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Gold in the Dalradian terrane: a review of previous work

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Gold in the Dalradian terrane: a review of previous work

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Adit entrance at the Cononish gold prospect.

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Summary

The Dalradian Supergroup comprises a Late Precambrian sequence of marine clastic sedimentary rocks and minor basic volcanic rocks which was folded and metamorphosed during the early Palaeozoic Caledonian Orogeny. Intrusive igneous rocks are widespread throughout the Dalradian terrane. The most important in terms of gold metallogenesis are the post-tectonic granites which comprise a diverse suite of calc-alkaline intrusions emplaced between 420 and 395 Ma.

Numerous occurrences of gold in bedrock and alluvium are documented in the Dalradian terrane of Scotland. Mesothermal vein occurrences are the most important and include the Cononish deposit, near Tyndrum in Perthshire, where planning permission for mining has been granted. Gold mineralisation of several other styles, including intrusion-related, epithermal, stratiform and occurrences associated with mafic-ultramafic intrusions, is also present.

This report has been compiled for the BGS Core Programme project 'Sedimentary Basin Resources: Gold in orogenic extensional basins – the Dalradian'. This project, carried out between 1997–2000, was designed to investigate the factors controlling the distribution of gold in the Dalradian and to develop a predictive metallogenic model for gold mineralisation in this terrane. This report provides a` review of known gold occurrences and the results of past mineral exploration activity in the Dalradian terrane. The latter has been compiled from records held in BGS archives and the available data are summarised in a series of appendices.

Exploration for metalliferous mineralisation has been carried out widely in the Dalradian terrane by commercial mining companies and by BGS. In the 1970s most work focused on Cu, Pb, Zn, Ni and Mo, while more recently, from 1981 onwards, precious metals (Au and PGE) were the prime target. Between 1972 and 1984 the DTI sought to encourage private-sector mineral exploration by the provision of grants under the Mineral Exploration and Investment Grants Act (MEIGA). About 150 reports derived from these projects are available on open-file at BGS. Exploration by BGS was carried out mainly through the DTI-funded Mineral Reconnaissance Programme (MRP), which ran between 1972 and 1997. Nearly 150 reports and associated data releases were produced by the MRP. Together the MEIGA and MRP reports have been the major sources of information used in this report.

The combination of improved genetic models for gold deposits, the increased availability of multidisciplinary digital geoscience data and the information on previous exploration summarised in this report provides a sound basis for research on gold mineralisation in the Dalradian terrane. Potential exists in a range of settings that may host economic gold deposits.

1 Introduction

The Dalradian Terrane refers to that part of the Scottish Highlands, which is underlain by late Precambrian metasedimentary rocks of the Dalradian Supergroup. Ordovician mafic-ultramafic intrusions and late Silurian–early Devonian granitoid intrusions outcrop over extensive areas in the terrane (Figures 1 and 2). Fragments of a once extensive cover of Devonian and Permo-Triassic sedimentary and volcanic rocks are present locally. The Dalradian Terrane extends for over 300 km on the Scottish mainland, from the Mull of Kintyre in the south-west to the Moray Firth in the north-east. Dalradian metasedimentary rocks also occur in Shetland 240 km to the north and outcrop over extensive areas in the north and west of Ireland. The terrane trends for the most part parallel to the regional strike of the Dalradian supracrustal rocks, ranging from dominantly north-east–south-west to locally north-north-west on the Scottish mainland to north–south in Shetland. The terrane is bounded to the north-west by the Great Glen Fault and to the south-east by the Highland Boundary Fault**,** and has a maximum cross-strike width of 110 km.

The Dalradian Terrane contains more than twenty recorded occurrences of gold mineralisation in bedrock (Figure 3; Table 1). Most are epigenetic in character but some may have a syngenetic origin. The mesothermal vein deposits at Cononish and Calliachar Burn have the greatest potential economic importance. The Cononish deposit, near Tyndrum in the south-west Grampian Highlands, has a mineable resource of 514,000 tonnes grading 9.4 g/t Au and 53 g/t Ag (figures supplied by Fynegold plc). Planning consent for a mine at Cononish has been granted, but no production has taken place. At Calliachar Burn, near Aberfeldy, no reserve figures are available but Colby Resources Ltd, who undertook exploration on the property in the early 1990s, reported 100 g/t Au in a 10 tonne bulk sample.

Mesothermal gold mineralisation also occurs along strike in the Dalradian rocks in Northern Ireland where economically significant vein deposits have been discovered in a particularly important gold province in Southern Highland Group strata forming the Sperrin Mountains north-east of Omagh. The largest deposit is located at Curraghinalt where a reserve of 900 000 tonnes grading 11.7 g/t has been defined (Clifford et al., 1992). A similar smaller deposit in the Southern Highland Group Dalradian occurs at Cavanacaw in the Lack inlier south-west of Omagh (Cliff and Wolfenden, 1992). Planning permission to develop an open-pit mine at Cavanacaw has been granted and production is scheduled to commence in 2000.

A considerable volume of information on mineralisation within the Dalradian terrane exists in the form of BGS and company reports, academic studies and historical records. Although much of this material relates to base metals it is also an important resource for studies related to gold mineralisation. The aim of this report is to summarise the available information, which might be relevant to future metallogenic and exploration studies in the Dalradian.

Geology of the Dalradian Terrane

1.1 DALRADIAN METAMORPHIC ROCKS

The Dalradian Supergroup (Harris et al., 1994) comprises a sequence of late Precambrian marine clastic sedimentary rocks and minor basic volcanic rocks, more than 25 km thick**,** which was folded and metamorphosed during the early Palaeozoic Caledonian Orogeny. The succession may be divided into four lithologically distinct groups that reflect differing sedimentary regimes (Figure 4).

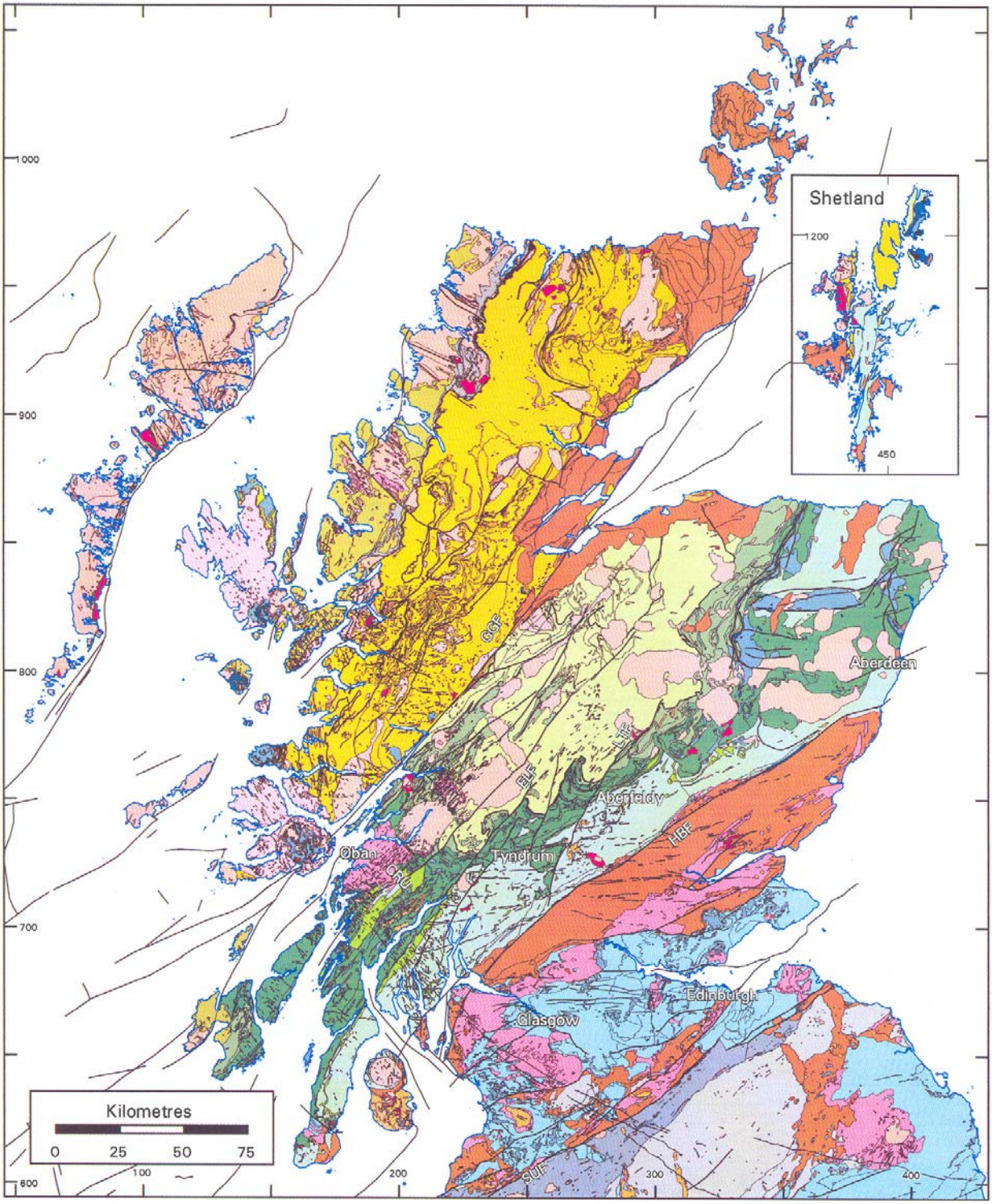

Figure 1 Geology of Scotland (from 1:250 000 digital map of the UK)

(GGF, Great Glen Fault; EFL, Ericht-Laidon Fault; LTF, Loch Tay Fault;
HBF, Highland Boundary Fault; SUF, Southern Uplands Fault; CRU, Cruachan Lineament)

Figure 2: Key to Figure 1

Figure 2 Key to Figure 1

The oldest rocks are micaceous to quartzose psammites and semipelitic schists of the Grampian Group that were deposited in an extensional basin. The succeeding Appin Group comprises a limestone-pelite-quartzite assemblage laid down in an open, relatively stable and gently subsiding shelf environment. The overlying Argyll Group is characterised by significant lateral facies and thickness changes and an increased incidence of mafic volcanic rocks**,** reflecting the increasing instability of the Dalradian basin. The lower part of the group consists of quartzite, graphitic schist, calcareous schist and dolomitic limestone, passing upwards into a predominantly turbiditic succession with occasional clastic limestones. The youngest rocks, the Southern Highland Group, are coarse-grained turbidites of continental provenance which show sporadic but widespread input of mafic volcanic material**,** and subordinate interbedded pelite. The turbidites are believed to have been deposited in submarine fans at a time when there was complete continental rupture and the Iapetus Ocean was beginning to open.

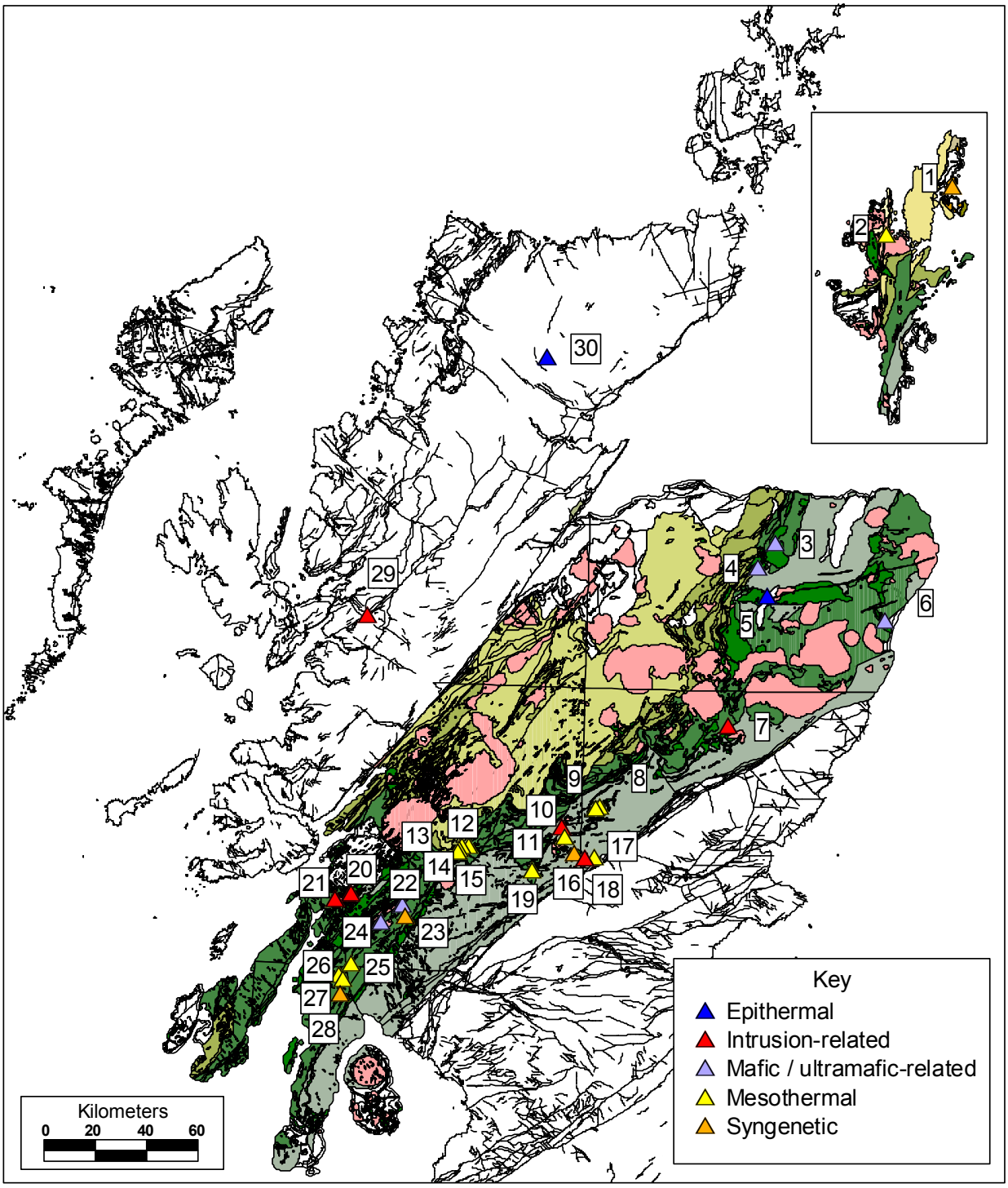

Figure 3 Locations of principal gold occurrences in the Dalradian terrane

(Locality numbers relate to Table 1)

Evidence of four episodes of deformation is recorded in the Dalradian rocks (Harris et al. 1976; Harte et al., 1984; Mendum and Fettes, 1985). Major recumbent folds, including the Tay Nappe, created during the early (D1 and D2) deformations resulted in widespread inversion of the Dalradian in southern parts of the Highlands. The effects of the later deformations (D3 and D4) were to cause local steepening of the strata. The early deformations were accompanied by prograde metamorphism which reached its peak shortly after the D2 event and may have overlapped with D3 (Harte et al., 1984; Dempster & Harte, 1986; Robertson, 1994). Conditions of metamorphism show a general increase from epidote-amphibolite facies in the south-west Highlands to upper amphibolite facies in the north-eastern part of the central Highlands. A

similar range of temperatures and pressures is evident in Shetland. Metamorphism over most of the Dalradian is of the Barrovian type, but in the north-east Grampians the lower pressure Buchan type predominates.

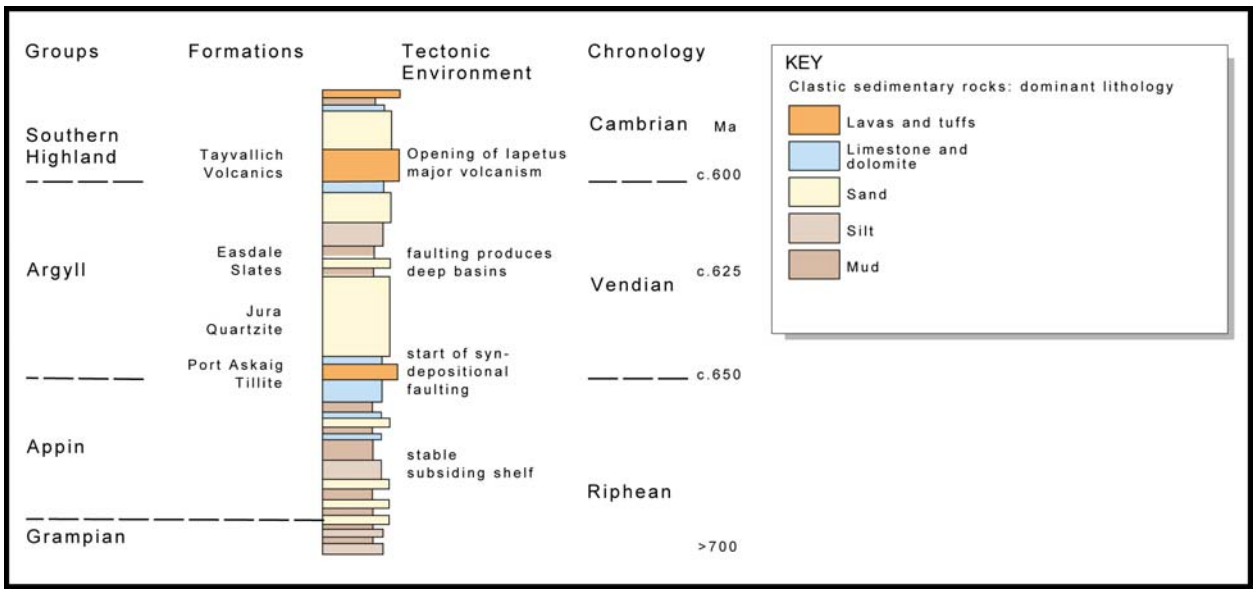

Figure 4 Summarised Dalradian sequence in the south-west Highlands (after Anderton, 1982)

1.2 CALEDONIAN IGNEOUS ROCKS

Igneous rocks, widespread throughout the Dalradian terrane, are collectively referred to as the Caledonian Igneous Suite (Stephenson and Gould, 1995). The suite comprises:

i. small, pre-tectonic basic and ultramafic dykes and sills

ii. syntectonic granites

iii. syn- to late-tectonic mafic and ultramafic bodies

iv. late-tectonic granites

v. post tectonic granites

vi. late- to post-tectonic minor intrusions

vii. Lower Old Red sandstone volcanism.

Of all the phases of igneous activity in the Dalradian terrane the most widespread and most important in terms of gold metallogenesis is that which led to the emplacement of the post-tectonic granites, the Newer Granites of Read (1961). These intrusions are mainly I-type calc-alkaline bodies that were intruded between 420 and 395 Ma at depths from sub-volcanic to 6-8 km. Petrographically these intrusions may be divided into three groups (Stephens and Halliday, 1984; Plant, 1986):

i. *The South Grampians Suite* is developed in the south-west and south Grampians, locally associated with north-east-trending faults. It includes complexes at Garabal Hill-Glen Fyne (Nockolds, 1941; Nockolds and Mitchell, 1948; Summerhayes, 1966), Arrochar (Rogers and Dunning, 1991), Doune Farm, Inversnaid, Comrie (Tilley, 1927; Turnell, 1985; McGregor, 1996), Glen Tilt (Deer, 1938, 1950, 1953) and Glen Doll (Jarvis, 1987; Smith et al, in press). These intrusions include a significant dioritic component together with smaller volumes of more mafic rocks. Some contain early breccias and appinites.

ii. *The Argyll Suite* consists principally of tonalite, granodiorite and granite, although diorite, appinite, lamprophyre and explosion breccias are also present locally. It is largely confined to a 40 km wide north-east-trending zone between the Great Glen and Ericht-Laidon Faults. In the Lorne and Lochaber districts it includes high level intrusions such as Etive (Anderson, 1937; Batchelor, 1987), Ben Nevis (Anderson, 1935; Bailey, 1960; Haslam, 1968), Glencoe (Bailey, 1960; Roberts, 1966) and Kilmelford (Harris et al, 1988) granites. Several smaller intrusions in north-east Scotland are assigned to this suite on petrological grounds, although they were evidently emplaced at greater depths in the crust.

iii. *The Cairngorm Suite* forms a geographically distinct group in north-east Scotland extending from the Monadhliath pluton in Strathspey to Peterhead on the east coast. The suite contains 20 separate intrusions**,** ranging in size from bodies such as Auldearn, Dorback and Glenlivet**,** which occupy only a few square kilometres**,** to the massive Cairngorm pluton which outcrops over 395 km^2. The Cairngorm Suite consists predominantly of biotite granite, mostly coarse-grained and pink in colour (Stephens and Halliday, 1984; Plant et al., 1990). Microgranite is a major component of some of the intrusions in this suite.

2 Gold Mineralisation in the Dalradian Terrane

Mesothermal veins are the most widespread type of gold occurrence in the Dalradian terrane, although examples of several other styles of mineralisation are also found. These include intrusion-related, epithermal, stratiform and alluvial occurrences.

The locations of the principal bedrock gold occurrences in the Dalradian terrane are shown in Figure 3. Their names and grid references are given in Table 1.

Table 1 Principal bedrock gold occurrences in the Dalradian terrane.
(Locality numbers correspond to those in Figure 3).

Locality Number	Locality Name	Easting	Northing	Style
1	Muness	462000	1199000	Syngenetic
2	Ollaberry	436600	1180600	Mesothermal
3	Knock	352000	847500	Mafic / ultramafic-related
4	Succoth-Brown Hill	345100	838300	Mafic / ultramafic-related
5	Rhynie	349000	827000	Epithermal
6	Belhelvie	394100	817700	Mafic / ultramafic-related
7	Glen Clova	333900	777300	Intrusion-related
8	Calliachar Burn	283800	745500	Mesothermal
9	Urlar Burn Veins	282410	744950	Mesothermal
10	Tomnadashan	269100	737700	Intrusion-related
11	Corrie Buie	270400	734300	Mesothermal
12	Tyndrum	233000	730300	Mesothermal
13	Tyndrum, Main Mine	230800	730300	Mesothermal
14	Tyndrum, Mother Reef	229500	729500	Mesothermal

Locality Number	Locality Name	Easting	Northing	Style
15	Cononish	229150	728620	Mesothermal
16	Invergeldie	274100	727700	Syngenetic
17	Glen Turret	282000	726500	Mesothermal
18	Milton Burn	278000	725600	Intrusion-related
19	Lochearnhead	257600	721000	Mesothermal
20	Lagalochan	187700	712400	Intrusion-related
21	Beinn nan Chaorach	181490	709920	Intrusion-related
22	Coille Bhraghad	207510	708130	Mafic / ultramafic-related
23	McPhun's Cairn	208900	703200	Syngenetic
24	Craignure	199500	701090	Mafic / ultramafic-related
25	Castleton	187800	685000	Mesothermal
26	Cruach Mheadhonach	183000	681100	Mesothermal
27	Stronchullin	184500	679120	Mesothermal
28	Meall Mor	183600	673680	Syngenetic
29*	Ratagain	193950	819850	Intrusion-related
30*	Brora	263400	920000	Epithermal

(*occurrence located outside the Dalradian terrane but referred to in text and shown in Figure 3).

2.1 MESOTHERMAL LODE OCCURRENCES

In the Tyndrum district of the south-west Highlands, metalliferous veins are related to several distinct phases of hydrothermal activity (Pattrick et al., 1991). The most well known mineralisation comprises Pb- and Zn-bearing quartz veins in the Tyndrum Fault Zone which supported mining at several localities in the 18th and 19th centuries (Wilson and Flett, 1921). In 1984 the discovery of gold-bearing veins in the Tyndrum district led to the identification of the largest mesothermal lode gold deposit known in Scotland at **Cononish**, 3 km south-west of Tyndrum (Earls et al., 1992). The mineralisation at Cononish, which occurs along a 2.5 km structure, comprises a single, north-east-trending quartz-sulphide vein cutting psammites and pelites of Appin to Argyll Group Dalradian strata. The mineralised vein has been drill tested for 700 m along strike and 500 m down dip and traced for 423 m along a horizontal level. The vein shows a complex, multi-stage history and the main gold-bearing stage comprises an early generation of white quartz with 2–4% sulphides. Later stages of brecciation, recrystallisation and quartz veining accompanied by fine pyrite have generally low Au contents below 1 ppm. A geological resource of 750,000 tonnes grading 10g/t Au and 43 g/t Ag has been estimated and a identified resource of 514,000 tonnes grading 9.4 g/t Au and 53 g/t Ag calculated using a cut-off of 6 g/t Au (Earls et al., 1992). The principal features of the Cononish deposit are summarised in Appendix 1.1.

There are many recorded occurrences of gold in bedrock and alluvium in the area between Loch Tay, Aberfeldy and Comrie (the south Loch Tay area). Important gold-bearing veins were discovered in the late 1980s at **Calliachar Burn** 4 km south-west of Aberfeldy (Mason et al., 1991; Ixer et al., 1997). A series of narrow north-west-trending quartz-carbonate veins which contain gold as electrum associated with pyrite, galena, sphalerite and arsenopyrite were identified. The veins cut rocks of the Southern Highland Group principally metamorphosed

greywackes, volcaniclastic turbidites and basic sills. They pinch and swell over short distances, locally attaining a width of 2 m. Conspicuous wallrock alteration, principally chloritisation and carbonatisation, extends up to 20 m from the main mineralised structures. Mason et al. (1991) reported ore grade intersections over a strike length of 87.5 m with an average grade of nearly 9 g/t. Gold contents up to 150 ppm were identified by Ixer et al. (1997) in pyrite-galena samples from one quartz vein. Gold is also found in minor amounts in four narrow quartz-sulphide veins in the nearby **Urlar Burn** (Ixer et al., 1997). The principal features of the Calliachar and Urlar veins are summarised in Appendix 1.2.

Gold has also been reported in the south Loch Tay area in disused lead mines at **Corrie Buie** (Wilson and Cadell, 1884), where a stockwork of north–south galena-bearing quartz veins was exploited on a small scale in the 19th century. The mineralisation is restricted to a limestone horizon in the uppermost part of the Argyll Group. Mineralogical studies by Pattrick (1984) identified small inclusions of electrum within fractures in galena. Porphyry-style copper mineralisation with minor gold enrichment is located at Tomnadashan**,** about 4 km to the north of Corrie Buie (Appendix 1.3).

BGS studies carried out under the Mineral Reconnaissance Programme (MRP) indicated potential for the occurrence of lode gold mineralisation in Argyll Group metasediments in the Knapdale area of the Kintyre Peninsula, Argyll (Gunn et al., 1996). Base metal-bearing quartz-carbonate veins, some previously worked on a small-scale, are widespread in this area. Gold contents in the ppm range have been reported from veins at **Cruach Mheadonach, Castleton and Stronchullin** (Peach et al., 1911; Gunn et al., 1996). At Stronchullin, a steeply dipping quartz vein up to 40 cm wide was worked on a small scale for lead. High Au values, up to a maximum of 153 ppm, were reported from Stronchullin associated with high Cu, Pb, Ag, As and Sb (Peach et al., 1911). Analysis of dump materials by Gunn et al., (1996) confirmed the gold enrichment but no follow-up work was carried out. At Cruach Mheadonach elevated Au (0.79 ppm) was reported by Wilson and Flett (1921) from workings on one vein in the Inverneil area. No Au data are available for other base-metal veins at Inverneil. Another gold-bearing vein is located at Castleton, 3 km south-south-east of Lochgilphead. Peach et al. (1911) reported c. 6 ppm Au from this mine derived from a quartz vein about 2 m thick which can be traced for about 1 km along strike. The principal features of the veins in the Knapdale area are summarised in Appendices 4, 5 and 6.

BGS investigations**,** following up drainage geochemical anomalies, identified mesothermal gold mineralisation in Southern Highland Group strata in the area between Pitlochry and **Glen Clova** (Coats et al., 1993). Gold concentrations of up to 6.8 ppm have been reported in lithogeochemical samples from the north-west-trending Fleurs Fault in Glen Clova (Appendix 1.7). Gold enrichment is also reported in panned concentrate samples from several other localities in this district, but no follow-up work has been carried out.

One gold occurrence at Ollaberry has been classified as mesothermal in style but the information given in the original source (Heddle, 1901) is very sketchy and subsequent workers (Buchanan and Dunton, 1992) were unable to locate the source.

2.2 INTRUSION-RELATED OCCURRENCES

A small number of intrusion-related gold occurrences in the Scottish Highlands have been described as porphyry in style because of the intrusive complexes and the extensive zones of hydrothermal alteration. However, the term ‘porphyry’ has certain genetic implications that cannot be demonstrated at all of the intrusion-related gold occurrences. To avoid incorrect classification the term intrusion-related is preferred here. The most important example occurs in the **Lagalochan** sub-volcanic complex**,** a part of the Kilmelford calc-alkaline centre, which cuts Argyll Group rocks in the south-west Grampian Highlands (Kay, 1985; Harris et al., 1988; Zhou, 1987 and 1988). This complex is interpreted as a vented diatreme-type structure emplaced

around 430 Ma. Mineralisation comprises early Cu-Mo-Au in veinlets and disseminations within a central core of breccias and diorite to granodiorite intrusions. Subsequent mineralisation comprises shear-related Pb-Zn-Ag-Au-As-Sb and a final suite of Pb-Zn-Ag carbonate veins. Phyllic (sericite-quartz-pyrite) and carbonate alteration are widespread, with K-silicate alteration locally present. Fluid inclusion and stable isotope studies by Kay (1985) indicate that the early mineralisation was deposited from a highly saline, high temperature (>400º C) fluid of dominantly magmatic origin at a depth not exceeding 1 km. The late carbonate veins are related to lower temperature, lower salinity fluids, including a probable meteoric component, in a higher level epithermal setting. The main features of the mineralisation at Lagalochan are summarised in Appendix 1.8.

Intrusion-related gold mineralisation associated with metasomatic and hydrothermal alteration occurs south of Loch Tay at Comrie where a diorite-granite complex cuts Southern Highland Group strata (Plant et al., 1989). Low tenor gold mineralisation occurs in a major north-south shear zone traced for 2.3 km along the **Milton Burn** cutting the diorite and terminating against the metasediments (Appendix 1.9). Potassic alteration and silicification in this zone are associated with pyrite and minor amounts of chalcopyrite, galena and molybdenite in the form of disseminations and veinlets.

Gold mineralisation also occurs at **Tomnadashan** on the south shore of Loch Tay, about 15 km north-west of the Comrie centre. At this locality porphyry-style copper mineralisation, occurring as disseminations and irregular veinlets of pyrite, chalcopyrite, tetrahedrite-tennantite, calcite and quartz, was worked for period of about 20 years in the eighteenth century (Pattrick, 1984). The mineralisation is hosted by a minor Late Caledonian diorite intrusion with small amounts of late granite and granodiorite. Traces of native gold, galena, bismuthinite, native bismuth and molybdenite occur within the pyrite. Mineralisation is most intense at internal, faulted contacts and is associated with intense sericitisation of the host rocks (Appendix 1.10).

Copper mineralisation occurs at several localities on the west coast of Fair Isle, Shetland (not shown on Figure 3). At **Copper Geo** one mineralised vein, comprising calcite, scapolite and various copper sulphides, is up to almost 5 m wide and can be traced for about 30 m along strike. Assays of a bulk ore sample taken in 1912 yielded 53.5% Cu, 25 g/t Au and 225 g/t Ag (Mykura and Harrison, 1972). The vein cuts Middle Devonian sandstones and is associated with a basic dyke believed to be coeval with the Sandsting Igneous Complex (371$\pm$10 Ma).

Outside the Dalradian terrane gold enrichment occurs in narrow, quartz and quartz-carbonate veins occur close to the eastern margin of the **Ratagain** intrusive complex in north-west Scotland (Alderton, 1988). (Figure 3). The veins have a complex ore mineralogy dominated by pyrite, chalcopyrite, galena and sphalerite. Gold occurs as electrum, while Ag is also present in hessite and argentiferous galena.

2.3 EPITHERMAL OCCURRENCES

Epithermal gold mineralisation is of restricted occurrence in the Dalradian terrane. A Lower Devonian Au-bearing low sulphidation hot-spring system has been investigated by Rice and co-workers (1988 and 1995) at **Rhynie** in the north-east Grampian Highlands (Appendix 1.11). At this locality, an outlier of Old Red Sandstone occupies an elongate half-graben up to 3 km wide, overlying Dalradian Southern Highland Group turbiditic metasediments and the Ordovician Boganclogh intrusion The Devonian rocks are locally intensely altered to quartz, K-feldspar, calcite, hematite, pyrite and illitic and chloritic clays. Vuggy and cherty areas of silicification show evidence of repeated veining and brecciation. Chert sinters and the altered rocks contain high levels of Au, As and Sb and are locally enriched in W, Mo and Hg.

Another area where there is good evidence for Lower Devonian epithermal gold mineralisation is located outside the Dalradian terrane in eastern Sutherland, which is well known for its historical alluvial gold production near Helmsdale. In this area mineralised pyritic quartz-cemented

breccias, containing up to 12 ppm Au, were discovered in the headwaters of the River **Brora**, about 25 km north of Lairg (Crummy 1993; Crummy et al., 1997). Fluid inclusion studies yield trapping temperatures of 170–140ºC for the hydrothermal fluid indicating an epithermal setting.

2.4 OCCURRENCES ASSOCIATED WITH SYNGENETIC SULPHIDES

An elongate zone of weak stratiform sulphide mineralisation, termed the Perthshire Pyrite Belt, located in Argyll Group metasediments can be traced for about 190 km from Glenshee in the north-east to Knapdale in the south-west (Smith et al., 1978). There is little indication of gold mineralisation within this belt, although at **Meall Mor** in south Knapdale low tenor Au enrichment was reported by Gunn et al. (1996). The gold is associated with discordant chalcopyrite mineralisation hosted mainly by an epidotised metabasic sheet within the horizon of stratiform pyrite (Appendix 1.12). This epigenetic Cu mineralisation was targetted by former miners who sunk 2 shafts and excavated several trials in the Abhainn Srathain area immediately south of Meall Mor summit. There is no consensus on the origin of the Cu enrichment in this area. Smith et al., (1978) interpreted it as due to remobilisation during regional metamorphism, while Willan and Coleman (1983) related it to intrusion of basic sills. Mohammed (1987) formulated a model involving pre-metamorphic hydrothermal alteration and veining. The origin of the associated gold enrichment remains unexplained.

A small occurrence of massive stratiform sulphide mineralisation is found at **McPhun's Cairn** on the eastern shore of Loch Fyne**,** in a stratigraphical position similar to that at Meall Mor (Smith et al., 1977). Low tenor Au enrichment has been reported from this locality (Hill et al., 1905) but no modern data are available (Appendix 1.13).

Gold-bearing mineralisation of possible syngenetic origin also occurs at **Invergeldie**, about 13 km north-west of the village of Comrie, close to the south-western margin of the Comrie diorite. Gold enrichment is associated with a stratiform massive and semi-massive arsenopyrite in Appin Group metasediments immediately underlying a metabasaltic sheet (Appendix 1.14). The arsenopyrite mineralisation is exposed over a thickness of about 0.75 m and is persistently enriched in gold, up to a maximum of 19 ppm.

Another minor Au occurrence associated with stratiform sulphide mineralisation occurs in the **Muness** area of south-east Unst (Buchanan and Dunton, 1996). Gold values exceeding 1 ppm are found in conformable pyrite bands up to 12 m thick in phyllitic host-rocks (Appendix 1.15).

2.5 OCCURRENCES ASSOCIATED WITH MAFIC AND ULTRAMAFIC IGNEOUS ROCKS

Minor Au occurrences are found in the layered mafic-ultramafic intrusions of the north-east Grampians. Low tenor Au enrichment, associated with elevated values of Pt and Pd, was reported in the sheared margin of the **Knock** intrusion at Littlemill and Auchencrieve (Fletcher and Rice, 1989). At these locations, the precious metals occur with magmatic Cu-Ni sulphide mineralisation, locally modified by deformation, in a heterogeneous sequence of basic igneous rocks and metasediments. Minor Au enrichment also occurs in the **Succoth-Brown Hill** intrusion, a deformed mafic-ultramafic body, located in the upper Deveron Valley a few kilometres south-west of Huntly. Gold is enriched with Pt and Pd in sheared clinopyroxene-rich ultramafic rocks (Gunn et al., 1990).

Gold has also been reported at various localities in the **Unst** ophiolite in Shetland. The highest Au values, up to 7 ppm, occur in association with high grade PGE mineralisation in the harzburgite section of the ophiolite, close to the basal emplacement thrust, at Cliff (Gunn et al., 1985). The source of the gold remains uncertain: some workers suggest a magmatic origin (Prichard et al., 1994; Lord et al., 1994), while others prefer derivation from the underlying Dalradian sequence (Buchanan and Dunton, 1992).

3 Review Of Previous Work

Modern exploration in the Dalradian terrane undertaken by BGS and commercial mining companies can be broadly divided into two phases. In the 1970s, activities were focused on Cu, Pb, Zn, Ni and Mo, while in the second phase, beginning around 1981, precious metals (Au and PGE) were the prime target. This change in emphasis was due not only to changing global demands, but also to the availability of improved mineral deposit models and of techniques for exploration and analysis of the precious metals. Awareness of the precious metal potential of the Dalradian terrane was increased by new data which emerged from various BGS surveys. Multi-disciplinary mapping programmes, the Regional Geochemical Survey Programme (now G-BASE, Geochemical Baseline Survey of the Environment) and detailed mineral exploration surveys (principally through the DTI-funded MRP, Mineral Reconnaissance Programme) provided new insights into the distribution of, and controls on, metalliferous mineralisation.

Between 1972 and 1984 the DTI sought to encourage private sector mineral exploration by the provision of grants under the Mineral Exploration and Investment Grants Act. A proviso of the MEIGA scheme, as it became known, was that the results had to be deposited with the BGS. About 150 reports derived from these projects, are now available on open-file at BGS and have provided important information for this study. The locations of the MEIGA and MRP project areas in Scotland are shown in Figures 5 and 6 respectively.

For the purpose of this report the Dalradian terrane is divided into 5 geographic areas: south-west Highlands; Tyndrum-Dalmally; south Loch Tay; north-east Scotland; and Shetland (Figure 7). For each area, the principal findings are summarised below. Additional survey details and associated documentation held in BGS archives are tabulated in Appendices 2.1-2.5. Each survey area has a 5-character reference number, commencing with the characters ‘Au’.

3.1 SOUTH-WEST HIGHLANDS

The south-west Highlands have witnessed the greatest concentration of modern exploration activity in the Dalradian, with more than 25 programmes undertaken by major international mining companies and BGS. Most projects focused on the country between Loch Fyne and Loch Melfort, with more limited interest on the south-east side of Loch Fyne and in Knapdale at the northern end of the Kintyre Peninsula (Appendix 2.1).

Modern exploration in this district commenced in 1971. Initial investigations by Consolidated Goldfields Ltd focused on Cu-Ni mineralisation of possible stratabound type which had been mined previously at Coille Bhraghad and Craignure near Inveraray (Au012). This programme involved detailed surveys of the mine areas at the two localities and in the 10 km interval between them, using soil, overburden, stream sediment and trench geochemistry, together with IP, magnetics and VLF. However this work failed to establish continuity of the mineralisation between the two disused mines. Gold values from trenches across the Coille Bhraghad mine area were all below the analytical detection limit. Following this detailed work, reconnaissance Cu-Ni-Zn surveys were carried out**,** focusing on a number of discrete areas in the Dalradian to the north-east and south-west of the initial survey block. Gold assays of 60 stream sediments and 60 pan concentrates were obtained**,** but no significant values were reported.

Between 1972 and 1974 reconnaissance drainage sampling for Cu, Ni and, to a lesser extent, Zn was undertaken by Noranda and Consolidated Goldfields (CGF) in the Loch Awe area (Au031). The CGF survey encompassed three tracts of ground owned by the Forestry Commission between Lochgilphead and Loch Nant, totalling 270 km^2, from which over 600 stream-sediment samples were collected, although none were analysed for gold. However, the report (AE 123.2) contains nine Au analyses from a previous CGF regional stream sediment survey, which record a maximum of 0.04 ppm.

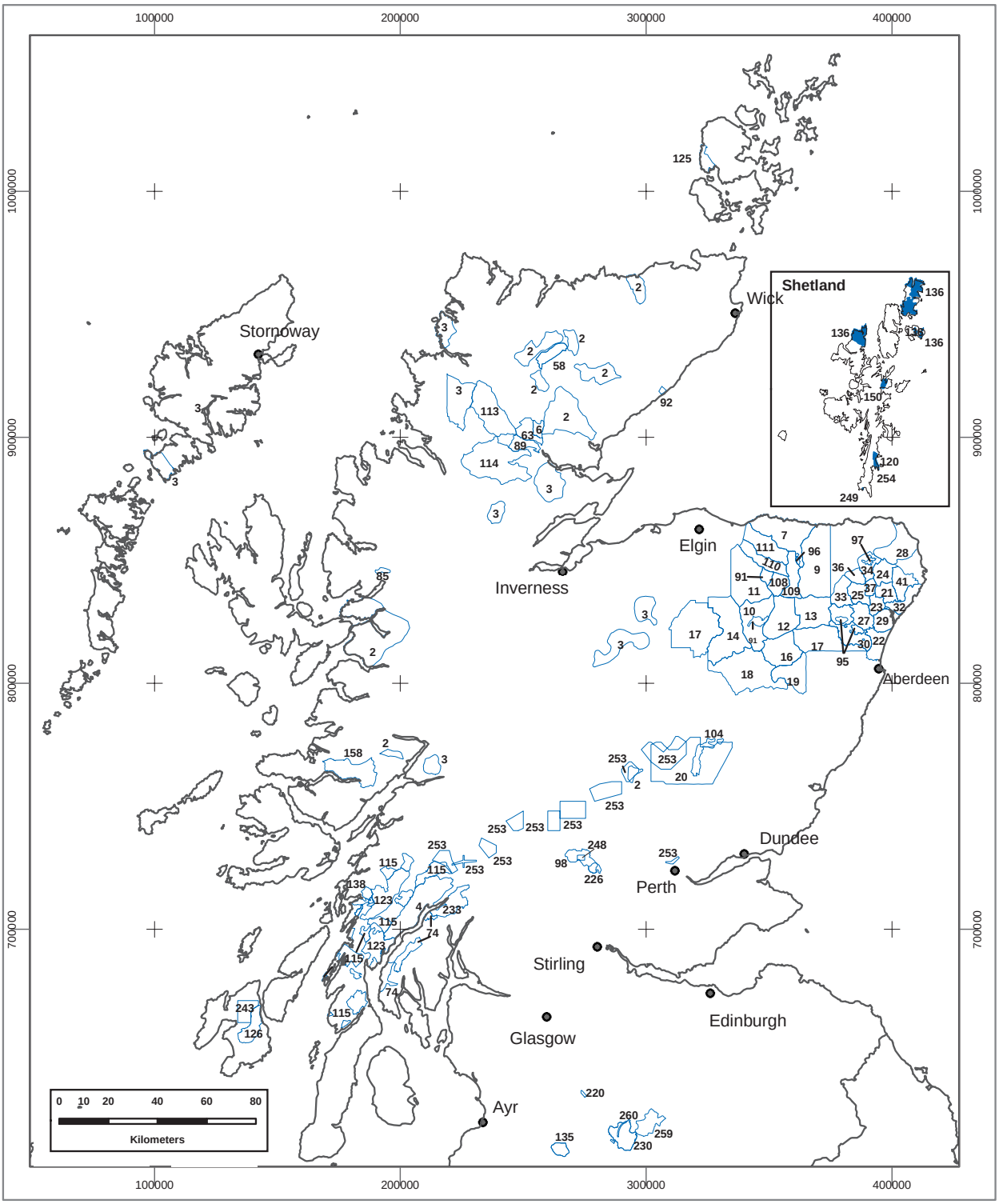

Figure 5 Locations of mineral exploration projects carried out under the MEIGA scheme

The potential for porphyry-style base- and precious-metal mineralisation in the district has also attracted considerable interest over the years. One of the earliest commercial investigations was conducted by Consolidated Goldfields between 1971 and 1974 in the Garbh Achadh area, 6 km west-north-west of Inveraray, where a small acid porphyry intrusion cuts Argyll Group Dalradian metasediments (Au013). Gold and Ag analyses of selected soil, overburden, rock and drillcore samples yielded generally disappointing results. Further investigations on the base metal potential of Garbh Achadh, stimulated by the earlier company work and by comparisons with the Kilmelford area to the west, were carried out by BGS in 1976 (Ellis et al., 1978). No gold analyses were carried out in this survey.

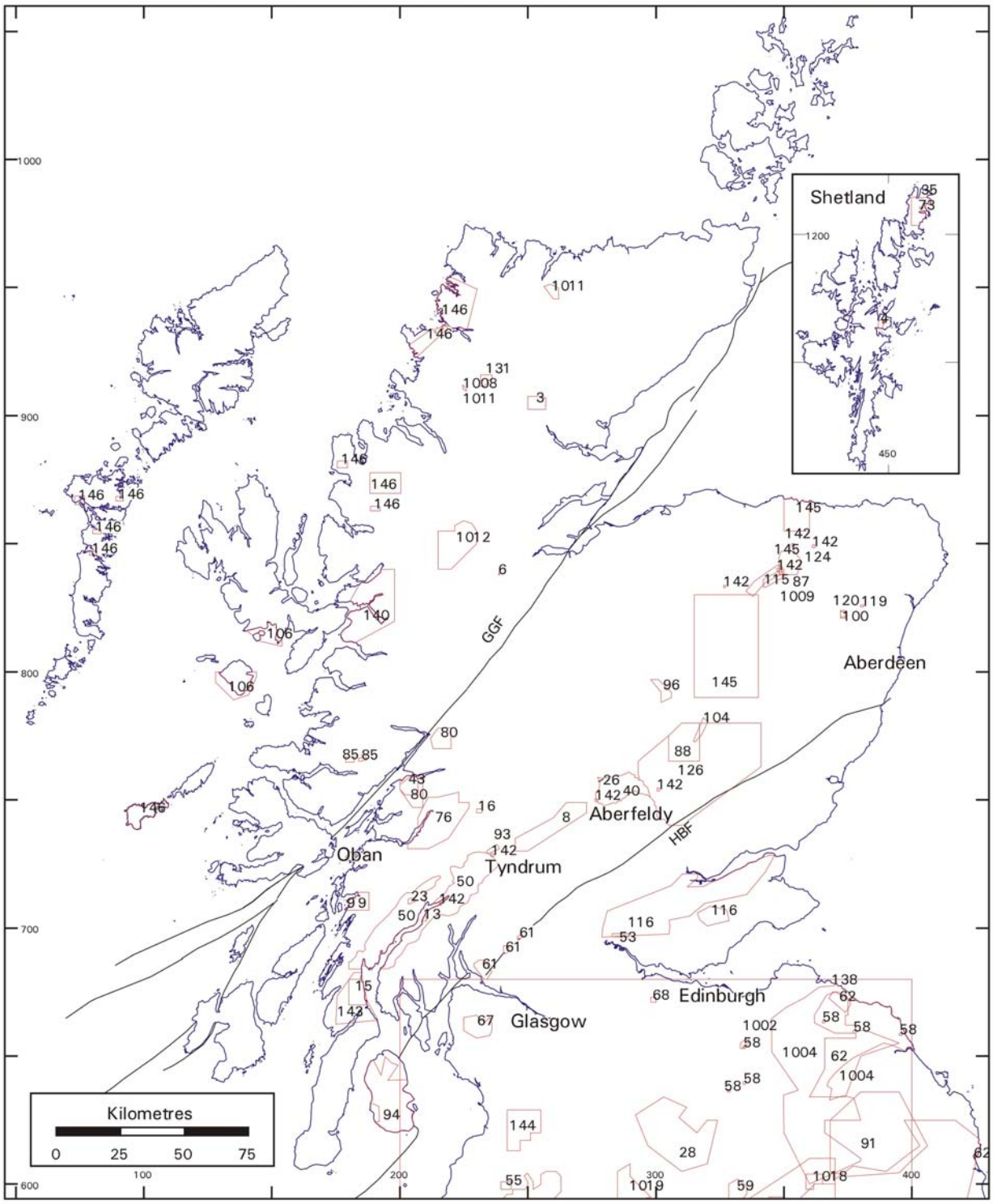

Figure 6 Locations of Mineral Reconnaissance Programme (MRP) report areas

The mineral potential of the more extensive high-level granitic intrusions in the Kilmelford area was investigated by four companies and BGS between 1972 and 1984 (Au032). Results of early commercial surveys over the Beinn nan Chaorach intrusion were inconclusive. Follow-up investigations were carried out by the BGS MRP between 1975 and 1977 (Ellis et al., 1977). These involved a detailed geochemical survey, geological mapping, photogeological interpretation and ground geophysical surveys. Two boreholes with an aggregate depth of 356 m were also drilled. No Au analyses were performed on surficial geochemical samples. A total of 12 selected drillcore samples analysed for Au returned a maximum value of 0.4 ppm.

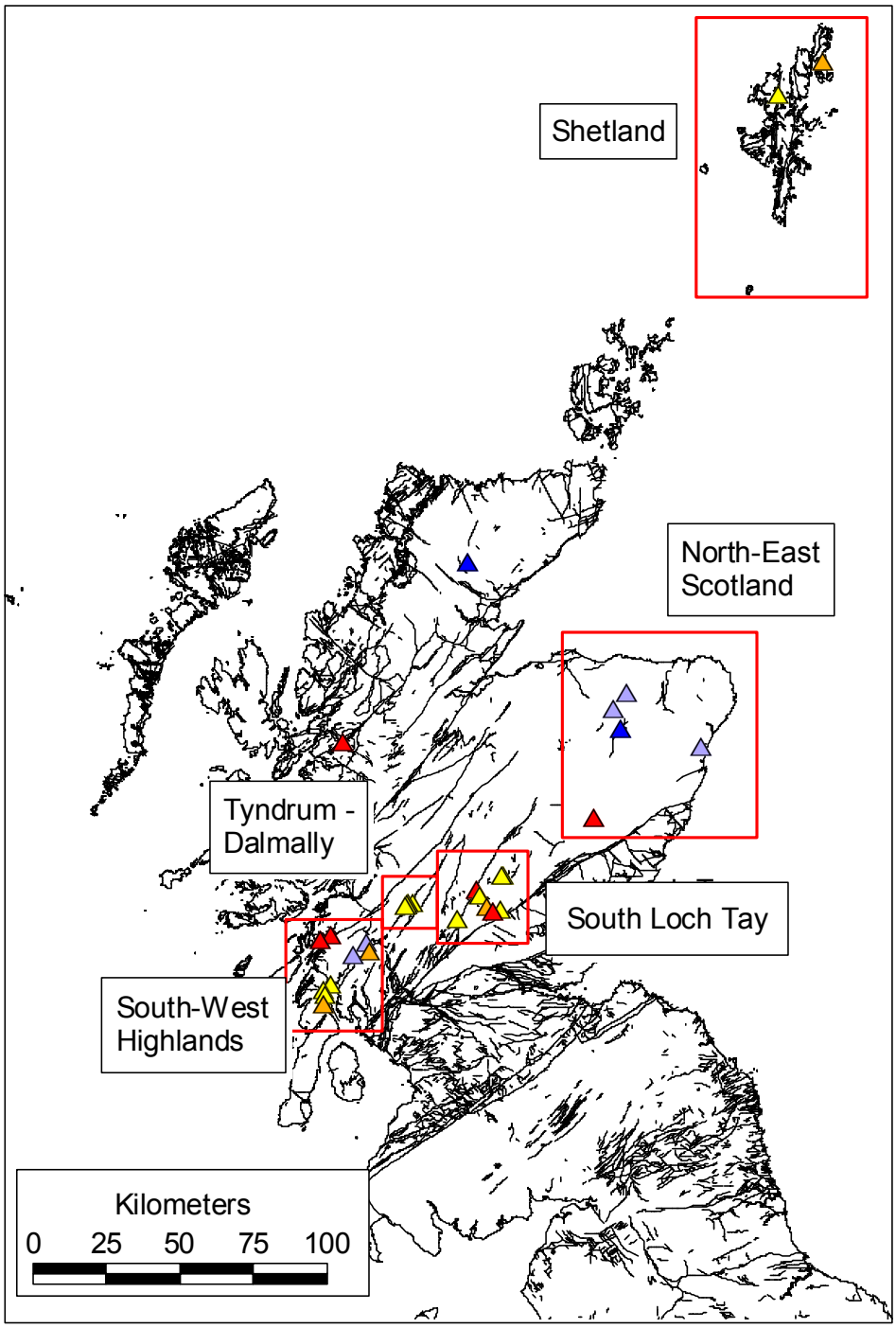

Figure 7 Principal areas of exploration activity in the Dalradian of Scotland

(see Chapter 3 and Appendix 2)

In 1982 the exploration focus in the south-west Highlands changed to Au mineralisation. This followed the accidental discovery by Union Carbide, during a search for tungsten, of up to 5 ppm Au in stream sediments derived from sub-volcanic acid intrusions at Lagalochan, at the eastern end of the Kilmelford intrusive centre (Harris et al., 1988). At more or less the same time, a value of 6 ppm Au was found by BP Minerals International Ltd in a roadside outcrop at Arduaine at the western end of the Kilmelford centre. Extensive percussion and later diamond drilling confirmed the presence of base- and precious metal mineralisation in bedrock, and established that it was associated with brecciation and hydrothermal alteration of both intrusive and country rocks. A total of 37 cored boreholes were drilled at Lagalochan amounting to about

5500 m. Approximately 2500 m of this core, together with comprehensive written and graphic logs, core photographs and assay data for Cu, Pb, Zn, Mo, As, Ag and Au are held in the BGS archive. Analytical results for 18 of the 37 boreholes recorded a maximum of 17.5 ppm Au over 2.5 m, together with average values of 0.36 ppm and 0.5 ppm over 39 and 11 m respectively. In the 3 boreholes for which Ag values are available, most of the Au enrichment is mirrored by Ag. However, the maxima (< 250 ppm Ag) correlate with Pb-Zn enrichment.

In 1984, BP Minerals extended their activities westwards, towards Beinn nan Chaorach, about 1.5 km west of Arduaine. Low grade, porphyry-style Cu-Mo mineralisation**,** associated with quartz and carbonate veining in an extensively sericite- and kaolinite-altered dacite porphyry**,** had been proven by the earlier BGS work in this sector (Ellis et al., 1977). BP reported anomalous base and precious metal values in stream sediments, which were followed up by soil sampling. Local coincident concentrations of up to 555 ppb Au and 13 ppm Ag were identified in this survey. Harris (in Pattrick and Polya, 1993) reported up to 6.5 ppm Au in sphalerite- and galena-bearing veins peripheral to the main mineralised area at Beinn nan Chaorach.

Three PhD studies have been carried out on the Kilmelford area (Rickard, 1979; Zhou, 1985; Kay, 1985). The mineralisation at Lagalochan was the main focus of Kay's research.

The Knapdale district (Au033) has attracted periodic mineral exploration by companies and BGS since the early 1970s. In common with the area to the north, the targets have altered with time: early investigations focused on porphyry-style Cu-Mo, subsequently stratabound Cu-Zn was the main target and, most recently, vein-hosted Au has been the main focus of interest. Early BGS MRP investigations studied stratiform sulphide mineralisation and associated discordant Cu in the Meall Mor area (Au034), but did not include analysis for gold (Smith et al., 1978). More recently**,** the potential for the occurrence of mesothermal vein gold in the Knapdale area was highlighted by the incidence of high amplitude As and Sb anomalies in regional geochemical data**,** together with historic records of gold enrichment in base-metal veins in the district, notably at Stronchullin and Inverneil. MRP investigations comprising integration of multiple regional datasets highlighted targets for field surveys (Gunn et al., 1996). The high levels of gold at Stronchullin were confirmed and a number of additional targets were identified on the basis of rock and drainage geochemical data, but no follow-up was carried out. Low tenor Au enrichment was also identified in association with the discordant Cu mineralisation in the Meall Mor area.

A regional drainage geochemical survey was conducted by the MRP in 1975 and 1976 over 720 km^2 of Dalradian outcrop in central Argyll (Au036) (Coats et al., 1982). The objective of this survey was to evaluate the economic potential for stratiform sulphide mineralisation in this area**,** but it also highlighted the importance of other controls on the location of mineralisation. In particular the significance of the Tyndrum-Glen Fyne Fault system and the Garabal Hill-Glen Fyne igneous complex were noted. More than 800 stream-sediment samples and 700 pan concentrates were collected in this survey, but chemical analysis did not include determination of Au. Silver values in stream sediments were uniformly low with a maximum of 3 ppm.

A detailed geological, geochemical and geophysical appraisal was undertaken by the MRP of a massive stratiform sulphide occurrence at McPhun's Cairn (Au035), on the east shore of Loch Fyne (Smith et al., 1977). Drilling of three shallow boreholes proved limited continuity down-dip, but failed to indicate any economic potential for this mineralisation. No Au analyses was carried out in this survey, but the Survey Memoir (Hill et al., 1905) for this area reports 2 ppm Au, accompanied by 18 ppm Ag, in a single sample of ore from this locality.

Apart from the two BGS studies mentioned above, there have been only two company programmes over ground to the south-east of Loch Fyne. Of these, only the later one in the early 1980s, on Cairndow estate involved gold exploration *(*Au047*)*. Following up encouraging results from an earlier survey**,** which reported Au values of 2 ppm across 10 cm, and 1.1 ppm across 2 m in a hydroelectric tunnel, the investigations comprised stream sediment, soil and rock chip sampling. Overall the results were disappointing: minor gold enrichment up to 1.9 ppm,

accompanied by 53.2 ppm Ag, was confined to narrow north-east-trending shear zones in granodiorite of the Garabal Hill–Glen Fyne complex.

3.2 TYNDRUM-DALMALLY

The present focus of attention in the Tyndrum area is the Cononish gold deposit (Appendix 2.2 Au049) which was initially targeted by drainage geochemistry, guided by historical records of alluvial gold, and eventually discovered by boulder tracing and trenching. Subsequent exploration and development of the site has involved drilling more than 60 boreholes and construction of a 1 km long exploration adit. Current estimates of mineable reserves are 450 000 tonnes at a cut and diluted grade of 11.3 g/t Au and 60.1 g/t Ag, although these figures are currently under review. The company has also explored much of the surrounding area including sinking a further 22 boreholes targetting silver-enriched quartz veins on Beinn Udlaidh, 6 km west-north-west of Tyndrum village. No details of these or earlier boreholes at Cononish are available to BGS.

In 1986, Esso Minerals carried out exploration for stratabound Pb-Zn mineralisation over an area of 1.2 km^2 to the north of Dalmally. The work targetted Argyll Group Dalradian rocks regarded as possible lateral equivalents of those hosting the Aberfeldy Ba-Zn-Pb deposits to the east. Two boreholes with an aggregate depth of 389 m were drilled in this programme. A total of 103 drillcore samples were analysed for a range of elements including Au and Ag. No values exceeding 20 ppb Au and 4 ppm Ag were reported. Unexplained high levels of As (>2200 ppm) were recorded in two samples of graphitic quartzite with minor pyrite.

In the early 1980s BGS undertook a major multidisciplinary exploration programme for stratabound Cu-Zn sulphide mineralisation in the Dalradian of the Auchtertyre area (Appendix 2.2 Au051) to the north-east of Tyndrum (Smith et al., 1988). No gold analyses were carried out in this programme. Silver values are generally low (<4 ppm) with the exception of rocks enriched in lead. In the course of the investigation, carbonated ultramafic rocks (listwaenites) were sampled and analysed for all major and 20 trace elements. No precious metal analyses were included because the auriferous potential of these rocks was not recognised at the time.

3.3 SOUTH LOCH TAY

The South Loch Tay area which occupies an area of nearly 500 km^2 from Glen Lednock in the south-west to Aberfeldy in the north-east has been a major focus for exploration since the early 1960s (Appendix 2.3). In some areas the application of conceptual deposit models has resulted in the conduct of repeated investigations. For example, between 1961 and 1971, there were no less than 3 independent surveys in the area of the disused Tomnadashan copper mine (Appendix 2.3 Au009), principally because it was recognised as a potential porphyry copper deposit. Copper, Pb and Zn were the principal target metals, although the earliest survey also recorded significant Au and Ag values (maxima 1.98 ppm Au, 6.58 ppm Ag over 1 m) in a borehole through a diorite-granite contact. Overall, an average grade of about 0.8% Cu was established but the tonnage of ore was insufficient to support mining.

Two commercial surveys have been carried out to investigate the mineral potential of the Comrie Diorite (Appendix 2.3 Au030), as a potential target for porphyry style mineralisation. The first survey in 1972 by Noranda involved determination of Cu, Pb, Zn and Mo in rocks and soils over an area of about 10 km^2, together with detailed geological mapping and IP surveys. The second survey, carried out by RTZ, was centred on alteration zones in two sections of Milton Burn, 3–4 km north of Comrie village (Au002). Gold values exceeding 1 ppm were reported in six rock samples, up to a maximum of 3.9 ppm accompanied by 25.5 ppm Ag. Two boreholes with an aggregate depth of about 300 m were drilled but maximum values recorded in drillcore were 0.25 ppm Au and 4.0 ppm Ag. Accompanying Cu values were also generally low.

The most intense period of exploration in the South Loch Tay area took place between 1984 and 1990 when gold was the main focus of attention. Investigations concentrated on former base metal workings with historical records of precious metal mineralisation. New locations, mainly highlighted by the BGS Mineral Reconnaissance and Regional Geochemical Survey Programmes, but also by the earlier phases of base metal exploration, were also investigated.

The most promising of the new targets was at Calliachar Burn, south-west of Aberfeldy (Appendix 2.3 Au004). Here detailed exploration between 1989 and 1990 by Colby Resources, involving mainly deep overburden sampling and trenching, identified 14 poorly exposed north-west trending vein structures. The reported average Au grade over a combined strike length of 87.5 m of was 8.81 g/t. The trenching programme also included the collection of a 10 tonne bulk sample which produced 1000 grams of gold. Sixteen shallow boreholes were also drilled but the results have not been made available to BGS.

A multidisciplinary exploration programme involving geological, geochemical and geophysical surveys was carried out between 1985 and 1989 for Colby in the Auchnafree area of Glen Almond (Au003). An east–west zone**,** about 4 km in length was identified in which highly anomalous Au values, up to 880 ppm, were reported in heavy mineral concentrates. Gold values up to 4.95 ppm were also recorded in float blocks. It was concluded that the gold was related to a series of late-stage quartz-sulphide veinlets carrying pyrite, galena and sphalerite, although none of these were observed in situ.

Between 1983 and 1984 RTZ investigated precious metal mineralisation of possible syngenetic origin at Invergeldie in Glen Lednock, about 13 km north-west of the village of Comrie (Au001). Gold enrichment is associated with a 0.75 m thick zone of stratiform arsenopyrite in metasediment underlying a metabasaltic sheet. Soil geochemical and ground geophysical surveys were carried out and 4 shallow boreholes, with a maximum depth of 64.2 m, were drilled. The drilling failed to identify three-dimensional continuity of the arsenopyrite mineralisation. Disseminated pyrrhotite and pentlandite in the metabasalt are not accompanied by enrichment in Au.

During the 1984–90 period**,** further surveys carried out in areas of base metal mineralisation including Tomnadashan, Corrie Buie and Milton Burn were successful in establishing or confirming the presence of gold. At Tomnadashan (Au009), values up to 2.2 ppm Au and 34 ppm Ag were recorded in rock by Colby Resources. At Corrie Buie (Au008), where gold had previously been discovered during crushing of lead ore (Pattrick, 1984), maximum values of 6.5 ppm Au and 404 ppm Ag were obtained from a suite of 23 rock samples**,** by Middleton Exploration Services in 1986. Further work by Colby Resources in the area of the previous lower Milton Burn survey involved trenching and blasting. A maximum value of 0.7 ppm Au was reported in bedrock, although panned gravels from the base of the trench produced 100 ppm Au. More significantly**,** this survey extended the area favourable for gold mineralisation around the Comrie intrusion with the discovery of geochemical anomalies and gold mineralisation 1–2 km to the north-east of Milton Burn**,** in streams draining the south west slopes of Glen Turret. The absence of any further work in these areas may be attributed to the subsequent concentration by Colby on the Calliachar Burn prospect.

3.4 NORTH-EAST SCOTLAND

There has been considerably less mineral exploration in this area compared with the central and south-west Highlands (Appendix 2.4). Nevertheless, the recently identified epithermal Au mineralisation in Lower Devonian volcano-sedimentary rocks at Rhynie in Aberdeenshire is a significant gold discovery not least because it represents a style of mineralisation hitherto unknown in the Scottish Highlands (Rice and Trewin, 1988). Commercial investigations at Rhynie, comprising trenching and drilling of 7 boreholes, were undertaken by Moray Firth Exploration plc. Further research, involving detailed mineralogical, noble gas and stable isotope

studies, confirmed that the ore mineral and alteration assemblages were deposited in the upper part of a low-sulphidation epithermal system (Rice et al., 1995). No detailed records of the commercial exploration are available to BGS, but it appears that the economic potential for underlying epithermal vein or stockwork mineralisation remains untested.

The Rhynie discovery stimulated company interest in a drainage anomaly for As identified by the BGS Regional Geochemical Survey in the Towie and Cushnie areas, 16 km south of Rhynie (Au053). Prospecting and trenching by Navan Resources identified local concentrations of gold, up to 2.05 ppm in outcrop and 5–6 ppm in float. The gold is probably shear related and occurs mainly in quartz veins within limonite/goethite after pyrite.

Earlier exploration for base and precious metals in north-east Scotland includes a range of regional and detailed surveys. The first survey of note was carried out by Exploration Ventures Ltd in 1972–73 in the South Deeside area as far south as Kirkmichael (Au039). This was ostensibly a southerly extension of the widespread investigation for magmatic Cu-Ni mineralisation in the basic and ultramafic rocks of Aberdeenshire, although few rocks of these types have been recorded south of the Dee. The survey was largely regional in character generating 758 stream sediment analyses, 97 of which included determination of Ag and As.

Glen Clova has attracted exploration by both commercial companies and BGS. In 1972 Noranda undertook a limited stream-sediment survey for Cu-Pb-Zn (Au038), and more recently Cambridge Minerals Consultants carried out a regional geochemical survey of the Dykehead area which included an appraisal of the potential of stream moss as a alternative sampling media to conventional methods (Armour-Brown, 1991). A reconnaissance drainage sampling programme carried out by BGS in 1987 and 1988 covered about 700 km^2 between Pitlochry and Glen Clova (Au037) (Coats et al., 1993). Multi-element geochemical data, including Au in panned concentrates, are available for more than 300 sites. Four areas with potential for gold mineralisation were identified. Follow-up investigations, involving overburden and rock sampling and VLF and magnetic surveys were undertaken in Glen Clova. A gold-bearing fault zone, with up to 7 ppm Au in clay fault gouge, was identified in the Burn of Fleurs traced for 1.6 km by geophysical methods. Other occurrences in the area include a quartz veinlet at the boundary of the Glen Doll diorite containing 1.7 ppm Au and vuggy granite-pegmatite sheet in Glen Clova containing 1.5 ppm Au with associated pyrite, chalcopyrite and molybdenite.

In the late 1960s, Exploration Ventures Ltd (EVL) investigated several occurrences of anomalous Mo values in soils noted in the Soil Survey Memoir covering the Aberdeen, Inverurie and Fraserburgh area (Glentworth and Muir, 1963). Molybdenite-bearing quartz vein float was discovered by EVL at 4 localities; Middleton, Balquinhadachy, Souter Head and Quilquox. Open-file reports on these MEIGA-funded projects are available at BGS. Detailed follow-up of this work was carried out by BGS at Middleton, near Inverurie (Au050) (Colman et al., 1989). More than 300 basal till samples were collected and analysed for a range of elements including Ag, As and Bi. No Au data were obtained for these samples. Seven diamond drillholes were drilled, with a maximum inclined depth of 67 m. Minor molybdenite mineralisation was intersected. Selected core samples were analysed for a total of 16 elements including Cu. Mo, Zn and As, but not Au or Ag.

3.5 SHETLAND

The historical pattern of mineral exploration in the Dalradian of Shetland is similar to that in other parts of the terrane. Early surveys targetted base metals, while more recently attention focused on precious metals, particularly the platinum-group elements (PGE). The areas investigated range from the southern tip of Mainland to the northern part of Unst, the most northerly of the Shetland Isles (Appendix 2.5).

One of the earliest modern surveys was an appraisal carried out by BGS between 1974 and 1976 of metasediment- and metabasite-hosted Cu-Zn sulphide mineralisation at Vidlin (Appendix 2.5

Au052) (Garson et al., 1976; Garson and May, 1976). Stratiform massive sulphide mineralisation, up to about 10 m thick, was proved by drilling over a strike length of at least 500 m and a vertical extent of at least 100 m. The maximum Ag value reported in drillcore was 7 ppm. No gold assays were obtained in this investigation. Following the BGS survey, Grenmore Holdings Ltd drilled a further 10 boreholes at Vidlin. Cu-Pb-Zn-Ag analyses for 51 samples are available from this core. In 1984 the same company targetted Cu-Zn in massive pyrrhotite at Garth's Ness (Au044) using magnetic (8.4 line km) and VLF (2.7 line km) methods. They subsequently carried out an evaluation of the disused Sandlodge copper mine involving soil geochemical and VLF surveys (Au046).

During the mid-1970s Noranda carried out limited exploration in Shetland. They undertook geological and geochemical prospecting for Cu, Ni and Co in Unst and Fetlar (Au042) and also targetted Pb and Mo in North Roe (Au043).

PGE enrichment was first noted in the Unst ophiolite complex by Prichard et al. in 1981 (Au041). Subsequent additional investigations by Prichard and co-workers (Prichard et al., 1994, Lord et al., 1994), by BGS (Gunn et al., 1985, Gunn, 1989) and by company exploration identified high grades of all six PGE, locally accompanied by Au, at several localities in the complex. The BGS survey in 1984 involved a combination of overburden, drainage and rock sampling with analysis of Au, PGE and up to 20 other elements. The reconnaissance investigations drew attention to the potential for the occurrence of both magmatic and structurally controlled hydrothermal mineralisation in several parts of the complex. Detailed surveys in the Cliff area, close to the basal thrust of the ophiolite, identified high tenor PGE enrichment (tens ppm Pt and Pd) accompanied by up to 7 ppm Au in chromite ores. In 1985 Esso Minerals carried out shallow drilling (aggregate depth 228 m) in the Cliff area but failed to identify significant precious metal mineralisation. In 1999, Leicester Diamond Mines Ltd of Vancouver conducted further diamond drilling (13 boreholes, aggregate depth 511 m) at Cliff but did not identify any mineralisation of potential economic importance.

Investigations in Shetland were also carried out by BGS on behalf of the Shetland Islands Council between 1991 and 1995 (Buchanan and Dunton, 1992, 1993 and 1996). These involved an initial regional geochemical survey of Shetland with subsequent follow-up and a fuller assessment of the precious metal potential. Detailed surveys focused on the Muness area of south-east Unst (Buchanan and Dunton, 1996). These involved collection of soil and rock samples yielding maxima of 4.29 ppm and 1.20 ppm Au respectively. The gold enrichment is located in conformable, bands of disseminated pyrite up to 12 m thick in phyllitic host rocks. Lithogeochemical sampling was also carried out at 3 sites on Mainland. The maximum reported Au value of 800 ppb is associated with polymetallic sulphide mineralisation in Argyll Group rocks in the Lax Firth area.

4 Metallogenic Overview of Dalradian Gold Occurrences

Gold occurrences are widely developed throughout the Caledonian orogenic belt, from Scandinavia in the north to south-eastern USA in the south. Various styles of gold mineralisation have been recognised but by far the most common are mesothermal lode type deposits in low- to medium-grade metamorphic terranes or higher grade terranes that have undergone retrograde greenschist metamorphism. The deposits are generally small, normally less than a few million tons. Gold grades vary considerably, with spectacular bonanza oreshoots carrying more than 250 g/t. Typical grades average 5–30 g/t with relatively high free gold to refractory gold ratios.

In metamorphic terranes the deposits are intimately associated with syn-metamorphic and/or late-metamorphic quartz and quartz-carbonate veins with variable amounts of Fe-As-Cu sulphides. The mineralising fluids are characteristically aqueous carbonic (H_2O-CO_2), low salinity (<10 wt% NaCl) and range in temperature from 250–450°C. Similar fluids also

characterise gold deposits in the Archaean and early Proterozoic (1.8–2.4 Ga) granite-greenstone belts of Canada, Australia and Africa; analogues of which have now been discovered in the Ilomantsi district of eastern Finland (Sorjonen-Ward, 1995). Furthermore, striking similarities are also noted in the principal mineral assemblages (quartz, carbonate, Fe-As-Cu sulphides), wallrock alteration (sericitisation, chloritisation, carbonatisation) and trace element geochemistry (Ag, As, B, Bi, Cu, Pb, Zn). This has led to the transposition of Archaean metallogenic models to the Phanerozoic with little or no modification. On a regional scale, for both the older and younger terranes, the distribution of gold deposits is linked to crustal-scale, strike-slip shear zones that appear to have guided the emplacement of late and post-tectonic calc-alkaline and alkaline granitoids and minor intrusives (Groves et al., 1989; Goldfarb et al., 1986). At a mine scale though, mineralisation is preferentially developed along second- and third-order structures which results in highly varied ore deposit geometries, reflecting local fluid pathways.

Theories concerning the source of gold in mesothermal deposits are many and diverse; alternating between magmatic and metamorphic reservoirs according to geological fashion and interpretation. Although specific wallrock lithologies are locally important, the most common host rocks are graphitic schists, psammites and granites. As a result, many researchers have adopted a general three-fold classification of mesothermal gold deposits, turbidite-hosted, granite-hosted and shear zone-hosted, depending upon the most evident controls of mineralisation. In reality they are part of a metallogenic continuum that spans the orogenic cycle (Nesbitt, 1988).

4.1 LODE GOLD DEPOSITS

In the Dalradian metamorphic terrane, the more significant expressions of gold mineralisation (e.g. Cononish, Calliachar, Stronchullin) conform to one or more of the mesothermal lode deposit types. All display evidence of quartz deposition from CO_2-enriched fluids. The mineralised structures vary from relatively simple quartz veins (Calliachar) to complex zones with multiple generations of quartz, shearing and dilation (Cononish). For example, sections of the main vein at Cononish consist of discordant, en echelon quartz sheets less than 20 m in lateral extent and up to 1 m thick, separated by tectonic slices of the wallrock. Vein widths are highly variable and controlled by local lithological and structural factors. Sulphides are generally ubiquitous and though arsenopyrite serves as a regional pathfinder for gold, there is no consistent correlation between As and Au grade. Resource evaluation and the definition of high grade ore shoots can only be achieved therefore by closely spaced diamond drilling.

Granite-hosted deposits are poorly represented by comparison with other parts of the European Caledonides and younger Variscides. To date, no examples of the large tonnage, low grade, quartz vein stockwork deposits developed during the early stages of granite crystallisation, similar to the Mokrsko deposit in the Czech Republic (Moravek et al., 1989), have been recognised.

4.2 INTRUSION RELATED AND STRATIFORM GOLD OCCURRENCES

Gold occurrences associated with high-level, sub-volcanic intrusive-breccia complexes, typified by the Lagalochan and Tomnadashan Cu-Mo deposits, are less well understood. Here, free gold is reported as being disseminated or porphyry in style, although, in detail, it is largely restricted to later, cross-cutting structures or late stage mineral assemblages of unknown age. It remains to be proven whether these and other post-tectonic intrusive complexes (e.g. Comrie, Arduaine, Arrochar) within the Dalradian constitute significant gold exploration targets. If their potential is to be fully realised, any genetic model that seeks to unify Lagalochan, Tomnadashan and other mineralised intrusives in the Dalradian, must be related to more detailed petrogenetic studies of the Lower Devonian Lorne lavas and associated granitic and dioritic intrusives.

Similar uncertainty concerns the genesis of gold associated with stratiform sulphide mineralisation in the Easdale and Crinan subgroups of the Middle Dalradian Argyll Group. Examples of this type include the occurrences at Meall Mor, McPhun's Cairn and Invergeldie. Surface exposures at the first two localities suggest that the gold is restricted to discordant fracture zones. It remains to be proven whether the gold is a local remobilization of stratiform gold enrichments or was preferentially precipitated by reaction with sulphide ores.

4.3 EPITHERMAL GOLD OCCURRENCES

Evidence for epithermal precious metal mineralisation in the Dalradian terrane exists at Rhynie in Aberdeenshire. Siliceous 'chert' horizons carrying enhanced levels of Ag, Au, As and Sb are preserved in a downfaulted block of Lower Devonian volcanic and sedimentary rocks. Similar epithermal precious metal mineralisation of assumed Lower Devonian age occurs in the Brora district of east Sutherland, outside the Dalradian terrane.

Epithermal mineralisation, especially that related to near-surface, low-sulphidation sinters, is most commonly developed in Cenozoic volcanic terranes that have experienced minimal denudation. Its occurrence within the Dalradian is therefore unexpected. Nevertheless, it opens up the possibility for discovering similar volcanic-hosted epithermal mineralisation in association with graben structures elsewhere along the Devonian unconformity in northern Scotland. However, where the present level of erosion is not far below the Lower Devonian palaeosurface there is also potential for the occurrence of feeder veins in the Dalradian basement.

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Appendix 1 Key Features of the Dalradian Gold Occurrences

A1.1 KEY FEATURES OF THE CONONISH DEPOSIT

Locality	Cononish
Area	Tyndrum - Dalmally
Reference No	Au049
Easting	233000
Northing	730300
Style	mesothermal vein
Status	deposit; measured Au resource; not mined
Geological Setting	
Chronostratigraphy	Appin and Argyll Groups, Dalradian
Lithology of host	psammite, (pelite)
Age of host	Late Precambrian
Metamorphism	garnet-amphibolite
Proximity to granitoid intrusion	Glen Fyne granite 11 km to SW; possibly underlain by extension of Etive Granite
Associated minor intrusions	lamprophyre, quartz-porphyry, dolerite
Regional structure	NE–SW fault (Tyndrum-Glen Fyne)
Regional geophysical features	NE–SW gravity lineation; local residual gravity low
Regional geochemical features	strong As anomaly; sporadic Sb
Local structure	minor NE–SW faults
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	vein best developed at psammite-pelite contacts
Structural controls	minor NE–SW fault (Eas Anie)
Crustal position	ca. 3.5 km depth
Associated gold mineralisation	quartz-pyrite vein (Halliday's Vein) at Tyndrum; Mother Reef; Ben Udlaidh
Associated mineralisation	younger Pb-Zn veins in fault zone at Tyndrum and Cononish
Mineralisation Features	
Deposit morphology	north-east - south-west single vein, sub-vertical. Two main ore-shoots.
Size	0.2–6 m wide vein
Ore Minerals	electrum, pyrite, chalcopyrite, galena, sphalerite. Minor hematite, covellite, tellurides, native gold and native silver
Gangue Minerals	quartz, late barite and carbonates
Ore / vein textures	multi-phase quartz veining and brecciation
Hydrothermal Alteration	chloritisation; sericitisation; silicification and reddening (disseminated hematite)
Temperature	290–340 °C
Pressure	ca. 1 kb
Fluid composition	low salinity, CO_2 bearing
Fluid source	magmatic + meteoric
Age of Mineralisation	?380 Ma; K-Ar on altered wallrock

A1.2 KEY FEATURES OF THE CALLIACHAR BURN DEPOSIT

Locality	Calliachar Burn
Area	South Loch Tay
Reference No	Au004
Easting	283800
Northing	745500
Style	mesothermal vein
Status	prospect (Au)
Geological Setting	
Chronostratigraphy	Southern Highland Group
Lithology of host	quartzite, psammite, andesitic volcanics, metabasic sills
Age of host	late Precambrian
Metamorphism	garnet-amphibolite
Proximity to granitoid intrusion	
Associated minor intrusions	Caledonian felsites; post-mineralisation quartz-dolerite
Regional structure	NE fault (Urlar Fault)
Regional geophysical features	major NE gravity and minor ENE magnetic lineations; positive magnetic anomaly
Regional geochemical features	widespread As anomalies; local Sb enrichment
Local structure	
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	vein width greatest in quartzites, fine-grained metavolcanics and chlorite-quartz schists
Structural controls	poorly jointed rocks have little veining
Crustal position	
Associated gold mineralisation	Urlar Burn veins; Tombuie
Associated mineralisation	
Mineralisation Features	
Deposit morphology	14 steeply dipping quartz veins, trending 140–160°
Size	veins pinch and swell, up to 2 m
Ore Minerals	electrum, pyrite, galena, sphalerite; minor chalcopyrite, arsenopyrite, tetrahedrite, various tellurides
Gangue Minerals	quartz, ferroan dolomite, siderite
Ore / vein textures	vuggy, fractured milky quartz with intergrown sulphide clots; cut by pyrite-galena veinlets
Hydrothermal Alteration	chloritisation, sericitisation and carbonatisation; up to 20 m from veins
Temperature	300 °C; later 140° C
Pressure	?
Fluid composition	weak - moderately saline; CO_2 bearing
Fluid source	mixed: mantle & crust
Age of Mineralisation	?

A1.3 KEY FEATURES OF THE CORRIE BUIE DEPOSIT

Locality	Corrie Buie
Area	South Loch Tay
Reference No	Au008
Easting	270400
Northing	734300
Style	mesothermal vein
Status	disused mine (Pb)
Geological Setting	
Chronostratigraphy	Loch Tay Limestone, Tayvallich Subgroup
Lithology of host	limestone and calcareous schist
Age of host	Upper Precambrian
Metamorphism	
Proximity to granitoid intrusion	4 km from Tomnadashan intrusion
Associated minor intrusions	felsite dykes; quartz-dolerite
Regional structure	close to Loch Tay Fault
Regional geophysical features	SE magnetic lineation; ENE gravity lineation
Regional geochemical features	widespread As anomalies
Local structure	
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	veins in underlying non-calcareous metasediments are barren
Structural controls	
Crustal position	
Associated gold mineralisation	possible relationship to Tomnadashan porphyry system 4km to NW
Associated mineralisation	
Mineralisation Features	
Deposit morphology	18 parallel veins trending N–S; 3 barren veins trending E–W
Size	
Ore Minerals	electrum, galena, pyrrhotite, pyrite, chalcopyrite, galeno-bismuthinite, emplectite, native bismuth, schirmerite
Gangue Minerals	quartz, siderite, calcite
Ore / vein textures	
Hydrothermal Alteration	
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.4 KEY FEATURES OF THE STRONCHULLIN DEPOSIT

Locality	Stronchullin
Area	Knapdale, SW Highlands
Reference No	Au033
Easting	184500
Northing	679120
Style	mesothermal vein
Status	disused mine (Pb)
Geological Setting	
Chronostratigraphy	Easdale-Crinan subgroup / Argyll Group
Lithology of host	phyllite, quartzite, metabasic sills
Age of host	Upper Precambrian
Metamorphism	epidote-amphibolite
Proximity to granitoid intrusion	30 km to Kilmelford centre
Associated minor intrusions	dolerite (Permo-Carboniferous & Tertiary); rare lamprophyre
Regional structure	close to axis of Ardrishaig Anticline (Tay Nappe)
Regional geophysical features	E–W and NW magnetic lineations
Regional geochemical features	extensive high amplitude As anomalies; locally coincident anomalous Sb and Bi
Local structure	possible intersection of lineations trending 090° and 110°
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	juxtaposition of pelite and psammite possibly important
Structural controls	not known
Crustal position	
Associated gold mineralisation	
Associated mineralisation	vein and stratiform base-metal mineralisation widespread within 5km, locally with minor associated Au
Mineralisation Features	
Deposit morphology	N–S vein, dips 70° to west
Size	40 cm wide; mined over 25m length
Ore Minerals	galena, sphalerite, chalcopyrite, pyrite, covellite, sulphosalts
Gangue Minerals	quartz, barite, carbonate
Ore / vein textures	white/milky coarsely crystalline quartz, locally vuggy; minor glassy quartz
Hydrothermal Alteration	minor local argillic
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.5 KEY FEATURES OF THE CRUACH MHEADHONACH DEPOSIT

Locality	Cruach Mheadhonach, Inverneil
Area	Knapdale, SW Highlands
Reference No	Au033
Easting	183000
Northing	681100
Style	mesothermal vein
Status	disused mine (Pb)
Geological Setting	
Chronostratigraphy	Easdale-Crinan subgroup / Argyll Group
Lithology of host	quartz-schist, phyllite, limestone
Age of host	Upper Precambrian
Metamorphism	greenschist
Proximity to granitoid intrusion	30 km to Kilmelford centre
Associated minor intrusions	dolerite (Tertiary and Permo-Carboniferous)
Regional structure	close to axis of Ardrishaig Anticline (Tay Nappe)
Regional geophysical features	E–W and NW magnetic lineations
Regional geochemical features	low tenor As anomaly
Local structure	NW and E–W faults
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	
Structural controls	NW faults ?
Crustal position	
Associated gold mineralisation	
Associated mineralisation	vein and stratiform base-metal mineralisation widespread within 5km, locally with minor associated Au
Mineralisation Features	
Deposit morphology	linear in fault zones; main vein 30 cm wide trends 330°, dips to SW
Size	sporadic mineralisation in zone 2 km wide; main locality has an adit & 4 shafts over 300 m strike length
Ore Minerals	galena, pyrite, chalcopyrite
Gangue Minerals	quartz, siderite
Ore / vein textures	veins, breccias, stockworks
Hydrothermal Alteration	
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.6 KEY FEATURES OF THE CASTLETON DEPOSIT

Locality	Castleton
Area	SW Highlands
Reference No	
Easting	187800
Northing	685000
Style	mesothermal vein
Status	disused mine (Cu)
Geological Setting	
Chronostratigraphy	Ardrishaig Phyllite, Easdale Subgroup, Argyll Group
Lithology of host	mica-schists; quartz-schists; metabasite sheets
Age of host	Upper Precambrian
Metamorphism	greenschist
Proximity to granitoid intrusion	25 km to Kilmelford centre
Associated minor intrusions	dolerite (Tertiary)
Regional structure	close to axis of Ardrishaig Anticline (Tay Nappe)
Regional geophysical features	E–W magnetic lineations
Regional geochemical features	low tenor As anomalies
Local structure	
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	not known
Structural controls	not known
Crustal position	
Associated gold mineralisation	
Associated mineralisation	vein and stratiform base-metal mineralisation widespread within 10 km, locally with minor associated Au
Mineralisation Features	
Deposit morphology	quartz veins, NE trend, dips 70° to NW
Size	vein up to 2 m wide, traced for 1 km
Ore Minerals	pyrite, chalcopyrite, galena
Gangue Minerals	quartz veins
Ore / vein textures	early brecciated glassy quartz minor; late white prismatic quartz
Hydrothermal Alteration	
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.7 KEY FEATURES OF THE GLEN CLOVA OCCURRENCE

Locality	Glen Clova
Area	NE Scotland
Reference No	Au037
Easting	233900
Northing	777300
Style	mesothermal vein
Status	occurrence (Au)
Geological Setting	
Chronostratigraphy	Rottal Formation, Southern Highland Group
Lithology of country rocks	semipelite, grits, psammites, volcaniclastics (Green Beds), metabasic sheets
Age of host	Upper Precambrian
Metamorphism	lower amphibolite
Proximity to granitoid intrusion	Glen Clova / Rough Craig Granite (549 Ma, syntectonic); Glen Doll Diorite (post-tectonic); Lochnagar Granite (post-tectonic, 415 Ma)
Associated minor intrusions	felsite; dolerite
Regional structure	ca. 10 km NW of Highland Boundary Fault
Regional geophysical features	prominent SE gravity lineation from SW side of Lochnagar Granite; ca. 10 km SE of major NE gravity lineations
Regional geochemical features	sporadic As, Sb, Bi, Pb, Cu, U stream sediment anomalies; sporadic Au, As, Sb, Pb, Cu, Ce anomalies in pan concentrates
Local structure	
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	
Structural controls	SE-trending fault zone
Crustal position	
Associated gold mineralisation	quartz veinlet at boundary of Glen Doll diorite contains 1.7 ppm Au; vuggy pegmatite in granite sheet in Glen Clova with py, cpy, moly contains 1.5 ppm Au
Associated mineralisation	
Mineralisation Features	
Deposit morphology	lenticular quartz segregations in fault zone
Size	fault zone, 0.5-1 m wide, traced for 1.6 km
Ore Minerals	gold, pyrite
Gangue Minerals	quartz
Ore / vein textures	shattered quartz segregations in red and green clay altered micaceous psammite host; carbonate, hematite
Hydrothermal Alteration	clays, limonite
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.8 KEY FEATURES OF THE LAGALOCHAN DEPOSIT

Locality	Lagalochan
Area	SW Highlands
Reference No	Au032
Easting	187700
Northing	712400
Style	porphyry
Status	prospect (Cu-Mo-Au)
Geological Setting	
Chronostratigraphy	Argyll Group (Craignish Phyllites)
Lithology of host	psammite, phyllite and metabasite intruded by porphyry, breccias, granodiorite and rhyolite.
Age of host	ca. 430 Ma
Metamorphism	greenschist (country rock)
Proximity to granitoid intrusion	part of Kilmelford intrusive suite
Associated minor intrusions	post-mineralisation porphyry dykes
Regional structure	NE/ENE fault (Glen Domhain Fault)
Regional geophysical features	major ENE gravity lineation; minor NNE gravity lineations; positive magnetic anomaly
Regional geochemical features	As, Cu and Mo anomalies
Local structure	NNE faults and their intersections with major faults
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	sub-volcanic intrusions and breccias
Structural controls	NNE/NE faults; shear zones
Crustal position	ca. 1 km depth
Associated gold mineralisation	
Associated mineralisation	minor porphyry Cu-Mo-(Au) in Kilmelford suite
Mineralisation Features	
Deposit morphology	irregularly distributed veins / disseminations in 2 main zones - North Hill and SE Quadrant
Size	1.5 x 3 km area with Au enrichment
Ore Minerals	electrum, pyrite, chalcopyrite, molybdenite, galena, sphalerite, arsenopyrite, tennantite, friebergite, hessite
Gangue Minerals	quartz, carbonate
Ore / vein textures	veins, disseminations
Hydrothermal Alteration	sericite-quartz-pyrite and carbonate widespread and intense; K-silicate minor; late argillic/advanced argillic
Temperature	>400° C (North Hill)
Pressure	0.5 kb
Fluid composition	hypersaline
Fluid source	magmatic
Age of Mineralisation	ca. 430 Ma

A1.9 KEY FEATURES OF THE MILTON BURN OCCURRENCE

Locality	Milton Burn, Comrie
Area	South Loch Tay
Reference No	Au002
Easting	278000
Northing	725600
Style	intrusion-related
Status	prospect (Au)
Geological Setting	
Chronostratigraphy	Southern Highland Group, Dalradian
Lithology of host	psammites and metabasites intruded by Comrie diorite-granite complex
Age of host	408 Ma
Metamorphism	greenschist
Proximity to granitoid intrusion	hosted by diorite
Associated minor intrusions	quartz-dolerite dykes
Regional structure	5 km from Highland Boundary Fault (HBF)
Regional geophysical features	SE and ENE magnetic lineations; magnetic and gravity lineations associated with HBF
Regional geochemical features	widespread As anomalies and local Sb enrichment
Local structure	N–S shear zone in diorite
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	
Structural controls	shear zone in diorite
Crustal position	
Associated gold mineralisation	in aureole of Comrie intrusion, on SW and E sides. Extensive gold in alluvium in Glen Almond to north
Associated mineralisation	
Mineralisation Features	
Deposit morphology	N–S shear zone with quartz and carbonate veining and brecciation
Size	alteration zone 50–150 m wide; veining over few metres width, sporadic
Ore Minerals	pyrite, chalcopyrite, galena, molybdenite, Bi and Te minerals
Gangue Minerals	quartz, carbonate
Ore / vein textures	veinlets and disseminations; extensive brecciation, shearing and carbonate veining
Hydrothermal Alteration	potassium feldspar, silicification
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.10 KEY FEATURES OF THE TOMNADASHAN DEPOSIT

Locality	Tomnadashan
Area	South Loch Tay
Reference No	Au009
Easting	269100
Northing	737700
Style	porphyry
Status	disused mine (Cu)
Geological Setting	
Chronostratigraphy	Southern Highland Group
Lithology of host	diorite and granite intruded into
Age of host	Upper Precambrian
Metamorphism	
Proximity to granitoid intrusion	hosted by diorite-granite complex
Associated minor intrusions	
Regional structure	NE–SW Loch Tay Fault
Regional geophysical features	SE and E–W magnetic lineations; positive magnetic anomaly
Regional geochemical features	As anomalies to south
Local structure	
Mineralisation Controls	
Stratigraphical controls	
Lithological controls	diorite-granite contact favoured site
Structural controls	minor faulting
Crustal position	
Associated gold mineralisation	lead veins with minor Au at Corrie Buie, 4 km to SE
Associated mineralisation	
Mineralisation Features	
Deposit morphology	disseminations, clots and veinlets
Size	
Ore Minerals	pyrite, chalcopyrite, tetrahedrite, molybdenite, native bismuth, bismuthinite, gold
Gangue Minerals	quartz, calcite, siderite
Ore / vein textures	
Hydrothermal Alteration	sericite, local kaolinite, chlorite, talc, carbonate, rutile, sphene, albite
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.11 KEY FEATURES OF THE RHYNIE OCCURRENCE

Locality	Rhynie
Area	north-east Scotland
Reference No	
Easting	349300
Northing	827700
Style	epithermal
Status	prospect (Au)
Geological Setting	
Chronostratigraphy	Rhynie Group
Lithology of host	chert, sandstone, conglomerate, tuffs, andesitic lavas
Age of host	Lower Devonian
Metamorphism	post metamorphism
Proximity to granitoid intrusion	overlies Ordovician basic, intermediate and acid intrusions (470–490 Ma); Bennachie, Cushnie granites (400–415 Ma) <20 km
Associated minor intrusions	sporadic porphyrite, microdiorite and quartz-dolerite
Regional structure	N/NNE half-graben, faulted western margin; major E–W shear zones to S
Regional geophysical features	N/NNE and E–W gravity lineations; N/NNE magnetic lineations
Regional geochemical features	low tenor Ag anomaly
Local structure	complex basin margin fault zone, NE–SW; local NW cross-faults
Mineralisation Controls	
Stratigraphical controls	Lower Devonian volcano-sedimentary sequence
Lithological controls	sediments most altered
Structural controls	marginal and cross-faults
Crustal position	at/close to palaeosurface
Associated gold mineralisation	
Associated mineralisation	
Mineralisation Features	
Deposit morphology	alteration focused along marginal fault zone
Size	alteration traced for >1.5 km at surface
Ore Minerals	gold, pyrite
Gangue Minerals	quartz, calcite
Ore / vein textures	multi-phase veining and brecciation
Hydrothermal Alteration	silica, pyrite, K-feldspar, hematite, illite, chlorite
Temperature	low T meteoric; locally higher T (300°–440° C)
Pressure	
Fluid composition	low salinity, near neutral
Fluid source	meteoric
Age of Mineralisation	396 Ma

A1.12 KEY FEATURES OF THE MEALL MOR DEPOSIT

Locality	Meall Mor
Area	Knapdale, SW Highlands
Reference No	Au034
Easting	183620
Northing	673680
Style	stratiform + epigenetic
Status	disused mine (Cu)
Geological Setting	
Chronostratigraphy	Upper Erins Quartzite, Crinan Subgroup, Argyll Group
Lithology of host	quartzite, psammite, quartz-mica schist, metabasic sheets
Age of host	Upper Precambrian
Metamorphism	epidote-amphibolite
Proximity to granitoid intrusion	30 km to Kilmelford centre
Associated minor intrusions	dolerite (Permo-Carboniferous & Tertiary); rare lamprophyre
Regional structure	close to axis of Ardrishaig Anticline (Tay Nappe)
Regional geophysical features	E-W and NW magnetic lineations
Regional geochemical features	extensive high amplitude As anomalies; locally coincident anomalous Sb and Bi
Local structure	minor folds of 2 generations; minor strike faults and E–W faults
Mineralisation Controls	
Stratigraphical controls	Upper Erins Quartzite, Crinan Subgroup, Argyll Group
Lithological controls	epidotised metabasics favoured host to epigenetic Cu mineralisation
Structural controls	
Crustal position	
Associated gold mineralisation	minor Au enrichment associated with late, epigenetic, fracture-controlled Cu mineralisation
Associated mineralisation	base-metal veins widespread within 5km, locally with minor associated Au
Mineralisation Features	
Deposit morphology	stratiform pyrite/chalcopyrite. Epigenetic Cu enrichment in Abhainn Srathain area associated with epidotised metabasics
Size	ca. 200 m thick horizon traced for 10 km in Knapdale
Ore Minerals	pyrite, chalcopyrite, sphalerite, bornite, covellite, malachite, azurite
Gangue Minerals	quartz and calcite veinlets in epigenetic Cu min
Ore / vein textures	sulphide disseminations, blebs and laminae in stratiform type: blebs, clots and veinlets with quartz/calcite in epigenetic style
Hydrothermal Alteration	epidote and carbonate
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.13 KEY FEATURES OF THE MCPHUN'S CAIRN OCCURRENCE

Locality	McPhun's Cairn
Area	SW Highlands
Reference No	Au035
Easting	208900
Northing	703200
Style	stratiform
Status	occurrence (Pb, Zn + Au?)
Geological Setting	
Chronostratigraphy	Ardrishaig Phyllite, Easdale Subgroup, Argyll Group
Lithology of country rock	phyllites, calcareous schists, quartzites, quartz-schist, metabasic sheets
Age of country rock	Upper Precambrian
Metamorphism	greenschist
Proximity to granitoid intrusion	20 km SW of Garabal Hill Complex
Associated minor intrusions	dolerite, lamprophyre, felsite, quartz-porphyry
Regional structure	close to (4 km) axis of Ardrishaig Anticline (Tay Nappe)
Regional geophysical features	E-W and NW magnetic lineations
Regional geochemical features	low tenor Bi anomaly
Local structure	
Mineralisation Controls	
Stratigraphical controls	Ardrishaig Phyllite, Easdale Subgroup (= Ben Lawers Schist)
Lithological controls	
Structural controls	
Crustal position	
Associated gold mineralisation	
Associated mineralisation	Cu-Ni occurrences at Craignure and Coille-bhraghad 5 km to NW
Mineralisation Features	
Deposit morphology	stratiform sulphides concordant with lithological boundaries
Size	6.5 m wide; strike length 7 m
Ore Minerals	pyrite, galena, sphalerite, pyrrhotite,
Gangue Minerals	quartz
Ore / vein textures	fine-coarse pyrite, subhedral to euhedral; galena and sphalerite interstitial to and in veinlets in pyrite
Hydrothermal Alteration	
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.14 KEY FEATURES OF THE INVERGELDIE OCCURRENCE

Locality	Invergeldie, Glen Lednock
Area	South Loch Tay
Reference No	Au001
Easting	274100
Northing	727700
Style	stratiform
Status	prospect (Au)
Geological Setting	
Chronostratigraphy	Appin Group
Lithology of country rocks	psammite, pelitic schist, metabasite
Age of host	Upper Precambrian
Metamorphism	greenschist
Proximity to granitoid intrusion	<1 km from Comrie Diorite
Associated minor intrusions	microdiorite; porphyrite; quartz-dolerite
Regional structure	10 km from Highland Boundary Fault (HBF)
Regional geophysical features	conspicuous N–S gravity lineation; magnetic and gravity lineations associated with HBF; E–W magnetic lineations
Regional geochemical features	widespread As anomalies and local Sb enrichment
Local structure	
Mineralisation Controls	
Stratigraphical controls	?
Lithological controls	contact metasediment and metabasite
Structural controls	proximity to Comrie Diorite?
Crustal position	?VMS?
Associated gold mineralisation	Au in shear zones associated with Comrie Diorite at Milton Burn and Glen Turret; veins at Corrie Buie, Calliachar; porphyry at Tomnadashan
Associated mineralisation	Cu-Ni in metabasite at Invergeldie; Pb-Zn at Creag Liath
Mineralisation Features	
Deposit morphology	stratiform sulphide layers, dip 30–40° to SE
Size	sulphide mineralisation at 2 localities in bands up to 0.75 m thick, traced for up to 150 m
Ore Minerals	pyrite, arsenopyrite, pyrrhotite in metasediments; pyrrhotite, pyrite, chalcopyrite in metabasic
Gangue Minerals	quartz
Ore / vein textures	pyrite and arsenopyrite disseminations, blebs and veinlets
Hydrothermal Alteration	quartz, pink K-feldspar, chlorite, jasper
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

A1.15 KEY FEATURES OF THE MUNESS OCCURRENCE

Locality	Muness
Area	Unst, Shetland
Reference No	Au054
Easting	462000
Northing	1199000
Style	stratiform
Status	occurrence (Au)
Geological Setting	
Chronostratigraphy	Muness Phyllite
Lithology of country rock	phyllite, minor conglomerate
Age of host	
Metamorphism	
Proximity to granitoid intrusion	
Associated minor intrusions	
Regional structure	melange zone between ophiolite nappes
Regional geophysical features	
Regional geochemical features	strong As and Au anomalies
Local structure	
Mineralisation Controls	
Stratigraphical controls	Muness Phyllite
Lithological controls	phyllite
Structural controls	
Crustal position	
Associated gold mineralisation	
Associated mineralisation	PGE, Au, chromite in overlying ophiolite complex
Mineralisation Features	
Deposit morphology	conformable sulphidic bands
Size	several occurrences in Muness area; largest is continuous for 125 m, 2–10 m thick
Ore Minerals	pyrite, arsenopyrite, chalcopyrite, galena
Gangue Minerals	quartz
Ore / vein textures	disseminated to locally massive pyritic bands; early grey concordant quartz veins, later cross-cutting quartz veins
Hydrothermal Alteration	
Temperature	
Pressure	
Fluid composition	
Fluid source	
Age of Mineralisation	

Appendix 2 Summaries of Exploration Activity in the Dalradian

A2.1 EXPLORATION ACTIVITY IN THE SOUTH-WEST HIGHLANDS

Project areas	
Area Reference	**Area Name**
Au012	Craignure/Coille Bhraghad
Au013	Garbh Achadh
Au014	Glen Aray
Au015	Allt an-t-Sithein
Au016	Upper Allt an t-sithein (Anomaly A)
Au017	Brannie Burn
Au018	Glen Shira
Au019	Kilblaan Ban
Au020	Cruach Mor (Anomaly E)
Au021	Douglas Water
Au022	Feolin
Au023	Glen Aray-Garbh Achadh-Coille Bhraghad
Au024	Beinn Ghlas
Au025	Loch Leacann
Au026	Furnace/Cralechan Farm
Au027	Minard (follow up area 5)
Au028	Loch Leathan (Area 13)
Au029	Glen Airigh (Area 14)
Au031	Loch Awe district
Au032	Loch Melfort
Au033	Knapdale
Au034	Meall Mor
Au035	McPhun's Cairn
Au036	Central Argyll
Au040	Kilfinan/Glendaruel
Au047	Cairndow

A2.1 Area Au012 Craignure/Coille Bhraghad

SITE			
Number	Au012		
Location	Craignure/Coille Bhraghad		
Area	S W Highlands		
SW Corner	19250	69550	
NE Corner	22120	72080	
1:50K	55/56		
1:10K	NR99NW/NE NM90NE/SE NN00/01NE/SW/SE/11/2SW/SE/22SW		
1"/1:50K Geol	37W/E		
6" Geol	Argyll 133SW/132SE/140NE/NW/SW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.1		
TEXT			
Geology	1:2500 mapping in vicinity of both disused mines		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	1525	Cu Ni	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	114		
VLF-EM	8		
Resistivity	85		
IP	85		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	None		

MAP	Scale	Title
1	250	Plan of surface workings at Craignure
2	250	Plan of surface workings at Coille Bhraghad
3	2500	Geological mapping in Craignure area
4	2500	Geological mapping in Coille Bhraghad area
5	10 560	Copper/nickel soil sampling results Coille Bhraghad to Craignure
7	?	Eight EM profiles in Craignure area
8	10 560	Chargeability values Coille Bhraghad to Craignure
9	10 560	Resistivity values Coille Bhraghad to Craignure
10	10 560	Vertical magnetic intensity values Coille Bhraghad to Craignure
11	2500	Vertical magnetic intensity values detailed magnetic survey at Craignure

A2.1 Area Au012 Craignure/Coille Bhraghad

SITE			
Number	Au012		
Location	Craignure/Coille Bhraghad		
Area	S W Highlands		
SW Corner	19250	69550	
NE Corner	22120	72080	
1:50K	55/56		
1:10K	NR99NW/NE NM90NE/SE NN00/01NE/SW/SE/11/2SW/SE/22SW		
1"/1:50K Geol	37W/E		
6" Geol	Argyll 133SW/132SE/140NE/NW/SW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/72-30/6/73		
Date	Jan-74		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	1330	Cu Ni Zn	
Overburden			
Rock	415	Cu Ni	
Trench			
Stream sediment	57	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	10		
VLF-EM			
Resistivity	43		
IP	43		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 560	Furnace-N Craleechan Farm: preliminary follow up stream sediment sampling	
2	10 560	Soil sampling results Coille Bhraghad to Craignure, Cu Ni Zn	
3	2500	Craignure, soil sampling, Cu & Ni values in ppm	
4	2500	Coille Bhraghad, soil sampling, Cu & Ni values in ppm	
5	10 560	Chargeability contours and locations of priority A, B^+ and B anomalies	
6	10 560	Chargeability values in milliseconds (duplicate of AE 004.1, map 8)	
7	10 560	Resistivity values in ohm/metre (duplicate of AE 004.1 map 9)	
8	10 560	Coille Bhraghad, IP pseudosection line 5900	
9	2500	Coille Bhraghad, detailed magnetometry survey	
19	63360	Location of anomalous areas including Craignure, Coille Bhraghad, Glen Aray, Allt-an-t-Sithein and Brannie Burn	

A2.1 Area Au012 Craignure/Coille Bhraghad

SITE			
Number	Au012		
Location	Craignure/Coille Bhraghad		
Area	S W Highlands		
SW Corner	19250	69550	
NE Corner	22120	72080	
1:50K	55/56		
1:10K	NR99NW/NE NM90NE/SE NN00/01NE/SW/SE/11/2SW/SE/22SW		
1"/1:50K Geol	37W/E		
6" Geol	Argyll 133SW/132SE/140NE/NW/SW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE 004.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	450	Cu Ni	
Overburden	15	Cu Ni Zn	
Rock			
Trench	87	Au Ni Cu	
Stream sediment	54	Ag As	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	17		
VLF-EM			
Resistivity	714		
IP	714		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
	3	4	133
DIGITAL DATA	N		
MAP	Scale	Title	
16	2500	Geology, Coille Bhraghad	
17	2534	Coille Bhraghad, soil sampling, analytical values	
18	10 560	Coille Bhraghad, stream sediment sampling, Ag & As analytical results	
19	2500	Coille Bhraghad, IP gradient array, chargeability values in milliseconds	
20	2500	Coille Bhraghad, IP gradient array, resistivity values in ohm/metres	
21	2500	Coille Bhraghad, detailed magnetometer survey (values in gammas) with locations of trenches CBI and CBIII	

22	120	Trench geological logs and bedrock analytical results
23	2534	Craignure IP detailed survey (gradient survey), chargeability values in milliseconds
24	2534	Craignure IP detailed survey (gradient survey), resistivity values in ohm/metres
25	10 560	Craignure to Coille Bhraghad soil sampling results, Cu Ni Zn in ppm

A2.1 Area Au013 Garbh Achadh

SITE			
Number	Au013		
Location	Garbh Achadh		
Area	S W Highlands		
SW Corner	20250	70940	
NE Corner	20850	71430	
1:50K	56		
1:10K	NN00NW/NE/01SW/SE		
1"/1:50K Geol	37W/E		
6" Geol	Argyll 132NE/SE/124SE/125SW/133NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	186	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
6	10 560	Cu/Ni/Zn stream sediment sampling results, Garbh Achadh	

A2.1 Area Au013 Garbh Achadh

SITE			
Number	Au013		
Location	Garbh Achadh		
Area	S W Highlands		
SW Corner	20255	70865	
NE Corner	20540	71190	
1:50K	55/56		
1:10K	NN00NW/NE/01SW/SE		
1"/1:50K Geol	37W/E		
6" Geol	Argyll 132NE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology	Recce and detailed mapping		
Mineralogy	Polished thin section studies		
Geochemistry	Samples	Elements	
Soil	1678	Cu Ni	
	77	Cu Ni Mo	
	43	Cu Ni Mo Ag	
	20	Cu Ni Mo Ag Au	
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity	49		
IP	49		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
10	2500	Geological sketch map of Garbh Achadh	
11	10 560	Soil sampling values, Cu Ni Mo Ag in ppm	
12	2500	Detail grid - soil	
13	10 560	Garbh Achadh, chargeability values in milliseconds	
14	10 560	Garbh Achadh, resistivity values in ohm/metres	
15	10 560	Garbh Achadh, IP pseudosections Line 6800	
16	2500	Detailed grid, chargeability results from IP survey	
17	2500	Detailed grid, resistivity results from IP survey	
18	2500	Detailed grid, metal factor results from IP survey	
19	2500	Detail grid - soil	
44	2500	Geology	
28	5000	Location of survey grid	

A2.1 Area Au013 Garbh Achadh

SITE			
Number	Au013		
Location	Garbh Achadh		
Area	S W Highlands		
SW Corner	20255	70865	
NE Corner	20540	71190	
1:50K	55/56		
1:10K	NN00NW/NE 01SW/SE		
1"/1:50K Geol	37W/E		
6" Geol	Argyll 132NE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE 004.3		
TEXT			
Geology	Geological mapping continued and refined		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	1031	Cu Ni	
	260	Ag	
	78	Mo	
	20	Au	
Overburden	114	Au Ag Cu Ni Zn	
Rock	29	Cu Ni	
	25	Cu Ni Au	
	95	Cu Ni Au Ag Mo	
Trench			
Stream sediment			
Pan concentrate			
Drill core	160	Au Cu Mo	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	4		
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
7	2500	Geology (annotated duplicate of AE 004.2 map 44)	
8	2534	Base of overburden sampling, analytical results, Au Ag Cu Ni Zn	
9	2534	Soil sampling, analytical results, Cu Ni Mo Ag Au	
10	2534	Bedrock sampling, analytical results, Cu Ni Zn Ag Au	

11	5000	Location of diamond drill holes, GA1, 2, 3, 4 and IP (metal factor)
12	500	DDH GA1 Geological section, analytical results, geophysical and geochemical profiles
13	500	DDH GA2 Geological section, analytical results, geophysical and geochemical profiles
14	500	DDH GA3 Geological section, analytical results, geophysical and geochemical profiles
15	500	DDH GA4 Geological section, analytical results, geophysical and geochemical profiles

A2.1 Area Au013 Garbh Achadh

SITE			
Number	Au013		
Location	Garbh Achadh		
Area	S W Highlands		
SW Corner	20350	70970	
NE Corner	20500	71100	
1:50K	56		
1:10K	NN00NW/01SW		
1"/1:50K Geol	37W/E		
6" Geol	Argyll 124SW/SE/125SW/132/133NW/SW		
REPORT			
Company	BGS		
Title	Disseminated sulphide mineralisation at Garbh Achadh		
Date	1978		
Author	R Ellis		
BGS No	MRP 23		
TEXT			
Geology	Regional geology, geology of the mineralised area and mineralisation.		
Mineralogy	Summary for selected specimens including alteration		
Geochemistry	Samples	Elements	
Soil			
Overburden	58	Cu Pb Zn Ag	
Rock	5	Cu Mo	
	67	Cu Pb Zn Ag Co Ni Mo	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	9.6		
VLF-EM			
Resistivity	13.4		
IP	13.4		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	500 000	Regional geology and location of Garbh Achadh	
2	8333	Geology of the mineralise area	
3	12 500	Photo lineament map of Garbh Achadh area	
4	10 000	Distribution of copper in stream sediments	
5	11 900	Isopleth map for Cu in rock	
6	11 900	Isopleth map for Mo in rock	
7	10 560	Geophysical traverse location map	
8	8333	Total intensity magnetic profiles superimposed on main geological elements	

9	8333	Chargeability contours for n=2 superimposed on main geological elements
10	10 000	IP chargeability contours for n=6
11	8333	Apparent resistivity contours for n=2 superimposed on main geological elements
12	10 000	Apparent resistivity contours for n=6

A2.1 Area Au014 Glen Aray

SITE			
Number	Au014		
Location	Glen Aray		
Area	S W Highlands		
SW Corner	20750	71660	
NE Corner	21120	72140	
1:50K	56		
1:10K	NN01NE/11NW		
1"/1:50K Geol	37E/45W		
6" Geol	Argyll 113SW/125NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	213	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
19	2500	Detail grid - soil	
20	10560	Preliminary follow up stream sediment samples & estate boundaries	

A2.1 Area Au014 Glen Aray

SITE			
Number	Au014		
Location	Glen Aray		
Area	S W Highlands		
SW Corner	20750	71660	
NE Corner	21120	72140	
1:50K	56		
1:10K	NN01NE/11NW		
1"/1:50K Geol	37E/45W		
6" Geol	Argyll 113SW/125NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	213	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
19	2500	Detail grid - soil	
20	10560	Preliminary follow up stream sediment samples & estate boundaries	

A2.1 Area Au014 Glen Aray

SITE			
Number	Au014		
Location	Glen Aray		
Area	S W Highlands		
SW Corner	20720	71520	
NE Corner	21160	71910	
1:50K	56		
1:10K	NN01NE/11NW		
1"/1:50K Geol	37E/45W		
6" Geol	Argyll 113SW/125NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE 004.3		
TEXT			
Geology	Mapping		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	282	Cu Ni Zn	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
2	10 560	Geology	
3	10 560	Edge of stream soil values Cu Ni Zn	

A2.1 Area Au015 Allt an-t-Sithein

SITE			
Number	Au 015		
Location	Allt an-t-Sithein		
Area	S W Highlands		
SW Corner	21565	71740	
NE Corner	21770	71930	
1:50K	56		
1:10K	NN11NE		
1"/1:50K Geol	37E		
6" Geol	Argyll 113SE/114SW/125NE/126NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology	Recce examination		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	110	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
21	10 560	Preliminary follow up stream sediment sampling, Cu Ni Zn	

A2.1 Area Au016 Upper Allt an-t-Sithein

SITE			
Number	Au016		
Location	Upper Allt an t-Sithein (Anomaly A)		
Area	S W Highlands		
SW Corner	21855	71860	
NE Corner	21970	71910	
1:50K	56		
1:10K	NN11NE		
1"/1:50K Geol	37E		
6" Geol	Argyll 114SW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology	Recce examination		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	23	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
21	10 560	Preliminary follow up stream sediment sampling, Cu Ni Zn	

A2.1 Area Au017 Brannie Burn

SITE			
Number	Au017		
Location	Brannie Burn		
Area	S W Highlands		
SW Corner	21945	71630	
NE Corner	22110	71770	
1:50K	56		
1:10K	NN11NE		
1"/1:50K Geol	37E		
6" Geol	Argyll 114SW/126NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	54	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity	14		
IP	14		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
21	10 560	Preliminary follow up stream sediment sampling, Cu Ni Zn	
26	10 560	Chargeability values	
27	10 560	Resistivity values	

A2.1 Area Au017 Brannie Burn

SITE			
Number	Au017		
Location	Brannie Burn		
Area	S W Highlands		
SW Corner	21945	71630	
NE Corner	22110	71770	
1:50K	56		
1:10K	NN11NE		
1"/1:50K Geol	37E		
6" Geol	Argyll 114SW/126NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology	Geological investigations over recce IP anomalies		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	

A2.1 Area Au018 Glen Shira

SITE			
Number	Au018		
Location	Glen Shira		
Area	S W Highlands		
SW Corner	21475	71550	
NE Corner	21545	71480	
1:50K	56		
1:10K	NN11SW/SE		
1"/1:50K Geol	37E		
6" Geol	Argyll 125SE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	15	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
22	10 560	Follow up stream sediment sampling, Cu Ni	

A2.1 Area Au019 Kilblaan Ban

SITE			
Number	Au019		
Location	Kilblaan Ban		
Area	S W Highlands		
SW Corner	21450	71270	
NE Corner	21590	71330	
1:50K	56		
1:10K	NN11SW/SE		
1"/1:50K Geol	37E		
6" Geol	Argyll 125/SE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	26	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
22	2500	Detailed grid, metal factor results from IP survey	

A2.1 Area Au020 Cruach Mor (Anomaly E)

SITE			
Number	Au020		
Location	Cruach Mor (Anomaly E)		
Area	S W Highlands		
SW Corner	20600	71410	
NE Corner	20700	71455	
1:50K	56		
1:10K	NN01SE		
1"/1:50K Geol	37E		
6" Geol	Argyll 124SE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	32	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
23	10 560	Preliminary follow up stream sediment sampling, Cu Ni Zn	

A2.1 Area Au021 Douglas Water

SITE			
Number	Au021		
Location	Douglas Water		
Area	S W Highlands		
SW Corner	20400	70705	
NE Corner	20520	70850	
1:50K	56		
1:10K	NN00NW		
1"/1:50K Geol	37E		
6" Geol	Argyll 132SE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	30	Cu Ni Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
24	10 560	Preliminary follow up stream sediment sampling, Cu Ni Zn	

A2.1 Area Au022 Feolin

SITE			
Number	Au022		
Location	Feolin		
Area	S W Highlands		
SW Corner	19520	69710	
NE Corner	19610	69815	
1:50K	55		
1:10K	NR99NE		
1"/1:50K Geol	37W		
6" Geol	Argyll 150NE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	58	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
25	10 560	Preliminary follow up stream sediment sampling, Cu Ni	

A2.1 Area Au022 Feolin

SITE			
Number	Au022		
Location	Feolin		
Area	S W Highlands		
SW Corner	19520	69710	
NE Corner	19610	69815	
1:50K	55		
1:10K	NR99NE		
1"/1:50K Geol	37W		
6" Geol	Argyll 150NE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology	Recce observations		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	131	Cu Ni	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
25	10 560	Soil sampling analytical results Cu Ni	

A2.1 Area Au023 Glen Aray-Garbh Achadh-Coille Bhraghad

SITE			
Number	Au023		
Location	Glen Aray-Garbh Achadh-Coille Bhraghad		
Area	S W Highlands		
SW Corner	20210	70730	
NE Corner	21190	71980	
1:50K	55/56		
1:10K	NN00NE/NW/01NE/SW/11NW/SW		
1"/1:50K Geol	37E/W		
6" Geol	Argyll 124SE/132NE/SE/125NW/SW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	519	Cu Ni Zn	
	46	Au	
Pan concentrate	46	Au	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63360	Preliminary follow up (PFU) drainage sampling - location map	
4.1	10 560	Stream sediment sampling, PFU cover, Garbh Achadh and anomaly E, Cu Ni, Zn, Au	
4.2	10 560	Stream sediment sampling, PFU cover, Garbh Achadh, Cu Ni Zn Au	
4.3	10 560	Stream sediment sampling, PFU cover, Garbh Achadh and anomaly G, Cu Ni, Zn, Au	
4.4	10 560	Stream sediment sampling, PFU cover, Glen Aray, Cu Ni Zn Au	
4.5	10 560	Stream sediment sampling, PFU cover, Glen Aray, Cu Ni Zn Au	
4.6	10 560	Stream sediment sampling, PFU cover, Inveraray, Cu Ni Au	
4.7	10 560	Stream sediment sampling, PFU cover, Coille Bhraghad, Cu Ni Au	

A2.1 Area Au024 Beinn Ghlas

SITE			
Number	Au024		
Location			
Area	S W Highlands		
SW Corner	21330	71840	
NE Corner	21450	71990	
1:50K	56		
1:10K	NN11NW		
1"/1:50K Geol	37E		
6" Geol	Argyll 113SE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology	Recce observations		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	27	Cu Ni	
	1	Au	
Pan concentrate	1	Au	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
6	10 560	Stream sediment sampling, PFU Area I analytical results	

A2.1 Area Au025 Loch Leacann

SITE			
Number	Au025		
Location	Loch Leacann		
Area	S W Highlands		
SW Corner	19735	70300	
NE Corner	20110	70460	
1:50K	55		
1:10K	NM90SE NN00SW		
1"/1:50K Geol	37W		
6" Geol	Argyll 140NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	20	Cu Ni	
	1	Au	
Pan concentrate	1	Au	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
N	10 560	Stream sediment sampling, PFU cover	

A2.1 Area Au026 Furnace/Cralechan Farm

SITE			
Number	Au026		
Location	Furnace/Cralechan Farm		
Area	S W Highlands		
SW Corner	20165	70000	
NE Corner	20660	70585	
1:50K	55/56		
1:10K	NN00		
1"/1:50K Geol	37E/W		
6" Geol	Argyll 140SE/NE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	58	Cu Ni	
	12	Au	
Pan concentrate	12	Au	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
27	10560	stream sediment sampling PFU cover Cu Ni Au	

A2.1 Area Au026 Furnace/Cralechan Farm

SITE			
Number	Au026		
Location	Furnace/Cralechan Farm		
Area	S W Highlands		
SW Corner	20165	70000	
NE Corner	20660	70585	
1:50K	55/56		
1:10K	NN00		
1"/1:50K Geol	37E/W		
6" Geol	Argyll 140SE/NE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Loch Fyne Project AE4, geological report: 2 Aug 1971-30Jun 1972		
Date	?1972		
Author	?		
BGS No	AE 004.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	58	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 560	Preliminary follow up stream sediment sampling, Cu Ni	

A2.1 Area Au027 Minard

SITE			
Number	Au027		
Location	Minard (follow up area 5)		
Area	S W Highlands		
SW Corner	19500	69480	
NE Corner	19750	69590	
1:50K	55		
1:10K	NR99NE/SE		
1"/1:50K Geol	37E/W		
6" Geol	Argyll 150SE/151SW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	161	Cu Ni	
Overburden			
Rock			
Trench			
Stream sediment	56	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
		Geochemistry-PFU stream sediment sampling & recce soil traverses	
31	10560	Cu Ni	
32	2500	Geochemistry-break of slope and grid soil sampling results Cu Ni	

A2.1 Area Au028 Loch Leathan

SITE			
Number	Au028		
Location	Loch Leathan (Area 13)		
Area	S W Highlands		
SW Corner	18770	69740	
NE Corner	18940	69860	
1:50K	55		
1:10K	NR89NE		
1"/1:50K Geol	37W		
6" Geol	Argyll 138SE/139SW/149NE/150NW		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	65	Cu Ni	
	29	Cu	
Overburden			
Rock			
Trench			
Stream sediment	29	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
33	10 560	Geochemistry-PFU stream sediment sampling-sample locations, Cu Ni content in ppm	
34	5000	Geochemistry soil sampling recce traverses	

A2.1 Area Au029 Glen Airigh

SITE			
Number	Au029		
Location	Glen Airigh (Area 14)		
Area	S W Highlands		
SW Corner	19270	69810	
NE Corner	19350	69910	
1:50K	55		
1:10K	NR99NW		
1"/1:50K Geol	37W		
6" Geol	Argyll 150NE		
REPORT			
Company	Consolidated Goldfields Ltd		
Title	Technical report for the period 1/7/73-30/6/74		
Date	Nov-74		
Author	G F Wilks		
BGS No	AE004.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	43	Cu Ni	
Overburden			
Rock			
Trench			
Stream sediment	24	Cu Ni	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
35	10 560	Geochemistry-PFU stream sediment sampling & recce soil sampling traverse	

A2.1 Area Au031 Loch Awe district

SITE			
Number	Au031		
Location	Loch Awe district		
Area	S W Highlands		
SW Corner	17700	68800	
NE Corner	22200	73100	
1:50K	50/55/56		
1:10K	NM71SE/80NW/SW/SE/81SW/SE/90SW/SE/91SE/92SW/SE NN01NW/NE/SW/02NW/SW/SE/12SW/SE/22SWNR79NE/89 NW/NE/99NW		
1"/1:50K Geol	36/37W/37E/45W/45E		
6" Geol	Argyll100/112/113/114/121SE/122SW/SE/123SW/SE/124NE/SW/SE/125NW/129NE/130/131NW/132NW/NE/138NE/SW/SE/139/140NW/SW/148/NE/149NW/NE/150NW/NE		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 1679 Knapdale-Loch Awe: work carried out in Aug-Sept 1972		
Date			
Author	R Rastall		
BGS No	AE115.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	371	Cu Pb Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63360	Prospect 1679A Loch Awe stream sediment geochemistry, Cu values	
2	63360	Prospect 1679A Loch Awe stream sediment geochemistry, Pb values	
3	63360	Prospect 1679A Loch Awe stream sediment geochemistry, Zn values	
7	63360	Loch Awe 1679A, Blarghour 52/20 stream sediment sample locations	
8	63360	Loch Awe 1679A, Claddich estate 53/22 stream sediment sample locations	
9	63360	Loch Awe 1679A,Barmolloch Estate 52/7 stream sediment sample locations	

12	63360	Prospect 1679A Loch Awe stream sediment samples Mo values
13	63360	Prospect 1679A Loch Awe stream sediment samples Ni values

A2.1 Area Au031 Loch Awe district

SITE			
Number	Au031		
Location	Loch Awe district		
Area	S W Highlands		
SW Corner	18400	68500	
NE Corner	20400	72500	
1:50K	49/55		
1:10K	NR88NE/89SW/SE/NE/98NW/SW NM80SE/NE/90/81NE/SE/91/92SE NN00NE/01NE/SE		
1"/1:50K Geol	37W/29		
6" Geol	Argyll111NE/SW/SE/112NW/SW/123/124SW/131NW/NE/SW/ 132NW/SW/139NW/NE/161NW/NE/171NW		
REPORT			
Company	Consolidated Gold Fields Ltd		
Title	Financial assistance for mineral exploration/statement of geology, mineralisation and anomaly areas		
Date	Nov-72		
Author	G P Mortimer		
BGS No	AE 123.1		
TEXT			
Geology	General, mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	Y		
Trench			
Stream sediment	Y		
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
0 (in text)	250 000	Loch Awe, boundaries of exploration area	
LA1	63 360	Overlay plan	
1	10 560	Preliminary follow up stream sediment sampling + recce soil traverse (duplicate of AE 004.3/32)	
2	2500	Break of slope and grid soil sampling (Duplicate of AE 004.3/32)	
3	10 560	Cu Ni stream sediment sampling (duplicate of AE 004.3/33)	
4	5000	Cu Ni soil sampling recce traverse (duplicate of AE 004.3/34)	
5	10 560	Preliminary follow up stream sediment sampling + recce soil traverse (duplicate of AE 004.3/35)	

A2.1 Area Au031 Loch Awe district

SITE			
Number	Au031		
Location	Loch Awe district		
Area	S W Highlands		
SW Corner	18400	68500	
NE Corner	20400	72500	
1:50K	49/55		
1:10K	NR88NE/89SW/SE/NE/98NW/SW NM80SE/NE/90/81NE/SE/91/92SE NN00NE/01NE/SE		
1"/1:50K Geol	37W/29		
6" Geol	Argyll111NE/SW/SE/112NW/SW/123/124SW/131NW/NE/SW/ 132NW/SW/139NW/NE/161NW/NE/171NW		
REPORT			
Company	Consolidated Gold Fields Ltd		
Title	Technical report for the period 21/11/73-1/7/74		
Date	Nov-74		
Author	G F Wilkes		
BGS No	AE 123.2		
TEXT			
Geology	Field investigation and mapping, summary of mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	217	Cu Ni	
	125	Cu	
Overburden			
Rock	25	Cu Ni	
Trench			
Stream sediment	629	Cu Ni	
	8	Cu	
	9	Au	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63 360	Stream sediment survey areas and recorded mineral occurrences	
2	10 560	Cu Ni stream sediment results, part area 1	
3	10 560	Cu Ni stream sediment results, part area 1	
4	10 560	Cu Ni stream sediment results, areas 6 & 19, part areas 1 & 20	
5	10 560	Cu Ni stream sediment results, area 7 & part area 1	

6	10 560	Cu Ni stream sediment results, area 2
7	10 560	Cu Ni stream sediment results, part area 3
8	10 560	Cu Ni stream sediment results, part area 3
9	10 560	Cu Ni stream sediment results, area 22 & part area 3
10	10 560	Cu Ni stream sediment results, area 23 & part area 3
11	10 560	Cu Ni stream sediment results, part area 4
12	10 560	Cu Ni stream sediment results, part area 4
13	10 560	Cu Ni Au stream sediment results, part area 5
14	10 560	Cu Ni Au stream sediment results, part area 5
15	10 560	Cu Ni stream sediment results, areas 8 & 9
16	10 560	Cu Ni stream sediment results, areas 10, 11 & 12
17	10 560	Cu Ni stream sediment results, area 13
18	10 560	Cu Ni Au stream sediment results, areas 14 &15
19	10 560	Cu Ni Au stream sediment results, area 16
20	10 560	Cu Ni Au stream sediment results, area 17
21	10 560	Cu Ni stream sediment results, area 18
22	10 560	Cu Ni stream sediment results, area 20
23	10 560	Loch Awe part area 1 geology
24	10 560	Loch Awe part area 1 geology
25	10 560	Loch Awe geology areas 6, 19, 20 & part area 1
26	10 560	Loch Awe geology areas 7 & part area 1
27	10 560	Loch Awe geology area 2
28	10 560	Loch Awe geology area 5
29	10 560	Loch Awe geology areas 8 & 9
31	10 560	Loch Awe geology areas 14 & 15
32	10 560	Loch Awe geology area 16
33	10 560	Loch Awe geology area 18
34	10 560	Loch Awe geology area 23
35	2500	Loch Awe geology area, follow up area No 2 south
36	2500	Loch Awe geology area, follow up area No 2 north
37	2500	Cu Ni stream sediment and soil results, follow up area No 2 south
38	2500	Cu Ni stream sediment and soil results, follow up area No2 north
39	2500	Cu Ni stream sediment and soil results, follow up area No 9
40	2500	Cu Ni stream sediment and soil results, follow up area No1

A2.1 Area Au032 Loch Melfort

SITE			
Number	Au032		
Location	Loch Melfort		
Area	SW Highlands		
SW Corner	18000	70800	
NE Corner	18300	71250	
1:50K	55		
1:10K	NM81NW/SW		
1"/1:50K Geol	36		
6" Geol	Argyll 22NW/SW/130NW		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 0409 Loch Melfort: Review of porphyry copper-molybdenum exploration		
Date	Jan-75		
Author	J G Langlands		
BGS No	AE 138.1		
TEXT			
Geology	Geology and geochemistry background		
Mineralogy	Petrographic alteration and mineralisation		
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	24		
VLF-EM			
Resistivity			
IP	19.2		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63 360	Locality plan	
2	2400	Outcrop geological map	
3	2400	Alteration map with peat cover and thin section numbers	
4	6000	Geology and IP/magnetic survey lines	
5	6000	Simplified cross section showing geology, copper, molybdenum and chargeability profiles	
6	6000	Proton magnetometer survey showing total field strength in gammas	
7	6000	Preliminary geology plan	

A2.1 Area Au032 Loch Melfort

SITE			
Number	Au032		
Location	Loch Melfort		
Area	SW Highlands		
SW Corner	18000	70800	
NE Corner	18300	71250	
1:50K	55		
1:10K	NM81NW/SW		
1"/1:50K Geol	36		
6" Geol	Argyll 22NW/SW/130NW		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Report on an induced polarisation survey, Loch Melfort, Argyll, Scotland		
Date	Mar-74		
Author	Barringer Research Ltd		
BGS No	AE 138.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity	19.2		
IP	19.2		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
3317-1	63 360	Locality plan	
3317-2	6000	IP and resistivity pseudosections L15W & 5W	
3317-3	6000	IP and resistivity pseudosections L15E & 5E	
3317-4	6000	IP and resistivity pseudosections L25E	
3317-5	6000	IP and resistivity pseudosections L22N & 10N	
3317-6	2400	IP and resistivity pseudosections L45E & 15E	
3317-7	2400	IP and resistivity pseudosections L45W & 22N	
3317-8	6000	Chargeability contours N=1	
3317-9	6000	Chargeability contours N=3	
3317-10	6000	Resistivity contours N=1	

A2.1 Area Au032 Loch Melfort

SITE			
Number	Au032		
Location	Loch Melfort		
Area	SW Highlands		
SW Corner	17900	70550	
NE Corner	18910	71360	
1:50K	55		
1:10K	NM70NE/71SE/80NW/NE/81SW/SE		
1"/1:50K Geol	36		
6" Geol	Argyll 130/131NW/SW/138/139/NW/SW		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 1679 Knapdale-Loch Awe: work carried out in Aug-Sept 1972		
Date			
Author	R Rastall		
BGS No	AE115.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	464	Cu	
	472	Mo	
Overburden			
Rock			
Trench			
Stream sediment	53	Cu Pb Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
4	10 560	Loch Melfort soil geochemistry Cu	
5	10 560	Loch Melfort soil geochemistry Mo	
11	10 560	Loch Melfort soil geochemistry sample nos	

A2.1 Area Au032 Loch Melfort

SITE			
Number	Au032		
Location	Loch Melfort		
Area	SW Highlands		
SW Corner	18000	70800	
NE Corner	18800	71300	
1:50K	55		
1:10K	NM80NW/81SW		
1"/1:50K Geol	36		
6" Geol	Argyll 130		
REPORT			
Company	BGS		
Title	Investigation of disseminated copper mineralisation near Kilmelford, Argyllshire		
Date	1977		
Author	R E Ellis		
BGS No	MRP 009		
TEXT			
Geology	General geology: field mapping		
Mineralogy	Petrography of major rock types and alteration		
Geochemistry	Samples	Elements	
Peat	102	Cu Pb Zn Mo As	
Overburden	95	Cu Pb Zn Mo As	
Rock	134	Cu Pb Zn Mo As	
Trench			
Stream sediment	77	Cu Pb Zn Mo Ag Mn Fe	
Pan concentrate	77	Cu Pb Zn As Mn Fe Ce Ba Ni Ca Ti	
Drill core	5	Cu Mo Pb As	
	9	Cu Mo As Au	
	122	Cu Mo As	
	3	Cu Mo Au	
	4	Cu Mo	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	2	185	360
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	50 000	Locality map	
2	50 000	Geology of Kilmelford area	
4	32 258	Distribution map for Cu and Mo in stream sediment samples	
5a	12 000	Map of Cu in sediment samples - Garraron stream	
5b	12 000	Map of Mo in sediment samples - Garraron stream	

6	32 258	Distribution map for Pb and Zn in stream sediment samples
8	32 258	Distribution map for Ag and As in stream sediment samples
9	32 258	Map of anomalous panned concentrate samples
10	6896	Distribution map for Cu in basal till samples
11	6896	Distribution map for Mo in peat samples
13	6896	Distribution map for Cu in basal till samples
14	6896	Distribution map for Mo in basal till samples
16	6896	Distribution map for Cu in rock samples
17	6896	Distribution map for Mo in rock samples
18	10 000	Photogeological map of mineralised area

A2.1 Area Au032 Loch Melfort/Lagalochan

SITE			
Number	Au032		
Location	Loch Melfort/Lagalochan		
Area	SW Highlands		
SW Corner	18770	71185	
NE Corner	18835	71270	
1:50K	55		
1:10K	NM81SE		
1"/1:50K Geol	37W		
6" Geol	Argyll 131NW/123SW		
REPORT			
Company	BP Minerals		
Title			
Date	Dec-84		
Author	E M Jones and G B Steele		
BGS No	MR 40.01		
TEXT			
Geology	Graphic drill logs and drill core record BH LD84:1-37		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	217	Au	
	168	Au Cu	
	102	Au Ag	
	38	Au Ag Pb Zn	
	11	Au Ag Sb	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1		Drilling progress L 1-25	
5		Drilling progress L 26-37	

A2.1 Area Au032 Loch Melfort/Lagalochan

SITE			
Number	Au032		
Location	Loch Melfort/Lagalochan		
Area	SW Highlands		
SW Corner	18000	70860	
NE Corner	19000	71360	
1:50K	55		
1:10K	NM80NW/NE/81SE/SE		
1"/1:50K Geol	36/37W		
6" Geol	Argyll 122SW/SE/123SE/130NW/NE/131NW		
REPORT			
Company	BP Minerals International Ltd		
Title	Lagalochan Extensions MEG report 1984: Technical Report 1/1/84-31/12/84		
Date	1984		
Author	E Jones		
BGS No	AE 263		
TEXT			
Geology	Brief outline		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	1154	Cu Pb Zn Mo As	
	855	Cu Pb Zn Mo As Ag Au	
	473	Au Ag	
Overburden			
Rock			
Trench			
Stream sediment	126	Cu Pb Zn As Ag Au	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	2 000 000	Location map	
2a	2500	Glenbeg soil sampling results Zn in ppm	
2b	2500	Glenbeg soil sampling results Pb in ppm	
2c	2500	Glenbeg soil sampling results Cu in ppm	
2d	2500	Glenbeg soil sampling results As in ppm	
2e	2500	Glenbeg soil sampling results Mo in ppm	
2f	2500	Glenbeg soil sampling results Au and Ag in ppm	
3a	2500	Kames wacker grid (soil sampling) Zn	

3b	2500	Kames wacker grid (soil sampling) Pb
3c	2500	Kames wacker grid (soil sampling) Cu
3d	2500	Kames wacker grid (soil sampling) As
3e	2500	Kames wacker grid (soil sampling) Mo
3f	2500	Kames wacker grid (soil sampling) Ag
3g	2500	Kames wacker grid (soil sampling) Au
4	2500	Kames geology
5	10 000	Stream sediment sampling results

A2.1 Area Au033 Knapdale

SITE			
Number	Au033		
Location	Knapdale		
Area	S W Highlands		
SW Corner	16800	66000	
NE Corner	18700	69500	
1:50K	62/55		
1:10K	NR76/77/78/86/87/88/79SW/SE/89SW/SE		
1"/1:50K Geol	28/29/36/37W		
6" Geol	Argyll149SW/SE150SW/159NE/SE160/161NW/SW/169NE/SW/SE/ 170/171NW/NE/179/180/181NW/SW/190/191/192NW/SW/ 200NW/SW/201NW/SW/202NW/NE		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 1679 Knapdale-Loch Awe: work carried out in Aug-Sept 1972		
Date			
Author	R Rastall		
BGS No	AE115.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	11		
Overburden			
Rock			
Trench			
Stream sediment	198	Cu Pb Zn Ni Mo	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
6	63 360	Upper Knapdale Cu values: stream sediment samples	
10	10 560	Meall Mor area soil sample locations	
14	63 360	Prospect 1679B Knapdale Cu values: stream sediment samples	
15	63 360	Prospect 1679B Knapdale Pb values: stream sediment samples	
16	63 360	Prospect 1679B Knapdale Zn values: stream sediment samples	
17	63 360	Prospect 1679B Knapdale Ni values: stream sediment samples	
18	63 360	Prospect 1679B Knapdale Mo values: stream sediment samples	

A2.1 Area Au033 Knapdale

SITE		
Number	Au033	
Location	Knapdale	
Area	S W Highlands	
SW Corner	17500	66200
NE Corner	19100	68200
1:50K	62	
1:10K	NR76NE/SE/86/87	
1"/1:50K Geol	28/29	
6" Geol	Argyll 180/181NW/SW/190SE/191/192NW/SW/200NE/SE/ 201/202/211NE/212NW/NE/ 213NW	
REPORT		
Company	BGS	
Title	Gold mineralisation in the Dalradian rocks of Knapdale-Kintyre, S W Highlands	
Date	1996	
Author	A G Gunn	
BGS No	MRP 143	
TEXT		
Geology	Generalised background account covering Dalradian & post-Caledonian minor intrusions. Photogeological lineation analysis.	
Mineralogy	Limited petrography & microchemical mapping of gold grains	
Geochemistry	Samples	Elements
Soil		
Overburden		
Rock	82	Au Ag As Ba Bi Ca Cu Mo Pb Sb Ti W
Trench		
Stream sediment	117	Au Ag As Ba Bi Ca Co Cu Mn Mo Pb Sb W Zn
Pan concentrate	117	Au Ag As Ba Bi Cu Mo Pb Sb W Zn
Drill core		
Geophysics	line km	
Magnetic		Lineation analysis
VLF-EM		
Resistivity		
IP		
Gravity		Lineation analysis
Drilling	No of holes	Max depth Total depth
Trenching	No of pits	Max depth Total length
DIGITAL DATA	Y	
MAP	Scale	Title
1	143 000	Location map
2	143 000	Geological map
3	200 000	Lineations picked from images of the regional gravity & aeromagnetic data
4	200 000	Lineations from false colour Landsat satellite images
6	153 000	Location of drainage & rock sample sites

7	152 000	Distribution of Au in stream sediments plotted with detail of lineation analysis in the Tarbert area
8	152 000	Distribution of As in stream sediments plotted with detail of lineation analysis in the Tarbert area
9	152 000	Distribution of Sb in stream sediments plotted with detail of lineation analysis in the Tarbert area
10	152 000	Distribution of Zn in stream sediments plotted with detail of lineation analysis in the Tarbert area
11	152 000	Distribution of Pb in stream sediments plotted with detail of lineation analysis in the Tarbert area
12	152 000	Distribution of Cu in stream sediments plotted with detail of lineation analysis in the Tarbert area
13	152 000	Distribution of Au in panned concentrates plotted with detail of lineation analysis in the Tarbert area
14	143 000	Distribution of As in panned concentrates plotted with detail of lineation analysis in the Tarbert area
15	152 000	Distribution of Sb in panned concentrates plotted with detail of lineation analysis in the Tarbert area
16	152 000	Distribution of Bi in panned concentrates plotted with detail of lineation analysis in the Tarbert area
17	152 000	Distribution of Cu in panned concentrates plotted with detail of lineation analysis in the Tarbert area
18	152 000	Distribution of Pb in panned concentrates plotted with detail of lineation analysis in the Tarbert area
19	152 000	Distribution of Ba in panned concentrates plotted with detail of lineation analysis in the Tarbert area
20	152 000	Distribution of Zn in panned concentrates plotted with detail of lineation analysis in the Tarbert area
21	152 000	Distribution of Au in rock samples plotted with detail of lineation analysis in the Tarbert area

A2.1 Area Au034 Meall Mor

SITE			
Number	Au034		
Location	Meall Mor		
Area	S W Highlands		
SW Corner	18230	67240	
NE Corner	18580	67920	
1:50K	62		
1:10K	NR87ALL		
1"/1:50K Geol	28/29		
6" Geol	Argyll 180NE/SE181NW/191NE		
REPORT			
Company	BGS		
Title	Investigation of stratiform sulphide mineralisation at Meall Mor		
Date	1978		
Author	C G Smith and others		
BGS No	MRP 015		
TEXT			
Geology	General and detailed account of geology & mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	430	Cu Pb Zn Ag	
Overburden	154	Cu	
Rock	N/R	Cu	
Trench			
Stream sediment	101	Cu Pb Zn Ag Co Ni	
Pan concentrate	101	Cu Pb Zn Fe Ni Ba Sb Sn	
Drill core	115	Cu Pb Zn Ag Co Ni	
	80	Cu Pb Zn Ag Co Ni As Ba Fe	
Geophysics	line km		
Magnetic	26		
VLF-EM			
Resistivity	26		
IP	26		
Gravity			
Drilling	No of holes	Max depth	Total depth
	6	50	218
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	Y		
MAP	Scale	Title	
1	250 000	Loch Fyne area, general geology, mineral occurrences and location of present survey	
2	15 555	Meall Mor geology and mineral occurrences	
3	25 000	Chargeability profiles for n=3 traverses	
4	25 000	Resistivity profiles for n=3 traverses	
5	25 000	Total field magnetic traverses	
6	25 000	Chargeability, resistivity and magnetic anomaly trends	
11	57 000	Distribution of Cu in stream sediment samples	

12	57 000	Distribution of Cu in panned concentrate samples
13	57 000	Distribution of Sb in panned concentrate samples
14	57 000	Distribution of Zn in stream sediment samples
15	57 000	Distribution of Co in stream sediment samples
16	57 000	Distribution of Ni in stream sediment samples
17	57 000	Distribution of Zn in panned concentrate samples
18	57 000	Distribution of Ni in panned concentrate samples
19	57 000	Distribution of Fe in panned concentrate samples
20	57 000	Distribution of Sn in panned concentrate samples
21	57 000	Distribution of Pb in stream sediment samples
22	57 000	Distribution of Pb in panned concentrate samples
23	57 000	Distribution of Ba in panned concentrate samples
24	12 500	Cu (ppm) in stream sediment samples, Abhainn Srathain
25	12 500	Cu (ppm) in panned concentrate samples, Abhainn Srathain
26	12 500	Fe (%) in panned concentrate samples, Abhainn Srathain
27	12 500	Ca/Fe x 10^4 in panned concentrate samples, Abhainn Srathain
28	12 500	Sb (ppm) in panned concentrate samples, Abhainn Srathain
29	12 500	Ba (ppm) in panned concentrate samples, Abhainn Srathain
30	7000	Meall Mor: Cu in soils
31	22 000	Variations of Cu along selected soil traverses, Meall Mor
A3.1	2500	Abhainn Srathain: general geology and borehole sites

A2.1 Area Au034 Meall Mor

SITE			
Number	Au034		
Location	Meall Mor		
Area	S W Highlands		
SW Corner	18340	67330	
NE Corner	18380	67450	
1:50K	62		
1:10K	NR87SW		
1"/1:50K Geol	28		
6" Geol	Argyll 191NE		
REPORT			
Company	Amax		
Title			
Date	1977		
Author			
BGS No			
TEXT			
Geology	Geological logs of 3 BH's and site plans		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	3	209	601
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	5000	Project 561 Meall Mor	

A2.1 Area Au035 McPhun's Cairn

SITE			
Number	Au035		
Location	McPhun's Cairn		
Area	S W Highlands		
SW Corner	20880	70290	
NE Corner	20940	70330	
1:50K	56		
1:10K	NN00SE		
1"/1:50K Geol	37		
6" Geol	Argyll 141NW		
REPORT			
Company	BGS		
Title	Investigation of stratiform sulphide mineralisation at McPhun's Cairn		
Date	1977		
Author	C G Smith		
BGS No	MRP 013		
TEXT			
Geology	Details of bedrock, structure and mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	163	Cu Pb Zn Ni	
Overburden			
Rock	6	Cu Pb Zn Ni Ag As	
Trench			
Stream sediment	8	Cu Pb Zn Ni	
Pan concentrate	8	Cu Pb Zn Ni	
Drill core	7	Cu Pb Zn Ni Fe	
Geophysics	line km		
Magnetic	5.6		
VLF-EM			
Resistivity			
IP	5.6		
Gravity			
Drilling	No of holes	Max depth	Total depth
	3	21	58
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	63 360	Location and general geology	
2	3225	Location of geological, geophysical and geochemical surveys in the area of McPhun's Cairn	
3	1056	Geological map of the area around McPhun's Cairn	
4	50	Geological map of the mineralised outcrop	
9	2000	Total magnetic field map	
10	1000	Total magnetic field map showing the detail in the vicinity of the mineralised outcrop	
11	2000	Map of apparent resistivity	
12	2000	Map of chargeability	

13	2000	Map of specific capacity
15	11 000	Ni in stream sediments and panned concentrates
16	11 000	Zn in stream sediments and panned concentrates
17	11 000	Cu in stream sediments and panned concentrates
18	11 000	Pb in stream sediments and panned concentrates
19	2900	Contour map of Zn in soils
20	2900	Contour map of Cu in soils
21	2900	Contour map of Ni in soils
22	2900	Contour map of Pb in soils

A2.1 Area Au036 Central Argyll

SITE			
Number	Au036		
Location	Central Argyll		
Area	S W Highlands		
SW Corner	18000	68500	
NE Corner	24000	73000	
1:50K	55/56/50/49		
1:10K	NR88NW/NE/89/98NW/NE/99 NS08NW/NE/09/19NW/NE/SW NM80SE/90/91SE NN00/01/10/11/21/20NW/NE/SW/21/22/31NW/NE/SW/32		
1"/1:50K Geol	28E/29W36/37W/37E		
6" Geol	Argyll 113SW/2E/114SW/SE123SE/NE/124/125/126/127/131/132/133 /134/135/138NE/SE/139/140/141/142/149/150/151/152/153NW/SW/160/161/162/ 163NW/NE/164NW/NE/170NW/NE/171NW 164NE/ 170NW/NE/ 171NW Perth 77/78/89/90/101/102 Dunbarton N1/N2/N3/N4		
REPORT			
Company	BGS		
Title	Geological drainage survey of central Argyll		
Date	1982		
Author	J S Coats and others		
BGS No	MRP 050		
TEXT			
Geology	General geology and mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	795	Cu Pb Zn Co Ni Ag U Mo	
	57	Cu Pb Zn Co Ni As	
Pan concentrate	672	Cu Pb Zn Ni Ba Sb Fe Sn Ce Ca Mn Ti	
	84	Cu Pb Zn Ba As	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	Y		
MAP	Scale	Title	
1	220 000	Central Argyll-location and geology	
2	263 000	Central Argyll-mineral localities	
3	100 000	Location of stream sediment sites	

4	100 000	Location of panned concentrate sites
5	100 000	Cu in stream sediments
6	100 000	Cu in panned concentrates
7	270 000	Greyscale map of Cu in stream sediments
8	270 000	Greyscale map of Cu in panned concentrates
9	100 000	Pb in stream sediments
10	100 000	Pb in panned concentrates
11	270 000	Greyscale map of Pb in stream sediments
12	270 000	Greyscale map of Pb in panned concentrates
13	100 000	Zn in stream sediments
14	100 000	Zn in panned concentrates
15	270 000	Greyscale map of Zn in stream sediments
16	270 000	Greyscale map of Zn in panned concentrates
17	100 000	Ni in stream sediments
18	100 000	Ni in panned concentrates
19	270 000	Greyscale map of Ni in stream sediments
20	270 000	Greyscale map of Ni in panned concentrates
21	100 000	Ba in panned concentrates
22	270 000	Greyscale map of Ba in panned concentrates
23	270 000	Greyscale map of U in stream sediments
24	270 000	Greyscale map of Mo in stream sediments
25	270 000	Greyscale map of Sb in panned concentrates
26	270 000	Greyscale map of Sn in panned concentrates
27	270 000	Greyscale map of Fe in panned concentrates
28	270 000	Greyscale map of Ce in panned concentrates
29	270 000	Greyscale map of Ca in panned concentrates
30	270 000	Greyscale map of Mn in panned concentrates
31	270 000	Greyscale map of Ti in panned concentrates
32	8500	Anomalies in Upper Glen Fyne
33	13 500	Anomalies at Invercorachan
34	16 666	Anomalies in Lower Glen Fyne
35	16 666	Anomalies near Loch Sloy
36	17 857	Anomalies at Cruach Mhor and Strathlachlan River
37	10 000	Anomalies at Lephinmore
38a	17 857	Anomalies at Lephinchapel
38b	17 857	Anomalies at Evanclachan

A2.1 Area Au040 Kilfinan/Glendaruel

SITE			
Number	Au040		
Location	Kilfinan/Glendaruel		
Area	South West Highlands		
SW Corner	19155	67590	
NE Corner	19435	67970	
1:50K	62		
1:10K	NR97NW		
1"/1:50K Geol	29W		
6" Geol	Argyll 181NW		
REPORT			
Company	M J Boylen		
Title	Geologist's report, Kilfinan area - project 472		
Date	Dec-64		
Author	A B Baldwin		
BGS No			
TEXT			
Geology	General account		
Mineralisation	Summary of existing information		
Geochemistry	Samples	Elements	
Soil	1060+	Cu Pb Zn	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	47	Cu	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
Plate 1	21 120	Otter Estate property; index to 1:1200 sheets and Cu occurrences	
Plate 2	10 560	Geological-geochemical map	
Plate 3	480	DDH sections, Murder Lode occurrence	
Plate 4	480	DDH sections, Drum Farm and Inveryne occurrences	
Sheet 1	1200	Geology map	
sheet 2	1200	Geology map	
Sheet 3	1200	Geology map	
Sheet 4	2500	Geology and geochemistry	

A2.1 Area Au040 Kilfinan/Glendaruel

SITE			
Number	Au040		
Location	Kilfinan/Glendaruel		
Area	South West Highlands		
SW Corner	19150	67550	
NE Corner	20450	69350	
1:50K	55/56/62/63		
1:10K	NR97NW/NE/98/99SW NS07NW/08SW/NW/09SW		
1"/1:50K Geol	29W/29E		
6" Geol	Argyll 161SW/162/171NW/SE/172/181NW/182NW/NE		
REPORT			
Company	Noranda Kerr Ltd		
Title	Application for financial assistance for mineral exploration Project 1671 - Loch Fyne		
Date			
Author			
BGS No	AE 074.1		
TEXT			
Geology	Brief outline of main Dalradian lithologies and structure		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	1500	Cu Pb Zn Ni	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP	18		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63 360	Properties	
2	63 360	Properties and IP lines	
3	10 560	Otter section showing geology and earlier drill holes	
4	10 560	Otter section showing IP lines and geochemical values for Cu in soils	

A2.1 Area Au040 Kilfinan/Glendaruel

SITE			
Number	Au040		
Location	Kilfinan/Glendaruel		
Area	South West Highlands		
SW Corner	19150	67550	
NE Corner	20450	69350	
1:50K	55/56/62/63		
1:10K	NR97NW/NE/98/99SW NS07NW/08SW/NW/09SW		
1"/1:50K Geol	29W/29E		
6" Geol	Argyll 161SW/162/171NW/SE/172/181NW/182NW/NE		
REPORT			
Company	Noranda Kerr Ltd		
Title	Work carried out between 7 Jan and 12 Feb 1972		
Date			
Author	R H Rastall		
BGS No	AE 074.2		
TEXT			
Geology			
Mineralisation	Summary of mineralisation found		
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Sludge	12	Cu Pb Zn	
Drill core	11	Cu Pb	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	4	91	304
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10560	Borehole locations. IP plans and soil geochemistry	
2	500	Borehole sections	

A2.1 Area Au040 Kilfinan/Glendaruel

SITE			
Number	Au040		
Location	Kilfinan/Glendaruel		
Area	South West Highlands		
SW Corner	19150	67550	
NE Corner	20450	69350	
1:50K	55/56/62/63		
1:10K	NR97NW/NE/98/99SW NS07NW/08SW/NW/09SW		
1"/1:50K Geol	29W/29E		
6" Geol	Argyll 161SW/162/171NW/SE/172/181NW/182NW/NE		
REPORT			
Company	Noranda Kerr Ltd		
Title	Application for financial assistance for mineral exploration Project 1671 - Kilfinan/Glendaruel		
Date	Mar-72		
Author	B Scott		
BGS No	AE 074.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	10 560	Glendaruel: geology and IP grid	
2	10 560	Glendaruel: showing Cu distribution in soil	

A2.1 Area Au040 Kilfinan/Glendaruel

SITE			
Number	Au040		
Location	Kilfinan/Glendaruel		
Area	South West Highlands		
SW Corner	19150	67550	
NE Corner	20450	69350	
1:50K	55/56/62/63		
1:10K	NR97NW/NE/98/99SW NS07NW/08SW/NW/09SW		
1"/1:50K Geol	29W/29E		
6" Geol	Argyll 161SW/162/171NW/SE/172/181NW/182NW/NE		
REPORT			
Company	Noranda Kerr Ltd		
Title	Project 1671B: work carried out between 6 April and 31 July 1972		
Date	1972		
Author	R H Rastall		
BGS No	AE 074.4		
TEXT			
Geology			
Mineralisation	Summary of mineralisation found		
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	11	Cu Ni Pb Zn	
Trench			
Stream sediment			
Pan concentrate			
Sludge	33	Cu Ni Pb Zn	
Drill core	10	Cu	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	2		191
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 560	Glendaruel: geology, IP grid and borehole sites	
2	600	Section on line LF13 and borehole K5	
3	600	Section on line LF25and borehole K6	
4	10 560	Glendaruel ultrabasics: prospecting traverses, sample locations and rock geochemistry, Ni Cu Pb Zn	

A2.1 Area Au047 Cairndow

SITE			
Number	Au047		
Location	Cairndow		
Area	SWH		
SW Corner	21300	70500	
NE Corner	22800	71800	
1:50K	56		
1:10K	NN10NW/NE/11NE/SW/20NW/NE/21		
1"/1:50K Geol	45E 46W 37E 38W		
6" Geol	Argyll 113SW/114SW/SE/115/125NE/SW/SE/126/127/133NE/SE/134/135 Dunbarton N1SE/N2NW/SW/N3NE/N4NW/SW Perth 101		
REPORT			
Company	Cluff Mineral Exploration Ltd		
Title	Survey pf Cairndow Estate 1981, report No 2		
Date	09-Feb-82		
Author	RGT Parker		
BGS No	AE		
TEXT			
Geology	Brief description of Dalradian lithology, structure and metamorphism, faulting and Caledonian pluton		
Mineralisation	Within Dalradian and intrusive complexes		
Geochemistry	Samples	Elements	
Soil	49	Au Co Mo	
Overburden			
Rock	69	Mo Cu Pb Zn Ag Ni Co Mn Fe As U Th Cd Sb Bi Au	
Trench			
Stream sediment	308	Mo Cu Pb Zn Ag Ni Co Mn Fe As U Th Cd Sb Bi Au V Ca P La In Mg Ba Ti B Al W	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	625 000	Location of Glen Fyne area	
2	250 000	land ownership Glen Fyne area	
4	100 000	Structural setting of Glen Fyne area	
S22/1-1A	25 000	Stream sediments sample locations	
S22/1-2A	25 000	Stream sediments Mo Cu	

S22/1-3A	25 000	Stream sediments Pb Zn
S22/1-4A	25 000	Stream sediments Ag As
S22/1-5A	25 000	Stream sediments Au
S22/1-7A	25 000	Soil geochemistry Mo Cu
S22/1-10	25 000	Soil geochemistry Au
S22/1-11	25 000	Soil horizons
S22/2-0	10 000	Hydro tunnel No 1, geology
S22/2-1	10 000	Hydro tunnel No 1, rock sample locations
S22/2-2	10 000	Hydro tunnel No 1, Au analyses
S22/2-3	10 000	Hydro tunnel No 1, As analyses
S22/2-4	10 000	Hydro tunnel No 1, Mo analyses
S22/3-0	10 000	Garabal area, geology
S22/3-1A	10 000	Garabal mineralisation and anomalies

A2.1 Area Au047 Cairndow

SITE																									
Number	Au047																								
Location	Cairndow																								
Area	SWH																								
SW Corner	22165	71130																							
NE Corner	22930	71800																							
1:50K	56																								
1:10K	NN21																								
1"/1:50K Geol	45E 46W 37E 38W																								
6" Geol	Argyll 114SW/SE/115/126/134NW/SW																								
	Dunbarton N1SE/N2NW/SW/N3NE/N4NW/SW																								
	Perth 101																								
REPORT																									
Company	Fynegold Exploration Ltd																								
Title	Exploration on Cairndow Estate 1982-83																								
Date	Feb-84																								
Author	RGT Parker																								
BGS No	AE223.2																								
TEXT																									
Geology	Section on Dalradian, Garabal-Glen Fyne intrusion, faults and photo-lineaments																								
Mineralisation	Summary																								
Geochemistry	Samples	Elements																							
		Au Ag As Mo Cu Pb Zn Ni Co Mn Fe U Th Sr Cd Sb Bi V Ca P La																							
Soil	1289	Cr Mg Ba Ti B Al Na K W Sn																							
Overburden																									
		Au Ag As Mo Cu Pb Zn Ni Co Mn Fe U Th Sr Cd Sb Bi V Ca P La																							
Rock	68	Cr Mg Ba Ti B Al Na K W																							
Trench																									
Stream sediment																									
Pan concentrate																									
Drill core																									
Geophysics	line km																								
Magnetic																									
VLF-EM																									
Resistivity																									
IP																									
Gravity																									
Drilling	No of holes	Max depth	Total depth																						
Trenching	No of pits	Max depth	Total length																						
DIGITAL DATA	N																								
MAP	Scale	Title																							
CW 1	10 000	Geology																							
CW 2	10 000	Soil geochemistry-sample locations																							
CW 3	10 000	Soil geochemistry Mo																							
CW 4	10 000	Soil geochemistry Au																							
CW 5	10 000	Soil geochemistry Pb Zn Ba																							
CW 6	10 000	Soil geochemistry As Ag																							

CW 7	10 000	Rock samples-locations
CW 8	10 000	Rock samples Mo Ag Au
Fig 1	500 000	Location
Fig 2	250 000	Cairndow Estate area

A2.2 EXPLORATION ACTIVITY IN THE TYNDRUM–DALMALLY AREA

Project areas	
Area Reference	**Area Name**
Au048	Dalmally
Au049	Cononish
Au051	Auchtertyre

A2.2 Area Au048 Dalmally

SITE			
Number	Au048		
Location	Dalmally		
Area	Tyndrum		
SW Corner	21800	72890	
NE Corner	21905	72995	
1:50K	50		
1:10K	NN12NE		
1"/1:50K Geol	45E		
6" Geol	Argyll 102NW		
REPORT			
Company	Esso Minerals Exploration UK Ltd		
Title	Dalmally area: final report (including drilling of Allt Donachain)		
Date	Jun-86		
Author			
BGS No	MR39.14		
TEXT			
Geology	Brief description		
Mineralisation	Brief description		
Geochemistry	Samples	Elements	
Soil			
Overburden	Y		
Rock			
Trench			
Stream sediment	Y		
Pan concentrate			
Drill core	103	Cu Pb Zn Mn Fe Co Ni Ca Ag Ba As Bi Au	
Geophysics	line km		
Magnetic	Y		
VLF-EM	Y		
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	2	201	389
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	1 500 000	Dalradian SMS regional geology	
2	25 000	Dighem - areas of interest	
3	10 000	Location of survey grid and celsian occurrences	
4	20 000	Allt Donachan prospect: geology, geochemistry and geophysical anomalies, and borehole sites	
5	2 000	Allt Donachan prospect:	
6	14 286	Location of survey grid and boreholes	

A2.2 Area Au048 Dalmally

SITE			
Number	Au048		
Location	Dalmally		
Area	Tyndrum		
SW Corner	21850	72946	
NE Corner	21865	72954	
1:50K	50		
1:10K	NN12NE		
1"/1:50K Geol	45E		
6" Geol	Argyll 102NW		
REPORT			
Company			
Title			
Date			
Author			
BGS No	MR39.15 39.16		
TEXT			
Geology	Borehole graphic logs with assays		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	103	Cu Pb Zn Mn Fe Co Ni Ca Ag Ba As Bi Au	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	2	201	389
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	

A2.2 Area Au049 Cononish

SITE		
Number	Au049	
Location	Cononish	
Area	Tyndrum	
SW Corner	22570	72500
NE Corner	23380	73250
1:50K	50	
1:10K	NN22NE/32NW/23SE/33SW	
1"/1:50K Geol	46W	
6" Geol	Argyll 90NE/SE/91/102NW/103	
	Perth 77/89NW/NE	
REPORT		
Company	BGS	
Title	Geological report on Ennex's Cononish prospect, Tyndrum at 31/08/87	
Date	Sep-87	
Author	Gallagher, M J	
BGS No	MR014	
TEXT		
Geology	Progress report covering recent exploration, geology, mineralogy, alteration, structure and genesis. Includes page of Ennex's report to shareholders	
Mineralogy		
Geochemistry	Samples	Elements
Soil		
Overburden		
Rock		
Trench		
Stream sediment		
Pan concentrate		
Drill core		
Geophysics	line km	
Magnetic		
VLF-EM		
Resistivity		
IP		
Gravity		
Drilling	No of holes	Max depth Total depth
Trenching	No of pits	Max depth Total length
DIGITAL DATA	N	
MAP	Scale	Title
CF 38	25 000	Location and general geology

A2.2 Area Au049 Cononish

SITE			
Number	Au049		
Location	Cononish		
Area	Tyndrum		
SW Corner	22570	72500	
NE Corner	23380	73250	
1:50K	50		
1:10K	NN22NE/32NW/23SE/33SW		
1"/1:50K Geol	46W		
6" Geol	Argyll 90NE/SE/91/102NW/103		
	Perth 77/89NW/NE		
REPORT			
Company	BGS		
Title	Review of Ennex's Cononish gold prospect		
Date	Sep-87		
Author	Gallagher, M J		
BGS No	MR015		
TEXT			
Geology	Exploration progress report		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	12		1.5 km
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	

A2.2 Area Au049 Cononish

SITE			
Number	Au049		
Location	Cononish		
Area	Tyndrum		
SW Corner	22570	72500	
NE Corner	23380	73250	
1:50K	50		
1:10K	NN22NE/32NW/23SE/33SW		
1"/1:50K Geol	46W		
6" Geol	Argyll 90NE/SE/91/102NW/103		
	Perth 77/89NW/NE		
REPORT			
Company	BGS		
Title	Further review of Ennex's gold prospect		
Date			
Author			
BGS No	MR016		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	8		1 km
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	

A2.2 Area Au049 Cononish

SITE			
Number	Au049		
Location	Cononish		
Area	Tyndrum		
SW Corner	228605	727890	
NE Corner	229057	728247	
1:50K	50		
1:10K	NN22NE		
1"/1:50K Geol	46W		
6" Geol	Perth 77SW/89NW		
REPORT			
Company	Ennex International		
Title	Cononish-Beinn Udlaidh drill cores		
Date	27-Sep-91		
Author			
BGS No	MR53.1		
TEXT			
Geology	Graphic drill logs for BH88-26 and BH90-17		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	17	Cu Pb Zn Au Ag	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	2	348.1	407.8
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	2 500	Bore site map	

A2.2 Area Au049 Cononish

SITE			
Number	Au049		
Location	Cononish		
Area	Tyndrum		
SW Corner	228060	732912	
NE Corner	228060	732912	
1:50K	50		
1:10K	NN23SE		
1"/1:50K Geol	46W		
6" Geol	Argyll 91SW		
REPORT			
Company	Ennex International		
Title	Cononish-Beinn Udlaidh drill cores		
Date	27-Sep-91		
Author			
BGS No	MR53.2		
TEXT			
Geology	Graphic logs for BH 60-88-10		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	44	Cu Pb Zn Au Ag	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	1	360.85	
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	?	Bore site map	

A2.2 Area Au051 Auchtertyre

SITE			
Number	Au051		
Location	Auchtertyre		
Area	Tyndrum		
SW Corner	23330	72860	
NE Corner	24150	73380	
1:50K	50		
1:10K	NN32NW/NE/33SW/SE/43SW		
1"/1:50K Geol	46W		
6" Geol	Perth 66SW/SE/77NW/SW/78NW/NE/SW		
REPORT			
Company	BGS		
Title	Stratabound base-metal mineralisation in Dalradian rocks near Tyndrum		
Date	1988		
Author	Smith, C G et al		
BGS No	MRP93.0		
TEXT			
Geology	Summary		
Mineralisation	Summary		
Geochemistry	Samples	Elements	
Soil	600		
Overburden	165		
Rock			
Water	45	Cu Zn	
Stream sediment	134		
Pan concentrate	124		
Drill core			
Geophysics	line km		
Magnetic	3.8		
VLF-EM	3.8		
Resistivity	3.8		
IP	3.8		
SP	3.8		
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	1 500 000	Location of Tyndrum in the Dalradian belt of Scotland	
2	50 000	Stratabound mineralisation in the Dalradian of the Tyndrum-Ben Challum area	
3	23 077	Geology and mineralisation: results of geophysical and geochemical surveys	

A2.2 Area Au051 Auchtertyre

SITE			
Number	Au051		
Location	Auchtertyre		
Area	Tyndrum		
SW Corner	23330	72860	
NE Corner	24150	73380	
1:50K	50		
1:10K	NN32NW/NE/33SW/SE/43SW		
1"/1:50K Geol	46W		
6" Geol	Perth 66SW/SE/77NW/SW/78NW/NE/SW		
REPORT			
Company	BGS		
Title	Stratabound base-metal mineralisation in Dalradian rocks near Tyndrum		
Date	1988		
Author	Smith, C G et al		
BGS No	MRP93.1		
TEXT			
Geology	Geology of the mineralised zones		
Mineralogy	Petrology and mineralogy of Dalradian rocks		
Geochemistry	Samples	Elements	
Soil	653	Cu Zn	
Overburden	190	Ce Ba Sb Sn Pb Zn Cu Ca Ni Fe Mn Ti As Bi	
Panned overburden	75	Ce Ba Sb Sn Pb Zn Cu Ca Ni Fe Mn Ti	
Rock	84	Cu Pb Zn Ag Ba AS	
Channel	38	Ca Ti Mn Fe Ni Cu Zn As Ag Sb Ba Pb Bi U	
Water	45	Cu Pb Zn Mn Fe Co Ni	
Seepage	45	Cu Pb Zn Mn Fe Co Ni	
Stream sediment	165	Cu Pb Zn Al B Ba Cr Ni Co K Rb Li Si Sr Mg Ca Ga La Mn Fe Ti Bi Zr	
Pan concentrate	155	Cu Pb Zn Al B Ba Cr Ni Co K Rb Li Si Sr Mg Ca Ga La Mn Fe Ti Bi Zr	
Drill core	160	Ca Ti V Cr Mn Fe Ni Cu Zn Pb Sb Ba As	
Geophysics	line km		
Magnetic	24.7		
VLF-EM	24.7		
Resistivity	20		
IP	20		
SP	Y		
Drilling	No of holes	Max depth	Total depth
	4	126.2	366.9
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	1 428 000	Distribution of mineralisation in the Dalradian rocks of Scotland	
2	250 000	Location map and general geology	
3	10 000	Geology of the Auchertyre-Ben Challum district, east of Tyndrum	
4	18 200	Chargeability in milliseconds at n=2	
5	18 200	Apparent resistivity at n=2	

6	18 200	VLF-EM and magnetic anomalies
7	18 200	Summary of geophysical anomalies
8	22 640	Geology, geophysical interpretation, Cu in stream sediments and Zn anomalies in overburden
9	43 478	Cluster analyses of 31 regional stream sediments
10		Cu in stream sediments
11		Cu in pan concentrates
12		Zn in stream sediments
13		Zn in pan concentrates
14		Pb in stream sediments
15		Pb in pan concentrates
16	22 730	Water and iron seepage geochemistry
17	22 730	Interpretation of overburden geochemistry
19	1 149	Distribution of Zn and Cu in channel samples across the Auchertyre sulphide horizon

A2.3 EXPLORATION ACTIVITY IN THE SOUTH LOCH TAY AREA

Project areas	
Area Reference	**Area Name**
Au001	Invergeldie
Au002	Milton Burn, Comrie
Au002 - 006	Loch Tay (including Calliachar Burn, Glen Almond and Comrie)
Au003	Auchnafrae, Glen Almond
Au004	Calliachar Burn
Au005	Tombuie
Au006	W. Glen Turrett
Au007	Fortingal
Au008	Corrie Buie / Ardeonaig
Au009	Tomnadashan / Wester Tullich
Au010	Acharn / Remony
Au011	Garrow
Au030	Comrie

A2.3 Area Au001 Invergeldie

SITE		
Number	Au001	
Location	Invergeldie	
Area	S Loch Tay	
SW Corner	26900	72700
NE Corner	27400	73200
1:50K	51	
1:10K	NN72NW /73SW/62NE/63SE	
1"/1:50K Geol	47W	
6" Geol	Perth 81NE/81SE/82SW	
REPORT		
Company	Riofinex North Ltd	
Title	Interim and pre-drilling report - for the Crown	
Date	Jun-83	
Author		
BGS No	MR52.1	
TEXT		
Geology	Sulphide mineralisation and geology of epidiorites: stratiform As-Au vein mineralisation	
Mineralogy	Description of 5 PTS	
Geochemistry	Samples	Elements
Soil	511	Cu Pb Zn V Cr Th Ag As Sb Mn Al Fe Ni Co Mg B Ba Na Ca K Mg Ti
Overburden		
Rock	83	Cu Pb Zn As Au Ni Co
Trench		
Stream sediment		
Pan concentrate		
Drill core		
Geophysics	line km	
Magnetic	11	
VLF-EM		
Resistivity	Not recorded	
IP	Not recorded	
Gravity		
Drilling	No of holes	Max depth Total depth
Trenching	No of pits	Max depth Total length
DIGITAL DATA	N	
MAP	Scale	Title
1	63 360	Geology and location - Invergeldie near Comrie
2	10 000	Geology and mineralisation
3	2500	East Bovaine-Creag Lochdair, rock sample number, location
4	2500	Geology of East Bovaine-Creag Lochdair with positions of proposed boreholes
5	2500	East Bovaine-Creag Lochdair, soil geochemistry - arsenic
6	2500	Magnetic survey
7	2500	Soil traverses and sites

A2.3 Area Au001 Invergeldie

SITE																							
Number	Au001																						
Location	Invergeldie																						
Area	S Loch Tay																						
SW Corner	27310	72863																					
NE Corner	27340	72954																					
1:50K	51																						
1:10K	NN72NW																						
1"/1:50K Geol	47W																						
6" Geol	Perth 72NW																						
REPORT																							
Company	Riofinex North Ltd																						
Title	Invergeldie diamond drilling report CM4-7 for the Crown																						
Date	Feb-84																						
Author	R E Hazelton																						
BGS No	MR 52.2																						
TEXT																							
Geology	Summary of drill core geology: summary & detailed drill & graphic logs																						
Mineralogy																							
Geochemistry	Samples	Elements																					
Soil																							
Overburden																							
Rock																							
Trench																							
Stream sediment																							
Pan concentrate																							
Drill core-grooved	83/86	Cu Pb Zn V Cr Th Ag As Sb Mn Al Fe Ni Co Mg B Ba Na Ca K Mg Ti																					
Drill core - split	10	Cu Pb Zn Ag As Ni Co																					
Geophysics	line km																						
Magnetic																							
VLF-EM																							
Resistivity																							
IP																							
Gravity																							
Drilling	No of holes	Max depth	Total depth																				
	7	64.2 m	240.8 m																				
Trenching	No of pits	Max depth	Total length																				
DIGITAL DATA	N																						
MAP	Scale	Title																					
1	10 000	Drill sites CM4-7																					
2	500	CM4 &CM5 section																					
3	1000	CM4 section																					
4	1000	CM5 section																					
5	1000	CM6 section																					
6	1000	CM7 section																					
7	2500	Geology and drill sites																					

A2.3 Area Au001 Invergeldie

SITE			
Number	Au001		
Location	Invergeldie		
Area	S Loch Tay		
SW Corner	27310	72863	
NE Corner	27340	72954	
1:50K	51		
1:10K	NN72NW		
1"/1:50K Geol	47W		
6" Geol	Perth 72NW		
REPORT			
Company	Riofinex North Ltd		
Title	Geophysical survey near Loch Lednock, Invergeldie estate, Comrie		
Date	Feb-84		
Author	C A Cumpsley		
BGS No	MR 52.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	6.9		
VLF-EM	6.9		
Resistivity	7.4		
IP	7.4		
Mise-a-la-masse	Y		
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	2500	Chargeability contour plan	
2	2500	Resistivity contour plan	
3	500	Detailed IP results	
In text	50 000	Location map	
In text	1000	Bullseye pattern of voltage indicating poor conductivity	

A2.3 Area Au002 Milton Burn, Comrie

SITE			
Number	Au002		
Location	Milton Burn, Comrie		
Area	S Loch Tay		
SW Corner	27700	72320	
NE Corner	27950	72700	
1:50K	52		
1:10K	NN72NE/SE		
1"/1:50K Geol	47W		
6" Geol	Perth82NE/SE/94NE/SE		
REPORT			
Company	Rio Tinto Finance and Exploration Ltd		
Title	Exploration Project (Phase 1)		
Date	1981		
Author	?		
BGS No	AE 226.1		
TEXT			
Geology	Brief description of geology and mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP	8.4		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	63360	Location map with outline geology	
2	10 000	Lands of Fordie and Balmuick showing proposed drill sites	
3	10 000	Milton Burn: rock sampling sites and geology	
4	10 000	Comrie chargeability	

A2.3 Area Au002 Milton Burn, Comrie

SITE			
Number	Au002		
Location	Milton Burn, Comrie		
Area	S Loch Tay		
SW Corner	27700	72320	
NE Corner	27950	72700	
1:50K	52		
1:10K	NN72NE/SE		
1"/1:50K Geol	47W		
6" Geol	Perth82NE/SE/94NE/SE		
REPORT			
Company	Rio Tinto Finance and Exploration Ltd		
	Drilling report, CBH 1 & 2, Comrie, Perthshire		
Date	1982		
Author	R E Hazelton		
BGS No	AE 226.2		
TEXT			
Geology	Geological setting, with summary and detailed drill logs		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	133	Cu Mo As Au	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	2	150.7 m	299.8 m
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	10 000	Location map CBH1 & 2	
2	500	Drill section CBH 1	
3	500	Drill section CBH 2	
4	10 000	IP survey, contour plan of chargeability	
5	10 000	IP survey, contour plan of resistivity	

A2.3 Area Au002 Milton Burn, Comrie

SITE			
Number	Au002		
Location	Milton Burn, Comrie		
Area	S Loch Tay		
SW Corner	27700	72320	
NE Corner	27950	72700	
1:50K	52		
1:10K	NN72NE/SE		
1"/1:50K Geol	47W		
6" Geol	Perth82NE/SE/94NE/SE		
REPORT			
Company	Rio Tinto Finance and Exploration Ltd		
Title	Exploration Project (Phase 2)		
Date	1982		
Author	?		
BGS No	AE 226.3		
TEXT			
Geology	Outline geology		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	96	Cu Pb Zn Mo As Ag Au	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	10 000	Fordie Lodge Estate with site of proposed drill hole	
2	10 000	Milton Burn, rock sample sites and geology	

A2.3 Area Au002 Milton Burn, Comrie

SITE		
Number	Au002	
Location	Milton Burn, Comrie	
Area	S Loch Tay	
SW Corner	27700	72320
NE Corner	27950	72700
1:50K	52	
1:10K	NN72NE/SE	
1"/1:50K Geol	47W	
6" Geol	Perth82NE/SE/94NE/SE	
REPORT		
Company	Rio Tinto Finance and Exploration Ltd	
Title	Drilling programme on Fordie Lodge Estate, Comrie, Perthshire	
Date	Sep-82	
Author	R E Hazelton	
BGS No	AE 226.4	
TEXT		
Geology	Brief account of geology, mineralisation and alteration	
Mineralogy		
Geochemistry	Samples	Elements
Soil		
Overburden		
Rock		
Trench		
Stream sediment		
Pan concentrate		
Drill core grooved	27	Cu Mo As Ag Au
Drill core split	11	Cu Pb Zn Mo As Ag Au
Geophysics	line km	
Magnetic		
VLF-EM		
Resistivity		
IP		
Gravity		
Drilling	No of holes	Max depth Total depth
Trenching	No of pits	Max depth Total length
DIGITAL DATA	N	
MAP	Scale	Title
1	10 000	Milton Burn rock sample sites
2	10 000	CM 3 Drill site location
3	500	CM 3 Drill hole section

A2.3 Area Au002 Milton Burn, Comrie

SITE		
Number	Au002	
Location	Milton Burn, Comrie	
Area	S Loch Tay	
SW Corner	27700	72500
NE Corner	27700	72500
1:50K	52	
1:10K	NN72NE	
1"/1:50K Geol	47W	
6" Geol	Perth82NE/SE	
REPORT		
Company	Terraconsult (for Colby Resource Corporation)	
Title	The Loch Tay Project: gold potential & results & work programme for 3 years	
Date	Jun-89	
Author	R Steiger	
BGS No	MR 47.2	
TEXT		
Geology	Brief description of Comrie intrusive complex and mineralisation	
Mineralogy		
Geochemistry	Samples	Elements
Soil		
Overburden		
Rock		
Trench		
Stream sediment		
Pan concentrate		
Drill core		
Geophysics	line km	
Magnetic		
VLF-EM		
Resistivity		
IP		
Gravity		
Drilling	No of holes	Max depth Total depth
Trenching	No of pits	Max depth Total length
DIGITAL DATA		
MAP	Scale	Title
1	400 000	Location map
2*	400 000	Regional drainage geochemistry
3*	100 000	Project summary map
4*	100 000	Areas for follow up
5*	25 000	The Comrie intrusive complex
* not with report		

A2.3 Area Au002 Milton Burn, Comrie

SITE			
Number	Au002		
Location	Milton Burn, Comrie		
Area	S Loch Tay		
SW Corner	27600	72300	
NE Corner	28000	72600	
1:50K	52		
1:10K	NN72NE		
1"/1:50K Geol	47W		
6" Geol	Perth82NE/SE		
REPORT			
Company	Terraconsult (for Colby Resource Corporation)		
Title	The Loch Tay Project: Crabbie Estate progress report		
Date	Jan-86		
Author	P R duller & M G Hills		
BGS No	MR 44.1.2		
TEXT			
Geology	General and economic: Milton Burn alteration zone		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden	129	Au Cu Pb Zn	
Rock	8	Au Cu Hg Ba	
Trench	3	Au Cu Hg Ba	
Stream sediment	9		
Pan concentrate	15	Au Sb	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	3	1	
Trenching	No of pits	Max depth	Total length
	13		
DIGITAL DATA	N		
MAP	Scale	Title	
Text Fig 1	7000	Comrie geological map	
Text Fig 2	50	Milton Burn Au prospect	
0	50 000	Loch Tay project location map	
6	10 000	Geochemical drainage survey, colours in pan concentrate	
7	5000	Survey grid, geochemical samples, trenches and pits	

A2.3 Area Au002-006 Loch Tay Project area

SITE			
Number	Au002-006		
Location	Loch Tay Project area		
Area	S Loch Tay		
SW Corner	36600	72300	
NE Corner	28400	74500	
1:50K	52		
1:10K	NN72NE/SE/63NE/SE/73/83NW/SW		
1"/1:50K Geol	47W		
6" Geol	Perth 58SW/59SW/SE/60SW/69/70/71/NW/SW/81SE/82/83NW		
REPORT			
Company	Middleton Exploration Services		
Title	A provisional geochemical atlas of the Colby Resources Property, Perthshire		
Date	Jan-86		
Author	P R Duller		
BGS No	MR 44.1.6		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
Location map		Loch Tay Project Area	
Location map		South Loch Tay	
Location map		Remony Estate	
Location map		Auchnafree Estate	
Geochemical map	50 000	Loch Tay Project area Au, colours, Ag As Co Cr Hf Ni Sc Th U Zn La W Sb Na Mo Ca Lu Ta Se Fe Ba	
Geochemical map	10 000	South Loch Tay Project area Au, colours, Ag As Co Cr Hf Ni Sc Th U Zn La W Sb Na Mo Ca	
Geochemical map	10 000	Remony Estate Au, colours, Ag As Co Cr Hf Ni Sc Th U Zn La W Sb Na Mo Ca	
Geochemical map	10 000	Glenalmond Au, colours, Ag As Co Cr Hf Ni Sc Th U Zn La Na Mo	

A2.3 Area Au002-006 Loch Tay Project area

SITE			
Number	Au002-006		
Location	Loch Tay including Calliacher Burn, Glen Almond and Comrie		
Area	S Loch Tay		
SW Corner	26150	72320	
NE Corner	29180	74880	
1:50K	51/52		
1:10K	NN62/ 63/72/73/74SW/SE/82NW/NE/83/84/ 93NW/94SW		
1"/1:50K Geol	55E/W/47E/W		
6" Geol	Perth48SE/49SW/SE/58SE/59/60/61NW/SW/68NE/SE/70/71/72NW/ 80NW/SW/81/82/83/92NE/SE/93/94		
REPORT			
Company	Terraconsult AG (Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	159	Au Ag As Cu Pb Zn	
Overburden	809	Au Ag As Cu Pb Zn	
Rock	976	Au Ag As Cu Pb Zn	
Channel	131	Au Ag As Cu Pb Zn	
Trench	114	Au Ag As Cu Pb Zn	
Stream sediment*	30	Au	
Pan concentrate*	30	Au	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Terrain conductivity	Y		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
	58		1282.6 m
DIGITAL DATA			
MAP	Scale	Title	
1	400 000	Location map	
2	100 000	Summary of results to date	
3	100 000	Summary of areas prospected & main targets for future work	
4*	7150	Results (summary)	
5*	7150	1989 programme	

6	25 000	The Comrie Intrusive complex
1.1	50 000	Highlights of the 1988 prospecting, panning, power augering and trenching
1.2	50 000	1988 prospecting and panning, summary of anomalous results
1.3	50 000	BGS geology and geochemistry
1.4	50 000	Colby geochemistry 1985-1987
1.5	50 000	1989 areas of interest/work proposals
2.1	50 000	1988 prospecting results: sheet NN74NE + NN84NW (N Bolfracks)
2.2 [1]	50 000	1988 prospecting results: sheet NN74SE + NN84SW (S Bolfracks)
2.3 [1]	50 000	1988 prospecting results: sheet NN73NE + NN83NW (Garrow)
2.4 [1]	50 000	1988 prospecting results: sheet NN73SE + NN83SW (Auchnafree)
2.5 [1]	50 000	1988 prospecting results: sheet NN72NE + NN82NW (Glen Turret)
2.6 [1]	50 000	1988 prospecting results: sheet NN63SE + NN73SW (Claggan/Taylor)
2.7 [1]	50 000	1988 prospecting results: sheet NN63NE + NN73NW (W Tullich)
3.1A [1]	2500	Calliacher prospect 1988 trench locations and soil geochemistry/ pans, 1987 compilations of Urlar work included
3.1B [1]	2500	Calliacher prospect 1988 trench locations and soil geochemistry/ pans, 1987 compilations of Urlar work included
3.2 [1]	1250	trench results 1988
3.3 [1]	100	Geological plan of strike trench T56 along Calliacher vein

* reassessment of BGS Regional data
[1] not in report

A2.3 Area Au002-006 Loch Tay Project area

SITE			
Number	Au002-006		
Location	Loch Tay including Calliacher Burn, Glen Almond and Comrie		
Area	S Loch Tay		
SW Corner	26150	72320	
NE Corner	29180	74880	
1:50K	51/52		
1:10K	NN62/ 63/72/ 73/74SW/SE/82NW/NE/83/ 84/ 93NW/94SW		
1"/1:50K Geol	55E/W 47E/W		
6" Geol	Perth48SE/49SW/SE/58SE/59/60/61NW/SW/68NE/SE/70/71/72NW/ 80NW/SW/81/82/83/92NE/SE/93/94		
REPORT			
Company	Terraconsult AG (Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
MR 47.14	50 000	Location map	

A2.3 Area Au002-006 Loch Tay Project area

SITE			
Number	Au002-006		
Location	Loch Tay Project area		
Area	S Loch Tay		
SW Corner	26150	72320	
NE Corner	29180	74880	
1:50K	51/52		
1:10K	NN62/ 63/72/73/74SW/SE/82NW/NE/83/84/ 93NW/94SW		
1"/1:50K Geol	55E/W/47E/W		
6" Geol	Perth48SE/49SW/SE/58SE/59/60/61NW/SW/68NE/SE/70/71/72NW/ 80NW/SW/81/82/83/92NE/SE/93/94		
REPORT			
Company	ACA Howe International Ltd		
Title	Introduction to Colby Gold plc Loch Tay gold project		
Date	Mar-94		
Author	J G Langlands		
BGS No			
TEXT	Promotional report including summary of exploration to date & targets for further study		
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	625 000	Dalradian hosted & late Caledonian vein gold deposits & current gold prospecting licences in the Scottish & Irish Caledonides	
2	50 000	Loch Tay gold project. Index map & geochemically anomalous catchments to be prospected. Areas 1 to XVII of Crown Licences CL51-03	

A2.3 Area Au002/003/008/009/0010 Loch Tay Project area

SITE		
Number	Au002/003/008/009/010	
Location	Loch Tay Project area	
Area	S Loch Tay	
SW Corner	36600	72300
NE Corner	28400	74500
1:50K	52	
1:10K	NN72NE/SE 63NE/SE/73/83NW/SW	
1"/1:50K Geol	47W	
6" Geol	Perth 58SE/59SW/SE/69/70/71NW/SW/81NW/NE/82SW/SE/83NW	
REPORT		
Company	Middleton Exploration Services	
Title	Loch Tay Project 1985 Geochemical database and summary statistics	
Date	Jan-85	
Author	P R Duller	
BGS No	MR 44.1.7	
TEXT		
Geology		
Mineralogy		
Geochemistry	Samples	Elements
Soil	632	Au Ag As Cu Pb Zn
Overburden		
Rock	155	Si Al Ti Fe Mg Ca Na K Mn P As Ag Au Ba Bi Cd Cu Hg Mo Pb Sb Se Te Zn
Trench		
Stream sediment	89	As Ag Au Ba Ca Co Cr Fe Hf Mo Na Ni Sb Sc Se Ta Th U W Zn La Lu
Pan concentrate	343	As Ag Au Ba Ca Co Cr Fe Hf Mo Na Ni Sb Sc Se Ta Th U W Zn La Lu
Drill core		
Geophysics	line km	
Magnetic		
VLF-EM		
Resistivity		
IP		
Gravity		
Drilling	No of holes	Max depth Total depth
Trenching	No of pits	Max depth Total length
DIGITAL DATA		
MAP	Scale	Title

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27300	74000	
NE Corner	28400	73800	
1:50K	52		
1:10K	NN73/83NW/SW		
1"/1:50K Geol	47W		
6" Geol	Perth 59SW/SE/60SW/69NE/SE/70/71NW/SW/81NE/82NW/NE/83NW		
REPORT			
Company	Robert S Middleton Exploration Inc		
Title	Loch Tay Project, Scotland: Auchnafree Estate progress report		
Date	Jan-85		
Author	P R Duller & M G Hills		
BGS No	MR 44.1.1		
TEXT			
Geology	General & economic: 1:10k & 1:200 mapping		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	458	Au As Cu Pb Zn	
Overburden			
Rock	50	AU Ag As Hg Cu Pb Zn Sb Mo	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM	Y		
Resistivity			
IP	Y		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
0	50 000	Loch Tay Project, location map	
3	10 000	Geochemical drainage survey, Auchnafrae	
4	5000	Survey grid, Auchnafrae	
5	10 000	Geology of Glen Almond	
8	5000	Geochemical soil results, Dalriech, Auchnafrae	
4A	5000	Geochemical soil grid, Dalriech, Auchnafrae	
9	13 500	Acharn-Glen Turret traverse	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27500	73200	
NE Corner	27700	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	Middleton Exploration Services		
Title	Induced polarisation and resistivity survey of Dalriech-Dundornie zones (Auchnafrae Estate)		
Date	Dec-85		
Author	R S Middleton		
BGS No	MR 44.2		
TEXT			
Geology	Regional		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity	18.4		
IP	18.4		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1*	10 000	Grid location map	
2	10 000	Anomaly location map	
3	5000	Anomaly location map	

* Not with report

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27500	73200	
NE Corner	27900	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	Middleton Exploration Services		
Title	Appendium report, induced polarisation-resistivity and magnetic survey of Dalriech-Dundornie zones (Auchnafrae Estate)		
Date	May-86		
Author	R S Middleton		
BGS No	MR 44.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	22.7		
VLF-EM			
Resistivity	29.2		
IP	29.2		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	10 000	Anomaly location map	
2	5000	Anomaly location map	
3	5000	Chargeability plan map	
4	5000	Resistivity plan map	
5	5000	Magnetometer map	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	276591	732733	
NE Corner	278478	733553	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	R S Middleton Exploration Inc		
Title	Auchnafrae Borehole logs		
Date	Aug-86		
Author	M G Hills		
BGS No	MR 44.4		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	253	Au	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	7	192 m	854 m
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	5000	Survey grid, Auchnafrae with bore sites	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27618	73196	
NE Corner	27860	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	R S Middleton Exploration Services for Colby Mining Corporation		
Title			
Date	Dec-85		
Author	M G Hills		
BGS No	MR 44.5.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
	5000	Geochemical soil survey grid, Auchnafrae	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27618	73196	
NE Corner	27860	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	R S Middleton Exploration Services for Colby Mining Corporation		
Title			
Date	Dec-85		
Author	M G Hills		
BGS No	MR 44.5.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
	5000	Geochemical soil survey, Auchnafrae, Au	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27618	73196	
NE Corner	27860	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	R S Middleton Exploration Services for Colby Mining Corporation		
Title			
Date	Dec-85		
Author	M G Hills		
BGS No	MR 44.5.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
	5000	Geochemical soil survey, Auchnafrae, As	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27618	73196	
NE Corner	27860	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	R S Middleton Exploration Services for Colby Mining Corporation		
Title			
Date	Dec-85		
Author	M G Hills		
BGS No	MR 44.5.4		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
	5000	Geochemical soil survey, Auchnafrae, Cu	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27618	73196	
NE Corner	27860	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	R S Middleton Exploration Services for Colby Mining Corporation		
Title			
Date	Dec-85		
Author	M G Hills		
BGS No	MR 44.5.5		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
	5000	Geochemical soil survey, Auchnafrae, Pb	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner	27618	73196	
NE Corner	27860	73400	
1:50K	52		
1:10K	NN73SE		
1"/1:50K Geol	47W		
6" Geol	Perth 70SW/SE		
REPORT			
Company	R S Middleton Exploration Services for Colby Mining Corporation		
Title			
Date	Dec-85		
Author	M G Hills		
BGS No	MR 44.5.6		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
	5000	Geochemical soil survey, Auchnafrae, Zn	

A2.3 Area Au003 Auchnafrae, Glen Almond

SITE			
Number	Au003		
Location	Auchnafrae, Glenalmond		
Area	S Loch Tay		
SW Corner +	27400	73100	
NE Corner +	28400	73750	
1:50K	52		
1:10K	NN73/83NW/SW		
1"/1:50K Geol	47E		
6" Geol	Perth 59SW/SE/60SW/69NE/SE/70/71NW/SW/81NE/82NW/NE/83NW		
REPORT			
Company	Terraconsult AG (Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	313	Au Ag Cu Pb Zn	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	400 000	Location map	
2	100 000	Summary of results to date	
3	100 000	Summary of areas prospected & main targets for future work	
2.4 *	50 000	1988 prospecting results: sheet NN73SE + NN83SW (Auchnafree)	

+ limit of Auchnafrae estate
* not in report

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Terraconsult AG (for Colby Resource Corporation)		
Title	The Loch Tay Project: gold potential & results & work programme for 3 years		
Date	Jun-89		
Author	R Steiger		
BGS No	MR 47.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Channel	20	Au Ag	
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	400 000	Location map	
2	400 000	Regional drainage geochemistry	
3	100 000	Project summary map	
4	100 000	Areas for follow up	
6*		Calliachar Burn prospect, 1989 programme	
fig 1	5000	Calliachar Burn prospect, planned drill section	

* not with report

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	27650	73950	
NE Corner	28500	74900	
1:50K	52		
1:10K	NN73NE/74NE/SE 84NW/SW		
1"/1:50K Geol	47E		
6" Geol	Perth 48NE/SE/49NW/SW/59NE/SE/60NW/SW/70NE		
REPORT			
Company	Terraconsult AG (Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	159	Au Ag AS Cu Pb Zn	
Overburden	809	Au Ag AS Cu Pb Zn	
Rock	209	Au Ag AS Cu Pb Zn	
Trench	152	Au Ag AS Cu Pb Zn	
Stream sediment			
Pan concentrate	21	Au Ag AS Cu Pb Zn	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	400 000	Location map	
2	100 000	Summary of results to date	
3	100 000	Summary of areas prospected & main targets for future work	
2.1	50 000	1988 prospecting results: sheet NN74NE + NN84NW (N Bolfracks)	
2.2*	50 000	1988 prospecting results: sheet NN74SE + NN84SW (S Bolfracks)	
3.1A *	2500	Calliacher prospect 1988 trench locations and soil geochemistry/pans, 1987 compilations of Urlar work included.	
3.1B*	2500	Calliacher prospect 1988 trench locations and soil geochemistry/pans, 1987 compilations of Urlar work included.	
3.2 *	1250	Trench results 1988	
3.3 *	100	Geological plan of strike trench T56 along Calliacher vein	

* not in report

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Terraconsult AG (for Colby Resource Corporation)		
Title	The Loch Tay Project: Exploration progress report to Sept 1989		
Date	Oct-89		
Author	R Steiger		
BGS No	MR 47.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden	1010	Cu Pb Zn As Au	
Rock			
Trench	341	Cu Pb Zn As Au Ag	
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
	72		2000 m
DIGITAL DATA	N		
MAP	Scale	Title	
1	5000	Project summary map	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Terraconsult AG (for Colby Resource Corporation)		
Title	Short assessment of the feasibility of gold production from high-grade near-surface mineralisation at Calliachar		
Date	Jan-90		
Author	R Steiger		
BGS No	MR 47.4		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench	99	Au Listing of high-grade near-surface material	
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Terraconsult AG (for Colby Resource Corporation)		
Title	Calliachar Burn prospect, work programme for 1990, phase 1		
Date	Apr-90		
Author	R Steiger		
BGS No	MR 47.5		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench	To provide 10 tonne bulk sample		
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	25 (proposed)		655 m
Trenching	No of pits	Max depth	Total length
	18 (proposed)		
DIGITAL DATA	N		
MAP	Scale	Title	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Colby Resources Corporation		
Title	Photo-petrology of material from the Calliachar prospect		
Date			
Author	J S Mason		
BGS No	MR 47.6		
TEXT			
Geology			
Mineralogy	Includes material from Calliachar veins 3 & 7 & gossanous sections		
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Colby Gold		
Title	Drilling report, May 1990, Calliachar veins		
Date	Jun-90		
Author	J S Mason		
BGS No	MR 47.7		
TEXT			
Geology	Controls on Au mineralisation including structure, presence of regolith and alteration		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	16	76	495
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
Fig 1	1250	Section of DDH Ca90-16 (V6)	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Terraconsult AG (for Colby Resources Corporation)		
Title	Loch Tay Project, short update on exploratory work and results		
Date	Jun-90		
Author	R Steiger		
BGS No	MR 47.8		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench	Bulk sample		
Stream sediment			
Pan concentrate			
Drill core		Au	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	16		
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28195	74736	
NE Corner	28500	74700	
1:50K	52		
1:10K	NN84NW		
1"/1:50K Geol	55E/W		
6" Geol	Perth 60NW		
REPORT			
Company	Terraconsult AG (for Colby Resources Corporation)		
Title	Report on testwork on bulk sample from Calliachar Burn		
Date	Oct-90		
Author	R Steiger		
BGS No	MR 47.9		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28000	74300	
NE Corner	29000	75300	
1:50K	52		
1:10K	NN84/85SW/SE		
1"/1:50K Geol	55E/W/47E/W		
6" Geol	Perth 38SE/39SW/SE/48NE/SE/49/59NE/SE/60		
REPORT			
Company			
Title			
Date			
Author			
BGS No			
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
MR 47.12	25 000	Aeromagnetic data for gold prospect	

A2.3 Area Au004 Calliachar Burn

SITE			
Number	Au004		
Location	Calliachar Burn		
Area	S Loch Tay		
SW Corner	28000	74300	
NE Corner	29000	75300	
1:50K	52		
1:10K	NN84/85SW/SE		
1"/1:50K Geol	55E/W/47E/W		
6" Geol	Perth 38SE/39SW/SE/48NE/SE/49/59NE/SE/60		
REPORT			
Company			
Title			
Date			
Author			
BGS No			
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
MR 47.13	25 000	Gravity contour map for Calliachar gold prospect	

A2.3 Area Au005 Tombuie

SITE			
Number	Au005		
Location	Tombuie		
Area	S Loch Tay		
SW Corner			
NE Corner			
1:50K	52		
1:10K			
1"/1:50K Geol	47E		
6" Geol			
REPORT			
Company	Terraconsult AG (for Colby Resources Corporation)		
Title	Loch Tay Project, short update on exploratory work and results		
Date	Jun-90		
Author	R Steiger		
BGS No	MR 47.8		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	Y	Au	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
	Y		
DIGITAL DATA	N		
MAP	Scale	Title	

A2.3 Area Au006 West Glen Turret

SITE			
Number	Au006		
Location	W Glen Turret		
Area	S Loch Tay		
SW Corner	27800	72700	
NE Corner	28100	72900	
1:50K	52		
1:10K	NN72NE/82NW		
1"/1:50K Geol	47E		
6" Geol	Perth 82NE/SE		
REPORT			
Company	Terraconsult AG (for Colby Resources Corporation)		
Title	Loch Tay Project, short update on exploratory work and results		
Date	Jun-90		
Author	R Steiger		
BGS No	MR 47.8		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	17	Au	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	

A2.3 Area Au006 Glen Turret

SITE			
Number	Au006		
Location	Glen Turret		
Area	S Loch Tay		
SW Corner	27850	72700	
NE Corner	28110	72860	
1:50K	52		
1:10K	NN72NE 82NW		
1"/1:50K Geol	47W		
6" Geol	Perth 82/83NW/SW		
REPORT			
Company	Terraconsult AG (for Colby Resources Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	167	Au Ag As Cu Pb Zn	
Channel	28	Au Ag As Cu Pb Zn	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	400 000	Location map	
2	400 000	Regional drainage geochemistry	
3	100 000	Project summary map	
4	100 000	Areas for follow up	
6*		Calliachar Burn prospect, 1989 programme	
2.7 *	50 000	1988 prospecting results: sheet NN63NE + NN73NW (W Tullich)	

* not with report

A2.3 Area Au007 Fortingal

SITE			
Number	Au007		
Location	Fortingal		
Area	S Loch Tay		
SW Corner			
NE Corner			
1:50K	52		
1:10K			
1"/1:50K Geol	55W		
6" Geol			
REPORT			
Company	Terraconsult AG (for Colby Resources Corporation)		
Title	Loch Tay Project, short update on exploratory work and results		
Date	Jun-90		
Author	R Steiger		
BGS No	MR 47.8		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	Y	Au	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	

A2.3 Area Au008 Corrie Buie

SITE			
Number	Au008		
Location	Corrie Buie		
Area	S Loch Tay		
SW Corner	27000	73300	
NE Corner	27100	73500	
1:50K	51		
1:10K	NN73SW		
1"/1:50K Geol	47W		
6" Geol	Perth 69SE		
REPORT			
Company	BGS		
Title	Review of Colby's Corrie Buie gold project, at 6 October 1987		
Date	Oct-87		
Author	M J Gallagher		
BGS No	MR 17		
TEXT			
Geology	General and mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden	400		
Rock			
Trench	70	Au Ag Cu Pb Zn	
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
		2 m	0.5 km
DIGITAL DATA			
MAP	Scale	Title	

A2.3 Area Au008 Ardeonaig / Corrie Buie

SITE			
Number	Au008		
Location	Ardeonaig/Corrie Buie		
Area	S Loch Tay		
SW Corner	36600	73100	
NE Corner	37200	73900	
1:50K	52		
1:10K	NN63SE/NE/73NW/SW		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE/SE		
REPORT			
Company	Middleton Exploration Services		
Title	Loch Tay Project. Taylor Estate progress report		
Date	Jan-86		
Author	P R Duller & M G Hills		
BGS No	MR 44.1.4		
TEXT			
Geology	General & economic geology. Detailed mapping Corrie Buie lead-silver mine		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	7	Au	
Overburden			
Rock	23	Au Ag Bi Cu As Sb Hg	
Trench			
Stream sediment	75	?Au Ag	
Pan concentrate	75	Au Ag	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
0	50 000	Loch Tay Project Location Map	
1*	?10 000	Sample site and gold geochemistry map	

* not with report

A2.3 Area Au008 Ardeonaig / Corrie Buie

SITE			
Number	Au008		
Location	Ardeonaig/Corrie Buie		
Area	S Loch Tay		
SW Corner[1]	26400	73200	
NE Corner[1]	27100	73850	
1:50K	51		
1:10K	NN63NE/SE 73SW		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE/SE		
REPORT			
Company	Terraconsult AG (for Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	74	Au Ag As Cu Pb Zn	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	400 000	Location map	
2	400 000	Regional drainage geochemistry	
3	100 000	Project summary map	
2.6*	50 000	1988 prospecting results: sheet NN63SE + NN73SW (Claggan/Taylor)	

[1] Estate boundaries
* not with report

A2.3 Area Au009 Tomnadashan / Wester Tullich

SITE			
Number	Au009		
Location	Tomnadashan/Wester Tullich		
Area	S Loch Tay		
SW Corner[1]	26800	73450	
NE Corner[1]	27100	73850	
1:50K	51		
1:10K	NN63NE 73NW		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE/SE		
REPORT			
Company	Terraconsult AG (Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	54	Au Ag As Cu Pb Zn	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	400 000	Location map	
2	400 000	Regional drainage geochemistry	
3	100 000	Project summary map	
2.7*	50 000	1988 prospecting results: sheet NN63NE + NN73NW (W Tullich)	

[1] Estate boundaries
* not with report

A2.3 Area Au009 Tomnadashan

SITE			
Number	Au009		
Location	Tomnadshan		
Area	S Loch Tay		
SW Corner	26810	73690	
NE Corner	26990	73830	
1:50K	51		
1:10K	NN63NE		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE		
REPORT			
Company	Boylen Engineering		
Title	Results of exploration programme, Loch Tay, Scotland-1962, Project 389		
Date	Nov-62		
Author	L B Halliday		
BGS No	MR 69.1		
TEXT			
Geology	General		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	22	Cu Au Ag	
Geophysics	line km		
Magnetic	8		
VLF-EM			
Resistivity			
IP			
Self potential	8		
Gravity			
Drilling	No of holes	Max depth	Total depth
	6	156.9 m	630.6 m
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	2400	Magnetic survey & diamond drill plan	
2	2400	Self potential survey	

A2.3 Area Au009 Tomnadashan

SITE			
Number	Au009		
Location	Tomnadshan		
Area	S Loch Tay		
SW Corner	26810	73690	
NE Corner	26990	73830	
1:50K	51		
1:10K	NN63NE		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE		
REPORT			
Company	Boylen Engineering		
Title	Geologist's report Loch Tay copper-Scotland		
Date	Dec-61		
Author	L B Halliday		
BGS No	MR 69.2		
TEXT			
Geology	General, structure, mineralisation & mining history		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63360	Property map	
2	2400	Surface geological plan	
3	480	Surface geological plan	
4	38 100	Geology of Tomnadashan	
5	65 000	Situation of Tomnadashan Copper Mines	

A2.3 Area Au009 Tomnadashan

SITE			
Number	Au009		
Location	Tomnadashan		
Area	S Loch Tay		
SW Corner	26810	73690	
NE Corner	26990	73830	
1:50K	51		
1:10K	NN63NE		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE		
REPORT			
Company	Noranda-Kerr		
Title	Induced polarisation survey of the Tomnadashan Prospect		
Date	Jul-70		
Author	Hunting Geology & Geophysics		
BGS No	MR 70.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity	Y		
IP	Y		
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1 in text	10 560	Location map	
2	2500	IP/resistivity profiles	
3	2500	contour map of apparent resistivity	
4	2500	contour map of apparent frequency effect	
5	2500	Interpretation diagram	

A2.3 Area Au009 Tomnadashan

SITE			
Number	Au009		
Location	Tomnadshan		
Area	S Loch Tay		
SW Corner	26810	73690	
NE Corner	26990	73830	
1:50K	51		
1:10K	NN63NE		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE		
REPORT			
Company	Noranda-Kerr		
Title	Diamond drill core log sheets		
Date	Aug-Sept 1970		
Author	R M Harvey & P J Fitzgerald		
BGS No	MR 70.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	6	91.9 m	543.4 m
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	

A2.3 Area Au009 Tomnadashan

SITE			
Number	Au009		
Location	Tomnadshan		
Area	S Loch Tay		
SW Corner	26810	73690	
NE Corner	26990	73830	
1:50K	51		
1:10K	NN63NE		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE		
REPORT			
Company	RTZ Services Ltd		
Title	Report on Loch Tay prospect		
Date	Sep-64		
Author	R Rice & D F Hamilton		
BGS No	MR 71		
TEXT			
Geology	Detailed mapping: relogging of drill core: note on Corrie Buie		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	395	Cu Pb Zn	
Overburden			
Rock			
Trench			
Stream sediment	70	Cu Pb Zn	
Pan concentrate			
Drill core	14	Cu	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	6000	Geology of Wester Tullich Farm	
2	63360	Aeromagnetic map of South Loch Tay	
3	10 560	Cu Pb Zn in stream sediments	
4	10 560	Soil sample sites Cu	
5	10 560	Soil sample sites Pb	
6	10 560	Soil sample sites Zn	

A2.3 Area Au009 Tomnadashan / Wester Tullich

SITE			
Number	Au009		
Location	Tomnadashan/Wester Tullich		
Area	S Loch Tay		
SW Corner	36600	73100	
NE Corner	37200	73900	
1:50K	52		
1:10K	NN63NE/SE/73NW/SW		
1"/1:50K Geol	47W		
6" Geol	Perth 69NE/SE		
REPORT			
Company	Middleton Exploration Services		
Title	Loch Tay Project, Scotland: Wester Tullich Estate progress report		
Date	Jan-86		
Author	P R Duller & M G Hills		
BGS No	MR 44.1.5		
TEXT			
Geology	General & economic geology, Tomnadashan copper mine		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	8	Au Ag AS Sb Bi Hg Cu Mo Zn	
Trench			
Stream sediment			
Pan concentrate	30	Au	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
0	5000	Location map	
1*	?10 000	Sample site and gold geochemistry map	

* not with report

A2.3 Area Au010 Acharn / Remony

SITE			
Number	Au010		
Location	Acharn/Remony		
Area	S Loch Tay		
SW Corner	27200	73620	
NE Corner	27900	74500	
1:50K	52		
1:10K	NN73NW/NE/74SW/SE		
1"/1:50K Geol	47W		
6" Geol	Perth 58SE/59/SW/SE/69NE/70NW/NE		
REPORT			
Company	Middleton Exploration Services		
Title	Loch Tay Project; Remony Estate progress report		
Date	Jan-86		
Author	P R Duller & M G Hills		
BGS No	MR 44.1.3		
TEXT			
Geology	General & economic geology: geological mapping		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench	4	Au Ag As Cu Co	
		As Ag Au Ba Ca Co Cr Fe Hf Mo Na Ni Sb Sc Se Ta Th U W Zn	
Stream sediment	103	La Lu	
		As Ag Au Ba Ca Co Cr Fe Hf Mo Na Ni Sb Sc Se Ta Th U W Zn	
Pan concentrate	103	La Lu	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
0	50 000	Loch Tay project location map	
2	10 000	Geochemical drainage survey, Remony Estate	
9	13 500	Acharn-Glen Turret traverse	

A2.3 Area Au010 Acharn / Remony

SITE			
Number	Au010		
Location	Remony/Acharn		
Area	S Loch Tay		
SW Corner	27300	73650	
NE Corner	27800	74550	
1:50K	52		
1:10K	NN73NW/NE 74SW/SE		
1"/1:50K Geol	47W		
6" Geol	Perth 58SE/59/SW/SE/69NE/70NW/NE		
REPORT			
Company	Terraconsult AG (for Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	95	Au Ag As Cu Pb Zn	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	400 000	Location map	
2	400 000	Regional drainage geochemistry	
3	100 000	Project summary map	

A2.3 Area Au011 Garrow

SITE			
Number	Au011		
Location	Garrow		
Area	S Loch Tay		
SW Corner	27750	73750	
NE Corner	28600	74250	
1:50K	52		
1:10K	NN73NE 83NW		
1"/1:50K Geol	47E		
6" Geol	Perth 59SE/60SW/70NE/71NW		
REPORT			
Company	Terraconsult AG (for Colby Resource Corporation)		
Title	Loch Tay Project, Scotland. Exploration report to Colby Resource Corporation		
Date	May-89		
Author	R Steiger		
BGS No	MR 47.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	5	Au Ag As Cu Pb Zn	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	400 000	Location map	
2	400 000	Regional drainage geochemistry	
3	100 000	Project summary map	
2.3 [1]	50 000	1988 prospecting results: sheet NN73NE + NN83NW (Garrow)	

[1] not with report

A2.3 Area Au030 Comrie

SITE			
Number	Au030		
Location	Comrie		
Area	S Loch Tay		
SW Corner	26880	72480	
NE Corner	27960	73270	
1:50K	51		
1:10K	NN62NE/72NW/NE/73SW/SE		
1"/1:50K Geol	47W		
6" Geol	Perth 69SE/70SW/81/82		
REPORT			
Company	Noranda exploration (UK) Ltd		
Title	Project 1673 Tay-Comrie: work carried out between 18/4/72 & 31/7/72		
Date	Mar-73		
Author	R H Rastall		
BGS No	AE 098.1		
TEXT			
Geology	10 560 mapping over 10 km^2		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	314	Cu Pb Zn	111
Overburden			
Rock	14	Mo	
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP	38	No results given	
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 560	Outcrop geology & sample numbers	
2	10 560	IP lines and Cu in soil values	
3	10 560	IP lines and Mo in soil values	
4	10 560	Outcrop geology, Lurg basin	
5	10 560	Lurg basin soil geochemistry Cu values in ppm	
6	10 560	Lurg basin soil geochemistry Mo values in ppm	
7	63360	Estates map, Comrie-Loch Tay	

A2.4 EXPLORATION ACTIVITY IN NORTH-EAST SCOTLAND

Project areas	
Area Reference	**Area Name**
Au037	Pitlochry - Glen Clova
Au038	Glen Clova
Au039	South Deeside
Au050	Inverurie
Au053	Towie

A2.4 Area Au037 Pitlochry – Glen Clova

SITE				
Number	Au037			
Location	Pitlochry-Glen Clova			
Area	NE Scotland			
SW Corner	29400	74000		
NE Corner	35000	78000		
1:50K	43/44/53/54			
1:10K	NN95/96/97 NO04/05/06/07/14/15/16/17/24/25/26/27/34/35/36/37/44/45/46/47			
1"/1:50K Geol	47E/48E/W/55E/56W/E/64E/65W/E			
6" Geol	Aberdeen 107SW/SE/108SW/110/111/112 Forfar5NW/NE/6NW/NE/9/10/11/12/13NW/SW/15/16/17/18/19NW/SW/ 22/23/24/25/26NW/SW/29/30/31/32NW/SW/37/38/NW/SW Perth 6SW/SE/7/13/14/15/22/23/24/31/33/40/41/42/43/NWSW/SE/ 51/52/53/61/62/63/64/65			
REPORT				
Company	BGS			
Title	Mineral exploration in the Pitlochry to Glen Clova area			
Date	1993			
Author	Coats et al			
BGS No	MRP126			
TEXT				
Geology	Regional geology of the Dalradian and Highland Border Complex			
Mineralogy				
Geochemistry	Samples	Elements		
Soil	25	Au Ca Ti V Cr Mn Fe Co Ni Cu Zn As Sr Zr Mo Ag Sn Ba Ce Pb Sb Bi Th U		
Overburden				
Rock	56	Au Ca Ti V Cr Mn Fe Co Ni Cu Zn As Sr Zr Mo Ag Ba Ce Pb Sb Bi Th U Rb Y		
		La		
Trench				
Stream sediment	309	Ca Ti V Cr Mn Fe Ni Cu Zn As Mo Ag Sn Ba Ce Pb Sb Bi Th U		
		Ca Ti Cr Mn Fe Ni Cu Zn As Mo Ag Sn Ba Ce Pb Sb Bi Th U Co		
Pan concentrate	347	Au		
	62	Au As Cu Pb		
Drill core				
Geophysics	line km			
Magnetic	50			
VLF-EM	18			
Resistivity				
IP				
Gravity				
Drilling	No of holes	Max depth	Total depth	
Trenching	No of pits	Max depth	Total length	
DIGITAL DATA	Y			
MAP	Scale	Title		
1	3 000 000	Location of study area and recorded gold occurrences in Scotland		
2	263 000	Sketch map of the area geology		

3	263 000	Distribution of Ca in stream sediments
4	263 000	Distribution of Cu in stream sediments
6	263 000	Distribution of Zn in stream sediments
7	263 000	Distribution of As in stream sediments
10	263 000	Distribution of Pb in stream sediments
12	263 000	Regional distribution of Cu in pan concentrates
13	263 000	Local distribution of Cu in pan concentrates
14	263 000	Regional distribution of Zn in pan concentrates
15	263 000	Regional distribution of As in pan concentrates
16	263 000	Regional distribution of Sb in pan concentrates
17	263 000	Regional distribution of Ba in pan concentrates
18	263 000	Distribution of Ce in pan concentrates
19	263 000	Distribution of Au in pan concentrates
20	263 000	Distribution of Pb in pan concentrates
21	74 000	Distribution of Au in pan concentrates from Glen Clova
22	74 000	Distribution of As in pan concentrates from Glen Clova
23	74 000	Distribution of Cu in pan concentrates from Glen Clova
24	74 000	Distribution of Pb in pan concentrates from Glen Clova
25a	80 000	Distribution of Au in pan concentrates from Glen Uig
25b	80 000	Distribution of As in pan concentrates from Glen Uig
26	18 000	Distribution of Au in shallow overburden samples from Glen Clova
27	25 000	Plot of ground magnetic data from Glen Clova
28	25 000	Plot of ground magnetic data in Glen Clova, secondary lines only
29	25 000	Plot of VLF-M data in Glen Clova
36a	100 000	Distribution of U in rocks from Glen Clova
36b	100 000	Distribution of Au in rocks from Glen Clova

A2.4 Area Au038 Glen Clova

SITE			
Number	Au038		
Location	Glen Clova		
Area	NE Scotland		
SW Corner	31830	76220	
NE Corner	33150	77760	
1:50K	43/44		
1:10K	NO16NE/SE/26NW/SW/27/37NW		
1"/1:50K Geol	56/65E/W		
6" Geol	Forfar 10/11NW/15/16NW/NE/17NW/22		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 1677 Glen Clova - work carried out June/July 1972		
Date	Nov-72		
Author	R H Rastall		
BGS No	AE104		
TEXT			
Geology	Brief outline of geology and mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	56	Cu Pb Zn	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	253 440	Location map	
1a	63 360	Geology	
2	10 000	Stream sediment sample sites Glencally-Finalty basin	
3	10 000	Prospecting notes Glencally-Finalty Basin	
4	10 560	Sample sites and numbers Muckle-Allt na Beinne basin	
5	10 560	Prospecting notes Muckle-Allt na Beinne basin	
6	63 360	Prospecting traverses and notes, Glen Clova	

A2.4 Area Au039 South Deeside

SITE			
Number	Au039		
Location	South Deeside		
Area	NE Scotland		
SW Corner	30200	75800	
NE Corner	34150	77800	
1:50K	43, 44, 54, 53		
1:10K	NO05NE/15NW/06/16/26/36NW/07SW/SE/NE/17SW/SE/NE/27/37NW/SW/ 35NE/36SE/45NW/46SW		
1"/1:50K Geol	56W/E/65W/E		
6" Geol	Aberdeen 107SW/SE/223SW		
	Forfar 4SW/SE/9NE/SE/10/11NW/SW/15NE/SE/16/17/22/23/24NW/SW/SE		
	Perth 13SW/14/15SW/22NE/23/24/32/33NW/SW/41NE/42NW		
REPORT			
Company	Exploration Ventures Ltd		
Title	Application for assistance		
Date	06-Aug-71		
Author			
BGS No	AE20.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	253 440	Plan to accompany application (NB only covers northern part of project area)	
2	10 560	Glen Tanar - geology	

A2.4 Area Au039 South Deeside

SITE			
Number	Au039		
Location	South Deeside		
Area	NE Scotland		
SW Corner	30200	75800	
NE Corner	34150	77800	
1:50K	43, 44, 54, 53		
1:10K	NO05NE/15NW/06/16/26/36NW/07SW/SE/NE/17SW/SE/NE27/37NW/SW/ 35NE/36SE/45NW/46SW		
1"/1:50K Geol	56W/E/65W/E		
6" Geol	Aberdeen 107SW/SE/223SW		
	Forfar 4SW/SE/9NE/SE/10/11NW/SW/15NE/SE/16/17/22/23/24NW/SW/SE		
	Perth 13SW/14/15SW/22NE/23/24/32/33NW/SW/41NE/42NW		
REPORT			
Company	Exploration Ventures Ltd		
Title	South Deeside district. Technical report for the period 1Jan-31 Dec1972		
Date	07-Dec-73		
Author	E M Jones		
BGS No	AE020.2		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	411	Cu Ni	
Overburden			
Rock			
Trench			
Stream sediment	661	Cu Ni Pb Zn Mo	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63 360	Geological float and outcrop reconnaissance map	
2	63 360	Stream sediment / soil infill geochemical values for Cu Ni Mo- South Deeside	
3	63 360	Stream sediment / soil infill geochemical values for Pb Zn - South Deeside	
4	10 560	Stream sediment and soil infill geochemical values for Cu Ni - South Airlie	
5	10 560	Soil geochemistry values for C Ni - South Airlie	

A2.4 Area Au039 South Deeside

SITE			
Number	Au039		
Location	South Deeside		
Area	NE Scotland		
SW Corner	30200	75800	
NE Corner	34150	77800	
1:50K	43, 44, 54, 53		
1:10K	NO05NE/15NW/06/16/26/36NW/07SW/SE/NE/17SW/SE/NE/27/37NW/SW/ 35NE/36SE/45NW/46SW		
1"/1:50K Geol	56W/E/65W/E		
6" Geol	Aberdeen 107SW/SE/223SW Forfar 4SW/SE/9NE/SE/10/11NW/SW/15NE/SE/16/17/22/23/24NW/SW/SE Perth 13SW/14/15SW/22NE/23/24/32/33NW/SW/41NE/42NW		
REPORT			
Company	Exploration Ventures Ltd		
Title	South Deeside Technical report for the period 1 Jan-321 Dec 1973		
Date			
Author			
BGS No	AE20.3		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	37	Cu Ni Pb Zn	
Overburden			
Rock			
Trench			
Stream sediment	97	Cu Ni Co Cr Pb Zn Ag Mn Sn W Mo As	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	63 360	Soil sample values in ppm for Cu Ni - Wester Bleaton	
2	63 360	Soil sample values in ppm for Pb Zn- Wester Bleaton	
3	63 360	Stream sediment values for Cu Ni Co Cr	
4	63 360	Stream sediment values for Pb Zn As Mn	
5	63 360	Stream sediment values for Sn W Mo As	
6	63 360	Stream sediment location plan	
7	250 000	Metal sulphide ratios, float and outcrop	

A2.4 Area Au050 Inverurie

SITE			
Number	Au050		
Location	Inverurie		
Area	NE Scotland		
SW Corner	47200	82100	
NE Corner	47400	82400	
1:50K	38		
1:10K	NJ72SW		
1"/1:50K Geol	76E		
6" Geol	Aberdeen 45SW/SE/54NW/NE		
REPORT			
Company	British Geological Survey		
Title	Molybdenite mineralisation near Chapel of Garioch, Inverurie		
Date	1989		
Author	Colman et al		
BGS No	MRP100		
TEXT			
Geology			
Mineralisation	General description		
Geochemistry	Samples	Elements	
Soil			
		Ag As Ba Bi Ca Ce Cu Fe Mn Mo Nb Ni Rb Sn Sr Th Ti U W Y Zn	
Overburden	317	Zr	
Rock	24	Si Al Ti Fe Mg Ca Na K Mn P As Ba Bi Ce Co Cr Cu Ga La Nb Ni Pb Rb S Sn Sr Th U V W Y Zn Zr	
Trench	41	Ag As Ba Bi Ca Ce Cu Fe Mn Mo Nb Ni Pb Rb Sb Sn Sr Th Ti U W Y Zn Zr	
Stream sediment			
Pan concentrate			
Drill core	138	Fe Ca K Mn As Ba Cu Mo Rb Sn Sr Th U W Y Zn	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity	520 stations		
Drilling	No of holes	Max depth	Total depth
	7	67	334
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	?		
MAP	Scale	Title	
1	278 000	Location map	
2	10 638	Mineralisation, soil sampling and drill hole locations in Chapel of Garioch	
3	625 000	Molybdenite mineralisation in Grampian region	
8	80 000	Bouguer gravity anomaly map	
9	80 000	Third order residual Bouguer gravity anomalies	

A2.4 Area Au053 Towie

SITE			
Number	Au053		
Location	Towie		
Area	NE Scotland		
SW Corner	343000	809000	
NE Corner	351000	817000	
1:50K	37		
1:10K	NJ40NW/NE/41/50NW/51NW/SW		
1"/1:50K Geol	76W		
6" Geol	Aberdeen 51SW/SE/52SW/61/62NW/SW/70/71		
REPORT			
Company	Navan Resources plc		
Title	Mines Royal Licence 64.37.04 Towie, Grampian Region, Scotland. Work report for the period 1/8/91-31/7/92		
Date			
Author	I K Anderson		
BGS No	MR75		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	309	Au	
Overburden			
Rock			
Trench	123	Au	
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
	16		
DIGITAL DATA	N		
MAP	Scale	Title	
A13		Location map	
A14	50 000	Licence area	
A47	10 000	Soil geochemistry - The Socach	
172	10 000	Soil geochemistry - Coiliochbhar Hill	
A118	5 000	Location of trenches	
A48	100	Trenching 91-TOT-1	
A49	100	Trenching 91-TOT-2	
175	100	Trenching 91-TOT-3	

A50	100	Trenching 91-TOT-7
A51	100	Trenching 91-TOT-8
176	100	Trenching 91-TOT-9
A52	100	Trenching 91-TOT-10
A53	100	Trenching 91-TOT-11
A54	100	Trenching 91-TOT-12
A55	100	Trenching 91-TOT-13
A56	100	Trenching 91-TOT-14
A57	100	Trenching 91-TOT-15
A58	100	Trenching 91-TOT-16
A79	100	Trenching (Geology/mineralisation summary)

A2.5 EXPLORATION ACTIVITY IN SHETLAND

Project areas	
Area Reference	**Area Name**
Au041	Unst
Au042	Fetlar
Au043	North Roe
Au044	Garth's Ness
Au045	Cunningsburgh
Au046	Sandlodge
Au052	Vidlin
Au054	Shetland

A2.5 Area Au041 Unst

SITE			
Number	Au041		
Location	Unst		
Area	Shetland		
SW Corner	45940	110350	
NE Corner	46630	111400	
1:50K	1		
1:10K	HP50SE/NE 60SW/NW 61SW/SE		
1"/1:50K Geol	Northern Shetland		
6" Geol	Shetland 2/3/5/6/8		
REPORT			
Company	BGS		
Title	PGE mineralisation in the Unst ophiolite, Shetland		
Date	1985		
Author	Gunn et al		
BGS No	MRP073		
TEXT			
Geology	General geology of Unst and Fetlar Detailed account basic /ultrabasic rocks, alteration and structure		
Mineralisation	chromite		
Geochemistry	Samples	Elements	
Overburden	241	Si Mg Ca Cr Fe Co Ni Zn As Sb Te Bi S Ru Rh Pd Ir Pt	
	33	Si Mg Ca Cr Fe Co Ni Zn As Sb	
	4	Si Mg Ca Cr Fe Co Ni Zn As Sb Ru Pd	
	4	Si Mg Ca Cr Fe Co Ni Zn As Sb Ru Pd Ir	
	23	Ca Mg Fe Cr As Co Ni	
	22	Ca Mg Fe Cr As Co Ni Ru Pd	
	23	Ca Mg Fe Cr As Co Ni Zn	
	16	Ca Mg Fe Cr As Co Ni Ru Pd Pt	
	21	Ca Mg Fe Cr As Co Ni Cu	
	3	Ca Mg Fe Cr As Co Ni Cu Pd Pt Ru	
Rock	90	Mg S Cr Fe Co Ni Cu As Sb Te Bi Ru Rh Pd Ir Pt	
Mineral	59		
Stream sediment			
Pan concentrate	73	Mg Al Si S Ca Ti V Cr Mn Fe Co Ni Cu Zn As Ru Rh Os Ir Au	
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	Y		

MAP	Scale	Title
1	110 000	Location map
2	110 000	simplified geology
3	110 000	location of survey areas
4	4 000	Geology of Cliff area
5	50 000	Distribution of drainage sample sites
6	50 000	Cr in drainage
7	50 000	Fe in drainage
8	50 000	Co in drainage
9	50 000	Ni in drainage
10	50 000	Cu in drainage
11	50 000	As in drainage
12	50 000	Au in drainage
13	50 000	Ir in drainage
14	4 000	Distribution of overburden sites in Cliff area
16	4 000	MgO in panned overburden sites from Cliff area
17	4 000	SiO_2 in panned overburden sites from Cliff area
18	4 000	CaO in panned overburden sites from Cliff area
19	4 000	Cr in panned overburden sites from Cliff area
20	4 000	Fe in panned overburden sites from Cliff area
21	4 000	Co in panned overburden sites from Cliff area
22	4 000	Ni in panned overburden sites from Cliff area
23	4 000	Zn in panned overburden sites from Cliff area
24	4 000	As in panned overburden sites from Cliff area
25	4 000	Sb in panned overburden sites from Cliff area
26	4 000	Te Bi in panned overburden sites from Cliff area
27	4 000	Ru in panned overburden sites from Cliff area
28	4 000	Rh in panned overburden sites from Cliff area
29	4 000	Pb in panned overburden sites from Cliff area
30	4 000	Ir in panned overburden sites from Cliff area
31	4 000	Pt in panned overburden sites from Cliff area
32	4 000	Ni/MgO in panned overburden sites from Cliff area
34	14 300	Location of Quoys traverse
36	4 000	Distribution of overburden sample sites in the Harold's Quarry area
37	4 000	CaO & MgO in panned overburden samples from the Harold's Quarry area
38	4 000	Fe_2O_3 & Cr in panned overburden samples from the Harold's Quarry area
39	4 000	As & Co in paned overburden samples from the Harold's Quarry area
40	4 000	Ni & Ni/MgO in paned overburden samples from the Harold's Quarry area
41	4 000	Ru & Pd in paned overburden samples from the Harold's Quarry area
42	10 000	Location of Muckle Heog traverses
43	25 000	Location of traverses in the dunite and cumulate units south of Balta Sound

A2.5 Area Au041 Unst

SITE			
Number	Au041		
Location	Unst		
Area	Shetland		
SW Corner	46000	111000	
NE Corner	46300	111250	
1:50K	1		
1:10K	HP61SW		
1"/1:50K Geol	Northern Shetland		
6" Geol	Shetland 2SE		
REPORT			
Company	Esso Minerals Exploration UK Ltd		
Title	Final Report - Unst		
Date			
Author			
BGS No	MR39.18 & MR39.19 (duplicate)		
TEXT			
Geology	General description of ophiolite and structure		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	114	Au Pt Pd	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	18	15.5	228.6
Trenching	No of pits	Max depth	Total length
DIGITAL DATA			
MAP	Scale	Title	
1	2 170 000	Location map	
2	120 000	Unst geology	
3	14 700	Unst PGM project	

A2.5 Area Au041 Unst

SITE			
Number	Au041		
Location	Unst		
Area	Shetland		
SW Corner	45725	119980	
NE Corner	46525	121145	
1:50K	1		
1:10K	HP61SW/SE/60NW/SW/50NE/SE HU59NE		
1"/1:50K Geol	Northern Shetland		
6" Geol	Shetland 2/3/5/6/8		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 0408 Shetland: geochemical & geological prospecting for Ni Cu Mo Pb		
Date	Apr-74		
Author	J G Langlands		
BGS No	AE136.1		
TEXT			
Geology	Brief outline of general geology and highlights of geological prospecting traverses including mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil	1369	Cu Ni	
Overburden	343	Co Ni	
Rock	101	Cu Ni Co	
Trench	9	Cu Ni	
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
	9		610
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 000 000	Location of Shetland	
2	250 000	Shetland locality map	
3	250 000	Shetland property index	
4	10 000	Unst soil geochemistry and geology Cu & Ni in ppm	
5	10 000	Unst, Baltasound North side soil geochemistry Co in ppm (and Ni re-analyses)	
6	10 000	Unst, Baltasound North side soil Cu Ni Co contours	
7	63 360	Unst, Fetlar and North Roe geological prospecting traverses	

8	10 000	Unst, Baltasound North & Keen of Hamar anomalies, trenches 1-9, rock sample sites, detailed soil sampling and 1950-52 drill holes

A2.5 Area Au042 Fetlar

SITE			
Number	Au042		
Location	Fetlar		
Area	Shetland		
SW Corner	46180	118855	
NE Corner	46670	119305	
1:50K	1		
1:10K	HU69SW/SE/68NW/NE		
1"/1:50K Geol	Northern Shetland		
6" Geol	Shetland 12NE/SE/13NW/SW/17NE/18NW		
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 0408 Shetland: geochemical and geological prospecting for Ni Cu Mo Pb		
Date	Apr-74		
Author	J G Langlands		
BGS No	AE136.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	593	Cu Ni	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 000 000	Location of Shetland	
2	250 000	Shetland locality map	
3	250 000	Shetland property index	
7	63 360	Unst, Fetlar and North Roe geological prospecting traverses	
9	10 000	Leagarth Estate, Fetlar: soil geochemistry Cu & Ni values in ppm	

A2.5 Area Au043 North Roe

SITE			
Number	Au043		
Location	North Roe		
Area	Shetland		
SW Corner	43015	118260	
NE Corner	43615	118705	
1:50K	1		
1:10K	HU38		
1"/1:50K Geol	Northern Shetland		
6" Geol	Shetland	14/15NW/SW/20/21NW/SW	
REPORT			
Company	Noranda Exploration (UK) Ltd		
Title	Project 0408 Shetland: geochemical and geological prospecting for Ni Cu Mo Pb		
Date	Apr-74		
Author	J G Langlands		
BGS No	AE136.1		
TEXT			
Geology			
Mineralogy			
Geochemistry	Samples	Elements	
Soil	173	Pb Mo	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 000 000	Location of Shetland	
2	250 000	Shetland locality map	
3	250 000	Shetland property index	
7	63 360	Unst, Fetlar and North Roe geological prospecting traverses	
10	10 000	North Roe (Mainland) stream bank soil geochemistry, sample sites and 'SM' series number	
11	10 000	North Roe (Mainland) stream bank soil geochemistry, Mo & Pb in ppm	

A2.5 Area Au044 Garth's Ness

SITE			
Number	Au044		
Location	Garth's Ness		
Area	Shetland		
SW Corner	43600	111101	
NE Corner	43670	111122	
1:50K	4		
1:10K	HU31SE		
1"/1:50K Geol	126		
6" Geol	Shetland 67NW		
REPORT			
Company	Grenmore Holdings Ltd		
Title	Evaluation of Garth's Ness copper-zinc prospect, Shetland		
Date	16-Jun-84		
Author	C T Morley		
BGS No	AE249.1		
TEXT			
Geology	Regional and detailed description: 1:2500 mapping		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic	8.4		
VLF-EM	2.7		
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	10 000	Location map	
2	2 500	Geology	
3	2 500	VLF-EM geophysical survey	
7	2 500	Ground magnetometer survey	

A2.5 Area Au045 Cunningsburgh

SITE			
Number	Au045		
Location	Cunningsburgh		
Area	Shetland		
SW Corner	44180	112660	
NE Corner	44280	112810	
1:50K	4		
1:10K	4HU42NW		
1"/1:50K Geol	126		
6" Geol	Shetland 59SE		
REPORT			
Company	Grenmore Holdings Ltd		
Title	Economic evaluation of the Cunningsburgh ultrabasic intrusion, Shetland		
Date	30-May-85		
Author	C T Morley		
BGS No	AE250.1		
TEXT			
Geology	1:2500 mapping: generalised account including note on CO_3 veins and note on mineralisation		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	2500	Geology of the Cunningsburgh ultrabasic, Shetland	

A2.5 Area Au046 Sandlodge

SITE			
Number	Au046		
Location	Sandlodge		
Area	Shetland		
SW Corner	44310	112350	
NE Corner	44410	112500	
1:50K	4		
1:10K	HU42SW		
1"/1:50K Geol	126		
6" Geol	Shetland 62NW		
REPORT			
Company	Grenmore Holdings Ltd		
Title	Evaluation of the Sandlodge copper prospect		
Date			
Author			
BGS No			
TEXT			
Geology	1:2500 mapping, summary account of geology		
Mineralisation	Brief account of mine history, outcropping mineralisation and other occurrences		
Geochemistry	Samples	Elements	
Soil	143	Cu Fe Mn	
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM	2.7		
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	25 000	Location map, Sandlodge Copper Mine	
2	2 500	Geology of the Sandlodge Copper Mine	
3	2 500	Soil geochemistry Sandlodge Copper Mine values for Cu	
4	2 500	Soil geochemistry Sandlodge Copper Mine values for Fe & Mn	
5	2 500	VLF-EM geophysical survey Sandlodge Copper Mine traverses lines	
6	2 500	VLF-EM geophysical survey Sandlodge Copper Mine profiles	

A2.5 Area Au052 Vidlin

SITE			
Number	Au052		
Location	Vidlin		
Area	Shetland		
SW Corner	44600	116300	
NE Corner	44900	116750	
1:50K	2		
1:10K	HU46NE/SE		
1"/1:50K Geol	128		
6" Geol	Shetland 31SW/38NW		
REPORT			
Company	BGS		
Title	Investigation of copper mineralisation at Vidlin		
Date	1976		
Author	Garson, M S, May, F and others		
BGS No	MRP004		
TEXT			
Geology	General and detailed description of Dalradian rocks and photogeology		
Mineralogy	Surface specimens, drillcore and electron microprobe analyses		
Geochemistry	Samples	Elements	
Soil			
Overburden	182	Cu Pb Zn Ba Ni Fe Mn Co Ni Cr	
Panned till	29	Cu Pb Zn Ba Ni Fe Mn Ti	
Trench			
Stream sediment			
Pan concentrate			
Drill core	56	Cu Pb Zn Co Ni Ag	
Geophysics	line km		
Magnetic	13.3		
VLF-EM	13.3		
Resistivity	10.9		
IP	10.9		
Gravity			
Drilling	No of holes	Max depth	Total depth
	6	121	513
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	Y		
MAP	Scale	Title	
1	20 000	Location of sulphide mineralisation noted by D Haldane in the Vidlin district	
2	20 000	Photogeological lineations in the Vidlin district	
3	20 000	Geological map of the Vidlin district	
4	2 500	Geological map of Vidlin Ness	
5	2 500	Geological map of part of the coast of Drury Voe	
6	?	Sketch maps of mineralised localities at Vidlin Ness	
7	20 000	Geophysical anomalies at Vidlin Ness	
8	20 000	Positions of sources of geophysical anomalies	
9	63 360	The aeromagnetic anomaly east of Vidlin	

15	20 000	Geochemical variation on selected traverses, Vidlin
16	555	Drill-hole intersections at Vidlin Ness, localities 1 and 2
17	666	Drill-hole intersections at Vidlin Ness, localities 3 and 4

A2.5 Area Au052 Vidlin

SITE			
Number	Au052		
Location	Vidlin		
Area	Shetland		
SW Corner	44600	116300	
NE Corner	44900	116750	
1:50K	2		
1:10K	HU46NE/SE		
1"/1:50K Geol	128		
6" Geol	Shetland 31SW/38NW		
REPORT			
Company	Grenmore Holdings Ltd		
Title	Report on exploration at Vidlin Cu-Zn prospect		
Date	Mar-77		
Author	C T Morley		
BGS No	AE150		
TEXT			
Geology	Brief account of geology and mineralisation in drill cores		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment			
Pan concentrate			
Drill core	51	Cu Zn Ag Pb	
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
	10	269.34	1842.95
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	N		
MAP	Scale	Title	
1	416 666	Shetland Islands	
2	20 000	Proposed borehole sites	
Fig 1a	5 000	Borehole location plan, Vidlin	
Fig 1b	1250	Borehole location plan, Vidlin Ness	
SH/76/1	500	Vidlin prospect, Shetland; section 355N (oblique)	
SH/76/2	500	Vidlin prospect, Shetland; section 205N (oblique)	
SH/76/3	500	Vidlin prospect, Shetland; section 150N (oblique)	
SH/76/4	500	Vidlin prospect, Shetland; section 90N (oblique)	
SH/76/5	500	Vidlin prospect, Shetland; section 00	
SH/76/6	5 000	Vidlin prospect, Shetland; section 200S	

SH/76/7	500	Vidlin prospect, Shetland; section 365S
SH/76/8	?	Vidlin prospect, Shetland; section 770S
SH/76/9	500	Vidlin prospect, Shetland; section 900S
SH/76/10	5 000	Vidlin prospect, Shetland; drillhole location map
SH/76/11	100	Vidlin prospect, Shetland; graphical logs, mineralised intersections

A2.5 Area Au054 Shetland

SITE			
Number	Au054		
Location	Shetland		
Area	Shetland		
SW Corner	41500	110800	
NE Corner	46700	121900	
1:50K	1,2,3,4		
1:10K	HP40NW/SW/50/51NE/SE/60NW/NE/SW/61HU14NE/15NE/SE/16SW/SE24NW/NE/SE 25/26NE/SE/27NW/NE/SE/28/30NE/31NE/SW/SE/32NW/NE/SE/33NW/NE/SE/34/35/36 38/39SW/SE/40NW/41NW/SW/42/43NW/NE/SW/44/45/46/47/48/49/53NW/NE/54NW/ SW/SE/55NW/SW/56/57NW/SW/58NW/NE/SE/59/67SE/68NW/NE/69SW/SE		
1"/1:50K Geol	126, 127, 128, 130, 131		
6" Geol	Shetland 1SE/2/3NW/SW/4SW/SE/5/6NE/7/8/9NE/SW/SE/10/11/12/13SE/14/15/16 17NE/18NW/19/NE/SW/SE/20/21/22/23NW/NE/24/25/26NW/SW/SE/28SW/SE/29/30 31/32SW/SE/33NW/SW/34NE/SE/35NW/SW/SE/36/37/38/39NW/SW/40NE/SE/41/42 43/44NW/SW/46/47/48/49NW/SW/50NE/51/52/53/53A/55NE/56/57NW/NE/SE/58SE/59/ 60SW/62/63NW/64NE/SE/65/66NE/67		
REPORT			
Company	BGS		
Title	Preliminary report on the mineral resources of Shetland and results of a pilot geochemical survey		
Date	May-91		
Author	Buchanan, D L & Dunton, S N		
BGS No			
TEXT			
Geology	Sections on geological setting, metalliferous mineralisation and summary of economic potential; detailed bibliography		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	189	V Cr Co Ni Cu Zn Mo Ag Sn Ba U Pb As Mn Fe Li Be B Rb Sr Y La Mg P K Ca Ti Ce	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	Y		
MAP	Scale	Title	
5	300 000	Geology and area of pilot geochemical survey	

A2.5 Area Au054 Shetland

SITE			
Number	Au054		
Location	Shetland		
Area	Shetland		
SW Corner	41500	110800	
NE Corner	41700	121900	
1:50K	1,2,3,4		
1:10K	HP40NW/SW/50/51NE/SE/60NW/NE/SW/61HU14NE/15NE/SE/16SW/SE24NW/NE/SE 25/26NE/SE/27NW/NE/SE/28/30NE/31NE/SW/SE/32NW/NE/SE/33NW/NE/SE/34/35/36 38/39SW/SE/40NW/41NW/SW/42/43NW/NE/SW/44/45/46/47/48/49/53NW/NE/54NW/ SW/SE/55NW/SW/56/57NW/SW/58NW/NE/SE/59/67SE/68NW/NE/69SW/SE		
1"/1:50K Geol	126, 127, 128, 130, 131		
6" Geol	Shetland 1SE/2/3NW/SW/4SW/SE/5/6NE/7/8/9NE/SW/SE/10/11/12/13SE/14/15/16 17NE/18NW/19/NESW/SE/20/21/22/23NW/NE/24/25/26NW/SW/SE/28SW/SE/29/30 31/32SW/SE/33NW/SW/34NE/SE/35NW/SW/SE/36/37/38/39NW/SW/40NE/SE/41/42 43/44NW/SW/46/47/48/49NW/SW/50NE/51/52/53/53A/55NE/56/57NW/NE/SE/58SE/59 60SW/62/63NW/64NE/SE/65/66NE/67		
REPORT			
Company	BGS		
Title	Results of a geochemical survey of Shetland and identification of exploration targets		
Date	Jun-92		
Author	Buchanan, D L & Dunton, S N		
BGS No			
TEXT			
Geology	Geological setting and site profiles (mineralisation)		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock			
Trench			
Stream sediment	2023	V Cr Co Ni Cu Zn Sn Ba U Pb As Mn Fe Li Be B Rb Sr Y La Mg P K Ca Ti Ga	
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	Y		
MAP	Scale	Title	
Fig 1	500 000	Outline map of Shetland showing principal locations mentioned in text	
Plate 1a	800 000	Shetland gold occurrences and geology	

Plate 1b	800 000	Ba stream sediments
Plate 1c	800 000	Zn stream sediments
Plate 1d	800 000	As stream sediments
Plate 1e	800 000	Cu stream sediments
Plate 1f	800 000	Fluoride stream sediments

A2.5 Area Au054 Shetland

SITE			
Number	Au054		
Location	Shetland		
Area	Shetland		
SW Corner	41500	110800	
NE Corner	41700	121900	
1:50K	1,2,3,4		
1:10K	HP40NW/SW/50/51NE/SE/60NW/NE/SW/61HU14NE/15NE/SE/16SW/SE24NW/NE/SE 25/26NE/SE/27NW/NE/SE/28/30NE/31NE/SW/SE/32NW/NE/SE/33NW/NE/SE/34/35/36 38/39SW/SE/40NW/41NW/SW42/43NW/NE/SW/44/45/46/47/48/49/53NW/NE/54NW 54SW/SE/55NW/SW/56/57NW/SW58NW/NE/SE/59/67SE/68NW/NE/69SW/SE		
1"/1:50K Geol	126, 127, 128, 130, 131		
6" Geol	Shetland 1SE/2/3NW/SW/4SW/SE/5/6NE/7/8/9NE/SW/SE/10/11/12/13SE/14/15/16 17NE/18NW/19/NESW/SE/20/21/22/23NW/NE/24/25/26NW/SW/SE/28SW/SE/29/30 31/32SW/SE/33NW/SW/34NE/SE/35NW/SW/SE/36/37/38/39NW/SW/40NE/SE/41/42 43/44NW/SW/46/47/48/49NW/SW/50NE/51/52/53/53A/55NE/56/57NW/NE/SE/58SE/59 60SW/62/63NW/64NE/SE/65/66NE/67		
REPORT			
Company	BGS		
Title	Precious metal distribution in Shetland: refinement of targets for gold mineralisation		
Date	Aug-96		
Author	Buchanan, D L & Dunton, S N		
BGS No			
TEXT			
Geochemistry	Regional distribution of Au, Pt and Pd in stream sediments over Shetland, follow up of Au and As anomalies		
Mineralogy			
Geochemistry	Samples	Elements	
Soil			
Overburden			
Rock	28	Au As Cu Pb Zn Cr Co Ni Ba Mo W Sb Ag Pd Rb Sr Fe Mg Ca K	
Channel	15	Au	
Stream sediment			
Pan concentrate			
Drill core			
Geophysics	line km		
Magnetic			
VLF-EM			
Resistivity			
IP			
Gravity			
Drilling	No of holes	Max depth	Total depth
Trenching	No of pits	Max depth	Total length
DIGITAL DATA	Y		
MAP	Scale	Title	
Fig 1	?	Location of field survey area	
Fig 2	?	Locations in south Mainland mentioned in text	

Fig 3	31 746	Muness field area, geology and soil sample traverses
Plate 1	?	Outline Shetland geology and panned gold sites
Plate 2a	1 000 000	Distribution of As in stream sediments
Plate 2b	1 000 000	Distribution of Au in stream sediments
Plate 2c	1 000 000	Distribution of Pt in stream sediments
Plate 2d	1 000 000	Distribution of Pd in stream sediments
Fig 11	31746	Au in soil samples
Fig 12	31746	Au in soil samples
Fig 13	31746	As in soil samples
Fig 14	31746	Cu in soil samples