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**GEOLOGICAL AND GEOCHEMICAL REPORT
ON THE
ANUK RIVER EAST PROJECT**

Located in the Galore Creek Area
Liard Mining Division
NTS 104G/3W,4E
57° 09' North Latitude
131° 31' West Longitude

-prepared for-
CONSOLIDATED GOLDWEST RESOURCES LTD.

-prepared by-
Bruno Kasper, Geologist

December, 1989

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

19,521

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE ANUK RIVER EAST PROJECT

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1.0 INTRODUCTION

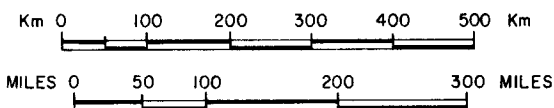
The PL-4, -5 and -6 claims, which comprise the Anuk River East Project, were staked in October 1988 to cover favorable geology between the Jack Wilson gold-copper occurrences and the Galore Creek copper-gold deposit, approximately 170 kilometers northwest of Stewart in northwestern British Columbia (Figure 1). The geological similarity to the Iskut River, Sulphurets and Stewart mining camps to the south and the discovery in the past few years of several major precious metals occurrences elsewhere in the Galore Creek district have sparked renewed exploration interest throughout the area.

One day of reconnaissance exploration, consisting of geological mapping, prospecting and geochemical sampling, was carried out over the Anuk River East property during September of 1989. Equity Engineering Ltd. conducted this program for Consolidated Goldwest Resources Ltd. and has been retained to report on the results of the fieldwork.

2.0 LIST OF CLAIMS

Records of the British Columbia Ministry of Energy, Mines and Petroleum Resources indicate that the following claims (Figure 2) are owned by Pass Lake Resources Ltd.. Separate documents indicate that in January 1989, Consolidated Goldwest Resources Ltd. optioned the claims from Pass Lake Resources Ltd..

PROPERTY LOCATION



CONSOLIDATED GOLDWEST RESOURCES LTD.		
ANUK RIVER EAST PROJECT LOCATION MAP		
BRITISH COLUMBIA		
EQUITY ENGINEERING LTD.		
DRAWN: J.W.	MINING DIV. LIARD	FIGURE
N.T.S.: 1046/3W, 4E	SCALE: AS SHOWN	1
DATE: Dec. 1989	REVISED:	

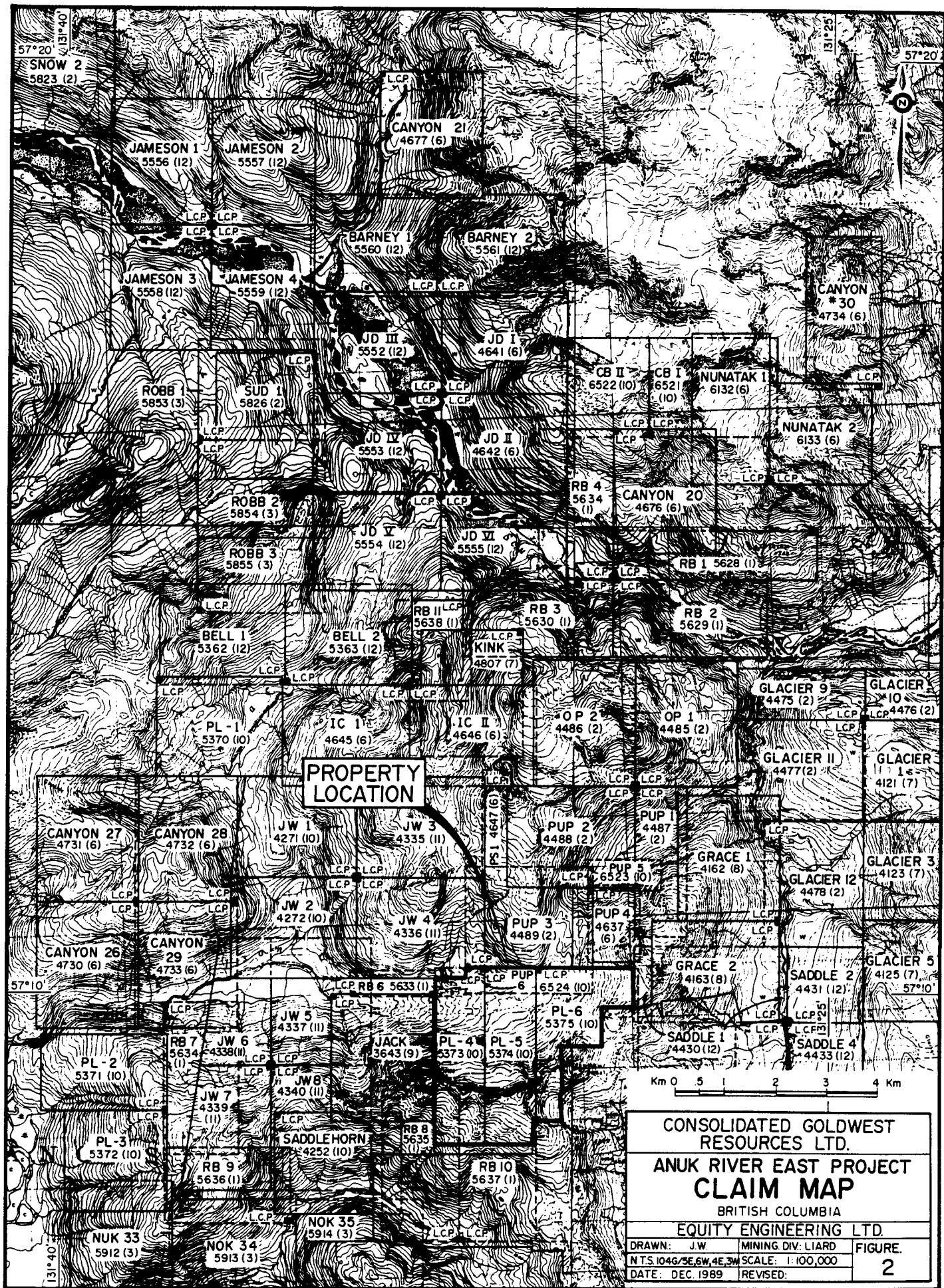
Claim Name	Record Number	No. of Units	Record Date	Expiry Year
PL-4	5373	14	Oct. 11, 1988	1989
PL-5	5374	14	Oct. 11, 1988	1989
PL-6	5375	<u>16</u>	Oct. 11, 1988	1989
		44		

The PL-4 claim overlaps the Jack claim to the west and the JW 4 claim to the north by 100 and 350 meters, respectively. The southwestern corner of the PL-6 claim overlaps the Galore Creek claim group by 500 meters. The actual size of the Anuk River East property is closer to 39 units as a result of the overstaking. The position of the legal corner posts for the PL-4 and -5 claims has been verified by the author, but the PL-6 legal corner post was not located during this program.

3.0 LOCATION, ACCESS AND GEOGRAPHY

The PL-4, -5 and -6 claims are located within the Coast Range Mountains approximately 170 kilometers northwest of Stewart and 80 kilometers south-southwest of Telegraph Creek in northwestern British Columbia (Figure 1). They lie within the Liard Mining Division, centered at 57° 09' north latitude and 131° 31' west longitude.

Access to the Anuk River East property is provided by helicopter from either the Galore Creek or Scud River airstrips, which are located approximately five kilometers to the southeast and 24 kilometers to the northeast respectively. Fixed-wing aircraft fly charters from Smithers to both airstrips direct or via the Bronson airstrip during the field season. On the Alaskan side of the border, Wrangell lies approximately 90 kilometers to the southwest, and provides a full range of services and supplies, including a major commercial airport. The Stikine River has been navigated by 100-ton barges upriver as far as Telegraph Creek,



**PROPERTY
LOCATION**

**CONSOLIDATED GOLDWEST
RESOURCES LTD.**
**ANUK RIVER EAST PROJECT
CLAIM MAP**
 BRITISH COLUMBIA
EQUITY ENGINEERING LTD.

DRAWN: J.W.	MINING DIV: LIARD	FIGURE:
N.T.S. 104G/5E.6W.4E.3M		SCALE: 1:100,000
DATE: DEC 1989	REVISED:	2

allowing economical transportation of heavy machinery and fuel to within ten kilometers of the property. During the 1960's, Kennco constructed a cat road from their Galore Creek copper-gold deposit to the Scud River airstrip. This cat road has not been maintained and would require some reconstruction. During September and October of 1989, a helicopter was stationed at the forty-man camp close to the Galore Creek airstrip.

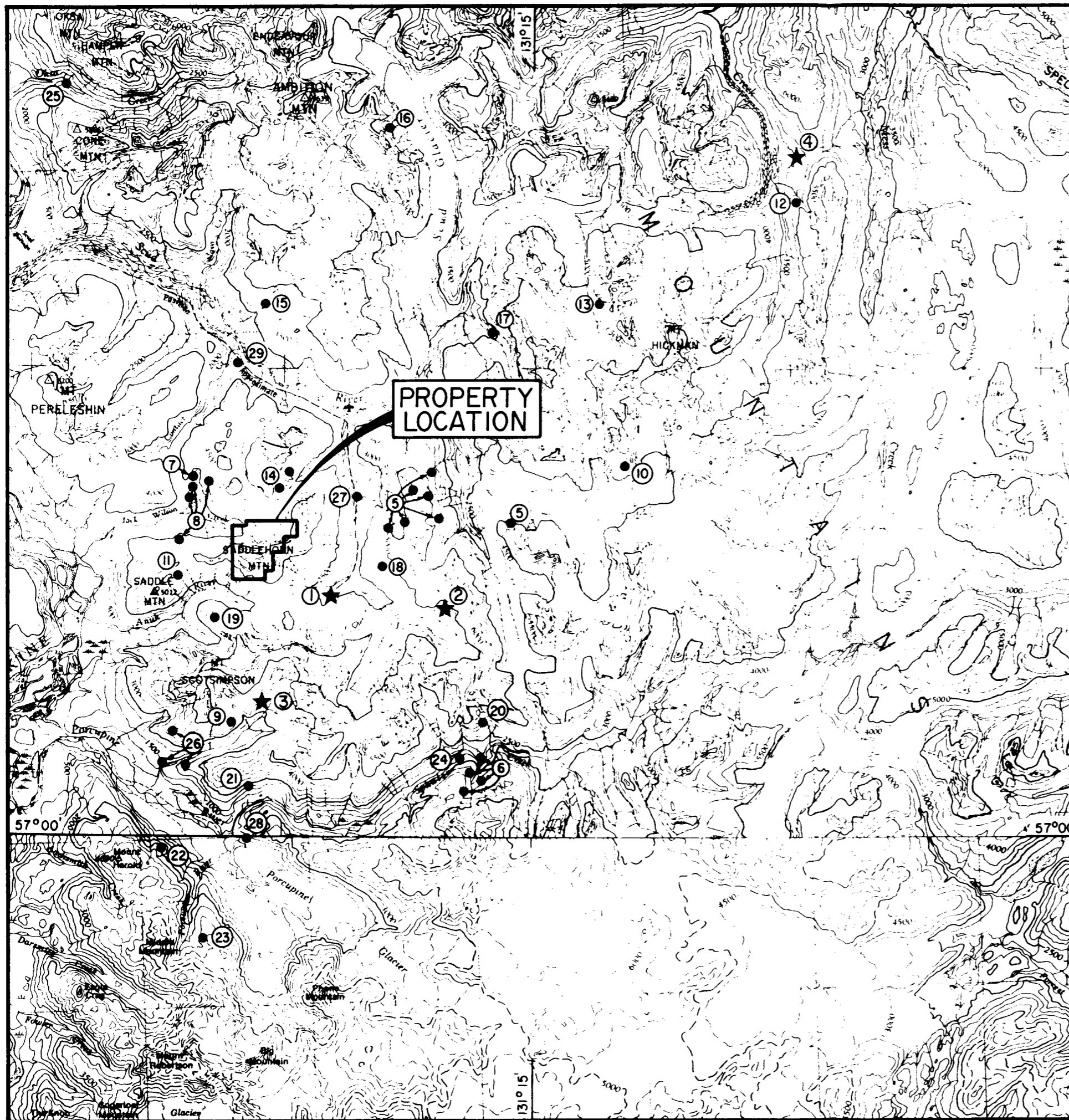
The PL-4, -5 and -6 claims cover the northern slopes of the east ridge of Saddlehorn Mountain and the glacier located at the headwaters of Jack Wilson Creek (Figure 2). Topography is precipitous, typical of mountainous and glaciated terrain, with elevations ranging from 750 meters near Jack Wilson Creek to over 2080 meters on an unnamed peak east of Saddle Mountain. At least two-thirds of the property is covered by glaciers or permanent snowfields.

North of Jack Wilson Creek, lower slopes are covered by sparse growth of alpine fir. Above treeline, which occurs at approximately 1150 meters, more open alpine vegetation is present. Both summer and winter temperatures are moderate although annual rainfall may exceed 200 centimeters and several meters of snow commonly fall at higher elevations.

4.0 PROPERTY MINING HISTORY

4.1 Previous Work

The Galore Creek district was extensively explored for its copper potential throughout the 1960's, following the discovery in 1955 of the Galore Creek copper-gold porphyry deposit four kilometers southeast of PL-6 (Figure 3), whose Central Zone hosts reserves of 125 million tonnes grading 1.06% copper and 400 parts



NAME OF OCCURRENCE	MINERAL RESERVES AND/OR ELEMENTS	
1. Galore Creek	125,000,000 tonnes	0.40 gm/tonne Au 7.70 gm/tonne Ag
2. Copper Canyon	25,000,000 tonnes	0.64% Cu
3. Paydirt	185,000 tonnes	4.11 gm/tonne Au
4. Schaft Creek	330,000,000 tonnes	0.32 gm/tonne Au 1.50 gm/tonne Ag 0.40% Cu 0.036% MoS ₂
5. Trophy		Au, Cu, Pb, Zn, Ag
6. Trek		Au, Cu, Pb, Zn, Ag, Mo
7. Icy		Au, Cu, Ag
8. Jack Wilson		Au, Cu
9. Ann/Su		Cu
10. Jay		Cu, Au, Ag
11. Devil's Club		Cu, Ag, Au
12. Hicks		Cu, Mo
13. Alberta		Cu
14. Pup		Cu, Au, Pb, Zn
15. JD		Cu, Au, Pb, Zn
16. North Scud		Cu
17. Middle Scud		Cu, Ag
18. Stikine East		Cu
19. Joan, MB		Cu, Au, Ag
20. Kim		Cu, Au, Ag
21. Wiser		Au, Ag
22. Cuds		Au, Ag, Pb, Cu
23. Ginny		Au
24. Sphal		Cu, Au
25. Oksa Creek		Cu, Pb, Zn, Au, Ag
26. PL 7-11		Au, Ag, Cu, Zn
27. B1k		Cu
28. Glenlivet		Au
29. Bell		Au

- MINERAL OCCURRENCE
- ★ MINERAL DEPOSIT



CONSOLIDATED GOLDWEST RESOURCES LTD.		
ANUK RIVER EAST PROJECT REGIONAL MINERAL OCCURRENCE MAP		
BRITISH COLUMBIA		
EQUITY ENGINEERING LTD.		
Drawn: J.W.	MINING DIV. LIARD	FIGURE
N.T.S.: 104B,6	SCALE: 1:250,000	3
DATE: DEC 1989	REVISED:	

per billion gold (Allen et al, 1976). Several major mining companies conducted regional mapping and silt sampling programs over the entire Galore Creek area, and the Copper Canyon copper-gold porphyry, estimated by Grant (1964) to contain 28 million tonnes at a grade of 0.64% copper, was discovered eight kilometers east of the Central Zone in 1957. Unfortunately, most of the regional data collected at that time was not filed for assessment credit and is not available.

In the early 1980's, Teck Corp. conducted regional reconnaissance for gold throughout the area, and delineated 185,000 tonnes of reserves grading 4.11 grams gold per tonne in the Paydirt deposit (Holtby, 1985), located approximately eight kilometers south of the Anuk River East property. In 1987, several precious metal occurrences were discovered on the Trophy project located approximately ten kilometers to the east. Continental Gold, which acquired the Trophy project in 1988, reported trench samples averaging 2.40 grams per tonne (0.07 ounces/ton) gold and 164.5 grams per tonne (4.80 ounces/ton) silver across 56.4 meters from their Ptarmigan A zone (Continental, 1988a). During the 1988 field season, Continental drilled 2,834 meters in 16 holes, with intersections up to 11.1 meters grading 5.48 grams (0.18 ounces/ton) gold and 30.2 grams (ounces/ton) silver per tonne (Continental, 1988b).

Elsewhere in the Galore Creek district, several significant precious metals occurrences were discovered on each of the TREK, ICY and JW properties during the 1988 field season (Figure 3). In each case, these properties had been explored for copper during the 1960's, but had never received due attention for their gold potential. Soil sampling on the JW property, which lies immediately to the northwest of the Anuk River East claim group, revealed two large gold-copper anomalies thought to be related to porphyry-style mineralization. In addition, several auriferous

quartz vein and shear zones were discovered on the JW property.

4.2 1989 Work Program

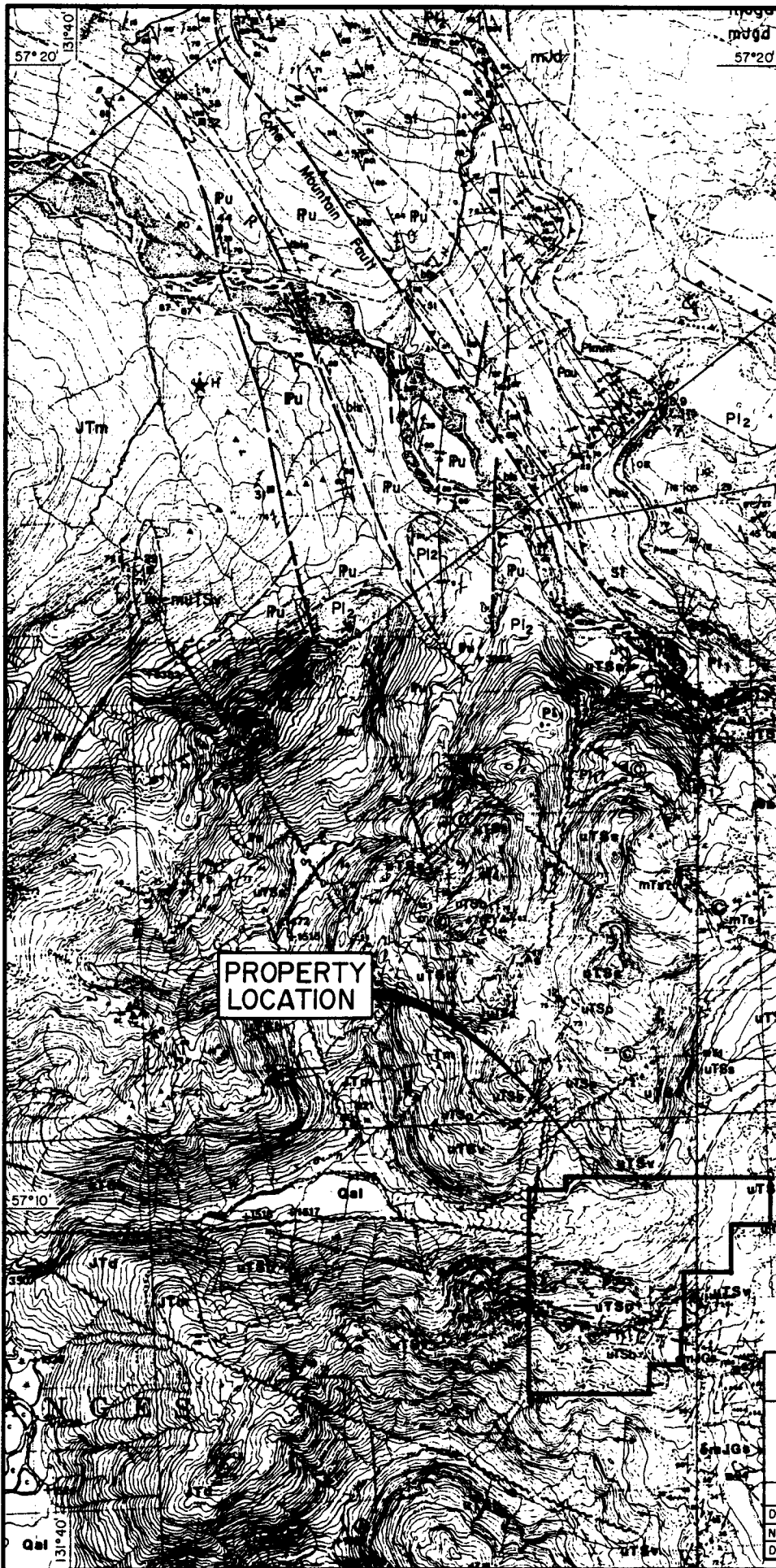
During September of 1989, Consolidated Goldwest Resources Ltd. carried out one day of reconnaissance exploration on the Anuk River East claim group, consisting of geological mapping, prospecting and stream sediment sampling. This program was targeted at gold-rich mesothermal base metal veins similar to those occurring elsewhere in the Galore Creek district and within a similar geological environment which stretches south through the Iskut River, Sulphurets and Stewart mining districts.

During the course of this program, 6 stream silt samples and 24 rock samples were taken. Stream silt samples were dried and sieved through a minus 80 mesh in the laboratory and analysed geochemically for gold and 10-element ICP (Figure 5).

Prospecting and reconnaissance geology were carried out over accessible parts of the property, using a 1:10,000 topographic orthophoto as a base (Figure 5). Rock samples, described in Appendix C, were taken from zones of alteration and mineralization and analysed geochemically for gold and 10-element ICP. Analytical certificates are attached in Appendix D.

5.0 REGIONAL GEOLOGY

The first geological investigations of the Stikine River in northwestern British Columbia began over a century ago when Russian geologists came to Russian North America assessing the area's mineral potential (Alaskan Geographic Society, 1979, in Brown and Gunning, 1989a), and was followed by the first Geological Survey of Canada foray of G.M. Dawson and R. McConnel in 1887. Several



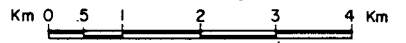
LEGEND

- QUATERNARY**
- Qal UNCONSOLIDATED ALLUVIAL FILL AND POOLY SORTED ALLUVIUM
- UPPER TRASSIC**
- UTSa FLUORITE GROUP (MIDDLE DIVISION) AS UTSa (Unit 8)
 - UTSb ULTRAFINE SANDSTONE, CONGLOMERATE, MEDIUM SANDSTONE CONTACT SHALES (Unit 8a)
 - UTSp FINE-TO-MEDIUM SANDSTONE AND ARGILLITES (Unit 8b)
 - UTSv IMPURE TO PURE ARGILLITES, SANDSTONE, LAMINATED SANDSTONE (Unit 8c)
- MIDDLE TO UPPER TRASSIC**
- UTSv MASSIVE ANDERITE FLOWS AND TUFFS, AMPHIBOLITIC SANDSTONE (Unit 7c)
- PERMIAN**
- Pi1 LIGHT GREY TO BUFF TUFFS, BEDDED BUFF BIOCCLASTIC CALCARENITE (Unit 6a)
 - Pi2 DARK GREY TO BUFF TUFFS, BEDDED BIOCCLASTIC LAMINATED CHERT INTERBEDDED SANDSTONE (Unit 6b)
 - Pi3a DARK GREY TO BLACK COARSELY BIOCCLASTIC MORTAR (Unit 6c)
 - Pi3b BISTY AEGOLITE UNIT (Unit 6d)
 - Pi3c FINE-TO-MEDIUM GRAINED AEGOLITE AND BISTY (Unit 6e)
- PERMIAN AND OLDER**
- Pv FINE-TO-MEDIUM GRAINED PORPHYRY FLOWS, VOLCANIClastic, PURPLE-JAY TUFF, CHLORITE SHALES (Unit 4c)
 - Pu UNCONFORMABLE AND SANDY POLYMETAMORPHIC METAVOLCANICS AND METASANDSTONES (Unit 4)
 - Da WHITE TO GREY CRYSTALLIZED LAMINATED Limestone IN BOTH Pv AND Pu
 - Hi MEDIUM GRAINED Limestone (Unit 4a)
- INTRUSIVE ROCKS**
- Jtd MEDIUM GRAINED BOTTLE HORNBLENDE DIORITE (Unit 12b)
 - Jtm POTASSIUM-RICH GRANITE GACRYSTIC GRANITE TO MONZONITE (Unit 12a)
- MIDDLE JURASSIC**
- Jm1a LAMINAR LAMINATED MEDIUM GRAINED HORNBLENDE BOTTLE GRANODIORITE AND QUARTZ MONZONITE GRANITE (Unit 10a)
 - Jm1b MEDIUM GRAINED MEDIUM TO COARSE GRAINED QUARTZ DIORITE, HORNBLENDE DIORITE (Unit 10b)
- EARLY TO MIDDLE JURASSIC**
- Jm2a FINE-TO-MEDIUM GRAINED PORPHYRY MONZONITE (Unit 11a)
- EARLY JURASSIC**
- Jm1 MEDIUM GRAINED HORNBLENDE BOTTLE GRANODIORITE TO MONZONITE (Unit 11c)

- Geological boundary (defined, approximate assumed) ————
- Uncertainty (assumed) - - - - -
- Bedding (inclined, vertical, parallel to location) / / / /
- Bedding (inclined, vertical, overturned) / / / /
- Bedding (horizontal, vertical) (g = garnet, m = muscovite, s = sandstone) / / / /
- Foliation (inclined, vertical, left = mylonitic) / / / /
- Joints (inclined, vertical) / / / /
- Dykes (inclined, vertical) / / / /
- Dykes (estimated altitude) (g = garnet, m = muscovite, s = sandstone) / / / /
- Vents (inclined, vertical, O = quartz) / / / /
- Anticlinal axis / / / /
- Synclinal axis / / / /
- Overturned synclinal axis / / / /
- Axial plane of minor fold (inclined, vertical) / / / /
- Fold axis of minor fold with M, S and Z symmetry, compression (arrow indicates plunging) / / / /
- High angle fault, surface trace (defined, approximate, assumed) / / / /
- Some scale indicates compression side, arrows indicate relative movement / / / /
- Thrust fault (defined, approximate, assumed, teeth in direction of slip) / / / /
- Shear zone (inclined) / / / /

PROPERTY LOCATION

Geology after: Logan et al 1989b
Brown & Gunning 1989b



CONSOLIDATED GOLDWEST RESOURCES LTD.

ANUK RIVER EAST PROJECT REGIONAL GEOLOGY
BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: JW	MINING DIV. LIARD	FIGURE.
NTS: 104G/5E, 6W, 4E, 3W	SCALE: 1:100,000	4
DATE: DEC. 1989	REVISED:	

more generations of federal and provincial geologists have been sent to the Stikine, including Kerr (1948b), the crew of Operation Stikine (GSC, 1957), Panteleyev (1976), Souther (1972), Souther and Symons (1974), Monger (1977), and Anderson (1989). The British Columbia Geological Survey has recently completed regional mapping of the area at a scale of 1:50,000 by Brown and Gunning (1989a,b) and Logan and Koyanagi (1989a,b).

The Galore Creek Camp lies within the Intermontane Belt, a geological and physiographic province of the Canadian Cordillera, and flanks the Coast Plutonic Complex to the west (Figure 4). At Galore Creek, the generally northwest-trending structure of the Intermontane Belt is discordantly cut across by the northeast-trending Stikine Arch which became an important, relatively positive tectonic element in Mesozoic time when it began to influence sedimentation into the Bowser Successor Basin to the southeast and into the Whitehorse Trough to the northwest (Souther et al., 1974).

Stikinian stratigraphy ranges from possibly Devonian to Jurassic, and was subsequently intruded by granitoid plutons of Upper Triassic to Eocene age. The oldest strata exposed in the Galore Creek camp are Mississippian or older mafic to intermediate volcanic flows and pyroclastic rocks (Map Units 4a and 4c) with associated clastic sediments and carbonate lenses (Map Unit 4b). These are capped by up to 700 meters of Mississippian limestone with a diverse fossil fauna (Map Unit 4d). It appears from fossil evidence that all of the Pennsylvanian system is missing and may be represented by an angular unconformity and lacuna of 30 million years, though field relationships are complicated by faulting (Monger, 1977; Logan and Koyanagi, 1989a). Permian limestones (Map Unit 6), also about 700 meters thick, lie upon the Mississippian limestone but are succeeded by a second lacuna amounting to about 20 million years from the Upper Permian to the upper Lower

Triassic.

Middle and Upper Triassic siliciclastic and volcanic rocks (Map Unit 7) are overlain by Upper Triassic Stuhini Group siliciclastic (Map Unit 8a) and volcanic (Map Unit 8b, 8c and 8d) rocks, consisting of mafic to intermediate pyroclastic rocks and lesser flows. The Galore Creek porphyry copper deposit appears from field evidence to mark the edifice of an eroded volcanic center with numerous sub-volcanic plutons of syenitic composition. Jurassic Bowser Basin strata onlap the Stuhini Group strata to the southeast of Iskut River but, because of erosion and non-deposition, are virtually absent from the Galore Creek area.

The plutonic rocks follow a three-fold division (Logan and Koyanagi, 1989a,b). Middle Triassic to Late Jurassic syenitic and broadly granodioritic intrusions are partly coeval and cogenetic with the Stuhini Group volcanics and include the composite Hickman Batholith (Map Unit 9) and the syenitic porphyries of the Galore Creek Complex (Map Unit 11). Jura-Cretaceous Coast Plutonic Complex intrusions (Map Unit 12) occur on the west side of the Galore Creek Camp, along the Stikine River, with the youngest of these intrusions occupying more axial positions along the trend of the Coast Plutonic Complex flanked by older intrusions. The youngest intrusives in the Galore Creek Camp are Eocene (quartz-) monzonitic plugs (Map Unit 13), felsic and mafic sills and dykes (Map Unit 14), and biotite lamprophyre (minette) dykes (Map Unit 14).

The dominant style of deformation in the Galore Creek area consists of upright north-trending, open to tight folds and northwest-trending, southwest-verging, folding and reverse faulting in the greenschist facies of regional metamorphism. Localized contact metamorphism ranges as high as pyroxene hornfels grade; metasomatism is also noted near intrusions. Upright folding may

be an early manifestation of a progressive deformation which later resulted in southwest-verging structures. Southwest-verging deformation involves the marginal phases of the Hickman Batholith and so is, at least in part, no older than Late Triassic.

Steeply dipping faults which strike north, northwest, northeast, and east have broken the area into a fault-block mosaic. North-striking faults are vertical to steeply east-dipping and parallel to the Mess Creek Fault (Souther, 1972), which was active from Early Jurassic to Recent times (Souther and Symons, 1974); northwest-striking faults are probably coeval with the north-striking faults, but locally pre-date them. East-west trending faults are vertical or steeply dipping to the north and have normal-type motion on them (i.e., north-side down), whereas northeast-striking faults are the loci of (sinistral) strike-slip motion (Brown and Gunning, 1989a).

A number of metallic deposit types have been recognized in the Galore Creek camp: porphyry copper \pm molybdenum \pm gold deposits, structurally-controlled epigenetic 'Cordilleran' vein/shear precious metal replacement deposits, skarns and breccia deposits (Figure 3). Porphyry copper deposits of this area include both the alkalic Galore Creek copper-gold and calc-alkalic Schaft Creek copper-molybdenum deposits. Galore Creek, which is associated with syenitic stocks and dikes rather than a quartz-feldspar porphyry, is further contrasted from the calc-alkaline Schaft Creek in that molybdenite is rare, magnetite is common and gold and silver are important by-products. The mineralization is clearly coeval and cogenetic with the spatially associated intrusive bodies. Other porphyry copper occurrences in the Galore Creek area include the Copper Canyon, Sue/Ann, Bik and Jack Wilson Creek deposits.

Structurally-controlled gold-silver deposits have been the focus of exploration in recent years. The vein/shear occurrences are similar throughout the Galore Creek camp in that they are mesothermal in nature, containing base metal sulphides with strong silica veining and alteration. However, it appears that the intrusive bodies associated with this mineralization fall into two classes on the basis of age and composition. These two classes are reflected in differences in the style of structures, sulphide mineralogy and associated alteration products. The intrusive types are: 1) Lower Jurassic alkaline "Galore Creek" stocks; and 2) Eocene quartz monzonite to porphyritic granodiorite intrusions. Lead isotope data from the Stewart mining camp (Alldrick et al., 1987) further supports the proposition that separate Jurassic and Tertiary mineralizing events were "brief regional-scale phenomena".

Structures associated with the Lower Jurassic syenites are typically narrow (less than 2.0 meters) quartz-chlorite veins mineralized predominately with pyrite, chalcopyrite and magnetite. Examples of these structures in the Galore Creek camp include many of the discrete zones peripheral to the Galore Creek deposit and the gold-rich veins at Jack Wilson Creek. The Tertiary mineralization comprises discrete quartz veins and larger 'shear' zones characterized by pervasive silicification, sericitization and pyritization whose total sulphide content is commonly quite low. The quartz veins contain a larger spectrum of sulphide minerals including pyrite, chalcopyrite, pyrrhotite, arsenopyrite, galena and sphalerite. Unlike the Jurassic mineralization, silver grades may be very high. A number of mineral showings discovered in the Porcupine River area, including the Paydirt deposit, are of this type.

Skarns represent a minor percentage of the precious metal-bearing occurrences in the Galore Creek camp. The mineralogy of these deposits could be influenced by the composition of the intrusion driving the hydrothermal fluids, in much the same way as

described above for the structurally-controlled deposits. If the invading intrusives are alkalic, the skarn assemblage will be dominated by magnetite and chalcopyrite, as at the Galore Creek deposit and the Hummingbird skarn on the east side of the South Scud River.

The breccia hosted mineralization discovered in the Galore Creek camp precious metal deposits appear to be unique in style and mineralization. Three occurrences have been located in the camp: (1) the zinc-silver-gold Ptarmigan zone in the South Scud River area, (2) the copper-molybdenum-gold-silver breccia at the Trek property on Sphaler Creek and (3) the copper-bearing and magnetite breccias of the complex Galore Creek deposit. The single common denominator of each is that the zones are located along fault structures which may represent the main conduit for mineralizing fluids.

6.0 PROPERTY GEOLOGY AND MINERALIZATION

6.1 Geology

Four rock types were recognized during limited reconnaissance geological mapping conducted over the Anuk River East property during 1989 (Figure 5). Andesitic dykes of Tertiary (?) age intrude Upper Triassic Stuhini Group volcanics, volcanoclastics and sediments. Greenschist facies metamorphism consisting of weak chlorite, calcite and epidote alteration is pervasive throughout the Stuhini Group rock units. North-northwest to northeast trending faults offset all rock units. Geology in Figure 5 has been adapted from Logan & Koyanagi (1989b) and Awmack & Yamamura (1988), as modified by reconnaissance mapping during the current program.

Upper Triassic Stuhini Group sediments, volcanics and volcanoclastics underlie most of the property (Figure 5). The sediments (Unit 8a) consist of interbedded black argillite and green, fine-grained volcanoclastic wacke. Locally, the argillite weathers to a rusty-orange colour due to the presence of pyrite stringers and coarse, euhedral grains. The bedding, ranging from thinly laminated to thickly bedded, strikes to the northeast and dips to the northwest. Individual beds appear to be laterally uniform in thickness over distances of up to five meters. Soft sediment deformation structures (ie. flame and slump) typical of turbidite sequences were observed within laminated to thinly bedded units.

The volcanics consist of interlayered augite and feldspar porphyry flows accompanied by agglomerate or flow breccias (Unit 8b). Both flow types are characterized by medium-grained phenocrysts in a green to dark green, aphanitic matrix. Chlorite filled amygdules were observed in places within the feldspar porphyry. Grading into and interlayered with the augite porphyries are flow breccias and agglomerates. The two units are distinguished by angularity of the clasts of Stuhini sediments and volcanics; the breccia clasts are angular whereas the agglomerate contains more subrounded clasts. The clasts, randomly oriented and up to two meters in diameter, are supported in a fine- to medium-grained matrix.

Volcanic tuffs and tuffaceous sediments (Unit 8c) have been mapped by Yamamura (Awmack and Yamamura, 1988) on the north side of Jack Wilson creek, just north and west of the property. The tuffs are quite felsic in composition and display well-developed laminations. In places, the tuffs are interbedded with sediments of Unit 8a.

Middle Triassic to Middle Jurassic undifferentiated syenites (Unit 11a) belonging to the Galore Intrusions were mapped by Logan and Koyanagi (1989b) east of the PL-6 claim. The syenites have been subdivided into ten different phases by Allen et al. (1976) who have described these rocks in detail.

An andesitic dyke (Unit 14a) separates interbedded argillites and wackes from augite porphyry flows and agglomerate near the center of the PL-6 claim. The 1.5 meter wide, northeasterly striking dyke is composed of feldspar phenocrysts in an aphanitic groundmass with traces of coarse euhedral pyrite.

Faults, trending north-northwest to northeast, cross the northern claim boundary of the claim group. The faults are limited in strike length and offset all rock units. Quartz-filled extension fractures, associated with a northeasterly trending fault on PL-6, were observed offsetting bedding up to ten centimeters within the sediments. The fault structures can be traced to the north onto the Pup claim group.

6.2 Mineralization

The most significant type of mineralization discovered on the PL-4 to -6 claims are quartz and quartz-carbonate veins and veinlets which strike 135° to 160° and dip moderately to steeply southwest. The veins, which range in width from two to fifty centimeters, contain blebs of pyrite with or without pyrrhotite, chalcopyrite and galena. Grab sample 447214, which assayed 189.4 grams per tonne (6.09 ounces per ton) silver and 5.92% lead, was taken from a quartz vein containing narrow bands and blebs of galena and lesser chalcopyrite. The vein, located in the northwest corner of PL-6, can be followed on surface for at least five meters and ranges up to 50 centimeters in width. Grab sample 447216 was taken from a similar style of vein approximately 180 meters to the

west. This vein contained low lead and silver values but was mineralized with chalcopyrite, assaying 1.76% copper. The vein structure can be followed in outcrop for at least fifty meters through the overlying talus. All of the veins sampled to date returned low gold values, although base metal sulphides were noted in most of these veins. The high gold value of 265 parts per billion was returned from sample 447216.

A second set of vein structures strike northeasterly and are locally enveloped in carbonate altered zones. Quartz and calcite veins up to twenty centimeters wide contain pyrite in stringers and coarse crystals. In general, grab samples of these veins returned low precious and base metal values.

Weak to moderate zones of silicification and carbonate alteration within volcanics contain minor amounts of finely disseminated pyrite. These alteration zones, up to two meters in width, trend east to southeast. No significant precious or base metal values were returned from sampling of these zones.

7.0 GEOCHEMISTRY

Six stream silt samples were taken from tributaries draining into Jack Wilson Creek during the course of the 1989 exploration program on the PL- 4 to -6 claims (Figure 5). Samples 447174 and 447175 returned values of 45 and 65 parts per billion gold, which may be considered anomalous when compared with the National Geochemical Reconnaissance survey (GSC Open File 1646, 1988). Both samples exceed the survey's 90th percentile value (>30 parts per billion gold). Sample 447174 also contained very anomalous copper, 534 parts per million, which exceeds the government's 99th percentile (272 parts per million). Anomalous values for zinc (samples 447164, 447165 and 447174) and arsenic (all samples) were

greater than the government's 90th percentile level of 133 parts per million for zinc and 17 parts per million for arsenic.

These silt samples were taken from creeks draining the north side of Jack Wilson Creek glacier. The source of the base metal values may in part be explained by the sulphide-bearing vein structures found this year. However, the sources of anomalous gold values have yet to be found on the Anuk River East property. The headwaters of the gold-anomalous creeks drain the Saddle Zone area on the adjoining Pup claim group to the north. The southern extension of the auriferous shear zones found in the Saddle Zone area would trend south on to the Anuk River East property.

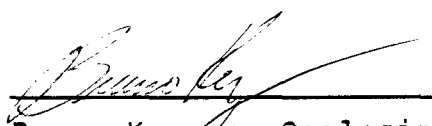
8.0 DISCUSSION AND CONCLUSIONS

The Anuk River East property is at an early stage of exploration. To date, limited geological mapping, prospecting and geochemical sampling has been conducted. The combination of extreme topography, permanent snowfields and glaciers restricts the amount of ground that can be effectively explored.

Upper Triassic Stuhini Group volcanics, volcanoclastics and sediments underlie the PL-4 to -6 property. This group hosts the auriferous showings of the Saddle Zone immediately to the north, significant gold occurrences on the JW property to the northwest and the Galore Creek copper-gold deposit to the southeast. Although no significant gold mineralization was found on the claim group during 1989, quartz veins with maximum values of 189.4 grams per tonne (6.09 ounce/ton) silver, 1.76% copper and 5.92% lead were located near the northern boundary of the PL-6 claim in the vicinity of the Pup claim group's Saddle Zone. Stream geochemical results from the same area returned anomalous copper and gold values.

Further work is recommended on the PL-6 claim to determine whether an extension of the Saddle Zone trends south on to the the property. Soil sampling, geological mapping and prospecting is recommended to test for the southern extension of the Saddle Zone. Any other accessible areas not explored to date should be examined.

Respectfully submitted,
EQUITY ENGINEERING LTD.



Bruno Kasper, Geologist

Vancouver, British Columbia
December, 1989

APPENDIX A

BIBLIOGRAPHY

BIBLIOGRAPHY

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APPENDIX B

STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES
ANUK RIVER EAST CLAIM GROUP

PROFESSIONAL FEES AND WAGES:		
Bruno Kasper, Geologist		
1.25 days @ \$350/day	\$	437.50
David Ridley, Prospector		
1.0 days @ \$300/day		300.00
Cathy Ridley, Prospector		
1.0 days @ \$300/day		300.00
David Hutchison, Sampler		
1.0 days @ \$200/day		<u>200.00</u>
		\$ 1,237.50
EQUIPMENT RENTALS:		
Handheld Radios		
4 @ \$5		20.00
JOINT MOBILIZATION, SUPERVISION AND SUPPORT COSTS:		
Prorated in accordance with number of mandays worked on each of several claim groups in the Galore Creek area		1,097.35
CHEMICAL ANALYSES:		
Silt Samples		
6 @ \$15.69	\$	94.14
Rock Geochemical Samples		
24 @ \$18.25		<u>438.00</u>
		532.14
EXPENSES:		
Materials and Supplies	\$	67.73
Orthophoto Construction		2,951.62
Printing and Reproductions		23.44
Accomodation and Meals		524.88
Helicopter Charters		1,202.04
Telephone Distance Charges		<u>1.68</u>
		4,771.39
REPORT PREPARATION:		
(Estimated)		<u>1,500.00</u>
		\$ 9,158.38
		=====

APPENDIX C

ROCK DESCRIPTIONS

AK	Ankerite	HE	Hematite
CA	Calcite	MC	Malachite
CL	Chlorite	PO	Pyrrhotite
CP	Chalcopyrite	PY	Pyrite
EP	Epidote	QZ	Quartz
GL	Galena	TT	Tetrahedrite

Sampler DAVID RIDLEY

Project KGG89-04

Location Ref Jack Wilson Creek

Date Sept. 2, 1989

Property PL 4-6

Air Photo No _____

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
447112	6338000 N 348550 E	Grab o/c	0.15m 0.02m	Volcanic Cgl.	CA, CL, QZ	PY, CP > GL (7-10%)	Elev. 1270m, strong stringer mineralization over 0.5m within CA/QZ veinlet which strike 145° dip 48° SW	70	20.0	8620	5560	658	39
113	6337930 N 348540 E	"	- 0.1m	QZ vein	QZ > CL	PY, PO, CP? (1-3%)	Elev. 1286m, o/c for 10m vein strike 135° dip 70° SW	25	<0.5	349	105	80	35
114	6337930 N 348400 E	"	0.7m ?	Volcanic?	QZ, CA	diss PY (2-3%)	Elev. 1250m, contains QZ > CA veining but mineralization found in surrounding wall rock. veins strike 040° dip 45° SE	<5	<0.5	65	10	54	12
115	6337930 N 348370 E	"	2.0m ?	Volcanic?	QZ	diss PY (2-12)	Elev. 1243m, poor exposure trends 100°	5	<0.5	74	<5	62	20
116	6338070 N 348040 E	"	2.0m ?	Volcanic	QZ, CA, CL	diss PY (1-2%)	Elev. 112m, QZ veinlets containing PY, trends 130°?	<5	<0.5	131	<5	54	7
117	6338110 N 348460 E	Float	- -	QZ vein	QZ, CA, CL	PY, PO (3%) to GL, CP	Elev. 1182m, source not found	10	1.0	142	585	258	17
118	6338110 N 348460 E	Grab o/c	- 1.5m?	Shear Zone?	CA, AK	HE, PY?	Elev. 1182m, found near 447117 zone strikes 160° dip 60° W	<5	<0.5	17	5	70	11
119	6338110 N 348460 E	"	0.5m 0.15m	Argillite	QZ vein	PY (<1%)	Elev. 1172m, almost 1/2 shear zone of 447118, o/c for 30m	<5	<0.5	28	5	16	15
BRUNO 459406	KASPER 6338055 N 348645 E	Grab o/c	0.4m 1.0m?	Interbedded Argillite/Wacke	Clay, QZ > CA	PY stringers & xstals (2-3%)	Elev. 1300m ASL, fault containing QZ/CA veins ranging in width from 0.2 to 0.4m, fault strikes 037° dip 64° NW	<5	<0.5	49	5	34	11
407	6337850 N 348570 E	Grab o/c	0.5m 0.1-0.15m	Argite porphyry, volc breccia	QZ vein	PY (2-3%)	Elev. 1340m ASL vein strike 149° dip 63° SW	20	<0.5	36	10	42	69
408	6337865 N 348570 E	"	0.4m 0.2m	Volcanic breccia	QZ >> CL vein	PO, HE (<1%)	Elev. 1345m ASL, truncated by QZ vein of 459407 vein strike 035° dip 70° NW	<5	<0.5	59	25	18	14
409	6337925 N 348350 E	Grab o/c	0.1m 1.0-2.0m	Volcanic Breccia	QZ, CA?	TT, CP, PY (2-3%)	Elev. 1233m, Gossan Zone contains 0.1-0.2m QZ veins w/strike 030° dip 80° SE o/c for 20m.	<5	8.5	1400	<5	192	195

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

Sampler CATHRINE J. RIDLEY

Project KGG 89-04

NTS 104G/3W, 4E

Date Sept. 2 / 1989

Property PL 4-6

Location Ref Jack Wilson Creek

Air Photo No _____

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		ppb Au	ppm Ag	ppm Cu	ppm Pb	ppm Zn	ppm As
447169	6338900N 347790E	Grab o/c	5.0 m 2.0 m	Argillite	weak CL	PO (<1%)	Elev 1050m ASL well foliated w/strike 030° dip 58°NW	<5	<0.5	54	<5	70	7
170	6338860N 347950E	"	0.5m ?	Volcanic	weak CP, CL	PY (<1%)	Elev. 1050m ASL CA altered zone w/ strike 096° dip 82°N	<5	<0.5	22	<5	72	6
171	6338865N 348090E	Talus Fines	0.05m -	Volcanic	QZ		Elev. 1100m ASL talus sample of QZ vein	<5	<0.5	156	<5	178	11
172	6338820N 348100E	Grab o/c	5.0m ?	Shear Zone?	CL	diss PY (3-5%)	Elev. 1100m ASL, orientation? follow for 70m on surface	<5	<0.5	29	20	72	9
173	6338010N 348300E	Float	- -	Volcanic	EP, CL, QZ	CP > PY (3-5%) MC	Elev. 1150m ASL, taken below source close to Sample 447216	120	1.5	5310	<5	146	7
BRUCE HOLDEN													
447214	6338970N 348260E	Grab o/c	0.2m 0.25-0.5m	Foliated Volcanics	QZ vein	Gln, CP?	Elev. 1100m ASL Mineralization is banded or in large blebs	80	6.09 oz/ton	338	5.92%	356	22
216	6338930N 348080E	"	? ?	Volcanic	QZ > CL Vein	Mn staining CP (blebs?)	Elev. 1050m ASL Vein strikes 140°	265	26.5	1.76%	645	224	10
DAVID HUTCHINSON													
459264	6339010N 347780E	Float	- -	Feldspar Porphyry Flow	QZ, minor CL	PY > CP (3%)	Elev. 1100m ASL - source not found	40	0.5	1135	<5	92	9
265	6338980N 347930E	"	- -	Volcanic	CL		Elev. 1100m ASL - talus sample	<5	<0.5	81	<5	82	12
266	6338960N 347955E	Grab o/c	? ?	Feldspar Porphyry Flow	CL, CA	diss PY (<1%)	Elev. 1100m ASL	<5	<0.5	39	10	112	10
267	6338960N 348070E	Float	- -	Volcanic	CL	PY stringers	Elev. 1100m ASL - talus sample	<5	<0.5	87	10	134	15
268	6338960N 348130E	"	- -	Interbedded Argillite/shale	CL	PY, coarse xstals (3-5%)	Elev. 1050m ASL - source not found	10	<0.5	132	20	94	15

APPENDIX D

CERTIFICATES OF ANALYSIS



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,
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PHONE (604) 984-0221

PRIME EXPLORATIONS LTD.

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VANCOUVER, BC
V6C 2X6

Project: ANIK RIV F KGR-89-04

Comments: ATTN: JIM FOSTER CC: EQUITY ENG

Page No.: 1
Tot. Pages: 1
Date: 28-SEP-89
Invoice #: I-8925508
P.O. #: NONE

CERTIFICATE OF ANALYSIS A8925508

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	As ppm	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mb ppm	Ni ppm	Pb ppm	Zn ppm
447120	201 298	< 5	17	< 0.5	20	81	4.35	800	2	85	5	96
447166	201 298	< 5	19	< 0.5	27	75	4.57	830	1	162	< 5	92
447167	201 298	< 5	43	< 0.5	29	140	6.95	1450	4	52	15	198
447168	201 298	10	16	< 0.5	26	111	5.19	1500	1	37	5	154
447174	201 298	45	29	< 0.5	22	534	5.98	1365	10	12	20	168
447175	201 298	65	19	< 0.5	16	78	4.48	840	1	17	20	90

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CERTIFICATION :

B. Coughlin



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VANCOUVER, BC
V6C 2X6

Project: ANUK RIV F KGG-89-4

Comments: ATTN: JIM FOSTER CC: EQUITY ENG

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Date: 28-SEP-89
Invoice #: I-8925509
P.O. #: NONE

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SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	As ppm	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm		
447112	205 298	70	39	20.0	37	8620	7.54	1040	< 1	20	5560	658		
447113	205 298	25	35	< 0.5	15	349	2.48	480	< 1	14	105	80		
447114	205 298	< 5	12	< 0.5	10	65	2.76	540	< 1	6	10	54		
447115	205 298	< 5	20	< 0.5	11	74	3.80	695	< 1	6	< 5	62		
447116	205 298	< 5	7	< 0.5	30	131	4.11	590	< 1	74	< 5	54		
447117	205 298	10	17	1.0	16	142	2.68	425	< 1	7	585	258		
447118	205 298	< 5	11	< 0.5	15	17	5.35	1380	< 1	15	5	70		
447119	205 298	< 5	15	< 0.5	6	28	1.21	585	< 1	2	5	16		
447169	205 298	< 5	7	< 0.5	10	54	3.12	595	< 1	8	< 5	70		
447170	205 298	< 5	6	< 0.5	6	22	2.62	680	< 1	3	< 5	72		
447171	205 298	< 5	11	< 0.5	13	156	4.44	2560	3	8	< 5	178		
447172	205 298	< 5	9	< 0.5	9	29	2.09	930	1	1	20	72		
447173	205 298	120	7	1.5	6	5310	4.22	1140	< 1	2	< 5	146		
459264	205 298	40	9	< 0.5	13	1135	2.13	520	< 1	5	< 5	92		
459265	205 298	< 5	12	< 0.5	8	81	2.92	1040	1	5	< 5	82		
459266	205 298	< 5	10	< 0.5	7	39	2.31	1170	1	1	10	112		
459267	205 298	< 5	15	< 0.5	11	87	3.42	1070	1	10	10	134		
459268	205 298	10	15	< 0.5	17	132	5.47	1090	2	9	20	94		
459406	205 298	< 5	11	< 0.5	8	49	2.26	655	< 1	4	5	34		
459407	205 298	20	69	< 0.5	6	36	4.37	2460	< 1	3	10	42		
459408	205 298	< 5	14	< 0.5	4	59	0.98	175	< 1	5	25	18		
459409	205 298	< 5	195	8.5	7	1400	1.88	485	1	6	< 5	192		

CERTIFICATION:

B. Coughlin



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Project: PUP KCG 89-01
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Page No.: 1
Tot. Pages: 2
Date: 28-SEP-89
Invoice #: I-8925513
P.O. #: NONE

CERTIFICATE OF ANALYSIS A8925513

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	As ppm	Ag ppm	Co ppm	Cu ppm	Fe %	Mn ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm			
447214	205 298	80	22	>200	37	338	7.22	140	2	5	>10000	836			
447216	205 298	265	10	26.5	24	>10000	5.08	230	6	6	645	222			

OCT - 2 1989

CERTIFICATION: *B. Coughlin*



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VANCOUVER, BC
V6C 2X6

Project: PUP KGG-89-01

Comments: ATTN: JIM FOSTER EQUITY ENG

Page No. _____
Tot. Page _____
Date 5-OCT-89
Invoice # I-8927358
P.O. # _____

CERTIFICATE OF ANALYSIS A8927358

SAMPLE DESCRIPTION	PREP CODE	Cu %	Pb %	Zn %	Ag FA oz/T						
447214	214 --	---	5.92	---	6.09						
447216	214 --	1.76	---	---	---						

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OCT - 6 1989

CERTIFICATION: *W. J. ...*

APPENDIX E


STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

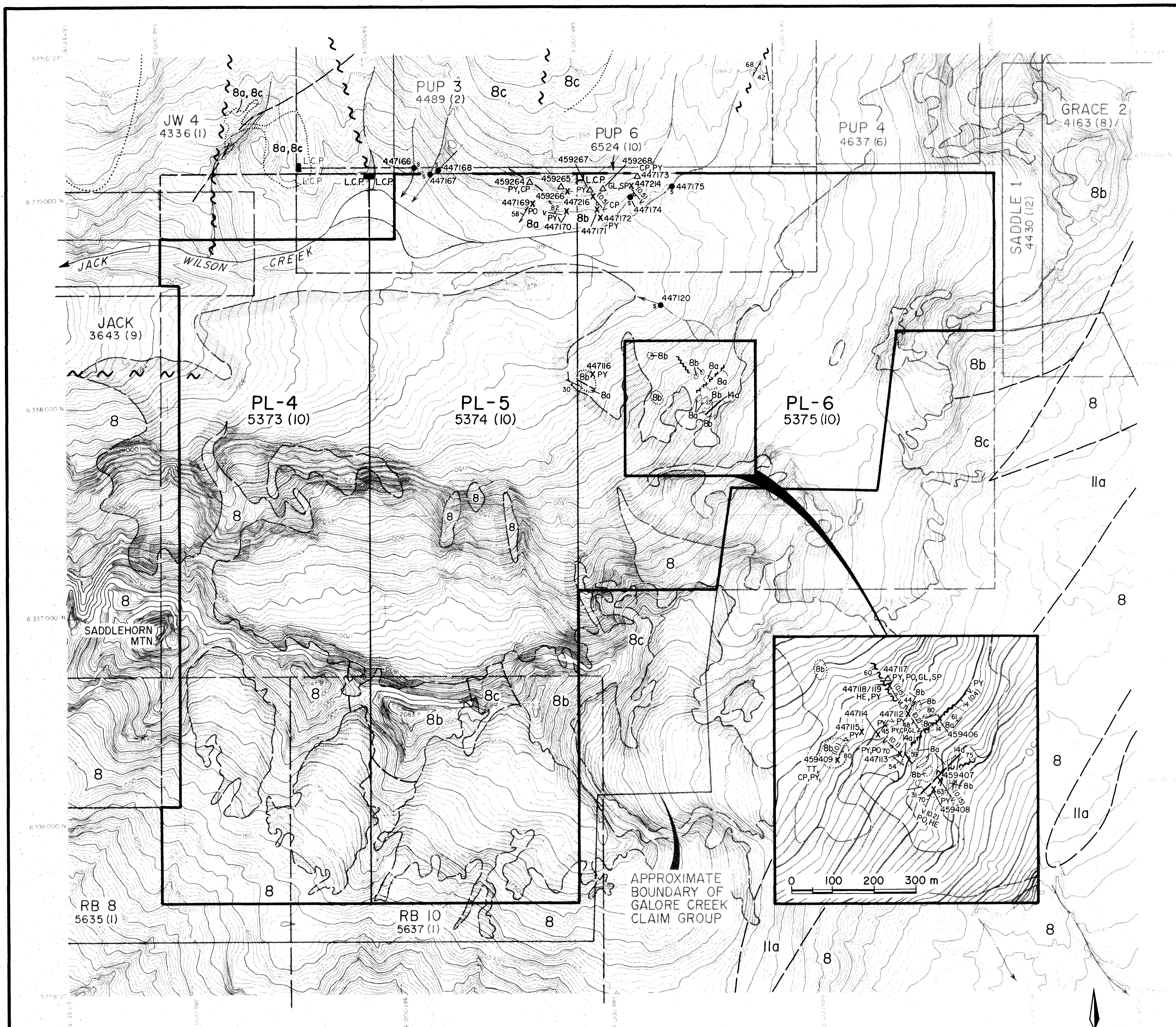
I, BRUNO KASPER, of 101-1990 West 6th Avenue, Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Consulting Geologist with offices at Suite 207, 675 West Hastings Street, Vancouver, British Columbia.
2. THAT I am a graduate of the University of Alberta with a Bachelor of Science degree in Geology.
3. THAT my primary employment since June, 1988 has been in the field of mineral exploration.
4. THAT this report is based on fieldwork carried out under my direction.

DATED at Vancouver, British Columbia, this 28th day of December, 1989.



Bruno Kasper, Geologist



SAMPLE RESULTS

SILT GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
447120	<5	<0.5	81	5	96	17
447166	<5	<0.5	75	<5	92	19
447167	<5	<0.5	140	15	198	43
447168	10	<0.5	111	5	154	16
447174	45	<0.5	534	20	168	29
447175	65	<0.5	78	20	90	19

ROCK GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
447112	70	20.0	8620	5560	658	39
447113	25	<0.5	349	105	80	35
447114	<5	<0.5	65	10	54	12
447115	<5	<0.5	74	<5	62	20
447116	<5	<0.5	131	<5	54	7
447117	10	1.0	142	585	258	17
447118	<5	<0.5	17	5	70	11
447119	<5	<0.5	28	5	16	15
447169	<5	<0.5	54	<5	70	7
447170	<5	<0.5	22	<5	72	6
447171	<5	<0.5	156	<5	178	11
447172	<5	<0.5	29	20	72	9
447173	120	1.5	5310	<5	146	7
447214	80	6.09*	338	5.92%	356	22
447216	265	26.5	1.76%	645	224	10
459264	40	0.5	1135	<5	92	9
459265	<5	<0.5	81	<5	82	12
459266	<5	<0.5	39	10	112	10
459267	<5	<0.5	87	10	134	15
459268	10	<0.5	132	20	94	15
459406	<5	<0.5	49	5	34	11
459407	20	<0.5	36	10	42	69
459408	<5	<0.5	59	25	18	14
459409	<5	8.5	1400	<5	192	195

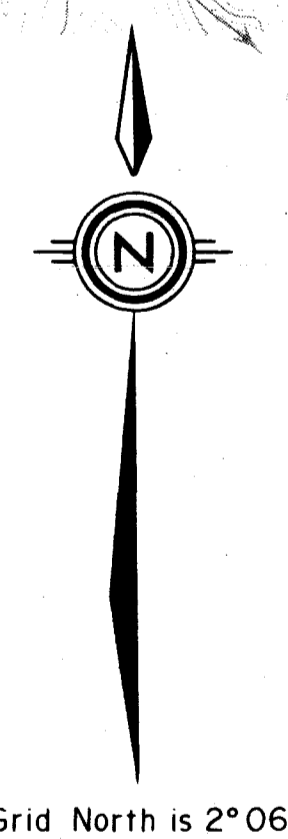
* oz/ton

LEGEND

- TERTIARY**
 14a Andesite dykes
- MIDDLE TRIASSIC-to-? MIDDLE JURASSIC**
 Galore Creek Intrusions
 11a Syenite
- UPPER TRIASSIC**
 Stuhini Group
 8 Undivided sediments, volcanics and volcanoclastic rock
 8a Interbedded argillite and fine-grained wacke
 8b Augite and feldspar porphyry flows, flow breccias and agglomerate
 8c Volcanic tuff / tuffaceous sediment

SYMBOLS

- Geological contact (inferred)
 ○ Rock outcrop
 ~~~~~ Fault or shear (defined, assumed) with dip  
 80 Bedding with dip  
 44 Foliation with dip  
 59 Dyke with dip  
 59 (0.2) (0.5) Vein (dip known, unknown) with true width in metres and mineralization  
 PY, PO GA, SP  
 ●s Stream Sediment Sample  
 X Rock Sample (outcrop)  
 △ Rock sample (float)  
 L Legal Corner Post (located, approximate)  
 X PY Mineral Occurrence  
 CP Chalcopyrite PY Pyrite  
 GL Galena SP Sphalerite  
 HE Hematite TT Tetrahedrite  
 PO Pyrrhotite



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Geology adapted in part from Awmack and Yamamura (1988), Logan and Koyangi (1989b)



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|                       |                   |                    |
|-----------------------|-------------------|--------------------|
| DRAWN: J.W.           | MINING DIV: LIARD | FIGURE<br><b>5</b> |
| N.T.S.: 104 G/3 W, 4E | SCALE: As shown   |                    |
| DATE: DEC, 1989       | REVISED:          |                    |