

GEOLOGICAL REPORT
ON THE
KOE CLAIMS

Whitehorse Mining Division
Yukon Territory

NTS: 115 J/9

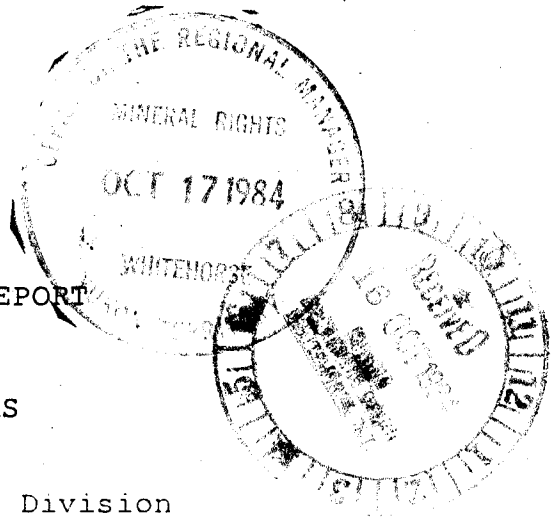
Latitude: 62°38'N Longitude: 138°28'W

Owned and Operated by:
Kerr Addison Mines Ltd.
703 - 1112 W. Pender Street
Vancouver, B.C.
V6E 2S1

For the period:
July 25 to August 9, 1984.

091568

H. Copland
D. Arscott



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SUMMARY and CONCLUSIONS

In 1983 widespread float, some of it highly anomalous in Au, Ag, Sb and As, was located at Mt. Cockfield on steep terrain underlain by early Tertiary (or perhaps Late Cretaceous) volcanics. These volcanics are characterized by a large felsic component, a high proportion of fragmental textures, by large areas of clay-sericite-pyrite alteration, and by local areas of silicification or sparse quartz veinlet formation. Major NW trending dip-slip faulting occurred contemporaneously with volcanism. Late intermediate intrusives cut the volcanic pile and appear to be responsible for weak Cu-Mo mineralization largely peripheral to the volcanics.

In 1984 the core area of the volcanics was mapped on a 1:5000 scale, with associated moderately intense prospecting, and minor hand trenching. The result was to locate a great deal more anomalous float and to clarify the nature of at least one of its sources.

This source (the area trenched) yielded, in a somewhat representative sample over a 1.1m width, 1.86 oz/t Ag and 0.06 oz/t Au. The zone is on a splay of a major NW fault system which may traverse the full length of the area mapped. (4 km). A brecciated, recemented, chalcedonic vein is present within the splay fault, as are also localized thin seams of massive arsenopyrite.

Much of the anomalous float is disposed in a NW belt generally coincident with and overlying the major fault system, but in some cases it is known to emanate from more local faulting with other trends.

Further work is recommended (prospecting, geophysical and trenching) to delineate more of the anomalous float sources and to sample more unoxidized material than has yet been possible. A \$49,000 program is suggested for 1985.

LOCATION AND ACCESS

The KOE Claims (Lat. 62°38'N, Long. 138°28'W; NTS 115 J/9) are located 125 kilometers northwest of Carmacks, Y.T. In 1984 the claims were accessed via a combination of truck and helicopter transport from Carmacks. The approximately 80 kilometer long Mount Freegold road was utilized into the Yukon Revenue airstrip near which a contract helicopter was temporarily based. This permitted a 25 minute flight rather than the more usual 40 minutes from the permanent Trans North Air base at Carmacks. (See Figure 1).

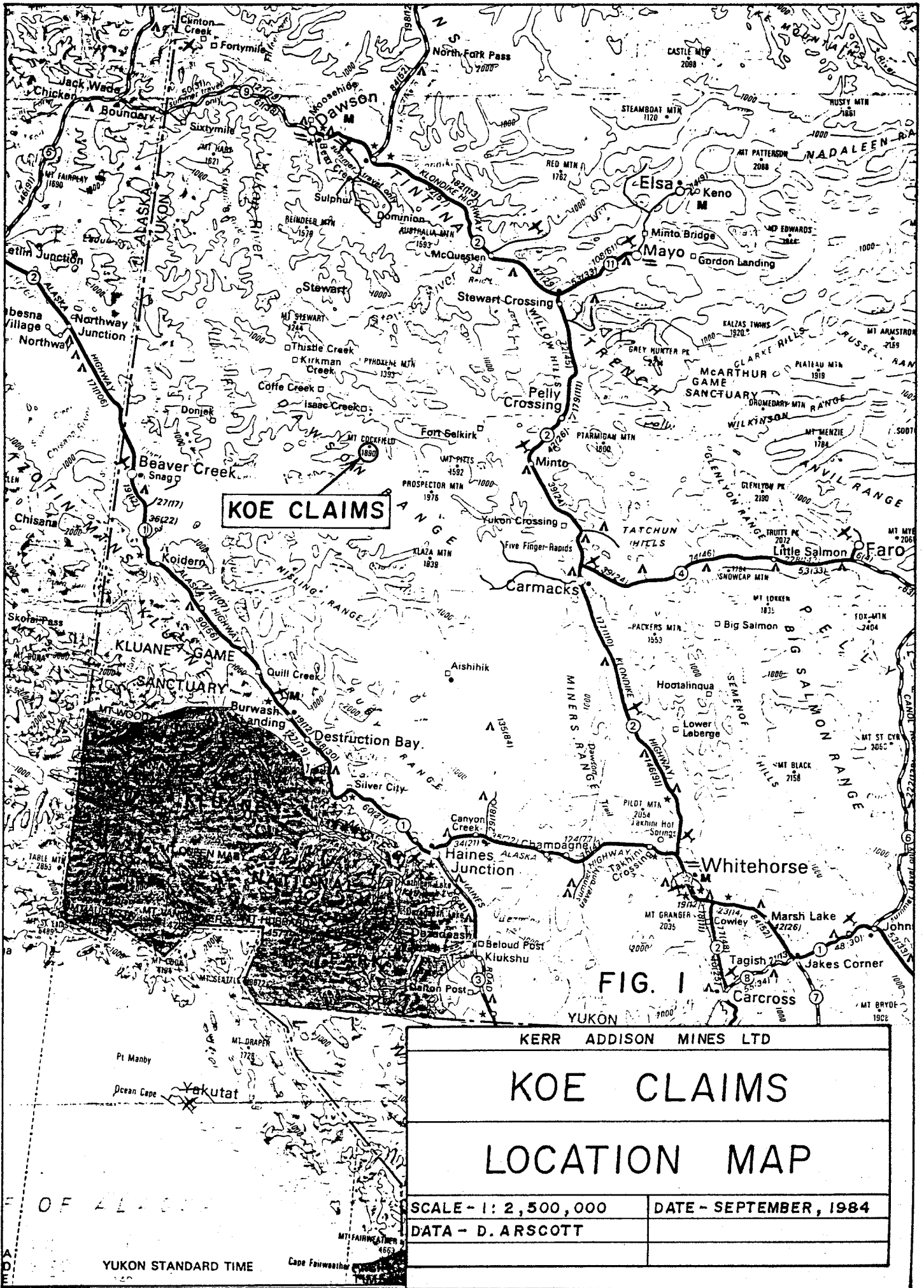
LEGAL DESCRIPTION

The KOE Property consists of two groups of independent claims, KOE 1 to 44 (YA78417 to YA78460) and KOE 45 to 48 (YA78461 to YA78464) respectively (Figure 2). The claims are owned by Kerr Addison Mines Ltd., Vancouver, B.C. and were recorded on September 11, 1983. Currently filed work should shift the anniversary dates forward to 11 Dec. 1988 and 11 December 1985 respectively for these two groups of claims.

TOPOGRAPHY AND VEGETATION

The property lies within the Dawson Range of the western Yukon Plateau. Continental glaciation has not affected the immediate area of the claims. They cover an S-shaped ridge with elevations ranging from 1260m ASL (4150') to 1760m(5800').

The property lies entirely above treeline with willow and alder bushes giving way to grasses and moss and then to unstable talus at higher elevations.



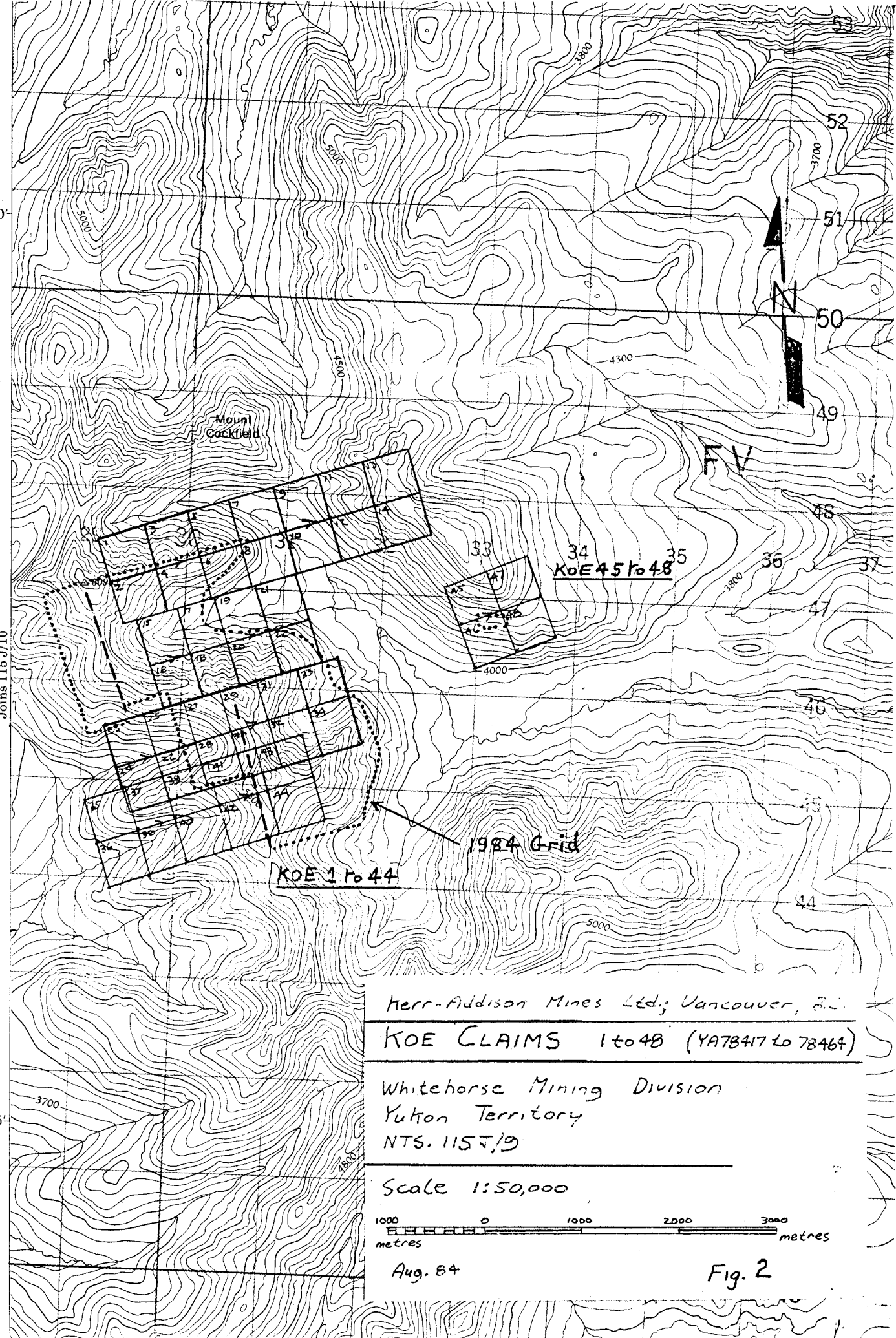
KOE CLAIMS

FIG. 1

KERR ADDISON MINES LTD	
KOE CLAIMS	
LOCATION MAP	
SCALE - 1: 2,500,000	DATE - SEPTEMBER, 1984
DATA - D. ARSCOTT	

YUKON STANDARD TIME

55
52
54
51
53 40'
50
52
49
51
48
50
47
49
48
47
46
45
44
35'
42
43
40
42



Mount
Cockfield

FV

KOE 45 to 48

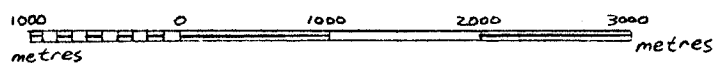
KOE 1 to 44

1984 Grid

Herr-Addison Mines Ltd; Vancouver, B.C.
KOE CLAIMS 1 to 48 (YAT8417 to 78464)

Whitehorse Mining Division
Yukon Territory
NTS. 1157/9

Scale 1:50,000



Aug. 84

Fig. 2

The instability of the talus is marked and gives the impression that the area may be subject to current uplift. Certain slopes (e.c. near 2N, 8E) seem not to be underlain by true talus, but by steeply sloping bedrock with a thin veneer of active rubble. In addition, the altered rhyolites survive less than a km in the creeks downstream from their sources and are obviously subject to very rapid comminution.

HISTORY

The immediate vicinity of the KOE claims was examined intensively for mineralization during the early 1970's. The KOKUP claims owned by Denison Mines Ltd. border the KOE claims to the north. Trenching and drilling have been performed intermittently on that property. The now expired BATTLE claims cover another Cu-Mo prospect adjoining the KOKUP to the north. Old grid pickets near the eastern boundary of the KOE claims indicate some work has been done on what is now the KOE ground. This area borders granitic intrusions and probably involved a Cu-Mo program. No other evidence of work has yet been found. The Casino Cu-Mo deposit lies 25 km north west of the KOE claims.

The staking of the KOE claims was the outcome of a regional program. The discovery of widespread float yielding geochemical values variably anomalous in Ag, Au, As and/or Sb led to staking in September 1983. Interest was particularly spurred by the discovery of one small piece of float (an altered rhyolite at roughly IN,8E) which assayed 140.2 oz/t Ag and 1650 ppb Au.

1984 PROGRAM

During 1984 work was performed on the KOE claims during the period July 25 to August 9. A detail sampling and control grid for 1:5,000 scale geological mapping was laid out. This consisted of approximately 33 kilometers of line, mainly on a 200m x 50m pattern. Each station was marked with a wooden picket bearing the grid location. Lines were placed utilizing hipchain and compass with slope corrections. The lines were then plotted on and adjusted against a contour overlaid orthophoto base. Detail prospecting and sampling, with hand trenching of selected locations, was accompanied by 1:5,000 geological mapping of the property. Mapping was aided by the use of a portable rocksaw and K-feldspar staining kit.

GEOLOGY

REGIONAL GEOLOGY

The KOE property lies within the Yukon Crystalline geological province, a region predominately underlain by Precambrian to Triassic schists and gneisses of the Yukon Metamorphic Complex. The metamorphic rocks have been intruded by granitic rocks ranging in composition from syenites to quartz diorite, and in age from Triassic to early Tertiary. Volcanics of Upper Cretaceous to Lower Tertiary age, with some sediments, locally overlie the metamorphics and older intrusives. The older plutonic rocks tend to occur in large northwest trending batholiths with numerous satellite stocks and dykes. The younger, smaller plutonic bodies are believed to be co-genetic with the volcanics. A more complete description of the regional geology may be found in Tempelman-Kluit (1974).

PROPERTY GEOLOGY

The KOE property is underlain by three suites of rocks. The most extensive are those regionally mapped as Tertiary Casino Volcanics (Tempelman-Kluit, Map 16-1973). They extend in a southeast trending belt from the northern boundary of the property through to and past the southern border. These rocks look similar to and may be the equivalent of the Mt. Nansen Volcanic suite. Lithologies range from massive to flow banded rhyolite and rhyolite lapilli tuff through to massive andesite and andesitic tuff with almost every conceivable combination in between. In general rhyolites and rhyolitic tuffs dominate to the north while dacites and andesites dominate to the southeast. Figure 3a (Property Geology) gives a more complete picture of the spatial relationships. Stratigraphic relationships are less clear.

Underlying the volcanic rocks to the southwest are gneisses and phyllites of the Yukon Metamorphic Complex. The contact between the two suites is marked in part by a southeast trending fault zone (the 'KOE Fault') through the central portion of the property and in part by a subhorizontal locally brecciated contact. Major intrusives of both the younger and older suites mark the northwestern and southeastern borders of the claims. Both suites have compositions near to or overlapping the mutual boundaries of granodiorite, quartz monzonite, and monzonite. Minor intrusives include granodiorite to monzonite dykes, andesite dykes and rhyolite dykes.

Some detail on the specific major units follows:

Volcanic Units

- 1) Rhyolite (R, Ra, R_f, R_{fa}): this unit ranges from a light tan all the way to a dark grey colour, weathering a lighter shade and commonly quite gossanous. The rock is very fine grained containing approximately 50-60% K-feldspar and 30% quartz as determined by staining. Flow banding is locally present (R_f) and alteration is quite common (Ra, R_{fa}). Intense clay, sericite, and ± hematite is observed near fault zones. The rhyolites in the north are characteristically pyritiferous (5%) in the form of pervasive and blebby pyrite and pyrrhotite.
- 2) Rhyolite Lapilli Tuff (Rtl): this rock is quite widespread in the northwestern quadrant of the property. It is usually light grey, with multi-coloured clasts weathering to a very light grey to white. The ground mass is fine grained containing abundant quartz and K-feldspar. Locally clasts show a high degree of

elongation due to plastic deformation, some stretched to 2-3 cm in length. Most appear to be rhyolitic in composition but deformation renders it difficult to tell. Clasts average from less than 1 up to 1.5 cm in size, are subrounded to subangular and comprise 10-20% of the rock. Towards the west near the contact with metamorphic rocks the tuff has a marked increase in the number of metamorphic clasts. This was also noted locally in a few other locations.

3) Rhyolite Volcanic Breccia - agglomerate (Rbv, Agg):

This unit was observed in only two distinct locations. It is identical to Rtl except for the larger size clasts. These larger clasts were observed occasionally throughout the rhyolite lapilli tuff but only in a very minor way. Where designated Rbv-Agg the unit has a majority of clasts greater than 4 centimeters in size. The matrix is a mix of fine grained K-feldspar and quartz as Rtl. Clasts range in size up to 20 centimeters with the average around 4 cm. They can comprise from 40 to 80% of the rock. Most of the clasts appear to be volcanic in origin ranging from rhyolite to dacite. Where the majority of clasts are rounded to subrounded the unit is designated an agglomerate.

4) Feldspar porphyritic Rhyodacite (RDp, Rd, RDfp):

This rock is dark green with white phenocrysts weathering to a medium grey-green. The groundmass is fine grained with a high percentage of K-feldspar, whereas the phenocrysts are almost totally plagioclase. The phenocrysts range in size from less than 1 mm

to 5mm, are subhedral, tabular to subangular and can comprise anywhere from 5 to 15% of the rock. Locally the unit exhibits flow banding (RDfp) and in some cases is only very mildly if at all porphyritic(RD).

- 5) Rhyodacite Lapilli tuff (RDtl-bv): This unit is medium grey-green with dark green, light grey and greenish clasts. The rock weathers a mildly gossanous grey brown and it is difficult to distinguish the "clastic" nature of it. The rock is predominately clasts (70%). They range in size up to 1 centimeter and are typically subangular. Two major lithologies dominate the clasts, one rhyolitic and the other a dacite-andesite. A small percentage (5%) of anhedral plagioclase is also found in this unit. The composition of the groundmass is difficult to determine in hand specimen and will have to be left to thin section analysis.

- 6) Dacite; porphyritic, flow (D, Dp, Df): These units are typically dark green weathering to a similar light shade. The groundmass is very fine grained, with a composition consisting of less than 1/3 K-feldspar thus the dacite designation. Locally the unit is flow banded (Df) and to a large extent feldspar porphyritic (Dp). Phenocrysts are generally less than 1 mm to 3 mm in size, comprising between 0 and 10% of the rock. The majority of the feldspar is plagioclase in composition. This unit is most extensive in the southeastern quadrant of the property where it is related to andesites in the area.

- 7) Dacite Lapilli tuff, volcanic breccia (Dt1, -bv):
This unit occurs in one small band in the southern portion of the property near the metamorphic/volcanic rock contact. The rock is medium grey with dark grey clasts and weathers to a light grey. The groundmass has a low K-feldspar content as determined by staining and the subangular clasts range from minor rhyolitic to a dacite-andesite but mainly appear to be very near the same composition as the groundmass. Clast size varies from less than 1 to 10 cm; with an average in the 1-3 cm range, and comprising 20-40% of the rock.
- 8) Andesite, Andesite tuff (A, At): These units are dark green weathering a similar colour. Staining of these fine grained rocks reveals no K-feldspar. The unit can take on a massive appearance (A) or frequently it has a laminated tuffaceous nature (At). It is impossible in the field to distinguish between the dacites and andesites at times. Only through staining is it possible to get a clearer distinction. Due to selective staining of only a few specimens, what has been mapped as dacite may in fact be andesite or vice versa. In general it appears the rocks become more andesitic towards the southwest.
- 9) Dacite-andesitic lapilli tuff(DAT1): This unit occurs primarily along a ridge top in the central portion of the claims. The rock is dark green weathering a medium green to local orangy-brown. A subtle colour difference between clasts and ground mass allows a distinction to be made only on the weathered surface.

Staining reveals primarily rhyolitic to dacitic clasts in an andesitic matrix, with both containing small anhedral plagioclase phenocrysts to 10%. Clasts are subangular, ranging in size up to 2 cm but averaging 5 mm, and comprising 20-30% of the rock.

- 10) Rhyolitic Debris Flow: A small outcrop of this distinct unit occurs in the southeastern portion of the claims. The unit is highly weathered and clay altered. It has a tan colour, weathering to a darker brown. Multi-lithic clasts (volcanic rocks) are typically subangular to subrounded ranging in size from less than 1 cm to 15 centimeters and comprise 10 to 30% of the rock. The clasts are surrounded by distinct flow banding with many swirls and curls especially in the vicinity of the clasts. The matrix has a moderate amount of K-feldspar as determined by staining and has intense clay alteration.

Intrusive Units

- la. Granodiorite to Monzonite dykes (GDi)(H6, H 19, H 24, D15A, D16RB): Pinkish hued, medium to fine grained, non-porphyrific to moderately prophyritic, present as northerly to northwesterly trending dykes in the central and northern areas of the grid. These are post volcanic.
- lb. Aplite (Apl): The aplite is found primarily in the gneiss near the volcanice rock fault contact (KOE fault) and is probably related to the granodiorite intrusions along the fault in this area. The unit is

typically white in colour on both fresh and weathered surfaces. It appears through staining to be a fine grained mix of K-feldspar and plagioclase and quartz.

2. Granodiorite to Monzonite to Quartz monzonite (GDi₂) (D 15, D 20, D 23, SL1, D 16RC): Coarsely porphyritic in K feldspar, averaging 50% plagioclase, 30% K feldspar, 10% quartz and 10% well formed mafics (bright biotite and lath-like hornblende). This is the unit which is associated with Cu-Mo mineralization, and which is probably co-genetic with the volcanics. It is present in what appear to be extensive stocks at numerous points peripheral to the volcanics.
3. Granodiorite (GDi₃) (H 12, D 16R?): A medium grained, equigranular with 50% plagioclase, 20% K feldspar, 20% quartz and 10% weakly chloritized mafics. This is present beneath the volcanics near the NW corner of the claims, and possibly underlying much of the volcanic mass N of KOE claims 45 to 48. This belongs almost certainly to the older suite (pre volcanic) of intrusives.

1983 thin section work marked the first two types of intrusive as hypabyssal, and the first and last as pre-deformation. This incidentally implies movement on the KOE fault subsequent to dyking.

These intrusive types are generally distinguishable in the field, although hybrids may exist between types 2 and 3. (e.g. D 21?) Since their formal compositions overlap, suffixes (1,2 and 3 commensurate with the above listing) are used on the geological map.

Yukon Metamorphic Complex(Gneiss, Phyllite, undifferentiated medasedimentary breccia (Gn, Phy, Msdbx): The metamorphic rocks occur in a large block in the southwestern quadrant of the property. They are comprised mainly of a biotite-quartz, biotite-feldspar quartz and augen gneiss containing numerous quartz veins and a few brecciated clay altered zones. Coarse brecciated gneiss, schist and phyllite zone cemented by a weak to intense silica alteration occurs along the northwestern volcanic rock/basement contact.

Structural Geology

Regionally the KOE property lies between the northwest trending Tintina and Shakwak fault zones, both of which are believed to have large right lateral displacements. Strong northwesterly trends are also evident on the property. The KOE fault trends approximately 145° through the claims as do numerous other faults. These faults are generally marked by a clay, silica, and sericite altered rubble, directly observed mainly on the ridge crests. Due to differences in elevations the basal volcanic contacts (approximately 1600 meters on the west and 1300 meters on the east side of the fault) a relative downward movement of the northeastern side is necessary but the exact trace of the movement is not obvious. Major lateral movement along the northwesterly faults is not evident in any offset lithologies. Faulting is believed to have occurred contemporaneously with volcanism (Arscott 1983, p.59). It is possible that more than one phase of movement has occurred along the same faults as evident by the brecciated quartz in some of the rubble zones along the main fault and by the fact that the dyke within the KOE fault is slightly deformed.

Less striking than the main northwesterly fault zones are minor northerly trending faults and a general northerly fracturing of the volcanic rocks, some which predates final intrusion.

Along the volcanic/phyllite contact on the NW side of the grid are breccias at two types, observable largely in talus. These are:

- 1) phyllite and volcanic fragments up to 5 cm in diameter in a volcanic matrix,
- 2) clast supported phyllite breccia with fragments up to 10cm in diameter, locally with a silicified matrix.

The first group probably represents the basal volcanic contact, but the origin of the second is obscure. It may also represent the basal contact (pre-existent talus), or it may be strictly structural in origin.

ECONOMIC GEOLOGY

General

A high proportion (30%) of the float selected for analysis proved to be anomalous. Thresholds were taken (from 1983 statistics) to be 4 ppm for Ag, 200 ppm for As, 10 ppm for Sb and 15 ppb for Au. On this basis, Sb proved to be most widely anomalous, As and Ag less generally so and Au more sporadically. Values in all metals are locally spectacular.

Anomalous float in felsenmeer and talus is spread along a NW trend some 2-7 km long and 1 km wide, designated in 1983 as Zone 5. Much of this float is within 600 m of the sinuous main topographic ridge. Some of it can be indirectly related by texture or location to northwesterly or northerly trending faults. At only two locations is it found in outcrop. These are the Rubble showing near 91S,13E and in a small outcrop at 0+40N, 7E.

Much remains to be done in locating the source of the anomalous float, but the proximity of some of the best of it to ridges, and our familiarity with which float types are productive are encouraging. Zones of particular interest for follow-up have been arbitrarily designated 5A to 5E.

Zone 5A (Figures 3 and 5)

Hand trenching has been carried out on an anomalous fault which appears to be a southward splay from the main NW KOE fault at 8+50S, 13E. Trench #1, on the "Rubble Showing" at this grid location, yields anomalous values only in Sb, while Trench #2, 220 m further south, has good Au and As values.

The best results from this trenching are:

DR 56 , 2.08 oz/t Ag, 0.042 oz/t Au, select
DR 61 , 5.30 " " , 0.003 " " , select
DR 57 , 1.86 " " , 0.06 " " , chip over 1.1 m

DR 57 is part of a broader section in Trench #2 which may be averaged (including a neutrally treated gap) to:

0.54 oz/t Ag, 0.012 oz/t Au, over 6.2 m.

The above values may be unreliable in that many of the samples are deeply oxidized.

A brecciated, recemented, brown to grey chalcedony vein is present in Trench #1. Although not well mineralized here, float samples of similar material have yielded up to 1200 ppm As , 19.4 ppm Sb and 20 ppb Au. The margins of the vein, and most of the fault immediately to the south, consist of strongly clay altered, variable sericitic gneiss or extremely oxidized grunge. Grey siliceous bands locally present in the fault contain thin seams of massive arsenopyrite (e.c. DR 56). A monzonite to granodiorite dyke (H 19) occupies the KOE fault just E of the trenching. It is fresh looking and is believed to be post-mineralization.

Strongly anomalous float is present in the vicinity of the trenching with peak values of 370 ppb Au, 6.0 ppm Ag, 10,000 ppm As and 240 ppm Sb. The peak specimen (JR48) has drusy quartz in a white siliceous matrix.

Four hundred metres W of the trenching there is a group of strongly anomalous values, entirely in float, peaking at 4000 ppb Au, 100 ppm Ag, 10,000 ppm As, and 450 ppm Sb (DR 14). This sample is moderately clay altered grey schist with abundant glassy quartz seamlets. The float is almost certainly emanating from NW trending faults and is close to source (near ridge). The host is all gneiss or schist.

Zone 5B

Further prospecting in the vicinity of the 1983 float sample yielding 140 oz/t Ag produced more anomalous float. At the same location, JR 20, a composit of 20 chunks of float over 100m yielded 50 ppb Au, 15 ppm Ag and 900 ppm As. Other interesting results included JR 21 (3400 ppb Au, 100 ppm Ag), LR 33 (10,000 ppb Au, 100 ppm Ag) and DR 24 (80 ppb Au, 35 ppm Ag). Most of the better values are well grouped in a complexly faulted area at a rhyolite-andesite contact. The only one clearly in place is DR 6 (660 ppm As, 39 ppm Sb). Several others can be assigned to narrow northerly trending faults (DR 24 and 25) and a NW trending (major?) fault (LR 28, DR 10, JR 19). The host rock for most of the anomalous samples is a rhyolite lapilli tuff, but some are present in the andesite. A large gossan and widespread clay alteration occupies the core of Zone 5B. The outlook for this zone is good, but further work will be hampered by the lack of outcrop and steepness of the north facing slopes.

Zones 5 C, D and E

Highly anomalous float samples are present at 2N 2E (JR 16), 6S, 21+50E (CR 16) and 4S 12E (JR 3). The first two samples are from felsic volcanics cut by drusy quartz stringers and the last from a fault breccia. All are within 80 m (horizontally) of topographic ridges.

Zone 7

(KOE 45 to 48 claims) (Figures 4a,4b)

A brief mapping and sampling program was undertaken on Zone 7 to follow up on a 43.0 ppm Ag value and a nearby 20 ppb Au value. The zone occupies a broad sloping topographic bench at the base of andesite flows. These overlie coarsely porphyritic quartz monzonite to granodiorite of the same type as that present at the Cu-Mo property 5 km to the WNW. Scattered boulders of corroded granitic material on the bench have disseminated pyrite and/or chalcopyrite. (DR 48). Rusty shears within the andesite (D 30R, D 31R) in this area, previously proved unproductive.

13 Soils were collected on a 50m x 100m grid covering the bench and analysed for Au, Ag, Sb and As as well as Cu and Mo. High values proved to be sporadic - 700 ppb Au and 12.5 ppm Ag. (Cu and Mo results not received at time of writing). From the two float samples collected in the same area, the most notable values were 7400 ppm Cu with 94 ppm Ag.

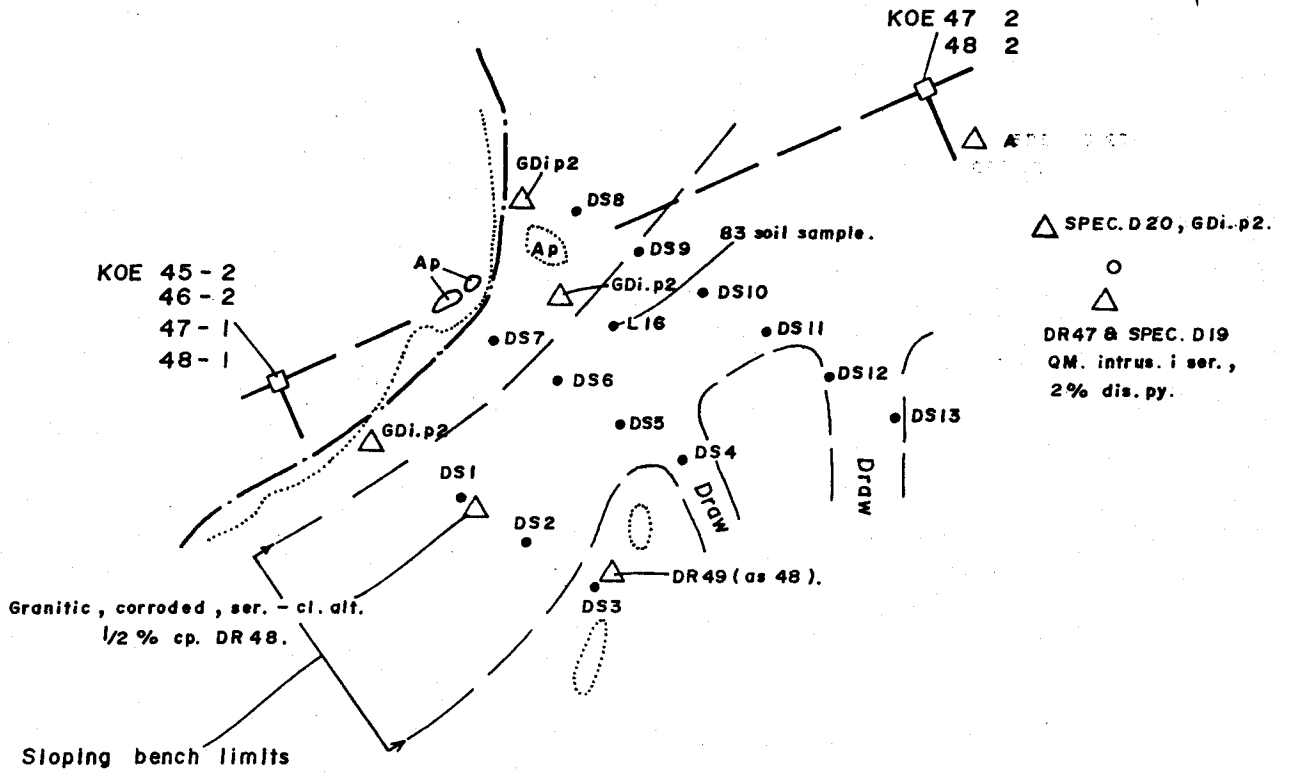
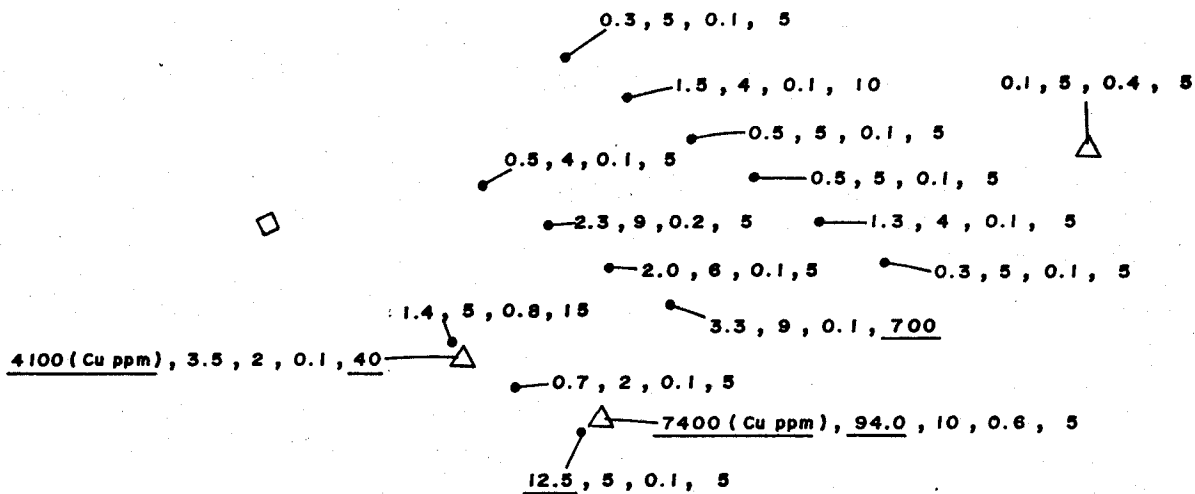


FIG. 4a

KERR ADDISON MINES LTD	
GOLD - SILVER REGIONAL, Y.T. 1984 PROGRAM	
KOE 46 to 48 CLAIMS TARGET 18	
MAPPING & SAMPLING	
SCALE - 1: 5000	DATE - SEPTEMBRE, 1984
DRAWN BY - P.HAILLOT	DATA - D.ARSOTT
NTS - 115 J 9	REVISED -



1.4 , 5 , 0.8 , 15
 Ag (ppm), As (ppm), Sb (ppm), Au (ppb).

FIG. 4 b

KERR ADDISON MINES LTD	
GOLD - SILVER REGIONAL, Y.T. 1984 PROGRAM	
KOE 46 to 48 CLAIMS TARGET 18	
GEOCHEMISTRY	
SCALE - 1: 5000	DATE - SEPTEMBER, 1984
DRAWN BY - P.HAILLOT	DATA - D.ARSCOTT
NTS - 115 J 9	REVISED -

Nature of Anomalous Samples

The anomalous material may be classified visually into a number of distinct types, as follows:

1. Chalcedony, brown to grey, brecciated and recemented, with weak Mn stain (DR 30, DR 45).
2. Grey siliceous sugary textured rock with abundant (botryoidal) Mn lining cavities and druses (Jr 32, JR 46).
3. Strongly clay altered rock with Mn coated fractures (LR 28, LR 32).
4. Chalcedony or extremely fine grained pale grey rhyolite, rusty weathering, with disseminated to blebby pyrite and arsenopyrite. (HR 9, JR 14).
5. Dusty grey, clay altered rhyolite (?) with common drusy quartz stringers (HR 1, DR 25, JR 36).
6. Fault breccia, chocolate-brown weathering, strongly clay altered, with calcite stringers (JR 19, DR 32).
7. Fault breccia, silicified, boxwork. Highly leached, rusty.
8. Highly leached, porous, limonitic, grey, siliceous rock. (JR 13, JR 37, DR 50).
9. Quartz, white, intensely clay-rich, porous, cut by drusy quartz stringers (JR 48).
10. Quartz or grey rhyolite, brecciated, clay altered (DR 14).
11. Grey siliceous sugary textured rock, highlighted by drusy quartz and thin (1cm) lenses of massive arsenopyrite (DR 56, DR 61).

12. Andesite, brecciated, moderately chloritized, rusty weathering, moderately leached, with several % blebby pyrite. (DR 3) (This material is abundant but rarely productive of high geochemical values).

In general it can be said that anomalous samples show sericite, clay and variable siliceous alteration. Some are obviously vein material but most are brecciated and limonitic and often leached. Most of the latter originate in fault zones, but a stockwork source is also possible. Some of the most strongly anomalous samples are cut by drusy quartz stringers, suggestive of open space filling.

Few of these sample types are restricted to any specific locality within Zone 5. Further prospecting may clarify their distribution or relate them to specific types of source.

Economic Potential

Our discoveries have yet to slip neatly into any of the generally accepted categories of precious metal mineralization. They could at worst represent a very extended, sparse leakage system from the Cu-Mo mineralization to the N. At best, vein/stockwork systems could be present, associated with the major NW faulting and its subsidiaries. Certainly the quantity and quality of anomalous rock is encouraging, as is the widespread alteration and general geological complexity. With the exception of the area trenched however nothing is known of the size or geometry of the anomalous sources.

RECOMMENDATIONS

	<u>Approx. Cost</u>
Trenching:	
Deepening of 4 hand trenches in the hand trenched area, new trenching at 0N, 8E and 0+60N,5E 1 week @ \$600./day. 14 person days	\$ 4,200.
Detail prospecting/mapping, mainly subzones in Zone 5 and to SE 20 person days, 200 rock samples	8,000.
Gridding:	
Upgrading of present grid to full 100 m line spacing over area 1 Km wide, 2.6 Km long, encompassing Zone 5. 10 line km. 8 person days	1,200.
Soil Sampling:	
Over above grid as talus permits (50% of area?) on 100 x 25 m pattern. 20 person days. 600 samples.	15,000.
VLF-EM:	
Subject to orientation check, an attempt to delineate faulting on above grid. 26 line km. 10 person days.	1,500.
Magnetometer Survey:	
On above grid, for lithology and structure 26 line km. 8 person days	1,200.
Access cost, from Whitehorese, for all of the above.	
8 person days, 15 helicopter hours. Truck	11,000.

Assessment Fees	\$ 1,000.
Pre-field Preparation	2,000.
Report and Drafting	3,000.
Other	1,000.
	<hr/>
TOTAL RECOMMENDED WORK	\$49,100.

D. Arscott

D. Arscott
1 Sept/84.

SELECTED REFERENCES

Arscott, D.,

1983: 1983 Yukon Gold-Silver Regional Program,
Project Y-6, Dawson & Ruby Ranges, Y.T.;
for Kerr Addison Mines Ltd. (Company
Report).

Douglas, R.J.W.,

1980: MacMillan River, Yukon- District of
Mackenzie - Alaska, Sheet 105, 115;
GSC Map 1398A.

Tempelman-Kluit, D.J.,

1974: Reconnaissance Geology of Aishihik Lake,
Snag and part of Steward River Map
Areas, West Central Yukon: GSC Paper 73-74.

STATEMENT OF COSTS
1984 FIELD PROGRAM

KOE CLAIMS

(26 July - 8 August 84)

<u>Labour</u>	<u>Office</u>	<u>Field</u>	<u>Travel</u>	<u>Total</u>
D. Arscott, Geologist, 2275 W. 20th Ave. Vancouver, B.C.	1	11	1	13
J. Pautler, " , 4912-62nd Street Ladner, B.C.	-	9	1	10
L. Grexton, " , 1761-16th Ave. W., Vancouver, B.C.	-	9	1	10
H. Copland, " , Site 20, Comp. 109 R R #1, Whitehorse, Y.T.	1	13	1	15
C. Baldys, " , 9013 Steveston Hwy, Richmond, B.C.	-	13	1	14
				<hr/>
				Total Person Days 62
				Total Wages (including 15% burden) \$7630.

Expenses

Helicopter: 25 July 1.7 hrs	
26 July 1.0 "	
30 July 1.0 "	
1 Aug 1.0 "	
4 Aug 1.8 " (pro rated)	
6 Aug 1.2 " (pro rated)	
9 Aug 0.5 " (pro rated)	
8.2 hrs @ \$540./hr	\$4428.

Analyses:

9 rocks @ \$30.25 Au, As, Sb, Ag (assay)	272.25
161 rocks @ \$17.75 Au, As, Sb, Ag (geochem)	2857.75
60 rocks @ \$4.00 Sn	240.00
3 rocks @ \$2.00 Cu	6.00

Food: 62 days @ \$15.00	930.00
Hotel: 24 July	130.00
Field supplies: pickets, propane, camp hardware, etc.	500.00
Truck: 14 days @ \$45.00	630.00
Orthophoto:	2614.00
Shipping:	222.00

TOTAL PROGRAM COST \$20,460.00

This total represents a conservative figure for the cost of the 1984
KOE Claims program.

D. Arscott
D. Arscott

GEOCHEMICAL PROCEDURES

A total of 15 soil and 191 rock samples were collected on the KOE claims during 1984. Thirteen of the soils and 3 of the rock samples came from KOE 45 to 48 while the remainder came from KOE's 1-44. Soil samples were collected from the "B" solid horizon wherever possible. The majority of the rock samples are grab samples from talus and felsenmeer. Eighteen of the rock samples are relatively representative chips from the trenches.

All samples were sent to Chemex Labs Ltd., North Vancouver, B.C., for preparation and analysis using standard procedures. All samples were analyzed for Ag, Sb, As, Au with approximately every fourth sample additionally test for W and Sn. Au was analyzed by Atomic Absorption following Fire Assay pre-concentration.

Sample	Location (on grid)	Type	KOE 1984 BEST SAMPLES	
			Description	Anomalous Values
Y18-JR3	11+90E, 3+90S	Grab float	rhyolite breccia from fault zone, quartz stringers, 1-2mm in size, intense iron stain, weak Mn stain	10,000 ppb Au 17.0 ppm Ag 1100 ppm As 105.0 ppm Sb
Y18-LR33	8+30E, 2+40S	Grab float	massive drusy quartz, terminated quartz crystals in vugs, medium grained, intense rusty pods, from 1 angular cobble in rhyolitic lapilli tuff	10,000 ppb Au 100.0 ppm Ag 2000 ppm As 10,000 ppm Sb
Y18-JR16	1+80E, 2+10N	Grab float	drusy quartz stringers in rhyolite tuff or lapilli tuff	10,000 ppb Au 100.0 ppm Ag 2000 ppm As 100.0 ppm Sb
Y18-DR14	10+30E, 10+00S	Grab float	schist, grey, with moderate clay alteration. Cut by quartz seamlets	4000 ppb Au 100.0 ppm Ag 10,000 ppm As 450.0 ppm Sb
Y18-JR21	7+20E, 1+20N	Grab float	fault gouge, very porous, recemented (?) with Fe and quartz	3400 ppb Au 100.0 ppm Ag 3800 ppm As 610 ppm Sb
Y18-DR 57	Trench #2	Chip over 1.1 m	Grunge. Moderately pyritic, locally siliceous	0.060 oz/t Au 1.86 oz/t Ag As & Sb N/A

Sample	Location (on grid)	Type	Description	Anomalous Values
Y18-JR50	14+40E, 9+50S	Grab float	drusy quartz veins to 1cm wide cutting medium to intensely clay altered gneiss, zone 40m long trending 140°	1350 ppb Au 23.0 ppm Ag 4200 ppm As 150.0 ppm Sb
Y18-DR56	13+20E, 9+70S	Select	pale siliceous sugary material with thin seams of massive arsenopyrite.	0.042 oz/t Au 2.08 oz/t Ag As & Sb N/A
Y18-DR54	13+20E, 9+70S	Chip over 47cm	section sampled includes material of type DR56 and drusy quartz as well as leached rusty grunge.	0.040 oz/t Au 0.54 oz/t Ag As & Sb N/A
Y18-JR39	9+00E, 9+90S	Grab float	fault rubble, limonitic, traceable over +70 metres trending approximately 150°	750 ppb Au 62.0 ppm Ag 1600 ppm As 62.0 ppm Sb
Y18-DR38	10+00E, 5+00S	Grab float	chalcedony , grey to brown	725 ppb Au 100 ppm As 36.0 ppm Sb
Y18-HR1	11+25N, 16+00E	Grab float	float fragments of white to glassy quartz, medium to coarse grained, pieces 204 cm in size, weak limonitic stain; on contact between rhyolite and dacite	615 ppb Au 11.6 ppm Ag 5600 ppm As 52.0 ppm Sb


Sample	Location (on grid)	Type	Description	Anomalous Values
Y18-JR48	13+20E, 9+70S	Grab float	drusy quartz vein breccia with veinlets from a few millimetres to +5 cm in width, brecciates intensely clay and weakly sericite altered gneiss	370 ppb Au 6.0 ppm Ag 10,000 ppm As 240.0 ppm Sb
Y18-DR53	13+20E, 9+70S	Chip over 30 cm	schist ?, intensely rusty, friable	0.01 oz/t Au 0.13 oz/t Ag As & Sb N/A

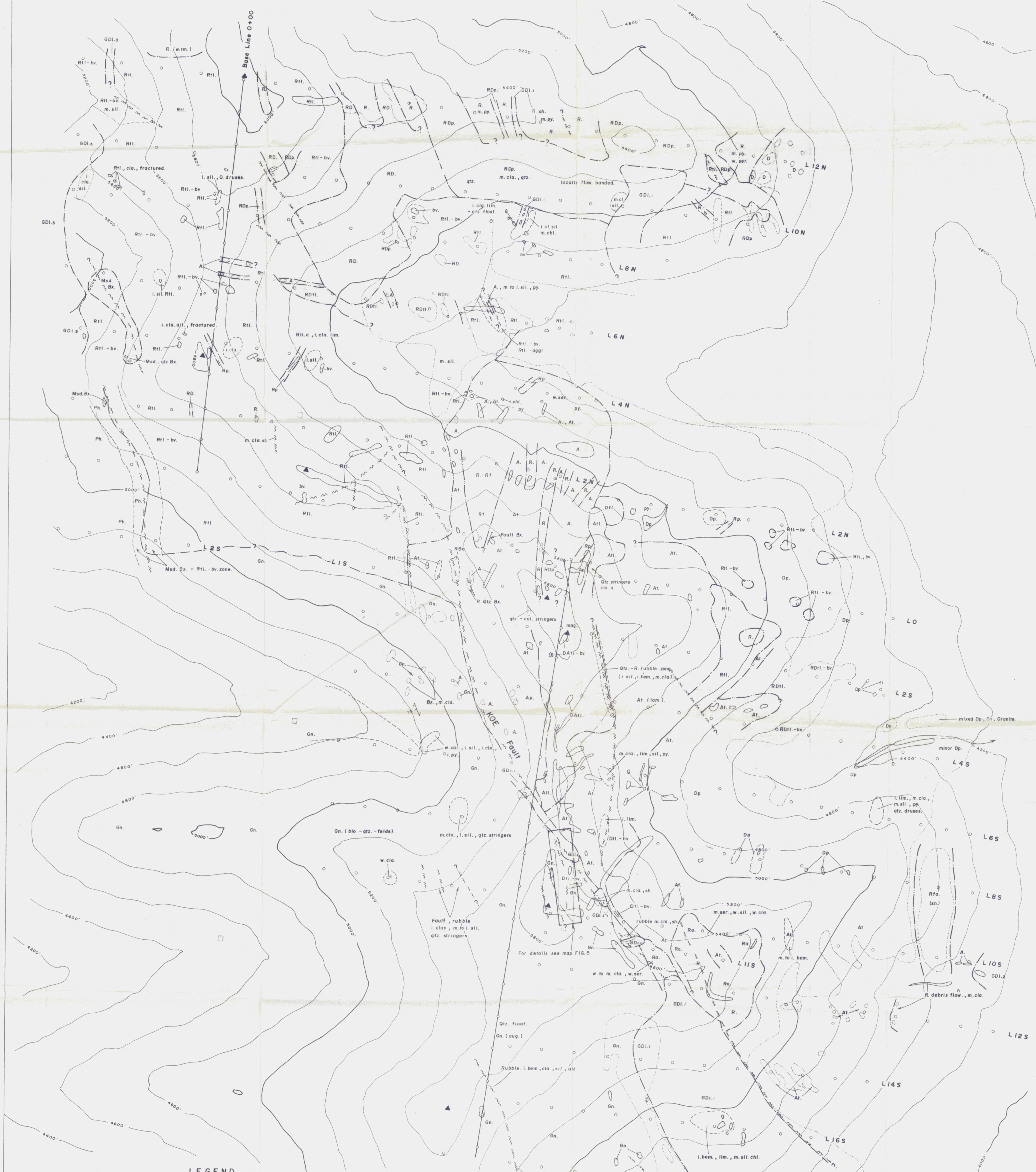
QUALIFICATION

I, David Philip Arscott, am a Professional Engineer registered in British Columbia.

I have had 17 years experience in Mineral Exploration, mainly in the Canadian Cordillera.

I directed the 1984 program on the KOE Claims and aided directly in the fieldwork.


David Arscott, P. Eng.



LEGEND

- GDI.1 GRANODIORITE - MONZONITE - Dykes, pinkish tint, fine to medium grained, non porphyritic to moderately porphyritic.
- GDI.2 GRANODIORITE (Qtz monzonite - monzonite) - K-spar porphyritic, coarse grained, well developed biotite and lath like hornblende.
- Ap. APLITE - Light tan to white, fine grained, dykes & lenses in gneiss.
- R RHYOLITE (Ra - altered, Rf - flow, Rfo - altered flow, Rp - porphyritic) - Tan to dark grey, fine grained, locally flow banded, altered or feldspar porphyritic.
- RH RHYOLITE LAPILLI TUFF - Light grey to white, multi-lithic clasts averaging 1cm in size, locally deformed.
- Rbv-agg RHYOLITE VOLCANIC BRECCIA - AGGLOMERATE - Similar to RH, clasts angular to rounded up to 20cm in size.
- RD, RDp RHYODACITE (Feldspar porphyritic) - Dark green, aphanitic to plagioclase porphyritic, subhedral phenocrysts to 5mm.
- RDI RHYODACITE LAPILLI TUFF - Medium grey - green, rhyolitic to andesitic clasts to 1cm in size.
- D, Dp, Df DACITE (Porphyritic, flow) - Dark green, aphanitic to plagioclase (minor K-spar), porphyritic, locally flow banded.
- DI, -bv DACITE LAPILLI TUFF - VOLCANIC BRECCIA - Medium to dark grey, fine grained, matrix with clasts to 10 cm of similar composition.
- A, At ANDESITE, ANDESITE TUFF - Dark green, very fine grained, massive (A.) to laminar (At.).
- D-At DACITE - ANDESITE LAPILLI TUFF - Dark green, dacitic clasts in fine grained andesite matrix, clasts to 2cm in size.
- RDI RHYOLITIC DEBRIS FLOW - Tan to dark brown, clay altered, multi-lithic clasts to 15 cm in size, intense flow banding.
- GDI.3 GRANODIORITE - Medium grained, equigranular, 40% plagioclase, 20% K-spar, 30% quartz, 10% mafics.
- Gn GNEISS, PHYLLITE, UNDIFFERENTIATED METASEDIMENTS - Biotite-quartz and biotite-quartz feldspar gneiss, augen gneiss, phyllite, metasediments locally brecciated.

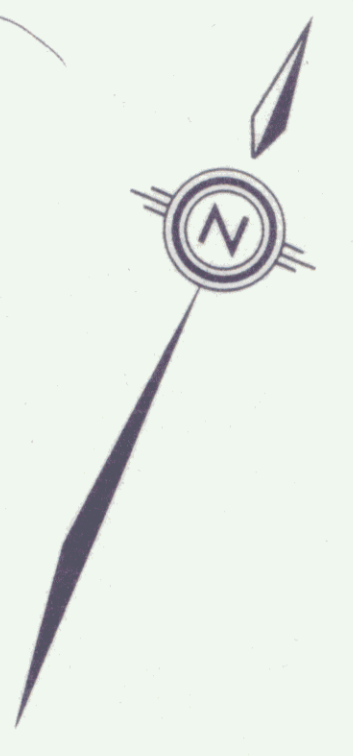
w weak m medium Bx. Brecciated
 l strong a alteration sh. Shear
 cla clay sil. silicification chl. Chlorite
 qtz quartz py pyritic mag. Magnetite
 hem hematite

NOTE - Geological units not necessarily in geochronological order.

091568
 FIG. 3a



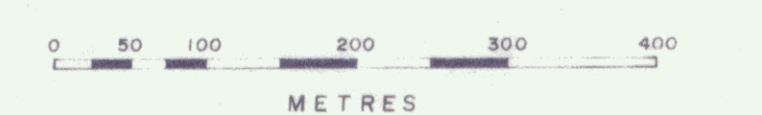
KERR ADDISON MINES LTD	
TARGET 18	
KOE CLAIMS	
GEOLOGY	
SCALE - 1:5000	DATE - SEPTEMBER, 1984
DRAWN BY - P HAILLOT	DATA - D.A., J.P., L.G., C.B.
NTS - 115 J 9	REVISED -



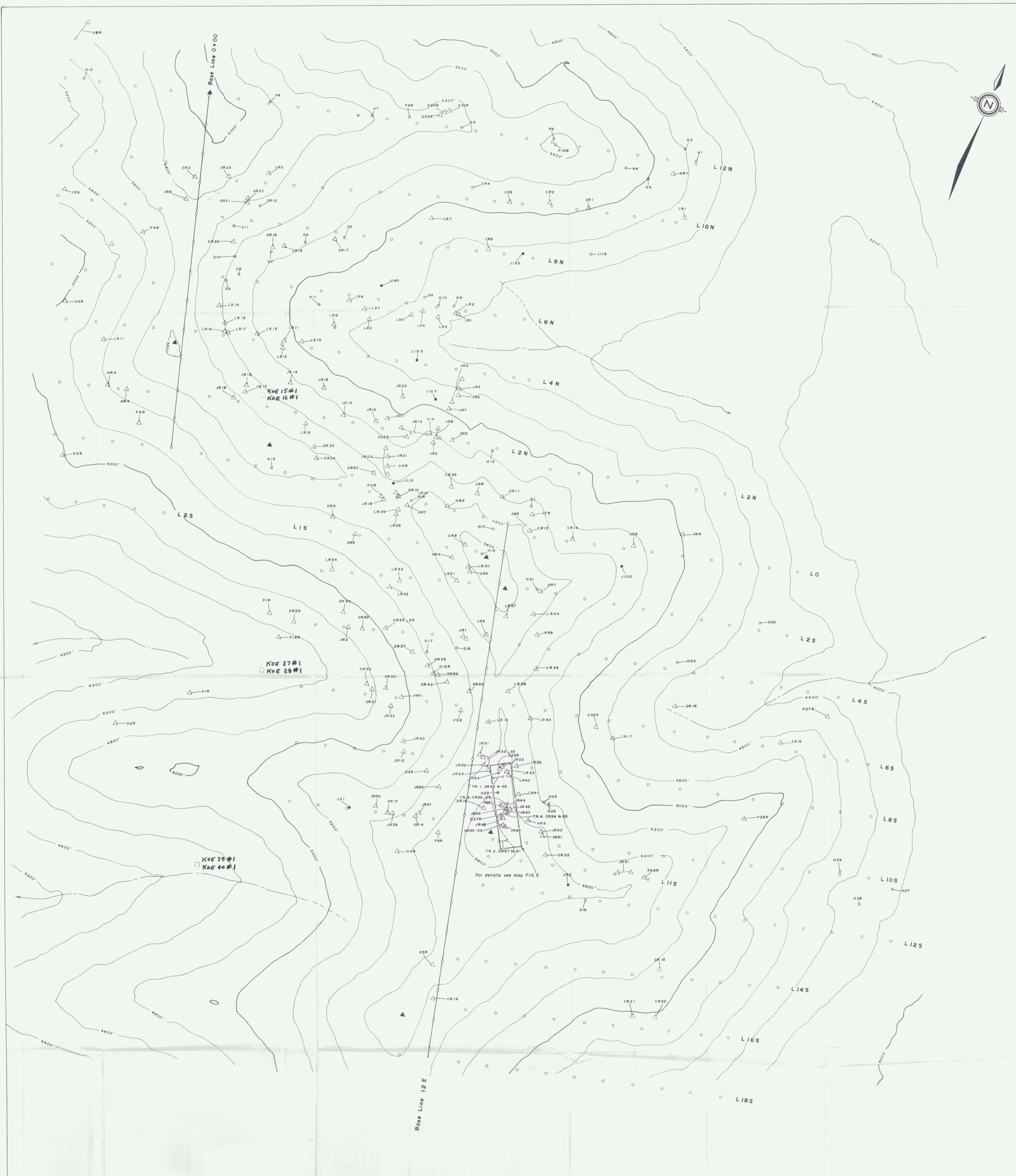
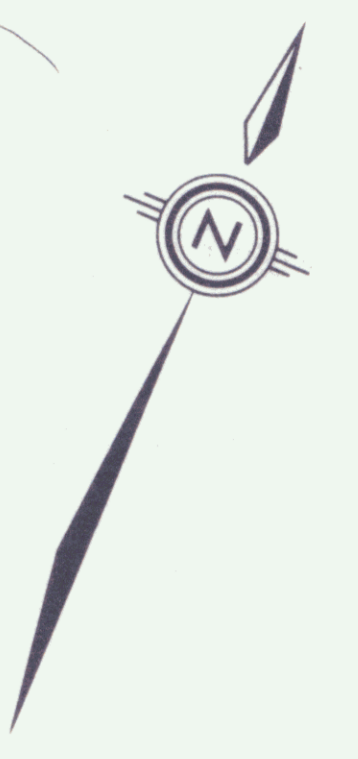
4.7, 1300, 7.6, 10
 Ag (ppm), As (ppm), Sb (ppm), Au (ppb).

5A Anomalous zones

091568
 FIG. 3b



KERR ADDISON MINES LTD	
TARGET 18	
KOE CLAIMS	
GEOCHEMISTRY	
SCALE - 1:5000	DATE - SEPTEMBER 1984
DRAWN BY - PHAILLOT	DATA - D.A., J.P., L.G., C.B.
NTS - 115 J 9	REVISED -



LEGEND

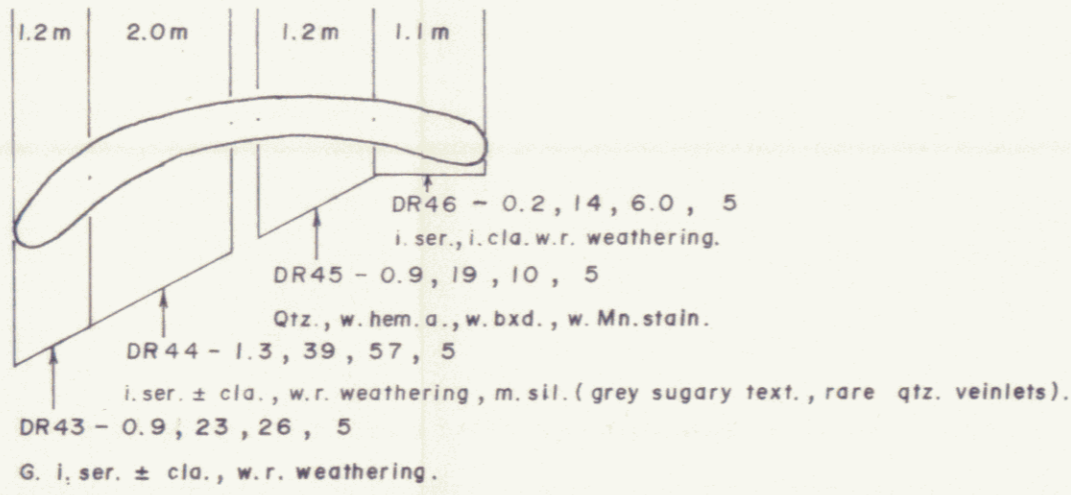
- , △ Rock sample location - outcrop, subcrop (talus or felsennear).
- 1984 samples - DR, CR, LR, JR, HR
- 1983 - D-R, J-R, P-R, L-R (Sample locations more approximate)
- Soil sample location - JS (1984), J-S, L-S (1983)
- Specimen location - H, D (1984)
- Claim post
- Station on grid line
- ▲ Mountain peak

091568
FIG. 3c



KERR ADDISON MINES LTD	
TARGET 18	
KOE CLAIMS	
SAMPLE LOCATIONS	
SCALE - 1:5000	DATE - SEPTEMBER, 1984
DRAWN BY - P HAILLOT	DATA - D.A., J.P., L.G., C.B.
NTS - 115 J 9	REVISED -

TRENCH 1

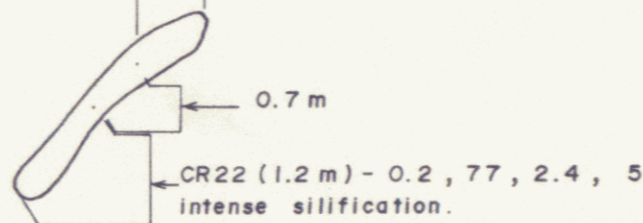


9S, 13E

CR23 (1.0m) - 0.3, 24, 8.6, 5
Gn. sch. i. cla., hem., chl., sil. alt.
Gradually increasing silification.
qtz. stringers, veinlets 2 to 20 mm thick.

GRID LINE 9S

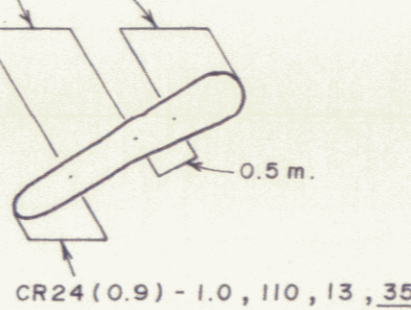
TRENCH 3



CR25 (1.0m) - 0.9, 120, 48, 5
Sch., i. cla. w. hem. with qtz. stringers + qtz. rubble above CR24.

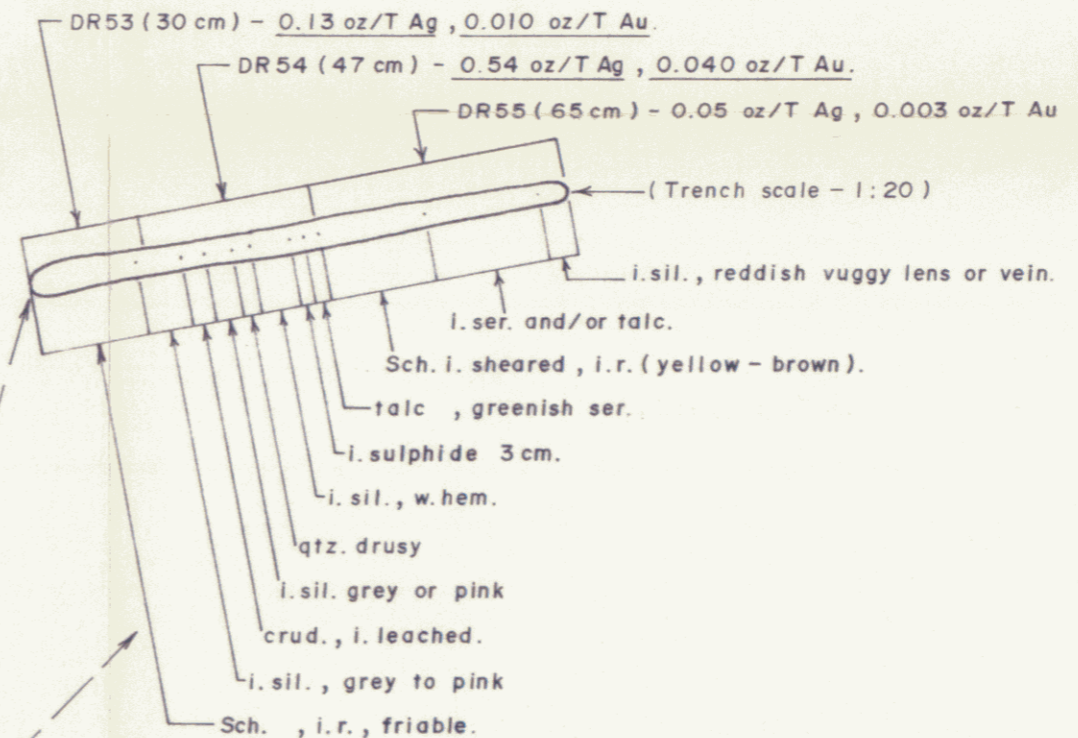
CR26 (1.0m) - 5.2, 540, 560, 5
Sch., i. cla. a., w. hem.

TRENCH 4



Scale - 1:100
Scale - 1:500

"TRENCH"



DR57 (1.1m) - 1.86 oz/T Ag, 0.060 oz/T Au.
Grunge. m. py., i. sil. with 2 possible (i. leached) 25 cm high grade zones.
Shearing appears to be 005/80° W.

DR58 (2.2m) - 0.12 oz/T Ag, 0.006 oz/T Au.
Sch., i. cla. a. ± ser. a. (This section not continuously exposed).

DR59 (1.4m) - 0.18 oz/T Ag, 0.003 oz/T Au.
Sch., i. cla. a. ± ser. a.

(1.8m) - qtz. chl. sch. s., sheared, w.-m. r.
(1.2m) - chl. qtz. Sch., m. sheared, no r.

TRENCH 2

091568
FIG. 5

10S, 13E

GRID LINE 10S

Select specimens:

- DR56 - 2.08 oz/T Ag, 0.042 oz/T Au. sample from sulphide section within 47cm section from "TRENCH".
- DR60 - 0.06 " , 0.003 " . moderately select grab of qtz. float from poorly exposed 1.8m section from TRENCH 2.
- DR61 - 5.30 " , 0.003 " . highly select collection of float from TRENCH 2.

0.2, 77, 2.4, 5 - Ag (ppm), As (ppm), Sb (ppm), Au (ppb).

KERR ADDISON MINES LTD

**GOLD SILVER REGIONAL
YUKON TERRITORY
1984 PROGRAM
KOE CLAIMS
TARGET 18**

**TRENCHING
LITOLGY, GEOCHEMISTRY
& CHIP SAMPLE LOCATIONS**

SCALE - 1:100(V), 1:500(H) DATE - SEPTEMBER, 1984
DRAWN BY - P. HAILLOT DATA - D. ARSCOTT, C. BALDYS
NTS - 115 J 9