800382

CAIRN MINES LTD. (N.P.L.)

Alice-Often Group

Kamloops, British Columbia

Vancouver, B.C.

August 17, 1972

W.G. Hainsworth P.Eng.

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W. G. HAINSWORTH
CONSULTING GEOLOGIST

INTRODUCTION

This progress report on the Kamloops area property of CAIRN MINES LTD. (N.P.L.) follows the completion of the three phases of action as recommended in the author's reports of April 20th 1972, May 24th 1972 and July 8th 1972.

This report up dates all previous reports and summarizes the results of all undertakings pertaining to the Alice-Often group of claims.

The property was visited by the writer on many occasions during the operations and all work came under his supervision.

Forming part of this report are drill logs, assay reports and other items pertaining to the operations. Plans of all surface surveys may be found in the previous reports.

SUMMARY

The original twenty-four Alice-Often claims were acquired by CAIRN MINES in March 1972. An additional eighteen adjoining claims were staked for the company in June 1972.

Surveys over the property were carried out in two stages. A magnetometer, electromagnetic and soil sampling surveys established points of interest within the claim boundaries. A limited Induced Polarization survey followed next and located a moderate conductor. There was developed a modest, although not strong, coincidence between the I.P., geochemical and electromagnetic anomalies. In particular, the properties strongest soil anomaly lay in the general area of the I.P. high results.

Diamond drilling was initiated in the area of high I.P. and strong geochemical readings on July 14th 1972.

Four BQ holes totalling 1690 feet were drilled within a 600 by 400

foot grid. All four holes revealed native copper lying along fractures and joints in the volcanic assemblage. Although, at times, rather spectacular to the eye, the thin, platy, sometimes dendritic, nature of the mineral yielded very low assay results. Two laboratories were used to check out the copper results.

Sections of the property have been examined and checked out in a professional manner. To continue with the drilling, with weak assays and very little geological backing, was considered inadviseable. It was recommended to the company that drilling be discontinued on August 13th 1972 after the fourth hole was logged. The company immediately advised the drill contractor of their intention to stop the drilling.

There are several avenues of action available to the company at this point in their operations. These are fully discussed in the following heading.

RECOMMENDATIONS

The property has been well checked out in certain areas to date. Several focal points have had intensive examination.

The writer recommends that no further drilling be done at this stage in time but that serious consideration be given by the company to either of the following programs. The options are recommended in view of the fact that despite geophysical surveys over most of the claim group a most important survey - geology - was not undertaken. This recommendation was made in all preceding reports by the writer. As a consequence the options rotate around this survey.

Option I

The writer recommends that a good number of years assessment work be recorded against the original twenty-four Alice-Often claims.

In two or three years time when the area has calmed down, a geological reconnaisance program should be undertaken in the general area of the claims. This program should be directed towards the establishing of a mineralogical pattern in addition to an alteration pattern. The writer is of the opinion that the CAIRN claims are part of a pattern, or sequence, which could lead to stronger mineralization.

Option II

The property should have a geological survey carried out at the present time. To date no detailed geological information is known concerning the claims. The drilling has shown a profusion of rock types, all within the Nicola Series. The geometric pattern of these types throughout the claims is unknown. Similarily the structure of the property remains to be explained. It is possible that areas of good geological environment for mineralization may exist without identification from any of the other surveys.

Should the geological survey open areas of interest, then a continuation of the Induced Polarization program would be merited. Subsequent action, such as drilling, would be dependant upon I.P. results.

If the company elects to follow the latter option, the writer strongly advises that option one be kept in mind and carried out at a later date.

LOCATION AND ACCESS

The Alice-Often group of claims lies some eleven miles southwest of the city of Kamloops, British Columbia. They are within the Kamloops Mining Division.

At a point twelve miles south of the TransCanada Highway, on the Kamloops-Lac LeJeune Road, CN Communications have an access road to their repeater station. At the three and a half mile marker on this road,CAIRN

MINES has pushed a road north to a point slightly below their northern boundary. Travel on this road is restricted to four-wheel drive vehicles.

PROPERTY

CAIRN MINES claim block is composed of forty-two (42) contiguous claims held by right of location.

The claims:

Name	Record No.	In Good Standing Until
Often 1,3,5.	105793,105794,105795	February 23, 1973
Alice 11, 13.	105745 and 105747	February 23, 1973
Alice 49- 67 incl.	105774 to 105792 incl.	February 23, 1973
Lodi 1- 15 incl.	(No record numbers 119753-119767 (received to date	June 20, 1973
Lodi 17- 19 incl.	(for these claims. 119768-119770	June 20, 1973

The claims are located in Mining Recorders Map # 92- I/10 E.

SURVEYS

The following surveys have been completed as per recommendations:

(1) Claim Survey

(2) Magnetometer Survey

(3) Soil Sampling Survey

(4) Electromagnetic Survey

(5) Induced Polarization Survey

These surveys, save for the I.P., were reported in detail in reports May 24th 1972 and july 8th 1972. They are herewith summarized to form an integral part of this report. The I.P. report by McPhar Geophysics forms a seperate section of this report.

CLAIM SURVEY

Save for the initial post of Alice 59, all initial and final posts were located and tied into cross lines by chain and compass.

The claims were well staked with the lengths along the location lines varying between 1300 feet and 1450 feet.

There is a slight overlapping of the claims in the eastern portion of the block. The central and eastern location lines are spaced only 2500 feet apart making for a 500 foot overlap of the claims in this area.

The Lori claims lie west of the western boundary of the original Alice-Often block. It is understood that these claims wedge near their northern boundary due to previous staking.

Approximate acreage covered by the Alice-Often group is 1068 acres.

MAGNETOMETER SURVEY

The original survey on the small grid showed an irregular magnetic 'low' running east-west across the central portion of the claim group.With the expanded grid this magnetic anomaly has been traced farther to the east where it passes out of the CAIRN ground. To the west the anomalous situation shows a weak attenuation to finally die out within the claims.

A paralleling magnetic 'low' lies 1500 feet to the south of the main structure. This situation is quite narrow and very regular as it progresses east-west across the claims.

SOIL SAMPLING SURVEY

Twelve anomalous soil situations were outlined by this survey. A total of 1116 soil samples were taken over the original 24 claims. The copper anomalies, as outlined, seemingly have no real alignment or structuring. As a rule they follow the trend of the area being north-south or slightly east of north. However five of the anomalies trend east-west across the claims in close conjunction with the magnetic low.

The average background count within the claims is 36 p.p.m. copper.

The anomalous areas were so designated if their average grouping count exceeded 2½ times the normal background (i.e. 90 parts per million or better).

The strongest anomaly developed was the combination of 'F' and 'J'. These two hooked-up as the grid was expanded. The average count of this combined anomaly was 164 p.p.m. or 4½ times background. Although anomaly 'D' exceeded this one in counts it was considerably smaller in size.

To recap the soil counts:

Anomaly 'A' - 123 ppm.

Anomaly 'B' - 109 ppm.

Anomaly 'C' - 93 ppm.

Anomaly 'D' - 234 ppm.

Anomaly 'E' - 127 ppm.

Anomaly 'F-J'- 164 ppm.

Anomaly 'G' - 91 ppm.

Anomaly 'H' - 95 ppm.

Anomaly 'K' - 91 ppm.

Anomaly 'L' - 111 ppm.

Anomaly 'M' - 105 ppm.

Anomaly 'F-J' coincides with portions of the I.P. survey and was checked out with surface diamond drilling.

ELECTROMAGNETIC SURVEY

The E.M. 16 survey showed a block of ground weakly disturbed by movements. Several good areas of conductivity were uncovered.

A relatively strong area of conductivity extended from line 12 north to line 28 ner the eastern boundary. Width of this zone averaged 30 feet. It was flanked on the west by a pronounced E.M. linear.

The northern portion of this anomaly was included in the drill program, and was attributed to an argillaceous section of a limestone horizon. A 3½ foot mud seam was also intersected in a drill hole which may well have been the E.M. linear.

DIAMOND DRILLING

A limited diamond drill program was carried out on the property from July 14th 1972 until August 11th 1972.

Four bore holes of BQ size were drilled for a total of 1690 feet. The individual hole footages were:

A - 1 completed at 417 feet.

A - 2 completed at 449 feet.

A - 3 completed at 287 feet.

A - 4 completed at 537 feet.

Individual drill logs are attached to this report. Comments on drill results are contained under the heading 'Discussions'.

Drilling was carried out by

Scope Exploration Services Ltd.,,

Box 1101, Merritt, B.C.

DISCUSSION

The geological location of the CAIRN property, near a granodiorite-volcanic contact, was instrumental in the decision to purchase the property. As no geological survey was carried out on the property, the writer can state that, from examination of a limited number of outcrops and rock chips, the surface exposures are primarily Nicola volcanics. Drilling has proven tuffs, limestones and agglomerates, in addition to the flows, to underlie the claims. All formations are of the Triassic period and assigned to the Nicola classification.

The normal surface surveys - magnetic, soil sampling and electromagnetic - were completed in the early phases of operations. The significance of the magnetic 'lows' has yet to be proven. The electromagnetic conductive zones were weakly scattered through the property. One penetration of an E.M. conductor showed argillaceous limestone. It is likely that this is also the source of the other E.M. anomalies.

The soil survey proved up thirteen areas of higher than average copper content. Geometrically there appeared to be no design to the soil anomaly distribution. Several large anomalies were deemed worthy of further attention. Drilling proved the rock formations underlying the soil anomalies to carry copper mineralization.

The I.P. survey which was carried out in Phase II was, for economical considerations, applied to a small portion of the property. The area between lines 28 north and 56 north was selected for this survey as it contained the bulk of the soil anomalies and some of the E.M. anomalies. A total of 82,200 feet of line was tested. The I.P. anomaly that resulted lay in the eastern section coinciding with a strong soil anomaly and partially with an E.M. conductor.

The strongest I.P. reaction was on line 28 and this was selected as the initial testing area for diamond drilling. Three holes were drilled on this line. The first at 26+00 East was a vertical boring ending at 417 feet. This hole set the geological and mineralogical pattern for the following holes. The first hundred feet encountered hornblendic andesite with local alteration effects and little mineralization. Then a pyritic banding of limestone varying in thickness from 20 feet in this hole to 65 feet in hole A - 4 was intersected. In several holes there were more than the one band but the upper band was the thickest. Underlying the limestone was an array of flows, agglomerates and tuffs. Normally below the limestone

the fracturing increased with a consequent increase in mineralization. Up to this point the mineral type was confined to moderately fine pyrite in the limestones but now native copper appeared as fine to medium plasturing along the slip planes. On some fractures the mineral was very fine and embedded in the fracture material. Normally, but not always a requirement, chloritic alteration was an accompanient. Seldom was the native copper disseminated in the rock texture. There appears to have been several late fracture systems evolved which are quite barren of any mineralization. The copper was hosted by all the volcanic equivalents and only a few isolated occurrences were noted in the limestones. In places the copper was quite spectacular as it lay along the fracture. However it was easily rubbed off and rolled into a small ball. It is possible that some of the copper was washed out of the fractures by the drill water.

No other minerals other than for the pyrite in the limestones and the native copper in the volcanics were spotted. However in the last hole (A - 4) a five foot section (419' - 424') in the tuffs carried very fine pyrrhotite and chalcopyrite with neither pyrite nor native copper.

Complete core from hole A-1 was sent down in 20 foot sections for analysis. Assays were low grade being generally 0.02% copper or less.

The second hole (A - 2) was located at 23+00 East on line 28North. The same pattern of surface volcanics, a moderately thick bed of limestone and underlying volcanic assemblage presented itself in the drilling. The mineralization was similar. A greater density of fracturing was noted at depth in this hole and was split and sent for assaying. However the fracture-lining native copper appeared more spectacular than substantial. The copper grades ran in the 0.02% range.

Hole A - 3 was moved out of the I.P. anomaly on to a high geochem reading. This vertical hole was spotted at 23+00 East on Line 24 North. The

usual formation were cut save that the limestones appeared unusually heavy in argillaceous material. The mineralization was somewhat lighter with the result that the hole was stopped at 287 feet.

The drill was then moved back to the I.P. anomaly and spotted at 20+00 East on Line 28 North. In the previous two holes the native copper had lined more vertical to steeply dipping fractures. With this in mind hole A - 4 was drilled on a minus 45° incline at a bearing of N 70° E. It was intended to pass under the collar of A - 2 in the vicinity of the increasing fracture density. The hole was completed at 537 feet after cutting formations carrying scattered native copper.

From the drill results, the high soil anomaliee have been satisfied by the amounts of native copper in the formations; the argillaceous limestone would cause the E.M. anomaly and would have a bearing on the I.P. results. Unfortunately the quantity of native copper was insufficient to produce assay results above the 0.08 % range. As native copper can be difficult to assay at times the company, upon the writers recommendations, had rechecks run on 37 crushed core samples. The rechecks verified the original assays.

The presence of a single type mineral, native copper, in the volcanics is an unusual occurrence in the Kamloops area. There are no sulphide minerals in association with the native, nor are secondary copper minerals present. Alteration is not strong.

A photogeologic interpretation by Geophoto Servicee Ltd. of Calgary was of little assistance due to heavy forest cover.

Respectfully submitted,

W.G. Hainsworth P.Eng.

Vancouver, B.C.
August 17, 1972

McPHAR GEOPHYSICS LIMITED

REPORT ON THE RECONNAISSANCE INDUCED POLARIZATION AND RESISTIVITY SURVEY ON THE ALICE - OFTEN CLAIM GROUP AFTON AREA, KAMLOOPS MINING DIVISION, B.C. FOR CAIRN MINES LTD. (N.P.L.)

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1. INTRODUCTION

At the request of Mr. A. R. Hanna, Vice-President of Cairn Mines Ltd. (N. P. L.), we have completed a Reconnaissance Induced Polarization and Resistivity Survey on the Alice-Often Claim Group. The area of interest lies within the Kamloops Mining Division, about thirteen miles, by road, from the town of Kamloops.

In the Kamloops Area, several copper deposits of economic interest are known. The disseminated copper mineralization (of the "porphyry copper" type) is associated with Jurassic age intrusives (Iron-Mask Batholith, Guichon Batholith, etc.) that have intruded the Nicola Volcanics and Sediments of Triassic age.

Little is known about the geology of the Alice-Often Claim Group. The regional geologic picture shows that the area is underlain

by Nicola Volcanics. No mineralization is known on the claims. The reconnaissance Induced Polarization and Resistivity survey was planned in an attempt to locate any zones of metallic mineralization that might be present, but hidden by the overburden. As shown in the Appendix to this report, the Induced Polarization method has been found to be very useful in this form of exploration.

The company's geological consultant has recommended that a magnetic survey and a geochemical soil sampling survey also be completed.

2. PRESENTATION OF RESULTS

The Induced Polarization and Resistivity results are shown on the following enclosed data plots. The results are plotted in the manner described in the notes preceding this report.

Line	Electrode Intervals	Dwg. No.
56N	300 feet	I.P. 5959-1
52N	300 feet	I.P. 5959-2
48N	300 feet	I.P. 5959-3
44N	300 feet	I.P. 5959-4
40N	300 feet	I.P. 5959-5
36N	300 feet	I.P. 5959-6
32N	300 feet	I.P. 5959-7
28N	300 feet	I.P. 5959-8

Also enclosed with this report is Dwg. I.P.P. 3533, a plan map of the Alice-Often Claim Group Grid at a scale of 1" = 400'. The definite, probable and possible Induced Polarization anomalies are indicated by bars, in the manner shown on the legend, on this plan map as well as on the data plots. These bars represent the surface projection of the anomalous zones as interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the Induced Polarization measurement is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length; i.e. when using 300' electrode intervals the position of a narrow sulphide body can only be determined to lie between two stations 300' apart. In order to definitely locate, and fully evaluate, a narrow, shallow source it is necessary to use shorter electrode intervals. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the centre of the indicated anomaly probably corresponds fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The claim boundary information shown on Dwg. I.P.P. 3533 has been taken from maps made available by the staff of Cairn Mines Ltd. (N.P.L.)

3. DISCUSSION OF RESULTS

The recent survey shows that the Alice-Often Claim Group is underlain by rocks with a moderately high resistivity. The resistivity level suggests non-porous rocks that are unusual for the Nicola Group rocks in the Kamloops Area. The magnetic survey and a complete geological examination may help to clarify the geologic picture.

The Induced Polarization results are of definite interest. There are two types of Induced Polarization anomalies shown. In a few places, there are narrow, shallow anomalies that suggest narrow sources. However, because 300' electrode intervals were used for the survey the sources cannot be fully evaluated; they could be due to massive mineralization. The anomalous zones have a limited strike length and are of little immediate interest. However, if significant amounts of copper mineralization are located elsewhere on the claim group, it will be desirable to better locate and evaluate the narrow sources by repeating the measurements using shorter electrode intervals.

The most important I. P. anomalies on the Alice-Often Claim Group lie at the southeastern corner. Moderate magnitude, definite I. P. anomalies were measured on several lines; as shown on the plan map, the anomalies can be correlated to form an anomalous zone.

The zone suggests the presence of a substantial volume of disseminated metallic mineralization. The concentrations could be two to four per cent. As explained in the Appendix to this report, this amount of mineralization can be of economic importance, if the proper minerals are present.

It would be necessary to extend the measurements to the south and east in order to fully determine the lateral extent of the mineralisation. On Line 32N and Line 28N the measurements for X = 300' and n = 1 are definitely anomalous. This suggests a relatively shallow depth to the top (i.e. less than 300'). The depth to the top could be better evaluated by repeating the measurements using shorter electrode intervals.

4. CONCLUSIONS AND RECOMMENDATIONS

The Reconnaissance Induced Polarization and Resistivity survey on the Alice-Often Claim Group has outlined an anomalous zone of definite interest at the southeastern corner of the claim group. The I.P. results suggest the presence of a substantial volume of disseminated metallic mineralisation. This type of mineralisation can be of great economic interest in the Kamloops Area, particularly if the mineralisation is contained within intrusive rocks.

The anomalous zone should be compared with the available geological and geochemical data. If the source of the I.P. anomaly is not known, drilling would be warranted. Several vertical percussion drill holes in the interval from 24+00E to 33+00E on Line 32N should determine the type of metallic mineralisation causing the I.P. anomalies. The holes would have to be drilled to a depth of 250' to 350'.

If the mineralisation intersected is of economic interest, the I.P. measurements should be extended in order to determine the lateral

extent of the anomalous zone.

PROFESSIONAL ENGINEER
PROVINCE OF

McPHAR GEOPHYSICS LIMITED

Philip G. Hallof.
Geophysicist.
Expiry Date. February 25 1973

Ashton W. Mullan.
Geologist.

Dated: August 10, 1972.

CAIRN MINES LTD.,

Property Alice - Often Grp. Kamloops, B.C. Location or Coord Line 24 North - 23+00 East Hole A - 3

Bearing - - Inclination Vertical Sheet 1

Started July 31, 1972 Completed August 5, 1972 Logged by W.G. Hainsworth

Footage From	Footage To	Remarks	Sample No.	Widths From	Widths To	Assays
0	18	Overburden				
19	98	Andesite - locally well altered, light green to grey, native copper on slip planes plus reddish hematite, fine grained, thin interbeds of black limestone, agglomeritic from 48-98', in places heavy green staining along fractures, copper light throughout this section.				
98	143	Limestone - black, banded at 40° to core, pyritic, heavy argillaceous section from 122-133'.				
143	204	Tuff - light grey, fine grained, well banded at 60° to core, intermixture of limestone, andesite and tuffs to 184', andesitic,occ. native copper on fracture planes. at 163 - 3½ foot mud seam.				
204	220	Agglomerate - green, andesitic, occ. good andesite sections.				
220	230	Andesite - Medium grained.				
230	241	Tuff - as before.				
241	249	Limestone - light grey, black dentritic banding, fine pyrite.				
249	264	Andesite - dk. green, medium grained, at 257' 10" barren quartz vein, soft, talcose.				
264	268	Tuff -				
268	287	Andesite - fine grained possibly tuffaceous, fine native copper along fractures.				
	287	End of Hole				

CAIRN MINES LTD.

Property Alice -Often Grp. Kamloops, B.C. Location or Coord Line 28 North - 20+00 East Hole A - 4

Bearing North 82° East Inclination Minus 45° Sheet 1

Started August 6, 1972 Completed August 11, 1972 Logged by W.G. Hainsworth

Footage From	Footage To	Remarks	Sample No.	Widths From	Widths To	Assays
0	17	Overburden				
17	255	Andesite - Porphyritic with large hornblende xtals, occ.agglomeritic fragments, occ. talcose sections, no native copper until 137' then weak mineral, From 147 - 162 - not as porphyritic and more alteration effects,more native copper along fractures, showing a shearing effect. From 162- 169 - becoming sl. agglomeritic. From 169 - 255 - well sheared with little mineral. From 201 - 255 - badly chopped core.				
255	319	Limestone - Black, pyrite along fractures, flat banding (0° - 40°), occ. small fragmental sections.				
319	337	Tuff - green, fine grained, shearing effect, andesitic, nil mineral.				
337	346	Limestone - as before.				
346	348	Tuff				
348	354	Limestone				
354	378	Tuff - andesitic, traces of fine native copper on planes occ. up to 372' then becoming a litth stronger.				
378	379	Limestone				
379	385	Tuff - with minor interbeds of limestone.				
385	402	Limestone - pyritic, black, fragmentary.				
402	433	Tuff - Native copper on slips and occ. very fine disseminated copper, some pyrrhotite and chalcopyrite from 419-424', this is finely disseminated on slips then giving way to pyrite but no native copper.				
433	442	Andesite - medium grained, some native copper on slips.				
442	490	Tuff - andesitic, slips normally carry some native copper, occ. pyrite on slips and then no accompanying native copper, occ. bedding effects but normally fairly massive, mineralization appears to get weaker from 460' on.				
490	537	Andesite - With some tuffaceous beds, becoming fairly coarse in places, native copper.				
	537	End of Hole.				

CAIRN MINES LTD.

Property Alice - Often Grp. Kamloops, B.C. Location or Coord Line 28 North - 23+00 East Hole A - 2

Bearing - - Inclination Vertical Sheet 1

Started July 21, 1972 Completed July 29, 1972 Logged by W.G. Hainsworth

Footage From	Footage To	Remarks	Sample No.	Widths From	Widths To	Assays
0	20	Overburden				
20	193	Andesite - Medium grained, dk. green, local brecciation, moderately fractured, pyrite fracture filling then becoming fine native copper, somewhat porphyritic, pyrite noticeable from 58-59½, along many fractures native copper is a fairly fine dusting, occ. narrow limestone beds coming in about 109', disemminated pyrite from 167-169'.				
193	225	Limestone - Pyritic, black, well fractured, calcite linings, occ. native copper where yellowish pinite seals fractures, calcite bandings at flat angles to core (20-30°).				
225	302	Tuff - Gradational contact, light grey, fine grained, native copper in fractures and slip planes from 247' on, from 259' becoming more medium grained (andesite), at 262' sl. pyrite and trace chalcopyrite, mineralization appears to be associated with vertical to 60° fractures and fractures lined with calcite at any angle, local limey sections, scattered blebs of iron oxides from 279 - 283 - some brecciation.				
302	312	Andesite - coarser grained, flow lines at 45°-50° to core with occ. native copper.				
312	315	Tuff - as before.				
315	319	Andesite				
319	342	Tuff - Native copper continuing from 247 to 335' in fracturesthen fractures becoming less,				
342	354	Andesite - Heavy concentration of pink calcite strgrs.				
354	362	Tuff - Fine grained, 50° banding.				
362	385	Andesite - Medium grained.				
385	449	Tuff - Fine grained with occ. andesitic sections.				
	449	End of Hole				

CAIRN MINES LTD.

Property Alice - Often Grp. Kamloops, B.C. Location or Coord Line 28North - 26+00 East Hole A - 1

Bearing - - Inclination Vertical Sheet 1

Started July 14, 1972 Completed July 20, 1972 Logged by W.G. Hainsworth

Footage From	Footage To	Remarks	Sample No.	Widths From	Widths To	Assays
0	37	Overburden, clay material.				
37	107	Andesite - hornblendic, light green, nil mineral, blocky in early sections, minor steep fracturig occ.minor epidote along fractures, occ. evidences of brecciation and fragmentation, iron pyrite remnants, fine scattered pyrite mostly altered as before, feldspars locally breaking down to kaolin, local small vuggy zones with calcite. From 94 - 107 - fractures with calcite carrying minor fine native copper. From 96 - 107 - bleaching effect with discolouration from 103-107 From 103- 105 - oxidation with sl. malachite and azurite.				
107	121	Limestone - Black, fine grained, pyritic, from 113 on becoming greyish with less amounts of pyrite, flat banding at 20°-25° to core, at 116' evidence of native copper along fractures, around 120' 60° banding.				
121	189	Andesite - Limey, native copper confined to fractures and slips, particularily where they are chloritized,fine grained, no pyrite evidence, local narrow sections of brecciation from 173'-189', nil mineral from 151'-180' then fine copper along discriminating fractures, occ. ls bands.				
189	206	Limestone - Black, banding at 60° to core, argillaceous, fine cu along chloritized fractures,				
206	417	Andesite - coarser grained (diorite?), sl. pyrrhotite around 348', from 231'-277' - brecciated. from 311 - 352 - weak mineralization. from 386 - 395 - pyrite on fractures. from 366 - 374 - minor disseminated copper..				
	417	End of Hole				

CTA
MEMBER
CANADIAN TESTING
ASSOCIATION

Certificate of Assay

TO CAIRN MINES LTD.,
411 - 1200 West Pender
Vancouver, B.C.

GENERAL TESTING LABORATORIES DIVISION
SUPERINTENDENCE COMPANY (CANADA) LTD.
1001 EAST PENDER STREET VANCOUVER 6, B.C.
PHONE (604) 254-1647
TELEX 04-507514

FILE No. 7208-0909/1
DATE August 14, 1972

We Hereby Certify *that the following are the results of assays made by us upon submitted* Crushed Ore *samples*

MARKED	GOLD		SILVER	Copper (Cu)					
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
		$							
F 14177				0.02					
F 14178				0.02					
F 14179				0.02					
F 14180				0.02					
F 14181				0.02					
F 14182				0.02					
F 14183				0.02					
F 14184				0.02					
F 14185				0.02					
F 14186				0.02					
F 14187				0.02					
F 14188				0.02					
F 14189				0.02					
F 14190				0.02					
F 14191				0.02					
F 14192				0.02					
F 14193				0.02					
F 14194				0.02					
F 14195				0.02					

FS/ios

Note: Rejects retained two weeks
Pulps retained three months
Pulps and rejects may be stored for a maximum of one year by special arrangement.

COPY

Gold calculated at $ ..... *per ounce*

H. Sharples
H. Sharples *Provincial Assayer*

MEMBER
CANADIAN TESTING
ASSOCIATION

Certificate of Assay

GENERAL TESTING LABORATORIES DIVISION
SUPERINTENDENCE COMPANY (CANADA) LTD.
1001 EAST PENDER STREET VANCOUVER 6, B.C.
PHONE (604) 254-1647
TELEX 04-507514

TO CAIRN MINES LTD.,
411 - 1200 West Pender
Vancouver, B.C.

FILE No. 7208-0909
DATE August 14, 1972

We Hereby Certify *that the following are the results of assays made by us upon submitted* Crushed Ore *samples*

MARKED	GOLD OUNCES PER TON	GOLD VALUE PER TON	SILVER OUNCES PER TON	Copper (Cu) PER CENT	PER CENT	PER CENT	PER CENT	PER CENT	PER CENT
		$							
F 14158				0.02					
F 14159				0.02					
F 14160				0.02					
F 14161				0.02					
F 14162				0.02					
F14163				0.02					
F 14164				0.02					
F 14165				0.02					
F 14166				0.02					
F 14167				0.02					
F 14168				No sample					
F 14169				0.02					
F 14170				0.02					
F 14171				0.02					
F 14172				0.01					
F 14173				0.02					
F 14174				0.03					
F 14175				0.02					
F 14176				0.02					

HS/ias

ote: Rejects retained two weeks
Pulps retained three months
Pulps and rejects may be stored for a maximum of one year by special arrangement.

COPY

Gold calculated at $ ..... *per ounce*

..... *Provincial Assayer*

BONDAR-CLEGG & COMPANY LTD.

geochemists ● assayers ● analytical chemists

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.
PHONE: 988-5315 TELEX: 04-54554

CERTIFICATE OF ASSAY

TO Cairn Mines Ltd.
400 - 1200 West Pender Street
Vancouver, B.C.

Report No. A22-414
Samples Submitted: August 7, 1972
Results Completed: August 14, 1972

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED	Cu Percent	MARKED	Cu Percent	MARKED	Cu Percent
200 - 212	0.02	392 - 402	0.02	142 - 152	0.04
212 - 222	0.02	402 - 412	0.02	152 - 162	0.02
222 - 232	0.04	412 - 422	0.02	162 - 172	0.04
232 - 242	0.02	422 - 432	0.02	172 - 182	0.04
242 - 252	0.02	432 - 442	0.04	182 - 192	0.04
252 - 262	0.04	442 - 449	0.04	192 - 202	0.04
262 - 272	0.02	A-3 22 - 32	0.02	202 - 212	0.02
272 - 282	0.02	32 - 42	0.02	212 - 222	0.02
292 - 302	0.02	42 - 52	0.02	222 - 232	0.02
302 - 312	0.02	52 - 62	0.02	232 - 242	0.06
312 - 322	0.02	62 - 72	0.02	242 - 252	0.08
322 - 332	0.02	72 - 82	0.04	252 - 262	0.06
332 - 342	0.02	82 - 92	0.02	262 - 272	0.08
342 - 352	0.02	92 - 102	0.02	272 - 282	0.02
352 - 362	0.02	102 - 112	0.02	282 - 287	0.04
362 - 372	0.02	112 - 122	0.02		
372 - 382	0.02	122 - 132	0.04		
382 - 392	0.02	132 - 142	0.06		

NOTE:
Rejects retained two weeks
Pulps tained three months
unle vise arranged.

D. S. MacMath
Registered Assayer, Province of British Columbia