMATED BY GEOLOGICAL PROJECTION - "PROBABLE" ORE

TONS & GRADE INFERRED BY GEOLOGICAL PROJECTION - "POSSIBLE" ORE

VEIN	SECTION		STRIKE LENGTH feet	NEAREST MINE LEVEL		AVERAGE WIDTH feet	AVERAGE ASSAY oz. Au/ton	TONS (2000-1b) estimate	T x A factor	SOURCE OF ASSAY SAMPLES*	NEAREST MINE LEVEL		AVERAGE WIDTH feet	AVERAGE ASSAY oz. Au/ton	TONS (2000-1b) estimate	T x A factor	SOURCE OF ASSAY SAMPLES*
	From	To		No.	Depth						No.	Depth					
A	7100E	7800E	700	5	805	1.5	0.46	9,251	4,255.46	MS	5	805	1.4	0.33	1,648	543.84	MS
B	6200E	6800E	600	5	805	1.1	0.30	3,667	1,100.10	MS/DH	5	805	1.2	0.25	2,254	563.50	MS/DH
D	7800E	8000E	200	5	865	5.2	0.38	15,023	5,708.74	DH	6	905	5.5	0.27	1,145	309.15	DH
E	7700E	7900E	200	4	658	2.9	0.14	5,218	730.52	DH	4	658	3.8	0.12	593	71.16	DH
F	6450E	7200E	750	5	728	1.0	0.40	3,228	1,291.20	DH	4	728	1.0	0.23	1,152	264.96	DH
G	6300E	6700E	400	4	708	1.2	0.30	4,647	1,394.10	DH	4	708	1.0	0.30	469	140.70	DH
H	6450E	6520E	70	4	678	2.0	0.30	1,834	550.20	DH	4	678	3.0	0.71	618	438.78	DH
J	6450E	7100E	650	4	658	2.4	0.30	14,297	4,289.10	DH	4	658	1.8	0.38	2,857	1,085.66	DH
K	6600E	7000E	400	3	511	2.2	0.26	5,069	1,317.94	DH	3	511	1.8	0.28	2,299	643.72	DH
M	6300E	6600E	300	4	698	1.4	0.19	3,467	658.73	DH	-	-	-	-	-	-	-
N	6300E	6800E	500	5	835	1.0	0.48	3,657	1,755.36	MS/DH	5	865	0.75	0.71	312	221.52	DH
Lower 22	7200E	7500E	300	4/5	855	2.8	0.31	11,877	3,681.87	DH	4/5	758	3.8	0.20	5,688	1,137.60	DH
Upper 22	7300E	7800E	500	2	357	3.4	0.41	11,020	4,518.20	MS/DH	2	357	1.0	0.70	1,520	1,064.00	DH
22	7200E	7300E	100	4	658	1.3	0.35	1,853	648.55	MS	4	758	1.5	0.30	312	93.60	MS/DH
74-P-2	7400E	7600E	200	2	402	2.1	0.20	5,997	1,199.40	MS/DH	-	-	-	-	-	-	-
L	6300E	6600E	300	6	992	1.0	0.42	1,651	693.42	DH	6	1037	0.9	0.29	1,164	337.56	DH
B-1	6450E	6700E	250	5	820	2.9	0.18	4,285	771.30	MS/DH	5	805	1.6	0.27	1,013	273.51	MS/DH
Upper L	6520E	6600E	80	6	992	0.9	0.35	974	340.90	DH	5	805	0.9	0.19	1,315	249.85	DH
Upper G	6495E	6545E	50	4	678	1.5	0.62	531	329.22	DH	-	-	-	-	-	-	-
Lower J	6520E	6600E	80	4	678	1.8	0.27	2,206	595.62	DH	-	-	-	-	-	-	-
64-3-1	6425E	6475E	50	3	511	1.0	0.12	208	24.96	DH	-	-	-	-	-	-	-
64-3-2	6425E	6475E	50	3	531	1.0	0.10	208	20.80	DH	-	-	-	-	-	-	-
Upper J	6520E	6800E	280	3	596	3.5	0.14	4,009	561.26	DH	4	658	4.7	0.10	979	97.90	DH
Upper B	6575E	6625E	50	5	850	1.4	0.24	583	139.92	DH	5	855	1.4	0.24	87	20.88	DH
66-3-1	6575E	6625E	50	3	535	1.0	0.34	208	70.72	DH	-	-	-	-	-	-	-
66-3-2	6575E	6625E	50	3	561	2.1	0.62	1,250	775.00	DH	3	561	1.0	0.29	270	78.30	DH
Upper K	6600E	6900E	300	3	601	2.1	0.28	2,458	688.24	DH	3	511	1.8	0.20	1,155	231.00	DH
69-B-1	6875E	6925E	50	5	825	1.0	0.11	270	29.70	DH	5	805	1.0	0.11	333	36.63	DH
69-B-2	6875E	6925E	50	5	840	1.0	0.19	229	43.51	DH	5	805	1.0	0.19	270	51.30	DH
Upper F	6900E	7200E	300	4	658	1.8	0.17	5,176	879.92	DH	5	621	2.2	0.12	3,651	438.12	DH
69-K-1	6875E	6925E	50	2	377	1.0	0.10	416	41.60	DH	2	338	1.0	0.10	62	6.20	DH
Lower K	7000E	7100E	100	3	497	3.3	0.32	3,593	1,149.76	DH	3	497	2.8	0.28	2,905	813.40	DH
71-J-1	7075E	7125E	50	3	561	1.2	0.11	225	24.75	DH	3	511	1.2	0.11	525	57.75	DH
71-J-2	7075E	7125E	50	3	541	1.0	0.16	416	66.56	DH	-	-	-	-	-	-	-

Total 129,001 40,356.63

34,596 9,270.59

Ministère de l'Énergie et des Ressources
Service de la Géoinformation

Date: 14 MAR 1988
No G.M.: 45810

* Note: MS denotes mine channel and muck samples.
DH denotes drill core samples.

[Signature]
A.S. Bayne, P.Eng.
10 February, 1987

ANALYSIS OF TONS & GRADE ESTIMATES SHOWING UNDERGROUND MINE LOCATIONS - BUFFADISON MINE

APPENDIX I Sheet 3

TONS & GRADE ESTIMATED BY GEOLOGICAL PROJECTION - "PROBABLE" ORE TONS & GRADE INFERRED BY GEOLOGICAL PROJECTION - "POSSIBLE" ORE

VEIN	SECTION		STRIKE LENGTH feet	NEAREST MINE LEVEL		AVERAGE WIDTH feet	AVERAGE ASSAY oz. Au/ton	TONS (2000-lb) estimate	T x A factor	SOURCE OF ASSAY SAMPLES	NEAREST MINE LEVEL		AVERAGE WIDTH feet	AVERAGE ASSAY oz. Au/ton	TONS (2000-lb) estimate	T x A factor	SOURCE OF ASSAY SAMPLES
	From	To		No.	Depth						No.	Depth					
71-J-3	7075E	7125E	50	3	531	1.0	0.98	125	122.50	DH	-	-	-	-	-	-	-
71-J-4	7075E	7125E	50	3	536	1.0	0.74	270	199.80	DH	-	-	-	-	-	-	-
71-J-5	7075E	7125E	50	3	521	2.3	0.13	623	80.99	DH	-	-	-	-	-	-	-
22-1	7100E	7200E	100	4	658	2.2	0.24	2,353	564.72	MS/DH	-	-	-	-	-	-	-
74-A-1	7375E	7425E	50	6	977	2.0	0.16	833	133.28	DH	6	1027	2.0	0.16	791	126.56	DH
74-P-1	7400E	7600E	200	2	382	1.2	0.16	1,750	280.00	DH	2	382	1.0	0.68	625	425.00	DH
75-A-1	7475E	7525E	50	x	x	1.0	0.12	395	47.40	x	-	-	-	-	-	-	-
74-A-2	7462E	7537E	75	2	357	1.0	0.12	656	78.72	DH	-	-	-	-	-	-	-
76-S-1	7575E	7625E	50	3	511	2.0	0.48	1,750	840.00	DH	-	-	-	-	-	-	-
77-A-1	7675E	7725E	50	5	743	1.2	0.58	325	188.50	DH	-	-	-	-	-	-	-
Upper D	7775E	7825E	50	5	805	4.4	0.17	500	85.00	DH	-	-	-	-	-	-	-
Upper D-1	7800E	8000E	200	5	804	7.8	0.19	2,291	435.29	DH	-	-	-	-	-	-	-
Lower E	7775E	7825E	50	4	658	1.1	0.66	297	196.02	DH	-	-	-	-	-	-	-
78-E-1	7800E	8100E	300	4	593	1.6	0.52	2,581	1,342.12	DH	-	-	-	-	-	-	-
Upper M	6275E	6325E	50	-	-	-	-	-	-	-	4	668	1.0	0.15	312	46.80	DH
63-S-1	6275E	6325E	50	-	-	-	-	-	-	-	3	531	2.2	0.67	1,375	921.25	DH
G-1	6495E	6545E	50	-	-	-	-	-	-	-	4	658	1.0	1.00	166	166.00	DH
66-S-2	6575E	6625E	50	-	-	-	-	-	-	-	2	357	2.1	0.11	1,312	144.32	DH
66-S-3	6575E	6625E	50	-	-	-	-	-	-	-	1	214	2.1	0.15	500	75.00	DH
68-S-1	6775E	6825E	50	-	-	-	-	-	-	-	3	541	1.0	0.23	625	143.75	DH
68-S-2	6775E	6825E	50	-	-	-	-	-	-	-	4	600	6.5	0.21	4,062	853.02	DH
70-S-1	6975E	7025E	50	-	-	-	-	-	-	-	x	x	1.0	0.11	625	68.75	x
71-S-1	7075E	7125E	50	-	-	-	-	-	-	-	1	273	1.5	0.31	500	155.00	DH
71-S-2	7075E	7125E	50	-	-	-	-	-	-	-	1	273	1.0	0.13	333	43.29	DH
74-1-1	7375E	7425E	50	-	-	-	-	-	-	-	0	60	1.0	0.24	416	99.84	DH
74-P-2	7450E	7550E	100	-	-	-	-	-	-	-	2	422	4.8	0.14	6,000	840.00	DH
75-S-1	7475E	7525E	50	-	-	-	-	-	-	-	1	213	2.5	0.19	1,562	296.78	DH
75-S-2	7475E	7525E	50	-	-	-	-	-	-	-	1	143	2.0	0.57	1,250	712.50	DH
76-S-2	7575E	7625E	50	-	-	-	-	-	-	-	3	546	1.9	1.00	712	712.00	DH
78-S-1	7775E	7825E	50	-	-	-	-	-	-	-	6	900	2.5	0.10	1,562	156.20	DH
78-S-2	7775E	7825E	50	-	-	-	-	-	-	-	1	223	2.0	0.10	1,250	125.00	DH
78-S-3	7775E	7825E	50	-	-	-	-	-	-	-	1	113	1.0	1.00	625	625.00	DH
81-3-1	8075E	8125E	50	-	-	-	-	-	-	-	3	576	1.0	0.11	666	73.26	DH

Total Sheet 3
Fwd. Sheet 2

TOTAL & AVERAGE

14,749

129,001

143,750

4,594.34

40,356.63

44,950.97

Ministère de l'Énergie et des Ressources
Service de la Géoinformation

Date: 4 MAR 1988

No G.M.: 45810

1.9

0.27

25,269

34,596

59,865

6,809.32

9,270.59

16,079.91

A.S. Bayne, P.Eng.
10 February, 1987