

\* EIP86-009 \*

REPORT  
ON THE  
GEOLOGY, GEOCHEMISTRY and DRILLING  
OF THE



**K I W I P R O S P E C T**

(KIWI 1-6, 9, 11, 13; SEELA 1-75)

Lat. 64°45'N, Long. 138°45'W

NTS SHEETS 116B/10 and 15

PERIOD: March-April and July-October 1986

For

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And

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By

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November 21, 1986

**091901**

This report has been examined by  
the Geological Evaluation Unit  
under Section 53 (4) Yukon Quartz  
Mining Act and is allowed as  
representation work in the amount  
of \$ 35,400.00

*D. A. Edmond*

*for* Regional Manager, Exploration and  
Geological Services for Commissioner,  
of Yukon Territory.

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## SUMMARY

In April and July to October 1986, a bulldozer trenching and preliminary diamond drilling exploration programme was carried out by Dawson Eldorado Mines Ltd. on their KIWI property of northern Yukon Territory, while under option to Canadian-United Minerals, Inc. of Vancouver, B.C.

The claims are underlain by dense, southerly dipping dolomites believed to be of Proterozoic age, which are overlain by porous, limy dolomites of probable Silurian age. Both formations are disrupted by two sets of conjugate northwest and southwest trending joints and fractures which occasionally form well defined fault-breccia zones.

Open-space filling type mineralization of zinc, lead and silver is locally hosted by these fault-breccia structures. A total of four known and two float-indicated occurrences have been recognized along a 600 metre long, northwest trending belt. A third indicated occurrence may be found 300 metres south-west of the belt. Mineralized zones are up to 8 metres wide and may be traced from 50 to more than 100 metres along strike.

Mineralization is similar to that encountered at the "Mississippi Valley" type Goz Creek deposit. It consists of smithsonite with limonite, minor galena and trace, relict sphalerite. The smithsonite is secondary after sphalerite. The Kiwi deposit, however, is characterized by higher grades of zinc, lack of relict sphalerite, and the restriction of the oxidation to the fault breccias. This supports a hypothesis that the smithsonite has been partially remobilized from its source area, and re-precipitated along the known the known fracture zones. It is believed that larger concentrations of primary sphalerite exist below the oxidized zone.

(ii)

Chip samples from the seven known occurrences range from 5 to 29% zinc, 0.1 to 30% lead and trace to 5.2 oz./T silver, over intervals of 1 to 5 metres.

The size and grade potential appears excellent in view of the quantities and quality of indicated mineralized zones. Continued trenching of unexposed zones and diamond drilling of mineralized structures is warranted for 1987. A total of 3000 metres of NQ drilling is recommended. Costs for the programme are estimated at \$450,000.

## INTRODUCTION

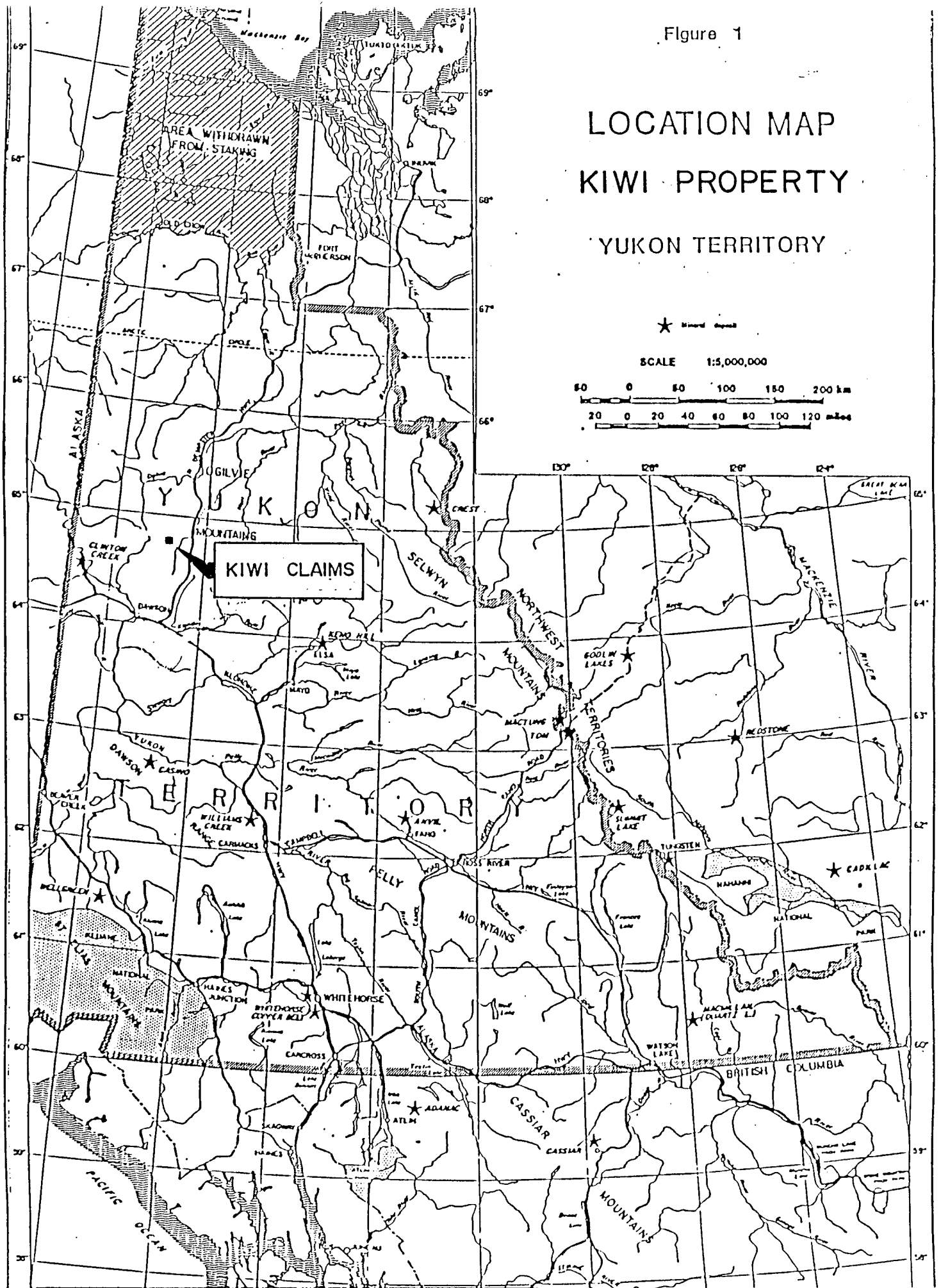
Dawson Eldorado Mines Ltd. of Calgary, Alberta, has completed a detailed bulldozer-trenching and preliminary drilling programme on their KIWI zinc-lead-silver property of northern Yukon (figure 1). The work also involved detailed geological mapping and rock sampling of the trenches. The programme was completed with a view to expose the bedrock sources of previously detected soil geochemical anomalies and mineralized float.

Dozer trenching, mapping and rock sampling was carried out during March 16 to April 23, 1986 and July 5 to August 19, 1986. The drilling programme was conducted between September 28 and October 20, 1986.

The author has completed this report through review of company reports, government publications and personal examination of the property in April, July and September-October 1986.

Figure 1

# LOCATION MAP KIWI PROPERTY YUKON TERRITORY



**PROPERTY and TITLE**

The Kiwi property (figures 1 and 2) is under option to Canadian-United Minerals, Inc. of Vancouver, B.C. Dawson Eldorado Mines Ltd. ("DEM") had previously acquired 100% working interest in the Kiwi 1-6, 9,11,13 claims (subject to a 15% net profits interest) from the Cyprus Anvil Mining Corp. (Dome Petroleum) in 1984. Cyprus Anvil has subsequently assigned its interest in the ground to Curragh Resources of Toronto, Ontario.

The Kiwi group consists of 84 full size mineral claims as tabulated below:

<u>Claim Name</u>	<u>No. of Claims</u>	<u>Tag No.</u>	<u>Expiry Date</u>
KIWI 1-6 incl.	6	Y82919-924	Dec. 31 1988
KIWI 9	1	Y82927	"
KIWI 11	1	Y82929	"
KIWI 13	1	Y82931	"
SEELA 1-51 incl.	51	YA84500-550	Dec. 31 1987
SEELA 52-75 incl.	24	YA87911-934	Apr. 16 1987

The SEELA 1-51 claims were staked in 1984. The SEELA 52-75 claims were recorded on April 16, 1986.



### LOCATION, ACCESS and PHYSIOGRAPHY

The Kiwi group is located 6 kilometres east of Seela Pass, approximately 100 kilometres northeast of Dawson City, Yukon Territory, at Latitude  $64^{\circ}45'N$  and Longitude  $138^{\circ}45'W$  (Figure 1). This is on NTS Map Sheets 116B/10 and B/15.

Currently, access is provided by helicopter with vehicle support from the Dempster Highway, 21 kilometres to the east. Chapman Lake, 28 Km northeast of the claims, is suitable for large float-equipped aircraft and a serviceable, all-weather airstrip is located at Mile 76 of the Dempster Highway (30 Km northeast of the Kiwi group). Travel off the Dempster Highway is restricted at present due to land use regulations governing a 5 kilometre strip on either side of the road. In 1986, however, permission was granted to DEM to cross the Dempster corridor and access to the property was obtained by a 28 Km tractor-trail along the northwesterly side of the Blackstone River.

Topography in the area is moderately steep, with elevations ranging from 1050 metres to 1700 metres ASL. The region is barren of vegetation except for tundra-like moss and grass in the wide, flat valley-floors. Slopes are steep and covered with a layer of talus up to a few metres thick. Outcrop is not abundant, occurring principally along ridges and in ravines. Permafrost has been noted to a depth of 5 metres.



## HISTORY

The Kiwi claims were originally staked in 1974 by Cyprus Anvil Mining Corp. (Dynasty Explorations Ltd.) to cover a lead-zinc geochemical anomaly which had been located by regional exploration (Dean and Carne, 1975). Cyprus Anvil conducted limited soil sampling in 1974 and followed up with a detailed soil geochemical survey in 1975 on the area presently being explored. A number of anomalous areas were located in 1975 and 9 hand-trenches, as well as several smaller pits, were excavated in areas of high geochemical response (6000 ppm lead) and visible float mineralization (figure 3). The trenching partially exposed several zones of lead-zinc mineralization, one of which contained 20% zinc, 16% lead and 3.2 oz./T silver over a length of 10.6 metres (McLennan, 1975).

Although further mapping and preliminary drilling was recommended for the 1976 season, Cyprus Anvil elected to shelve the property. No further exploration has been recorded on the claims until DEM acquired the key KIWI claims in 1984, and completed preliminary rock sampling in 1984/85. In 1985, Noranda Ltd. briefly examined the property on an unsolicited, permitted basis (White, 1986). Results from their study raised the possibility for the existence on the property of stratabound mineralization (manto-type) in conjunction with fault-fracture controlled mineralization (White 1986, Van Angeren 1986).

The 1986 trenching and drilling programme was oriented towards verifying this possibility. Cost outlays and the technical aspects of the 1986 exploration programme are outlined in Appendix I and II.

Canadian-United Minerals, Inc. optioned the property in mid-1986.

## GEOLOGY

The KIWI group is located within the Ogilvie Mountains of the MacKenzie and Rocky Mountains fold-belt, the regional geology comprising mostly a series of clastic and carbonate strata of Proterozoic to Paleozoic age (Green, 1972). Green mapped the immediate Kiwi area as being underlain by two Proterozoic formations which he described as such:

Unit 2b - buff and orange dolomite; dark shale, minor quartzite limestone and conglomerate.

Unit 2c - massive cherty and quartzose grey dolomite; thin-bedded buff weathering grey dolomite, minor black shale and white quartzite.

North of the property, he also mapped Ordovician to Silurian carbonates as follows:

Unit 8 - Grey and buff weathering dolomite and limestone, mostly medium to thick bedded; minor platy, black argillaceous limestone and dolomite.

The most distinctive features of unit 8 are the pale grey color and sugary texture of the dolomites, whereas unit 2c is characterized by dense, grey-weathering siliceous dolomite. Unit 2b has a distinctive orange weathering color.

Structurally, the Kiwi claim group is located on the southeastern edge of the Coal Creek Dome, an 80 Km elliptical dome of Proterozoic carbonates (2b and 2c) overlain and flanked by the Paleozoic carbonates of unit 8 (Green, 1972).

In the immediate Kiwi area, the oldest rocks are believed to outcrop within the core of an east-west trending anticline, located 2.5 kilometres north of Kiwi Summit (Howard, 1986). Though not examined by the author, the distinct orange-weathering color of these rocks is a clear indication that they belong to unit 2b of Green (1972). They do not appear to outcrop on the Kiwi claims. The claims are on the south limb of the anticline.

Property geology is depicted in figure 4. Rock designations are not meant to imply equivalency to Green's rock units, since Kiwi formations have not been dated. Designations have been chosen purely on "descriptive similarities" with Green's units.

The claim block is underlain by units 2c and 8 (Table I). Unit 2c is correlative with Green's unit 2c, except for the abundant syn-sedimentary deformation features observed on the Kiwi claims. The base of the formation is not exposed, but it is believed to rest conformably upon unit 2b (Green 1972, Howard 1986).

Unit 2d occurs sporadically along the upper contact of 2c - gaining maximum thickness in the Kiwi Gulch basin. This formation is similar to Green's 2d ("buff weathering dolomite boulder conglomerate"), however, it may be of Paleozoic age, representing a basal conglomerate to unit 8.

Unit 8 overlies units 2c and 2d. Where observed, (eg. drill-core) the contact appears gradational and weakly silicified over less than 2 metres. Unit 8 may be readily divided into three lithological subunits: 8a, b and c. The dominant subunit observed on the property is 8a (of no relation to Green's 8a). It contains thin horizons of argillaceous dolomite (8b) as well as occasional beds of conglomerate (8c).

In its lower 50 metres are numerous 1 to 2 metre beds of very fine-grained, white, siliceous dolomite. The fetid, sugary texture of 8a is probably a result of recrystallization during dolomitization.

Unit 8d represents altered and weakly mineralized segments of both 8a and 2c, although it may be considered a discontinuous, weakly pyritized (now oxidized) counterpart to the siliceous beds in the lower portions of 8a. All formations are characterized by uniform bedding attitudes, suggesting minimal deformation and metamorphism.

Units 2c and 2d strike easterly and dip 25° to 40° to the south, a reflection of the orientation of the south limb of the anticline. Bedding in unit 8 has similar uniform strike, but dips are shallower, varying from 10° to 30° south, suggesting that units 8 and 2c may be conformable.

Structural continuity has been locally disrupted by east-trending, fault zones, such as observed in Barricade and Kiwi Gulches. All rocks have also been broken by two sets of conjugate joints and fractures, the first of which is characterized by close-spaced, subvertical joints trending at 165° (range of 150° to 180°). The conjugate set is typified by sparse fractures trending at 220° to 240° with steep northwest dips.

Although widely distributed, both sets are preferentially developed within northwest trending fault-fracture zones, which are up to 10 metres wide.

Similar fracturing was also observed in two southwest striking fault-breccia structures, as well as in the Barricade Gulch fracture. A dominant characteristic of these fault-fracture zones is their being host to all of the known mineralization on the property.

TABLE I

## TABLE OF GEOLOGICAL UNITS

## ORDOVICIAN - SILURIAN ?

## 8a LIMY DOLOMITE

White to pale grey, limy, sugary textured, fetid, containing nodular chert bands, poorly bedded, commonly with solution cavities and coarsely crystalline secondary calcite segregations. Locally with traces of disseminated pyrite. Buff to white weathering.

## 8b ARGILLACEOUS DOLOMITE

Dark grey to black, thinly bedded with abundant soft-sedimentary deformation and "rip-up" clasts. Fine grained. Unit less than 15 metres thick. Weathers dark grey.

## 8c DOLOMITE CONGLOMERATE

Medium grey with cobbles of 8a within an 8b matrix. Subrounded. Up to 5 metres thick.

## 8d LIMONITIZED DOLOMITE

Tan, orange and grey-brown, fine-grained, locally siliceous dolomite with strong limonitic halos in wall-rocks to fractures. Most probably representative of altered and weakly mineralized 8a. May also represent a separate, siliceous subunit of 8. Buff weathering.

## PROTEROZOIC (HELIKIAN)?

## 2d SILICEOUS CONGLOMERATE

Medium grey, discontinuous, apparently weakly silicified, with rounded cobbles of 2c in coarsely crystalline calcite and argillaceous carbonate matrix (2c matrix). Locally contains honeycomb textured quartz segregations. May be Paleozoic in age. Weathers brown-grey.

## 2c SILICEOUS DOLOMITE

Dark grey, dense, thick bedded, abundant "rip-up" clasts and syn-sedimentary deformation. Commonly pervaded by stockworks of fine-grained white calcite fractures. Weathers dark grey.

## MINERALIZATION and GEOCHEMISTRY

The trenching has exposed four of seven indicated mineralized zones. Three of these (zones "B", "E" and "X") appear to be hosted by northwest trending fracture zones, whereas the fourth (zone "A") is hosted by a southwest trending fault-breccia structure. Three more zones ("C", "K" and "WEST") are indicated by float. The mineralization is represented on figure 4 by units 8d and 'M'.

Two types of mineralization have been recognized, as follows:

- (S) Stockwork-type; Consisting of fractured and weakly silicified dolomite containing up to 25% dark brown, amorphous smithsonite and limonite (with traces of black sphalerite locally) in the form of thin, open-space fill veinlets. Some of the veinlets occasionally widen to 20 centimetres and contain a microbreccia cemented with up to 50% smithsonite. The host dolomite is oxidized and possibly replaced by smithsonite to a few centimetres from the fractures. Grades typically range from 0.5 to 5% Zn. Unit 8d is characterized by this form of mineralization. The Stockworks gradually pass to a breccia towards the cores of the main mineralized zones.
  
- (H) Breccia-type; Fractured to brecciated, locally recrystallized dolomite with open-space filling mineralization consisting of very fine-grained amorphous, botryoidal smithsonite with limonite, calcite and minor quartz. Locally, large clots and veins of coarsely crystalline galena may also be incorporated with the smithsonite. Remnant, dark brown sphalerite may also be

occasionally observed. Highly weathered portions of the high grade mineralization is characterized by drybone textured smithsonite with anglesite, cerussite and black goethite. The galena has a distinctive wavy cleavage, an indication that it contains silver-bearing minerals such as frieborgite (Howard, 1986).

The host dolomite is coarse-grained and maybe partly replaced by crystalline smithsonite. Grades vary from 8 to more than 30% zinc with trace to more than 30% lead and typically less than 1 oz./T silver. This form of mineralization is represented by unit 'M' on figure 4.

Each mineralized zone is discussed in detail. Samples and assays are shown on figure 5, whereas assay certificates are included in Appendix III.

**Zone "A":** It consists of a type H breccia, from 6 to 8 metres in width and traceable over more than 100 metres southwest from Barricade gulch (figure 4). the dominant fractures strike 220° to 240° and dip steeply to the northwest.

The high-grade core consists of brecciated yellow dolomite cemented with up to 50% massive smithsonite and limonite. It also contains up to 10% galena in the form of late stage fracture-filling. Zone "A" is characterized by large pockets, to a few metres long and wide, of massive drybone-textured smithsonite with 20-30% galena.

The breccia core is surrounded by a "halo" of low-grade stockwork mineralization which varies from 5 to 8 metres wide (8d). Grades in this material rarely exceed 2.5% Zn

**Zone "A" (cont'd...)**

(no silver or lead), although, locally, samples contain up to 8.8% zinc (immediate footwall to breccia core).

Grades in the breccia vary from 5.0 to 17.3% zinc and 0.1 to 6.6% lead with less than 2.0 oz./T silver (eg. samples K 7, 8, 773, 774, 968, 969 and 980). The high grade pockets contain up to 28.4% Zn, 30.2% Pb and 5.3 oz./T Ag (eg. Trench A). Assays obtained in 1975 and 1985 contained up to 45% zinc (White, 1986).

**Zone "B":** This is a 2 to 7 metre wide, southwest dipping, smithsonite cemented breccia, traceable over more than 50 metres. It is very porous, friable and highly oxidized, containing more than 25% dark brown and orange zinc-carbonate precipitates. Silver and lead values are negligible; 0.16 oz./T and 0.29% respectively. Zinc varies from 6.75 to 26%. No high grade, galena rich pockets have been observed.

A narrow zone of stockwork to a few metres wide occurs on the hangingwall. It contains up to 2.23% Zn. The breccia zone pinches out into a 2 metre wide zone of stockwork to the northwest.

**Zone "X":** This structure is similar to zone "B", however, it is incorporated within a well developed stockwork body which is up to 18 metres wide and traceable for 80 metres. The breccia is exposed in one road cut, but exceeds 10 metres in strike length and is open to the southeast. It is 5 metres wide. A narrow (0.75 to 1.5 metre) smithsonite-

Zone "X" (cont'd...)

cemented microbreccia trending northeasterly from the "X" zone may be followed for more than 40 metres. It contains 17% zinc. The main breccia carries 12.7 to 18.2% (trace Ag and up to 2.1% Pb), whereas the stockwork contains 3.3% zinc.

Zone "X" may be a lateral extension of Zone "B".

**Zone "E":** This area contains two and possibly three narrow, weakly brecciated structures which have been traced over 50 to 60 metres. The structures widen from 1 to more than 4 metres towards the northwest. The mineralization is hosted by individual joints (at 165°) some of which carry massive smithsonite to 20 centimetre widths. There is no silver or lead, but zinc values range from 4.4 to 9%. Mineralization is transitional between S and H-types. It is believed they may pass into good H-type mineralization towards the northwest.

**Zone "C":** The source of the high grade float discovered in 1975 at Zone "C" has not yet been uncovered, due to permafrost and a masking cover of talus derived from unit 8a, both handicapping the trenching efforts.

The mineralization consists of massive, drybone textured smithsonite and galena, as well as smithsonite cemented breccia, both very similar to the H-type mineralization encountered at Zone "A". The boulders occur over a distance of more than 40 metres in a northwest direction, across

Zone "C" (cont'd...)

the slope. Had the source structure been a counterpart of the southwest striking A-zone, it would have been intersected by Trench C<sub>1</sub>. Such was not the case and it is now believed that Zone "C" may be a northwest trending feature such as zones "B", "E" and "X".

The massive "pocket" type mineralized boulders contain 2.6 oz./T Ag, 19.7% Pb and 24.6% Zn. The breccia contains low silver and lead, but grades 11.3% zinc.

**Zone "K":** This area consists of a large expanse of low-grade, stockwork-type float containing four smaller areas of high-grade float. Mineralization consists of breccias cemented by up to 60% smithsonite, with no visible sulphides. In common with Zones "B", "E" and "X", zone "K" has little or no lead and silver, but contains high-grade zinc (8.5 to 12.4%).

The area between zone "K" and zone "B" (including "C" and "E") contains up to 10% low-grade float, the upper limits being at the 1520 metres contour. This suggests a potential genetic and spacial relationship between all mineralized zones along a northwestern belt from the "B" zone.

**"WEST" Zone:**

This area is also characterized by high-grade float mixed with and overlain by talus derived from unit 8a. Trench W<sub>1</sub> uncovered 10 metres of stockwork type mineralization overlain by a 0.75 metre thick layer of smithsonite-cemented breccia in float. It is believed this float has originated

"WEST" Zone (cont'nd...)

from lenses of breccia within the stockwork body (8d). Samples from the breccia material contain 13 to 32% zinc, less than 2.5% lead and traces of silver.

**Minor Occurrences:**

Three other occurrences merit mention. The Ridgetop showing consists of a 1 by 0.4 metre pocket of massive, drybone smithsonite with similar characteristics and grades as those found in zones "A" and "C". Its host is an east-trending fault.

The Barricade Gulch fracture zone is weakly mineralized and may be described as a stockwork body. It contains a negligible content of metals, although one section appears to be enriched to 4.5% zinc.

Two high-grade samples from Trench C<sub>1</sub> (# 974 and # 975) were from a lone, narrow, northwest fracture containing a few - 20 centimetre wide lenses and pockets of massive smithsonite and limonite. High-grade float found below this location (eg. K 2, K 3) may be derived from this veinlet or from Zone "B" above.

All of the recognized mineralized bodies consist of a lensoid core of highly brecciated, recrystallized, altered dolomite surrounded by halos of weakly mineralized, fractured, locally silicified dolomite. All zones appear hosted by unit 8a and most occur on a northwest trending belt from zone "X" to zone "K" (excluding the "WEST" zone). Each occurs as a northwest striking fracture structure (excluding zone "A") with

little direct evidence for karst-type or manto-type mineralization. The distribution of low-grade float between zones "B" and "K" suggests the presence of a large, continuous low-grade stockwork body between Barricade and Kiwi gulches. However, it has not yet been determined whether this would be related to flat-lying (manto) or fault related structures.

The smithsonite is evidently secondary in origin. However, the distinct lack of relict sphalerite suggests the  $ZnCO_3$  may have travelled away from the source sphalerite and may have precipitated, along with other minerals, within the various fracture zones.

## DRILL REPORT

A total of 211.8 metres of NQ core was bored in two holes from a site located on Trench A<sub>1</sub>. Drill logs and technical data are outlined in Appendix IV; the drill site being indicated on figure 4.

The drilling was carried out in an attempt to intersect the indicated downdip extension of the mineralized breccia of zone "A" (figure 6). Both holes intersected dolomites of unit 8a overlying those of 2c.

DDH 86-1 encountered mineralized breccias from 44.8 to 46.9 metres and from 60.3 to 65.5 metres. The zones are capped by 13.0 and 7.5 metres of stockworks respectively. The upper breccia is similar to those observed at zones "B" and "X", whereas the lower breccia is more correlative with the galena-bearing breccia of zone "A". This lower zone also contains pyrite and sphalerite with a total sulphide content of 5%. The mineralized sections contain 24.1% Zn over 2.1 metres (1.8 true) and 3.4% Zn over 5.2 metres (4.8 true) respectively. Neither contain appreciable amounts of lead or silver.

DDH 86-2 did not intersect the projected extension of the lower mineralized zone. The upper low-grade section was encountered at 37.5 to 45.1 metres depths. A value of 5.8% zinc was obtained from a narrow (1.8 metre) brecciated horizon from this zone. The upper high-grade intersection of DDH 86-1 was encountered at 56.1 to 57.9 metres of DDH 86-2. It contains 13.8% zinc with minimal lead and silver.

These preliminary drill results are inconclusive. Downdip extensions of zone "A" has not been satisfactorily confirmed. The results

SE

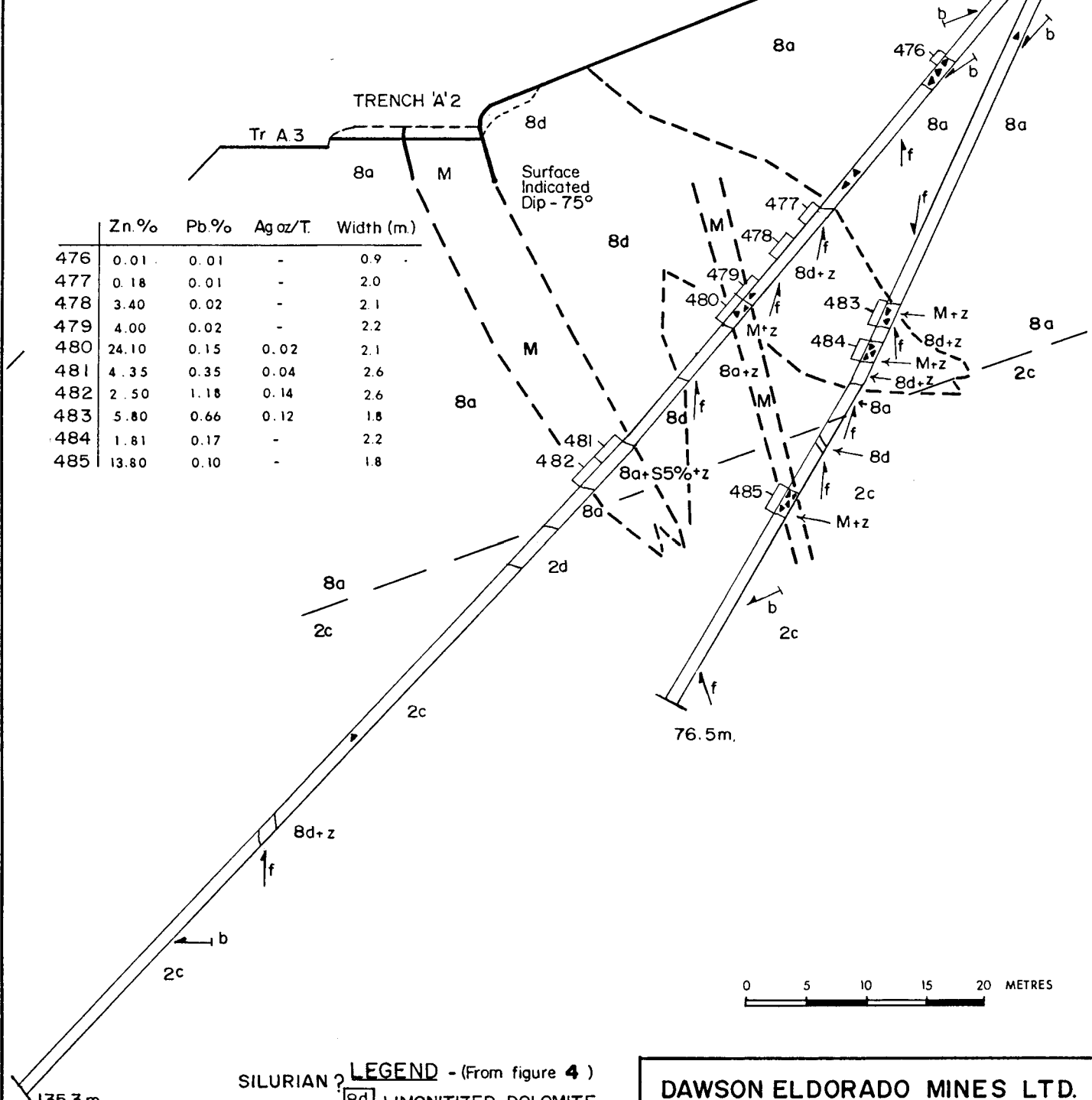
NW

TR. A. 1

TRENCH 'A' 2  
Tr A 3

	Zn.%	Pb.%	Ag oz/T.	Width (m)
476	0.01	0.01	-	0.9
477	0.18	0.01	-	2.0
478	3.40	0.02	-	2.1
479	4.00	0.02	-	2.2
480	24.10	0.15	0.02	2.1
481	4.35	0.35	0.04	2.6
482	2.50	1.18	0.14	2.6
483	5.80	0.66	0.12	1.8
484	1.81	0.17	-	2.2
485	13.80	0.10	-	1.8

Surface Indicated Dip - 75°



SILURIAN? LEGEND - (From figure 4)

- 8d LIMONITIZED DOLOMITE
- 8a LIMY DOLOMITE
- 2d SILICEOUS CONGLOMERATE
- 2c SILICEOUS DOLOMITE
- M MINERALIZATION
- O<sub>2</sub> OVERBURDEN

- $\leftarrow$  b Bedding
- $\nearrow$  f Fracturing
- $\blacktriangle$  Brecciation
- 477- Sample interval
- z Smithsonite
- S5% Sulphides @ 5%
- Geological Contact

DAWSON ELDORADO MINES LTD.

KIWI PROJECT  
DRILL SECTION  
DDH 86-1, 86-2  
(LOOKING SOUTH)

SCALE: 1:500	DATE: NOV, 1986
BY: P. V. A.	FIGURE: 6

DFTG. BY: STH.

show complex relationships between lithology, structure and mineralization. Noteworthy is the fact that mineralization need not necessarily be confined to subvertical, northwest-trending fracture zones. The upper, shallow dipping, low-grade stockwork body reaffirms the real potential for the existence of manto-type bodies on the property. It is also apparent that the high-grade pockets of zone "A" are not continuous, but that the hangingwall halo of "stockwork type" mineralization (1 to 5% zinc) is fairly extensive.

Smithsonite has been detected to a depth of 45 metres suggesting deep-reaching weathering processes or extensive percolation of zinc carbonate bearing solutions.

## CONCLUSIONS AND RECOMMENDATIONS

Potential for commercial grade zinc-lead-silver mineralization exists on the Kiwi property.

Open-space filling type mineralization occurs within relatively narrow, vertical fault breccia zones probably related to the formation of the Coal Creek Dome. The intensity and distribution of the breccias is an indication that the structures may be of significant size; six of the currently exposed and indicated occurrences define a northwest trending belt which may be more than 600 metres long (zone "X" to zone "K").

In addition, the mineralized breccias are straddled by wide halos of weakly mineralized, crackle breccias. Drilling has also shown similar "stockworks" to have formed shallow-dipping manto-type bodies of limited extent away from the source fracture-zone. The mineralization has occurred preferentially in the more porous of two major dolomitic formations; the older, denser, silty dolomite being less amenable to large-scale fracturing and formation of voids.

Mineralization consists of smithsonite, limonite and minor galena. The zinc carbonate is secondary, after sphalerite, but only traces of relict sphalerite were observed. This suggests that there has been deep and intense weathering, a situation not observed within the host dolomites, or that the smithsonite was formed elsewhere (after sphalerite) and was remobilized by ground or meteoric waters into the currently observed breccias.

The Kiwi deposit bears similarities to the Goz Creek deposit of Cons. Barrier Reef Resources Ltd. It has been recognized as a fault-related variation of the classical Mississippi Valley type, lead-zinc deposit (Reeve, 1976).

Similarities include weathering of sphalerite to smithsonite to depths in excess of 75 metres and a lack of lead and silver. Also, at Goz Creek, the zinc mineralization occurs as massive concentrations along a fault-breccia structure, with attendant, lean mantos and karst-type bodies within the porous, host dolomite.

Major differences include alteration and deep weathering of dolomites (Pres'quillite), lower zinc grades, abundant relict sphalerite and predominant silicification at Goz Creek. Kiwi may represent a higher level exposure of a richer "Goz Creek" type deposit. Theories on an source of metals would be highly speculative at this time, when one considers that the source of the smithsonite has not yet been defined with precision.

The presence of widely distributed lower grade "stockwork" material, incorporating at least six high-grade ore zones (10 to 25% zinc) over a total possible length of 600 metres, represents a viable exploration target. The possibility that the  $ZnCO_3$  may have been remobilized from a larger source area, raises the potential for significant tonnages of zinc sulphides at depth below the oxidized zone. The size and grade potential of the known and postulated mineralized bodies offers an attractive target warranting further work.

It is therefore recommended to follow-up the 1986 trenching and drilling, with a programme of limited trenching on the unexposed zones (eg. - C, K, WEST) to better locate their source, followed by approximately 3000 metres of NQ drilling to test the downdip extension of the various

surface exposures. A VLF-EM survey to help determine the location of fault zones may also be considered. Costs of the recommended programme are estimated at \$450,000.

Respectfully submitted,

*Philip Van Angeren*

Philip D. Van Angeren,



November 21, 1986

DEM/K-R

## CERTIFICATE

I, PHILIP D. VAN ANGEREN, residing at #506, 521 - 57th Ave. S.W., Calgary, Alberta, hereby certify that:

1. I am a geologist having practised my profession for the last 9 years.
2. I am a graduate of McGill University, Montreal, having graduated with a B.Sc. degree in Geology with Honours, in 1977.
3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
4. I have no interest, direct or indirect, in the securities or properties of Dawson Eldorado Mines Ltd., nor do I expect any.
5. I am the author of this report, which is based on personal examination of the property on April 7 to 19, July 8 to 22, August 13 to 15, September 20 to October 21, 1986 and on a study of historical data made available by Dawson Eldorado Mines Ltd.

Signed and dated on the 21st day of November, 1986.

*Philip Van Angeren*

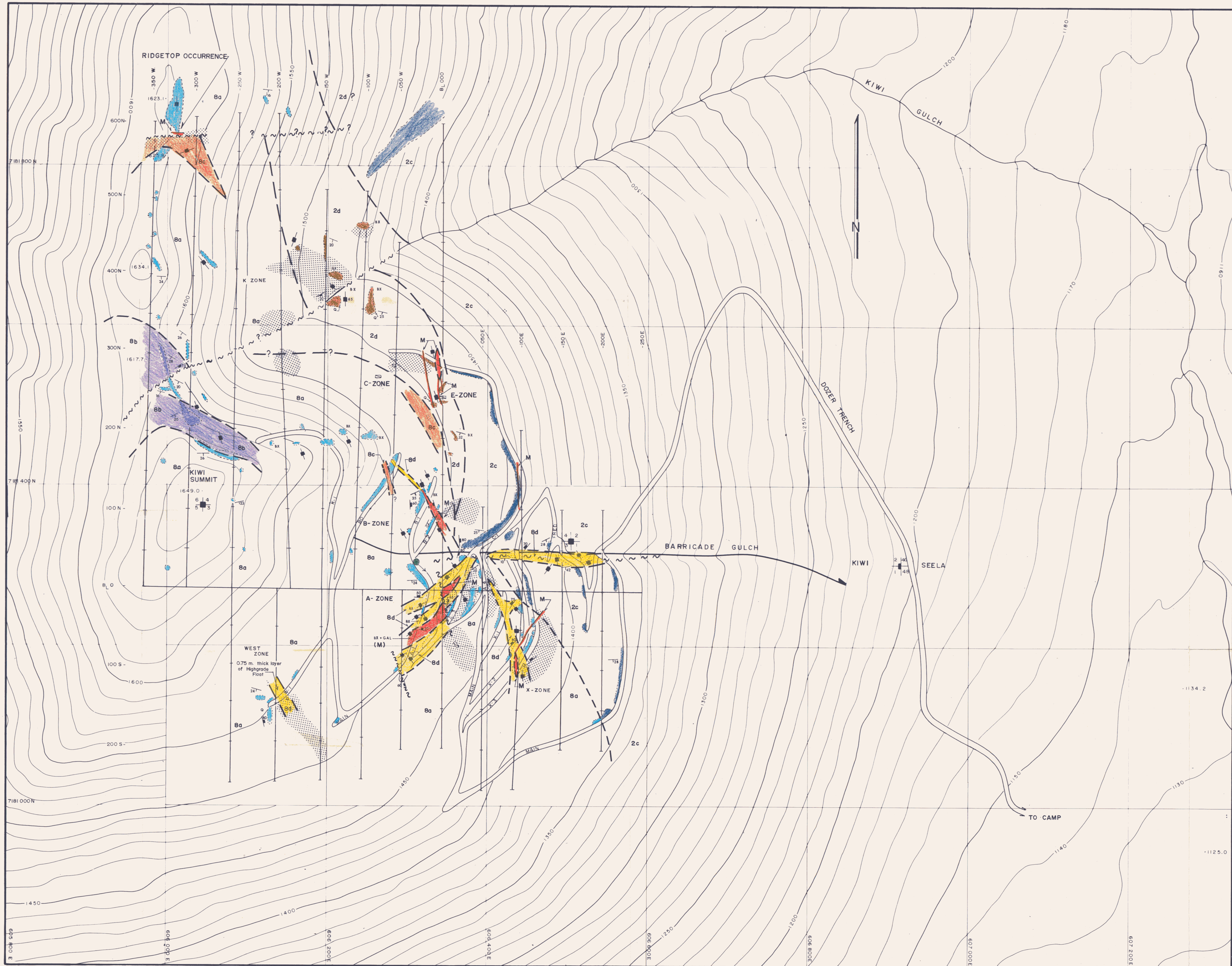
Philip D. Van Angeren, Geol.



## REFERENCES

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dated March 31, 1986.

\*\*\*



**LEGEND**

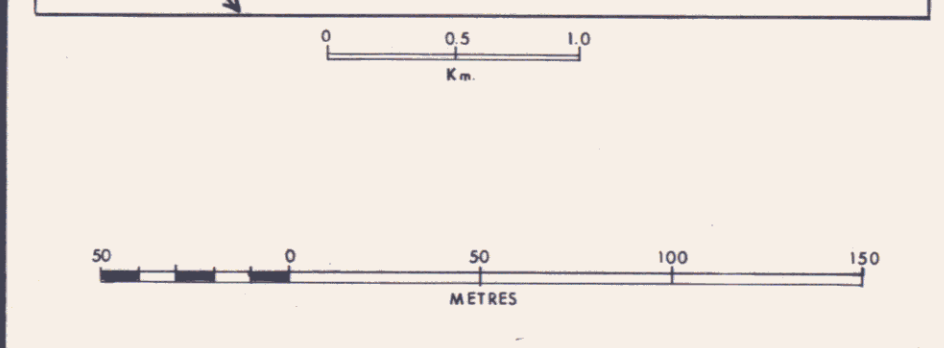
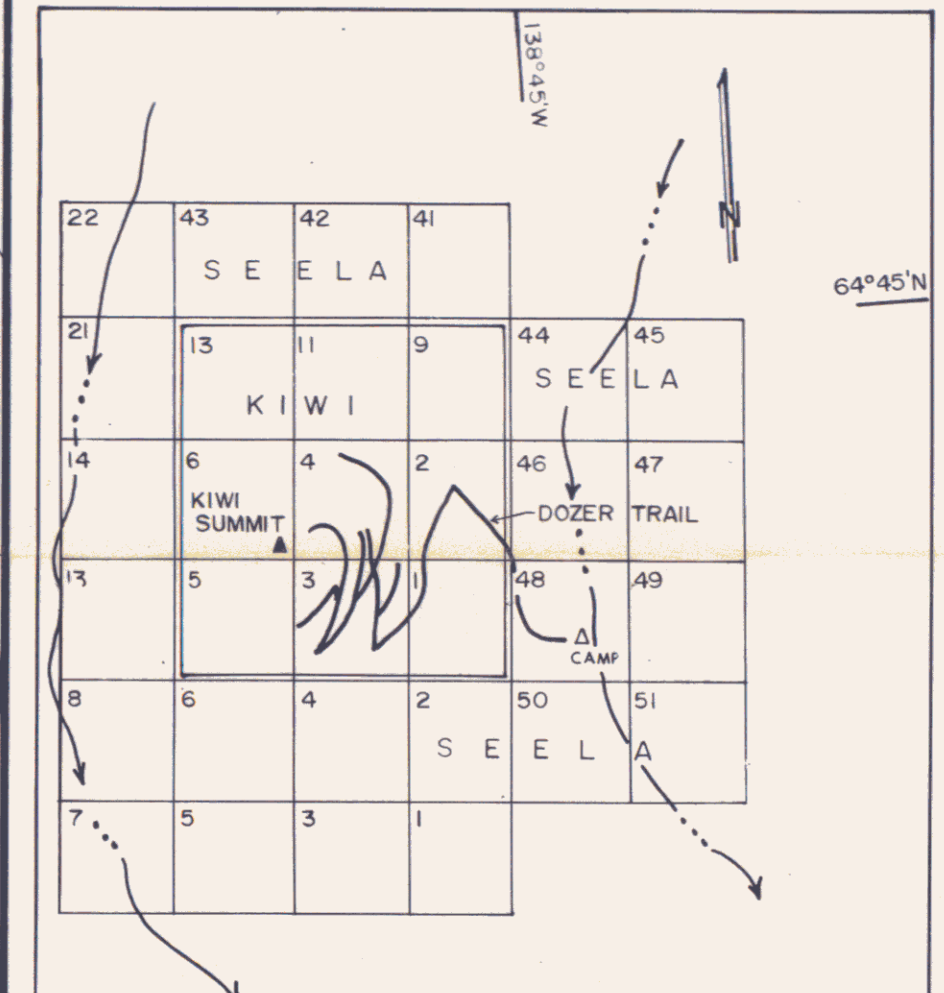
(Adapted from GREEN, 1972)

- SILURIAN ?**
- 8d** LIMONITIZED DOLOMITE  
Yellow, fine to coarse grained oxidized 8a weakly mineralized (ZnCoS)
  - 8c** CONGLOMERATE  
Cobbles of 8a, in 8b matrix
  - 8b** ARGILLACEOUS DOLOMITE  
Dark grey, thin bedded
  - 8a** LIMY DOLOMITE  
White, fetid, sugary, thick bedded
- HELKIAN ?**
- 2d** SILICEOUS CONGLOMERATE  
Dark grey, massive, cobbles of 2c
  - 2c** SILICEOUS DOLOMITE  
Dark grey, fine grained, thick-bedded
- MINERALIZATION**
- M** Orange-brown, Brecciated, Limonitized Dolomite

**SYMBOLS**

- Bulldozer Trench
- Outline of Outcrop
- Geological Contact (Defined, Approximate)
- Fault
- Bedding Altitude
- Fracture Set, Altitude (Inclined, Vertical)
- Honeycomb Textured Quartz Segregation
- Bx** Brecciation
- GAL** Trace Disseminated Galena
- High Grade Float Greater than 10% of Total Overburden
- Drill, Site and Direction; Holes B6-1, 2
- Claim Posts
- Hand Trench (1975)

**LOCATION MAP**

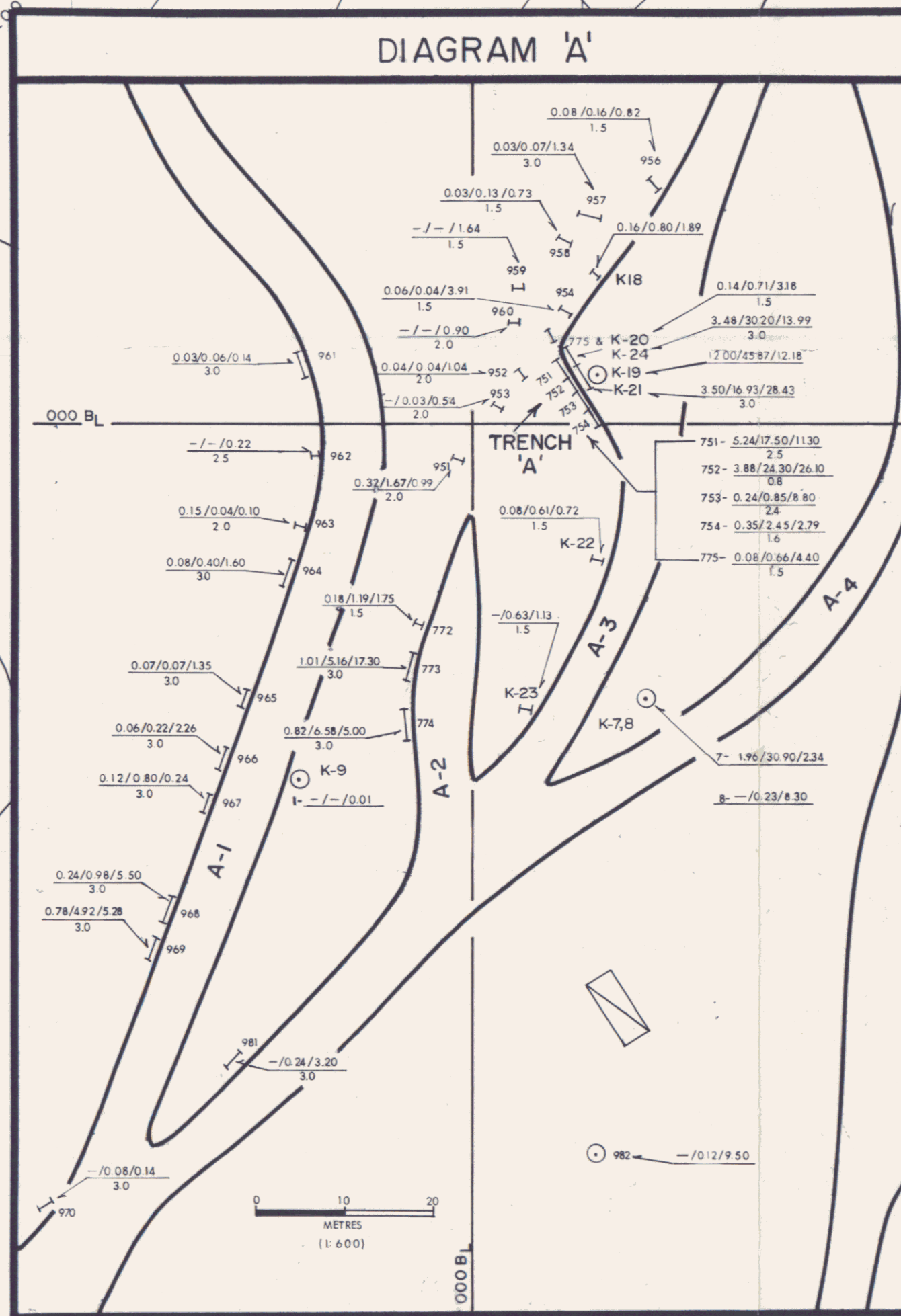
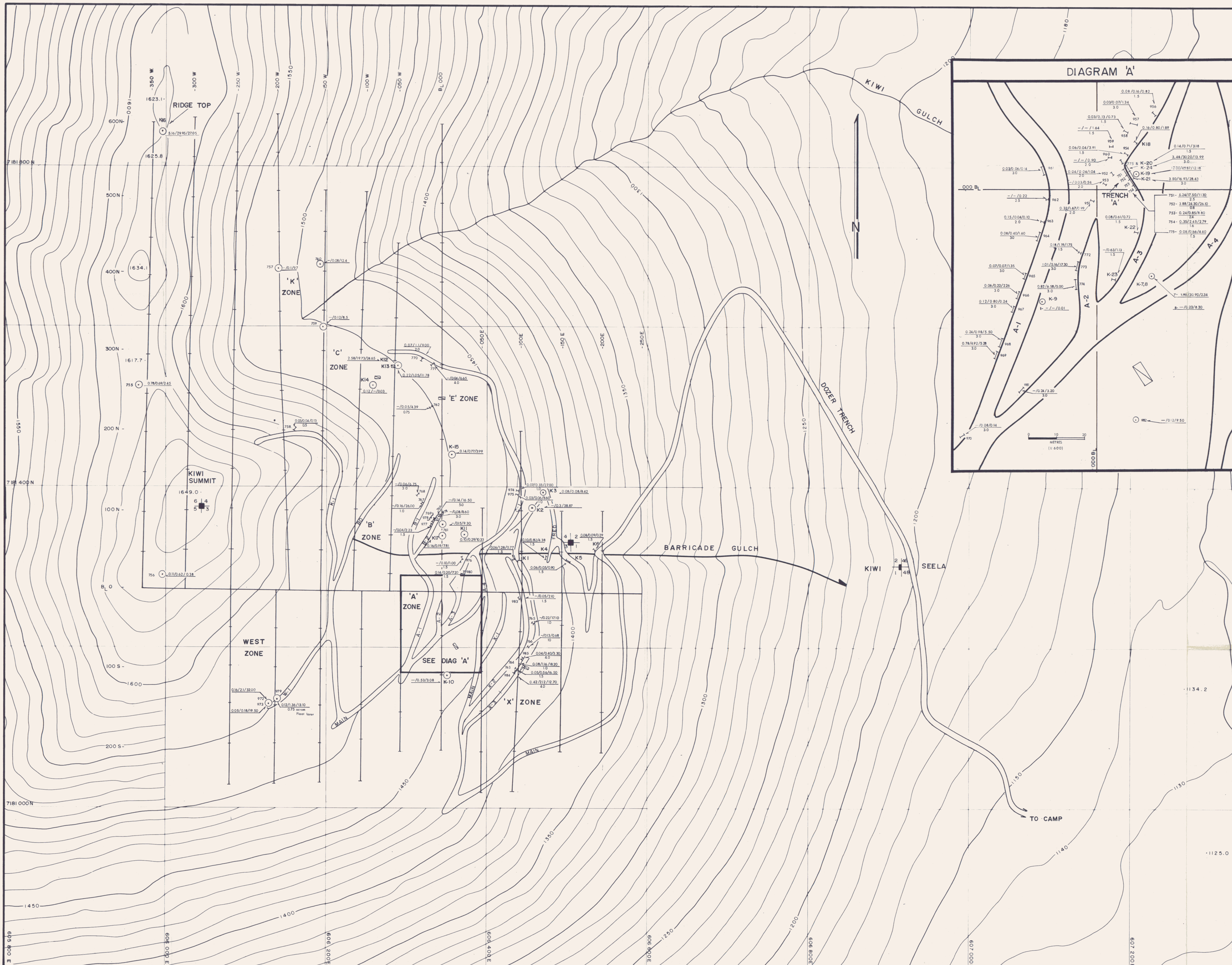


**DAWSON ELDERADO MINES LTD.**  
**KIWI PROPERTY**

**GEOLOGY**

SCALE 1:2000      DATE NOV, 1986  
BY P.V.A. DRAFTED BY S.T.H.      FIGURE 4

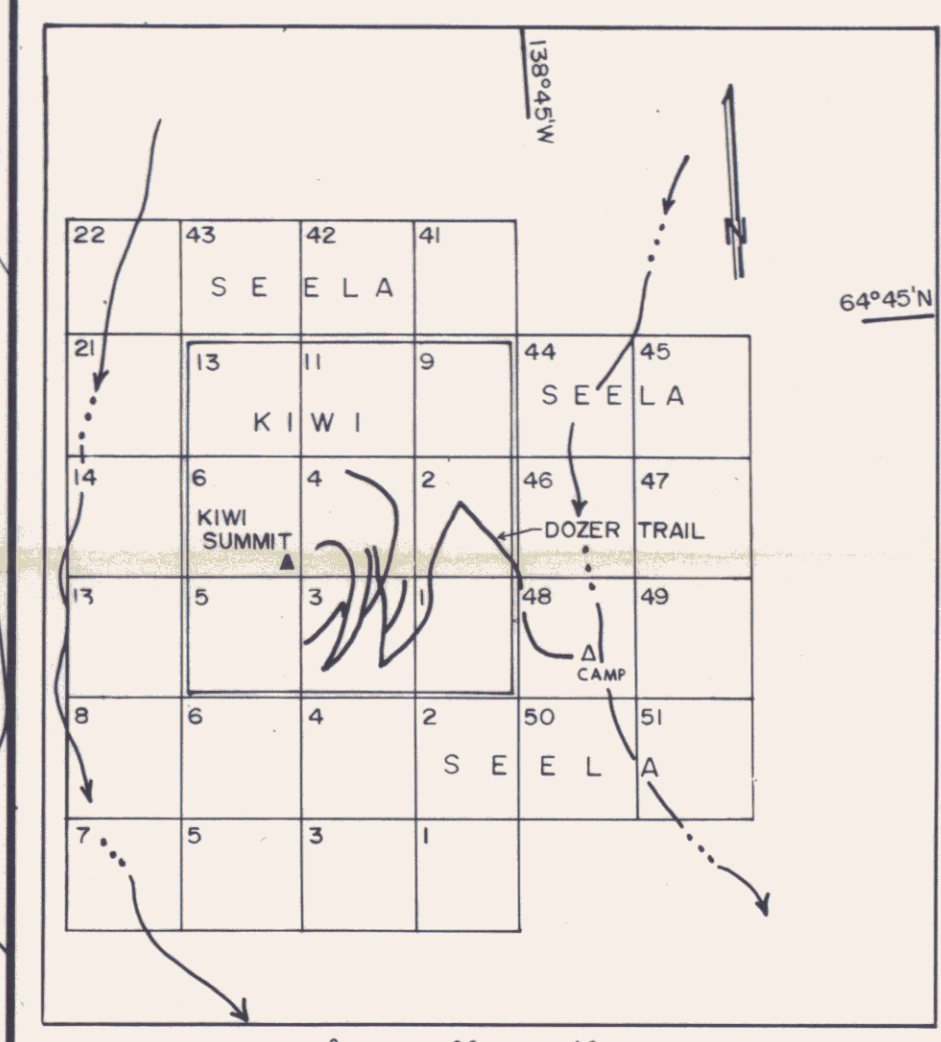
091901



LEGEND

- ◆ CLAIM POSTS
- ▭ HAND TRENCH
- FLOAT SAMPLE
- ┆ CHIP SAMPLE
- K2 SAMPLE No. (APRIL, 86)
- 975 SAMPLE No. (JULY, AUGUST, 86)
- Ag (oz/T), Pb(%) , Zn (%)
- Length in Metres
- Ag less than 0.02 oz/T
- Pb less than 0.02 %

LOCATION MAP



DAWSON ELDERADO MINES LTD.  
KIWI PROPERTY

**ROCK GEOCHEMISTRY**  
SILVER, LEAD AND ZINC

SCALE: 1:2000      DATE: NOV., 1986  
BY: P.V.A.      DRAFTED BY: S.T.H.      FIGURE: 5

101901

A P P E N D I X I

PERSONNEL  
and  
COST OUTLAYS

## LIST OF PERSONNEL

The July to October 1986 exploration programme was completed by the following personnel:

P. D. VAN ANGEREN, P. Geol. (see Certificate),

compiled of mapping and 10 man days of  
report preparation;

E. HUGGARD, of Whitehorse,

supervised trenching and carried out geochemical  
sampling;

F. BURKHARD, of Dawson City,

R. JACKSON, of Whitehorse,

R. EMPEY, of Whitehorse,

bulldozer operators and mechanic;

E. CARON DIAMOND DRILLING LTD., of Whitehorse,

drill contractor;

AEROVAN TRANSPORT (1985) LIMITED, of Calgary,

fixed-wing and helicopter support.

\*\*\*



Economic Development:  
Mines & Small Business  
Box 2703, Whitehorse, Yukon Y1A 2C6  
(403) 667-5811 Telex 036-8-260

EXPLORATION INCENTIVES PROGRAM

FORM 2 - APPLICATION FOR PAYMENT

DESIGNATION NUMBER EIP86-009

1. NAME DAWSON ELDORADO MINES LTD.

3. MAILING ADDRESS 810, 910 - 7th Ave. S.W.

Calgary,

Province ALBERTA Postal Code T2P 3N8

3. TELEPHONE (403 ) 269-2122

4. HEAD OFFICE ADDRESS as above

Province \_\_\_\_\_ Postal Code \_\_\_\_\_

5. PRINCIPAL BUSINESS ACTIVITY MINERALS EXPLORATION

6. IF A CORPORATION - List names of all persons or corporations who own 10% or more of your outstanding shares (if insufficient space attach separate sheet)

<u>Name</u>	<u>No. of Shares</u>	<u>% of total</u>
<u>PAUL S. WHITE</u>	<u>953,527</u>	<u>17.8%</u>
<u>J. ANDREW INNES</u>	<u>626,521</u>	<u>11.7%</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

7. MINERAL INCOME Do you expect to have any income from mineral production (prior to deduction of exploration expenses) during the year for which this application is made? (Yes/No) NO If yes, state how much \$ \_\_\_\_\_

8. SOURCES OF FUNDING (attach copies of agreements and proof of funding)

Canadian-United Minerals, Inc. Joint Venture, whereby Canadian-United  
earns a 50% working interest by expending \$500,000 on KIWI property  
in 1986-1987.

9. EXPENDITURES (N.B. Please provide actual all-inclusive costs, including salaries & wages, equipment and machinery rental, supplies, services, transportation and accommodation directly attributable to the field program. All costs must be supported by original copy of all receipts)..

(a) For the following the full cost (100% of expenditures) are eligible:

Preliminary Evaluation 5 days @ \$ 357 /day = \$ 1,785

Prospecting \_\_\_\_\_ days @ \$ \_\_\_\_\_ /day = \$ \_\_\_\_\_

Linecutting, chaining, picketting 7.85 km @ \$ 206 / km = \$ 1,617

Geological Surveys 60 days @ \$ 195 /day = \$ 11,700

Geochemical Surveys 29 days @ \$ 162 /day = \$ 4,698

Sample analysis \_\_\_\_\_ soil samples @ \$ \_\_\_\_\_ /sample = \$ \_\_\_\_\_

\_\_\_\_\_ silt samples @ \$ \_\_\_\_\_ /sample = \$ \_\_\_\_\_

86 rock geochem samples @ \$ 14.20 /sample = \$ 1,221

Other (specify) \_\_\_\_\_ = \$ \_\_\_\_\_

Geophysical Surveys

Method \_\_\_\_\_ km @ \$ \_\_\_\_\_ / km = \$ \_\_\_\_\_

\_\_\_\_\_ km @ \$ \_\_\_\_\_ / km = \$ \_\_\_\_\_

\_\_\_\_\_ km @ \$ \_\_\_\_\_ / km = \$ \_\_\_\_\_

Stripping, Trenching 9075 m<sup>3</sup> @ \$ 13.92 / m<sup>3</sup> = \$ 126,316

Surface drilling

Type NQ \_\_\_\_\_ 212 m @ \$ 567.56 / m = \$ 120,322

\_\_\_\_\_ m @ \$ \_\_\_\_\_ / m = \$ \_\_\_\_\_

\_\_\_\_\_ m @ \$ \_\_\_\_\_ / m = \$ \_\_\_\_\_

Dewatering and rehabilitation old underground workings

\_\_\_\_\_ days @ \$ \_\_\_\_\_ /day = \$ \_\_\_\_\_

Underground drilling

Type \_\_\_\_\_ m @ \$ \_\_\_\_\_ / m = \$ \_\_\_\_\_

\_\_\_\_\_ m @ \$ \_\_\_\_\_ / m = \$ \_\_\_\_\_

Sampling costs \_\_\_\_\_ = \$ \_\_\_\_\_  
 \_\_\_\_\_ = \$ \_\_\_\_\_

Assays, petrographic analyses, X-ray analyses etc.

Type \_\_\_\_\_ No. \_\_\_\_\_ @ \$ \_\_\_\_\_ /sample = \$ \_\_\_\_\_  
 \_\_\_\_\_ No. \_\_\_\_\_ @ \$ \_\_\_\_\_ /sample = \$ \_\_\_\_\_  
 \_\_\_\_\_ No. \_\_\_\_\_ @ \$ \_\_\_\_\_ /sample = \$ \_\_\_\_\_

Metallurgical or process studies (specify) \_\_\_\_\_  
 \_\_\_\_\_ = \$ \_\_\_\_\_  
 \_\_\_\_\_ = \$ \_\_\_\_\_

Other costs (specify) \_\_\_\_\_ = \$ \_\_\_\_\_  
 \_\_\_\_\_ = \$ \_\_\_\_\_  
 \_\_\_\_\_ = \$ \_\_\_\_\_

(b) For the following activities only 25% of total costs are eligible:

On-property construction costs

Access roads \_\_\_\_\_ km @ \$ \_\_\_\_\_ / km = \$ \_\_\_\_\_ x 25% = \$ \_\_\_\_\_  
 Camps \_\_\_\_\_ \$ 10,000 x 25% = \$ 2,500  
 Other (specify) \_\_\_\_\_ \$ \_\_\_\_\_ x 25% = \$ \_\_\_\_\_  
 \_\_\_\_\_ \$ \_\_\_\_\_ x 25% = \$ \_\_\_\_\_

Shaft sinking, drifting, raising etc. required for underground drilling and sampling

Shaft sinking \_\_\_\_\_ m @ \$ \_\_\_\_\_ / m = \$ \_\_\_\_\_ x 25% = \$ \_\_\_\_\_  
 Drifting \_\_\_\_\_ m @ \$ \_\_\_\_\_ / m = \$ \_\_\_\_\_ x 25% = \$ \_\_\_\_\_  
 Raising \_\_\_\_\_ m @ \$ \_\_\_\_\_ / m = \$ \_\_\_\_\_ x 25% = \$ \_\_\_\_\_

TOTAL \$ 270,159

SUPPLEMENTARY INFORMATION The following information is required in order to help us determine the contribution which mineral exploration activity makes to the Yukon economy, and relates to the utilization of Yukon vs outside labour and services. Only figures directly attributable to the field program should be included (approximate figures acceptable, but please be as accurate as possible).

(a) Employment, wages & salaries

<u>Type</u>	<u>Number employed</u>		<u>No. Person-days</u>		<u>Salaries/wages paid</u>	
	<u>Yukon</u>	<u>Outside</u>	<u>Yukon</u>	<u>Outside</u>	<u>Yukon</u>	<u>Outside</u>
Prospectors					\$	\$
Linecutters					\$	\$
Technicians					\$	\$
General labourers	2		76		\$ 9,834	\$
Drillers/helpers					\$	\$
Equip. operators	3		97		\$ 17,565	\$
Geologists		1		65	\$	\$ 10,680
Geophysicists					\$	\$
Geochemists					\$	\$
Engineers					\$	\$
Supervisory					\$	\$
Consulting					\$	\$
Secretarial					\$	\$
Managerial					\$	\$
Legal					\$	\$
Accounting					\$	\$
Others (specify)					\$	\$
Others (specify)					\$	\$
TOTALS	5	1	141	65	\$ 27,399	\$ 10,680

(b) Goods & Services

<u>Description</u>	<u>Expenditure</u>	
	<u>Yukon</u>	<u>Outside</u>
Meals, Groceries etc.	\$ <u>6,886</u>	\$ <u>          </u>
Camping Supplies, Equipment etc.	\$ <u>42,610</u>	\$ <u>          </u>
Accommodation	\$ <u>3,446</u>	\$ <u>          </u>
Transportation - Scheduled Air	\$ <u>          </u>	\$ <u>          </u>
Air Charter	\$ <u>59,583</u>	\$ <u>          </u>
Vehicle Rentals	\$ <u>4,225</u>	\$ <u>          </u>
Vehicle O & M costs	\$ <u>          </u>	\$ <u>          </u>
Other (specify) _____	\$ <u>          </u>	\$ <u>          </u>
Equipment Rentals Trenching etc.	\$ <u>63,787</u>	\$ <u>          </u>
Geophysical etc.	\$ <u>          </u>	\$ <u>          </u>
Other (specify) _____	\$ <u>          </u>	\$ <u>          </u>
Other (specify) _____	\$ <u>          </u>	\$ <u>          </u>
Contract Drilling	\$ <u>35,732</u>	\$ <u>          </u>
Consultant Services	\$ <u>          </u>	\$ <u>          </u>
Assays and analyses	\$ <u>          </u>	\$ <u>1,221</u>
Communications	\$ <u>          </u>	\$ <u>          </u>
Other (specify) _____	\$ <u>          </u>	\$ <u>          </u>
Other (specify) _____	\$ <u>          </u>	\$ <u>          </u>

10. DECLARATION. I hereby apply for a contribution for a designated exploration project under the Yukon Exploration Incentives Program, and declare the information given above to be true and accurate.

Name PAUL S. WHITE Signature *Paul S. White* Date 24 Nov. 1986  
*Jameson Edwards*  
*Mines Ltd*

**A P P E N D I X    I I**

**TRENCHING REPORT**

## TRENCHING REPORT

Disposition of the trenches is shown on figures 4 and 5.

A Company owned Komatsu 155 bulldozer (D8 equivalent) was walked into the claim block from Mile 72 on the Dempster Highway in mid-March 1986.

Between March 16 and April 23, a total of 2700 metres of cat-trenches were completed on the claim cblock, in an effort to reach Trench A (1975). In so doing, the "MAIN" trench was completed from the campsite to trench A<sub>1</sub>, and trenches A<sub>2</sub>, A<sub>3</sub> and "FRED" were excavated, all for a total of 11,137.5 m<sup>3</sup> of overburden removed. Exposed mineralized outcrops were mapped and sampled (see GEOLOGY and MINERALIZATION & GEOCHEMISTRY).

The remaining trenches (A<sub>1</sub>, A<sub>4</sub>, B<sub>0</sub>, B<sub>1</sub>, B<sub>2</sub>, C<sub>1</sub>, K<sub>1</sub>, W<sub>1</sub>, X<sub>1</sub>, X<sub>2</sub> and X<sub>3</sub>) were excavated between July 8 and August 14, 1986. A total of 2200 metres, 9075 m<sup>3</sup> of overburden was removed. The trenches were subsequently mapped and sampled (see GEOLOGY and MINERALIZATION & GEOCHEMISTRY).

All trenching was carried out in order to expose source areas of visibly mineralized float. Difficulties were encountered with permafrost in the overburden and outcrop.

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A P P E N D I X    I I I

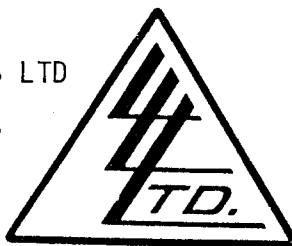
ASSAY CERTIFICATES & TECHNIQUES

## **SAMPLING and ASSAYING TECHNIQUES**

Rock samples were collected as continuous chips or as representative float. The float samples usually involved the sampling of a dozen or more fragments of float within a 10 m<sup>2</sup> area.

All samples were crushed and pulverized to -200 mesh before being fire assayed for silver, lead and zinc by Loring Labs, of Calgary, and Bondar Clegg & Co., of Whitehorse and Vancouver.

To: DAWSON ELDORADO GOLD EXPLORATIONS LTD  
 Suite 810, 910 - 7th Avenue S.W.,  
 Calgary, Alberta T2P 3N8  
 Attn: Paul White



File No. 28575  
 Date May 12, 1986  
 Samples Rock

Certificate of  
**ASSAY** of  
**LORING LABORATORIES LTD.**

Page # 1

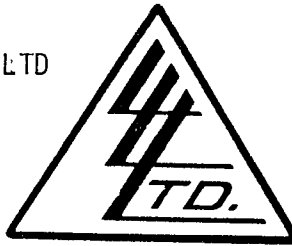
SAMPLE No.	OZ./TON SILVER	% Pb	% Zn
<u>Assays</u>			
K-1	.06	1.28	.77
-2	Trace	.30	38.87
-3	.08	.08	8.42
-4	.10	.82	4.38
-5	.06	.05	.90
-6	.08	.09	.29
-7	1.96	30.90	2.34
-8	Trace	.23	8.30
K-10	Trace	.53	3.08
-11	.10	.29	10.33
-12	2.58	19.73	24.65
-13	.22	1.05	11.78
-15	.14	.77	3.99
-16	5.16	29.95	27.05
-17	.16	.19	7.81
-18	.16	.80	1.89
-19	12.00	45.87	12.18
-20	.14	.71	3.18
K-21	3.50	16.93	28.43

**I Hereby Certify** THAT THE ABOVE RESULTS ARE THOSE  
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .

Rejects Retained one month.  
 Pulps Retained one month  
 unless specific arrangements  
 made in advance.

  
 Assayer

To: DAWSON ELDORADO GOLD EXPLORATIONS LTD  
 Suite 810, 910 - 7th Avenue S.W.,  
 Calgary, Alberta T2P 3N8  
 Attn: Paul White



File No. 28575  
 Date May 12, 1986  
 Samples Rock

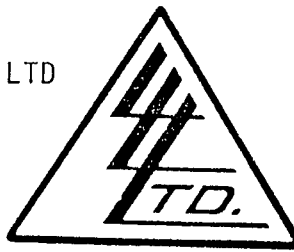
Certificate of  
**ASSAY** of  
**LORING LABORATORIES LTD.**

Page # 2

SAMPLE No.	OZ./TON SILVER	% Pb	% Zn
<u>Assays</u>			
K-22	.08	.61	.72
-23	Trace	.63	1.13
K-24	3.48	30.20	13.99
<p><b>I Hereby Certify</b> THAT THE ABOVE RESULTS ARE THOSE          ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .</p>			

Rejects Retained one month.  
 Pulps Retained one month  
 unless specific arrangements  
 made in advance.

To: DAWSON ELDORADO GOLD EXPLORATIONS LTD  
 Suite 810, 910 - 7th Avenue S.W.,  
 Calgary, Alberta T2P 3N8  
 Attn: Paul White



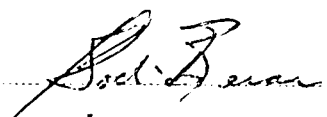
File No. 28575  
 Date May 12, 1986  
 Samples Rock

Certificate of  
**ASSAY** of  
**LORING LABORATORIES LTD.**

Page # 3

SAMPLE No.	PPM Pb	PPM Zn	PPM Ag
<p><u>"Geochemical            Analysis"</u></p> <p>K- 9</p> <p>K-14</p>	<p>54</p> <p>51</p>	<p>95</p> <p>338</p>	<p>Nil</p> <p>4.3</p>
<p><b>I Hereby Certify</b> THAT THE ABOVE RESULTS ARE THOSE            ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .</p>			

Rejects Retained one month.  
 Pulps Retained one month  
 unless specific arrangements  
 made in advance.

  
 Assayer



# Certificate of Analysis

TO Dawson Eldorado

REPORT NO. A46-190

DATE July 25, 1986

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

*JAW 1*

MARKED	oz/ton	%	%						
	Ag	Pb	Zn						
84751	5.24	17.5	11.3						
84752	3.88	24.3	26.1						
84753	0.24	0.85	8.80						
84754	0.35	2.45	2.79						
84755	0.18	0.69	2.45						
84756	0.11	0.62	0.38						
84757	0.08	0.10	9.70						
84758	0.03	0.04	0.13						
84759	0.02	0.12	8.50						
84760	0.02	0.08	12.4						
84761	0.02	0.15	9.30						
84762	0.02	0.05	4.39						
84951	0.32	1.67	0.99						
84952	0.04	0.04	1.04						
84953	0.02	0.03	0.54						
84954	0.06	0.04	3.91						
84956	0.08	0.16	0.82						
84957	0.03	0.07	1.34						
84958	0.03	0.13	0.73						
84959	0.01	0.02	1.64						

*John Row*



# Certificate of Analysis

TO Dawson Eldorado  
\_\_\_\_\_  
\_\_\_\_\_

REPORT NO. A46-190 Pg. 2

DATE July 25, 1986

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

MARKED	oz/ton	%	%						
	Ag	Pb	Zn						
84960	0.02	0.02	0.90						
84961	0.03	0.06	0.14						
84962	0.01	0.01	0.22						
84963	0.15	0.04	0.10						
84964	0.08	0.40	1.60						
84965	0.07	0.07	1.35						
84966	0.06	0.22	2.26						
84967	0.12	0.80	0.24						
84968	0.24	0.98	5.50						
84969	0.78	4.92	5.28						
84970	0.02	0.08	0.14						

*John Ren*

Bondar-Clegg & Company Ltd.  
 130 Pemberton Ave.  
 North Vancouver, B.C.  
 Canada V7P 2R5  
 Phone: (604) 985-0681  
 Telex: 04-352667



Certificate  
 of Analysis

REPORT: 426-4274

PROJECT: NONE GIVEN PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Ag OPT	Pb PCT	Zn PCT
R2 84763		0.05	0.56	16.50
R2 84764		0.08	1.16	18.20
R2 84765		<0.02	0.22	17.10
R2 84766		0.02	0.13	0.68
R2 84767		<0.02	0.16	26.00
R2 84768		0.02	0.06	6.75
R2 84769		<0.02	0.14	16.50
R2 84770		0.07	1.10	9.00
R2 84771		<0.02	0.06	6.65
R2 84972		0.16	2.10	32.00
R2 84973		0.05	0.18	19.50
R2 84974		0.07	0.23	27.00
R2 84975		0.03	0.06	8.60

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Certificate  
 of Analysis

REPORT: 426-5811

PROJECT: NONE GIVEN

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SAMPLE NUMBER	ELEMENT UNITS	Ag OPT	Pb PCT	Zn PCT
D2 70476		<0.02	0.01	0.01
D2 70477		<0.02	0.01	0.18
D2 70478		<0.02	0.02	3.40
D2 70479		<0.02	0.02	4.00
D2 70480		0.02	0.15	24.10

D2 70481		0.04	0.35	4.35
D2 70482		0.14	1.18	2.50
D2 70483		0.12	0.66	5.80
D2 70484		<0.02	0.17	1.81
D2 70485		<0.02	0.10	13.80

R2 84772		0.18	1.19	1.75
R2 84773		1.01	5.16	17.30
R2 84774		0.82	6.58	5.00
R2 84775		0.08	0.66	4.40
R2 84976		0.02	0.10	1.00

R2 84977		<0.02	0.04	2.23
R2 84978		<0.02	0.08	8.60
R2 84979		0.12	1.36	13.10
R2 84980		0.14	0.20	7.20
R2 84981		0.02	0.24	3.20

R2 84982		0.02	0.12	9.50
R2 84983		<0.02	0.05	2.10
R2 84984		0.42	2.12	12.70
R2 84985		0.04	0.40	3.30

A P P E N D I X    I V

DRILL LOGS AND TECHNICAL DATA

**HOLE K86-1**

**Contractor:** E. Caron Diamond Drilling Ltd. **Type:** N.Q.  
 7 Roundel Road, Whitehorse, Y.T.  
**Location:** Kiwi 3 Claim, Dawson District, Yukon T.  
 034 N/033 W on Grid  
**Azimuth:** 135° Attitude -50° (collar); -47° at 107m  
**Started:** October 8, 1986 **Finished:** October 13, 1986  
**Logged:** Oct. 11,12,13 **Total Depth:** 135.3 m.

**Note:** Core stored on property at camp site.

From (metres)	To	Description	Sample #	From/To (metres)
0	2.7	CASING		
<hr/>				
2.7 - 34.4		LIMY DOLOMITE (8a)		
		- White, fine-grained to sugary textured		
		- Fetid, occasional solution cavity to 0.6 cm.		
		- Massive		
		- Some vague "bedding"	ATC @ 10m 28° ATC @ 20m 20°	
		- Abundant MnO <sub>2</sub> smears along fracture surfaces		
		- Pervaded by 1mm to 1cm white, crystalline calcite		
		- Trace diss. pyrite & chlorite		
		- Finer, siliceous horizons in upper 5m and lower 2m		
		- Gradational lower contact		
		- Breccia zones @:		
		(metres) 5.8 - 6.6		
		10.0 - 10.5		
		17.9 - 18.8	70476	17.9-18.8
		19.8 - 21.3		
		31.1 - 32.8		
		- Conglomerate @:		
		13.1 - 14.6		
		22.2 - 25.9		
		- Simple unoxidized fractures	ATC 38°	
<hr/>				
34.4 - 69.2		LIMONITIZED DOLOMITE (8d)		
		- Tan to yellowish - cream colored		
		- Both fine-grained and sugary textured (locally cherty eg. top 3m)		
		- Some solution cavities		

From To: (metres)	Description	Sample #	From/To (metres)
34.4 - 69.2	(continued...)		
	- Sections similar to 8a (less oxidized)		
	@: 47.3 - 52.7		
	65.5 - 69.2		
	(many 2m sections <u>in</u> 52.7-65.5)		
	- Sections of 10% to pervasive oxidation and "stockwork" fracturing		
	@: 34.4 - 47.3		
	52.7 - 65.5 (30% of zone)		
	i) Fine-grained is oxidized along fractures & as lcm <u>halos</u> astride fractures		
	ii) Sugary textured is oxidized in solution cavities and pervasive		
	Fracturing quite abundant: eg. 35m 25°		
	eg. 41m 22°		
	eg. 53m 40°		
	- High grade mineralization;		
	Microbreccia & brecciated 8a cemented by >10% limonite and ZnCo <sub>3</sub> with pervasive oxidation and re-crystallization	70477	34.4-36.4
	@: 38.1 - 38.4	70478	38.1-40.2
	39.3 - 39.7	70479	42.6-44.8
	44.8 - 46.9	70480	44.8-46.9
	60.3 - 65.5 (minor oxid, plus fract. fill gal, sphalerite, pyrite total - 1 to 5% sulphides)		
	Good breccia @ 42.7 - 46.9		
	- Solution cavities		
	@: 42.7 - 50.3	70481	60.3-62.9
	52.7 - 62.2	70482	62.9-65.5

From (metres)	To (metres)	Description	Sample #	From/To (metres)
69.2	153.3	SILICEOUS DOLOMITE (2c)		
		- Dark grey, fine to medium grained		
		- Siliceous, highly fractured		
		- Calcite veining ubiquitous		
		- Soft-sedimentary deformation ubiquitous		
		- basically silty, argillaceous dolomite		
		- Massive		
		- Upper 5m silicified, brecciated, probably 2d		
		- Contact gradational over >2m		
		- Microbreccias (cemented by white calcite) common		
		- Some bedding obvious, eg. 118m	45°	
		- Fracturing uncommon, eg. 106m	40°	
		- Only three weakly mineralized sections		
		@ 93.2 - 93.5 (microbreccia)		
		@ 104.5 - 106.4 (bleached fracture zone)		
		@ 115.8 - 116.1 (ditto)		

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135.3 E.O.H.

HOLE K86-2

**Contractor:** E. Caron Diamond Drilling Ltd. **Type:** N.Q.  
 7 Roundel Road, Whitehorse, Y.T.  
**Location:** Kiwi 3 Claim, Dawson District, Yukon T.  
 034 N/033 W on Grid  
**Azimuth:** 135° **Attitude** -65° (collar); -60° at 76.2m  
**Started:** October 13, 1986 **Finished:** October 19, 1986  
**Logged:** Oct. 20, 1986 **Total Depth:** 76.5 m.

**Note:** Core stored on property at camp site.

From To (metres)	Description	Sample #	From/To (metres)
0 - 1.8	CASING		
1.8 - 37.5	LIMY DOLOMITE (8a)		
	- White, fine to medium grained		
	- Massive unit, few fractures		
	- Very similar to first portion of 86-1		
	- Bedding visible @ 14m	25°	
	- Minor brecciation @ 11 to 11.6m		
	- Fracturing @ 36m	18°	
	- Very similar to 8a of 86-1		
37.5 - 45.1	LIMONITIZED DOLOMITE (8d)		
	- Similar to 8d of 86-1		
	- Includes 8a oxidized, both fine and coarse-grained	70483	37.5-39.3
		70484	41.1-43.3
	- Mostly well oxidized with good limonitic stockwork		
	- Fracturing @ 39m	32°	
	- Excellent brecciation @ 37.5 - 38.7		
	- Mineralized breccia @ 37.5 to 39.3		
	@ 41.1 to 43.3		

From To: (metres)	Description	Sample #	From/To (metres)
37.5 - 45.1	(cont...)  - Mineralization consisting of partially to fully oxidized 8a with up to 50% limonite/ZnCO <sub>3</sub> veining. Also contains trace galena as open-space fill.		
45.1 - 48.7	LIMY DOLOMITE (8a)  - Similar to (1.8 to 37.5)  - Fracturing @ 46m 10°  - Massive, fine-grained. No oxidation  - Sharp lower contact (over 20cm)		
48.7 - 76.5	SILICEOUS DOLOMITE (2c)  - Dark grey silty, argillaceous dolomite  - Massive, few fractures - Syn-sedimentary deformation and rip-up clast common  - Contact sharp over 20cm. - Includes some 8d @ 50.6 to 51.2m  - Includes breccia @ 56.0 to 57.9 - open space fill brecciated 2c with limonite/ZnCO <sub>3</sub> comprising up to 40% of breccia  - Fracturing @ 51m 28° @ 73m 50° - Bedding @ 67m 35°  - Unit 2c identical to bottom of 86-1	70485	56.1-57.9
76.5	E.O.H.		