GEOLOGICAL AND GEOCHEMICAL REPORT
ON THE
SPHALER CREEK PROJECT

Located in the Galore Creek Area
Liard Mining Division
NTS 104B/13E, 14W
104G/3W, 4E
57° 00' North Latitude
131° 30' West Longitude

-prepared for-
CONSOLIDATED GOLDWEST RESOURCES LTD.

-prepared by-
Bruno Kasper, Geologist

December, 1989

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE SPHALER CREEK PROJECT

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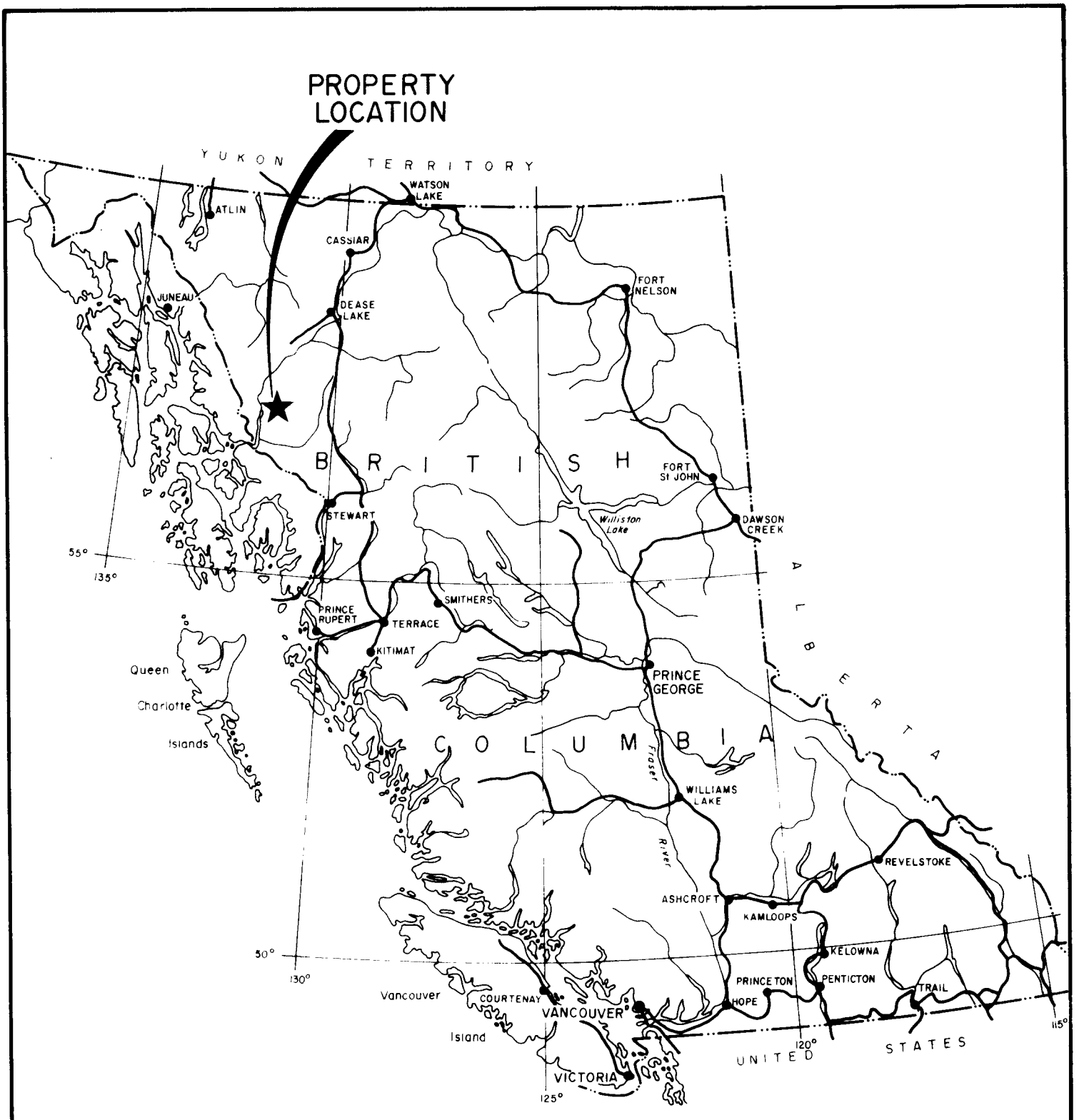
1.0 INTRODUCTION

The Sphaler Creek Project, consisting of the Wiser I to VII and the Glenlivet 1 to 5 claims, were staked in 1988 and 1989 to cover favorable lithology and gossans near Sphaler Creek. The claims are located within the Liard Mining Division, approximately 155 kilometers northwest of Stewart in northwestern British Columbia (Figure 1). Initial exploration in September 1988 by Pass Lake Resources Ltd. produced gold-anomalous silt and soil geochemical results. 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 metal occurrences elsewhere in the Galore Creek district have sparked renewed exploration interest throughout the area.

Reconnaissance exploration, consisting of geological mapping, prospecting and geochemical sampling, was carried out over the Wiser and Glenlivet claims during September and October 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 Wiser I through VII and Glenlivet 1-5 claims (Figure 2), which comprise the Wiser North, Wiser South and Glenlivet claim groups, are owned by Pass Lake Resources Ltd. Claim data for the Sphaler Creek Project is summarized in Table 2.0.1. Separate documents indicate that in January 1989, Consolidated Goldwest Resources Ltd. optioned the claims from Pass Lake Resources Ltd.



Km 0 100 200 300 400 500 Km

MILES 0 50 100 200 300 MILES

N.T.S. 104B/13E, 14W, G/3W, 4E

CONSOLIDATED GOLDWEST RESOURCES LTD.

SPHALER CREEK PROJECT
LOCATION MAP

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: J.W.	MINING DIV. LIARD	FIGURE
N.T.S.: As shown	SCALE: AS SHOWN	1
DATE: Dec. 1989	REVISED:	

TABLE 2.0.1

CLAIM DATA

Wiser North Claim Group

Claim Name	Record Number	No. of Units	Record Date	Expiry Year
Wiser I	4644	20	June 13, 1988	1993*
Wiser II	4643	20	June 13, 1988	1993*
Wiser III	5548	20	Dec. 7, 1988	1993*
Wiser IV	5549	16	Dec. 7, 1988	1993*
		76		

Wiser South Claim Group

Claim Name	Record Number	No. of Units	Record Date	Expiry Year
Wiser V	5550	16	Dec. 7, 1988	1991*
Wiser VI	5551	20	Dec. 7, 1988	1992*
		36		

Glenlivet Claim Group

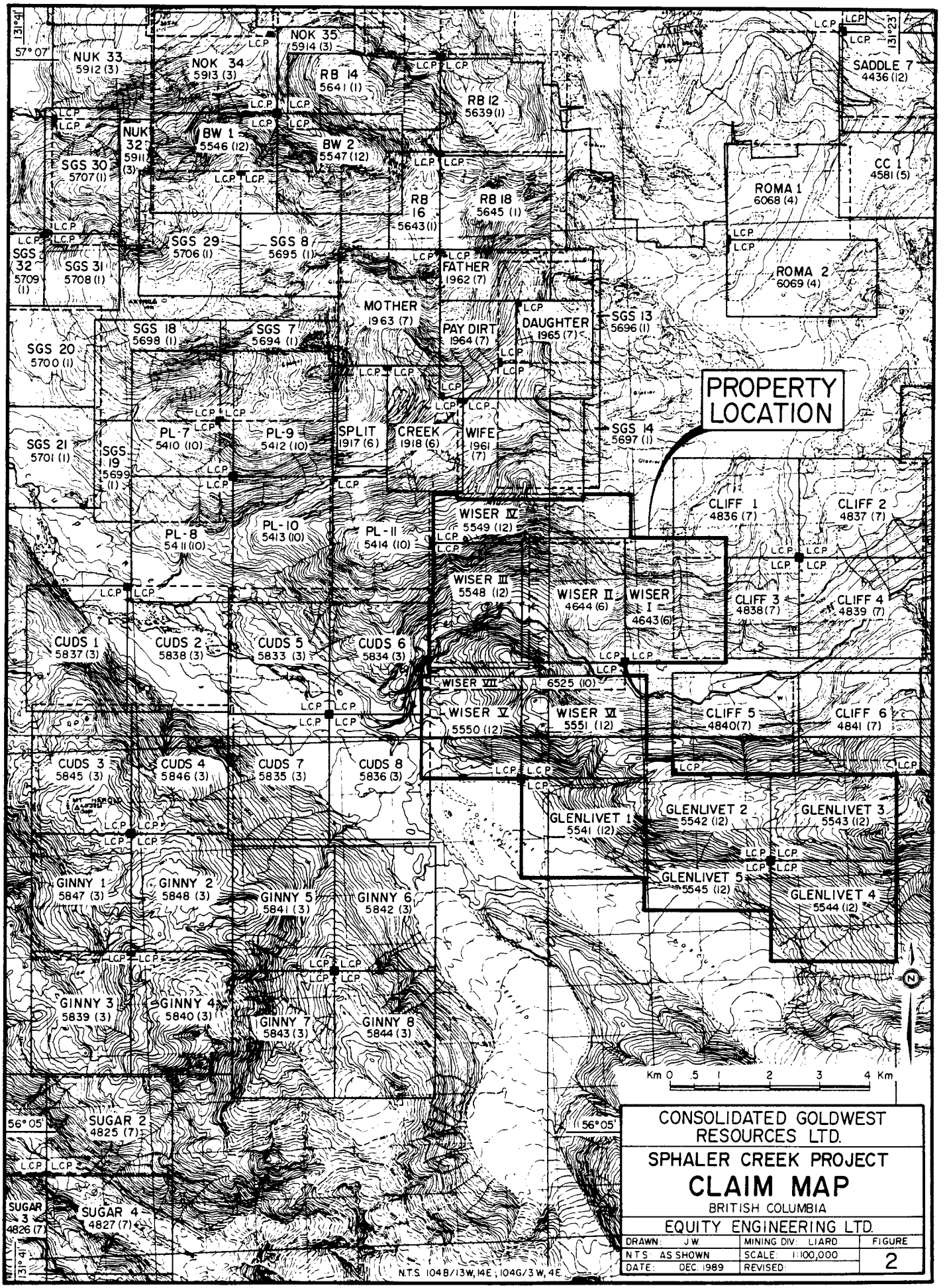
Claim Name	Record Number	No. of Units	Record Date	Expiry Year
Glenlivet 1	5541	20	Dec. 7, 1988	1991*
Glenlivet 2	5542	20	Dec. 7, 1988	1991*
Glenlivet 3	5543	20	Dec. 7, 1988	1991*
Glenlivet 4	5544	20	Dec. 7, 1988	1991*
Glenlivet 5	5545	10	Dec. 7, 1988	1991*
		90		

Claims Not Grouped

Claim Name	Record Number	No. of Units	Record Date	Expiry Year
Wiser VII	6525	8	Oct. 15, 1989	1990

* subject to approval of assessment work filed on December 6, 1989

The claims overlap previously staked ground of the Wife claim to the north, the Cliff 5 and 6 claims to the east and the PL 11



CONSOLIDATED GOLDWEST RESOURCES LTD.

SPHALER CREEK PROJECT

CLAIM MAP

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: J.W.	MINING DIV: LIARD	FIGURE
N.T.S.: AS SHOWN	SCALE: 1:100,000	2
DATE: DEC. 1989	REVISED:	

claim to the west reducing the actual ground coverage of the claim groups from 202 units to approximately 200 units. The positions of the legal corner posts for all claims with the exception of the common legal corner post for the Glenlivet 2 to 5 claims, have been verified by Equity Engineering personnel.

3.0 LOCATION, ACCESS AND GEOGRAPHY

The Sphaler Creek property is located within the Coast Range Mountains approximately 155 kilometers northwest of Stewart and 100 kilometers south-southwest of Telegraph Creek in northwestern British Columbia (Figure 1). They lie within the Liard Mining Division, centered at 57° 00' north latitude and 131° 30' west longitude.

Access to the Sphaler Creek property during the 1989 field season was provided by fly camp setouts and daily helicopter setouts from the Galore Creek airstrip, which is located from ten to twenty kilometers to the north. During the field season, fixed-wing aircraft up to the size of a Turbo Otter fly charters to the Galore Creek airstrip directly from Smithers or via the Bronson airstrip which is located approximately fifty kilometers to the southeast. The Galore Creek airstrip is 425 meters in length, limiting the size of aircraft that can be safely landed there. The Scud River airstrip, located thirty-five kilometers northwest of the Wiser and Glenlivet claims, is suitable for DC-3 aircraft.

The Porcupine airstrip, located just three kilometers west of the Wiser V claim on the south side of the Porcupine River, has not been used since the 1960's, but appears to be in good shape for 350 meters, sufficient to land a single Otter. The remainder of the 670 meter airstrip could be used with repair of a minor wash near

its middle. The Porcupine airstrip has excellent open approaches from both ends and would greatly improve access to the Sphaler Creek property in poor weather conditions.

On the Alaskan side of the border, Wrangell lies approximately 80 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 in the past, and barges could arrive at the Porcupine airstrip. In the 1960's, Julian Mining Co. Ltd. constructed a cat road from the Porcupine airstrip up Split Creek to their Sue copper porphyry prospect. This cat road, which would require reconstruction, terminates on the south side of Split Creek at 800 meters elevation, approximately 600 meters north of the Wiser IV claim in the vicinity of the Deluxe Zone, allowing the possibility of economical mobilization of heavy equipment in the future.

The Wiser claims straddle Sphaler Creek from two to seven kilometers above its confluence with the Porcupine River. The Wiser I to IV claims cover the steep south side of the ridge (termed "Split Ridge" in this report) separating Split Creek from Sphaler Creek, while Wiser V and VI lie at the northwestern end of the ridge (termed "Glenlivet Ridge") which separates Sphaler Creek from the Porcupine Glacier. The Glenlivet claims extend south and east, along the crest and south flank of Glenlivet Ridge (Figure 2). Topography is rugged, typical of mountainous and glaciated terrain, with elevations ranging from 115 meters on Sphaler Creek and Porcupine Glacier Lake to over 1870 meters on an unnamed peak on Glenlivet 3. Less than one unit on each of the Wiser IV and Glenlivet 3 claims are covered by permanent snowfields and glaciers while approximately seven units of Glenlivet 1 are overlain by the Porcupine Glacier and its lake.

Lower slopes are covered by a dense growth of hemlock and spruce with an undergrowth of devil's club and huckleberry. Steeper open slopes are covered by dense slide alder growth. Above treeline, which occurs at approximately 1300 meters, more open alpine vegetation is present.

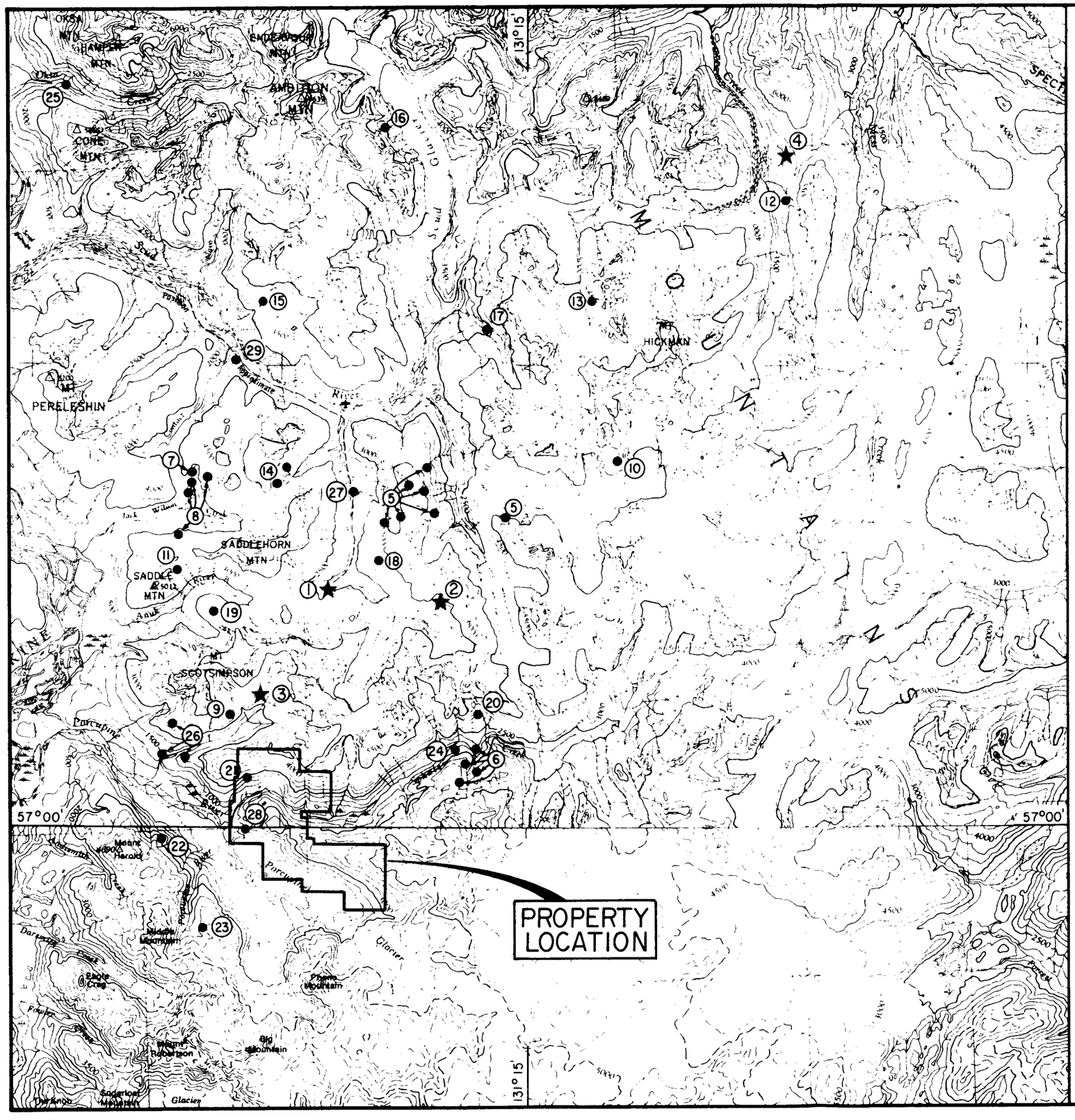
The property lies in the wet belt of the Coast Range Mountains, with annual precipitation between 190 and 380 centimeters (Kerr, 1948). Except during July, August and September, precipitation at higher elevations falls mainly as snow, with accumulations reaching three meters or more. Both summer and winter temperatures are moderate, ranging from -5°C in the winter to 20°C in the summer months.

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 (Figure 3). This deposit, whose Central Zone hosts reserves of 125 million tonnes grading 1.06% copper and 400 ppb gold (Allen et al, 1976), is located approximately ten kilometers north of the Wiser claims. 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.

In the mid-1950's, prospecting crews for K. J. Springer noted abundant low-grade chalcopyrite mineralization on the north side of Split Creek approximately 1,500 meters north of the extreme



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.	Bik	Cu	
28.	Glenlivet	Au	
29.	Bell	Au	

● MINERAL OCCURRENCE

★ MINERAL DEPOSIT

Km 0 5 10 15 Km

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SPHALER CREEK PROJECT
REGIONAL MINERAL OCCURRENCE MAP

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

Drawn: J.W.	MINING DIV: LIARD	FIGURE
N.T.S.: 104 B, G	SCALE: 1:250,000	3
DATE: DEC. 1989	REVISED:	

northwest corner of the Sphaler Creek property (Figure 3). In 1965, Julian Mining Co. Ltd. conducted geological mapping, induced polarization surveys, bulldozer trenching and 2,190 meters of diamond drilling on these showings, known as the Ann or Sue prospect, intersecting extensive mineralization grading around 0.1% to 0.2% copper. Limited bulldozer trenching and diamond drilling was conducted on the south side of Split Creek to test magnetic anomalies (BCDM, 1966). Throughout the 1960's and 1970's, the Sue prospect was evaluated by several other operators for its copper porphyry potential. In 1981, Teck Corp. staked the Sue prospect and conducted a reconnaissance silt sampling program for base and precious metals over the immediate area. Follow-up of geochemical anomalies led to the discovery of the Paydirt gold deposit approximately one kilometer northeast of the center of the Sue copper porphyry deposit. Soil geochemistry, rock sampling, trenching and 760 meters of diamond drilling on the Paydirt deposit delineated 185,000 tonnes of indicated reserves grading 4.11 grams gold per tonne (Holtby, 1985). Longreach Resources Limited initiated underground exploration on the Paydirt deposit in 1987 without conclusive results.

In 1987, several precious metal occurrences were discovered on the Trophy project located approximately 20 kilometers to the northeast of the Wiser claims. Continental Gold Corp., 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 gold and 30.2 grams 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 Jack Wilson 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. Further work was carried out on each of these properties during 1989 and reconnaissance mapping, prospecting and geochemical samp,ing were conducted over an additional 25,000 hectares of the Galore Creek district which had received essentially no previous exploration for precious metals. Several significant gold-silver occurrences were discovered throughout the district, including several zones on the PL 7-11 claims, which adjoin the Sphaler Creek property to the northwest.

In the early 1960's, Conwest Explorations did a regional mapping program over what are now the Wiser I-IV claims (Grant, 1964). In September of 1988, Pass Lake Resources Ltd. carried out an initial exploration program on the Wiser I claim, consisting of limited prospecting, contour soil sampling and stream sediment sampling. A field-sieved stream sediment sample from the easternmost creek on the Wiser I claim was anomalous, with 530 parts per billion gold. An isolated soil anomaly was returned from a sample to the east of this creek at 1080 meters elevation, with 370 parts per billion gold. No mineralization was found to explain either anomaly (Awmack, 1989).

4.2 1989 Work Program

During September and October of 1989, Consolidated Goldwest Resources Ltd. carried out reconnaissance exploration on the Sphaler Creek property, consisting of geological mapping, prospecting, stream sediment sampling and contour soil 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, 9 field-sieved stream sediment samples, 17 silt samples, 156 soil samples and 123 rock samples were taken. Field-sieved stream sediment samples were taken from the active parts of major drainages and screened underwater in the field to minus 40 mesh. Silt samples were taken from backwaters or dry beds of other drainages. Both types were screened to minus 80 mesh in the laboratory and analysed geochemically for gold and 32-element ICP. Samples with insufficent fines were screened through a minus 35 mesh and then pulverized to minus 150 mesh before being analysed (Figures 5 to 7).

Four reconnaissance soil lines were run during the 1989 program. Contour soil lines were run at the 1370 meter elevation on the Glenlivet 3 claim (Figure 6), and at the 535 (Line 1750) and 1067 (Line 3500) meter elevations on the Wiser II and IV claims (Figure 5). The 535 meter contour soil line was run between 1750 and 2000 feet in elevation with the analytical certificate (certificate A8926554, Appendix D) indicating sample elevations in feet. Soil line SW was run near the southern boundary on the Wiser III claim, east of Sphaler Creek on a bearing of approximately 085° (Figure 5). Soil samples were taken at 25 meter intervals from the red-brown B horizon wherever possible. Samples were sieved to minus 80 mesh in the laboratory and analysed geochemically for gold and 10-element ICP. Samples with insufficent fines were screened through a minus 35 mesh and then pulverized to minus 150 mesh before being analysed.

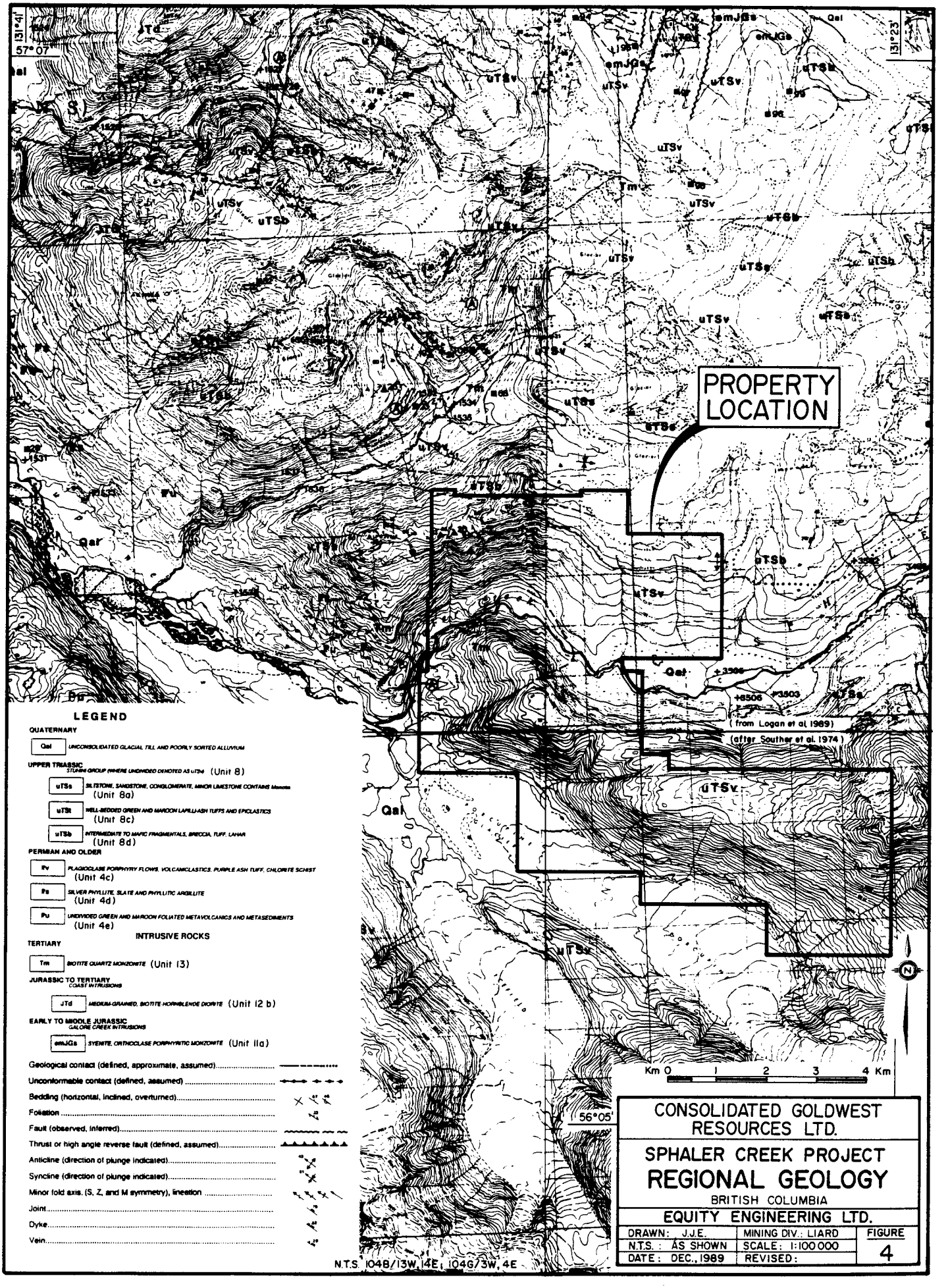
Geological mapping and prospecting were carried out using 1:10,000 topographic orthophotos as bases (Figures 5 and 6). Data from the Deluxe Zone area was transferred to a 1:5000 topographic base (Figure 7). Rock samples, described in Appendix C, were taken from zones of alteration and mineralization and analysed geochemically for gold and 10-element ICP. A discrepancy between

sample tag numbers and sample bags was noticed for rock sample sequence 459515 to 459531 during followup work on the Deluxe Zone. Rejects from these samples were sent to Acme Analytical Laboratories for analysis. Their results correspond to rock descriptions and are to be used for rock sample sequence 459515 to 459531. 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 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).


PROPERTY LOCATION
LEGEND
QUATERNARY
Qal UNCONSOLIDATED GLACIAL TILL AND POORLY SORTED ALLUVIUM
UPPER TRIASSIC
STUHINI GROUP (WHERE UNDIVIDED DENOTED AS uTSv) (Unit 8)
uTSs SILTSTONE, SANDSTONE, CONGLOMERATE, MINOR LIMESTONE CONTAINS Monotis (Unit 8a)
uTSt WELL-BEDDED GREEN AND MAROON LAPILLI-ASH TUFFS AND EPICLASTICS (Unit 8c)
uTSb INTERMEDIATE TO MAFIC FRAGMENTALS, BRECCIA, TUFF, LAHAR (Unit 8d)
PERMIAN AND OLDER
Pv PLAGIOCLASE PORPHYRY FLOWS, VOLCANICLASTICS, PURPLE ASH TUFF, CHLORITE SCHIST (Unit 4c)
Ps SILVER PHYLLITE, SLATE AND PHYLLITIC ARGILLITE (Unit 4d)
Pu UNDIVIDED GREEN AND MAROON FOLIATED METAVOLCANICS AND METASEDIMENTS (Unit 4e)
INTRUSIVE ROCKS
TERTIARY
Tm BIOTITE QUARTZ MONZONITE (Unit 13)
JURASSIC TO TERTIARY COAST INTRUSIONS
JTd MEDIUM-GRAINED, BIOTITE HORNBLENDE DIORITE (Unit 12 b)
EARLY TO MIDDLE JURASSIC GALORE CREEK INTRUSIONS
emJGs SYENITE, ORTHOCLASE PORPHYRITIC MONZONITE (Unit 11a)
Geological contact (defined, approximate, assumed)
Unconformable contact (defined, assumed)
Bedding (horizontal, inclined, overturned)
Foliation
Fault (observed, inferred)
Thrust or high angle reverse fault (defined, assumed)
Anticline (direction of plunge indicated)
Syncline (direction of plunge indicated)
Minor fold axis, (S, Z, and M symmetry), lineation
Joint
Dyke
Vein
(from Logan et al 1989)
(after Souther et al 1974)
Km 0 1 2 3 4 Km
N.T.S. 104B/13W, 14E; 104G/3W, 4E
131°41'
131°23'
57°07'
56°05'
CONSOLIDATED GOLDWEST RESOURCES LTD.
SPHALER CREEK PROJECT
REGIONAL GEOLOGY
BRITISH COLUMBIA
EQUITY ENGINEERING LTD.
DRAWN: J.J.E.
MINING DIV.: LIARD
N.T.S.: AS SHOWN
SCALE: 1:100 000
DATE: DEC., 1989
REVISED:
FIGURE 4

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 ± molybdenum ± gold

deposits, structurally-controlled, epigenetic precious metal vein/shear 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.

The Sue porphyry copper prospect, centered approximately 1,800 meters north of the extreme northwestern corner of the Sphaler Creek property, consists of disseminated pyrite and chalcopyrite in Stuhini Group andesitic tuffs, flows and subvolcanic diorite. Diamond drilling and bulldozer trenching were carried out over an area one kilometer in diameter, with the best hole returning grades in the order of 0.10% to 0.20% copper over its entire 230 meter length (BCDM, 1966). Other porphyry copper occurrences in the Galore Creek area include the Copper Canyon, Bik and Jack Wilson Creek deposits (Figure 3).

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. The most fully explored example of the Tertiary mineralization type is the Paydirt gold deposit, located three kilometers north of the Wiser IV claim, which is a zone of silicification, sericitization and pyritization of andesitic volcaniclastics (Holtby, 1985). The zone, which is exposed on surface over an area of 100 meters by 25 meters, strikes northerly and dips moderately to the west. Gold mineralization occurs preferentially in intensely silicified and heavily pyritic material rather than with more sericitic alteration. The best diamond drill intersections averaged 5.86 grams gold per tonne over 12.0 meters in hole 85-1 and 10.59 grams gold per tonne over 4.95 meters in hole 85-4 (Holtby, 1985).

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 occurences 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

Nine rock units were recognized during reconnaissance geological mapping conducted over the Wiser and Glenlivet claims during 1989 (Figures 5 and 6). Tertiary stocks and dykes intrude Upper Triassic Stuhini Group sediments, volcanics and volcaniclastics. Greenschist facies metamorphism, consisting of weak to moderate chlorite, calcite and epidote alteration is pervasive throughout the Stuhini Group rocks. Faults offsetting all rock units are highlighted by drainage patterns and gullies in the area. Detailed mapping of the Deluxe Zone (Figure 7), located on the western side of the Wiser III claim, indicates the presence of a large mineralized shear zone intruded by several Tertiary intrusives. Geology in Figures 5 and 6 has been modified from Logan et al (1989b) by reconnaissance mapping during the current

program.

Upper Triassic Stuhini Group sediments, volcanics and volcaniclastics underlie most of the Sphaler Creek property. The sediments (Unit 8a), which outcrop along Glenlivet Ridge, consist of fining-upwards clastic sequences ranging from pebble or cobble conglomerate to interbedded black argillite, dark grey siltstone and very fine-grained wacke. The clast-supported conglomerate contains subrounded to well-rounded clasts of chert and argillite in a fine- to medium-grained wacke matrix. Flame structures indicate that the stratigraphic sequence is upright. Large scale crosscut or trough bedding structures truncate the fining-upward sequences and complete sections of the sequence are rare. Beds range from thin laminae to beds up to three meters in thickness. The bedding strikes between 082° and 103° and dips 29° to 50° to the south, but was overturned north of a prominent east-west shear. Tight chevron and isoclinal folds have been observed on the east ridge of the unnamed peak on Glenlivet 3. Lenses of grey, biomicritic limestone, containing molds of bryozoan and bivalve fragments, outcrop among the clastic sediments. Locally, the sediments weather to a rusty orange colour due to disseminated pyrite and iron carbonate alteration.

Augite-feldspar porphyry flows (Unit 8b) outcrop in various localities north and south of Sphaler Creek, characterized by two millimeter, subparallel black tabular augite phenocrysts and smaller, light green plagioclase phenocrysts in a dark green to black, aphanitic matrix. Microdiorite (Unit 8b), their probable intrusive equivalent, was observed only in the Deluxe Zone on Wiser III. It differs from the porphyry flows in that it contains subhedral, unoriented pyroxene and plagiclase microphenocrysts in a dark grey to black, fine-grained matrix. A similar granodiorite is interdigitated with Stuhini andesites at the Sue copper deposit, three kilometers north of the Deluxe Zone, described as

"porphyritic with highly altered feldspar phenocrysts, masses of epidote, and clots of green biotite in a fine feldspathic matrix" (BCDM, 1965).

The volcaniclastics may be divided into a crystal ash tuff (Unit 8c) and a lithic lapilli crystal tuff or agglomerate (Unit 8d). The dark grey to black, microcrystalline to fine-grained crystal ash tuff contains angular crystal detritus up to one millimeter in size. In places, a mottled texture is observed, due to leaching by hydrothermal fluids. The crystal ash tuff is interbedded with flows and lapilli tuff in a number of places.

Lithic lapilli crystal tuffs (Unit 8d) are the dominant rock unit on the Wiser property and outcrop at lower elevations on the Glenlivet property. Subrounded to subangular volcanic and granitic clasts up to ten centimeters in diameter are found in a dark green to black groundmass. Even larger clasts were observed in outcrop along a creek on the south end of the Glenlivet 4 claim, forming an agglomerate equivalent to the lapilli tuff. The groundmass is a crystal hash comprised of angular, white to green and black crystal fragments in a black, aphanitic matrix. In places, the clasts are pistachio green in color due to moderate epidote alteration and may contain up to two percent disseminated pyrite.

An elliptical, Eocene biotite monzonite to biotite quartz monzonite stock (Unit 13a) outcrops on the southern half of the Wiser III claim and the northwestern portion of the Wiser V claim (Figure 5). Panteleyev (1975) reports a potassium-argon age of 53.5±1.6 million years for this stock. A plug of the same unit intrudes sedimentary rocks on Glenlivet 3 (Figure 6) and outcrops as dykes within the Deluxe Zone (Figure 7) and on Wiser II. The plutons are leucocratic, medium-grained, equigranular and contain up to three percent biotite. Muscovite is locally present in

quartz-rich, granitic phases. The dykes, up to four meters wide, consist of quartz and plagioclase phenocrysts in a light grey, fine-grained matrix of quartz, potassium feldspar and plagioclase.

Greyish-green plagioclase-phyric diorite bodies (Unit 13b), of probable Eocene age, outcrop at approximately the 600 and 900 meter elevations in Deluxe Creek (Figure 7). The medium-grained diorite contains ten millimeter plagioclase phenocrysts and chlorite-biotite altered hornblende phenocrysts. Potassium feldspar staining shows that the plagioclase phenocrysts have been replaced by sericite and potassium feldspar. This diorite unit is distinguished from the microdiorite of Unit 8b by its lack of foliation, weaker chlorite-biotite alteration and larger crystal size.

Tertiary biotite lamprophyre dykes (Unit 14c) intrude the volcanics and volcaniclastics north of Sphaler Creek (Figure 5). Biotite, which comprise up to 80 percent of the unit, occurs as parallel, euhedral to subhedral, fine- to medium-grained books. The dykes vary in width up to 1.5 meters, strike northeast and dip vertically. A lamprophyre dyke crosscuts an Eocene monzonite dyke at approximately the 700 meter elevation on the Wiser II claim, with xenoliths of the older dyke incorporated into the younger lamprophyre.

Felsic dykes (Unit 14e) ranging from five centimeters to one meter in width outcrop at lower elevations in the Deluxe Zone (Figure 7). The dykes strike north to northwest with moderate dips to the northeast and west. A pyroxenite boulder dyke (Unit 14f) of probable Tertiary age outcrops in Deluxe Creek at approximately the 310 meter elevation (Figure 7). The boulder dyke is strongly magnetitic and composed of tightly packed pyroxenite boulders up to one meter in width. The dyke is 4.0 meters wide, strikes 004° and dips 70° to the east.

Three fault trends were observed on the property or inferred from airphoto lineaments. The most prominent faults trend northeast to southwest, transecting all other faults, offsetting and controlling the flow direction for Sphaler Creek. The second set of faults trend west to northwest. One of these faults turns Sphaler Creek in a northwesterly direction on the Wiser I to III claims.

The faults offsetting the sedimentary and intrusive rocks along Glenlivet Ridge may be related to the above two fault directions. These shears trend west-northwest to southwest and are marked by strongly brecciated zones up to three meters in width with calcite and minor quartz infilling between breccia clasts and moderate to strong iron carbonate alteration. Crystalline quartz-calcite veins with minor sulphide mineralization are present within the shear zone.

A northerly trending shear centered on Deluxe Creek on the western edge of the Wiser III claim is marked by a well defined gully and is referred to as the "Deluxe Zone" (Figures 5 and 7). Pervasive foliation and prominent joints, which trend northeasterly to northwesterly and dip moderately to steeply, are visible throughout the zone. East and West Creeks on Wiser I claim may follow the same type of structure.

6.2 Mineralization

Several new precious and base metal occurences were discovered during the 1989 field season on the Sphaler Creek property. The most significant of these showings is located in the northwestern corner of the property on the Wiser III claim and has been named the Deluxe Zone (Figure 7). It is a northerly trending shear zone affected by multiple deformational and intrusive events. The Deluxe Zone is exposed for 1,400 meters strike length along Deluxe

Creek, whose steeply incised form reflects its generally recessive nature.

The oldest deformational event in the Deluxe Zone has produced a mylonite exposed within Upper Triassic volcanics along the bottom of Deluxe Creek. Strong biotite, potassium feldspar and pyrite alteration are related to this event. Alignment of micaceous minerals has resulted in a pervasive foliation with a general north-northeast strike and steep, mainly easterly dip that may be indicative of the true attitude of the fault. Airphoto interpretation indicates that the shear may swing to a northeasterly direction north of Wiser Ridge, supporting a northeasterly strike and steep easterly dip for the fault. Kink folds within the mylonites at approximately 370 meters elevation, have axial planes parallel to jointing at 107°/80°S. Pyrite, the dominant sulphide present, occurs as disseminations and stringers that parallel foliation and constitute, on average, five to ten percent of the altered rock's volume.

Tertiary felsic and dioritic bodies were intruded along and adjacent to the shear, accompanied by sericitization and argillization of the potassic alteration. Brecciation, silicification and pyritization of sericitic rocks were accompanied by introduction of widespread gold values in the range of 2.19 to 10.49 grams per tonne gold. Discrete quartz-sulphide veins within the zones of widespread silicification and pyritization have returned assays up to 282.9 grams per tonne (8.251 ounces per ton) gold with significant silver and base metal values. Lamprophyre and pyroxenite boulder dykes post-date mineralization and have themselves been offset by later faulting.

Two types of gold-bearing mineralization were identified within the Deluxe Zone. The first type is marked by moderate to intense silicification and sericitization of the surrounding

potassic altered rock. Mineralization consists of silicified bands and breccias with pyrite in fine-grained disseminations and stringers. Patches of silicification and pyritization form resistant outcrops within a larger, more recessive, area of sericitization. To date, no clear orientation or width have been determined. Grab sample #459747 was taken from a strongly silicified outcrop with a width of at least two meters which assayed 10.49 grams per tonne (0.306 ounces/ton) gold, 46 parts per million silver and 1795 parts per million copper over 0.6 meters. Float sample #459528, taken from beneath a gossanous escarpment, exhibits excellent boxwork texture after pyrite and assayed 9.50 grams per tonne (0.277 ounces/ton) gold. The gold content appears to be directly related to the intensity of silicification and pyritization. The copper in sample #459527 is from later fractures mineralized with chalcopyrite.

The second type of mineralization in the Deluxe Zone, a milky white, coarsely crystalline quartz-sulphide vein, was found in float at the 380 meter elevation. Float sample #459518, which contained pyrite, chalcopyrite, sphalerite and an unidentified grey mineral as fracture fillings and blebs up to ten millimeters in length, assayed 282.9 grams per tonne (8.251 ounces/ton) gold, 704.2 grams per tonne (20.54 ounces/ton) silver, 1.83% copper and 1.98% zinc. The source for this float has yet to be located but similar quartz veins up to twenty centimeters in width outcrop throughout the Deluxe Zone. These narrow veins contain sporadic sulphide blebs up to one centimeter in size which consist mainly of pyrite with traces of molybdenite, and have not returned significant gold values. Table 6.2.1 summarizes significant results from the Deluxe Zone.

TABLE 6.2.1

DELUXE ZONE SAMPLING RESULTS

SAMPLE	WIDTH meters	GOLD (ppb)	SILVER (ppm)	COPPER (ppm)	LEAD (ppm)	ZINC (ppm)
459517s	float	5.11*	5.5*	0.21%	0.01%	0.01%
459518v	float	282.89*	704.2*	1.83%	0.23%	1.98%
459519s	2.0	2.67*	7.2*	0.02%	0.01%	0.02%
459527s	0.3	2.50*	30.5*	0.69%	0.01%	0.01%
459528s	float	9.50*	1.7*	0.02%	0.01%	0.01%
459747s	0.6	10.49*	46.0	1795	<5	40
463673s	4.0	2.19*	3.5	1025	5	138

* denotes assay in grams per tonne

gold-bearing hosts: s silicification
v quartz-sulphide vein

Several coarsely crystalline quartz-sulphide veins similiar to those in the Deluxe Zone outcrop 1200 meters to the southwest on the north side of Sphaler Creek (Figure 5). The veins, up to thirty centimeters in width, strike between 170° and 180° and dip either vertically or steeply to the east. Pyrite blebs, with traces of sphalerite and molybdenite, is the main sulphide present. Grab sample #459522 returned 2.57 grams per tonne (0.075 ounces/ton) gold, 12.3 grams per tonne (0.36 ounces/ton) silver and 0.59% zinc from a quartz vein at least 30 centimeters in width. No other significant precious or base metal values were recovered from other quartz veins in this area.

A zone of two centimeter wide quartz veinlets with minor pyrite mineralization, was sampled in the southwest corner of the Wiser V claim (Figure 5). Grab sample #459541 assayed 3.84 grams per tonne (0.112 ounces/ton) gold from one of the quartz veinlets. Abundant veinlets are visible over an area at least 30 meters by 40 meters, but individual veinlets are separated by at least a meter of volcanic host rock.

Iron carbonate altered breccias hosting ten to twenty

centimeter quartz-calcite veins are located in east-west trending shears on Glenlivet Ridge (Figure 6). Sulphide mineralization consisting of sphalerite with minor galena and chalcopyrite is restricted to the quartz-rich veinlets, while the iron carbonate altered matrix of the breccias contains less than two percent disseminated pyrite. Grab samples #459535 and #459537 returned 3.67% and 3.54% zinc, respectively, from silica-rich areas within two meter wide breccia zones that are exposed for at least twenty meters. No other significant gold or base metal values were present with maximum values of 255 parts per billion gold, 2930 parts per million lead and 1550 parts per million copper. The breccias are hosted by weakly altered sedimentary rocks, possibly explaining the abundance of zinc mineralization.

Several other gossanous areas and mineralized float boulders were sampled on both the Wiser and Glenlivet claims. While hematitic and propylitic zones sampled on the property do not contain significant gold values, grab sample #459542 returned 3.47% zinc from quartz veinlets within one such zone. Float sample #459428, taken from a volcaniclastic boulder containing narrow quartz-chalcopyrite, returned 1.22% copper with 100 parts per billion gold.

6.3 Geochemistry

Nine field-sieved stream sediment samples and seventeen stream silt samples were taken from the major drainages on the Wiser and Glenlivet claims (Figures 5 to 7). Silt sample #459516 is anomalous in gold with 165 parts per billion, which exceeds the 1987 National Geochemical Reconnaissance survey's 95th percentile value (30 ppb) for the region (GSC, 1988). This sample also contained highly anomalous values for silver (0.6 ppm), zinc (362 ppm), copper (437 ppm), lead (30 ppm) and molybdenum (7 ppm). Each of these elements are equivalent to or greater than the

government's 95th percentile whereas copper is greater than the 99th percentile (272 ppm). This sample was taken at the bottom of Deluxe Creek and reflects Deluxe Zone mineralization upstream. Field-sieved stream sediment sample #459465, taken from a westerly draining creek on the Wiser V claim, returned 95 parts per billion gold and is located along one of the inferred northeast-southwest trending faults. This creek drains an area where a biotite quartz monzonite stock intrudes Stuhini Group volcanics and volcaniclastics.

Six of the eleven drainages, excluding Deluxe Creek, that were silt sampled on the north side of Sphaler Creek returned copper values greater than 100 parts per million. Three of the drainages also contained anomalous zinc (>133 ppm) and one returned anomlous lead (>22 ppm). To date, no copper or other base metal mineralization, with the exception of float sample #459428, has been discovered in this area; however, gossans were observed along the upper parts of some of the creeks.

Four of the five silt samples taken on Glenlivet Ridge returned anomalous zinc (>133 ppm) and arsenic (>17 ppm) values. Three of the arsenic values are greater than the 99th percentile of the government survey (81 ppm). Two of these samples also contained anomalous copper values. Mineralization and soil geochemistry from this area also contained elevated copper, zinc and arsenic values. Samples taken further down slope along the Porcupine Glacier did not return any significant values.

Elevated molybdenum values were recovered from two field-sieved samples taken from creeks draining the biotite quartz monzonite stock in the northwest part of the Wiser V claim (Figure 5). The elevated values reflect quartz-molybdenite veining in the intrusive.

The soil sampling program was designed to test areas of poor outcrop exposure and favourable alteration. A total of 156 soil samples were taken from four reconnaissance soil lines. Table 6.3.1 summarizes the 90th, 95th and 99th percentile values for the significant elements as calculated from these samples. Values above the 90th percentile are considered anomalous and have been plotted on Figures 5 and 6. A correlation matrix for the results indicates a strong positive correlation between copper and zinc, and between arsenic and lead.

TABLE 6.3.1

ANOMALOUS LEVELS FOR SOIL GEOCHEMISTRY

PERCENTILE	GOLD (ppb)	SILVER (ppm)	COPPER (ppm)	LEAD (ppm)	ZINC (ppm)	ARSENIC (ppm)
90th	11	0.8	161	20	141	31
95th	18	1.0	185	28	189	61
99th	52	1.5	365	44	260	148

The 3500 contour soil line was established on the north side of Split Ridge to intersect the projected strike extension of the Deluxe Zone. Samples 1+50E and 1+75E contained anomalous gold values of 50 and 20 parts per billion gold, respectively. Sample 1+75E also contained anomalous silver (1.5 ppm), copper (2660 ppm), and zinc (374 ppm). These stations are located down slope from the upper exposures of the Deluxe Zone. Sample 0+75E contained an anomalous copper value of 369 parts per million. Further to the east, a 70 parts per billion gold anomaly at station 7+50E lies along the northern trace of the Deluxe Zone as determined by an airphoto lineament. This sample is not anomalous in other elements. The results are inconclusive as to which of the above anomalous areas marks the northern extension of the Deluxe Zone.

Soil line SW tested the projected southern extension of the Deluxe Zone across Sphaler Creek. The line was oriented at azimuth

085° along a ridge, in order to crosscut this extension. With the exception of weak low silver anomalies at stations 2+25E and 2+75E, all other values were low.

The 1750 contour soil line was placed to detect downslope migration of elements from gossanous areas on the north side of Sphaler Creek. Whereas copper values were relatively high, with values up to 208 parts per million (station 0+25W), gold values were low with a maximum of 20 parts per billion.

The 1370 meter contour soil line on Glenlivet 3 (Figure 6) was designed to test the east-west trending shears that crosscut the area. Several anomalous areas of copper, zinc, lead, and arsenic were found, located on or adjacent to the shear structures. Maximum values of 197 parts per million copper, 266 parts per million zinc, 45 parts per million lead and 165 parts per million arsenic were returned with a strong association between all four elements. A weakly anomalous gold value of 25 parts per billion is associated with the maximum arsenic value in sample 4+25S.

7.0 DISCUSSION

The Sphaler Creek property is still at an early stage of exploration; however, the preliminary data from this year's program and the 1988 program are very encouraging. The property is underlain by Upper Triassic Stuhini Group sediments, volcanics and volcaniclastics intruded by Tertiary stocks and dykes. This sequence hosts most of the significant base and precious metal occurrences elsewhere in the Galore Creek district. The 1989 program was successful in outlining three areas of gold-bearing mineralization and geochemistry, of which the Deluxe Zone is the most promising.

The Deluxe Zone is a complex mylonitic fault structure exposed for over 1400 meters in a northerly trending creek on the north side of Sphaler Creek, hosting two types of gold mineralization. The first type is intense silicification, sericitization, brecciation and pyritization accompanied by gold values up to 10.49 grams per tonne (0.306 ounces/ton). Discrete quartz-sulphide veins within the larger alteration zone have returned assays up to 282.89 grams per tonne (8.251 ounces/ton) gold with significant silver and base metal values. The stream sediment sample at the bottom of Deluxe Creek contained 165 parts per billion gold with anomalous silver, copper, lead, zinc and molybdenum values. The mineralization and associated alteration found to date in the Deluxe Zone resembles those of the Paydirt deposit, located 3.5 kilometers to the north of the Deluxe Zone. Both types of gold occurrences are related to a Tertiary mineralizing event contemporaneous with the emplacement of the molybdenum-bearing Eocene intrusives.

Narrow auriferous veinlets were found 2500 meters south of the Deluxe Zone along the Porcupine River. A select grab sample of one of these veinlets returned 3.84 grams per tonne (0.112 ounces/ton) gold. The creek to the north of this area contained an anomalous gold value of 95 parts per billion indicating that further exploratory work is required in this area.

East Creek is a gossanous, steeply incised creek which parallels Deluxe Creek 4500 meters to the east and follows the same fault set as the Deluxe Zone. A field-sieved stream sediment sample from East Creek in 1988 returned a highly anomalous gold value of 530 parts per billion. No further work was done in this area in 1989, but the potential for mineralization similar to that of the Deluxe Zone is clear.

The Sphaler Creek property has demonstrated favourable underlying geology and alteration, similar to that hosting most major precious metals occurrences in the Galore Creek district. The discovery of strong, well-altered structures, several gold-bearing mineral occurrences and highly encouraging initial geochemical results, coupled with the exploration successes achieved throughout the Galore Creek, Iskut River, Sulphurets and Stewart districts in the past few years, provide abundant incentive to conduct further exploration work on the Sphaler Creek property.

Respectfully submitted,
EQUITY ENGINEERING LTD.

Bruno Kasper, Geologist

Vancouver, British Columbia
December, 1989

APPENDIX A

BIBLIOGRAPHY

BIBLIOGRAPHY

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APPENDIX B

STATEMENTS OF EXPENDITURES

STATEMENT OF EXPENDITURES
WISER NORTH CLAIM GROUP

PROFESSIONAL FEES AND WAGES:		
Jim Lehtinen, Project Geologist		
4.50 days @ $400/day	$ 1,800.00	
Bruno Kasper, Geologist		
9.25 days @ $350/day	3,237.50	
Tom Bell, Prospector		
4.75 days @ $300/day	1,425.00	
Bruce Holden, Prospector		
4.5 days @ $300/day	1,350.00	
Ian Anderson, Sampler		
4.5 days @ $200/day	400.00	
		$ 8,712.50
EQUIPMENT RENTALS:		
Handheld Radios		
12 @ $5	$ 60.00	
Fly Camp		
16 mandays @ $20/manday	320.00	
		380.00
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		6,859.13
CHEMICAL ANALYSES:		
Silt Samples		
14 @ $15.69	$ 219.61	
Soil Samples		
76 @ $15.50	1,178.00	
Rock Geochemical Samples		
91 @ $18.25	1,660.75	
Assays	435.00	
		3,493.36
EXPENSES:		
Materials and Supplies	$ 435.24	
Orthophoto Construction	3,618.49	
Printing and Reproductions	102.57	
Camp Supplies	22.80	
Camp Food	497.84	
Accomodation and Meals	1,298.83	
Helicopter Charters	4,340.70	
Telephone Distance Charges	10.47	
Freight	49.32	
Expediting	59.77	
		10,436.03
REPORT PREPARATION:		
(Estimated)		1,000.00
		$ 30,881.02

STATEMENT OF EXPENDITURES
WISER SOUTH CLAIM GROUP

PROFESSIONAL FEES AND WAGES:		
Bruno Kasper, Geologist		
2.50 days @ $350/day	$ 875.00	
Brian Yamamura, Geologist		
1.0 days @ $350/day	350.00	
Tom Bell, Prospector		
1.25 days @ $300/day	375.00	
Bruce Holden, Prospector		
1.0 days @ $300/day	300.00	
Jim Howe, Sampler		
1.0 days @ $200/day	200.00	
Rob Landrigan, Sampler		
1.0 days @ $200/day	200.00	
Ian Anderson, Sampler		
1.25 days @ $200/day	250.00	
		$ 2,550.00
EQUIPMENT RENTALS:		
Handheld Radios		
3 @ $5	$ 15.00	
Fly Camp		
4 mandays @ $20/manday	80.00	
		95.00
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		2,626.90
CHEMICAL ANALYSES:		
Silt Samples		
3 @ $15.69	$ 47.07	
Soil Samples		
14 @ $15.50	217.00	
Rock Geochemical Samples		
8 @ $18.25	146.00	
		410.07
EXPENSES:		
Materials and Supplies	$ 166.68	
Orthophoto Construction	1,385.80	
Printing and Reproductions	39.29	
Camp Supplies	8.73	
Camp Food	190.66	
Accomodation and Meals	495.13	
Helicopter Charters	1,669.50	
Telephone Distance Charges	4.01	
Freight	18.89	
Expediting	22.89	
		4,001.58
REPORT PREPARATION:		
(Estimated)		1,000.00
		$ 10,683.55

STATEMENT OF EXPENDITURES
GLENLIVET CLAIM GROUP

PROFESSIONAL FEES AND WAGES:		
David A. Caulfield, F.G.A.C.		
1.00 days @ $400/day	$ 400.00	
Bruno Kasper, Geologist		
3.00 days @ $350/day	1,050.00	
Tom Bell, Prospector		
2.75 days @ $300/day	825.00	
Bruce Holden, Prospector		
2.5 days @ $300/day	750.00	
Ray Cournoyer, Prospector		
0.5 days @ $300/day	150.00	
Rob Landrigan, Sampler		
1.0 days @ $200/day	200.00	
Ian Anderson, Sampler		
2.75 days @ $200/day	550.00	
		$ 3,925.00
EQUIPMENT RENTALS:		
Handheld Radios		
4 @ $5	$ 20.00	
Fly Camp		
12 mandays @ $20/manday	240.00	
		260.00
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		3,940.35
CHEMICAL ANALYSES:		
Silt Samples		
10 @ $15.69	$ 156.90	
Soil Samples		
66 @ $15.50	1,023.00	
Rock Geochemical Samples		
24 @ $18.25	438.00	
		1,617.90
EXPENSES:		
Materials and Supplies	$ 250.02	
Orthophoto Construction	2,078.71	
Printing and Reproductions	58.93	
Camp Supplies	13.10	
Camp Food	285.99	
Accomodation and Meals	742.69	
Helicopter Charters	968.00	
Telephone Distance Charges	6.02	
Freight	28.33	
Expediting	34.33	
		4,466.12
REPORT PREPARATION: (Estimated)		1,000.00
		$ 15,209.37

APPENDIX C

ROCK SAMPLE DESCRIPTIONS

AS	Arsenopyrite	KF	Potassium Feldspar
AZ	Azurite	LI	Limonite
BI	Biotite	MC	Malachite
CA	Calcite	MG	Magnetite
CB	Carbonate	MO	Molybdenite
CL	Chlorite	MS	Sericite
CP	Chalcopyrite	MU	Muscovite
CY	Clay	PO	Pyrrhotite
DO	Dolomite	PY	Pyrite
EP	Epidote	QZ	Quartz
FE	Iron	SI	Silica
GL	Galena	SP	Sphalerite

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

NTS 104G/3W, 4E
104B/13E, 14W

Sampler Tom Bell | Project KGG89-06 | Location Ref SPHALER CREEK

Date SEPT. 9-15, 1989 | Property WISER & GLENLIVET | Air Photo No

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
172432	6323390 N 347910 E	Float	– / –	Volc.?	QZ, CY	diss PY (15%)	Elev. 615m - source not found	10	<0.5	44	30	56	9
434	6323800 N 347850 E	"	– / –	Volc Cgl?	QZ, CA, CL	HE (2-3%)	Elev. 915m - source not found - HE found in 1cm QZ veinlets	<5	<0.5	25	<5	76	3
435	6323960 N 347820 E	Grab o/c	1.0m / 1.2m	Lamprophyre Dyke	BI, CL		Elev. 925m dyke strike 060° dip 90°	<5	0.5	104	10	204	1
436	6323830 N 347840 E	Float	– / –	Volc Flow?	CL, EP	diss PY (10%)	Elev. 765m - source not found	<5	<0.5	47	10	52	5
437	6323620 N 347900 E	"	– / –	Ch. Schist?	Mod. CL, QZ, CA	diss PY (5%)	Elev. 1600m - source not found	20	<0.5	30	5	46	29
441	6324600 N 347800 E	Grab sub o/c	1.0m / ?	Volc. cgl.	Mod EP, CA	PY, CP (<1%) MG (2-3%)	Elev. 1600m - diss mineralization no orientation or width viewed	<5	<0.5	237	15	130	1
442	6324660 N 347730 E	"	5.0m / ?	"	QZ > CA, CL, EP	MG (3-5%) CP (tr.)	Elev. 1570m - QZ > CA vein? - able to follow a distinct float train down slope for 10m.	<5	0.5	278	5	46	3
443	6324340 N 347310 E	Grab o/c	5.0m / 10.0m?	Volcanic Conglomerate	Mod. CY QZ>CL, CA	HE (5-7%)	Elev. 1480m - small QZ > CL, CA vein swarm over a ≈ 10m² area.	<5	0.5	13	10	36	4
444	6323960 N 346580 E	"	2.0m / 2.0m	"	CY minor CA	diss PY (15%)	Elev. 1235m - no distinct orientation, possible pod of mineralization	30	0.5	39	35	34	5
446	6318470 N 353570 E	Float	– / –	Sed rx.	CB minor QZ	PY, CP (tr.)	Elev. 1360m probable source is escarpment above	<5	<0.5	52	175	418	16
448	6318100 N 354450 E	Grab sub o/c	25m / ?	"	CB, QZ, CA	PY > CP (<<1%)	Elev 1685m sub o/c for 25m	<5	<0.5	75	60	158	24
449	6318130 N 354490 E	Grab o/c	1.0m / 1.0-2.0m	"	CB, QZ, CA	diss PY (tr.)	Elev. 1700m zone strikes 110° dip ?	<5	<0.5	16	55	150	50
450	6317910 N 354680 E	"	2.0m / 2.0m	Wacke	CB > QZ	CP, GL (tr)	Elev 1805m - QZ vein strike 110° dip 40° SW	<5	<0.5	21	70	136	2
451	6318500 N 353210 E	"	2.0m / 2.0m	Sed rx.	QZ > CB	PY, CP (tr.)	Elev. 1270m - Gossanous zone of QZ > CA veinlets, strike 020° dip 70° NW	<5	<0.5	46	35	114	20
452	6318170 N 353550 E	"	2.0m / ?	Breccia Zone?	CB > QZ	PY (1%)	Elev. 1430m - alteration zone 5.0m? wide, mineralization in QZ veinlets infilling fractures.	15	<0.5	32	5	80	100
453	6318180 N 353160 E	Grab o/c	0.5m / 0.1m	Banded Argillite	QZ - CB	PY > CP (1%)	Elev. 1365m PY blebs found in QZ > CA veinlets, strike 110° dip 55° SW	<5	<0.5	276	65	90	5
454	6319330 N 348790 E	Float	– / –	Sed. rx.?	CB	diss PY (2%)	Elev 520m - source is rx o/c above	65	<0.5	355	10	136	20
455	6319820 N 349000 E	Grab o/c	0.5m / ?	"	CB	diss PY (<1%)	Elev. 720m no distinct orientation or width	<5	<0.5	31	<5	116	60

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

NTS 104G/3W, 4E
104B/13E, 14W

Sampler Bruno Kasper
Date Sept. 9 - 13, 1989

Project KG689-06
Property WISER + GLENLIVET

Location Ref SPHALER CREEK
Air Photo No

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
459425	6323340N 348150E	Grab o/c	0.2m / ?	Volcaniclastic	QZ, EP	diss PY?/AS? (2-3%)	Elev. 600m - appears to be a pod 1.0m × 1.5m	<5	0.5	56	5	26	2
426	6323410N 348180E	"	0.2m / 0.2-0.5m?	Volcaniclastic Cgl	QZ, EP	diss PY (3-5%)	Elev. 675m - altered zone pinches + swells across o/c, no distinct orientation viewed but trends 055°	<5	<0.5	60	5	74	3
427	6323440N 348240E	"	0.4m / ?	Volcaniclastic Cgl	Strong QZ, minor CA	diss PY (2-3%)	Elev. 705m mineralized pod 1.5m × 1.5m	10	<0.5	20	5	10	3
428	6323200N 348230E	Float	- / -	Volcaniclastic	QZ	CP (5-10%) PO (1-2%)	Elev 555m consists of numerous QZ veinlets within a large boulder - source not found	100	12.5	1.22%	<5	110	1
430	6322690N 348470E	Grab o/c	0.5m / 4.0m	QZ-Syenite? dyke		PY, HE blebs (1-2%)	Elev. 430m dyke strikes 072° dip 76°N	<5	<0.5	178	5	8	3
431	6322300N 348500E	"	0.5m / ?	Volcaniclastic Cgl?	Mod CL + EP	PY blebs (2-3%)	Elev. 370m o/c for 2.0m no distinct orientation or width	<5	0.5	293	10	50	7
432	6323940N 345800E	"	15m / 15m?	Phyllite	Strong CY Minor CA QZ	diss PY (5-10%) LI products	Elev. 1250m gossanous zone w/ foliation which strikes 022° dip 86°E	420	5.0	100	45	142	35
433	6323930N 345830E	"	0.5m / 1.5m	"	Strong CY Minor CA, QZ	diss PY (5-10%) LI products (10%)	Elev. 1250m gossanous zone w/ foliation which strikes 151° dip 65° SW - o/c 20-30m west of 459432	360	4.0	205	40	70	35
434	6323900N 345880E	"	1.5m / 2.0m?	Breccia Volcanic?	Strong CY + CL	PY, AS? (10-15%) LI (HE, GEO)	Elev. 1240m, diss. mineralization, no distinct orientation or width but long axis of breccia axis oriented 000°	20	0.5	76	90	82	83
435	6323880N 346160E	"	0.4m / >1.5m?	Gossanous Zone	Strong MS + CL	diss PY, AS? (5-10%)	Elev 1200m, exposed by uprooted tree slight foliation w/ strike 151° dip 65° SW	80	1.5	112	15	1395	19
436	6323900N 346200E	"	0.1m / 2.0-4.0m?	"	Strong MS + CL, weak CA	diss PY, AS? (5-10%) LI (HE, GEO)	Elev. 1200m → stronger altered area within gossan, unable to take orientation o/c is an escarpment	30	0.5	134	225	666	10
437	6323860N 346230E	"	0.5m / ?	"	Strong MS + CL, weak CA	diss PY, AS? (5-10%) LI (HE, GEO)	Elev. 1175m gossan zone cuts across creek at a minor angle is appears to be 20-30m? across	25	<0.5	50	20	164	11
439	6318250N 353590E	"	0.1m / ?	Breccia	QZ > CA	PY blebs (<1%)	Elev. 1425m shear zone?, contains QZ > CA veinlets (<2mm width), o/c for 40m, orientation?	5	<0.5	21	10	72	22
440	6317950N 353510E	"	0.2m / 3.0m?	Breccia	CA > QZ	PY (2%)	Elev. 1460m shear zone?, strongly brecciated w/ CA > QZ infilling PY crystals + stringers associated w/ QZ orientation? but trends 075°	20	<0.5	98	35	68	60

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

NTS 104G/3W, 4E 104B/13E, 14W

Sampler Bruno Kasper | Project KG689-06 | Location Ref SPHALER CREEK

Date Sept. 14-15, 1989 | Property WISER + GLENLIVET | Air Photo No

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
459441	6318220N 353390E	Grab o/c	0.5m / 1.0m	Breccia	CA > QZ	PY+SP? (3%) Mariposite (1%)	Elev. 1390m shear zone?, QZ contains sulfides, while mariposite associated w/CA, alteration zone is ≥4.0m wide	10	<0.5	22	5	86	12
							orientation?						
442	6318240N 353420E	"	0.3m / 1.5m?	Breccia	CA w/minor QZ	diss PY + SP?, HE?	Elev. 1400m, 2% mineralization associated w/CA, gossan o/c for	<5	<0.5	41	20	76	6
							5.0m, orientation?						
443	6318180N 353480E	Grab o/c	0.5m / 1.0m?	Wacke?	CA + QZ	PY, diss + stringers (<1%)	Elev. 1415m, orientation? but zone trends 012°	<5	<0.5	46	5	138	36
444	6317780N 353140E	Float	- / -	Wacke? / Cgl.?	Strong CL minor CA/QZ	PY, diss + blebs (5-10%)	Elev. 1345m, source not found but CARB gossan o/c on hillside ≥20m	<5	<0.5	372	10	50	4
							away						
445	6317780N 353140E	"	- / -	Mafic Intrusive?	minor CA	MG (2-3%)	Elev. 1345m, source not found but located beside 459444	<5	<0.5	68	15	240	15
446	6319310N 347730E	Grab o/c	0.3m / 0.15m	Volcanic?	QZ > CL > CA vein	HE? (1-2%) PY (tr)	Elev. 280m, vein strikes 170° dips 85°E offset by narrow (3 cm) buff QZ vein	5	<0.5	27	<5	26	1
							vein o/c over 2.0m						
447	6319330N 347690E	Float	- / -	Volcanic	Moderate CL + QZ	PY, HE? (2-3%)	Elev. 290m, narrow (2 cm) QZ veinlet present in mineralized pod,	115	<0.5	39	15	56	46
							found beneath o/c but source not viewed.						
448	6319350N 347600E	Float	- / -	Volcanic?	QZ >> CL, CA vein	HE? (1-2%)	Elev. 290m, 30-40 cm wide vein but source not found	15	<0.5	193	5	12	3

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Geochemical Data Sheet - ROCK SAMPLING

NTS 104G/3W, 4E 104B/13E, 14W

Sampler Bruce Holden | Project KGG 89-06 | Location Ref SPHALER CREEK

Date Sept. 9-11, 1989 | Property WISER + GLENLIVET | Air Photo No

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	* oz/ton ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
459511	6322550 N 347350 E	Grab o/c	0.3m / 0.3m	Quartz Vein	QZ	CP (1-2%) Py, MO (tr)	elev. 200m, exposed for 10m, bleby mineralization, strike 150° dip 90°	<5	<0.5	3	<5	6	1
459512	6322,550N 347440 E	Grab o/c	0.2m / 0.2m	"	"	Py (1-2%) MO? (<1%)	elev. 200m, Bleby mineralization, strike 170° dip 90°	<5	<0.5	11	<5	104	1
459513	6322430 N 347485 E	Grab o/c	0.4m / 0.2m	"	"	Py (1-2%)	elev 200m, Bleby mineralization, - unable to get orientation	25	1.5	26	10	12	1
459514	6322370 N 347505 E	Grab o/c	0.3m / 0.2m	"	"	Py (1-2%)	elev 200m, bleby mineralization, strike 160° dip 70°E	<5	<0.5	5	<5	4	1
459515	6322 650 N 346370 E	Grab o/c	0.2m / ?	Volcanic?	CA, CL BI	Py (5%)	elev 220m, strong alteration zone,	*0.004	*0.09	0.14%	0.01%	0.02%	—
459517	6322745 N 346295 E	Float	- / -	Qz vein	QZ, CL-?	Py (30%) CP (1-2%)	elev. 285m, source veined overhead no orientation or width taken, o/c for 50m	*0.149	*0.16	0.21%	0.01%	0.01%	—
459518	6322775 N 346285 E	Float	- / -	"	QZ	Py > CP (10-15%) SP (1-2%)	elev. 340m, source not found, Py-Qz veins found up above	*8.251	*20.54	1.83%	0.23%	1.98%	—
459519	6322810 N 346280 E	Grab o/c	2m / 4m?	Volcaniclastic conglom?	CA, minor QZ	Py (7-10%) As? (tr)	elev 400m, extends up creek, no known orientation	*0.078	*0.21	0.02%	0.01%	0.02%	—
459520	6322940 N 346310 E	Grab o/c	0.2m / 0.1m	Qz Vein	QZ	Py (3-5%)	elev 470m, series of QZ veins 0.1-0.2m vein orientation - strike 040° dip 70°W	*0.023	*0.09	0.01%	0.01%	0.01%	—
459521	6322960 N 346325 E	Float	- / -	Volc.?	CL, QZ	Py (7-10%) SP (tr.)	elev. 495m, taken below source - wall rock of creek, fairly extensive (?)	*0.005	*0.02	0.01%	0.01%	0.01%	—
459522	6322535 N 347395 E	Grab o/c	0.3m / ?	Qz vein	QZ	Py, CP, SP (5-10%)	elev 195m - orientation - ?, taken between 459511 & 459512	*0.075	*0.36	0.01%	0.02%	0.5%	—
459524	6323875 N 346180 E	Grab o/c	1.0m / >10m?	Phyllite?	CY CL, CA	Py, CP ? (15-10%)	elev. 1095m, Found near fault gouge, trends ≈170° - but no distinct orientation	*0.010	*0.11	0.13%	0.01%	0.03%	—
459525	6323820 N 346205 E	Float	- / -	"	CY, QZ minor CA	Py, CP (7-10%)	elev. 1050m, source - escarpment above - CP associated w/ QZ veinlets	*0.016	*0.07	0.15%	0.01%	0.01%	—
459526	6323790 N 346220 E	Grab o/c	0.1m / >10m?	"	CY, QZ minor CA	Py (15%)	elev. 1035m, both walls of creek same type of rock, no distinct orientation	*0.008	*0.04	0.01%	0.01%	0.01%	
459527	6323770 N 346730 E	Grab o/c	0.3m / ?	"	QZ, CA, minor CY	Py, CP (20%)	elev. 1030m - below 459526, stronger Qz alt.'n	*0.073	*0.89	0.69%	0.01%	0.01%	—
459528	6323690 N 346230 E	Float	- / -	"	CY, mod QZ minor CA	Py (25-30%)	elev. 990m, - source, strong gossan area on escarpment above	*0.277	*0.05	0.02%	0.01%	0.01%	—
459529	6323905 N 346390 E	Grab o/c	0.1m / 0.4m?	"	CL, minor CA CY	Py > CP (7-10%)	elev. 1235m, foliation orientation, strike 020°, dip 90°, highly fractured	*0.020	*1.33	0.58%	0.02%	0.06%	
459530	6323925 N 346430 E	Grab o/c	0.2m / 0.05m	Qz > CA vein	CL	Py (tr.)	elev 1240m, vein orientation, strike 040° dip 90° crosscut foliation + mineralization	*0.002	*0.02	0.01%	0.01%	0.01%	
459531	6324120 N 346355 E	Grab o/c	0.2m / 0.2m	Phyllite	strong CL minor CA	Py >> CP (5%)	elev 1255m, foliation strike 160°, dip 90°	*0.005	*0.22	0.03%	0.06%	0.07%	—
			/										

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

NTS 104G/3W, 4E
104B/13E, 14W

Sampler BRUCE HOLDEN
Date Sept 13-15, 1989

Project KGG 89-06
Property WISER + GLENLIVET

Location Ref SPHALER CREEK
Air Photo No

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	* oz/ton ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
459532	6317860 N 353600 E	Float	– / –	Breccia?	QZ >CA	CP (<1%)	elev 1465m, probable source found-no mineralization at source	<5	3.0	1200	<5	32	43
459533	6317940 N 353660 E	Grab o/c	0.2m / 20m?	"	QZ >CA	PY >> CP (3%)	elev 1495m, disseminated mineralization with Qz, o/c for 20m, zone trends 140°, no distinct orientation	45	<0.5	147	20	36	250
459534	6317910 N 353660 E	Float	– / –	Breccia?	QZ >CA	SP, CP, MC (3%)	elev 1495m, source found, o/c for 1.0m	10	2.5	331	<5	918	150
459535	6317880 N 353920 E	Grab o/c	2.0m / 2.0m	"	QZ	SP, CP (4%)	elev 1585m, Qz veinlets infilling breccia zone, zone orientation strike 140°, dip 73° W	30	1.5	685	50	367 ppm	140
459536	6317950 N 353850 E	Grab o/c	0.6m / 0.5m	Qz vein	QZ	CP > PY, GL (1-2%)	elev. 1524m, very tiny blebs of mineralization vein orientation, strike 160°, dip 90°	<5	<0.5	36	70	402	9
459537	6317880 N 353820 E	Grab o/c	0.1m / ?	"	QZ	SP (3-5%)	elev 1530m, gossanous zone o/c for 20m, no distinct orientation	15	0.5	281	305	354 ppm	22
459538	6317700 N 353670 E	Float	– / –	"	QZ	disc. As? (1-2%)	elev 1495m, As-? mineralization in breccia clasts in Qz veining, taken 6m from 459539.	255	2.0	66	400	438	6600
459539	6317680 N 353650 E	Float	– / –	Breccia-? Qz vein	QZ.	CP > GL, SP? (2-5%)	elev 1495m, source not visible, but found around narrow (<10cm true width) Qz veins without mineralization	45	9.0	1550	2930	370	510
459540	6320340 N 346340 E	Grab o/c	0.2m / 0.1m	Qz vein	QZ	PY? (tr)	elev 215m, strike 040°, dip 90° hosted in argillites -?	20	<0.5	58	60	106	50
459541	6319760 N 345920 E	Grab o/c	0.1m / ?	Sediments?	QZ, BI-?	PY (1-2%)	elev 1350m, blebby mineralization in abundant Qz veinlets (<2cm width)	*0.112	<0.5	195	10	88	14
459542	6319800 N 348210 E	Grab o/c	5cm / ?	Volc. ?	Qz, minor CL CA	PY (1-2%) HE (2-3%)	elev 170m, mineralization associated with Qz veinlets 2-10cm width	60	<0.5	263	<5	347 ppm	3

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Geochemical Data Sheet - ROCK SAMPLING

NTS 104 G/3W, 4E

Sampler: Jim Lehtinen
Date: October 8-12, 1989
Project: KGG 89-06
Property: WISER I-IV
Location Ref: Sphaler Creek
Air Photo No:

Note: All planar measurements use right hand rule.

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	Rock Type	Alteration	Mineralization	ADDITIONAL OBSERVATIONS	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As
447045	e 310 m; N 6,322,650; E 346,370	Grab	0.75	Intrusive/ Volcanic?	P: MS, CL	PY Variable 3-7%	Strongly foliated biotite/sericite/chlorite altered intrusive. Slight schistosity developed in N-S/90° orientation	20	0.5	236	15	158	1
—													
447046	e 310; N 6,322,650; E 346,370	Grab	20 cm	Intrusive/ Volcanic?	BI, MS, CL, SI	PY 5% , P	Similar to 447045. Sample 447046 taken 2 m east of 447045. Minor chalcopyrite. - Weak schistosity	30	2.0	1105	35	236	2
—													
447047	e 310; N 6,322,640; E 346,395	Grab/Chip	5.0 m / 5.0 m	Intrusive/ Volcanic?	BI, SI, CL	PY <1%	Foliated. Strong chlorite stringers. Foliation = N-S/90°	<5	<0.5	86	5	128	1
447048	e 300 to 320; N 6,322,650; E 346,370	Float		Intrusive? Volcanic?	BI, SI	PY 5-10%	- Composite float sample of rocks with high percentage pyrite (5-10%) - Near 447045 sample location	<5	1.5	564	75	516	9
—													
447049	e 320; N 6,322,715; E 346,475	Float		Intrusive? Volcanic?	BI, SI	PY 1-2%	- Heavily stringered with minor pyrite	<5	0.5	123	30	82	3
463656	e 270; N 6,322,495; E 346,280	Chip	1.75 m	Volcanic? Intrusive?	MS	PY 10%	- Hosted in Hangingwall of granitic dyke strike: 145/60	70	3.5	2020	135	454	2
463657	e 265; N 6,322,500; E 346,285	Grab/chip	1.5 m	Volcanic? Intrusive	EP	PY 7-8%	- Hosted in footwall wallrocks of dyke.	115	13.0	3500	1010	550	2
463658	e 270; N 6,322,510; E 346,280	Grab/chip	1.5 m	Volcanic? Intrusive?	SI, EP, BI	Fe stain	Sample of fault/fracture zone Attitude 140/74	65	3.5	1520	35	156	<1
463659	e 288; N 6,322,565; E 346,270	Grab	2.0 m	Volcanic	SI, BI		Fault Zone - Minor Quartz stringers	15	2.0	698	40	380	6
463660	e 312; N 6,322,610; E 346,265	Grab		Volcanic	BI, SI	Trace PY, CP, MO	- Fractured volcanics	10	0.5	126	66	[illegible]	3
463661	e 353; N 6,322,685; E 346,275	Grab	1.8 m	Mylonitized Volcanics	MS, BI	PY 7-10%	Mylonite foliation = 040/90 - Strongly altered	20	1.5	818	145	332	1
463662	e 350; N 6,322,735; E 346,315	Grab	5.0 m / 5.0 m	Volcanic	BI, SI, CL, EP	PY 5-7%	- Numerous fractures + tension gashes	5	0.5	144	<5	92	2
463663	e 405; N 6,322,805; E 346,265	Grab	1.0 m / 1.0	Volcanic	SI	PY	- Footwall of shear zone and Sericite alteration	<5	<0.5	38	<5	72	2
463664	e 398; N 6,322,815; E 346,285	Grab	1.2 m / 1.2 m	Volcanic?	ST	PY 10-15%	Prominent fracture set at 173/46 and 065/90	<5	<0.5	150	<5	[illegible]	3
463665	e 495; N 6,322,990; E 346,275	Grab	1.0 m / 1.0 m	Intrusive?	BI	PY 5%	West of large sericite altered zone.	<5	<0.5	[illegible]	[illegible]	[illegible]	1
463666	e 490; N 6,323,000; E 346,285	Grab/Chip	1.6 m / 1.6 m	Intrusive?	BI	PY 15%	Mylonite with [illegible] in [illegible] sericite altered zone	[illegible]	<0.5	[illegible]	[illegible]	[illegible]	6
—													

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EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

NTS 104G/3W, 4E

Sampler Jim Lehtinen

Project KGG 89-06

Location Ref Sphaler Creek

Date October 8 - 12

Property Wiser I - IV

Air Photo No

Note: All planar measurements use right hand rule.

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION: Rock Type	DESCRIPTION: Alteration	DESCRIPTION: Mineralization	ADDITIONAL OBSERVATIONS	ASSAYS: Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	As (ppm)
463667	e 665 N 6,323,245 E 346,260	Chip	1.5m / 1.5m	Volcanic	MS	PY 10-15 %	- Large sericite alteration Zone. Strongly foliated	335	1.0	195	<5	106	19
—							060° / 90						
463668	e 535 N 6,323,085 E 346,305	Grab	1.25m	Mylonite (in volcanics)	MS, CL, BI	PY 5 - 7 %	Mylonitic fabric = 295/72 Foliation appears to be	25	<0.5	165	15	112	4
—							dragged by diorite intrusive to the north.						
463669	e 830 N 6,323,470 E 346,240	Grab	1.25m	Volcanic	BI	PY 5 - 7 %	Foliation 208/85 1cm Quartz stringers 325/35	45	<0.5	152	<5	202	23
463670	e 945 N 6,323,605 E 346,240	Grab/chip	1.4 m / 1.4m	Mylonite (In volcanics)	MS	PY 7-10%	Mylonite 186/72	60	<0.5	175	25	1355	19
463671	e 960 N 6,323,635 E 346,235	Grab/float		Volcanic		Minor PY Trace CP	Weak calcite fracture fill and stringers	110	<0.5	121	10	130	39
463672	e 960 to 965 N 6,323,645 E 346,235	Grab	4.0m	Volcanic	MS, CL	PY 7-10%	Foliation 216/85	30	<0.5	83	20	460	30
463673	e 1010 N 6,323,700 E 346,230	Grab	4.0m	Volcanic	SI, MS	PY 10% CP(tr)		*0.064	3.5	1025	5	138	12
463674	e 1225 N 6,323,985 E 346,185	Grab or float?		Volcanic?	MS	PY 7-10 %	At top of ridge in recessive gully (on strike with main creek gully.)	115	1.0	81	150	152	3
463675	e 1226 N 6,323,985 E 346,205	Grab	1.0m	Volcanic	CL	PY 5%	As above	30	<0.5	129	15	404	24
463676	e 710 N 6,323,315 E 346,255	Float		Volcanic?	BI	PY 20 %	Float block with 20% Pyrite as banded concentrations	350	1.5	17	15	68	100
								*oz/ton					

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

NTS 1046/3W, 4E

Sampler Bruno Kasper | Project K6689-06 | Location Ref SPHALER CREEK

Date Oct. 12 - 14, 1989 | Property WISER I - VI | Air Photo No

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION: Rock Type	Alteration	Mineralization	ADDITIONAL OBSERVATIONS	ASSAYS: Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
							* oz/ton						
459746	6323005N 346305E	Grab o/c	2.0m / 3.0-5.0m?	Intrusive?	Strong MS+BI Mod CZ/EP	PY (2-3%)	Elev. 460m ASL, mineralization oriented // w/foliation (orientation?)	<5	<0.5	78	5	88	3
747	6323210N 346305E	"	0.6m / 2.0m?	Intrusive	Strong QZ>MS	Y (10-15%)	Elev. 590m ASL, zone is mainly covered by mud, orientation? but strong fracture within zone strikes 161° dip 41°NE	* 0.306	46.0	1795	<5	40	14
748	6323400N 346359E	"	2.0m / 10m?	Intrusive?	Strong MS+QZ	PY (10-15%) CP? (Tr.)	Elev. 775m ASL, o/c within stream joint // w/foliation? strike 037° dip 86°SE	215	2.5	385	<5	120	10
749	6323420N 346350E	"	1.5m / ?	Intrusive?	V. Strong MS + QZ	PY blebs + xstals (5-10%)	Elev. 780m ASL, xcut by prominent fractures which strike 177° dip 58°E - taken 10m from 459748	50	<0.5	45	<5	80	7
750	6323419N 346355E	"	1.0m / ?	Intrusive?	Mod CL+QZ	PY xstals + blebs (10%)	Elev. 795m ASL, blebs associated w/ QZ veinlets or sweats, 2 main fractures present	475	<0.5	36	<5	104	11
751	6323430N 346355E	"	1.5m / 1.5m	Volcanic? or Intrusive?	Strong CL + QZ/CA	PY (3-5%) SP? (1-2%)	Elev. 800m ASL, fault?, PY associated w/ QZ + CL, SP? infilling fractures zone strikes? 139° dip 80°NE - follow upstream for 20m	255	<0.5	47	<5	80	4
752	6323475N 346345E	"	0.6m / 0.5m	Volcanic?	Strong CY Mod CL/QZ	Mariposite?(1-2%) diss PY (Tr)	Elev. 895m ASL, Fault? Mariposite? // w/foliation which strikes 022°? dip 68°SE	15	<0.5	109	<5	138	1
753	6323580N 346345E	Float	- / -	QZ-SER Vein?	Strong MS > CA > QZ	PY blebs + xstals (10%)	Elev. 940m ASL - source not found	240	<0.5	51	<5	164	4
754	6323460N 346360E	Grab o/c	2.0m / 0.2m?	Volcanic?	QZ ± CL	CP blebs diss PY, CP (1-2%)	Elev. 870m ASL, QZ veinlets only 2-3cm in width, blebs found in QZ veinlets, diss mineralization found in surrounding rx. veinlets strike 128° dip 50° SW	110	6.5	3360	<5	150	1

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

NTS 104G/3W, 4E

Sampler BRUNO KASPER | Project KE689-06 | Location Ref SPHALER CREEK

Date Oct. 8 - 12, 1989 | Property WISER I - IV | Air Photo No

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
459732	6322 680N 346 345E	Float		Felsic Intrusive?		MO blebs (1%)	Elev. 322m ASL, source not located	<5	<0.5	28	10	18	1
733	6322 680N 346 345E	Grab o/c?	0.3m / 1.5m?	Volcanic?	Strong BI Mod CL+QZ	PY blebs+xstals (10%)	Elev. 325m ASL, rx. is strongly foliated + crosscut by CL+QZ stringers	<5	2.0	654	35	226	1
							-strong mineralization associated w/ the stringers, foliation strike 100°, dip 70°						
734	6322 680N 346 345E	Grab o/c?	1.0m / 1.5m?	Volcanic?	Strong BI Mod CL1 MS	PY blebs+xstals (5-8%)	Elev. 335m ASL, PY associated w/ CL or SER alt'n, SER altered layer strike 081° dip 82° NW	<5	2.0	404	90	628	9
735	6322 670N 346 350E	Float	- / -	QZ/CL vein		PY blebs (2-3%)	Elev. 325m ASL, source not found size of float is 5cm x 10cm dia	<5	0.5	131	35	102	2
736	6322 710N 346 329E	Grab o/c	0.5m / 2.0m?	Volcanic?	Strong BI MOD CL ± QZ	PY blebs+crystals (5-10%), MO (tr)	Elev. 395m ASL, CL ± QZ forms veinlets + stringers, prominent joint viewed	<5	1.0	108	135	300	3
							throughout o/c w/strike 073° + dip 43° -joint appears to define the zone						
737	6322 720N 346 330E	Grab o/c	2.5m / 1.0-2.0m?	Feldspar Porphyry?	Strong MS+BI Mod QZ+CL	PY blebs+xstals (10-15%)	Elev. 345m ASL, mineralization appears // w/foliation which strikes 161°? dips 78°NE?	<5	0.5	144	25	92	7
738	6322 720N 346 330E	"	0.3m / 0.15-0.2m	QZ vein	weak CL	PY (1-2%) + MO	Elev. 350m ASL, large blebs very sporadic within vein, strike 090° dip 19°S	<5	0.5	29	10	8	1
739	6322 720N 346 330E	"	0.3m / 0.4m?	Feldspar Porphyry?	Strong CL>BI > MS>QZ	PY blebs+xstals (5%)	Elev. 345m ASL, zone is highly convoluted + banded, zone strikes 072° dip 90°	<5	1.0	78	10	60	2
740	6322 720N 346 300E	"	2.0m / 0.5m?	"	Strong MS+QZ >CL+BI	PY blebs+xstals (5-10%)	Elev. 320m ASL, zone strongly banded + foliated, foliation strike 022°? dip 82°NW?	<5	<0.5	116	35	124	3
741	6322 700N 346 300E	"	1.0m / 1.0m?	QZ - BI Mylonite	Mod EP+QZ +CL	PY blebs+xstals (3-5%), CP (tr)	Elev. 340m ASL, mineralization // to foliation w/ strike 031°? dip 90°?, zone is	<5	<0.5	116	30	226	2
							xcut by EP/QZ+CL veinlets (<1cm), both foliation + veinlets are microfolded.						
742	6322 90 9N 346 310E	"	1.0m / 2.0m?	Volcanic?	Strong BI +CL/QZ	PY (5-10%)	Elev. 385m ASL, PY oriented // w/foliation which trends ± 036°, QZ+CL occurs	<5	<0.5	101	5	118	2
							as distinct bands or veinlets // w/ foliation.						
743	6322 91 9N 346 320E	Grab Sub o/c	1.0m / 1.5m?	Volcanic?	Strong MS Mod BI ± QZ/CL	PY blebs+xstals (5-10%)	Elev. 390m ASL -taken ± 10m upstream from 459742, possible extension	<5	<0.5	106	10	94	3
744	6323 000N 346 320E	Grab o/c	0.5m / 0.1m	Foliated diorite? intru.	QZ+CL Vein	PY ± MO blebs (PY, 1-2%, MO-tr)	Elev. 455m ASL, vein strike 024° dip 66°NW similar QZ veins in close proximity	<5	<0.5	8	<5	4	1
							o/c for 4.0 m.						
745	6322,990N 346 310E	Grab o/c	0.5m / ?	Foliated diorite Intrusive	Mod. BI	diss PY (<1%)	Elev. 445m ASL - orientation? xcut by narrow lamprophyric dykes + QZ veins (459744)	<5	<0.5	32	<5	74	1

EQUITY ENGINEERING LTD.

Geochemical Data Sheet - ROCK SAMPLING

104 B / 13E, 14W
NTS 104 G / 3W, 4E

Sampler DEREK KOULSTON
Date OCT 12, 1989

Project KGG 89-06
Property WISER & GLENLIVET

Location Ref SPHALER CREEK
Air Photo No _____

SAMPLE NO.	LOCATION	SAMPLE TYPE	Sample Width / True Width	DESCRIPTION			ADDITIONAL OBSERVATIONS	ASSAYS					
				Rock Type	Alteration	Mineralization		Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
459877	6323250N 347640E	FLOAT	— / —	VOLCANIC	EP, CA		DISSEMINATED PYRITE IN VOLC.	20	0.5	250	<5	38	4
DAVID	A.	CAULFIELD											
459240		Float		Limey mafic Volcanic	QZ, AK,	CP, tr. MC	source of float located 2.0m upcreek under debris	15	9.0	5230	<5	168	17
459243	6321420N 346740E	Grab 0C	10-20cm	hornblende granodiorite	QZ	PY, MO, ferromolyb.	QZ vein ⊢ 104°/70°N, located 10m north of claim line exposed for ≈ 20m	15	1.0	241	<5	14	2
IAN	ANDERSON	Sept. 15/89											
459464	6319610N 346190E	Grab 0/C	1.0m / 4.0m?	Gozzan Zone	CB	diss PY (2%)	Elev 122m Fault? trends ≈ 045°	<5	<0.5	36	25	140	29

APPENDIX D

CERTIFICATES OF ANALYSIS

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE(604)253-3158 FAX(604)253-1716

DATE RECEIVED: NOV 2 1989

DATE REPORT MAILED: Nov. 6/89

ASSAY CERTIFICATE

- SAMPLE TYPE: Rock Chips AU** AND AG** BY FIRE ASSAY FROM 1 A.T.

SIGNED BY.. C. Leong D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Equity Engineering Ltd. PROJECT KGG 89-06 FILE # 89-4608

SAMPLE#	Cu %	Pb %	Zn %	Ag** OZ/T	Au** OZ/T
459515	.14	.01	.02	.09	.004
459517	.21	.01	.01	.16	.149
459518	1.83	.23	1.98	20.54	8.251
459519	.02	.01	.02	.21	.078
459520	.01	.01	.01	.09	.023
459521	.01	.01	.01	.02	.005
459522	.01	.02	.59	.36	.075
459524	.13	.01	.03	.11	.010
459525	.15	.01	.01	.07	.016
459526	.01	.01	.01	.04	.008
459527	.69	.01	.01	.89	.073
459528	.02	.01	.01	.05	.277
459529	.58	.02	.06	1.33	.020
459530	.01	.01	.01	.02	.002
459531	.03	.06	.07	.22	.005

Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

T [redacted]RIME EXPLORATIONS LTD.

808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date :10-OCT-89
Invoice # :I-8926554
P.O. # :KGG89-06

CERTIFICATE OF ANALYSIS A8926554

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			
1750 0+00E	201	298	5	4	< 0.5	26	175	4.72	1435	< 1	12	5	122			
1750 0+25E	201	298	< 5	3	< 0.5	23	117	4.24	1265	< 1	14	< 5	126			
1750 0+50E	201	298	< 5	2	< 0.5	16	115	3.16	455	1	6	5	72			
1750 0+75E	201	298	< 5	3	< 0.5	17	48	4.61	545	2	9	< 5	82			
1750 1+00E	201	298	10	3	< 0.5	27	61	5.30	1055	1	27	< 5	124			
1750 0+00W	201	298	< 5	3	< 0.5	27	188	4.85	1275	< 1	13	< 5	122			
1750 0+25W	201	298	< 5	4	< 0.5	28	208	5.04	1300	< 1	13	< 5	132			
1750 0+50W	201	298	15	1	< 0.5	2	22	0.50	70	1	3	< 5	78			
1750 0+75W	201	298	< 5	1	< 0.5	< 1	17	0.14	20	1	2	< 5	90			
1750 1+00W	203	298	< 5	1	0.5	2	29	0.29	155	< 1	2	< 5	98			
1750 1+25W	201	298	< 5	2	< 0.5	8	18	0.95	2460	< 1	4	< 5	120			
1750 1+50W	203	298	< 5	1	0.5	3	26	0.70	200	1	3	< 5	94			
1750 1+75W	201	298	< 5	3	< 0.5	12	36	3.10	525	< 1	5	< 5	82			
1800 2+00W	203	298	< 5	1	< 0.5	2	26	0.40	60	1	2	< 5	64			
1850 1+25E	201	298	< 5	4	< 0.5	22	126	4.90	2460	1	8	< 5	112			
1900 1+50E	201	298	< 5	2	< 0.5	4	45	1.78	250	1	3	< 5	78			
1950 1+75E	201	298	15	7	< 0.5	28	153	5.75	925	< 1	11	< 5	118			
1950 2+00E	201	298	< 5	6	< 0.5	24	162	5.53	970	< 1	9	< 5	102			
1950 2+25W	201	298	< 5	3	0.5	19	52	3.78	1285	< 1	16	5	110			
1975 2+25E	201	298	5	6	< 0.5	29	262	5.36	1425	< 1	11	< 5	120			
1975 2+50E	203	298	< 5	2	< 0.5	2	28	0.94	110	1	3	< 5	70			
1975 2+75E	201	298	< 5	1	< 0.5	1	31	0.43	205	1	3	< 5	92			
2000 3+00E	201	298	< 5	3	< 0.5	11	49	3.19	415	1	5	< 5	70			
2000 3+25E	201	298	10	3	< 0.5	21	110	4.10	1090	1	10	< 5	94			
2000 3+50E	201	298	20	4	< 0.5	28	177	4.13	2120	1	8	< 5	112			
2000 3+75E	201	298	15	3	< 0.5	14	125	2.36	745	< 1	6	< 5	72			
2000 4+00E	201	298	< 5	2	< 0.5	7	52	1.73	350	1	3	< 5	72			
2000 4+25E	201	298	< 5	6	< 0.5	25	171	4.81	990	< 1	11	< 5	106			
2000 4+50E	201	298	5	10	< 0.5	28	173	5.08	1295	1	12	5	110			
2000 4+75E	201	298	< 5	4	< 0.5	4	54	1.42	275	< 1	2	< 5	60			
3500 00+00E	201	298	5	2	< 0.5	6	18	1.91	595	< 1	4	5	88			
3500 00+25E	203	298	< 5	2	0.5	9	117	1.18	605	1	5	5	116			
3500 00+50E	201	298	5	2	< 0.5	2	4	0.71	150	< 1	4	5	38			
3500 00+75E	217	298	< 5	2	2.5	2	369	0.54	60	2	2	5	88			
3500 01+00E	201	298	< 5	2	< 0.5	1	8	0.85	120	< 1	2	5	34			
3500 01+25E	203	298	< 5	3	< 0.5	5	57	1.11	715	1	2	5	84			
3500 01+50E	203	298	50	2	< 0.5	7	39	1.92	330	< 1	5	5	64			
3500 01+75E	201	298	20	11	1.5	85	2660	3.32	8840	6	16	15	574			
3500 02+00E	201	298	< 5	2	< 0.5	1	24	0.42	105	1	2	< 5	52			
3500 02+25E	201	298	< 5	2	< 0.5	2	7	1.24	280	1	2	5	42			

CERTIFICATION : _____

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: [redacted]ME EXPLORATIONS LTD.
808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date :10-OCT-89
Invoice # :I-8926554
P.O. # :KGG89-06

CERTIFICATE OF ANALYSIS A8926554

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			
3500 02+50E	201	298	< 5	2	< 0.5	1	8	0.77	140	1	2	5	66			
3500 02+75E	201	298	< 5	4	< 0.5	5	32	2.15	680	1	5	10	76			
3500 03+00E	201	298	25	2	< 0.5	1	5	1.12	90	1	2	5	38			
3500 03+25E	201	298	5	2	< 0.5	3	3	1.40	360	1	2	5	40			
3500 03+50E	201	298	< 5	2	< 0.5	1	4	0.97	75	< 1	1	5	36			
3500 03+75E	201	298	10	2	< 0.5	1	5	1.26	100	1	2	5	44			
3500 04+00E	201	298	< 5	1	0.5	1	4	0.69	65	1	1	5	44			
3500 04+25E	201	298	< 5	1	< 0.5	1	7	0.54	80	2	3	5	66			
3500 04+50E	201	298	< 5	7	0.5	7	99	2.97	395	4	4	20	76			
3500 04+75E	203	298	5	2	< 0.5	21	74	2.71	2890	4	11	10	132			
3500 05+00E	201	298	< 5	2	0.5	6	20	2.13	400	1	7	5	88			
3500 05+25E	203	298	< 5	3	< 0.5	15	93	2.92	1815	< 1	9	5	204			
3500 05+50E	203	298	< 5	2	< 0.5	1	6	0.73	155	1	2	5	58			
3500 05+75E	201	298	< 5	2	< 0.5	1	2	0.57	80	< 1	1	5	28			
3500 06+00E	201	298	< 5	1	< 0.5	2	5	0.90	185	1	1	5	48			
3500 06+25E	201	298	< 5	2	< 0.5	3	9	1.21	125	1	1	10	36			
3500 06+50E	201	298	< 5	2	< 0.5	1	5	0.86	95	1	2	10	32			
3500 06+75E	201	298	< 5	1	< 0.5	1	4	0.77	115	1	1	5	30			
3500 07+00E	201	298	< 5	2	< 0.5	1	4	0.92	60	1	2	5	36			
3500 07+25E	201	298	< 5	1	< 0.5	2	4	0.89	125	1	1	5	36			
3500 07+50E	201	298	70	4	< 0.5	9	10	3.53	690	3	3	10	98			
3500 07+75E	201	298	< 5	1	< 0.5	4	5	1.69	775	2	2	5	54			
3500 08+00E	201	298	< 5	1	< 0.5	1	4	0.81	85	1	2	5	56			
3500 08+25E	201	298	< 5	2	< 0.5	11	31	3.27	440	1	5	5	78			
3500 08+50E	201	298	< 5	2	< 0.5	5	9	1.90	310	2	3	10	62			
3500 08+75E	201	298	< 5	1	< 0.5	1	5	1.07	70	1	1	5	32			
3500 09+00E	203	298	< 5	< 1	< 0.5	1	7	0.66	155	< 1	2	5	66			
3500 09+25E	203	298	< 5	1	< 0.5	2	5	0.55	125	1	2	5	66			
3500 09+50E	201	298	< 5	2	< 0.5	12	41	3.49	625	2	6	5	96			
3500 09+75E	201	298	< 5	1	< 0.5	3	8	1.09	385	1	4	5	56			
3500 10+00E	201	298	< 5	1	< 0.5	7	12	1.72	740	1	5	5	80			
3500 10+25E	203	298	< 5	1	< 0.5	5	80	1.25	215	1	4	5	60			
3500 10+50E	201	298	< 5	1	< 0.5	1	5	1.14	80	1	2	5	34			
3500 10+75E	203	298	5	1	< 0.5	5	19	1.03	400	1	4	5	72			
3500 11+00E	201	298	5	3	0.5	15	44	3.86	940	< 1	6	5	116			
3500 11+25E	201	298	< 5	2	< 0.5	6	35	2.18	290	1	3	5	64			

CERTIFICATION : _____

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To : PRIME EXPLORATIONS LTD.

808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 09-OCT-89
Invoice # : I-8926555
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8926555

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
172433	201 238	< 5	2.40	< 0.2	35	310	< 0.5	< 2	1.38	< 0.5	21	18	138	5.53	< 10	< 1	0.80	< 10	2.15	1065
172438	201 238	< 5	2.14	< 0.2	< 5	340	< 0.5	2	1.35	0.5	16	15	70	4.15	< 10	4	0.55	< 10	1.46	955
172439	201 238	< 5	2.11	< 0.2	15	330	0.5	< 2	1.63	< 0.5	16	18	105	3.81	< 10	< 1	0.57	< 10	1.31	1085
172440	201 238	< 5	2.26	< 0.2	20	330	< 0.5	< 2	1.41	< 0.5	18	18	88	4.35	< 10	< 1	0.62	< 10	1.59	1005
459424	201 238	< 5	2.22	< 0.2	5	410	< 0.5	2	1.43	< 0.5	18	16	116	3.91	< 10	< 1	0.65	< 10	1.92	865
459429	201 238	< 5	2.07	< 0.2	10	410	< 0.5	< 2	1.30	< 0.5	18	22	87	3.86	< 10	< 1	0.72	10	1.53	850
459510	201 238	10	1.49	< 0.2	15	250	< 0.5	< 2	1.15	< 0.5	16	24	68	4.85	< 10	< 1	0.41	< 10	1.18	1080
459516	201 238	165	2.13	0.6	20	400	< 0.5	< 2	0.66	2.0	29	20	437	5.97	< 10	< 1	0.60	10	1.46	3270
459523	201 238	< 5	1.90	< 0.2	20	260	< 0.5	< 2	1.40	< 0.5	18	20	99	4.39	< 10	< 1	0.57	< 10	1.68	830

CERTIFICATION : B. Caufield

Chemex Labs Ltd.

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212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To : PRIME EXPLORATIONS LTD.

808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 09-OCT-89
Invoice # : I-8926555
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8926555

SAMPLE DESCRIPTION	PREP CODE		Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
172433	201	238	< 1	0.01	13	3180	< 2	5	7	96	0.19	< 10	< 10	157	< 10	94
172438	201	238	< 1	0.02	12	2030	< 2	5	6	83	0.26	< 10	< 10	142	< 10	94
172439	201	238	< 1	0.01	9	1440	< 2	< 5	6	109	0.26	< 10	< 10	131	< 10	98
172440	201	238	< 1	0.02	12	1930	< 2	< 5	7	96	0.28	< 10	< 10	154	< 10	92
459424	201	238	< 1	0.01	13	2700	< 2	< 5	7	117	0.23	< 10	< 10	137	< 10	80
459429	201	238	< 1	0.01	16	2090	< 2	< 5	8	118	0.26	< 10	< 10	131	< 10	90
459510	201	238	< 1	0.01	14	2060	12	< 5	6	79	0.18	< 10	< 10	137	< 10	148
459516	201	238	7	0.01	24	1620	30	< 5	5	49	0.16	< 10	< 10	79	< 10	362
459523	201	238	< 1	0.01	19	2750	< 2	< 5	7	104	0.18	< 10	< 10	126	< 10	86

CERTIFICATION : B. Caufield

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: ...IME EXPLORATIONS LTD.

808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date :11-OCT-89
Invoice # :I-8926556
P.O. # :KGG89-06

CERTIFICATE OF ANALYSIS A8926556

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	Au FA oz/T
172432	205	298	10	9	< 0.5	9	44	2.83	25	< 1	5	30	56	
172434	205	298	< 5	3	< 0.5	15	25	3.75	720	< 1	5	< 5	76	
172435	205	298	< 5	1	0.5	38	104	4.78	665	< 1	122	10	204	
172436	205	298	< 5	5	< 0.5	23	47	3.56	210	< 1	11	10	52	
172437	205	298	20	29	< 0.5	23	30	2.81	1070	< 1	4	5	46	
172441	205	298	< 5	1	< 0.5	16	237	4.08	3100	< 1	6	15	130	
172442	205	298	< 5	3	0.5	12	278	2.15	740	< 1	3	5	46	
172443	205	298	< 5	4	0.5	9	13	6.00	495	< 1	3	10	36	
172444	205	298	30	5	0.5	19	39	4.48	235	3	5	35	34	
459425	205	298	< 5	2	0.5	15	56	2.40	195	5	6	5	26	
459426	205	298	< 5	3	< 0.5	14	60	3.74	525	1	4	5	74	
459427	205	298	10	3	< 0.5	13	26	3.58	40	2	5	5	10	
459428	205	298	100	1	12.5	8	>10000	3.82	330	1	< 1	< 5	110	
459430	205	298	< 5	3	< 0.5	< 1	178	0.56	30	1	1	5	8	
459431	205	298	< 5	7	0.5	17	293	3.04	200	55	4	10	50	
459432	205	298	420	35	5.0	6	100	7.13	615	2	1	45	142	
459433	205	298	360	35	4.0	4	205	9.31	315	2	1	40	70	
459434	205	298	20	83	0.5	14	76	6.85	405	4	9	90	82	
459435	205	298	80	19	1.5	12	112	6.81	530	1	2	15	1395	
459436	205	298	30	10	0.5	16	134	10.15	545	4	8	225	666	
459437	205	298	25	11	< 0.5	9	50	5.22	455	1	3	20	164	
459511	205	298	< 5	1	< 0.5	1	3	1.01	40	9	3	< 5	6	
459512	205	298	< 5	1	< 0.5	5	11	2.19	440	24	4	< 5	104	
459513	205	298	25	1	1.5	10	26	2.68	275	6	2	10	12	
459514	205	298	< 5	1	< 0.5	< 1	5	0.53	15	1	1	< 5	4	
459515	205	298	>10000	1	>200	10	>10000	11.25	30	4	11	1835	>10000	8.456
459517	205	298	145	1	5.0	18	1425	4.25	905	10	6	35	338	
459518	205	298	4410	46	5.5	16	2030	12.25	265	2	7	< 5	58	0.152
459519	205	298	2120	3	10.5	10	151	3.24	390	5	5	30	166	0.074
459520	205	298	550	1	0.5	4	47	0.98	15	64	3	5	32	
459521	205	298	105	3	< 0.5	35	50	3.14	285	3	21	< 5	20	
459522	205	298	490	11	4.0	27	1370	7.31	695	19	13	10	310	
459524	205	298	3170	2	17.0	7	44	3.22	425	498	3	220	6220	0.090
459525	205	298	810	2	2.0	17	1475	3.00	1780	6	6	< 5	150	
459526	205	298	290	25	0.5	24	92	6.99	2570	4	5	10	62	
459527	205	298	1520	120	34.5	16	7430	8.29	1020	1	4	< 5	80	0.066
459528	205	298	8450	6	1.5	17	142	13.35	85	< 1	8	< 5	38	0.204
459529	205	298	25	2	< 0.5	14	90	2.27	1020	< 1	34	5	62	
459530	205	298	2780	36	48.0	19	6000	5.81	1180	22	5	175	514	0.070
459531	205	298	210	67	8.5	23	379	6.59	5280	1	4	600	744	

CERTIFICATION : B. Caughlin

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: PRIME EXPLORATIONS LTD.
808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CR/PASS LAKE
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Page No. : 1
Tot. Pages: 2
Date : 16-OCT-89
Invoice # : I-8927195
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8927195

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
L1370M 00+00S	201	298	< 5	1	< 0.5	2	11	1.83	220	2	8	< 5	52
L1370M 00+25S	201	298	< 5	6	< 0.5	7	47	2.57	370	2	23	5	64
L1370M 00+50S	201	298	< 5	27	< 0.5	41	165	5.39	1635	4	114	20	144
L1370M 00+75S	201	298	< 5	50	< 0.5	71	188	9.49	3190	4	185	40	200
L1370M 01+00S	201	298	< 5	30	< 0.5	24	124	5.21	1225	1	84	15	136
L1370M 01+25S	201	298	< 5	5	< 0.5	8	18	2.75	1325	1	14	5	78
L1370M 01+50S	201	298	< 5	9	< 0.5	11	37	3.71	1025	3	20	5	80
L1370M 01+75S	201	298	< 5	2	< 0.5	3	7	1.75	220	1	8	< 5	60
L1370M 02+00S	201	298	< 5	81	< 0.5	28	201	9.19	1105	2	142	40	202
L1370M 02+25S	201	298	< 5	19	< 0.5	13	67	4.20	370	< 1	40	10	108
L1370M 02+50S	201	298	< 5	61	< 0.5	20	137	11.75	1640	< 1	97	5	194
L1370M 02+75S	201	298	< 5	22	< 0.5	17	77	4.60	670	< 1	52	10	128
L1370M 03+00S	201	298	< 5	24	< 0.5	33	82	5.07	2060	1	61	25	94
L1370M 03+25S	201	298	< 5	95	< 0.5	31	197	8.96	1930	3	57	25	156
L1370M 03+50S	201	298	< 5	33	< 0.5	25	112	7.52	2110	8	81	30	174
L1370M 03+75S	201	298	< 5	22	< 0.5	29	172	8.22	2020	1	127	30	266
L1370M 04+00S	201	298	< 5	150	< 0.5	26	162	9.65	1660	2	127	20	198
L1370M 04+25S	201	298	25	165	< 0.5	46	164	12.45	2930	3	239	40	234
L1370M 04+50S	201	298	< 5	23	< 0.5	12	56	5.20	620	< 1	38	5	130
L1370M 04+75S	201	298	< 5	16	< 0.5	7	48	4.34	565	2	27	15	84
L1370M 05+00S	201	298	< 5	24	< 0.5	10	51	4.82	830	2	25	15	94
L1370M 05+25S	201	298	< 5	1	< 0.5	1	4	2.05	215	2	5	< 5	52
L1370M 05+50S	201	298	< 5	7	< 0.5	8	40	3.47	400	< 1	13	5	80
L1370M 05+75S	201	298	< 5	35	< 0.5	18	112	5.33	955	< 1	41	5	114
L1370M 06+00S	201	298	< 5	36	< 0.5	24	92	5.43	1510	1	52	20	116
L1370M 06+25S	201	298	< 5	3	< 0.5	9	18	3.00	675	1	11	< 5	70
L1370M 06+50S	201	298	< 5	25	< 0.5	23	106	5.13	1210	1	60	15	130
L1370M 06+75S	201	298	< 5	90	< 0.5	31	177	7.74	2170	2	83	45	158
L1370M 07+00S	201	298	< 5	6	< 0.5	10	58	3.97	420	< 1	15	< 5	74
L1370M 07+25S	201	298	< 5	10	< 0.5	19	99	4.79	1015	< 1	35	5	130
L1370M 07+50S	201	298	< 5	10	< 0.5	14	44	5.40	900	< 1	24	10	178
L1370M 07+75S	201	298	< 5	7	< 0.5	16	61	4.22	1000	< 1	26	15	94
L1370M 08+00S	201	298	< 5	3	< 0.5	4	12	2.69	335	2	9	< 5	54
L1370M 08+25S	201	298	< 5	5	< 0.5	8	36	4.64	460	1	13	5	86
L1370M 08+50S	201	298	< 5	1	< 0.5	2	7	1.49	245	1	5	5	30
L1370M 08+75S	201	298	< 5	9	< 0.5	13	70	4.75	650	1	29	10	100
L1370M 09+00S	201	298	< 5	1	< 0.5	2	7	1.41	250	1	7	5	34
L1370M 09+25S	201	298	< 5	9	< 0.5	12	38	4.93	1005	< 1	21	5	96
L1370M 09+50S	201	298	< 5	7	< 0.5	4	14	2.60	835	1	5	5	60
L1370M 09+75S	201	298	< 5	2	< 0.5	4	14	2.43	375	1	5	< 5	48

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CERTIFICATION : B. Caplin

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE. NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: PRIME EXPLORATIONS LTD.

808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CR/PASS LAKE
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 16-OCT-89
Invoice # : I-8927195
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8927195

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			
L1370M 10+00S	201	298	< 5	6	< 0.5	1	10	2.06	165	1	8	5	38			
L1370M 10+25S	201	298	< 5	25	< 0.5	4	29	3.17	270	1	21	5	78			
L1370M 10+50S	201	298	< 5	15	< 0.5	2	19	1.28	120	1	7	5	46			
L1370M 10+75S	201	298	10	115	< 0.5	15	88	3.44	605	2	46	10	108			
L1370M 11+00S	201	298	< 5	29	< 0.5	4	38	2.74	180	3	18	15	68			
L1370M 11+25S	201	298	< 5	33	< 0.5	12	60	3.62	570	1	30	10	100			
L1370M 11+50S	201	298	5	45	< 0.5	7	47	3.13	265	2	27	15	88			
L1370M 11+75S	201	298	< 5	33	< 0.5	9	47	3.32	420	1	25	5	98			
L1370M 12+00S	201	298	10	16	< 0.5	17	61	3.21	490	1	41	20	142			
L1370M 12+25S	201	298	20	25	< 0.5	17	73	3.61	630	1	50	10	166			
L1370M 12+50S	201	298	5	43	< 0.5	18	82	4.50	855	3	47	20	136			
L1370M 12+75S	201	298	< 5	9	< 0.5	3	34	2.28	145	2	18	10	58			
L1370M 13+00S	201	298	< 5	5	< 0.5	4	13	1.80	230	3	9	5	64			
L1370M 13+25S	201	298	< 5	30	< 0.5	15	71	3.68	725	2	40	20	128			
L1370M 13+50S	201	298	< 5	71	< 0.5	20	112	5.26	1250	< 1	63	15	142			
L1370M 13+75S	201	298	5	11	< 0.5	9	56	3.08	245	1	32	35	112			
L1370M 14+00S	201	298	< 5	3	< 0.5	2	11	2.46	220	1	7	15	56			
L1370M 14+25S	201	298	< 5	1	< 0.5	1	3	1.68	140	2	4	5	32			
L1370M 14+50S	201	298	< 5	1	< 0.5	3	7	2.24	285	2	7	< 5	42			
L1370M 14+75S	201	298	< 5	1	< 0.5	< 1	5	0.85	225	2	3	5	36			
L1370M 15+00S	201	298	< 5	2	< 0.5	1	7	1.91	145	1	5	5	48			
L1370M 15+25S	201	298	< 5	6	< 0.5	2	10	1.83	95	1	7	5	32			
L1370M 15+50S	201	298	< 5	1	< 0.5	1	5	1.43	95	1	4	5	30			
L1370M 15+75S	201	298	< 5	2	< 0.5	1	11	1.41	100	< 1	5	< 5	42			
L1370M 16+00S	201	298	< 5	1	< 0.5	< 1	5	1.53	80	1	2	5	28			
L1370M 16+25S	201	298	< 5	1	< 0.5	< 1	2	1.53	105	1	2	< 5	26			

CERTIFICATION : B. Caglioni

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

-5 : PRIME EXPLORATIONS LTD.

808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CR/PASS LAKE
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 16-OCT-89
Invoice # : I-8927196
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8927196

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
172445	201	238	< 5	1.97	< 0.2	60	190	< 0.5	10	0.44	1.5	31	46	129	6.48	< 10	< 1	0.19	10	1.15	990
172447	201	238	< 5	1.76	< 0.2	20	110	< 0.5	10	0.94	0.5	21	41	76	4.33	< 10	2	0.14	10	1.23	620
459462	201	238	< 5	1.82	< 0.2	95	170	< 0.5	12	0.37	1.5	33	41	140	6.76	< 10	1	0.15	20	1.08	950
459463	201	238	< 5	2.00	< 0.2	490	140	< 0.5	4	0.76	3.5	25	35	93	4.74	< 10	< 1	0.14	10	1.00	1335
459465	201	238	95	2.86	< 0.2	20	210	< 0.5	6	1.10	0.5	18	133	57	4.11	< 10	1	0.41	< 10	2.00	820
459466	201	238	< 5	2.31	< 0.2	270	130	0.5	2	0.40	2.0	26	38	101	4.61	< 10	< 1	0.12	20	1.11	1180

CERTIFICATION : B. Caughlin

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PHONE (604) 984-0221

To: PRIME EXPLORATIONS LTD.

808 W. HASTINGS ST., 10TH FLOOR
VANCOUVER, BC
V6C 2X6

Project : SPHALER CR/PASS LAKE
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Page : 1-B
Tot. Pages: 1
Date : 16-OCT-89
Invoice # : I-8927196
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8927196

SAMPLE DESCRIPTION	PREP CODE		Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
172445	201	238	< 1	0.02	125	1060	12	< 5	9	66	0.02	< 10	< 10	64	< 10	186
172447	201	238	< 1	0.02	87	1240	2	5	6	75	0.01	< 10	< 10	51	< 10	102
459462	201	238	< 1	0.02	130	1070	20	< 5	9	56	0.02	< 10	< 10	60	< 10	196
459463	201	238	< 1	0.03	63	1300	20	5	7	92	0.04	< 10	< 10	66	< 10	156
459465	201	238	< 1	0.06	84	1040	8	< 5	9	117	0.19	< 10	< 10	109	< 10	114
459466	201	238	< 1	0.03	77	950	18	< 5	8	55	0.08	< 10	< 10	72	< 10	154

CERTIFICATION : B. Caughlin

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Page Number : 1
Total Pages : 1
Invoice Date: 17-OCT-89
Invoice No. : I-8927197
P.O. Number : KGG89-06

Project : SPHALER CR/PASS LAKE
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

CERTIFICATE OF ANALYSIS A8927197

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	Au FA oz/T		
172446	205	298	< 5	16	< 0.5	7	52	3.99	1160	< 1	13	175	418	-----		
172448	205	298	< 5	24	< 0.5	9	75	3.42	790	< 1	41	60	158	-----		
172449	205	298	< 5	50	< 0.5	16	32	4.45	1195	< 1	35	55	150	-----		
172450	205	298	< 5	2	< 0.5	2	21	1.23	230	< 1	7	70	136	-----		
172451	205	298	< 5	20	< 0.5	8	46	2.44	295	< 1	40	35	114	-----		
172452	205	298	15	100	< 0.5	3	32	4.55	1025	< 1	50	5	80	-----		
172453	205	298	< 5	5	< 0.5	13	276	1.60	205	< 1	54	65	90	-----		
172454	205	298	65	20	< 0.5	23	355	7.61	1675	< 1	3	10	136	-----		
172455	205	298	< 5	60	< 0.5	20	31	5.37	1080	< 1	82	< 5	116	-----		
459439	205	298	5	22	< 0.5	7	21	3.64	785	< 1	12	10	72	-----		
459440	205	298	20	60	< 0.5	2	98	5.83	2230	< 1	13	35	68	-----		
459441	205	298	10	12	< 0.5	14	22	3.50	945	< 1	26	5	86	-----		
459442	205	298	< 5	6	< 0.5	9	41	3.17	645	< 1	15	20	76	-----		
459443	205	298	< 5	36	< 0.5	13	46	3.79	1060	< 1	59	5	138	-----		
459444	205	298	< 5	4	< 0.5	32	372	4.11	305	8	17	10	50	-----		
459445	205	298	< 5	15	< 0.5	11	68	5.07	6000	< 1	4	15	248	-----		
459446	205	298	5	1	< 0.5	8	27	1.19	430	< 1	5	< 5	26	-----		
459447	205	298	115	46	< 0.5	156	39	5.25	375	75	9	15	56	-----		
459448	205	298	15	3	< 0.5	3	193	0.68	305	1	1	5	12	-----		
459464	205	298	< 5	29	< 0.5	18	36	5.31	1250	< 1	10	25	140	-----		
459532	205	298	< 5	43	3.0	9	1200	1.21	430	< 1	21	< 5	32	-----		
459533	205	298	45	250	< 0.5	3	147	5.06	1570	< 1	17	20	36	-----		
459534	205	298	10	150	2.5	15	331	2.52	705	< 1	51	< 5	918	-----		
459535	205	298	30	140	1.5	7	685	2.33	430	< 1	28	50	>10000	-----		
459536	205	298	< 5	9	< 0.5	6	36	2.26	590	< 1	17	70	402	-----		
459537	205	298	15	22	0.5	3	281	3.46	900	< 1	6	305	>10000	-----		
459538	205	298	255	6600	2.0	1	66	0.93	40	< 1	8	400	438	-----		
459539	205	298	45	510	9.0	1	1550	0.55	45	< 1	12	2930	370	-----		
459540	205	298	20	50	< 0.5	3	58	1.33	315	< 1	11	60	106	-----		
459541	205	298	3310	14	< 0.5	53	195	5.84	1150	< 1	1	10	88	0.112		
459542	205	298	60	3	< 0.5	26	263	10.95	385	2	2	< 5	>10000	-----		

CERTIFICATION : B. Caughlin

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Page Num : 1
Total Page : 1
Invoice Date: 20-OCT-89
Invoice No. : I-8928065
P.O. Number : KGG89-06

Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

CERTIFICATE OF ANALYSIS A8928065

SAMPLE DESCRIPTION	PREP CODE	Cu %	Zn %	Ag FA oz/T
459428	214 --	1.22	-----	-----
459515	214 --	1.74	1.79	20.20

CERTIFICATION : W. Glen Bradshaw

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Project : SPHALER CREEK/PASS 1
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Page No : 1
Tot. Pages: 1
Date : 26-OCT-89
Invoice # : I-8928428
P.O. # : KGG 89-0

CERTIFICATE OF ANALYSIS A8928428

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			
447045	205	298	20	1	0.5	15	236	3.82	875	30	7	15	158			
447046	205	298	30	2	2.0	18	1105	4.34	950	4	6	35	236			
447047	205	298	< 5	1	< 0.5	10	86	3.18	885	6	7	5	128			
447048	205	298	< 5	9	1.5	15	564	5.15	1300	5	7	75	516			
447049	205	298	< 5	3	0.5	19	123	2.45	2290	149	6	30	82			
459732	205	298	< 5	1	< 0.5	1	28	0.33	155	982	1	10	18			
459733	205	298	< 5	1	2.0	15	654	4.90	1745	34	6	35	226			
459734	205	298	< 5	9	2.0	12	404	3.90	1030	7	6	90	628			
459735	205	298	< 5	2	0.5	10	131	2.17	1440	20	4	35	102			
459736	205	298	< 5	3	1.0	15	108	4.07	1000	13	7	135	300			

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Project : SPHALER CR/PASS LAKE
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 23-OCT-89
Invoice # : I-8928448
P.O. # :

CERTIFICATE OF ANALYSIS A8928448

SAMPLE DESCRIPTION	PREP CODE		Zn %
459535	214	--	3.67
459537	214	--	3.54
459542	214	--	3.47

CERTIFICATION : W. Van Loon

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Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 31-OCT-89
Invoice # : I-8928829
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8928829

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			
LINE SW 0+00E	201	298	< 5	2	0.5	3	10	1.90	345	23	3	15	48			
LINE SW 0+25E	201	298	< 5	1	0.5	< 1	3	0.73	60	4	2	5	12			
LINE SW 0+50E	201	298	< 5	2	0.5	2	5	2.64	465	24	3	5	26			
LINE SW 0+75E	203	298	< 5	1	< 0.5	< 1	6	0.75	55	14	< 1	< 5	10			
LINE SW 1+00E	201	298	10	2	< 0.5	3	14	2.14	145	37	5	10	38			
LINE SW 1+25E	201	298	< 5	1	< 0.5	1	6	1.24	205	5	< 1	5	24			
LINE SW 1+50E	201	298	5	1	< 0.5	< 1	3	1.09	45	2	1	5	10			
LINE SW 1+75E	203	298	< 5	1	< 0.5	< 1	1	0.66	80	1	1	< 5	8			
LINE SW 2+00E	201	298	< 5	2	0.5	5	92	4.32	430	63	7	5	56			
LINE SW 2+25E	201	298	< 5	1	1.0	1	6	2.36	100	3	3	5	20			
LINE SW 2+50E	201	298	< 5	1	< 0.5	2	5	2.16	205	5	1	5	36			
LINE SW 2+75E	203	298	5	4	1.0	6	40	3.98	355	15	5	5	46			
LINE SW 3+00E	201	298	5	3	0.5	10	39	3.50	1420	15	7	5	62			
LINE SW 3+25E	201	298	< 5	3	< 0.5	6	66	3.87	400	21	5	< 5	50			

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Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 29-OCT-89
Invoice # : I-8928831
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8928831

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
459235	201	238	< 5	1.19	< 0.2	< 5	90	< 0.5	< 2	2.25	< 0.5	10	22	53	4.06	10	< 1	0.07	10	0.96	545
459236	203	238	< 5	1.82	< 0.2	< 5	230	< 0.5	< 2	0.47	0.5	19	68	79	4.46	< 10	< 1	0.22	10	1.14	575
459237	217	238	10	2.08	< 0.2	15	320	< 0.5	< 2	0.58	< 0.5	18	72	55	4.55	< 10	< 1	0.17	10	1.10	2020
459238	203	238	< 5	2.16	< 0.2	30	170	< 0.5	2	0.31	< 0.5	14	96	48	4.15	< 10	< 1	0.23	10	1.22	590
459239	217	238	< 5	2.10	< 0.2	35	450	< 0.5	< 2	0.47	< 0.5	15	75	97	4.63	< 10	< 1	0.21	10	1.23	850
459241	203	238	< 5	1.26	< 0.2	5	90	< 0.5	< 2	0.61	< 0.5	7	68	13	1.95	< 10	< 1	0.10	10	0.41	550
459242	203	238	< 5	0.76	< 0.2	< 5	80	< 0.5	< 2	0.25	< 0.5	4	29	6	1.35	< 10	< 1	0.06	10	0.19	420
459875	201	238	5	3.03	< 0.2	< 5	580	< 0.5	2	1.04	1.0	26	24	197	5.32	10	< 1	1.30	10	2.49	1550
459876	201	238	< 5	2.03	< 0.2	< 5	490	< 0.5	< 2	2.26	< 0.5	21	20	146	4.35	10	< 1	0.94	10	1.68	1195
459878	201	238	10	2.39	< 0.2	< 5	450	< 0.5	4	1.35	1.0	24	24	258	4.47	10	< 1	0.90	20	2.22	1165
459879	203	238	< 5	1.88	< 0.2	5	280	< 0.5	< 2	1.45	< 0.5	16	58	89	4.31	10	< 1	0.62	10	1.31	660

CERTIFICATION : B. Caughlin

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Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 29-OCT-89
Invoice # : I-8928831
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8928831

SAMPLE DESCRIPTION	PREP CODE		Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
459235	201	238	< 1	0.02	15	1040	2	5	5	94	0.09	< 10	< 10	89	< 10	60
459236	203	238	1	0.03	75	1050	2	< 5	6	47	0.01	< 10	< 10	49	< 10	106
459237	217	238	< 1	0.05	42	840	10	< 5	6	58	0.06	< 10	< 10	88	< 10	84
459238	203	238	< 1	0.03	61	610	2	< 5	5	32	0.02	< 10	< 10	68	< 10	86
459239	217	238	< 1	0.07	54	820	12	< 5	5	47	0.04	< 10	< 10	85	< 10	108
459241	203	238	13	0.04	6	780	2	< 5	3	55	0.10	< 10	< 10	51	< 10	66
459242	203	238	19	0.03	3	600	10	< 5	1	20	0.09	< 10	< 10	27	< 10	58
459875	201	238	< 1	0.02	14	2150	38	< 5	8	59	0.24	< 10	< 10	170	< 10	210
459876	201	238	1	0.01	12	2390	< 2	< 5	7	82	0.12	< 10	< 10	112	< 10	84
459878	201	238	< 1	0.02	15	2790	< 2	< 5	6	118	0.20	< 10	< 10	144	< 10	124
459879	203	238	1	0.03	10	2520	< 2	< 5	8	174	0.15	< 10	< 10	132	< 10	58

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Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 31-OCT-89
Invoice # : I-8928832
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8928832

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	Au FA oz/T		
459240	205	298	15	17	9.0	19	5230	7.03	2370	2	5	< 5	168	----		
459243	205	298	15	2	1.0	3	241	1.37	155	1130	2	< 5	14	----		
459737	205	298	< 5	7	0.5	17	144	4.69	735	56	6	25	92	----		
459738	205	298	< 5	1	0.5	8	29	1.30	230	41	3	10	8	----		
459739	205	298	< 5	2	1.0	11	78	2.83	840	7	4	10	62	----		
459740	205	298	< 5	3	< 0.5	23	116	5.10	1315	3	9	35	124	----		
459741	205	298	< 5	2	< 0.5	19	116	4.13	1420	3	8	50	228	----		
459742	205	298	< 5	2	< 0.5	21	101	4.41	955	11	9	5	118	----		
459743	205	298	< 5	3	< 0.5	19	108	5.46	1085	6	9	10	94	----		
459744	205	298	< 5	1	< 0.5	2	8	0.95	40	180	1	< 5	4	----		
459745	205	298	< 5	1	< 0.5	9	32	4.09	720	6	7	< 5	74	----		
459746	205	298	< 5	3	< 0.5	12	78	3.36	715	67	6	5	88	----		
459747	205	298	>10000	14	46.0	10	1795	10.55	190	4	4	< 5	40	0.306		
459748	205	298	215	10	2.5	17	385	5.74	1090	1	10	< 5	120	----		
459749	205	298	50	7	< 0.5	14	45	4.39	650	< 1	9	< 5	80	----		
459750	205	298	475	11	< 0.5	19	36	4.92	900	< 1	7	< 5	104	----		
459751	205	298	255	4	< 0.5	31	47	3.89	1800	< 1	45	< 5	80	----		
459752	205	298	15	1	< 0.5	28	109	4.96	1390	< 1	78	< 5	138	----		
459753	205	298	240	4	< 0.5	28	51	5.36	2410	< 1	9	< 5	164	----		
459754	205	298	110	1	6.5	22	3360	4.22	1515	< 1	41	< 5	150	----		
459877	205	298	20	4	0.5	26	250	6.63	305	< 1	10	< 5	38	----		
463656	205	298	70	2	3.5	16	2020	4.95	665	25	3	135	454	----		
463657	205	298	115	2	13.0	22	3500	5.13	1590	8	5	1810	550	----		
463658	205	298	65	< 1	3.5	20	1520	3.67	1135	11	5	35	156	----		
463659	205	298	15	6	2.0	15	698	4.12	845	8	6	70	380	----		
463660	205	298	10	3	0.5	18	126	4.31	1045	4	7	60	160	----		
463661	205	298	20	1	1.5	17	818	3.51	1120	6	4	145	332	----		
463662	205	298	5	2	0.5	17	144	3.51	1020	26	7	< 5	92	----		
463663	205	298	< 5	2	< 0.5	17	38	3.74	625	28	6	< 5	72	----		
463664	205	298	< 5	3	< 0.5	18	150	4.48	950	< 1	7	< 5	114	----		
463665	205	298	< 5	4	< 0.5	15	81	4.43	1555	1	7	< 5	218	----		
463666	205	298	< 5	6	< 0.5	17	84	4.28	1440	1	7	5	156	----		
463667	205	298	335	19	1.0	13	195	6.79	1265	3	6	< 5	100	----		
463668	205	298	25	4	< 0.5	22	165	3.68	970	< 1	13	15	112	----		
463669	205	298	45	23	< 0.5	17	152	5.37	1685	3	10	< 5	202	----		
463670	205	298	60	19	< 0.5	25	175	4.94	1940	< 1	7	25	1305	----		
463671	205	298	110	39	< 0.5	31	121	5.86	1815	17	12	10	130	----		
463672	205	298	30	30	< 0.5	27	83	5.05	1970	< 1	7	20	460	----		
463673	205	298	1920	12	3.5	32	1025	6.32	1170	< 1	11	5	138	0.064		
463674	205	298	115	3	1.0	10	81	3.54	125	< 1	4	150	152	----		

CERTIFICATION : B. Caglioni

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PHONE (604) 984-0221

To : PRIME EXPLORATIONS LTD.

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VANCOUVER, BC
V6C 2X6

Project : SPHALER CREEK
Comments: ATTN: JIM FOSTER CC: EQUITY ENGINEERING

Date : 31-OCT-89
Invoice # : I-8928832
P.O. # : KGG89-06

CERTIFICATE OF ANALYSIS A8928832

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	Au FA oz/T	
463675	205	298	30	29	< 0.5	25	129	5.38	2900	< 1	7	15	404	----	
463676	205	298	350	100	1.5	12	17	11.60	570	< 1	6	15	68	----	

CERTIFICATION : B. Leaf

APPENDIX E

STATISTICAL ANALYSIS OF SOIL GEOCHEMISTRY

Correlation matrix: (99.0 - undefined)
[Number of samples per variable pair]

	Au	As	Ag	Co	Cu	Fe	Mn	Mo	Ni
Au	1.000 [156]	0.074 [156]	0.041 [156]	0.144 [156]	0.150 [156]	0.072 [156]	0.151 [156]	-0.003 [156]	0.062 [156]
As	0.074 [156]	1.000 [156]	-0.043 [156]	0.477 [156]	0.125 [156]	0.708 [156]	0.344 [156]	-0.041 [156]	0.810 [156]
Ag	0.041 [156]	-0.043 [156]	1.000 [156]	0.140 [156]	0.498 [156]	-0.067 [156]	0.240 [156]	0.041 [156]	-0.054 [156]
Co	0.144 [156]	0.477 [156]	0.140 [156]	1.000 [156]	0.654 [156]	0.744 [156]	0.871 [156]	-0.043 [156]	0.657 [156]
Cu	0.150 [156]	0.125 [156]	0.498 [156]	0.654 [156]	1.000 [156]	0.205 [156]	0.807 [156]	0.033 [156]	0.142 [156]
Fe	0.072 [156]	0.708 [156]	-0.067 [156]	0.744 [156]	0.205 [156]	1.000 [156]	0.539 [156]	0.049 [156]	0.812 [156]
Mn	0.151 [156]	0.344 [156]	0.240 [156]	0.871 [156]	0.807 [156]	0.539 [156]	1.000 [156]	0.006 [156]	0.452 [156]
Mo	-0.003 [156]	-0.041 [156]	0.041 [156]	-0.043 [156]	0.033 [156]	0.049 [156]	0.006 [156]	1.000 [156]	-0.037 [156]
Ni	0.062 [156]	0.810 [156]	-0.054 [156]	0.657 [156]	0.142 [156]	0.812 [156]	0.452 [156]	-0.037 [156]	1.000 [156]
Pb	0.055 [156]	0.667 [156]	-0.019 [156]	0.558 [156]	0.184 [156]	0.625 [156]	0.417 [156]	0.021 [156]	0.795 [156]
Zn	0.165 [156]	0.463 [156]	0.249 [156]	0.848 [156]	0.770 [156]	0.621 [156]	0.872 [156]	-0.080 [156]	0.572 [156]

Correlation matrix: (99.0 - undefined)
[Number of samples per variable pair]

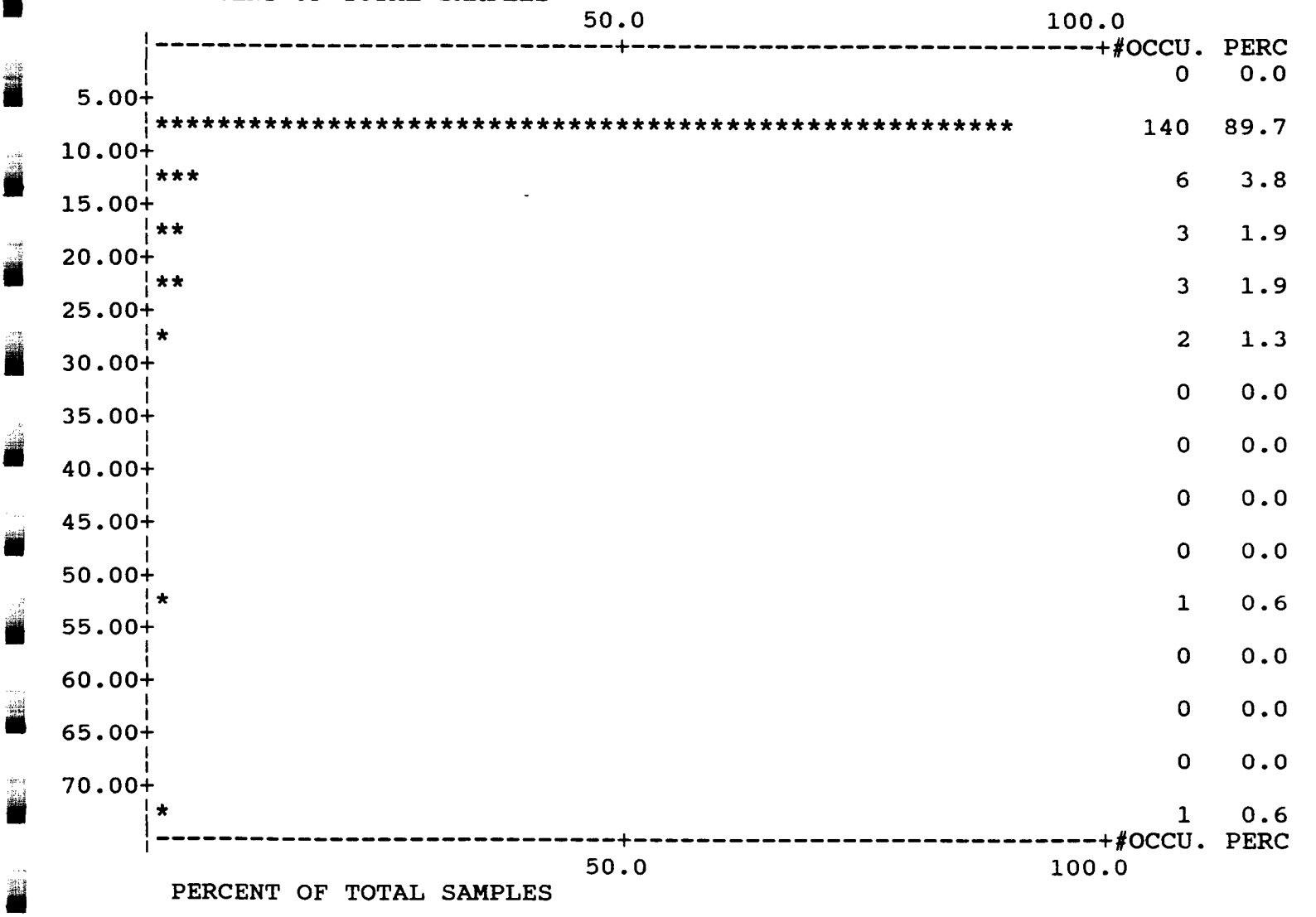
	Pb	Zn
Au	0.055	0.165
	[156][156]	
As	0.667	0.463
	[156][156]	
Ag	-0.019	0.249
	[156][156]	
Co	0.558	0.848
	[156][156]	
Cu	0.184	0.770
	[156][156]	
Fe	0.625	0.621
	[156][156]	
Mn	0.417	0.872
	[156][156]	
Mo	0.021	-0.080
	[156][156]	
Ni	0.795	0.572
	[156][156]	
Pb	1.000	0.501
	[156][156]	
Zn	0.501	1.000
	[156][156]	

VARIABLE : Au ppb FA+AA
COLUMN NUMBER : 4

DETECTION LIMIT : 5.0000

NUMBER OF OBSERVATIONS	:	156
MINIMUM	:	5.000
MAXIMUM	:	70.000
MEAN	:	6.635
STANDARD ERROR OF MEAN	:	0.566
STANDARD DEVIATION	:	7.075
COEFFICIENT OF VARIATION	:	106.635
SKEWNESS	:	6.461
KURTOSIS	:	48.168

Var : Au ppb FA+AA Col# 4
D.Limit : 5.0000 [*]= 1.7% of Total



90th percentile ≈ 11 ppb

95th percentile ≈ 18 ppb

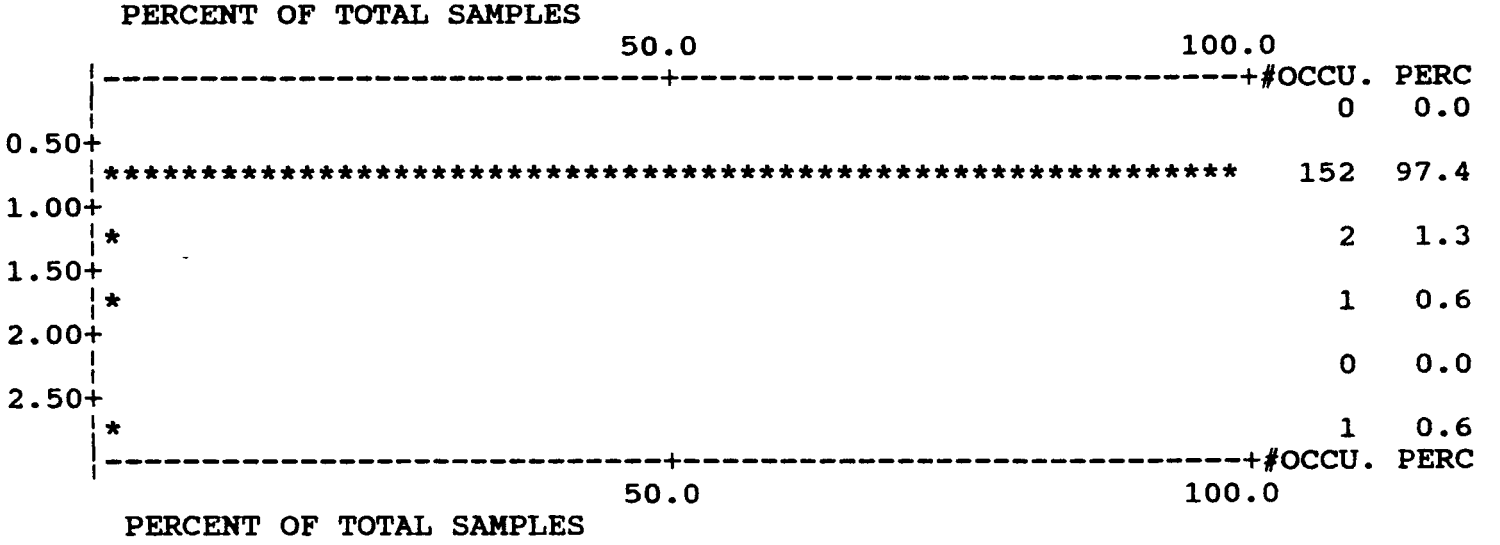
99th percentile ≈ 52 ppb

ARIABLE : Ag ppm
COLUMN NUMBER : 7

DETECTION LIMIT : 0.5000

UMBER OF OBSERVATIONS	:	156
MINIMUM	:	0.500
AXIMUM	:	2.500
EAN	:	0.526
TANDARD ERROR OF MEAN	:	0.015
STANDARD DEVIATION	:	0.187
COEFFICIENT OF VARIATION	:	35.501
SKEWNESS	:	8.713
URTOSIS	:	82.629

Var : Ag ppm Col# 7
D. Limit : 0.5000 [*]= 1.7% of Total



90^{th} percentile $\approx$ 0.8 ppm

95^{th} percentile $\approx$ 1.0 ppm

99^{th} percentile $\approx$ 1.5 ppm

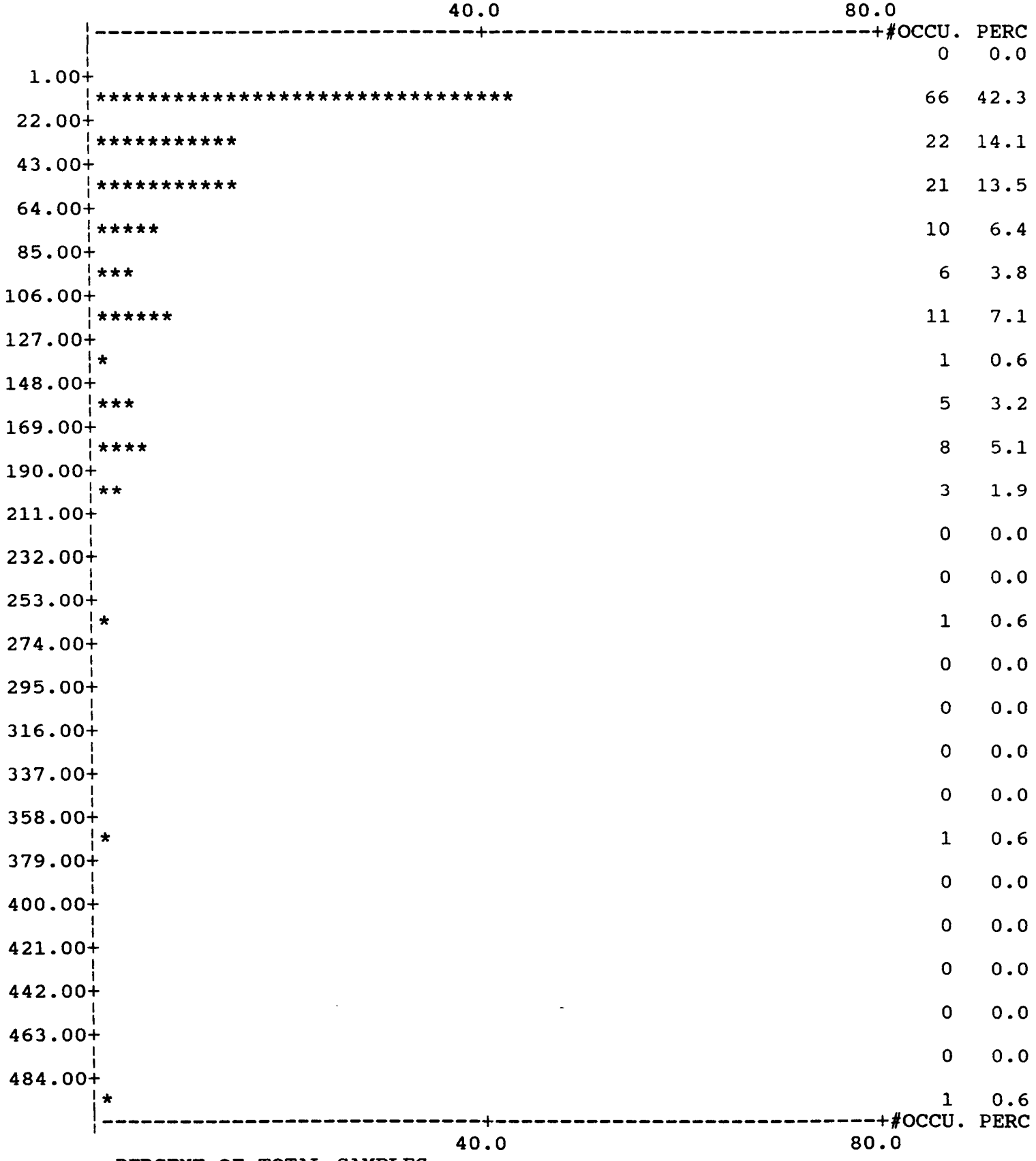
VARIABLE : Cu ppm
COLUMN NUMBER : 9

DETECTION LIMIT : 1.0000

NUMBER OF OBSERVATIONS	:	156
MINIMUM	:	1.000
MAXIMUM	:	2655.000
MEAN	:	71.801
STANDARD ERROR OF MEAN	:	17.398
STANDARD DEVIATION	:	217.305
COEFFICIENT OF VARIATION	:	302.647
SKEWNESS	:	10.790
KURTOSIS	:	125.043

Var : Cu ppm Col# 9
D.Limit : 1.0000 [*]= 1.3% of Total

PERCENT OF TOTAL SAMPLES



PERCENT OF TOTAL SAMPLES

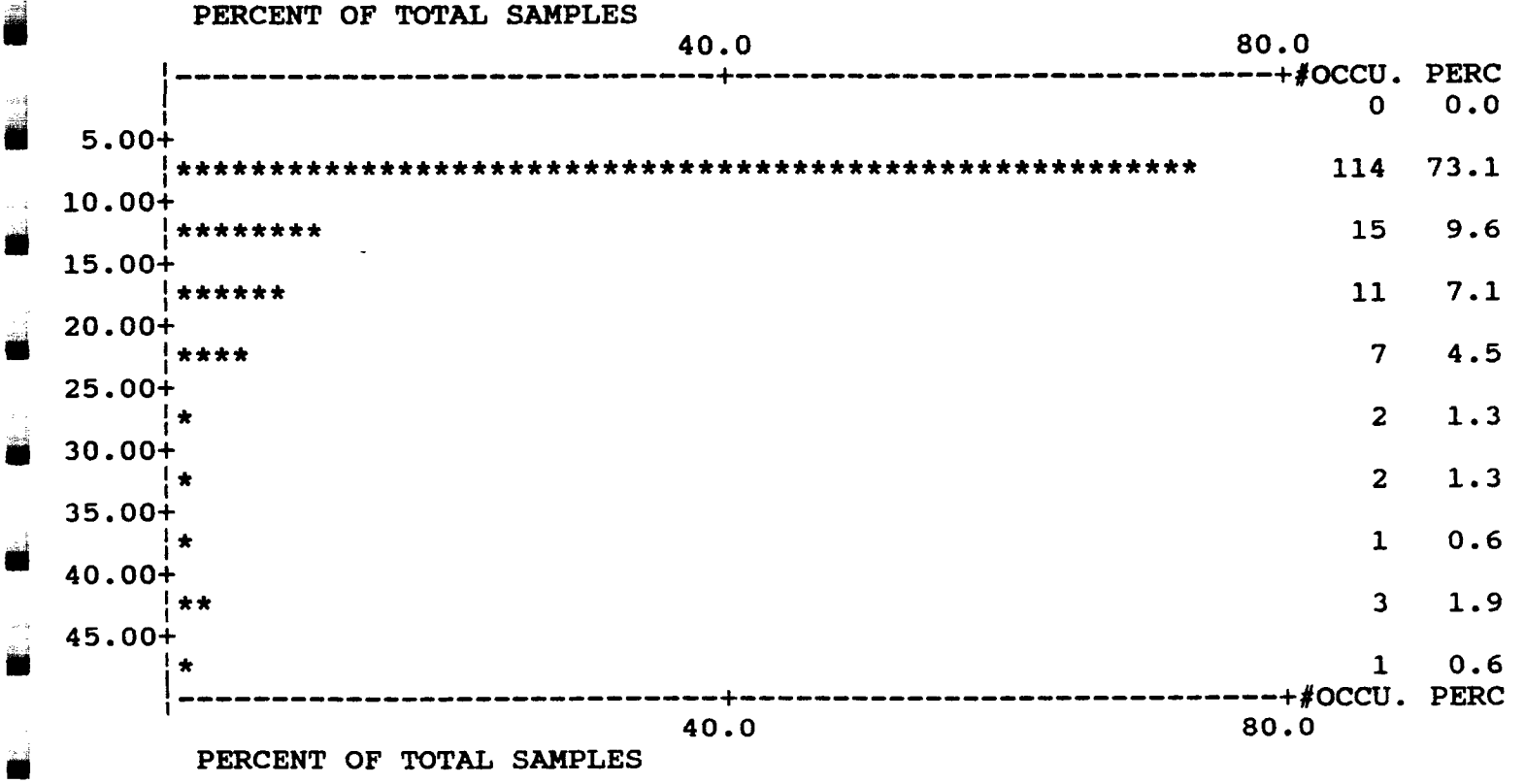
90th percentile ≈ 161 ppm
95th percentile ≈ 185 ppm
99th percentile ≈ 365 ppm

VARIABLE : Pb ppm
COLUMN NUMBER : 14

DETECTION LIMIT : 5.0000

NUMBER OF OBSERVATIONS	:	156
MINIMUM	:	5.000
MAXIMUM	:	45.000
MEAN	:	8.558
STANDARD ERROR OF MEAN	:	0.620
STANDARD DEVIATION	:	7.746
COEFFICIENT OF VARIATION	:	90.517
SKEWNESS	:	2.718
KURTOSIS	:	7.524

Var : Pb ppm Col# 14
D.Limit : 5.0000 [*]= 1.3% of Total



90th percentile ≈ 20 ppm

95th percentile ≈ 28 ppm

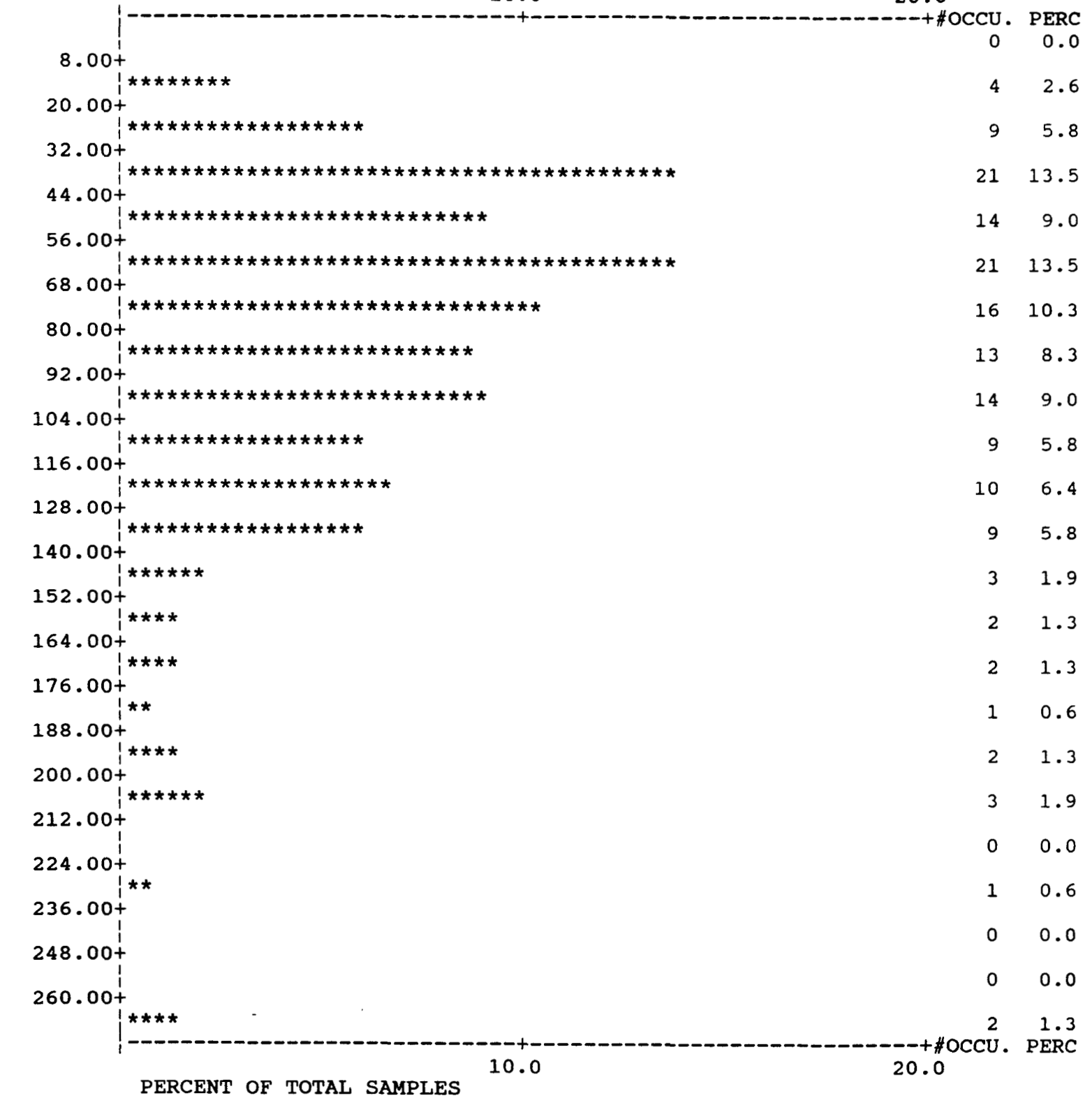
99th percentile ≈ 44 ppm

VARIABLE : Zn ppm
COLUMN NUMBER : 15

DETECTION LIMIT : 2.0000

NUMBER OF OBSERVATIONS	:	156
MINIMUM	:	8.000
MAXIMUM	:	574.000
MEAN	:	85.628
STANDARD ERROR OF MEAN	:	4.890
STANDARD DEVIATION	:	61.076
COEFFICIENT OF VARIATION	:	71.327
SKEWNESS	:	3.674
KURTOSIS	:	24.639

Var : Zn ppm Col# 15
D.Limit : 2.0000 [*]= 0.3% of Total



90th Percentile ≈ 141 ppm

95th Percentile ≈ 189 ppm

99th Percentile ≈ 260 ppm

VARIABLE : As ppm
COLUMN NUMBER : 5

DETECTION LIMIT : 1.0000

NUMBER OF OBSERVATIONS	:	156
MINIMUM	:	1.000
MAXIMUM	:	165.000
MEAN	:	12.071
STANDARD ERROR OF MEAN	:	1.990
STANDARD DEVIATION	:	24.852
COEFFICIENT OF VARIATION	:	205.887
SKEWNESS	:	3.793
KURTOSIS	:	16.371

```
Var : As            ppm           Col#    5
D.Limit :  1.0000     [*]=  1.3% of Total
          PERCENT OF TOTAL SAMPLES
                                        40.0                          80.0
          |-----------------------------+-----------------------------+#OCCU.  PERC
          |                                                               0    0.0
    1.00+
          |***************************************************          103   66.0
    6.00+
          |**********                                                    19   12.2
   11.00+
          |**                                                             3    1.9
   16.00+
          |**                                                             3    1.9
   21.00+
          |****                                                           8    5.1
   26.00+
          |**                                                             4    2.6
   31.00+
          |**                                                             4    2.6
   36.00+
          |*                                                              1    0.6
   41.00+
          |*                                                              2    1.3
   46.00+
          |*                                                              1    0.6
   51.00+
          |                                                               0    0.0
   56.00+
          |                                                               0    0.0
   61.00+
          |*                                                              1    0.6
   66.00+
          |                                                               0    0.0
   71.00+
          |*                                                              1    0.6
   76.00+
          |                                                               0    0.0
   81.00+
          |*                                                              1    0.6
   86.00+
          |                                                               0    0.0
   91.00+
          |***                                                            5    3.2
          |-----------------------------+-----------------------------+#OCCU.  PERC
                                        40.0                          80.0
          PERCENT OF TOTAL SAMPLES
```

90th percentile ≈ 31 ppm

95th percentile ≈ 61 ppm

99th percentile ≈ 148 ppm

APPENDIX F

STATEMENT 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.

5. THAT I directly and indirectly own 2000 shares of Pass Lake Resources Ltd. I have no interest, directly or indirectly, in the securities or property of Consolidated Goldwest Resources Ltd. or any of its affiliates.

6. THAT I consent to the use by Consolidated Goldwest Resources Ltd. of this report in a Prospectus or any other such document as may be required by the Vancouver Stock Exchange or the Office of the Superintendant of Brokers.

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

Bruno Kasper, Geologist

WISER V
5550 (12)

WISER VI
5551 (12)

CLIFF 5
4840 (7)

CLIFF 6
4841 (7)

CLIFF 9
4844 (7)

GLENLIVET 1
5541 (12)

GLENLIVET 2
5542 (12)

GLENLIVET 3
5543 (12)

GLENLIVET 4
5544 (12)

GLENLIVET 5
5545 (12)

GLENLIVET RIDGE

PORCUPINE GLACIER

L.C.P.

SOIL CONTOUR LINE 1370m

3+00S : 25 Pb
3+25S : 197 Cu, 25 Pb, 156 Zn, 95 As
3+50S : 30 Pb, 174 Zn, 33 As
3+75S : 172 Cu, 30 Pb, 266 Zn
4+00S : 162 Cu, 20 Pb, 198 Zn, 150 As
4+75S : 25 Au, 164 Cu, 40Pb, 234 Zn, 165 As

LEGEND

TERTIARY

Dykes and Sills

- 14c Biotite lamprophyre
- 14e Felsic
- 14f Pyroxenite

Eocene Plutons and Dykes

- 13a Biotite to biotite-quartz monzonite
- 13b Plagioclase – porphyritic diorite

UPPER TRIASSIC

Stuhini Group

- 8 Undivided volcanics, volcaniclastic and sedimentary rock
- 8a Conglomerate, wackes, siltstones and biomicritic limestone
- 8b Augite – feldspar porphyry flows and microdiorite
- 8c Crystal ash tuff
- 8d Lithic lapilli crystal tuffs and agglomerates

SYMBOLS

- Rock outcrop
- Geological boundary : approximate
- Bedding with dip (upright, overturned)
- Foliation with dip
- Fault with dip (defined, inferred)
- Dyke with dip (inclined, vertical)
- Vein with dip (known, vertical, unknown) and true width in metres
- Joint with dip
- X Rock Sample (grab outcrop, float)
- S 459424 Silt Sample
- H 459242 Field screened stream sediment sample
- Soil Sample line with 25 metre and 100 metre stations
  - Au = Gold ≥11 ppb Pb = Lead ≥20 ppm
  - Ag = Silver ≥0.8 ppm Zn = Zinc ≥141 ppm
  - Cu = Copper ≥161 ppm As = Arsenic ≥31 ppm
- X PY Mineral occurrence
- L.C.P. L.C.P. Legal Corner Post (located, approximate)

CA Calcite MO Molybdenite
CP Chalcopyrite PO Pyrrhotite
GL Galena PY Pyrite
HE Hematite QZ Quartz
MC Malachite SP Sphalerite
MG Magnetite

Geology adapted in part from Logan and Koyanqi (1989b)

1989 ROCK GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
172446	<5	<0.5	52	175	418	16
172448	<5	<0.5	75	60	158	24
172449	<5	<0.5	32	55	150	50
172450	<5	<0.5	21	70	136	2
172451	<5	<0.5	46	35	114	20
172452	15	<0.5	32	5	80	100
172453	<5	<0.5	276	65	90	5
459240	15	9.0	5230	<5	168	17
459439	5	<0.5	21	10	72	22
459440	20	<0.5	98	35	68	60
459441	10	<0.5	22	5	86	12
459442	<5	<0.5	41	20	76	6
459443	<5	<0.5	46	5	138	36
459444	<5	<0.5	372	10	50	4
459445	<5	<0.5	68	15	248	15
459532	<5	3.0	1200	<5	32	43
459533	45	<0.5	147	20	36	250
459534	10	2.5	331	<5	918	150
459535	30	1.5	685	50	3.67%	140
459536	<5	<0.5	36	70	402	9
459537	15	0.5	281	305	3.54%	22
459538	255	2.0	66	400	438	6600
459539	45	9.0	1550	2930	370	510

1989 FIELD SCREENED STREAM SEDIMENT GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
459235	<5	<0.2	53	2	60	<5
459236	<5	<0.2	79	2	106	<5
459237	10	<0.2	55	10	84	15
459238	<5	<0.2	48	2	86	30
459239	<5	<0.2	97	12	108	35

1989 SILT GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
172445	<5	<0.2	129	12	186	60
172447	<5	<0.2	76	2	102	20
459462	<5	<0.2	140	20	196	95
459463	<5	<0.2	93	20	156	490
459466	<5	<0.2	101	18	154	270

METRES 0 200 400 600 800 1000 METRES

GRID NORTH IS 2°03' WEST OF TRUE NORTH

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,519

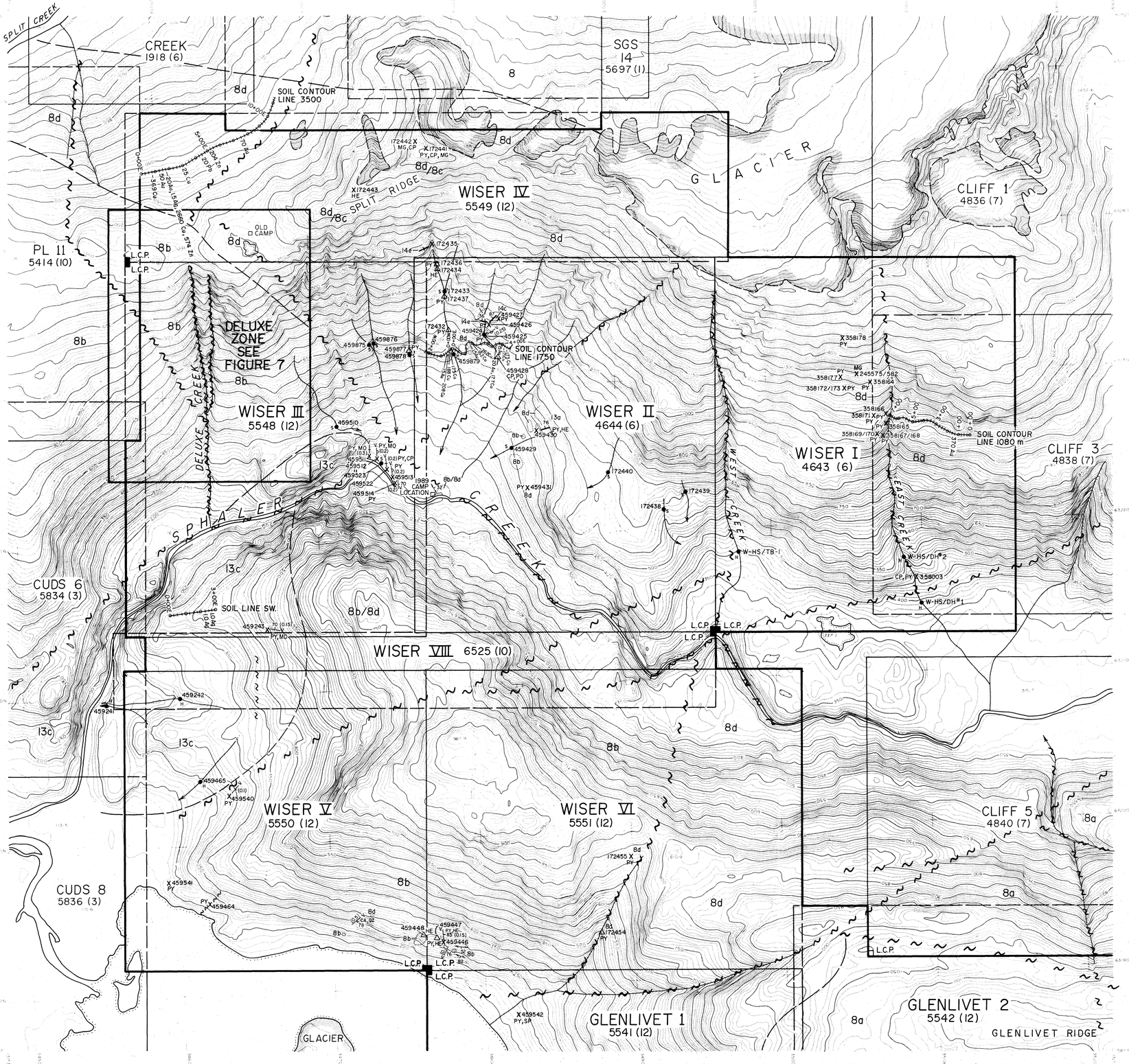
CONSOLIDATED GOLDWEST RESOURCES LTD.

SPHALER CREEK PROJECT
GEOLOGY AND GEOCHEMISTRY
GLENLIVET 1-5 CLAIMS

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: J.W	MINING DIV: LIARD	FIGURE 6
N.T.S.: 104B/13E, 14W	SCALE: AS SHOWN	
DATE: DEC. 1989	REVISED:	



1989 SILT GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
172433	<5	<0.2	138	<2	94	<5
172438	<5	<0.2	70	<2	94	<5
172439	<5	<0.2	105	<2	98	15
172440	<5	<0.2	88	<2	92	20
459424	<5	<0.2	116	<2	80	5
459429	<5	<0.2	87	<2	90	10
459510	10	<0.2	68	12	148	15
459523	<5	<0.2	99	<2	86	20
459875	5	<0.2	197	38	210	<5
459876	<5	<0.2	146	<2	84	<5
459878	10	<0.2	258	<2	124	<5

1988 ROCK GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
245575	35	0.6	120	20	24	10
245582	30	<0.2	218	6	15	5
358003	60	<0.2	3390	2	27	<5
358164	75	4.0	814	46	150	5
358165	50	0.2	82	76	49	20
358166	10	<0.2	95	2	1075	<5
358167	5	<0.2	50	12	104	<5
358168	35	<0.2	84	18	20	<5
358169	15	<0.2	64	6	17	<5
358170	45	0.4	113	<2	17	<5
358171	10	<0.2	64	8	74	<5
358172	15	<0.2	84	22	15	<5
358173	5	<0.2	15	<2	72	<5
358177	20	0.2	175	<2	<2	<5
358178	5	0.2	119	22	26	<5

1988 FIELD SCREENED STREAM SEDIMENT GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
W-HS/TB-1	<5	0.2	48	2	63	15
W-HS/DH#1	530	0.2	63	8	64	10
W-HS/DH#2	20	0.2	67	<2	63	5

1989 ROCK GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
172432	10	<0.5	44	30	56	9
172434	<5	<0.5	25	<5	76	3
172435	<5	0.5	104	10	204	1
172436	<5	<0.5	47	10	52	5
172437	20	<0.5	30	5	46	29
172441	<5	<0.5	237	15	130	1
172442	<5	0.5	278	5	46	3
172443	<5	0.5	13	10	36	4
172454	65	<0.5	355	10	136	20
172455	<5	<0.5	31	<5	116	60
459243	15	1.0	241	<5	14	2
459425	<5	0.5	56	5	26	2
459426	<5	<0.5	60	5	74	3
459427	10	<0.5	26	5	10	3
459428	100	12.5	1.22%	<5	110	1
459430	<5	<0.5	178	5	8	3
459431	<5	0.5	293	10	50	7
459446	5	<0.5	27	<5	26	1
459447	115	<0.5	39	15	56	46
459448	15	<0.5	193	5	12	3
459464	<5	<0.5	36	25	140	29
459511	<5	<0.5	3	<5	6	1
459512	<5	<0.5	11	<5	104	1
459513	25	1.5	26	10	12	1
459514	<5	<0.5	5	<5	4	1
459522	*0.075	*0.36	0.01%	0.02%	0.59%	-
459540	20	<0.5	58	60	106	50
459541	*0.112	<0.5	195	10	88	14
459542	60	<0.5	263	<5	3.47%	3
459877	20	0.5	250	<5	38	4

* denotes oz/ton

1989 FIELD SCREENED STREAM SEDIMENT GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
459241	<5	<0.2	13	2	66	5
459242	<5	<0.2	6	10	58	<5
459465	95	<0.2	57	8	114	20
459879	<5	<0.2	89	<2	58	5

LEGEND

TERTIARY

Dykes and Sills

- 14c — Biotite lamprophyre
- 14e — Felsic
- 14f — Pyroxenite

Eocene Plutons and Dykes

- 13a — Biotite to biotite-quartz monzonite
- 13b — Plagioclase – porphyritic diorite

UPPER TRIASSIC

Stuhini Group

- 8 — Undivided volcanics, volcaniclastic and sedimentary rock
- 8a — Conglomerate, wackes, siltstones and biomicritic limestone
- 8b — Augite-feldspar porphyry flows and microdiorite
- 8c — Crystal ash tuff
- 8d — Lithic lapilli crystal tuffs and agglomerates

SYMBOLS

- Rock outcrop
- Geological boundary: approximate
- Bedding with dip (upright, overturned)
- Foliation with dip
- Fault with dip (defined, inferred)
- Dyke with dip (inclined, vertical)
- Vein with dip (known, vertical, unknown) and true width in metres
- Joint with dip
- X △ — Rock Sample (grab outcrop, float)
- ● 459424 — Silt Sample
- ● H 459242 — Field screened stream sediment sample
- Soil Sample line with 25 metre and 100 metre stations
  Au = Gold ≥11 ppb Pb = Lead ≥20 ppm
  Ag = Silver ≥0.8 ppm Zn = Zinc ≥141 ppm
  Cu = Copper ≥161 ppm As = Arsenic ≥31 ppm
- X PY — Mineral occurrence
- L.C.P. L.C.P. — Legal Corner Post (located, approximate)

CA Calcite MO Molybdenite
CP Chalcopyrite PO Pyrrhotite
GL Galena PY Pyrite
HE Hematite QZ Quartz
MG Magnetite SP Sphalerite

Geology adapted in part from Logan and Koyangi (1989b)

GRID NORTH IS 2°06' WEST OF TRUE NORTH

Km 0 0.5 1.0 Km

N.T.S.: 104B/13E,14W
104G/3W,4E

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,519

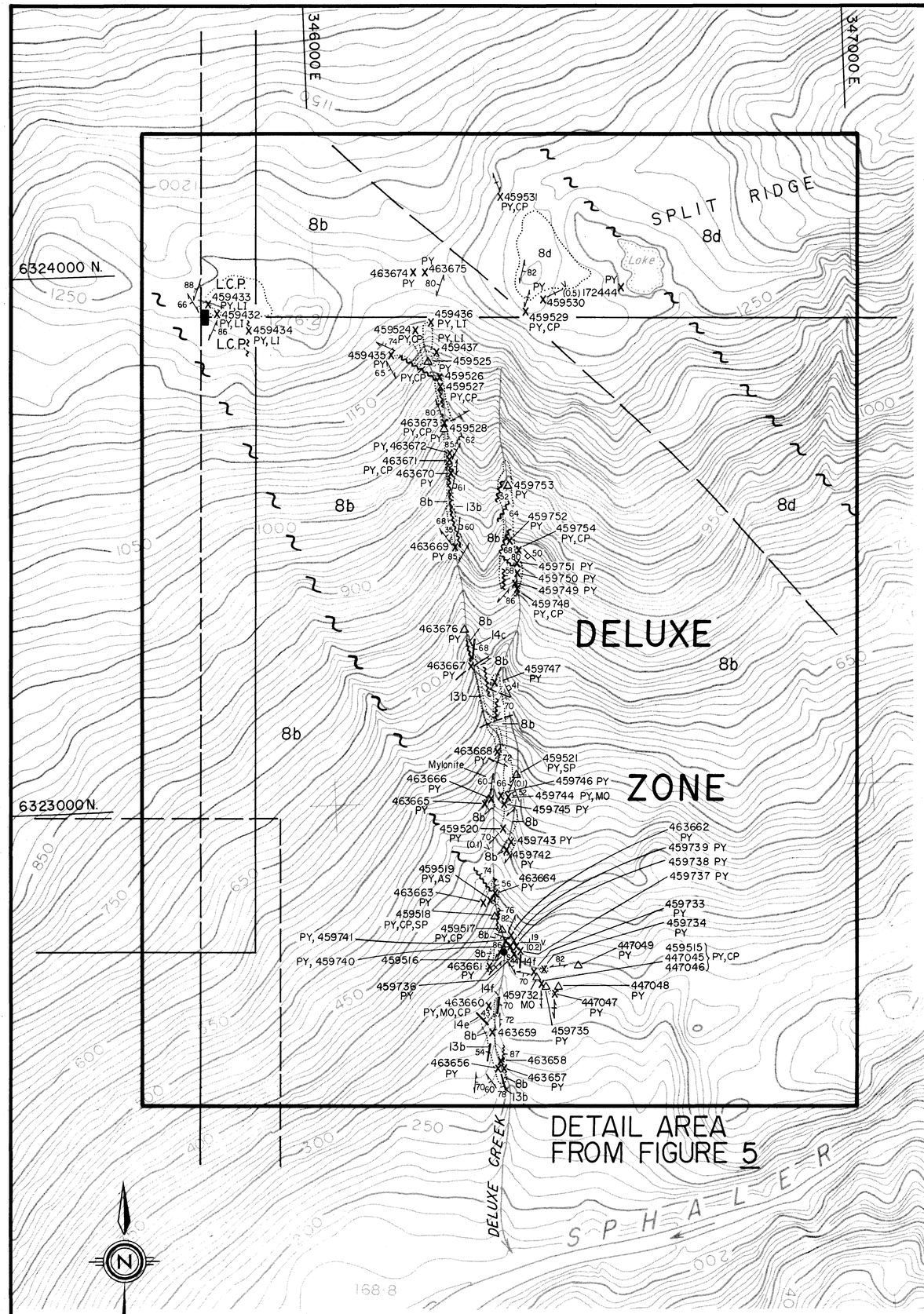
CONSOLIDATED GOLDWEST RESOURCES LTD.

SPHALER CREEK PROJECT
GEOLOGY & GEOCHEMISTRY
WISER I-VI CLAIMS

BRITISH COLUMBIA

EQUITY ENGINEERING LTD.

DRAWN: J.W.	MINING DIV.: LIARD	FIGURE	5
N.T.S.: AS SHOWN	SCALE: AS SHOWN		
DATE: DEC. 1989	REVISED:		



SAMPLE RESULTS

1989 ROCK GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
172444	30	0.5	39	35	34	5
447045	20	0.5	236	15	158	1
447046	30	2.0	1105	35	236	2
447047	<5	<0.5	86	5	128	1
447048	<5	1.5	564	75	516	9
447049	<5	0.5	123	30	82	3
459432	420	5.0	100	45	142	35
459433	360	4.0	205	40	70	35
459434	20	0.5	76	90	82	83
459435	80	1.5	112	15	1395	19
459436	30	0.5	134	225	666	10
459437	25	<0.5	50	20	164	11
459515	*0.004	*0.09	0.14%	0.01%	0.02%	-
459517	*0.149	*0.16	0.21%	0.01%	0.01%	-
459518	*8.251	*20.54	1.83%	0.23%	1.98%	-
459519	*0.078	*0.21	0.02%	0.01%	0.02%	-
459520	*0.023	*0.09	0.01%	0.01%	0.01%	-
459521	*0.005	*0.02	0.01%	0.01%	0.01%	-
459524	*0.010	*0.11	0.13%	0.01%	0.03%	-
459525	*0.016	*0.07	0.15%	0.01%	0.01%	-
459526	*0.008	*0.04	0.01%	0.01%	0.01%	-
459527	*0.073	*0.89	0.69%	0.01%	0.01%	-
459528	*0.277	*0.05	0.02%	0.01%	0.01%	-
459529	*0.020	*1.33	0.58%	0.02%	0.06%	-
459530	*0.002	*0.02	0.01%	0.01%	0.01%	-
459531	*0.005	*0.22	0.03%	0.06%	0.07%	-
459732	<5	<0.5	28	10	18	1
459733	<5	2.0	654	35	226	1
459734	<5	2.0	404	90	628	9
459735	<5	0.5	131	35	102	2
459736	<5	1.0	108	135	300	3
459737	<5	0.5	144	25	92	7
459738	<5	0.5	29	10	8	1
459739	<5	1.0	78	10	62	2
459740	<5	<0.5	116	35	124	3
459741	<5	<0.5	116	50	228	2
459742	<5	<0.5	101	5	118	2
459743	<5	<0.5	108	10	94	3
459744	<5	<0.5	8	<5	4	1
459745	<5	<0.5	32	<5	74	1
459746	<5	<0.5	78	5	88	3
459747	*0.306	46.0	1795	<5	40	14
459748	215	2.5	385	<5	120	10
459749	50	<0.5	45	<5	80	7
459750	475	<0.5	36	<5	104	11
459751	255	<0.5	47	<5	80	4
459752	15	<0.5	109	<5	138	1
459753	240	<0.5	51	<5	164	4
459754	110	6.5	3360	<5	150	1
463656	70	3.5	2020	135	454	2
463657	115	13.0	3500	1810	550	2
463658	65	3.5	1520	35	156	<1
463659	15	2.0	698	70	380	6
463660	10	0.5	126	60	160	3
463661	20	1.5	818	145	332	1
463662	5	0.5	144	<5	92	2
463663	<5	<0.5	38	<5	72	2
463664	<5	<0.5	150	<5	114	3
463665	<5	<0.5	81	<5	218	4
463666	<5	<0.5	84	5	156	6
463667	335	1.0	195	<5	100	19
463668	25	<0.5	165	15	112	4
463669	45	<0.5	152	<5	202	23
463670	60	<0.5	175	25	1305	19
463671	110	<0.5	121	10	130	39
463672	30	<0.5	83	20	460	30
463673	*0.064	3.5	1025	5	138	12
463674	115	1.0	81	150	152	3
463675	30	<0.5	129	15	404	29
463676	350	1.5	17	15	68	100

* denotes oz/ton

1989 SILT GEOCHEMICAL RESULTS

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
459516	165	0.6	437	30	362	20

LEGEND

TERTIARY

Dykes and Sills

- 14c — Biotite lamprophyre
- 14e — Felsic
- 14f — Pyroxenite

Eocene Plutons and Dykes

- 13a — Biotite to biotite-quartz monzonite
- 13b — Plagioclase – porphyritic diorite

UPPER TRIASSIC

Stuhini Group

- 8 — Undivided volcanics, volcaniclastic and sedimentary rock
- 8a — Conglomerate, wackes, siltstones and biomicritic limestone
- 8b — Augite-feldspar porphyry flows and microdiorite
- 8c — Crystal ash tuff
- 8d — Lithic lapilli crystal tuffs and agglomerates

SYMBOLS

- Rock outcrop
- Geological boundary: approximate
- Bedding with dip (upright, overturned)
- Foliation with dip
- Fault with dip (defined, inferred)
- Dyke with dip (inclined, vertical)
- Vein with dip (known, vertical, unknown) and true width in metres
- Joint with dip
- X △ — Rock Sample (grab outcrop, float)
- S 459424 — Silt Sample
- H 459242 — Field screened stream sediment sample
- Soil Sample line with 25 metre and 100 metre stations
  Au = Gold ≥ 11 ppb Pb = Lead ≥ 20 ppm
  Ag = Silver ≥ 0.8 ppm Zn = Zinc ≥ 141 ppm
  Cu = Copper ≥ 161 ppm As = Arsenic ≥ 31 ppm
- X PY — Mineral occurrence
- L.C.P. L.C.P. — Legal Corner Post (located, approximate)

CA	Calcite	MO	Molybdenite
CP	Chalcopyrite	PO	Pyrrhotite
GL	Galena	PY	Pyrite
HE	Hematite	QZ	Quartz
LI	Limonite	SP	Sphalerite
MG	Magnetite		

Geology adapted in part from Logan and Koyangi (198

METRES 0 100 200 300 400 500 METRES

GEOLOGICAL BRANCH ASSESSMENT REPORT 19,519

CONSOLIDATED GOLDWEST RESOURCES LTD.

SPHALER CREEK PROJECT

GEOLOGY AND GEOCHEMISTRY

DELUXE ZONE

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DRAWN:	J.W.	MINING DIV.:	LIARD
N.T.S.:	104 G/4E	SCALE:	AS SHOWN
DATE:	DEC. 1989	REVISED:	

FIGURE 7