

SCOTLAND AND NORTH OF ENGLAND POLYBLENITE etc. AF3Technical Report for period 2nd August 1971 - 5th June 1972

During the period geological reconnaissance and stream sediment surveys were undertaken in 16 areas. The results of this work caused many of the areas to be given up but 7 localities merited further investigation.

1. Reconnaissance Geochemistry

As the project had been underway for 6 months before the mineral incentive scheme became operative some of the reconnaissance geochemical surveys had already been carried out. Where follow-up work was undertaken however, non-qualifying reconnaissance results accompany this submission in order to complete the overall picture.

Areas given up after the reconnaissance stage:-

Craven faults, Etive, Moy and Foyers,
Arran, Cluanie, Inchbae, Skelpick,
Scourie, Skye.

Field checks were undertaken in some areas before the ground was relinquished, and in the case of Scourie and Skelpick further access was refused to the properties involved and it has not been possible to follow-up initially encouraging results. If access is obtained at a later date to either of these areas, then a separate grant application will be made to cover any work undertaken.

2. Follow-up Geochemistry and Geophysics

Further work was merited in the following areas, each of which is discussed individually.

Talnotry, Cockermouth, Dalbeattie, Creetown,
Mullach nan Coirean and Ballachullish, Clerich,
Wearn.

This work screened out all of the remaining areas apart from Cockermouth where a scout drilling target was located. The diamond drilling programme formed the basis of a separate grant application and this area has now been isolated under the Torpenhow project. The record of the work leading up to the drilling stage

has been included with this and the subsequent submissions.

2.1 Talnotry and Creetown

The reconnaissance of the Talnotry and Creetown areas located a series of molybdenum anomalies along the southern side of the Cairnsmore of Fleet granite, and the two areas were considered jointly for follow-up work. Low order copper anomalies on the northern side of the Fleet granite and along the southern margin of the Merrick granite were also checked. Soil geochemical and magnetic surveys were undertaken in the vicinity of the exposed nickel mineralisation in an attempt to discover any concealed extensions.

Amongst the molybdenum anomalies the three strongest (Craiglowrie Hill, Loch Ken, Little Water of Fleet) were investigated geochemically, by further stream sampling, base of slope soil sampling and soil sampling along the forestry rides. Enhanced values were located in soils at Craiglowrie Hill and minor non-economic molybdenite mineralisation was found to be the source of the anomaly. Both at Loch Ken and Little Water of Fleet the anomalies proved to be very small in extent with no increase in values. The results are attributed to very minor molybdenite within the granite possibly enhanced by manganese precipitation in the streams.

Low order stream sediment anomalies on the northern side of the Fleet granite were traced to minor chalcopyrite mineralisation in quartz veins. Whereas similar low order values along the southern flank of the Merrick granite emanate from the pyritic black shales exposed in that area.

Geological mapping, reconnaissance soil sampling and magnetic surveys were undertaken in the vicinity of the copper/nickel mineralisation exposed in Glen of the Bar, and the central part of the grid was surveyed in detail. The results of the detailed work confirm that the mineralisation has a very limited extent. No manifestation of possible lateral extensions were obtained from the more widely-spaced surveys, and it was concluded that no extensions to the known mineralisation exist within the range of the techniques used.

2.2. Cockermouth

Reconnaissance soil and stream sediment sampling outlined a large but moderate copper anomaly in Cockermouth Area. Follow-up soil sampling confirmed the continuity and extent of this anomaly. A reconnaissance I.P. survey was carried out but unfortunately a buried water main interfered with this survey over the main anomalous zone. Further detailed work will be undertaken in the autumn of 1972 which, if encouraging will justify the isolation of this area from project AE3 to become the subject of a separate grant application.

2.3 Dalbeattie

Following the reconnaissance stream sediment survey soil sampling was undertaken in four areas where anomalous values were recorded; Aireland Moor, Barclosh Hill, Barclay-Whitehills and Gascarrel. Closely-spaced stream sediment samples were collected in Cushat Wood following up some results supplied by the I G S. Here the anomalous lead/zinc values were traced back to an out-cropping barytes vein.

At Aireland Moor the soil sampling located scattered and discrete anomalies for both copper and molybdenum that will require further follow-up.

The soil sampling at Barclosh Hill did not reveal any anomalous values and no further work was undertaken.

Anomalous values for copper up to 840 p.p.m. were recorded near Colvend on the Barclay-Whitehills grid. These values were further investigated with detailed soil sampling which showed that the anomaly was completely confined to an area of very peaty soil. No further work was undertaken.

Soil sampling was also undertaken at Rascarrel in search of extensions to the recorded copper mineralisation in that area. No anomalies worthy of further work were discovered.

2.4 Mullach nan Coirean

Moderately anomalous molybdenum values were located along the southern and western contacts of the Mullach nan Coirean granite, as well as low order copper values. The copper occurs only in streams draining black pyritic shales and geochemical checks on rock samples confirmed the black shales as the source of copper. Along the

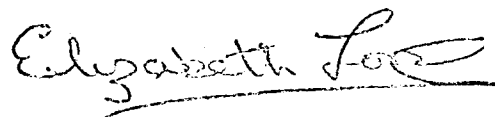
contour, soil sampling was carried out over the molybdenum anomalies, and the results required further follow up.

2.5 Clerich (Aviemore)

Reconnaissance sampling in this area revealed two groups of strongly anomalous values, one on the Alvie Estate and the second near Aviemore. On the Alvie Estate soil sampling outlined an anomalous zone close to the granite contact with some other scattered anomalous values. Both this and the anomaly near Aviemore require extensions of the original grid in order that the potential of the area may be fully assessed.

2.6 Fearn

A moderate anomaly was scheduled for further work in this area, and it was repeated with closely-spaced stream sediment sampling. It is intended that follow up soil sampling will be carried out.



Elizabeth Jones

LIST OF ENCLOSURES

Talnotry and Creetown

- ✓ 1. Creetown, reconnaissance stream sediment results
Copper/Molybdenum/Tin/Tungsten.
- ✓ 2. Talnotry Forests, reconnaissance stream sediment
results Copper/Molybdenum.
- ✓ 3. Talnotry Forests (Part): reconnaissance stream
sediment results, Nickel.
- ✓ 4. Talnotry Molybdenum Areas - Little water of Fleet:
soil sampling Molybdenum.
- ✓ 5. Talnotry Molybdenum Areas - Loch Ken: soil sampling
Molybdenum results.
- ✓ 6. Talnotry Molybdenum Areas - Craighlowrie: soil
sampling Molybdenum results.
- ✓ 7. Talnotry Mine Area - reconnaissance soil sampling
Copper/Nickel.
- ✓ 8. Talnotry Mine Area - vertical magnetic intensity,
reconnaissance survey.
- ✓ 9. Talnotry Mine Area - detail soil sampling Copper/Nickel.
- ✓ 10. Talnotry Mine - Vertical magnetic intensity, detailed
survey.

Cockermouth

- ✓ 11. Reconnaissance stream sediment sampling.
- ✓ 12. Reconnaissance soil sampling results: Copper.
- ✓ 13. " " " " : Lead and Zinc.
- ✓ 14. " I.P. Chargeability values.
- ✓ 15. " I.P. Resistivity values.
- ✓ 16. " I.P. Gradient Array chargeability values.
17. Pit profiles and Geochemical profiles Copper, Lead, Zinc,
Mercury.

Dalbeattie

- ✓ 24. Reconnaissance stream sediment sampling results.
Copper, Molybdenum, Tin, Tungsten.
- ✓ 25. Aireland Moor soil sampling results - Molybdenum.
- ✓ 26. " " " - Copper.
- ✓ 27. Barclosh Hill " " - Molybdenum.
- ✓ 28. " " " - Copper.
- ✓ 29. Rascarrell soil sampling results - Copper.
- ✓ 30. Barclay - Whitehills soil sampling results - Copper.
- ✓ 31. " " " - Molybdenum.
- ✓ 32. Colvend, detail soil sampling - Copper.
- ✓ 33. Cushat Wood - Airdrie farm F.U. stream sediment results
Copper, Lead, Zinc.

Mullach

- ✓ 34. Reconnaissance stream sediment sampling results,
Copper, Molybdenum.
- ✓ 35. Follow-up stream sediment sampling results, Copper,
Molybdenum.
- ✓ 36. Soil Sampling results, Copper, Molybdenum.

Clerich (Aviemore)

- ✓ 37. Reconnaissance stream sediment sampling results,
Copper, Molybdenum.
- ✓ 38. Alvie Estate; soil sampling results, Copper, Molybdenum.
- ✓ 40. Kinreochy Estate; soil sampling results and follow-
up stream sediment results, Copper/Molybdenum.

Fearn

- ✓ 42. Reconnaissance stream sediment sampling results,
Copper, Molybdenum.
- ✓ 43. Follow-up stream sediment sampling results.

FINANCIAL ASSISTANCE FOR MINERAL EXPLORATION

Application for Assistance

25th April, 1973.

Applicant Consolidated Gold Fields Limited
Registered Office 49 Moorgate, London, EC2R 6BQ.
Telephone No. 01-606-1020
Contact Mr. F. Blurton or Mr. R.B. Riley at
above address and telephone
Project Title Torpenhow
Site The area covers an arcuate belt between
Cockermouth and Caldbeck in Cumberland,
as shown on the accompanying map. The
site in fact consists of the Cockermouth
prospect originally included in project
AE3 "Scotland & N.England molybdenite etc.",
expanded to take in the further anomalies
mentioned below.
Minerals Sought Copper, lead, zinc and associated metals.
Geology of the area

Under our approved project "Scotland and N. England molybdenite etc." AE3, the intensive follow-up programme carried out over a geochemical anomaly due south of Torpenhow in the Cockermouth area has revealed a localised target worthy of scout drilling. The coincident geophysical/geochemical anomalies consist of an I.P. metal factor anomaly which covers an area 3000 feet by 800 feet accompanied by soil values ranging up to 2000ppm copper. Anomalous amounts of arsenic, antimony and mercury have also been recorded over the area which is completely covered by glacial drift.

A further six geochemical anomalies have been located by reconnaissance over the belt of Carboniferous Limestone between Cockermouth and Caldbeck. These consist of groups of high values for either copper, lead or zinc or combinations of these metals with peaks of 1300ppm copper, 200ppm lead and 900ppm zinc. It is considered that these anomalies may emanate from stratiform mineralisation within the Carboniferous Limestones.

Mineral rights.

Simple prospecting agreements have been negotiated with landowners over the majority of the area shown on the map; these agreements cover a period of one year with the right to renew for a second year. In the immediate drilling area the farmers concerned have agreed to allow this operation on their land.

Planning permission

It is considered that the geochemical and geophysical surveys outlined below do not require planning permission. The proposed scout drilling programme is under discussion with Cumberland County Council

and first indications are that no difficulties will be encountered.

Work programme

This will include the initial scout drilling of the anomaly due south of Torpenhow and geological, geochemical and geophysical follow-up over the six anomalies mentioned above. The scout drilling will involve approximately 1500 feet of diamond drilling almost certainly to be undertaken by Drilling & Prospecting International Limited, Coventry Road, Cubbington, Leamington Spa, Warwickshire.

As mentioned intensive geochemical soil sampling will be carried out over the reconnaissance anomalies and the samples are to be analysed for Cu, Pb, Zn, with additional determinations on selected samples. Provision has been made for the use of a portable mercury soil gas detector and deep sampling in areas of thick glacial drift. In addition geophysical surveys will be carried out over promising areas; these will include induced polarisation, self potential and electro magnetic methods as well as ground magnetic surveys for structural control. Float and outcrop mapping will also be included in the follow-up programme.

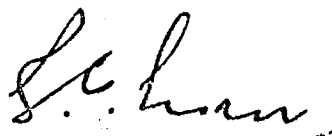
Starting Date

The programme described above is planned to begin on or after May 1st 1973, and should take about eight months to complete.

Declaration

- (i) We wish the proposed exploration programme outlined in this application to be considered for financial assistance under the Mineral Exploration and Investment Grants Act 1972. To the best of our knowledge and belief the information given above is correct.
- (ii) We understand that before any monies are advanced by the Department we will be required to give undertakings in writing regarding the terms and conditions governing the scheme
- (iii) We agree that the information given in this application may be made available in confidence to the Institute of Geological Sciences.
- (iv) We agree that the information give in regard to the location, work programme and duration of the project may be made available in confidence to the Nature Conservancy.

Yours faithfully,
for and on behalf of Consolidated Gold
Fields Limited


Director

FINANCIAL ASSISTANCE FOR MINERAL EXPLORATION

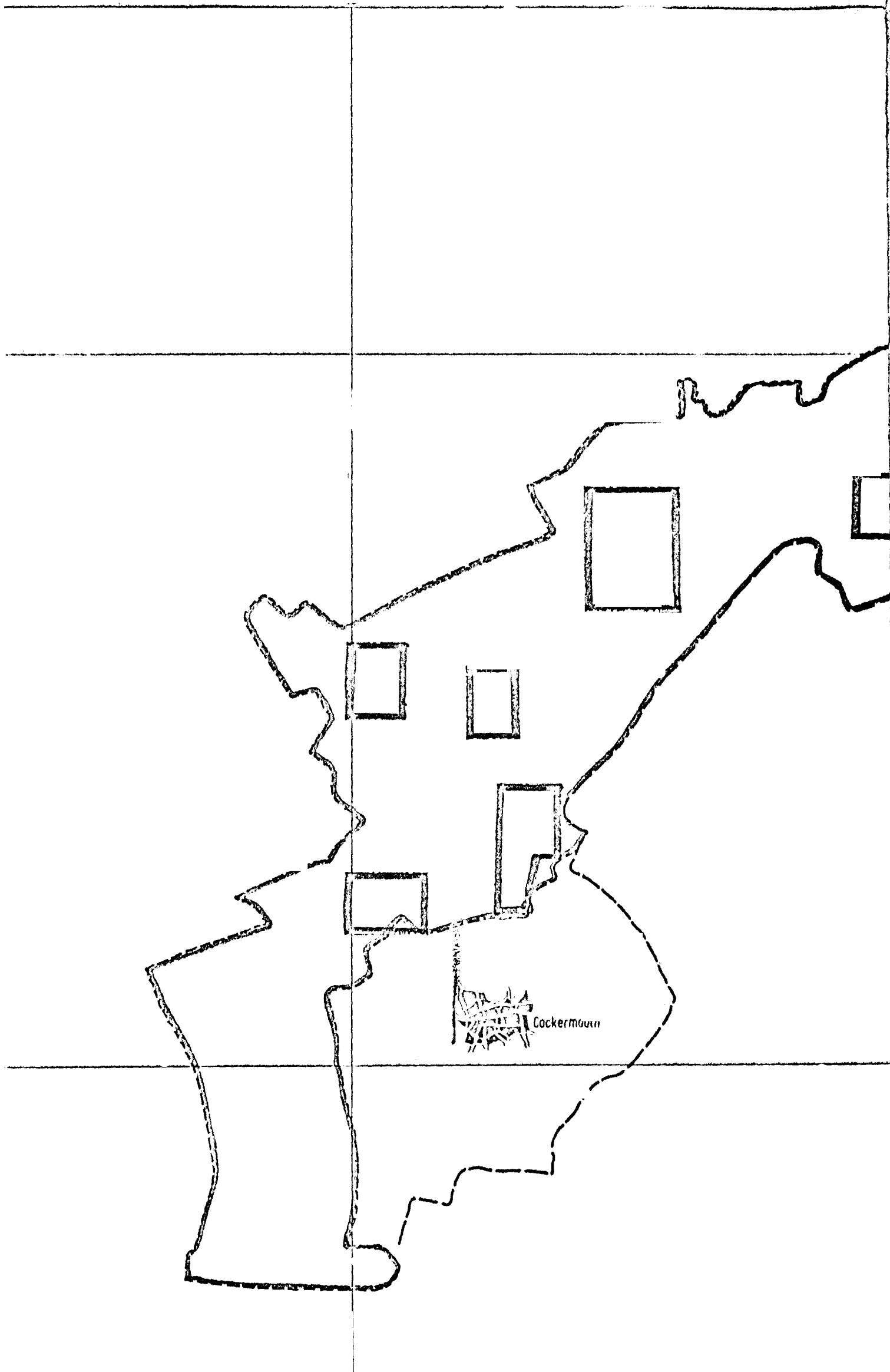
CONSOLIDATED GOLD FIELDS LIMITED

PROJECT: TORPENHOW

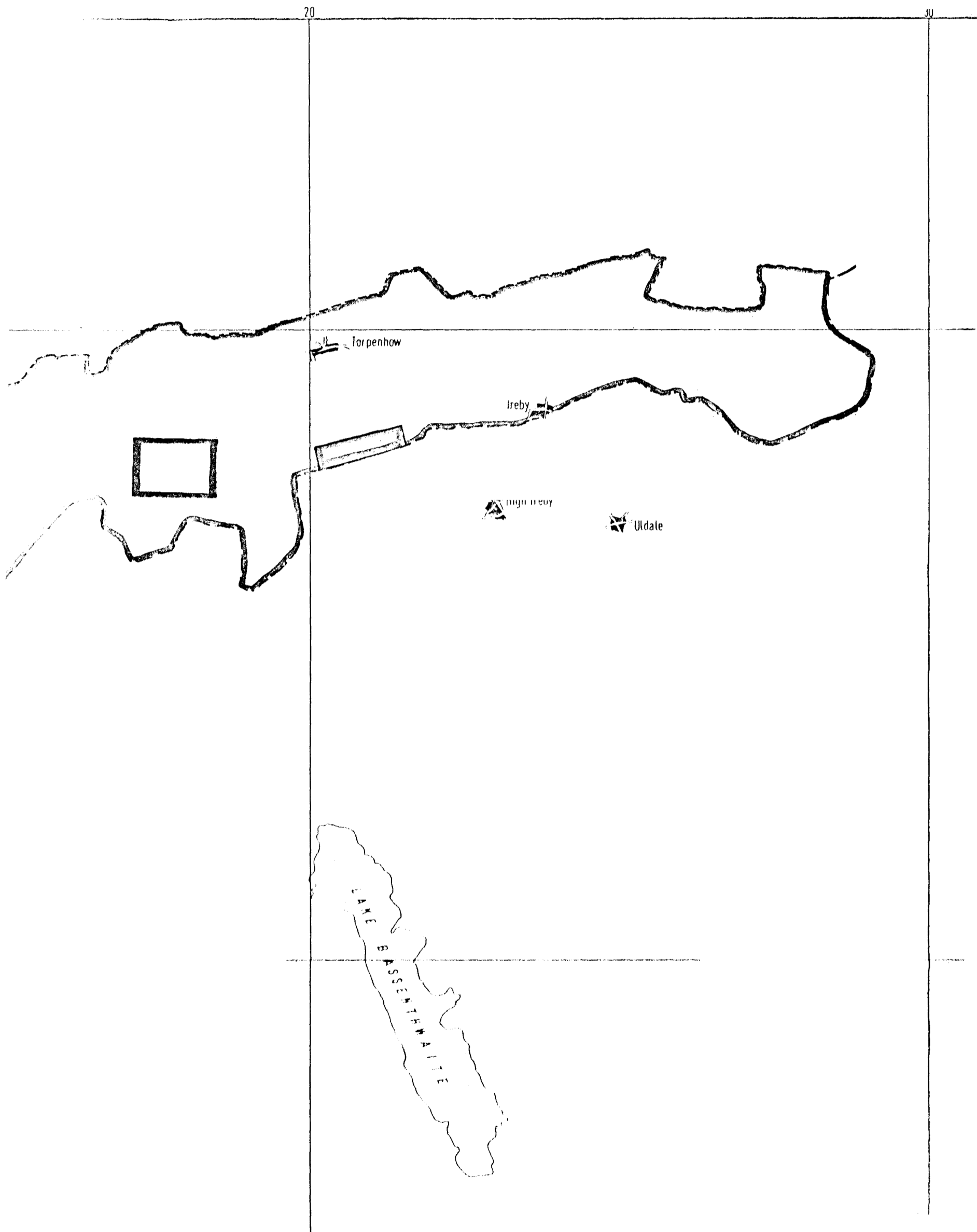
Statement of Costs.

The Torpenhow drilling target has up to now been part of the Cockermouth area included in the "Scotland and N. England molybdenite etc." project AE3 which has been approved by the Department and which is still in progress. The six regional reconnaissance anomalies mentioned were located during the course of work undertaken by the Company, not the subject of an application for DTE assistance. Since the results of follow-up work in the Cockermouth area have encouraged the Company to undertake a scout drilling programme, and because of the proximity of the Torpenhow drilling target to the reconnaissance anomalies, it is proposed to isolate and extend the Cockermouth area as an independent project if D.T.I. approval of this application is given. It is hoped that the programme will commence shortly after 1st May 1973, and the estimated cost is given below:-

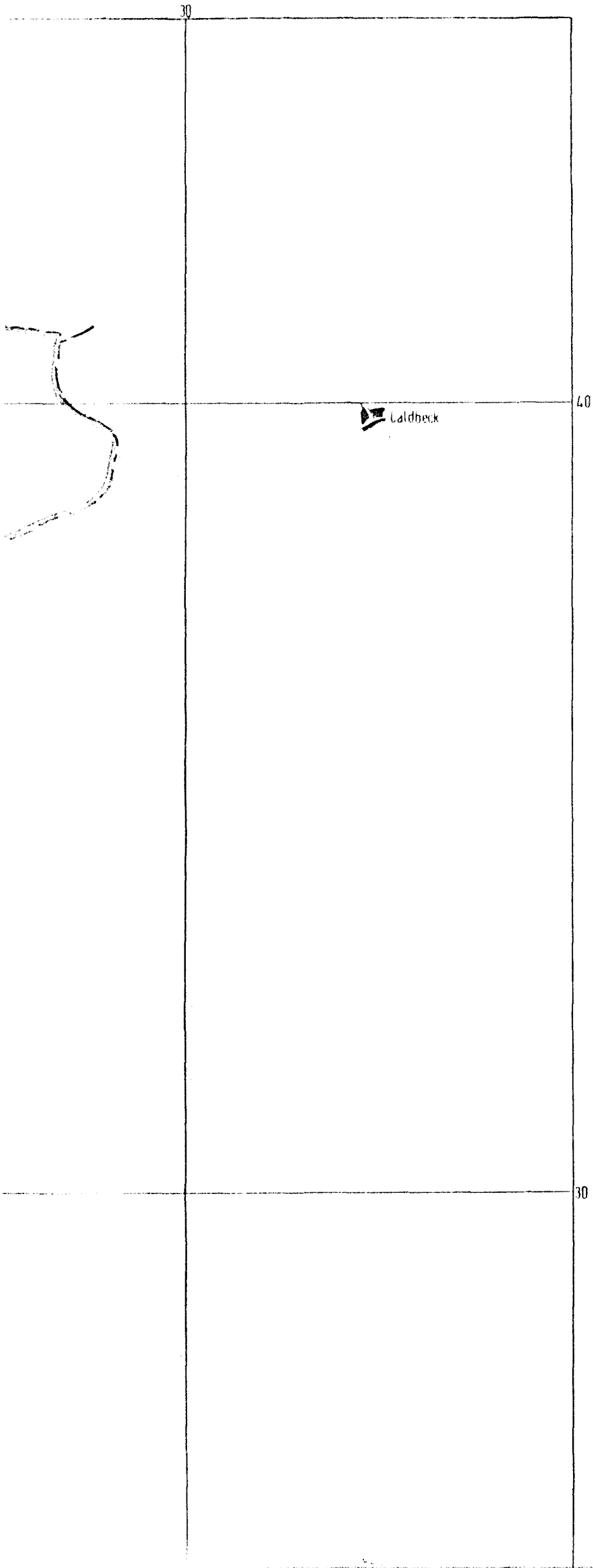
TORPENHOW PROJECT, LAKE DISTRICT



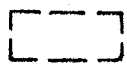
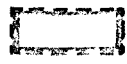


scale : 1



scale : 1 mile to 1 inch



REFERENCE

-  NATIONAL PARK BOUNDARY
-  AREA OF INTEREST (OUTSIDE NATIONAL PARK)
-  DRILLING AREA, REFERRED TO IN TEXT
-  RECCE. GEOCHEMICAL ANOMALY, REFERRED TO IN TEXT

MAP TAKEN FROM PART OF O.S. MAPS 82 AND 83

SIGNED FOR AND ON BEHALF OF CONSOLIDATED GOLD FIELDS LIMITED

S. C. Chan DIRECTOR

PLAN TO ACCOMPANY APPLICATION DATED 25th APRIL 1973



Consolidated Gold Fields Ltd.
EXPLORATION

LAKE DISTRICT
COCKERMOUTH - Torpenhow Area

RECCE I.P.
65 Chargeability in msec

SCINTREX MK 7 25 WATT UNIT
DIPOLE-DIPOLE ARRAY L=200' n=2

AE3/14

14	U.S. MAP NO. NV 13 NE NY 23 NW	Prepared by GLP
	Geological Map No.	Drawn by GLP
	Scale 6" = 1 mile	Date 4 July 1972
	Revisions	



Consolidated Gold Fields Ltd.

EXPLORATION

Title LAKE DISTRICT
COCKERMOUTH - Torpenhow Area

RECCE I.P.

146 Resistivity in ohm.metres

SCITREX MK7 25 WATT UNIT
 DIPOLE-DIPOLE ARRAY 1=200' n=2.

AE3(15)

Drg. No. 15	D.S. MAP No. NV 13 NE NY 23 NW	Prepared by G.L.P.
	Scale 6" = 1 mile	Date 3rd July 1972
Revisions		