Mr. Robbie
SG/150/MR/2(2)
Project 2.
(2i)

MINERAL EXPLORATION INCENTIVE SCHEME

APPLICATION

for assistance

1. Applicant — Consolidated Gold Fields Limited

   Address — 49 Moorgate, London EC2R 6BQ

   Telephone No. — 01-606-1020

   Contact — Mr. R.B. Riley or Mr. M.J. Lynch

2. Project title — Scotland copper & nickel

3. Applicant's organisation & financial structure

   Please see this Company's letter of 30th July, 1971.

4. Outline of proposed project, including geological considerations

   A wide-ranging geological and geochemical investigation of areas containing ultra-basic, basic and intermediate rock types (for Cu, Ni and associated metals). Also investigation of selected granitic areas for Mo, W, Sn and associated metals.

   See overlay no. 1 to the 1 inch to 10 miles Geological Map of G.B., Sheet 1, accompanying this application.

   In selecting prospecting areas, not all the desired ground was available and, in some cases, the second or third choices had to be accepted.

   Overlay no. 1 shows 7 areas in which the ground of prospecting interest totals about 126 square miles. The areas are numbered 11-15 and 29-30, as shown on the overlay.

   Areas 11, 12, 13, 29 and 30 contain ultrabasic, basic or intermediate igneous rocks and in places rock masses of granitic type. The principal interest in these 5 areas is for possible Cu, Ni and associated metals. The subsidiary interest is for Mo, W, Sn and other metals in the granitic terrain.

   Areas 14 and 15 contain granitic intrusions into metamorphic terrain. In these, Mo, W, Sn and other metals are of principal interest, with subsidiary Cu, Ni etc. where the rocks are more basic in character.

5. Work programme and costs of project

   Geological recce and geochemical sampling:

   (i) Recce: stream sediment sampling

   (ii) Follow up: limited stream sediment and extensive soil sampling, possibly accompanied or followed by magnetometry, e.m. or I.P. geophysics on

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anomalous areas resulting from recce work.

(iii) Subject to the degree of encouragement afforded by work under (ii) above, the expectation is that scout diamond drilling will be carried out on particular zones.

The project has been in existence for some 6 months, during which about £9,000 has been spent. Recce work (see (i) above) is still in progress and follow up (ii) will begin shortly in some areas. The current phase is expected to be reviewed in September 1971, estimated costs for the months of August and September being as follows:

	£
Staff and allowances	700
Transport and general expenses	200
Sample treatment and analyses	1,000
Head office administration	200
TOTAL amount for which grant is sought	£2,100

Successive phases will be budgeted on the results of the preceding ones.

6. Mineral rights

The Company has leave to enter 258 square miles, of which 249 square miles are held under exclusive permission and 9 square miles under a basis of free permission.

7. Planning permission

Not required at this stage.

Signed on behalf of
Consolidated Gold Fields Limited

Deputy Secretary.

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MINERAL EXPLORATION INCENTIVE SCHEME

Supplementary Application for Assistance

1. Applicant — Consolidated Gold Fields Limited

   Address — 49 Moorgate, London EC2R 6BQ

   Telephone No. — 01-606-1020

   Contact — Mr. R.B. Riley or Mr. F. Blurton

2. Project title — Scotland & N. England copper-nickel-molybdenite (formerly Scotland copper & nickel (AE 2) and Scotland and N. England molybdenite etc. (AE 3))

3. Applicant's organisation & financial structure

Please see the Company's letter dated 30th July, 1971.

SCOTLAND COPPER & NICKEL

Outline of project, including geological considerations

Please see this Company's letter dated 30th July, 1971 and its accompanying plan: overlay No.1 to the 1 inch to 10 miles Geological Map of G.B. Sheet 1.

This project was initiated to test areas of ultrabasic and basic rock for their copper and nickel potential and the seven areas involved are shown on the overlay numbered 11, 12, 13, 14, 15 and 29, 30.

Programme

This application for assistance was drawn up to cover the following phases of exploration:-

(i) Reconnaissance stream sampling over those areas in this programme which had not already been sampled prior to the initial application.

(ii) Initial follow-up on anomalies located by the stream sediment work to confirm or disprove them. This consists of more closely spaced stream sediment sampling and soil sampling together with a thorough geological examination of the area surrounding the sites of anomalous values to look for signs of mineralisation or alternatively man-made objects which could cause the anomalies.

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The stream sediment sampling surveys on several areas were considerably delayed owing to sporting activities and bad weather and were not finally completed until February 1972. With the exception of Nos. 29 and 30 all the areas showed some initial promise with anomalous zones requiring follow-up work.

The initial follow-up work was progressively carried out in all the areas; the last being completed in March 1972.

The results of this work have not been encouraging. Some of the anomalies were not confirmed by closer sampling and "scavenging" by certain metals caused others. A geological examination either failed to give encouragement or showed that the anomalies were derived from geological bodies too small to be of economic significance. In some cases contamination from man-made objects almost certainly caused anomalous metal values to be recorded from the stream sediments.

Therefore none of these areas has been recommended for the next phase - that of intensive soil geochemistry and geophysical work - and it is not our intention to submit a further application for assistance for these areas.

SCOTLAND & N. ENGLAND MOLYBDENITE, ETC.

Outline of project, including geological considerations

Please refer to this Company's letter dated 30th July, 1971 and its accompanying plans: overlay No.2 to the 1 inch to 10 miles geological map of G.B. Sheet 1, and overlays Nos. 3 and 4 at a scale of 1 inch to 1 mile for the Cockermouth and Craven Faults areas respectively.

This programme was specifically designed to examine the Caledonian intrusive granites of Scotland with the hope of finding molybdenite, copper or associated mineralisation within the intrusive stocks or in the surrounding country rock. Areas 16, 31-33 and 35-43 shown on overlay No.2 were all part of this search.

Also included in the project were two areas 18 Cockermouth and 19 Craven Faults, which we were examining for a Cu-Pb-Zn deposit of possible Irish type.

Programme

The programme outlined was designed to cover:-

(i) Reconnaissance stream sampling over those areas in this programme which had not already been sampled before the initial application.

(ii) Initial follow-up on anomalies located by the stream sediment work consisting of closer stream sediment sampling, some soil sampling and a geological examination to try to establish the cause of the anomalies.

At the Talnotry Mine detailed geology, geophysics and geochemistry was undertaken in January and February 1972 but there appears to be no extension of the orebody and no further work there is planned at this stage.

In the Scourie, Ballachulish, Fearn and Cleirich areas the Company has the right to enter under a free permission basis although an exlusive prospecting agreement is currently being negotiated for the Cleirich area.

In the Cockermouth, Mullach, Dalbeattie, Talnotry and Creetown areas the Company has negotiated exclusive prospecting agreements over all the ground it wishes to prospect.

Planning Permission

It is considered that none of the above activities are of such a nature as to require planning permission. If more extensive search operations are envisaged, clearance will be first obtained from the relevant local planning authority.

Costs

The two projects submitted to the Department on 30th July, 1971 and known then as "Scotland copper & nickel" (AE 2) and "Scotland & N. England molybdenite etc." (AE 3) have, as described, enabled us to narrow our present field of interest down to the areas comprised in (d) and (e) above.

Since the projects were started early in 1971 until 30th June, 1972 some £47,000 will have been spent (including mineral rights but excluding head office administration). The Department gave its provisional approval for expenditure incurred after 27th September, 1971 and we estimate that from that date until 30th June, 1972 the Company will have incurred qualifying expenditure of about £17,000.

The work now planned to be done in the areas named in (d) and (e) is expected to take about a year from 1st July, 1972 and is estimated to cost £9,300 made up as follows:

	£
Staff and allowances	5,000
Transport and general expenses	1,000
Sample treatment and analyses	2,200
Trenching	300
Head office administration	800
TOTAL amount for which grant is sought	£9,300

Signed on behalf of
Consolidated Gold Fields Limited

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EJM/RMS 19th March 1974

SCOTLAND COPPER & NICKEL AE2

Technical Report for period 2nd August 1971 - 5th June 1972

During the period reconnaisance geochemical stream sediment surveys were undertaken in the areas listed below.

Reay (Sandside Estate), Strathnaver,
Kinbrace (Borrobol Estate), Strathfleet,
Shin Forest, Dalnessie Estate and Althnahara Estate, Ben Vrackie, Conaglen.

These areas are shown on the location plan which accompanied the original grant application. A geological reconnaissance of each area was undertaken in coordination with the geochemical survey; to search for any visible indications of mineralisation and gather information which might be used in the assessment of the geochemical results.

Reconnaissance Geochemistry

As the project had been underway for 6 months before the mineral incentive scheme became operative, some of the reconnaissance geochemistry surveys had already been carried out. For completeness however, the results of this earlier work accompany this submission.

Once the geochemical results had been received field checks were carried out at Kinbrace, Strathfleet and Shin Forest, Altnahara Estate, Dalnessie Estate. Results from the other areas were not considered sufficiently encouraging to warrant follow-up.

Follow-up Geochemistry

The checks revealed that the anomalous values recorded on the Borrobol Estate were due to contamination, and the isolated groups of low order anomalous values recorded at Strathfleet and Dalnessie were not repeated. It is considered that these scattered values were due to enhancement of metal values in the secondary environment.

No area worthy of more detailed follow-up (soil sampling and geophysics) emerged from this reconnaissance, and work was abandoned in all of the areas covered by this grant application.

Elizabeth Jones

Elizabeth Jones.

Enclosures

1. Stream sediment sampling results, Reay area Sandside Estate, copper and molybdenum p.p.m.

2. Stream sediment sampling results, Strathnaver Forest area, copper and molybdenum p.p.m.

3. (a) Stream sediment sampling results, Kinbrace area Borrobol Estate, copper, molybdenum p.p.m.

(b) Stream sediment sampling results, Kinbrace area Borrobol Estate, lead and zinc p.p.m.

4. Stream sediment sampling results, Strathfleet Area, copper and molybdenum p.p.m.

5. Field checks, Strathfleet area, copper and molybdenum p.p.m.

6. Stream sediment sampling results, Shin Forest, Dalnessie and Altnaharra Estate, cooper, nickel p.p.m.

7. Stream sediment sampling results, Ben Vrackie area, copper, nickel p.p.m.

8. Stream sediment sampling results, Conaglen area, copper, nickel p.p.m.