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REPORT ON

FOUR NATIONS PROPERTY

GRENFELL TOWNSHIP

LARDER LAKE MINING DIVISION
ONTARIO

FOR

FLINTROCK MINES LIMITED

Peter T. George, P.Eng.,
Consulting Geologist

Downsview, Ontario
October 15, 1986.

OM86-6-C-45

SUMMARY

The purpose of this report is to evaluate the exploration potential of the Four Nations property. The property was first examined by the author on July 31, 1986 at which time it was suspected that the area of trenching north of the Blanche River was not located correctly on old maps relative to the Four Nations shaft or to the drill collars of the 1963 - 1965 drill holes completed by Flintrock Mines Limited.

Assay values obtained by Four Nations Reserve Mining Company in the 1920's and by Sylvanite Gold Mines Limited in the 1930's from channel samples taken from part of the area of trenches indicates potential for grades averaging 0.22 to 0.25 ounces gold per ton across average widths of 7.5 to 7.8 feet. Drilling completed during 1963 to 1965 by Flintrock failed to indicate any potential for the downdip extension of these structures. As a result of the preliminary property examination it was recommended that a small grid be established in the vicinity of the trenches north of the Blanche River, that the area be mapped with the objective to properly tie in the location of the underground workings, the 1963-65 drill collars and the trenches, and that a program of power stripping be completed in order that the trenches could be resampled.

The recommended work was completed during the period September 20 to October 5 with the exception that the power stripping was cancelled as it became obvious that: (1) the previous channel samples taken were well done and there was reasonable correlation between values taken by independent samplers (Four Nations and Sylvanite), (2) the location of the trenches and the old muck piles would make it very difficult to clear the area with power equipment, and (3) the previous drilling had been mislocated relative to the trenches and did not test the zone.

A preliminary program of drilling consisting of 3 holes totalling 1200 feet is recommended at an all-up cost of $26,000 to evaluate the downdip potential of the vein system. If successful, additional drilling will be required to further assess the zones at depth and along strike. Further positive results would probably result in a recommendation to dewater the shaft and further evaluate the downdip potential of the vein system from the underground workings in addition to re-examining the known mineralization exposed in the workings.

PROPERTY, DESCRIPTION AND LOCATION

The property consist of 16 patented mining claims numbered as follows:

L7937 L8215 L8238 1/2 L8239 L8785 L8786 L8787 L10554
L10673 L10674 L11933 L11934 L12088 L12089 L12178 L14821

The claims are located in the southeast quarter of Grenfell Township, Larder Lake Mining Division, Ontario. All services required to support mining operations are available in the immediate vicinity of the property which is located approximately 4 miles ~~east~~ W. of Kirkland Lake.

PROPERTY HISTORY

Gold was first discovered on the Four Nations property in 1917 and a shaft was sunk to 25 feet. During the 1920's the property was taken over by the Four Nations Reserve Mining Company Inc. During 1925 the gold showings on the north side of the Blanche River on claim L7937 were discovered and trenched. Between 1926 and 1928 the company sank a shaft to 536 feet with levels at the 125, 250, 375, and 500-foot levels and carried out approximately 2,500 feet of lateral work, mostly on the 500-foot level. In 1929 the property was taken over by Four Nations Gold Mines Limited which company declared bancrupcy in 1930.

In 1933 the property was acquired by the Four Nations Consolidated Gold Syndicate which later in the same year was incorporated as Four Nations Consolidated Gold Mines Limited. During the period November 1933 to November 1934, 1,065 feet of drifting, 1,451 of crosscutting and some diamond drilling was carried out. During the summer of 1934 Sylvanite Gold Mines Limited examined the property including resampling of the trenches north of the Blanche River. In March 1935 due to failure to maintain option payments the company lost the property.

In 1944 the property was acquired by A. E. Campbell of Stratford. No work was carried out during the period 1944 to 1963 when the property was acquired from the Campbell estate by Flintrock Mines Limited.

During the period August 27 to October 4, 1963 Flintrock completed 2067 feet of drilling in 8 holes. These holes were drilled in the vicinity of the trenches on the north side of the Blanche River, however, only modest gold values were encountered in a few of the holes (Pain 1963).

During the period November 10, 1964 to April 12, 1965 Flintrock completed 6,649 feet of drilling in 12 holes. Five holes were drilled in the vicinity of the old Four Nations shaft in an attempt to reassess the auriferous shear zone that was exposed by drifting on the 500-foot level. Intersections of what is possibly the shear zone did not contain significant gold values, however, the geometry of the zone inferred from the drilling does not correlate with the location of the zone on the 500-foot level. The seven hole program completed during the winter of 1964-65 north of the Blanche River was conducted in the same area as the 1963 program and intersected structures were weak and gold values were disappointing (Campbell 1965).

No work has been carried out on the property since 1965 other than the recent work under the author's supervision.

RESULTS TO DATE OF 1986 WORK PROGRAM

(A) Relative Location of Trenches, Shaft Collar and Previous Drilling

The author visited the property on July 31, 1986 primarily to inspect the area of trenching on the north side of the Blanche River. As a result of this examination, the area of trenches was located and it was concluded that the location of the trenches did not correspond to the location indicated on drill plans related to the 1963-65 drilling completed by Flintrock. At that time the available assay data for the trenches was reviewed and it was concluded that there was reasonable correlation between the assay data that resulted from Sylvanite Gold Mines property examination in the 1930's and an old Four Nations assay plan for the trenches (See Table 2). Sylvanite indicated an average grade of 0.25 ounces gold per ton over an average width of 7.8 feet over a sampled strike length of 200 feet (10 channel samples each made up of 2 to 5 individual samples) whereas Four Nations indicated an average grade of 0.22 ounces gold per ton over an average width of 7.5 feet over the same sampled strike length of 200 feet (See Table 3).

The discrepency in location of the trenches indicated to the author that the 1963-65 drilling was carried out in the vicinity of a series of trenches that lie to the east-northeast of the trenches sampled by Sylvanite and Four Nations. Because of the significant assays indicated by the old work and the possibility that the 1963-65 drilling was mislocated relative to the auriferous trenches a small program of gridding was recommended to be followed by geological mapping and stripping.

The attached Map 1 summarizes the result of the field work completed.

Four of the old drill set-ups were located and because of their positions relative to one another they have to be the locations of Holes 2 and 4 from the 1963 drill program and Holes FN-7, FN-10, and FN-11 from the 1964-65 drill program.

Clearly with the possible exception of Hole 2 of the 1963 program the area of significant trenches was not tested by the drilling. The logs for Hole 2 are not available but a progress report and related assay sheets are available. The hole was drilled to a depth of 200 feet with the following assays reported:

From - To	Assay (oz.per ton)
35.5 37.0	0.10
80.0 81.0	0.03
95.0 96.0	0.03
102.0 105.0	0.04
151.0 152.0	0.01
168.0 173.0	0.02

The hole probably stopped short of the vein zone.

The collar of the Four Nations Shaft was tied into the new grid by running a line north from the shaft to the south shore of the Blanche River and taking bearings on the ends of the new lines where they meet the north shore of the river. This rudimentary tie in would suggest that the shaft is approximately 250 feet further to the north-northwest relative to the trenches than is indicated on the old maps. This should be confirmed by a proper land survey prior to undertaking any work on the south side of the river in the vicinity of the shaft.

During the 1986 program no effort has been made to reassess the available underground data and the drilling that was carried out south of the Blanche River during 1964-65 by Flintrock Mines. This work will be done prior to any decision to go underground.

(B) Geology of the Vein Zone

No effort was made to thoroughly clean out the trenches as it would entail a considerable expense which given what could be observed was not deemed to be warranted.

Sufficient exposure was available along the walls of the trenches to determine the nature of the vein zone and locally the floor of the trenches could be exposed and it was evident that the channel samples cut by previous samplers were of high quality (4 to 6 inches wide by 1 inch deep).

In the vicinity of the trenches there are a number of subparallel vein zones that occur within host rocks that are massive (locally pillowed), dark green, iron tholeiite basalts of the Kinojevis Group. The mafic volcanic rocks strike in a north to north-northwesterly direction, and dip near vertically.

The vein zones strike in a northeast to east-northeasterly direction and dip vertically to 70 degrees south. The vein zones are characterized by irregular grey quartz stringers within sheared, altered mafic volcanic rocks. Generally the quartz stringers are narrow and of limited strike length, however, locally the quartz veins are 6 inches to 3 feet wide with exposed strike lengths of 20 to 30 feet. Within the vein zone the normally dark green volcanic rocks are bleached to a pale green to buff colour due to a combination of sericite-carbonate (ferrodolomite) alteration and silicification. The altered zones vary in width from 5 to 20 feet. Locally the altered rocks are brecciated with secondary remobization of quartz vein material.

Both the Four Nations and the Sylvanite assay data indicates that gold values occur both within the well developed quartz veins and within the altered, quartz stringered wall rocks. No visible gold was seen during the present work, however, free gold is noted in prior work on the property.

Map 2 illustrates the area of trenching on the vein zone with significant assays noted for the Four Nations and the Sylvanite assays. Table 2 presents for comparison the detailed assays from the trenches. The proposed drilling will test the downdip potential of this vein zone.

The fault zone shown on Map 2 is from the Sylvanite records and presumeably was observed by the Sylvanite geologist. This area is currently covered with a humic layer and could not be observed, however, in the vicinity of the trenches on the Blanche River (Line 3+00E) a northwesterly striking fault zone is exposed which is immediately along strike from and is probably equivalent to the "Sylvanite" fault. This fault zone terminates and offsets the vein zone to the east of the trenches and the sense of offsetting, i.e., to the north or to the south is not known.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are drawn based on (i) a review of previous data for the area of trenching north of the Blanche River and (ii) the field work carried out during 1986:

(1) The vein zone in the trenches north of the Blanche River has significant gold mineralization (0.22 to 0.25 oz. gold per ton) over average widths (7.5 to 7.8 feet) that would be feasible to mine economically given the presence of sufficient tonnage of material. The grade of the material in the trenches has been confirmed by two sets of samples, one of which, the Sylvanite sampling was carried out by an independent third party.

(2) The nature of the alteration and bleaching of the host rocks within the vein zone should make the vein zone very obvious in any core drilling completed under the trenches.

(3) The drilling carried out by Flintrock during the 1963-65 period which is the only recorded drilling in the area of the property north of the Blanche River failed to encounter the vein zone and the results of the work carried out in 1986 clearly indicates that the holes were spotted to be drilled under the wrong set of trenches.

(4) Based on the relationship of the collar of the Four Nations shaft to the zone of trenching on the vein zone it would appear that the drift on the 500-foot level that was extended north beneath the Blanche River stopped just short of the area of the trenches, however, more importantly it would appear that the underground workings lie to the east of the "Sylvanite" fault referred to in the geological section above and could not have encountered the zone unless it was offset to the south on the east side of the fault. Assuming that the underground workings are correctly located this suggests that the vein zone is offset to the north, on the east side of the fault. Reference is made in the report of Pain (1963, p.6) to the fact that the north crosscut ended in a fault zone without encountering any clue of where the vein zone might be at that depth.

In summary it is concluded that a modest program of drilling is warranted to test the downdip potential of the vein zone exposed in the trenches. Positive results in this preliminary program would provide impetus for an expanded program of exploration on the vein zone.

The following recommendations are made:

(1) Three shallow drill holes are proposed (Holes 4N-86-1, 2, and 3) as indicated on Map 1 to be drilled beneath the vein zone at an estimated cost of approximately $26,000 as detailed in Table 1.

(2) As time permits during the drill program, the drill geologist should make an effort to locate the collars of some of the drillholes collared in the vicinity of the Four Nations Shaft (Holes FN-1 to 6).

(3) Given positive results in the preliminary drill program additional drilling will be warranted in order to:

(a) Drill indicate the geometry of the vein zone at least down to the 500-foot level;

(b) Test the westerly strike extent of the vein zone, and

(c) Explore for the offset extension of the vein zone to the east of the Sylvanite fault.

In addition, once the Blanche River is frozen, a surveyor should be retained to accurately tie the collar of the Four Nations Shaft to the area of trenching.

Respectfully submitted,
Peter T. George and Associates,

Peter T. George, P.Eng.,
Consulting Geologist.

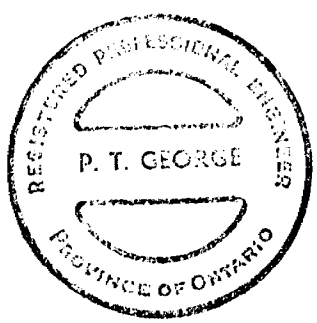


Table 1

Estimated Budget

Preliminary Drill Program

Diamond Drilling - 1200 feet @ $15/foot	$18,000.
Drill Geologist - 15 days @ $125/day	$ 1,875.
- Accomodation, food	$ 1,050.
- Vehicle	$ 750.
Assays	$ 1,000.
Consultant - 7 days @ $300/day	$ 2,100.
- Expenses	$ 1,000.
Total Estimated Cost	$25,775.

Table 2

Comparison of Four Nations and Sylvanite Assay Data

Channel Sample No. See Map 2	Four Nations Assay oz/ton	Width Feet	Average Assay	Width	Sylvanite Assay oz/ton	Width Feet	Average Assay	Width
T1A	0.330	2.5	0.239	24.50	0.057	2.1	0.066	23.90
	0.270	2.0			0.114	2.3		
	0.280	3.0			0.023	3.0		
	0.330	3.0			0.091	3.8		
	0.140	3.0			0.091	3.1		
	0.270	3.0			0.126	1.8		
	0.110	3.0			0.034	4.3		
	0.150	3.0			0.046	2.1		
	0.320	2.0			0.023	1.4		
T1B	not sampled				0.280	3.0	0.237	15.00
					0.329	3.0		
					0.140	3.0		
					0.270	3.0		
					0.164	3.0		
T2A	0.180	2.5	0.285	12.50	0.011	2.9	0.039	13.80
	0.320	3.0			0.000	4.0		
	0.200	3.0			0.046	1.4		
	0.190	2.5			0.080	5.5		
	0.720	1.5						
T2B	0.020	3.0	0.026	15.00	0.080	1.0	0.224	10.00
	0.010	3.0			0.429	3.0		
	0.060	3.0			0.223	3.0		
	0.030	3.0			0.069	3.0		
	0.010	3.0						
T2C	0.080	1.0	0.221	10.00	0.180	2.5	0.317	13.50
	0.430	3.0			0.320	3.0		
	0.210	3.0			0.200	3.0		
	0.070	3.0			0.189	2.5		
					0.720	2.5		
T2D	0.110	2.5	0.133	5.50	0.110	2.5	0.173	7.50
	0.161	2.5			0.160	2.5		
	0.107	0.5			0.250	2.5		
T2E	0.640	1.5	0.291	3.50	Not sampled			
	0.030	2.0						
T3A	0.020	2.0	0.209	14.00	0.011	2.0	0.046	9.30
	0.040	3.0			0.000	2.0		
	0.220	3.0			0.034	0.5		
	0.360	3.0			0.080	3.1		
	0.341	3.0			0.080	1.7		

Table 2 (Continued)

Comparison of Four Nations and Sylvanite Assay Data

Channel Sample No. See Map 2	Four Nations Assay oz/ton	Width Feet	Average Assay	Width	Sylvanite Assay oz/ton	Width Feet	Average Assay	Width
T3B	0.010	3.0	0.145	12.00	0.020	2.0	0.208	14.00
	0.140	3.0			0.040	3.0		
	0.210	3.0			0.220	3.0		
	0.220	3.0			0.349	6.0		
T4A	0.190	2.0	0.128	6.50	0.150	2.0	0.127	6.50
	0.150	2.5			0.179	2.5		
	0.040	2.0			0.040	2.0		
T4B	Not sampled				0.000	1.6	0.057	7.30
					0.011	1.4		
					0.011	0.7		
					0.137	2.7		
					0.023	0.9		
T4C	0.180	3.0	0.180	3.00	0.180	3.0	0.180	3.00
T5A	Not sampled				0.080	1.3	0.068	8.60
					0.080	2.5		
					0.080	2.1		
					0.080	1.2		
					0.011	1.5		
T5B	0.280	3.0	0.194	12.00	0.280	1.0	0.222	9.50
	0.107	3.0			0.249	2.5		
	0.180	3.0			0.180	3.0		
	0.210	3.0			0.223	3.0		
T5C	0.200	4.0	0.286	7.00	0.200	4.0	0.286	7.00
	0.400	3.0			0.400	3.0		
T6A	Not sampled				0.023	0.5	0.124	2.20
					0.217	1.2		
					0.000	0.5		
T6B	Not sampled				0.400	2.0	0.400	2.00
T7A	Not sampled				0.011	2.5	0.030	5.40
					0.114	0.4		
					0.034	2.5		
T7B	0.410	3.0	0.196	7.00	0.150	2.5	0.073	7.50
	0.041	2.0			0.040	2.0		
	0.030	2.0			0.030	3.0		

Table 2 (Continued)

Comparison of Four Nations and Sylvanite Assay Data

Channel Sample No. See Map 2	Four Nations Assay oz/ton	Four Nations Width Feet	Four Nations Average Assay	Four Nations Width	Sylvanite Assay oz/ton	Sylvanite Width Feet	Sylvanite Average Assay	Sylvanite Width
T7C	0.140	3.0	0.106	6.50	0.140	1.0	0.093	4.50
	0.080	3.0			0.080	3.0		
	0.060	0.5			0.080	0.5		
T7D					0.120	1.0	0.120	1.00
T8A	0.093	2.0	0.049	5.00	0.090	2.0	0.048	5.00
	0.020	3.0			0.020	3.0		
T9A	0.060	2.0	0.084	5.00	0.140	1.5	0.089	5.50
	0.140	1.0			0.060	2.0		
	0.080	2.0			0.080	2.0		
T10A					0.160	2.0	0.175	4.00
					0.190	2.0		
T10B					0.180	2.0	0.180	2.00
T10C	0.160	2.0	0.175	4.00	0.050	2.5	0.061	4.00
	0.190	2.0			0.080	1.5		
T11A					0.045	4.0	0.028	17.00
					0.014	9.0		
					0.040	4.0		
T11B					0.520	2.0	0.520	2.00
T11C					0.011	0.5	0.008	1.50
					0.011	0.5		
					0.000	0.5		

Table 3

Comparison of Four Nations and Sylvanite Assay Data
Main Vein, Trenches 2 to 5 inclusive

Channel Sample No. See Map 2	Four Nations Assay oz/ton	Four Nations Width Feet	Four Nations Average Assay	Four Nations Average Width	Sylvanite Assay oz/ton	Sylvanite Width Feet	Sylvanite Average Assay	Sylvanite Average Width
T2A	0.180	2.5	0.285	12.50			0.073	6.90
	0.320	3.0						
	0.200	3.0			0.046	1.4		
	0.190	2.5			0.080	5.5		
	0.720	1.5						
T2B			0.045	6.00			0.326	6.00
					0.429	3.0		
	0.060	3.0			0.223	3.0		
	0.030	3.0						
T2C	0.080	1.0	0.221	10.00			0.348	11.00
	0.430	3.0			0.320	3.0		
	0.210	3.0			0.200	3.0		
	0.070	3.0			0.189	2.5		
					0.720	2.5		
T2E	0.640	1.5	0.291	3.50	Not sampled			
	0.030	2.0						
T3A			0.307	9.00			0.080	4.80
	0.220	3.0						
	0.360	3.0			0.080	3.1		
	0.341	3.0			0.080	1.7		
T3B			0.190	9.00			0.306	9.00
	0.140	3.0						
	0.210	3.0			0.220	3.0		
	0.220	3.0			0.349	6.0		
T4A	0.190	2.0	0.168	4.50	0.150	2.0	0.166	4.50
	0.150	2.5			0.179	2.5		
T4B	Not sampled						0.093	4.30
					0.011	0.7		
					0.137	2.7		
					0.023	0.9		
T4C	0.180	3.0	0.180	3.00	0.180	3.0	0.180	3.00

Table 3 (Continued)

Comparison of Four Nations and Sylvanite Assay Data
Main Vein, Trenches 2 to 5 inclusive

Channel Sample No. See Map 2	Four Nations Assay oz/ton	Width Feet	Average Assay	Width	Sylvanite Assay oz/ton	Width Feet	Average Assay	Width
T5A	Not sampled				0.080	1.3	0.080	7.10
					0.080	2.5		
					0.080	2.1		
					0.080	1.2		
T5B	0.280	3.0	0.194	12.00	0.280	1.0	0.222	9.50
	0.107	3.0			0.249	2.5		
	0.180	3.0			0.180	3.0		
	0.210	3.0			0.223	3.0		
T5C	0.200	4.0	0.286	7.00	0.200	4.0	0.286	7.00
	0.400	3.0			0.400	3.0		

REFERENCES

Campbell, E. E., 1965
Flintrock Mines Limited Compilation Report, Diamond Drilling, Grenfell Township, 1964-1965; April 30, 1965.

Flintrock Mines Limited Files - Miscellaneous Progress Reports, Maps, Assay Certificates, etc related to the reports of Campbell and Pain.

Pain, S. A., 1963
Report on Flintrock Mines Limited, July 12, 1963.

Ontario Department of Northern Development and Mines - Assessment file data pertaining to the property, in particular records of Four Nations and Sylvanite Gold Mines assays in the vicinity of the trenches north of the Blanche River.

0+00 0+50E 1+00E 1+50E 2+00E 2+50E 3+00E

1+00S

1+50S

2+00S

2+50S

3+00S

3+50S

4+00S

4+50S

5+00S

BLANCHE RIVER

FOUR NATIONS SHAFT

FN-6

FN-12

FN-7

FN-11

FN-8

FN-9

AM-BL-1

AM-BL-2

AM-BL-3

Note - These are plotted relative to ... 2+...

The Fli... Map is ...

Shear zone in core

MAP 1

FOUR NATIONS PROPERTY

PRELIMINARY SKETCH MAP

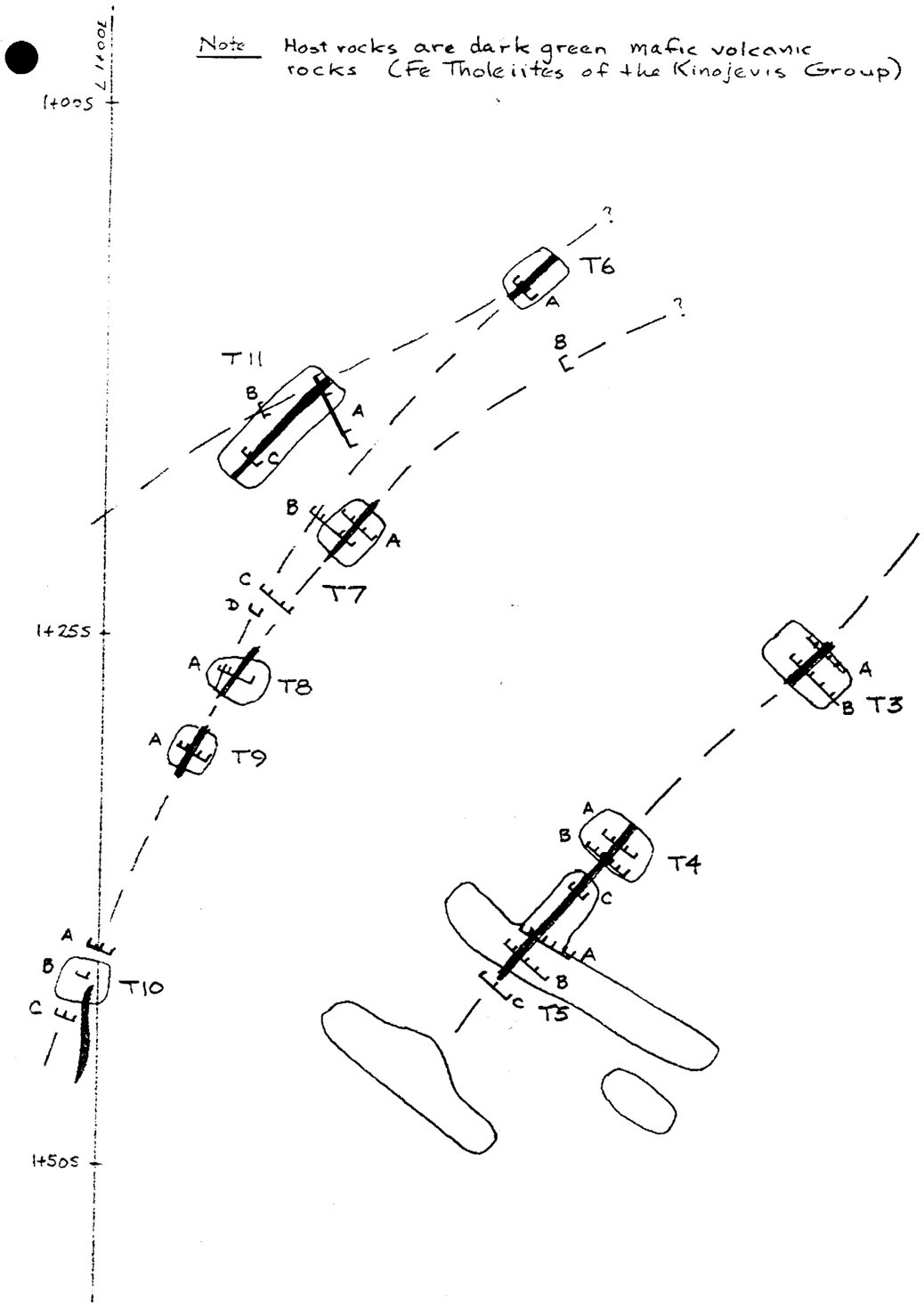
Scale

0 50 metres

P. T. George October 1986

REGISTERED PROFESSIONAL ENGINEER
P. T. GEORGE

Note Host rocks are dark green mafic volcanic rocks (Fe Tholeiites of the Kinojevis Group)



Quartz Vein

Channel Sample Location (Sylvanite)

T6 Trench Number (See Tables 2 & 3)

T6A - Channel Sample I.D.

MAP 2

FOUR NATIONS PROPERTY

SKETCH MAP

MAIN TRENCH AREA

Scale 1:250

REGISTERED PROFESSIONAL ENGINEER P. T. GEORGE MINES BRANCH

P.T. George October 1986

REPORT ON

DRILL PROGRAM - NOVEMBER 1986

FOUR NATIONS PROPERTY

GRENFELL TOWNSHIP

LARDER LAKE MINING DIVISION
ONTARIO

FOR

FLINTROCK MINES LIMITED

Peter T. George, P.Eng.,
Consulting Geologist

Downsview, Ontario
December 1, 1986.

SUMMARY

During November 1986 a limited program of diamond drilling was carried out on the property to provide a preliminary test of a zone of trenches located on the Four Nations property.

Assay values obtained by Four Nations Reserve Mining Company in the 1920's and by Sylvanite Gold Mines Limited in the 1930's from channel samples taken from part of the area of trenches indicates potential for grades averaging 0.22 to 0.25 ounces gold per ton across average widths of 7.5 to 7.8 feet. Drilling completed during 1963 to 1965 by Flintrock failed to indicate any potential for the downdip extension of these structures. As a result of a property examination completed by the author in July 1986 it was recommended that a small grid be established in the vicinity of the trenches north of the Blanche River, that the area be mapped with the objective to properly tie in the location of the underground workings, the 1963-65 drill collars and the trenches, and that a program of power stripping be completed in order that the trenches could be resampled.

The recommended work was completed during the period September 20 to October 5 with the exception that the power stripping was cancelled as it became obvious that: (1) the previous channel samples taken were well done and there was reasonable correlation between values taken by independent samplers (Four Nations and Sylvanite), (2) the location of the trenches and the old muck piles would make it very difficult to clear the area with power equipment, and (3) the previous drilling had been mislocated relative to the trenches and did not test the zone.

Four drill holes totalling 1,261.5 feet were completed along a strike length of 150 feet to test the zone of veining exposed in the trenches sampled by Four Nations and Sylvanite. The assay results obtained where the 1986 core holes penetrated the target vein zone have failed to confirm the tenor of gold mineralization indicated by surface channel samples. The drill results certainly indicate that the vein zone is anomalous in gold and the results are comparable to some of the poorer channel sample assays obtained by both Four Nations and Sylvanite in the area where the vein averaged 0.22 to 0.25 oz. Au per ton along a strike length of 150 feet. The drill results have demonstrated that the target vein zone has significant vertical continuity, having been traced by drilling to a depth of 150 feet. The true width of the vein zone is consistent at approximately 8 feet.

It is concluded that the results of the drill program are inconclusive in that the surface trench assays have not been confirmed, however, in the writer's opinion the results have not demonstrated that the previously reported assays were invalid. Further, the drilling has indicated that altered basalts on the property containing fine disseminated pyrite can return economically significant gold values.

It is recommended that no further work be carried out on the property until the spring of 1987 when a program of surface stripping is recommended to totally re-expose the outcrop in the area of the trenches in order that they can be geologically mapped in detail and extensively sampled. The estimated cost of this program will be $25,000.

INTRODUCTION

The purpose of this report is to review the results of the program of diamond drilling completed during November 1986 by Flintrock Mines Limited on the Four Nations Property, Grenfell Township, Larder Lake Mining Division, Ontario.

PROPERTY, DESCRIPTION AND LOCATION

The property consist of 16 patented mining claims numbered as follows:

L7937	L8215	L8238 1/2	L8239	L8785	L8786	L8787	L10554
L10673	L10674	L11933	L11934	L12088	L12089	L12178	L14821

The claims are located in the southeast quarter of Grenfell Township, Larder Lake Mining Division, Ontario.

PROPERTY, ACCESS AND LOCAL SERVICES

The area of the property north of the Blanche River where the 1986 drill program was carried out is accessible from Highway 11 via a bush road that exits the highway just north of the river and follows the north shore of the river across the property.

All services required to support mining operations are available in the immediate vicinity of the property which is located approximately 4 miles east of Kirkland Lake.

PROPERTY HISTORY

Gold was first discovered on the Four Nations property in 1917 and a shaft was sunk to 25 feet. During the 1920's the property was taken over by the Four Nations Reserve Mining Company Inc. During 1925 the gold showings on the north side of the Blanche River on claim L7937 were discovered and trenched. Between 1926 and 1928 the company sank a shaft to 536 feet with levels at the 125, 250, 375, and 500-foot levels and carried out approximately 2,500 feet of lateral work, mostly on the 500-foot level. In 1929 the property was taken over by Four Nations Gold Mines Limited which company declared bancrupcy in 1930.

In 1933 the property was acquired by the Four Nations Consolidated Gold Syndicate which later in the same year was incorporated as Four Nations Consolidated Gold Mines Limited. During the period November 1933 to November 1934, 1,065 feet of drifting, 1,451 of crosscutting and some diamond drilling was carried out. During the summer of 1934 Sylvanite Gold Mines Limited examined the property including resampling of the trenches north of the Blanche River. In March 1935 due to failure to maintain option payments the company lost the property.

In 1944 the property was acquired by A. E. Campbell of Stratford. No work was carried out during the period 1944 to 1963 when the property was acquired from the Campbell estate by Flintrock Mines Limited.

During the period August 27 to October 4, 1963 Flintrock completed 2067 feet of drilling in 8 holes. These holes were drilled in the vicinity of the trenches on the north side of the Blanche River, however, only modest gold values were encountered in a few of the holes (Pain 1963).

During the period November 10, 1964 to April 12, 1965 Flintrock completed 6,649 feet of drilling in 12 holes. Five holes were drilled in the vicinity of the old Four Nations shaft in an attempt to reassess the auriferous shear zone that was exposed by drifting on the 500-foot level. Intersections of what is possibly the shear zone did not contain significant gold values, however, the geometry of the zone inferred from the drilling does not correlate with the location of the zone on the 500-foot level. The seven hole program completed during the winter of 1964-65 north of the Blanche River was conducted in the same area as the 1963 program and intersected structures were weak and gold values were disappointing (Campbell 1965).

No work has been carried out on the property since 1965 other than the recent work under the author's supervision.

1986 EXPLORATION PROGRAM

The author visited the property on July 31, 1986 primarily to inspect the area of trenching on the north side of the Blanche River. As a result of this examination, the area of trenches was located and it was concluded that the location of the trenches did not correspond to the location indicated on drill plans related to the 1963-65 drilling completed by Flintrock. At that time the available assay data for the trenches was reviewed and it was concluded that there was reasonable correlation between the assay data that resulted from Sylvanite Gold Mines property examination in the 1930's and an old Four Nations assay plan for the trenches. Sylvanite indicated an average grade of 0.25 ounces gold per ton over an average width of 7.8 feet over a sampled strike length of 200 feet (10 channel samples each made up of 2 to 5 individual samples) whereas Four Nations indicated an average grade of 0.22 ounces gold per ton over an average width of 7.5 feet over the same sampled strike length of 200 feet.

The discrepency in location of the trenches indicated to the author that the 1963-65 drilling was carried out in the vicinity of a series of trenches that lie to the east-northeast of the trenches sampled by Sylvanite and Four Nations. Because of the significant assays indicated by the old work and the possibility that the 1963-65 drilling was mislocated relative to the auriferous trenches a small program of gridding was recommended to be followed by geological mapping and stripping.

(A) Relative Location of Trenches, Shaft Collars and Previous Drilling

The attached Map 1 summarizes the result of the field work completed the author in September and October 1986 George 1986).

Four of the old drill set-ups were located and because of their positions relative to one another they have to be the locations of Holes 2 and 4 from the 1963 drill program and Holes FN-7, FN-10, and FN-11 from the 1964-65 drill program.

Clearly with the possible exception of Hole 2 of the 1963 program the area of significant trenches was not tested by the drilling. The logs for Hole 2 are not available but a progress report and related assay sheets are available. The hole was drilled to a depth of 200 feet with the following assays reported:

From - To	Assay (oz.per ton)
35.5 37.0	0.10
80.0 81.0	0.03
95.0 96.0	0.03
102.0 105.0	0.04
151.0 152.0	0.01
168.0 173.0	0.02

The hole probably stopped short of the vein zone.

The collar of the Four Nations Shaft was tied into the new grid by running a line north from the shaft to the south shore of the Blanche River and taking bearings on the ends of the new lines where they meet the north shore of the river. This rudimentary tie in would suggest that the shaft is approximately 250 feet further to the north-northwest relative to the trenches than is indicated on the old maps. This should be confirmed by a proper land survey prior to undertaking any work on the south side of the river in the vicinity of the shaft.

During the 1986 program no effort has been made to reassess the available underground data and the drilling that was carried out south of the Blanche River during 1964-65 by Flintrock Mines. This work will be done prior to any decision to go underground.

(B) Geology of the Vein Zone

No effort was made to thoroughly clean out the trenches as it would entail a considerable expense which given what could be observed was not deemed to be warranted.

Sufficient exposure was available along the walls of the trenches to determine the nature of the vein zone and locally the floor of the trenches could be exposed and it was evident that the channel samples cut by previous samplers were of high quality (4 to 6 inches wide by 1 inch deep).

In the vicinity of the trenches there are a number of subparallel vein zones that occur within host rocks that are massive (locally pillowed), dark green, iron tholeiite basalts of the Kinojevis Group. The mafic volcanic rocks strike in a north to north-northwesterly direction, and dip near vertically.

The vein zones strike in a northeast to east-northeasterly direction and dip vertically to 70 degrees south. The vein zones are characterized by irregular grey quartz stringers within sheared, altered mafic volcanic rocks. Generally the quartz stringers are narrow and of limited strike length, however, locally the quartz veins are 6 inches to 3 feet wide with exposed strike lengths of 20 to 30 feet. Within the vein zone the normally dark green volcanic rocks are bleached to a pale green to buff colour due to a combination of sericite-carbonate (ferrodolomite) alteration and silicification. The altered zones vary in width from 5 to 20 feet. Locally the altered rocks are brecciated with secondary remobization of quartz vein material.

Both the Four Nations and the Sylvanite assay data indicates that gold values occur both within the well developed quartz veins and within the altered, quartz stringered wall rocks. No visible gold was seen during the present work, however, free gold is noted in prior work on the property.

Map 2 illustrates the area of trenching on the vein zone with significant assays noted for the Four Nations and the Sylvanite assays.

The fault zone shown on Map 2 is from the Sylvanite records and presumeably was observed by the Sylvanite geologist. This area is

currently covered with a humic layer and could not be observed, however, in the vicinity of the trenches on the Blanche River (Line 3+00E) a northwesterly striking fault zone is exposed which is immediately along strike from and is probably equivalent to the "Sylvanite" fault. This fault zone terminates and offsets the vein zone to the east of the trenches and the sense of offsetting, i.e., to the north or to the south is not known.

On the basis of a review of previous data for the area of trenching north of the Blanche River and the field work carried out during September and October 1986 it was concluded that:

(1) The vein zone in the trenches north of the Blanche River has significant gold mineralization (0.22 to 0.25 oz. gold per ton) over average widths (7.5 to 7.8 feet) that would be feasible to mine economically given the presence of sufficient tonnage of material. The grade of the material in the trenches has been confirmed by two sets of samples, one of which, the Sylvanite sampling was carried out by an independent third party.

(2) The nature of the alteration and bleaching of the host rocks within the vein zone should make the vein zone very obvious in any core drilling completed under the trenches.

(3) The drilling carried out by Flintrock during the 1963-65 period which is the only recorded drilling in the area of the property north of the Blanche River failed to encounter the vein zone and the results of the work carried out in 1986 clearly indicates that the holes were spotted to be drilled under the wrong set of trenches.

(4) Based on the relationship of the collar of the Four Nations shaft to the zone of trenching on the vein zone it would appear that the drift on the 500-foot level that was extended north beneath the Blanche River stopped just short of the area of the trenches, however, more importantly it would appear that the underground workings lie to the east of the "Sylvanite" fault referred to in the geological section above and could not have encountered the zone unless it was offset to the south on the east side of the fault. Assuming that the underground workings are correctly located this suggests that the vein zone is offset to the north, on the east side of the fault. Reference is made in the report of Pain (1963, p.6) to the fact that the north crosscut ended in a fault zone without encountering any clue of where the vein zone might be at that depth.

Three drill holes were proposed at an estimated total cost of $26,000 (Holes 4N-86-1, 2, and 3) to test the downdip potential of the vein zone exposed in the trenches. The collar locations are shown on Maps 1 and 2.

RESULTS OF 1986 DRILL PROGRAM

Holes 4N-86-01 and 4N-86-03 were collared where planned and completed to their target depth of approximately 400 feet. Hole 4N-86-02 was collared where planned but had to be abandoned at a depth of 222.5 feet as water return was lost and the drill rods jammed in the hole. Hole 4N-86-04 was collared approximately 25 feet north along section from the collar of hole 86-02 in an effort to complete the planned test of the vein zone. Hole 86-04 was also lost as the rods jammed in the hole due to loss of return water circulation. A considerable portion of the drill rod string was lost in the hole.

The drill logs, drill sections, and assay results are presented in Appendix 1.

Holes 4N-86-02, 03, and 04 all intersected the main vein zone exposed on the south side of the area of trenching. The vein zone was intersected sooner than anticipated in all of the holes as the vein zone has a dip of 60 to 65 degrees to the southeast, rather than a vertical dip as inferred from observations in the vicinity of the trenches. The dip of the vein zone is similar to that of the auriferous zone of shearing outlined in the vicinity of the shaft on the 500-foot level of the underground workings. Assay values ranging from .0005 to .062 oz. Au per ton were encountered in core samples from the vein zone which ranged form 10 to 12 feet wide in the three intersections. The best average over the full width of the zone was 0.03 oz. Au per ton over a core width of 12 feet in hole 4N-86-03.

Hole 4N-86-01 failed to intersect the vein zone. It is assumed that the zone pinches out to the west of holes 86-02 and 04.

A narrow zone of bleached and altered basalt, well mineralized with fine disseminated pyrite, encountered in holes 4N-86-01 and 03 produced the best assay results from this limited drill program. The zone returned 0.136 oz. Au per ton in hole 86-01 and 0.062 oz. Au per ton in hole 86-03, both over core widths of 6 feet.

CONCLUSIONS AND RECOMMENDATIONS

The assay results where the 1986 core holes penetrated the target vein zone have failed to confirm the tenor of gold mineralization indicated by surface channel samples taken on the property by Four Nations and Sylvanite Mines Limited. The drill results certainly indicate that the vein zone is anomalous in gold, and the results are comparable to some of the poorer channel samples obtained by both Four Nations and Sylvanite.

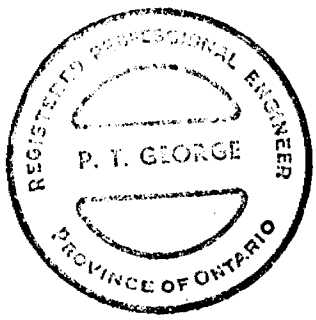
The drill results have demonstrated that the target vein zone has potential for significant vertical continuity, having been traced by drilling to a depth of 150 feet. The true width of the vein zone is consistent at approximately 8 feet.

It is concluded that the results of the drill program are inconclusive in that the surface trench assays have not been confirmed, however, in the writer's opinion the results have not demonstrated that the previously reported assays were invalid. Further, the drilling has indicated that altered basalts on the property containing fine disseminated pyrite can return economically significant gold values.

It is recommended that no further work be carried out on the property until the spring of 1987 when a program of surface stripping is recommended to totally re-expose the outcrop in the area of the trenches in order that they can be geologically mapped in detail and extensively sampled. The estimated cost of this program will be $25,000.

Respectfully submitted,
Peter T. George and Associates,

Peter T. George, P.Eng.,
Consulting Geologist.



REFERENCES

Campbell, E. E.,
1965 Flintrock Mines Limited, report dated April 30, compiling results of 1964-65 drill program.

George, Peter T.,
1986 Report on Four Nations Property, Grenfell Township, Larder Lake Mining Division, Ontario for Flintrock Mines Limited; unpublished company report.

Pain, S. A.,
1963 Flintrock Mines Limited, report dated July 12, 1964 providing evaluation of the property and a recommended program.

Table 1

ACTUAL EXPENDITURES

1986 DRILL PROGRAM

DRILLING			
	4 Holes, 1,261.5 feet-Tindale Drilling		$ 25,663.50
ASSAYS	Accurassay Laboratories		310.00
DRILL GEOLOGIST/TECHNICIAN			
	9 days @ $125	$ 1,125.00	
	Expenses	$ 643.10	$ 1,768.10
SUPERVISING GEOLOGIST			
	Supervision 3days	$ 900.00	
	Report 2days	$ 600.00	
	Expenses	$ 1,129.35	$ 2,629.35
TOTAL 1986 EXPENDITURES			$ 30,370.95

APPENDIX 1

DRILL LOGS, ASSAYS, SECTIONS, AND PLANS

PETER T. GEORGE AND ASSOCIATES

DIAMOND DRILL RECORD

Hole Number 4N-86-1

Company Name: Flintrock Mines Limited
Project Name: Kirkland Lake
Property Name: Four Nations
Area: Grenfell Township, Ontario
Drilled By: Tindale Drilling Limited

Location: Claim L7937
Latitude: 1+87.5mN
Elevation: 5 feet above Blanche River
Started: November 11, 1986
Core: BQ

Claim: L7937
Departure: 1+50mE
Length: 398 ft.(121.3m)
Finished: November 13, 1986
Logged By: P. T. George

Remarks:
Hole drilled to test beneath trench area where Four Nations and Sylvanite obtained gold assays indicating potential for 0.22 to 0.25 ounces gold per ton over average widths of 7.5 to 7.8 feet.

Attitude of Hole

Depth	Dip	Azimuth	Depth	Dip	Azimuth
Collar	-45	320true			
398'	-48	----			

Footage From	Footage To	DESCRIPTION	SAMPLES Sample No.	From	To	Total	Assays Au ppb	Au oz/ton	Cu ppm	Zn ppm	Pb ppm
0	18	CASING - Overburden									
18	37	BASALT - Dark green to black, massive, aphanitic to medium grained, locally gabbroic, occasional 1/8" to 1/4" grey carbonate vein. Local fine grained, white, euhedral crystals of secondary albite.									
37	50	ALTERED BASALT - From 37' on the basalt becomes gradationally lighter grey-green colour to 42' then gradually darkens back to dark green at 50'. Rock is carbonate altered and contains 1 to 5 percent fine disseminated pyrite. Occasional grey carbonate vein as 18' to 37'. At 49', 2" grey quartz vein.	6509	48	50	2'	2161	.063			
50	97	BASALT - Dark green to dark grey to black, massive, aphanitic to medium grained, local patches of white albite crystals as 18 to 37'. Numerous 1/8" to 1/2" light grey carbonate veins; occasional vein contains a salmon pink carbonate, probably rhodochrosite.									
97	103	ALTERED BASALT - Abrupt change to altered basalt; medium to light buff-grey with up to 10 percent fine disseminated pyrite; alteration probably carbonate-sericite-silica.	6506	97	99	2'	6833	.199			
			6507	99	101	2'	3647	.106			
			6508	101	103	2'	3541	.103			

Signature of Logger Peter T. George

DIAMOND DRILL RECORD

Hole Number 4N-86-01

Company Name: Flintrock Mines Limited Project Name: Kirkland Lake
Property Name: Four Nations Area: Grenfell Township, Ontario

Footage		DESCRIPTION	SAMPLES				Assays				
From	To		Sample No.	From	To	Total	Au ppb	Au oz/ton	Cu ppm	Zn ppm	Pb ppm
103	250	BASALT - As 18' to 37' 195' - 198' weak carbonate-sericite alteration 192' - 202' and 209' - 223' 1/4" to 1/2" clots of black chlorite									
250	270	ALTERED BASALT - as 97' to 103'; 3" grey quartz-carbonate vein at 253'.	6510	252	254	2'	34	.001			
270	342	BASALT - As 18' to 37', locally vesicular.									
342	398	MATACHEWAN DIABASE - Contact at 45 degrees to core axis. Chilled, aphanitic at contact, gradually becomes coarser grained to 375', then remains coarse grained, equigranular to 395' and appears to be becoming finer grained from 395 to 398'. The rock is dark green, gabbroic textured with local epidote stringers. Clots of pale to medium green epidote from 1/8" to 1" diameter, typical of Matachewan-type diabase, occurs throughout.									
398		END OF HOLE									

Signature of Logger 

PETER T. GEORGE AND ASSOCIATES

DIAMOND DRILL RECORD

Hole Number 4N-86-02

Company Name: Flintrock Mines Limited
Project Name: Kirkland Lake
Property Name: Four Nations
Area: Grenfell Township, Ontario
Drilled By: Tindale Drilling Limited

Location: Co-ordinates are relative to cut grid
Latitude: 1+75mN
Elevation: 5 feet above Blanche River
Started: November 14, 1986
Core: BQ

Claim: L7937
Departure: 1+65mE
Length: 222.5 ft (67.8m)
Finished: November 16, 1986
Logged By: P. T. George

Remarks:
Hole drilled to test beneath trench area where Four Nations and Sylvanite obtained gold assays indicating potential for 0.22 to 0.25 ounces gold per ton over average widths of 7.5 to 7.8 feet.

Hole lost due to loss of water return, rods mudded in hole.

Attitude of Hole

Depth	Dip	Azimuth	Depth	Dip	Azimut
Collar	-45	320true			

Footage From	Footage To	DESCRIPTION	SAMPLES Sample No.	From	To	Total	Assays Au ppb	Au oz/ton	Cu ppm	Zn ppm	Pb ppm
0	32	CASING - Overburden									
32	51.5	ALTERED(?) PILLOWED(?) BASALT - Medium grey, fine grained, dominantly massive, local brecciation, and possible pillow selvages as at 49'. Occasional carbonate stringer. The light colour is probably due to carbonate alteration but could be due to Mg Tholeiite composition.									
51.5	59	ALTERED BASALT - Medium grey to light grey-green, sericitized, carbonate altered basalt; fine grained, massive as 32 to 51.5; contains 15 percent quartz-carbonate stringers 1/8' to 2"wide.	6517	53	55	2'	249	.007			
			6518	55	57	2'	660	.019			
			6519	57	59	2'	50	.001			
59	108	ALTERED(?) PILLOWED(?) BASALT - As 32 to 51.5'. pillow selvage at 76'; 4" grey to buff-pink carbonate vein at 35 degrees to core axis. 94 - 100: carbonate filled breccia zone at 5 to 10 degrees to core axis. 100 - 103.5: Fine (1/8") black vesicles									
108	159	PILLOWED(?) BASALT - Medium to dark grey-green, fine to medium grained, massive, minor brecciation, selvage at 132', occasional carbonate and epidote stringer.									

Signature of Logger Peter T. George

DIAMOND DRILL RECORD

Hole Number 4N-86-02

Company Name: Flintrock Mines Limited Project Name: Kirkland Lake
Property Name: Four Nations Area: Grenfell Township, Ontario

Footage		DESCRIPTION	SAMPLES				Assays				
From	To		Sample No.	From	To	Total	Au ppb	Au oz/ton	Cu ppm	Zn ppm	Pb ppm
159	185.5	ALTERED BASALT - Becomes gradually lighter grey from 159 to 171 then grey green and sericitized from 171 to 185.5.									
		176 - 185.5: VEIN ZONE - Very similar to that intersected in hole 4N-86-04. At 176', 3" white quartz vein with black wispy inclusions of chlorite. The rocks are pervasively carbonate-sericite-silica altered with up to 10 percent fine disseminated pyrite and numerous quartz-carbonate stringers. at 184.5', 6" white quartz vein with black crenulated wisps of chlorite essentially identical to the vein on the north side of the zone in hole 4N-86-04.	6520	175.5	177.5	2'	252	.007			
			6521	177.5	179.5	2'	23	.001			
			6522	179.5	181.5	2'	25	.001			
			6523	181.5	183.5	2'	31	.001			
			6524	183.5	185.5	2'	354	.010			
185.5	208	BASALT - Dark grey-green to black with very abrupt change to unaltered rock a 185.5, similar to the abrupt change in hole 4N-86-04. 185.5 - 195: Fine grained, white, euhedral secondary albite disseminated throughout. 195 - 203: medium grained, gabbroic textured 203 - 208: becomes slightly bleached and altered.									
208	210	ALTERED BASALT - Medium grey, bleached, brecciated, numerous quartz-carbonate stringers.	6525	208	210	2'	215	.006			
210	222.5	BASALT - Dark green, considerable chlorite-epidote alteration, rusty fracture at 222' is probably the point where drill water was lost.									
222.5		END OF HOLE									

Signature of Logger _____

PETER T. GEORGE AND ASSOCIATES

DIAMOND DRILL RECORD

Hole Number 4N-86-03

Company Name: Flintrock Mines Limited
Project Name: Kirkland Lake
Property Name: Four Nations
Area: Grenfell Township, Ontario
Drilled By: Tindale Drilling Limited

Location: Co-ordinates are relative to cut grid
Latitude: 1+61.5mN
Elevation: 5 feet above Blanche River
Started: November 17, 1986
Core: BQ

Claim: L7937
Departure: 1+81mE
Length: 400 ft.(121.9m)
Finished: November 19, 1986
Logged By: P. T. George

Remarks:
Hole drilled to test beneath trench area where Four Nations and Sylvanite obtained gold assays indicating potential for 0.22 to 0.25 ounces gold per ton over average widths of 7.5 to 7.8 feet.

Attitude of Hole

Depth	Dip	Azimuth	Depth	Dip	Azimuth
Collar	-45	320true			

Footage From	Footage To	DESCRIPTION	SAMPLES Sample No.	From	To	Total	Assays Au ppb	Au oz/ton	Cu ppm	Zn ppm	Pb ppm
0	27	CASING - Overburden									
27	104	BASALT - Dark green to black, aphanitic to medium grained, massive, local pervasive epidote alteration along fractures, occasional carbonate stringer. 85 - 97: increased carbonate stringers and local breccia zones, possible pillow selvages. Badly broken core at 90', 92-92', and 94-96'.									
104	122.5	ALTERED BASALT - Gradational bleaching to medium grey from 104 to 110'.									
		110 - 116: buff, sericite alteration, abundant quartz-carbonate flooding and fine disseminated pyrite.	6526	110	112	2'	3010	.088			
			6527	112	114	2'	3276	.096			
			6528	114	116	2'	35	.001			
122.5	150	BASALT - Weakly altered, medium grey-green colour									
150	173	ALTERED BASALT - As 104 - 122.5									
		151.5 - 163.5: VEIN ZONE - Pervasively carbonate-sericite-silica altered, fine disseminate pyrite throughout; with distinct quartz veins bounding either side of the zone; 5" white quartz vein at 152.3; 9" grey-white quartz vein, brecciated with abundant black chlorite wisps	6529	151.5	153.5	2'	1152	.034			
			6530	153.5	155.5	2'	23	.001			
			6531	155.5	157.5	2'	25	.001			
			6532	157.5	159.5	2'	1789	.052			
			6533	159.5	161.5	2'	2134	.062			
			6534	161.5	163.5	2'	1046	.031			

Signature of Logger Peter George

DIAMOND DRILL RECORD

Hole Number 4N-86-03

Company Name: Flintrock Mines Limited Project Name: Kirkland Lake
Property Name: Four Nations Area: Grenfell Township, Ontario

Footage		DESCRIPTION	SAMPLES				Assays				
From	To		Sample No.	From	To	Total	Au ppb	Au oz/ton	Cu ppm	Zn ppm	Pb ppm
150	173	continued: 161.8': 3" medium grey carbonate vein									
		169 173: buff coloured, sericite altered zone with irregular quartz veining	6535	169	171	2'	67	.002			
			6536	171	173	2'	88	.002			
173	400	BASALT - Dark green to epidote green colour, irregular, erratic epidote alteration throughout, numerous carbonate stringers and local buff coloured, sericite altered sections 1" to 2" wide. The rocks are aphanitic to medium grained, generally massive with local brecciated sections, minor vesicular sections and minor sections containing fine, white, disseminated secondary albite. 237 - 240: "snowflake" textured basalt containing clots of epidote up to 1/2" across 253 - 270.5: coarse grained, gabbroic to dioritic section, could either be central portion of a thick flow or a subvolcanic intrusive; no distinct contacts 304.5: 1 1/2" chloritic fault gouge at 30 degrees to core axis. 306 - 313: Fault zone, chloritic fault gouge, badly broken core 357 - End of Hole: as 253 - 270.5. 394 - End of Hole: badly broken core, fractured at 5 to 30 degrees to core axis.									
400		END OF HOLE									

Signature of Logger Peter T. George

DIAMOND DRILL RECORD

Hole Number 4N-86-04

Company Name: Flintrock Mines Limited
Project Name: Kirkland Lake
Property Name: Four Nations
Area: Grenfell Township, Ontario
Drilled By: Tindale Drilling Limited

Location: Co-ordinates are relative to cut grid
Latitude: 1+68mN
Elevation: 5 feet above Blanche River
Started: November 20, 1986
Core: BQ

Claim: L7937
Departure: 1+60mE
Length: 241 ft.(73.5m)
Finished: November 22, 1986
Logged By: P. T. George

Remarks:
Hole drilled to test beneath trench area where Four Nations and Sylvanite obtained gold assays indicating potential for 0.22 to 0.25 ounces gold per ton over average widths of 7.5 to 7.8 feet.

Hole lost due to loss of water return, rods mudded in hole.

Attitude of Hole

Depth	Dip	Azimuth	Depth	Dip	Azimuth
Collar	-45	320true			

Footage From	Footage To	DESCRIPTION	SAMPLES Sample No.	From	To	Total	Assays Au ppb	Au oz\ton	Cu ppm	Zn ppm	Pb ppm
0	15	CASING - Overburden									
15	74	ALTERED BASALT - Pale grey to medium grey-green, massive to locally brecciated, occasional carbonate vein up to 1" wide. 48 - 72: Occasional ovoid, black chlorite (vesicles?) Gradational contact to relatively unaltered from 72'.									
74	120	BASALT - Dark grey-green, massive, aphanitic to medium grained, occasional carbonate and epidote stringer.									
120	158.8	ALTERERD BASALT - Medium to pale grey, massive to brecciated, very strong sericite-carbonate alteration from 150.8 to 158.8. 150.8 - 158.8: VEIN ZONE - Very strong sericite alteration with 6" white quartz vein with black crenulated wisps of chlorite very similar to the vein in hole 4N-86-02. Numerous quartz-carbonate stringers	6512	148.8	150.8	2'	606	.018			
			6513	150.8	152.8	2'	36	.001			
			6514	152.8	154.8	2'	18	.0005			
			6515	154.8	156.8	2'	73	.002			
			6516	156.8	158.8	2'	1417	.041			
158.8	182.5	BASALT - Dark grey green, massive, fine to medium grained, locally gabbroic, occasional carbonate and epidote stringer, minor white secondary albite.									

Signature of Logger Peter George

DIAMOND DRILL RECORD

Hole Number 4N-86-04

Company Name: Flintrock Mines Limited Project Name: Kirkland Lake
Property Name: Four Nations Area: Grenfell Township, Ontario

Footage		DESCRIPTION	SAMPLES				Assays				
From	To		Sample No.	From	To	Total	Au ppb	Au oz/ton	Cu ppm	Zn ppm	Pb ppm
182.5	183.3	ALTERED BASALT - Minor locallized section of altered basalt, 50 percent grey quartz stringers. to 185.5.	6511	182.5	183.3	0.8'	516	.015			
183.3	241	PILLOWED BASALT - Medium green, aphanitic to fine grained, numerous pillow selvage and flow breccia features, vesicular form 183.3 to 185.									
241		END OF HOLE									

Signature of Logger Peter George

0+50W 0+00 0+50E 1+00E 1+50E 2+00E 2+50E 3+00E

4N-86-03
4N-86-04
4N-86-02
4N-86-01

Scale

0 50 100 metres

BLANCHE RIVER

FOUR NATIONS SHAFT

PATENTED CLAIM 7937

FOUR NATIONS PROPERTY

Grenfell Township, Ontario
Larder Lake Mining Division

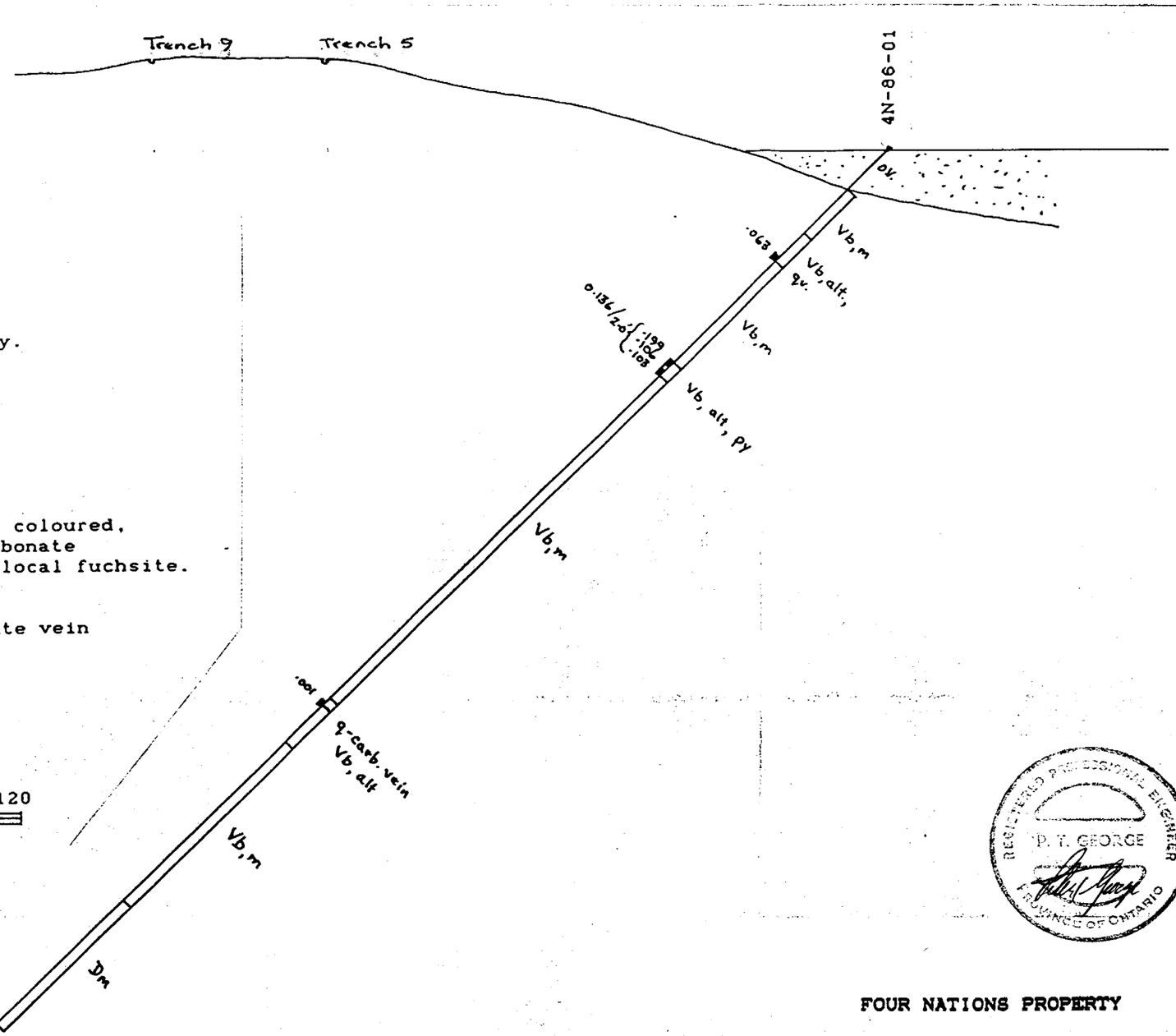
DRILL HOLE LOCATION PLAN

FLINTROCK MINES LIMITED

December 1986

P. T. GROVES
PROVINCE OF ONTARIO

Section Bearing 320 Degrees True



LEGEND

PLEISTOCENE AND RECENT

Overburden - sand, gravel, clay.

ARCHEAN

Dm — Diabase, Matachewan-type

Vb — Basalt, volcanic flows

m	massive
pl	pillowed
alt	altered - buff coloured, sericite-carbonate alteration, local fuchsite.
py	pyrite
qv	quartz vein
q-carb v	quartz-carbonate vein

.120
.082

Gold assays in oz./ton

SCALE

0 40 80 120

REGISTERED PROFESSIONAL ENGINEER
P. T. GEORGE
PROVINCE OF ONTARIO

FOUR NATIONS PROPERTY

Grenfell Township, Ontario

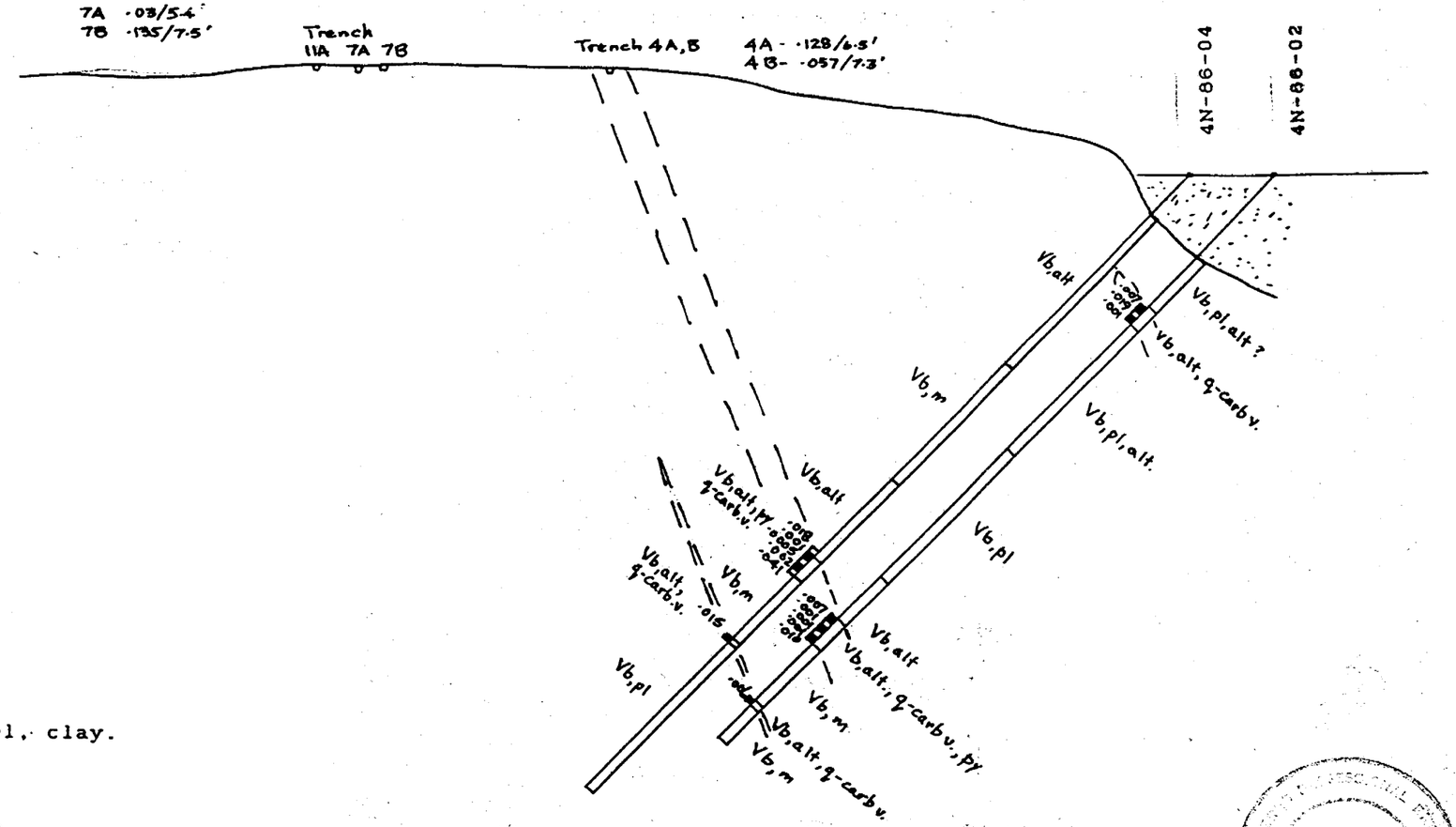
DRILL SECTION

Hole 4N - 86 - 01

Scale 1 inch = 40 feet

FLINTROCK MINES LIMITED

Section Bearing 320 Degrees True



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0 40 80 120

REGISTERED PROFESSIONAL ENGINEER
P. T. GEORGE
PROVINCE OF ONTARIO

FOUR NATIONS PROPERTY

Grenfell Township, Ontario

DRILL SECTION

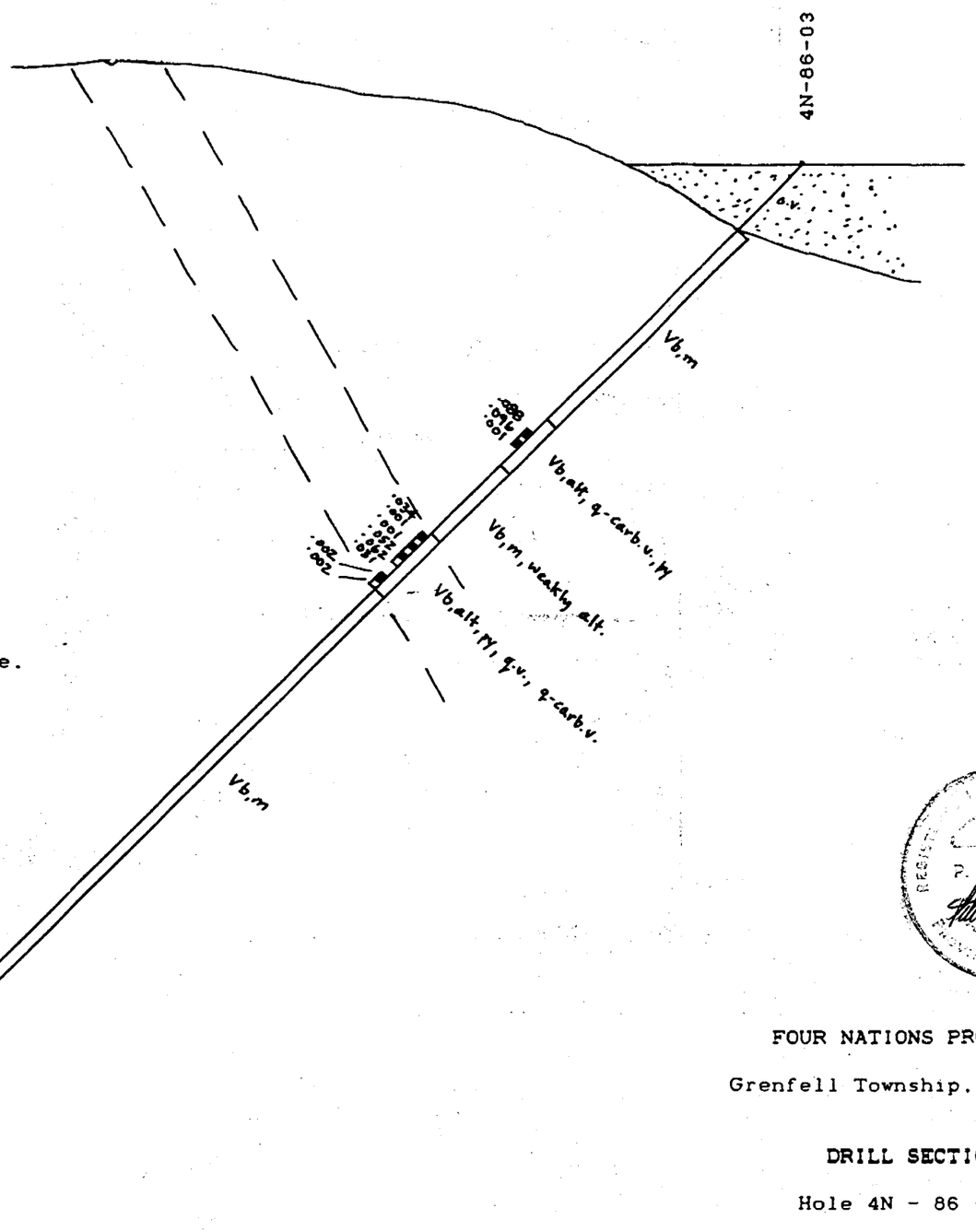
Hole 4N - 86 - 02

Hole 4N - 86 - 04

Scale 1 inch = 40 feet

FLINTROCK MINES LIMITED

Section Bearing 320 Degrees True



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P. T. GEORGE
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

FOUR NATIONS PROPERTY

Grenfell Township, Ontario

DRILL SECTION

Hole 4N - 86 - 03

Scale 1 inch = 40 feet

FLINTROCK MINES LIMITED

900
#63. 4990

OM 86-6-C-45

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

Geological report for Flint Rock → see Toronto file
Mines Ltd. # 2.9301
Peter T. George, July/86 R.O.W #285 for 1986