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CONSULTING GEOLOGICAL & MINING ENGINEERS

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Arctic Red Resources Corp.  
Vancouver, British Columbia

062138.  
PROSPECTUS  
Filed August 27, 1982.

Report  
on the  
LAFORMA PROPERTY  
Mt. Freegold, Yukon

June 15, 1982

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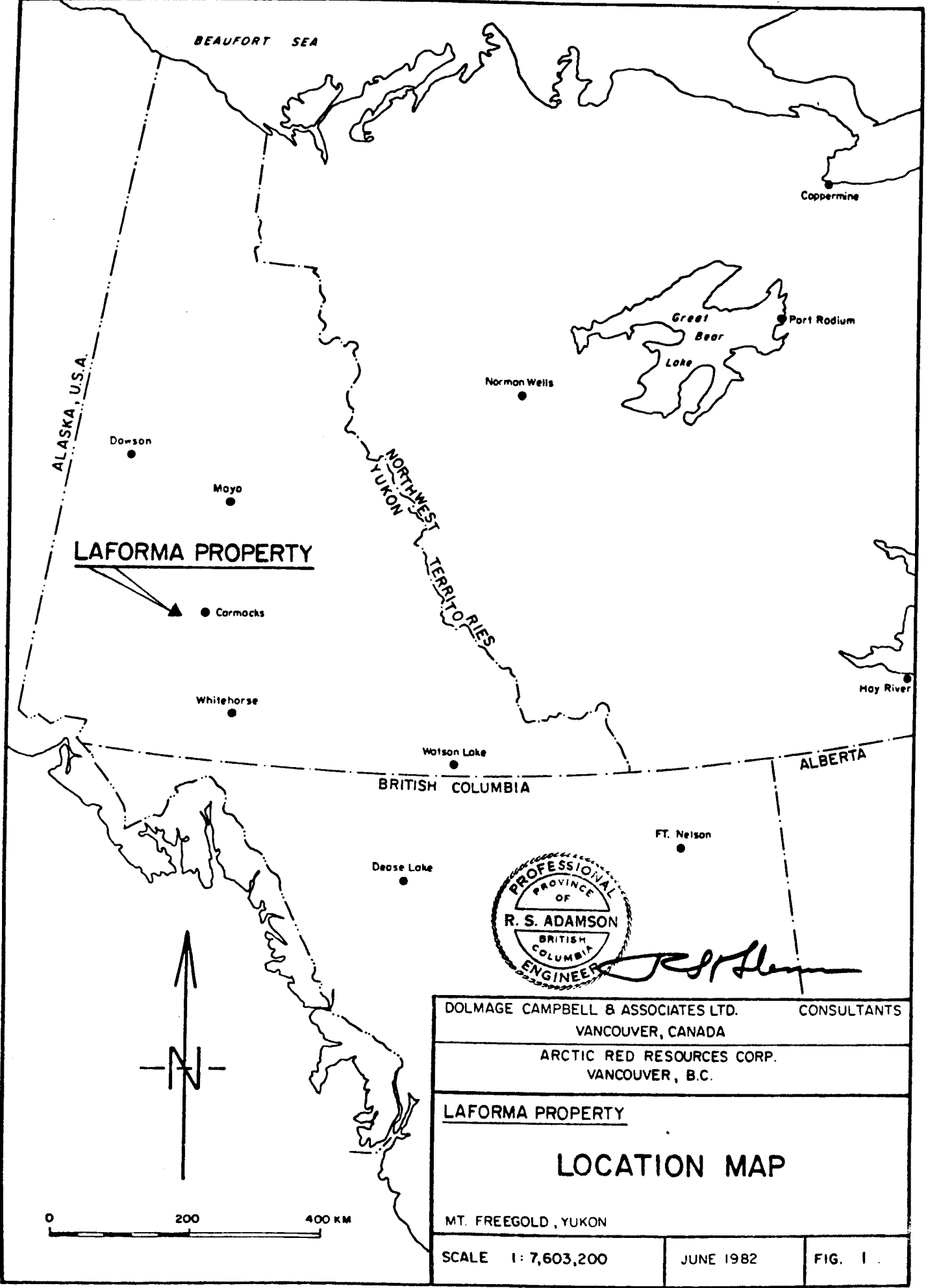
## SUMMARY

The Laforma property is a fissure vein type gold prospect, situated on Mt. Freegold approximately 65 km by gravel road from Carmacks in the Yukon Territory. The property contains the Laforma gold mine which last produced for a brief period in 1965-1966. An attempt to rehabilitate the mine in 1981 was suspended after a caved section was encountered in the lowest adit level.

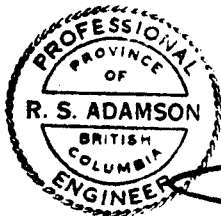
The geological setting of the Laforma mine property consists of a northeast striking, steeply dipping sheared zone approximately twelve metres in width. The main vein in the zone has been traced to date along strike for 427 metres and down dip for 254 metres. It is dislocated 425 metres to the northwest by the Pal Fault, the structure that is caved in the adit. Host rocks are essentially intrusive in origin, ranging in age from Mesozoic to Tertiary.

The Laforma mine is comprised of four levels of underground workings driven on the G-3 vein structure. In the mid-1960's two ore shoots were identified and partially developed on the main vein and a third shoot was outlined on a branching vein. Prior to terminating production an indicated reserve of 68,546 tons of gold-bearing material grading 0.44 oz. per ton was calculated by Discovery Mines Ltd., the previous operators. Underground drilling indicates at least one of the two shoots extends beneath the lowest adit level. The G-3 structure remains open for exploration beneath the lowest adit level, along the strike of the zone to the northeast, and possibly on its faulted extension to the southwest.

Renewed exploration within the Laforma mine is warranted on the premise that the presently indicated grade can be improved by introducing better ore control procedures and mining practices. An underground exploration program is proposed to confirm and recategorize the indicated reserve, to explore for additional reserves, and to secure metallurgical samples. The estimated cost of the program is \$554,000.



**LAFORMA PROPERTY**



*R. S. Adamson*

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VANCOUVER, B.C.

LAFORMA PROPERTY

**LOCATION MAP**

MT. FREEGOLD, YUKON

SCALE 1: 7,603,200

JUNE 1982

FIG. 1

## INTRODUCTION

Dolmage Campbell & Associates (1975) Ltd. have been asked by Arctic Red Resources Inc. to review the most recently accumulated data from their Laforma Mine property in the Yukon, to prepare an updated report, and to make appropriate recommendations for further work if warranted. The writer last visited the property on May 16, 1980 when he examined a potentially large-tonnage, low grade, gold-silver zone (the Gold Porphyry Zone) and surface diamond drill core that was stored on the property. He was not able to directly examine the Laforma underground mine at the time because the workings were inaccessible.

This report assesses the economic potential of the fissure vein deposit exposed in the Laforma Mine in the light of the present gold price. Because the underground workings remain inaccessible, a second examination of the property was not deemed to be required in the preparation of the report.

### LOCATION AND ACCESS (62°20'N.Lat.; 137°00' W.Long.)

The Laforma property lies on the upland between Seymour and Stoddart Creeks 65 km west of Carmacks in the Yukon Territory, (Figure 1). An all weather gravel road connects the property with the small community of Carmacks situated on the Klondike Highway. The access road is suitable for normal vehicular traffic.

### PROPERTY

The Laforma property comprises a group of leased mineral claims optioned from Discovery Mines Ltd., (the Discovery II Option on Figure 2), the Gnat group, and the Seymour group of mineral claims. The claims with their respective grant numbers are enumerated as follows:

#### 1. DISCOVERY II OPTION (LAFORMA MINE)

<u>Mining Lease</u>	<u>Claim Name</u>	<u>Grant No.</u>
791	Kim Fraction	73762
792	Liz Fraction	73763
793	Loon Fraction	73764
794	Yukonia No. 1	55645
795	Yukonia No. 2	55649
796	Yukonia No. 3	55651
797	Yukonia No. 4	55661
798	Yukonia No. 5	55680
799	Yukonia No. 6	55721
800	Key Fraction	4231
801	Pal	4222

<u>Mining Lease</u>	<u>Claim Name</u>	<u>Grant No.</u>
802	Mona	55619
803	Neil	55662
804	Baker	55613
805	Connie	55627
806	Bill Fraction	55669
807	Jim	55628
808	Goose	39175
809	Mill No. 1	55989
810	Mill No. 2	55990
811	Mill No. 3	55995
815	Donalda No. 4	39172
816	Donalda No. 5	39173
817	Donalda No. 6	39174
819	Donalda No. 8	55811

## 2. GNAT GROUP

<u>Claim Name</u>	<u>Grant No.</u>
Gnat 1-31 inclusive	YA 24934 - YA 24964 inclusive
Gnat 32F-39F inclusive	YA 24965 - YA 24970 inclusive
Gnat 40-102 inclusive	YA 24971 - YA 25032 inclusive

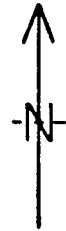
## 3. SEYMOUR GROUP

<u>Claim Name</u>	<u>Grant No.</u>
Seymour 1-44 inclusive	YA 60053 - YA 60096 inclusive

Two groups of claims that occur within the composite claim group, (Discovery II option, Gnat, and Seymour) are not part of the present property. They are the Guder and Dart claims, (Figure 2).

Mt. Freegold peaks gently near the centre of the property at 1454 metres above sea level. The mountain is essentially an isolated northwest trending ridge that is separated from the Dawson Range by Seymour Creek and from the Yukon Plateau to the east by Stoddart Creek.

The topography of the property is governed by erosional features that are devoid of glacial modification. Most of the property is above the treeline which occurs at the 1280 metre elevation on the south slope of Mt. Freegold and the 1130 metre elevation along Stoddart Creek on the north slope. Buckbrush covers the mountain slopes above treeline. Rock outcrops, therefore, are not plentiful.



SEYMOUR CLAIMS

Guder Claims

△ Mount Freegold

GNAT CLAIMS

LAFORMA CLAIMS

G3 Vein

DISCOVERY II OPTION

Au-Pry Zone

Dart Claims



*R. S. Adamson*



DOLMAGE CAMPBELL & ASSOCIATES LTD CONSULTANTS VANCOUVER, CANADA		
ARCTIC RED RESOURCES CORP. VANCOUVER, B.C.		
LAFORMA PROPERTY		
PROPERTY MAP		
MT FREEGOLD, YUKON		
SCALE: AS SHOWN	JUNE 1992	FIG 2

## HISTORY

The Mt. Freegold gold district was identified in 1930 when P.F. Guder discovered gold-bearing magnetite in skarn deposits on the north-west slope of the mountain. A staking rush was precipitated in 1931 when several gold-bearing quartz veins were discovered in the area.

During the period 1934 to 1940 a series of operators initiated active exploration and development which culminated in small scale production at a rate of 10 tons per day from the Laforma Mine beginning in 1939. Work ceased in 1940 after 1418 tons had been mined and milled. Adits had been driven on the Alpha vein and on three levels on the G-3 vein.

The Laforma Mine property after its purchase by Ormsby Mines Ltd. in 1960 was brought into production in mid-1965 by Discovery Mines Ltd. as operator. Drifting of the G-3 vein on three levels, minor raising, and some underground drilling were done prior to reaching a production decision. A 100 ton per day capacity mill was constructed and production initiated prematurely in order to take advantage of an enhanced gold price under the Emergency Gold Mining Assistance Act prior to its termination in June 1965. Rising labour costs in the Yukon, poor mill recovery attributed to the absence of a cyanide circuit in the mill, a hardened gold price, and lower than anticipated ore grade mineralization caused by excessive dilution all apparently contributed to a decision to shut down the operation in February 1966.

In 1974 a Rayrock Mines-Ashland Oil joint venture optioned the Laforma Mine property and carried out an extensive soil geochemical survey over the area. Several gold-silver-arsenic soil anomalies were identified and in 1975 were drilled. The venture dropped its option in 1976.

In 1979 Esperanza Explorations staked the Gnat group of claims adjoining the Laforma mine property. In May 1980 Esperanza entered into an agreement for the optioning of two blocks of leased claims from Discovery Mines Ltd. that formerly comprised the Laforma property. The company also entered into an agreement for the optioning of claims held by Mr. P.F. Guder. The four claim blocks were subsequently vended to Arctic Red Resources Corp.

Arctic Red Resources carried out surface exploration work in 1980 and 1981 and unsuccessfully attempted to rehabilitate the fourth level of the Laforma Mine. The company subsequently returned their Guder and Discovery I optioned claims to the owners but retained the Discovery II (Laforma Mine) optioned block.

## REPORT RECAPITULATION

Within the past five years, Arctic Red Resources received three engineering reports on the property. They are:



a) "Report on the Mt. Freegold Property, Dawson Range, Yukon"; dated May 26, 1980 by R.S. Adamson, P. Eng., Dolmage Campbell & Associates (1975) Ltd.

b) "1981 Final Report for Freegold Project"; dated November, 1981 by R.C. Carne, M.Sc. and A.R. Archer, P. Eng., Archer Cathro and Associates Ltd.

c) "Letter Report on the 1981 underground program on the Laforma Property, West of Carmacks, Y.T."; dated February 15, 1982 by R.T. Trenamen, P. Eng., Trenamen Spencer & Associates Ltd.

The Dolmage Campbell report recommended a two part exploration program. It was to comprise a surface exploration program centred on a large tonnage, low grade, gold prospect (the Gold Porphyry Zone) and an underground exploration program in the Laforma mine.

Archer, Cathro & Associates carried out the surface program, the results of which are incorporated in their November, 1981 report. In 1980 the proposed geochemical survey was undertaken and the 1975 drill core (1271 metres) was relogged. In 1981 an induced polarization survey was conducted over the Gold Porphyry zone on the Discovery I option. The survey was followed by drilling ten holes (1192 metres) on the zone. Further exploration, including additional drilling, was recommended to be carried out in 1982; however, because of its low grade and the lower gold price the Discovery I option was relinquished.

Trenamen Spencer & Associates directed the implementation of the proposed underground program by initially rehabilitating the fourth level adit on the G-3 vein zone. However, this undertaking proved to be unsuccessful as a major running cave encountered 344 metres from the portal at the Pal Fault prevented further progress. To complete the program in 1982, Trenamen proposes either to spile through the caved section by employing miners with extensive timbering experience or by drifting around the cave. Neither recommendation has yet been executed.

#### OTHER REFERENCES

Various mine assay plans and sections pertinent to the operation of the Laforma Mine during the production period 1965-66 were made available to the writer. In addition the following reports were reviewed and provide the basis for this report:

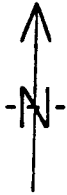
1. "Report on the Laforma-Fairclough Property of Ormsby Mines"; A.P. Beavan, P.Eng., May 2, 1962.
2. "Geology and Mineral Deposits of Freegold Mountain, Carmacks District, Yukon"; J.R. Johnson, 1963, Memoir 214, Geological Survey of Canada.

3. "Report on Laforma Property"; A.P. Beavan, P.Eng., September 1963.
4. "Report on Ormsby Mines Ltd. Laforma Property"; W.E. Clarke, P.Eng., December 9, 1963.
5. "Evaluation of Laforma Property"; A.P. Beavan, P.Eng., Dec. 15, 1963 for Ormsby Mines Ltd.
6. "Laforma Property, Ormsby Mines Ltd."; W.E. Clarke, P.Eng., Feb. 6, 1964.
7. "Laforma Operation, Summary Report"; G.W. McConnell, P.Eng., Dec. 6, 1964.
8. "Report on Feasibility of Production from Laforma Property"; A.P. Beavan, P.Eng., Dec. 22, 1964.
9. "Report on Current Ore Reserves, Ore Controls, Operating Costs, Laforma Project, Discovery Mines Ltd."; by W.E. Clarke, P.Eng., January 7, 1965.
10. "Ore Reserve Summary, Laforma Mine"; H.A. Sanche, B.Sc., for Discovery Mines Ltd.; March 5, 1966.
11. "Report on Operations, Discovery-Laforma Project, Carmacks, Y.T."; N.W. Byrne, P.Eng., September 20, 1965.
12. "Report on the 1974 Geochemical Soil Survey of the Laforma Property"; T. Antoniuk, P.Eng., December 13, 1974.
13. "Report on 1975 Diamond Drill Program at the Laforma Property, Mt. Freegold, Y.T., T. Antoniuk, P.Eng., December 19, 1975.

## GEOLOGICAL SETTING

### PROPERTY GEOLOGY

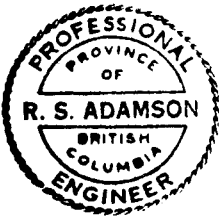
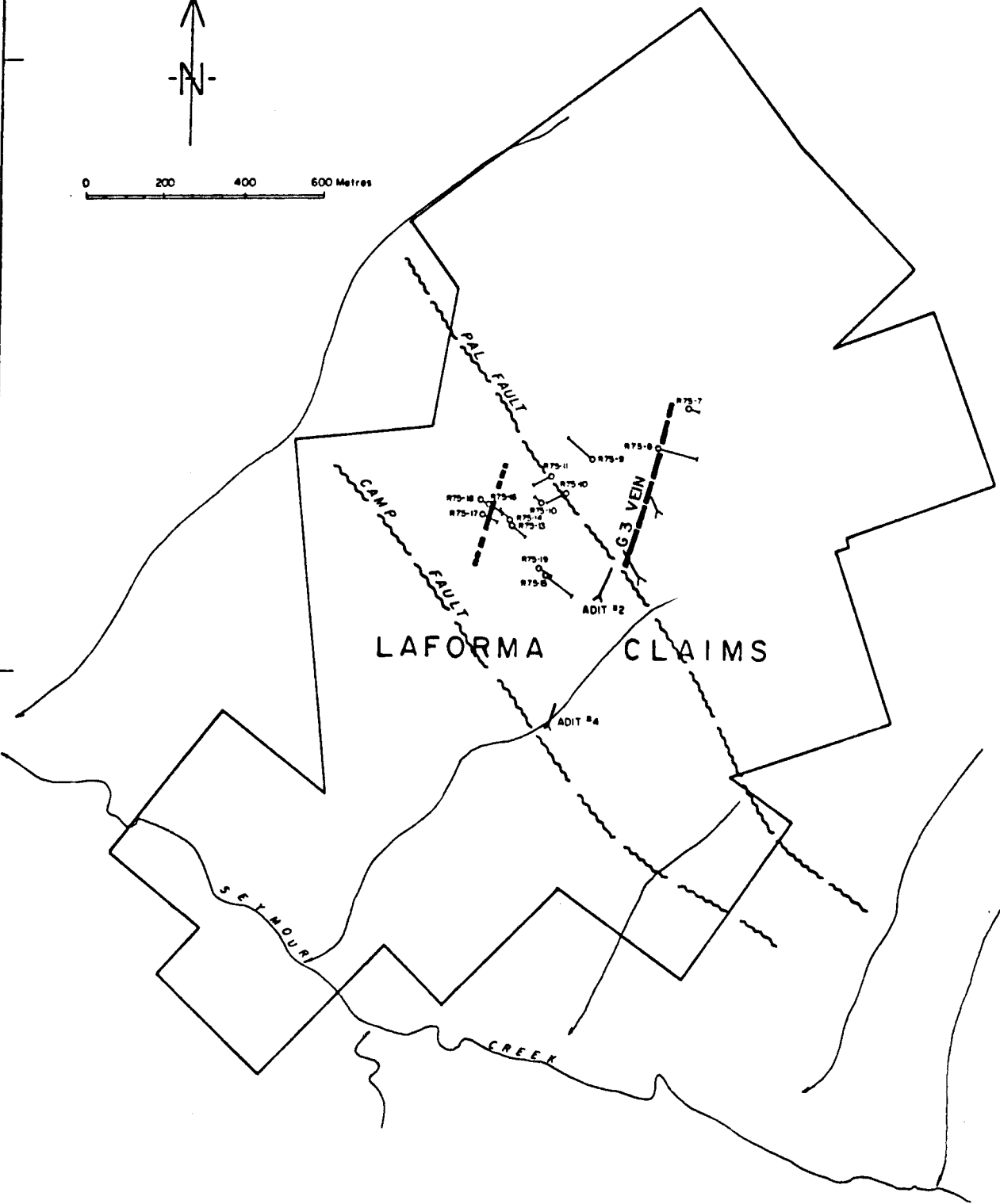
The Mt. Freegold district is underlain by Paleozoic metamorphic rocks of the Yukon Group that were intruded successively by Triassic hornblende granodiorite, Triassic syenite, Lower to Middle Jurassic granodiorite, and Tertiary feldspar porphyry. The metamorphic rocks consist largely of interbedded schist and quartzite with minor lenses of amphibolite and limey units. The hornblende granodiorite, a foliated, light coloured, coarse grained, equigranular rock ranges in composition from quartz monzonite to quartz diorite. The syenite unit is coarse



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0,000 N



*R. S. Adamson*

0 N

DOLMAGE CAMPBELL & ASSOCIATES LTD CONSULTANTS VANCOUVER, CANADA		
ARCTIC RED RESOURCES CORP. VANCOUVER, B.C.		
DISCOVERY II OPTION <b>LAFORMA MINE SURFACE PLAN</b>		
MT. FREEGOLD, YUKON		
SCALE, AS SHOWN	JUNE 1982	Fig 3

grained and grey coloured and contains greenish hornblende phenocrysts. The younger granodiorite is medium grained and more homogeneous. The feldspar porphyry occurs as numerous small plugs and north-westerly trending felsite dykes.

Two strong, west northwest trending faults, (the Pal and Camp Faults) cut across the length of the property, (Figure 2). Steeply dipping, second order faults strike north northeasterly. The G-3 vein zone occupies one of these latter structures, (Figure 3).

### G-3 VEIN ZONE

The G-3 vein zone consists of a highly altered, braided fracture system invaded by rhyolite and andesite dykes. The structure, approximately 12 metres in width strikes north 25° east and dips 80° northwest.

The main quartz vein within the fault zone has been traced along strike by drifting underground for 427 metres. The vein remains open and strong along strike to the northeast, but its southwest extension is dislocated 425 metres northwesterly by the Pal Fault, (Figure 3). The overall vertical distance of the vein has been traced to a depth of 254 metres by a single hole drilled from underground. It remains open at depth.

### LAFORMA MINE

The Laforma Mine was initially established in the 1930's by driving three adits and drifting the G-3 vein structure on three levels. In the 1960's Discovery Mines Ltd. collared a fourth adit at the 3365 foot elevation, then drifted the vein for 427 metres after intersecting the vein at 358 metres from the portal.

In the mine area two ore shoots were established on the main vein separated by a 69 metre low grade interval. A third shoot is present on a branching structure in the footwall of the main vein. It is reported that approximately 44% of the vein on the No. 4 adit level was ore or sub-ore grade. It was also reported that 75% of the gold in the ore was free-milling. This recovery level was reached during the brief milling operation.

### INDICATED RESERVES

Upon suspension of operations in early 1966, Discovery mines calculated a final ore reserve in the following categories:



Proven Ore (Average width 5.5 feet), apparently readily mineable.

South Shoot	32,616 tons @ 0.30 oz. per ton
North Shoot	<u>18,415 tons @ 0.48 oz. per ton</u>
Total	51,031 tons @ 0.36 oz. per ton

Probable Ore (Average width 4.0 feet).

Footwall Shoot	<u>17,515 tons @ 0.67 oz. per ton</u>
<u>Total Reserve</u>	<u>68,546 tons @ 0.44 oz. per ton</u> =====

The distribution of these reserves is shown on Figure 4.

The proven and probable ore categories were predicated on the following observations by Discovery Mines' personnel:

"All tonnages (north and south zones) average the 5.5 feet width that was realized in stoping to March 1966" and

"Since wall rock on the footwall vein is not badly broken a 4.0 foot mining width is thought to be applicable".

The operation at the Laforma Mine was initiated in 1961 on the basis of a proven reserve of 77,350 tons grading 0.69 oz. per ton. However, because of "heavy" ground conditions along the main vein the anticipated 4.0 foot mining width was not attained.

Underground drilling by Discovery mines indicates that the north shoot extends to at least 117 metres below the No. 4 adit level, (Figure 4). Beneath the north ore shoot eight drill holes returned values averaging 0.76 oz. per ton. The deepest hole (UG 24) intersected 0.42 oz. per ton across a mineable width.

## CONCLUSIONS

In the Laforma mine there is an indicated reserve of 68,546 tons of gold-bearing vein material averaging 0.44 oz. gold per ton. This reserve may be expanded by exploring the vein structure along strike to the northeast and down dip beneath the No. 4 adit level.

In order to economically exploit the G-3 vein system at current gold prices, it will be necessary to improve the indicated grade either by narrowing the mining width to less than the 5.5 feet previously established or by identifying small, higher grade shoots within the presently indicated reserve. The previous operators developed the mine under accelerated ("crash") conditions because of their intent to achieve formal production before the government withdrew the Gold Mining Assistance subsidy in mid-1965. There is, therefore, reason to believe that by employing carefully controlled mining procedures and by establishing a higher cut-off grade, higher grade vein material may be identified, although the presently indicated reserve tonnage obviously will then be reduced.

With the expectation that higher grade material can be identified and sufficient additional reserves of a similar grade can be found on the projected vein zone, renewed exploration of the G-3 vein system is fully justified.

## RECOMMENDATIONS

An underground exploration program to be carried out on the G-3 vein system is proposed. The program's objective should be to confirm and recategorize the indicated reserves that presently exist above the No. 4 adit level in the Laforma mine, to explore for additional reserves in the immediate mine area, and to secure typical run of mine samples for metallurgical tests.

The specific program should comprise:

1. rehabilitating the underground workings. This must include either spiling through the caved section of the No. 4 adit level or else drifting around the cave. Rehabilitation of the level will probably require considerable timberling.
2. sampling and mapping the vein on the second, third and fourth levels.
3. drifting the vein to the northeast on the No. 4 adit level.
4. establishing crosscuts for diamond drill stations on the level at appropriate intervals.

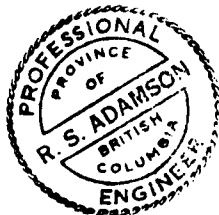
5. drilling several holes above and below the No. 4 adit level, and possibly above the No. 2 adit level, from the crosscuts.

6. securing samples of vein material for metallurgical testing.

The cost of the proposed program, which should include 200 metres of drift and crosscut and 900 metres of drilling is estimated as follows:

- Underground rehabilitation		\$150,000
- Crosscutting and drifting	200 m @ \$1000 per m	200,000
- Diamond drilling	900 m @ \$83 per m	74,700
- Metallurgical test work		5,000
- Road maintenance		5,000
- Supervision, geology, sampling, surveying		40,000
- Camp maintenance (excluding miners and drillers)		12,500
- Assays		1,000
- Field support (travel, communications, draughting, freight, expediting, etc.)		<u>6,300</u>
		\$494,500
- Contingencies (12%)		<u>59,500</u>
		\$554,000
		=====

Respectfully submitted by  
DOLMAGE CAMPBELL & ASSOC. (1975) LTD.



A handwritten signature in black ink, appearing to read "R. S. Adamson".

Robert S. Adamson, P. Eng.



DOLMAGE CAMPBELL & ASSOCIATES (1975) LTD.

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CERTIFICATE

I, Robert S. Adamson, with business and residential addresses in Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geological engineer.
2. I am a graduate of the University of British Columbia, (B.A.Sc. in Geological Engineering, 1957).
3. I am a registered Professional Engineer of the Province of British Columbia.
4. From 1957 until 1967 I was engaged in mineral exploration in Canada as a geologist for a number of companies. I was Chief of Exploration for Anvil Mining Corp. Ltd. when I retired in 1967 to join the firm of Dolmage Campbell & Associates Ltd. as a senior engineer. In 1968 I became a principal in the firm.
5. I examined the Mt. Fregold property and drill core on the property on May 16, 1980.
6. I have not received, directly or indirectly, nor do I expect to receive any interest, direct or indirect, in the property of Arctic Red Resources Corp. or any affiliate thereof, nor do I beneficially own, directly or indirectly, any securities of Arctic Red Resources Corp. or any affiliate thereof.

Respectfully submitted,



A handwritten signature in black ink, appearing to read "R. S. Adamson".

R.S. Adamson, B.A.Sc., P. Eng.  
Vancouver, Canada