SPHAL 2, 4, 6, 8

CLAIMS

(4817, 4819, 4821, 4823)

LIARD MINING DIVISION

GEOLOGICAL REPORT

OCTOBER, 1989

Latitude : 57° 03'
Longitude: 131° 11'

Paul W. Jones
CORONA CORPORATION

TABLE OF CONTENTS

APPENDICES

LIST OF FIGURES

CONCLUSIONS

The SPHAL B claim group is composed of Pre-Permian Stikine Assemblage rocks which include a major limestone unit with lesser agglomeratic volcanics and mixed sediments. Several strong north-south structures cut stratigraphy. Where these cut the limestone on SPHAL 6 minor copper/silver mineralization occurs.

RECOMMENDATIONS

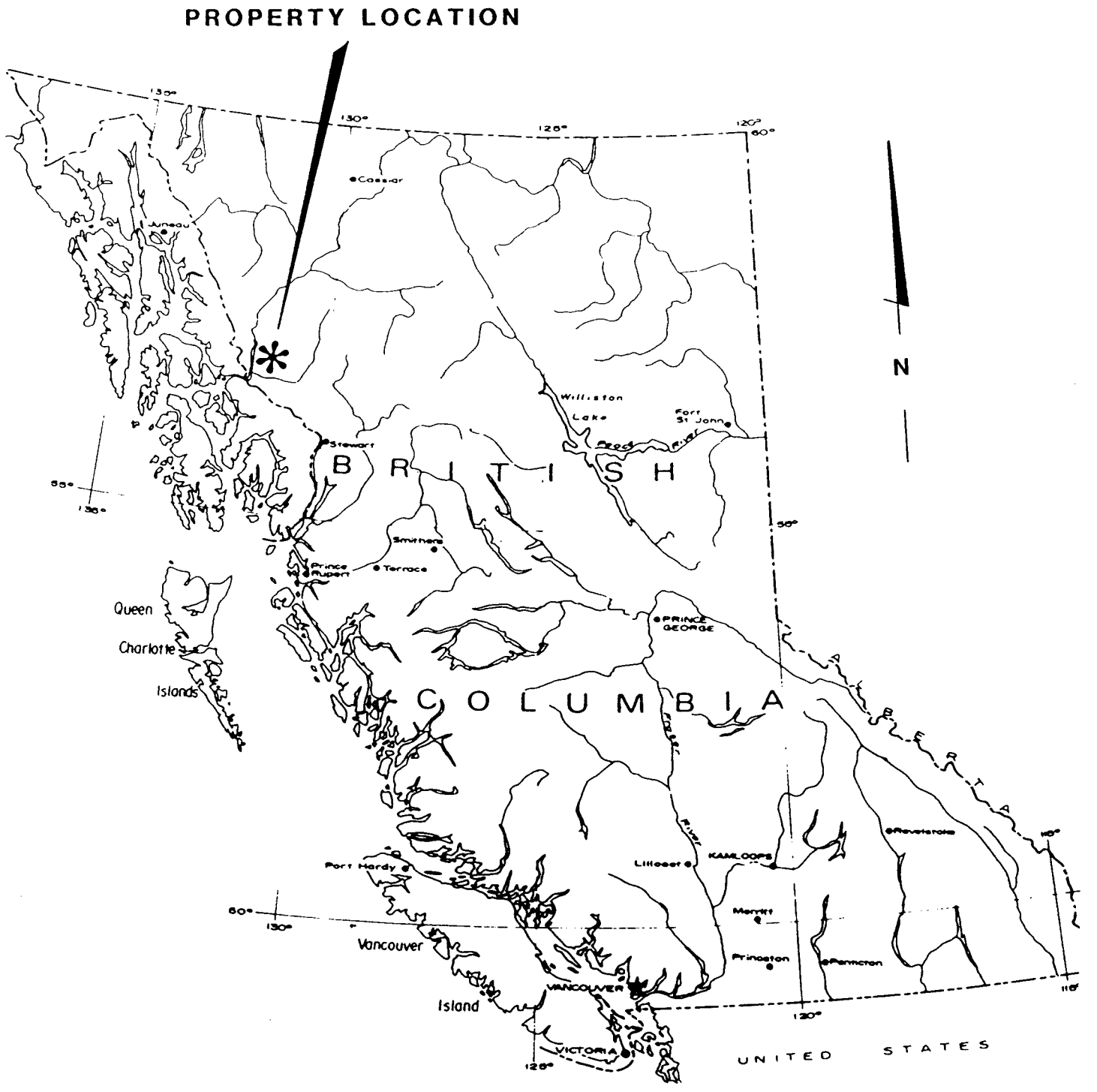
One area on the SPHAL B group may warrant further exploration. Weak copper/silver values contained in the major structure on SPHAL 6 might be tested by a combined programme of geochemistry, geophysics and trenching as warranted. A detailed stream sediment sampling programme over SPHAL B group, using panned concentrates, conventional silts and moss matt samples should be worthwhile.

INTRODUCTION

The SPHAL B claim group includes the four 20 unit SPHAL 2 (4817), SPHAL 4 (4819), SPHAL 6 (4821) and SPHAL 8 (4823) claims. They were staked in July of 1988, and are located at the headwaters of Sphaler Creek. The claims lie within the contact of the Coast Plutonic Complex and the Intermontane Belt. Access is via helicopter from the Scud Airstrip loacted at the confluence of the Scud and Stikine Rivers or the Galore Creek airstrip 15 km to the northwest.

The claims are composed of Permian and Pre-Permian sediments and volcanics. The geology is of the Paleozoic Stikine assemblage volcanics overlain by sediments in a repeating sequence due to a normal NE-SW fault. The extreme western portion of SPHAL 2 has Triassic volcanics in fault contact with the older Permian limestones. The eastern portion of the group starts with Permian volcaniclastics that are both green and purple. Stratigraphically overlying the volcanics is a thick sequence of limestone with lesser amounts of sandstone and siltstone. A NE-SW fault cuts the claims group and places the younger Permian sediments in contact with older phyllic sediments. These phyllic sediments overlie the Permian volcaniclastic unit which is folded and faulted in this section of the claim group.

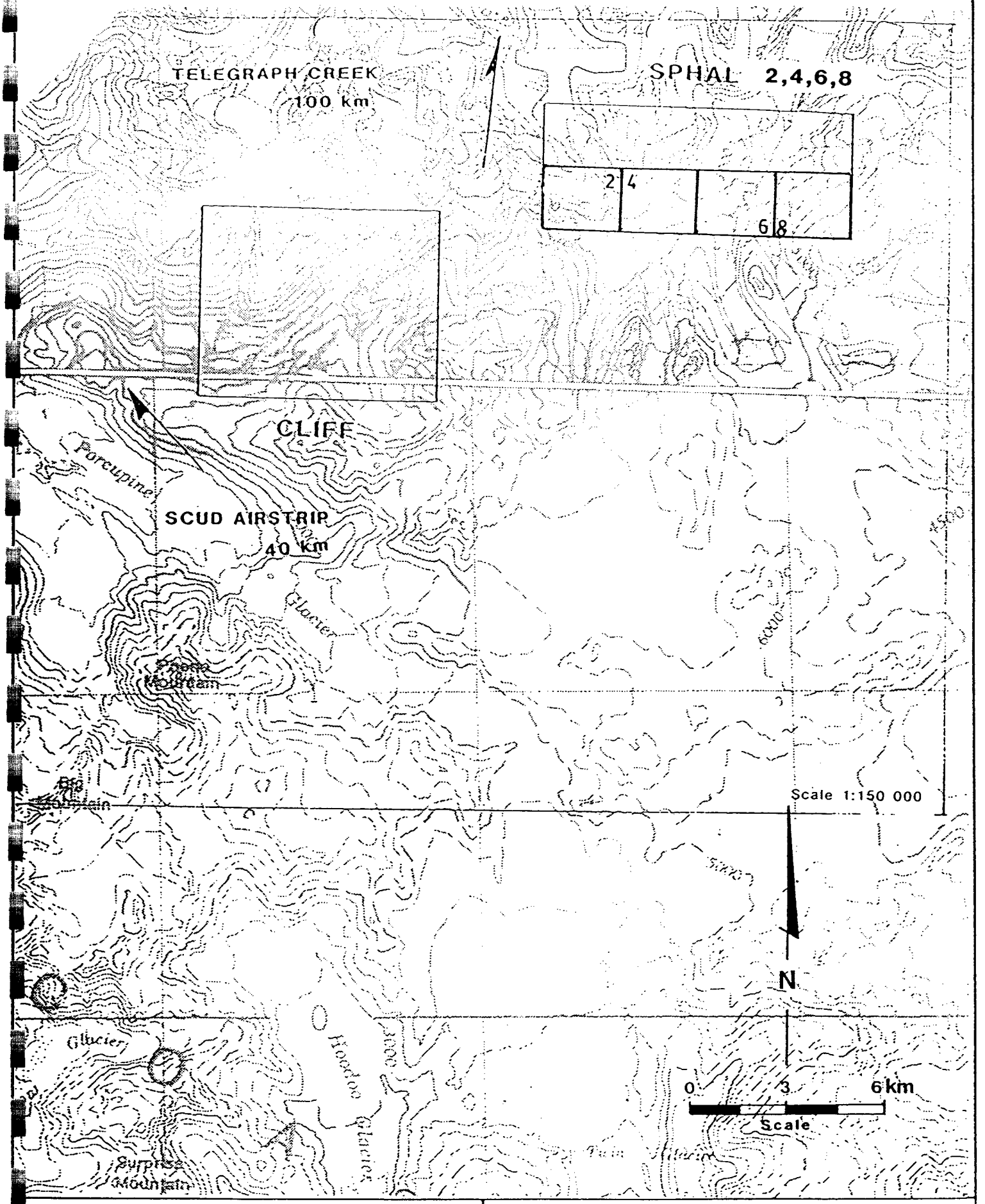
The programme of geological mapping and sampling described in this report occupied 12 mandays during the period from July 7 to July 21, 1989, yielding 61 rock samples. Work was done from a fly camp established on the SPHAL 5 claim on the south bank of Sphaler Creek, with helicopter support from a base at Galore Creek. Total cost was $12,310.



CORONA CORPORATION

SPHAL PROPERTY
LOCATION MAP

DATE: Jul./1989	SCALE:	DRAWING No. Fig.1



CORONA CORPORATION

SPHAL PROPERTY

CLAIM LOCATION MAP

DATE: Jul./1989	SCALE: 1:150,000	DRAWING No. Fig.2

REGIONAL GEOLOGY

The claim area lies on the western margin of the Intermontane Belt at its contact with the Coast Plutonic Complex. Paleozoic sediments and Mesozoic sediments and volcanics are cut by intrusive bodies of the main Coast Belt and the satellite Hickman and Yeheniko Plutons. General tectonic fabric of the region trends north-northwesterly.

The oldest rocks exposed in the area are Lower Paleozoic clastics including impure quartzites and limestones, overlain by crystalline schists and gneisses. A thick impure limestone unit caps the Paleozoic oceanic sequence.

The lower contact of Mesozoic units is described by F.A. Kerr, G.S.C. Memoir 246 and J.G. Souther, G.S.C. Paper 71-44, as gradational and in places unconformable. Triassic rocks consist of a thick sedimentary sequence overlain by an island arc volcanic assemblage which is in turn capped by volcanic derived sediments.

The Jurassic layered sequence consists of a thick, near shore sedimantary package and later volcanic (island arc?) rocks. Extensive intrusive activity during this period resulted in the emplacement of the multi phased 'Coast Complex' and related satellite plutons. Alkaline and calc-alkaline members of this suite are directly associated with most of the numerous mineral occurences in the area. Cretaceous rocks consist mainly of marine sediments with a thin basaltic to rhyolitic component.

Cenozoic stratigraphy includes mafic and felsic aerial volcanic units. These rocks are a major component of glacial and fluvial deposits throughout the area. Several active hot springs attest to ongoing geologic activity throughout the general Iskut-Stikine region.

Most of the region has been subjected to Quarternary glaciation, resulting in rugged alpine terrain.

Study of aeromagnetic data published at a scale of 1:250,000 suggests that regional lows may reflect areas of thick ice cover.

PROPERTY GEOLOGY

The SPHAL B claim group encompasses a mixed package of Paleozoic volcanics and sediments and a small area of Mesozoic volcanics. Geology will be described on an individual claim basis, traversing from west to east.

SPHAL 2

The dominant geologic feature of the **Sphal 2** claim is a strong N-S trending fault which separates Triassic volcanics from a Paleozoic sedimentary sequence. This fault is marked by a 50m. wide zone of abundant quartz and ankerite. A 200m. section of the fault contains pervasive mariposite. An active hot spring is located where this structure intersects the north bank of Sphaler Creek. Triassic rocks are generally andesitic tuffs which are widely propylitized along the fault trace. Sediments include a buff coloured dolomite with black graphitic argillite beds and lesser quartzite lenses. Splays off the main structure contain ankerite and quartz but only trace amounts of sulphide.

South of Sphaler Creek two parallel N-S structures within Permian limestones contain up to 3% disseminated pyrite and chalcopyrite. Sulphides are concentrated in intensely fractured silicified zones. No precious or base metal values were evident.

SPHAL 4

While much of the southern portion of **SPHAL 4** is composed of massive homogeneous limestone, the geology near the northern claim boundary along Sphaler Creek has been complicated by extensive faulting and folding. Rock types include

purple and green volcanics, graphitic black argillite and limestone/sandstone interbeds. All units have been foliated, sheared and silicified. The sheared green volcanics within this package contain pods of pyrite and chalcopyrite.

SPHAL 6

Geology of SPHAL 6 claim is very similar to SPHAL 4. Massive Permian limestone dominates the southern portion of the claim. Along Sphaler Creek rocks include purple volcanics and graphitic argillites which have been extensively faulted and deformed. The massive limestone-dolomite unit dips westerly and is underlain in the southeast corner of the claim by an agglomeratic lapilli tuff unit with minor sediments.

Two parallel N-S structures are found on the SPHAL 6 claim. The westernmost of these cuts massive limestone and contains disseminations and blebs of pyrite, chalcopyrite, tetrahedrite and azurite/malachite stain. The eastern structure follows the massive limestone/volcanic contact. East of the structure a remnant hot spring in an argillite bed within the volcanic package is marked by calcareous sinter, semi-massive pyrite pods and pervasive ankerite alteration.

SPHAL 8

Work on SPHAL 8 concentrated on the area of a north flowing creek. The southern portion of the claim is mainly green and green-purple tuffs and flows underlain by a mixed limestone, argillite, sandstone sequence. Randomly oriented faults and shears exposed in the creek banks contain extensive iron carnbonate and quartz veining with up to 5% pyrite and chalcopyrite.

GEOCHEMISTRY

The 61 rock samples collected during this phase of work were submitted to Acme Analytical Labs of Vancouver for geochemical analysis for copper, lead, zinc, silver and gold. Analytical techniques are described in Appendix A, sample descriptions in Appendix B and the results are given in Appendix C.

STATEMENT OF COSTS

SPHAL 2, 4, 6, 8 - GEOLOGICAL

Prospecting 12 man days @ $350/man day	$ 4,200.00
Samples (including shipping) 61 @ $25/sample	1,525.00
Food @ $30/man day	360.00
Accommodation, Camp	425.00
Supplies and Equipment	175.00
Mob - De Mob (Aircraft Charter)	1,250.00
Helicopter Support 5 hours @ $725/hr	3,625.00
Report Preparation	750.00
TOTAL	$12,310.00

Dates: July 7-17, 1989

STATEMENT OF QUALIFICATIONS

DARREL L. JOHNSON

I, DARREL L. JOHNSON, resident of the District of Copquitlam, B.C. declare that:

1. I hold a B.Sc. degree in geology, granted by the University of British Columbia in 1970;

2. I have worked as a geologist in all phases of exploration throughout B.C. since 1970;

3. I have been employed by Corona Corporation as a Senior Geologist since 1988;

4. Work described in this report was conducted by Paul Jones under my overall supervision.

5. I have co-authored this report based on published information for the area, extensive discussion with Paul Jones and visits to the area during the programmes described.

Darrel Johnson

DATED THIS 8th DAY OF December 19 89

AT Vancouver, BRITISH COLUMBIA.

STATEMENT OF QUALIFICATIONS

I, **PAUL WILLIAM JONES** of the City if Vancouver, B.C. declare that:

1. I have been actively involved in the mining industry in Canada and the United States for 12 years.

2. I have personally directed and performed the work enclosed in this report under the supervision of Corona Corporation's Senior Geologist, **Darrel Johnson.**

Paul W. Jones

DATED THIS 11th DAY OF December 19 89

AT VICTORIA , BRITISH COLUMBIA.

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APPENDIX A - GEOCHEMICAL METHODS

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone : 253 - 3158

ICP - .5 gram sample is digested with 3 ml 3-1-2 HCl-HNO3-H2O at 95 deg.C for one hour and is diluted to 10 ml with water. This leach is Partial for Mn, Fe, Sr, Ca, P, La, Cr, Mg, Ba, Ti, B, W and limited for Na, K, Al.

Au* - 10 gram samples are ignited at 600 deg.C, digested with aqua regia at 95 deg.C for one hour, 50 ml aliquot is extracted into 10 ml MIBK, analysed by graphite furnace AA.

PHONE 980-5814

MIN-EN Laboratories Ltd.
Specialists in Mineral Environments
Corner 15th Street and Bewicke
705 WEST 15th STREET
NORTH VANCOUVER, B.C.
CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORK

PROCEDURE FOR GOLD GEOCHEMICAL ANALYSIS.

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO_3 and $HClO_4$ mixture.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure copper, silver and zinc can be analysed from suitable aliquote by Atomic Absorption Spectrophotometric procedure.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.

MINERAL
• ENVIRONMENTS
LABORATORIES

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

PROCEDURE FOR 31 ELEMENT TRACE ICP:

Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu,
Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,
Sr, Th, U, V, Zn, Ga, Sn, W, Cr

Samples are processed by Min-En Laboratories., at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer.

1.0 gram of the sample is digested for 4 hours with an aqua regia $HClO_4$ mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by computer operated Jarrall Ash 9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled Plasma Spectrometers. Reports are formatted and printed using a dot-matrix printer.

OFFICE AND LABORATORIES:
705 WEST FIFTEENTH STREET, NORTH VANCOUVER, B.C.
CANADA V7M 1T2

PHONE: (604) 980-5814 (604) 988-4524
TELEX: VIA USA 7601067
FAX: (604) 980-9621

APPENDIX B - SAMPLE DESCRIPTIONS

30201	float	brecciated siliceous rhyolite with 1% disseminated pyrite with chlorite
30202	chip grab	rusty black argillite with 1-3% disseminated pyrite
30203	1m chip	quartz ankerite zone at contact of volcanic and argillite
30204	float	rusty quartz vein within argillite
30205	talus grab	silicified recrystallized limestone with 5% malachite, azurite, tetrahedrite, pyrite, chalcopyrite
30206	talus grab	silicified recrystalized limestone with 5% malachite, azurite, tetrahedrite, pyrite, chalcopyrite
30207	1m chip	silicified recrystalized limestone with 5% tetrahedrite, malachite, azurite
30208	1m chip	recrystalized limestone with 5% dendritic malachite, azurite, tetrahedrite, chalcopyrite, pyrite
30209	chip grab	siliceous recrystalized limestone
30210	1 m chip	recrystalized limestone with 1% pyrite, chalcopyrite, malachite, hematite, resample of #34
30211	grab	pyrite filled shear within argillite
30212	grab	siliceous pyritic brecciated shear within argillite
30213	chip grab	clastic sediment with massive pyrite lense
30214	1 m chip	recrystalized limestone, silicified breccia with 5% malachite, pyrite, chalcopyrite
30239	float	black argillite with quartz calcite veining and 2cm pyrite blebs
30240	grab	rusty black argillite with quartz veining
30241	1 m chip	calcite quartz brecciated shear zone within a limestone unit
30242	grab	rusty siliceous volcanic pod within limestone unit
30243	grab	rusty siliceous volcanic? chert? within argillite, limestone contact
30244	grab	fault 20cm wide, contact of limey black argillite and banded tuff
30245	float	semi-massive pyrite within siliceous volcanic

30246	1 m grab	banded black argillite at fault contact
30247	1 m grab	siliceous green volcanic at fault contact
30248	1 m chip	foliated clay altered sericite schist
30249	grab	pyritic shear within limestone unit
30250	grab	black banded siliceous volcanic with 10% chalcopyrite, malachite, azurite
30251	1.5 m chip	ankerite altered green agglomeratic tuft with disseminated pyrite
30258	grab	rusty ankerite altered tuff with quartz veins and 1% disseminated pyrite
30259	grab	rusty black argillite with quartz veins and 1% pyrite and chalcopyrite
30260	1m chip	rusty black argillite with quartz veins and trace disseminated pyrite
30261	2 m chip	rusty coarse grained black limestone with quartz ankerite stockwork and trace pyrite and chalcopyrite
30262	1 m chip	rusty quartz sericite schist with 1% disseminated pyrite
30275	grab	rusty black argillite and chert with 1% disseminated pyrite, bornite
30276	grab	sheared black argillite with ankerite veins and clay gouge
30277	grab	rusty chert with framboids of jarosite and trace - 1% disseminated pyrite
30278	grab	rusty black pyritic argillite with gypsum fractures and 1% disseminated pyrite
30279	grab	massive grey limestone with chert clasts and 1% disseminated pyrite
30280	4m grab	brecciated ankerite shear in massive crinoidal limestone with clay gouge
30281	grab	sheared black phyllic argillite with trace - 1% disseminated pyrite
30282	1 m chip	rusty green fine grained andesite dykes with trace - 1% pyrite in limestone
30286	1 m chip	sheared cherty argillite

30287	1 m chip	rusty ankerite altered andesite with quartz stockwork and trace disseminated pyrite
30288	grab	rusty ankerite altered dolostone with trace mariposite, pyrite and chalcopyrite
30301	1/2m grab	ankerite chlorite altered shear in green propylitic altered tuff
30302	2 m grab	ankerite altered shear in fine grained black argillite
30327	1 m chip	buff black dolomite with swarms of quartz veinlets
30328	grab	dolomite with 2-3cm pods of fine grained silver pyrite
30329	grab	brown ankerite altered lapilli tuff at limestone contact
30330	talus	ankerite altered argillite and limestone
30331	grab	ankerite altered dolomite at contact with lamprophyric dyke
30332	1 m chip	ankerite altered shear with quartz veins and mariposite
30333	2 m grab	ankerite altered andesite with local shear zones
30340	grab	siliceous limestone with quartz veins and pyrite
30341	2 m chip	ankerite altered limestone with trace mariposite and disseminated pyrite
30342	grab	massive mariposite in ankerite altered limestone
30343	talus	brecciated limestone with trace mariposite and pyrite
30344	grab	ankerite altered limestone with mariposite
30345	grab	siliceous sediment, chert, with chlorite veinlets and trace pyrite
30346	2m grab	ankerite veins in altered dolomite with local quartz veins and disseminated pyrite
30347	float	fine grained massive black argillite with chalcopyrite and pyrite
30348	float	grey ankerite altered limestone with trace pyrite
30349	1/2m chip	pyrite lense within silicified banded metavolcanic
30350	1.5m grab	rusty green siltstone with trace disseminated pyrite
20351	grab	rusty green siltstone with trace disseminated pyrite

20352	1m chip	rusty siltstone within limestone unit
20353	grab	red iron-rich sludge beside swamp pond

APPENDIX C - ANALYTICAL RESULTS

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

DATE RECEIVED: JUL 20 1989
DATE REPORT MAILED: July. 25/89.

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

CORONA CORPORATION PROJECT 1040 FILE # 89-2312 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
E 20351	15	2	74	.1	3
E 20352	2	2	11	.1	3
E 20353	24	2	84	.1	4
D 30235	5556	2	822	18.3	2
D 30236	34	4	22	.3	5
D 30237	5902	97	226	2.9	52
D 30238	5732	31	51	6.2	550
D 30239	34	2	29	.3	2
D 30240	62	11	16	.2	1
D 30241	1	2	8	.1	3
D 30242	13	6	65	.1	5
D 30243	6	8	2	.1	3
D 30244	34	3	85	.1	5
D 30245	38	12	96	.1	1
D 30246	37	3	138	1.7	2
D 30247	11	3	59	.1	3
D 30248	65	4	55	.1	4
D 30249	19	7	39	.1	25
D 30250	11806	7	66	10.9	20
D 30265	38	11	10	.2	3
D 30266	71	7	25	.3	2
D 30267	9	5	37	.1	6
D 30268	3459	2	365	91.7	18
D 30269	241	2	48	7.8	16
D 30270	21	2	26	.8	6
D 30271	600	9	30	1.8	6
D 30272	30	17	118	.4	4
D 30273	17	7	70	.1	3
D 30274	21	2	96	.3	4
D 30275	66	2	66	.3	7
D 30276	15	4	12	.1	2
D 30277	43	28	27	.1	4
D 30278	40	2	186	.1	1
D 30279	4	4	13	.1	4
D 30280	12	2	59	.1	1
D 30281	55	11	40	.5	2

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	AU* PPB
D 30282	32	5	77	.1	3
D 30283	28	2	28	.1	2
D 30284	19	2	29	.1	1
D 30285	26	4	31	.1	1
D 30286	7	2	36	.1	1
D 30287	10	2	13	.1	1
D 30288	107	5	77	.1	2
D 30326	69	4	84	.1	136
D 30327	12	2	15	.1	3
D 30328	28	12	54	1.1	64
D 30329	13	6	67	.1	1
D 30330	10	6	49	.1	2
D 30331	6	2	24	.1	3
D 30332	100	7	55	.1	2
D 30333	41	10	63	.1	3
D 30334	19	4	102	.1	4
D 30335	15	9	65	.1	1
D 30336	26	4	48	.1	8
D 30337	4	2	34	.1	2
D 30338	49	2	108	.1	15
D 30339	41	15	54	.1	1
D 30340	65	607	156	1.2	2
D 30341	33	8	53	.1	2
D 30342	31	16	66	.1	3
D 30343	84	6	72	.4	6
D 30344	56	6	30	.1	2
D 30345	20	3	40	.1	1
D 30346	64	5	98	.1	3
D 30347	85	9	104	.1	4
D 30348	98	4	85	.1	3
D 30349	240	28	25	.5	62
D 30350	10	5	66	.1	1
~~STD G/AU-R~~	~~56~~	~~43~~	~~132~~	~~7.1~~	~~490~~

- ASSAY REQUIRED FOR CORRECT RESULT for Cu > 1%
Ag > 30 ppm

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

DATE RECEIVED: JUL 18 1989

DATE REPORT MAILED: July 26/89

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

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

CORONA CORPORATION PROJECT 1040 FILE # 89-2261 Page 1

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au* PPB
D 30201	6	7	7	.1	1
D 30202	37	25	62	.2	1
D 30203	56	2	56	.1	1
D 30204	7	2	48	.1	1
D 30205	2096	2	54	1.8	27
D 30206	3904	2	235	9.0	36
D 30207	9892	3	92	2.0	37
D 30208	9921	3	77	2.2	36
D 30209	149	55	29	.3	1
D 30210	989	4	36	.2	31
D 30211	69	9	70	.1	1
D 30212	55	5	38	.1	1
D 30213	74	38	53	.2	3
D 30214	2571	4	62	.1	56
D 30251	106	6	67	.1	1
D 30252	26	9	35	.1	1
D 30253	15	2	67	.1	2
D 30254	101	2	68	.1	3
D 30255	10	9	66	.1	1
D 30256	8	6	28	.1	1
D 30257	129	2	32	.1	1
D 30258	31	5	91	.1	1
D 30259	3134	4	329	2.4	2
~~STD C/AU-R~~	~~58~~	~~43~~	~~134~~	~~7.1~~	~~490~~

SAMPLE#	Cu PPM	Pb PPM	Zn PPM	Ag PPM	AU* PPB
D 30260	17	12	84	.3	1
D 30261	863	4	60	.5	5
D 30262	6	11	71	.3	1
D 30301	58	12	286	.1	1
D 30302	62	5	77	.1	3
D 30303	28	2	63	.1	1
D 30304	14	2	69	.2	1
D 30305	153	2	85	.1	2
D 30306	16796	7	55	33.1	2
D 30307	52	2	27	.1	1
D 30308	48	5	53	.1	2
D 30309	19	16	81	.1	1
D 30310	14	2	32	.1	2
D 30311	37	2	61	.1	1
D 30312	42	5	70	.1	1
D 30313	2	2	22	.3	1
D 30314	12	2	90	.1	1
D 30315	39	2	15	.2	3
D 30316	6	3	11	.2	3
D 30317	308	5	50	.3	2
~~STD C/AU-R~~	~~56~~	~~38~~	~~131~~	~~7.1~~	~~520~~

✓ - ASSAY REQUIRED FOR CORRECT RESULT -

APPENDIX D - PROSPECTING NOTES

SPEC PROJECTING TRAVERSES

The following traverses are grouped according to the individuals who performed the work, with the traverse number correlating to traverses marked on the compilation map.

Paul Jones - **Prospector** - Employee of Corona Corporation, 11 years in the mining industry, the last four full time.

(5) August 9, 1988

SPHAL 7, 8 - 6 rock samples, #1406-1408, 1410-1412

6 silt samples, #1401-1405, 1409

This traverse was down the slope on the south side of Sphaler Creek, starting at the toe of a glacier. It ended on the extensive mud flats at the headwaters of Sphaler Creek . The geology includes many variations of andesite volcanic ash to agglomeratic tuffs and flows. Locally the volcanics are chlorite altered, foliated, silicified and sheared. The increase in foliation occurs near and within structurally-controlled creek ravines. At the end of the traverse the contact between the volcanic and limestone phyllite unit was prospected. The phyllite unit near the triple contact has narrow quartz veins with pyrite and arseno/pyrite mineralization. A small outcrop of ultramafic pyroxene-rich volcanic is found along the edge of the mud flats.

(7) August 10, 1988

SPHAL 7, 8 - 9 rock samples, # 1413, 1415-1418, 1421-1424

3 silt samples, #1414, 1419, 1420

This traverse was from east to west, just below the glaciers on the south side of Sphaler Creek, and above the tree line. The start of the day was at the contact of the andesite volcanics and a crinoidal limestone and phyllite unit. The structural complexity of the area has resulted in an irregular contact. Horst and graben block faulting juxtaposes the volcanics and sediments. The sediments are primarily a fossiliferous limestone with lesser amounts of medium-grained grey limestone and foliated siltstone, phyllite. The later part of the traverse was in a mixed lapilli to agglomeratic tuff. These tuffs are green and

purple with interfingering green flows. Shear zones periodically cut the volcanics. These shear zones are from 1/2 m. to 10 m. wide and comprise ankerite and quartz. Iron staining is common, but mineralization is limited to trace amounts of disseminated pyrite. The only other mineralization of note is small 1-2m. x 1/2m. sulphide, pyrite lenses within a green rusty andesite tuff.

(9) August 11, 1988

SPHAL 6, 8 - 8 rock samples, #1425-1434

This traverse started on a ridge high above and to the south of the Sphal 6 claim. The rocks at the beginning of the day are green basalt agglomerate to lapilli tuff. The volcanic composition varies from basalt to andesite, with minor chlorite and epidote alteration. This volcanic unit is in contact with a grey dirty limestone unit. At the contact, but within the limestone, are pods of marron limey ash tuff. Shear zones also cut the limestone unit. These andesite shears are ferruginous and have trace to one per cent disseminated pyrite and hematite stain. At the end of the traverse quartz float with pyrite, chalcopyrite and bornite was found.

(11) August 12, 1988

SPHAL 6, 8 - 9 rock samples, # 1435-1438, 1440-1444

1 silt sample, #1439

This venture started where traverse #9 ended on the previous day. It continued to the east to cover the ground west of where traverse #7 ended. The geology of the day was primarily an agglomeratic volcanic unit. Sections of limestone and brecciated limestone are mixed in with the andesite volcanics due to block faulting near the sedimentary volcanic contact at the eastern portion of the traverse. Ankerite zones were sampled in the limestones but the only mineralization of note was trace amounts of pyrite and chalcopyrite.

(17) August 15, 1988

SPHAL 2 - 6 rock samples, #1445-1450, 1501

This traverse started off the claims to the west on a knoll between two arms of the glaciers. Prospecting down the ridge through a green to grey basalt to andesite tuff and flow volcanic unit uncovered a sulphide system. An andesite

shear has associated parallel veinlets of pyrite and pyrrhotite. The volcanic unit is mafic in composition and has chlorite and epidote alteration. A porphyritic altered quartz monzonite plug intrudes a felsic rhyolite volcanic unit within a creek that drains a series of small lakes. The rhyolite unit is brecciated and has numerous calcite veinlets throughout. The rocks around the small lakes are porphyritic amygdaloidal andesites and basalts.

(21) August 16, 1988

SPHAL 2 - 2 rock samples, #1502, 1504

1 silt sample, #1503

This traverse was a continuation of the previous day's traverse. The start was in the felsic volcanic unit, a sugary quartz eye rhyolite. The contact with the major sediment limestone unit occurs to the east of the small lakes and trends N/S. The sediment sequence includes schisty argillites, banded siltstones, sandstones and felsic phyllites. An aphantic foliated quartz eye porphory unit with quartz veinlets and pyrite-covered fractures was sampled in a steep creek cut. This proved to be the only significant mineralization during the day.

(22) August 17, 1988

SPHAL 2, 4 - 10 rock samples, #1505-1510, 1512-1515

1 silt sample, #1511

The first stop this day was to sample the quaternary hot spring which is located on the north bank of Sphaler Creek . This included grey sinter and calcarous tuff. Continuing on with the helicopter a traverse was undertaken through the forest on the south side of Sphaler Creek on the Sphal 4 claim. This day was spent in a mixed sedimentary package which included limestones, silty graphitic shales, volcanic derived conglomerates, argillites and siltstones. A rusty aphanitic argillite unit had up to five per cent disseminated pyrite. A series of sulphide, pyrite, skarn sweats within the limestone unit were sampled. Numerous rusty yellow-stained siliceous boulders with 10-15 per cent pyrite were prospected. These boulders are rounded and no source was located.

Peter Neelands - Geology Student - Summer employee of Corona Corporation. Five years in field work, the last two full time.

(2) August 1988

SPHAL 7, 8 -11 rock samples

This traverse was along a bench above the south side of Sphaler Creek on Sphal 7 and 8. The geology started in sediments and ended in volcanics. The sediments include sandstones, chlorite schists, arkoses and limestones. The sediments have ankerite shear zones and quartz veins at the contacts between sedimentary layers. No mineralization was noted in the sediments. The andesite volcanic unit also have ankerite-filled shear zones and quartz veins, but these structures have trace amounts of pyrite. Alteration of the volcanic rocks include various degrees of chlorite and epidote.

(8) August 10, 1988

SPHAL 1, 3, 4 - Rock samples, #1316-1333

This traverse was a continuation along the slope below the glaciers on the north side of Sphaler Creek . The route started in the alpine and followed a vegetation-free path, eventually ending along the creek a difference of 3000 feet lower than the start. The geology at the beginning of the day was a banded and bedded sedimentary unit which included laminated quartzites and black siltstones. These sediments have a north/south strike and near vertical dip. Prospecting east, the sediments are underlain by a green chloritic andesite volcanic unit. This andesite unit is massive and included tuffs and flows. Quartz veins, veinlets and ankerite zones with trace amounts of disseminated pyrite were sampled. Lenses of a limestone and black sandstone, siltstone horizon were mapped within the volcanics and are probably of the overlying sedimentary package. The lower extent of the volcanics are composed of green and purple volcanic flows. Below this is an older sedimentary package which includes siliceous limestones, black dolomites to limey argillites and a red mudstone unit. The sedimentary volcanic contact is brecciated and chlorite-altered. No mineralization or alteration of significance was encountered.

(14) August 12, 1988

SPHAL 5, 6 - 4 rock samples, #1349-1352

This traverse was on the north bank of Sphaler Creek and was through the extensive limestone unit. The limestone has brecciated segments and quartz ankerite shears. The structures are iron oxidized, but no sulphides were observed.

(18) August 15, 1988

SPHAL 2, 4 - 15 rock samples, #1353-1367

This traverse was along the steep water-eroded banks of the swift-flowing Sphaler Creek . This east-to-west survey crossed a variety of geologic units, including sediments and volcanics. Extensive faulting and folding has complicated the stratigraphy. The structural action has created many shears and brecciated zones. The first half of the day was within bedded limestones and quartzites with brecciated host rocks and ankerite zones. Quartz stockwork was noted in these zones, but no sulphides were found. The lower sediments are composed of siliceous limestones, black dolomites and limey argillites. In fault contact with this lower sediment unit are felsic dykes and plugs, which have trace amounts of pyrite and chalcopyrite. This intrusive segment separates the volcanics and sediments. The volcanic sequence includes rusty andesite flows and tuffs and strongly foliated chlorite schists. These volcanics have trace to one per cent disseminated pyrite. The volcanics are in contact with the dark limey sediments to the west.

(24) August 24, 1988

SPHAL 6 - 7 rock samples, #20588-20594

The purpose of this day was to investigate rusty zones at the base of some cliffs on the south bank of Sphaler Creek . Copper-stained fault structures had been prospected in the vicinity. The geology is a massive limestone unit. This limestone is extensively brecciated and has numerous ankerite zones cross-cutting it. Quartz veins and ankerite zones were sampled, but no sulphides were noted.

Paul Huel - **Contract Prospector** - Resident of Hazelton, B.C. with over 10 years of mineral exploration experience.

(3) August 7, 1988

SPHAL 6 - 9 rock samples, #19-27

This traverse started on the south claim line above the tree line down the slope to Sphaler Creek . Creek structures were the primary target. The geology started in a green and red volcanic flow and tuff unit and crossed into a massive limestone sediment sequence. Ankerite shear zones with quartz veins with trace amounts of pyrite were sampled in the volcanics. The limestone unit has interbeds of sandstone that are cut by quartz ankerite shears. These shears have trace amounts of pyrite. At the end of the day a N/S structure was found to have talus blocks with malachite, pyrite, chalcopyrite and tetrahedrite mineralization.

(15) August 12, 1988

SPHAL 6 - 7 rock samples, #1728-1734

This traverse was along the west side of a glacier flowing south into Sphaler Creek . The traverse was along the base of the cliffs and talus was the main source of the samples. The rocks are primarily medium-grained limestone with limey and black siltstones and sandstones. These sediments are both conformatibly overlain and in fault contact with the limestone. The only mineralization noted was trace amounts of disseminated pyrite.

(19) August 15, 1988

SPHAL 8 - 14 rock samples, #1735-1748

This traverse was within a creek gorge that flowed N/S into Sphaler Creek from the south. Sampling of the structurally-controlled creek was the prime objective. The geology down the cut was within a moderately-to-strongly foliated sediment package. The rocks are sheared, strongly foliated calcerous sediments of probable limestone, sandstone and siltstone origin. This unit is extensively sheared and numerous quartz ankerite zones with pyrite and chalcopyrite were sampled. An increase in mineralization was noted in areas of quartz flooding and barite veins.

Bruce Holden - Contract Prospector - Resident of Hazelton, B.C., with over seven years of mineral exploration experience.

(4) August 7, 1988

SPHAL 6 - 6 rock samples, #39-44

1 silt sample, #17

This traverse started on the south claim line above the tree line down the slope to Sphaler Creek . Creek structures were the primary target. The geology started in a green and red volcanic flow and tuff unit, and crossed into a massive limestone sediment sequence. Ankerite shear zones with quartz veins with trace amounts of pyrite were sampled in the volcanics. The limestone unit has interbeds of sandstone that are cut by quartz ankerite shears. These shears have trace amounts of disseminated pyrite. The traverse ended in calcareous sediment.

(16) August 12, 1988

SPHAL 4, 6 - 8 rock samples, #1627-1634

This traverse was along the west side of a glacier flowing south into Sphaler Creek . The traverse was along the base of the cliffs and talus was the main source of the samples. The rocks are primarily medium-grained limestone with limey and black siltstones and sandstones. These sediments are both conformatibly overlain and in fault contact with the limestone. On the mud flats adjacent to Sphaler Creek large 5m. rounded boulders of silicified volcanic with up to 30 per cent disseminated pyrite were noted.

(20) August 15, 1988

SPHAL 8 - 11 rock samples, #163501645

This traverse was within a creek gorge that flowed N/S into Sphaler Creek from the south. Sampling of the structurally-controlled creek was the prime objective. The geology down the cut was within a moderatly to strongly-foliated sediment package. The rocks are sheared, strongly foliated calcareous sediments of probable limestone, sandstone and siltstone origin. Sampling of quartz-flooded, fractured, mineralized shear zones was the order of the day. Sulphides included pyrite and chalcopyrite.

Rob Klassen - **Geologist** - Employee working for Corona Corporation for the last two years consecutively.

(12) August 12, 1988

SPHAL 2 - 3 rock samples, #1942-1944

This traverse started on the west side of a glacier that flows down into Sphaler Creek on the south side. The geology is a mix of sediments and volcanics. The sediments include dark, fine-grained limestones and rusty black carbonate sediments. Ankerite zones with quartz veins were sampled in the sediment unit. The volcanics comprise the lesser of the assemblage. These volcanics are of a mafic nature with a graphitic texture. No mineralization of interest was noted.

Karen Sobey - **Contract Prospector** - Graduate of BCDM Prospecting Course, 1987. Two years of field experience.

(1) August 7, 1988

SPHAL 7, 8 - No samples collected

This traverse was along a bench above the south side of Sphaler Creek on Sphal 7 and 8. The geology started in sediments and ended in volcanics. The sediments include sandstones, chlorite schists, arkoses and limestones. The andesite volcanics have ankerite shear zones. No mineralization of any note was prospected.

(13) August 12, 1988

SPHAL 2 - 3 rock samples, #1822-1824

This traverse was on the west side of a glacier that flows down into Sphaler Creek on the south side. The geology is a mix of sediments and volcanics. The sediments include a siliceous limestone (dolomite) and a black graphitic rusty siltstone-sandstone. One rusty dolomite horizon has trace amounts of pyrite.

GEOCHEMISTRY

The 138 samples collected during this phase of work were submitted to both Min - En and Acme Analytical Labs of Vancouver for geochemical analysis. Analytical techniques are described in Appendix A, sample descriptions in Appendix B and results in Appendix C.

SPHAL B - CLAIM GROUP

Sample No.	Sample Type	Description
SPHAL 2		
1445	grab	black fine grained pyritic basalt
1446	grab	argillaceous aphanitic dark basalt with trace pyrite
1447	1m chip	andesite volcanic with pyrite and pyrrhotite veining
1448	1m chip	andesite volcanic with pyrite and pyrrhotite veining
1449	grab	siliceous felsic intrusion, ankerite weathered with grey green sericite quartz core
1450	grab	felsic rhyolite dyke with Fe carbonate, ankerite core
1501	grab	brecciated calcareous quartz ankerite vein
1502	grab	felsic porphoritic intrusive with ankerite and maraposite
1503	silt	Fe stained silt
1504	grab	aphanitic sediment unit within limestone with blebs and disseminated pyrite and possibly arsenopyrite 60%
1505	grab	sulphuric munge from hot spring; grey black goo
1506	grab	sulphur stained aphanitic grey siltstone rock from hot spring
1507	grab	sulphuric munge from hot spring, grey black goo
1942	grab	tan to black limestone, fine grained with swirlled layers, quartz carbonate veinlets
1943	grab	rusty orange red weathered quartz ankerite veining, within limy sediment
1944	grab	dark orange brown mafic volcanic with graphitic shear zones and quartz carbonate veins
1822	grab	siliceous grey volcanic? dolomite?
1823	grab	mixed mafic volcanic and rhyolite tuff with fine grained disseminated pyrite
1366	grab	10cm quartz vein within foliated volcanic unit
1367	grab	rusty black siltstone with blebs of pyrite

Sample No.	Sample Type	Description
SPHAL 4		
1329	grab	siliceous brecciated volcanic with ankerite veinlets, andesite
1330	grab	siliceous limestone with quartz ankerite veinlets
1331	grab	mixed blank quartzite and carbonate rock with brecciated quartz ankerite veins
1332	grab	deep red mudstone unit
1333	grab	light and dark banded migmatite within limestone, massive grey blue
1353	grab	strongly altered limestone with fault zone with quartz ankerite veinlets
1354	grab	siliceous altered limestone with quartz ankerite veinlets
1355	grab	siliceous grey quartzite with ankerite veinlets
1356	float	blank slate, non calcareous, strong foliation, talus
1357	grab	light green mafic volcanic ash tuff with disseminated chalcopyrite, trace
1358	grab	very fine grained mafic volcanic or black siltstone, with brecciated ankerite in filling
1359	grab	shear zone with quartz ankerite calcite veining, chlorite alteration
1360	float	intrusive dyke with trace coarse grained chalcopyrite, talus
1361	float	intrusive dyke with trace coarse grained chalcopyrite, talus
1362	grab	gossaneous medium volcanic, rusty weathered surface
1363	grab	medium volcanic, strongly foliated, sheared and chlorite altered
1364	grab	rusty weathered medium volcanic with pyritic zones
1365	float	well banded siltstone, talus
1508	grab	quartz ankerite zone within limestone unit
1509	grab	disseminated pyrite 1% within siliceous sediment zone

Sample No.	Sample Type	Description
SPHAL 4 cont..		
1510	grab	rusty weathered banded siliceous sediment with 1-5% disseminated pyrite
1511	silt	near rsediment volcanic contact
1512	float	rusty aphanitic grey white siliceous volcanic sediment with 10% disseminated pyrite
1513	grab	contact zone with Fe carbonate ankerite veins and skarn sweats
1514	grab	pyrite lenses within coarse grained limestone unit
1515	flaot	arsenopyrite stined boulders with 10-15% blebs and disseminated pyrite
1634	grab	dark siliceous limestone with pyritic ankerite zone
SPHAL 6		
20588	grab	brecciated limestone
20589	grab	brecciated limestone with Fe- carbonate, siderite
20590	grab	quartz siderite vein within limestone
20591	grab	brecciated limestone
20592	grab	limestone
20593	grab	limestone with calcite veining
20594	grab	quartz vein, barren white within limestone
1627	float	pyritic siliceous limey sediment
1628	grab	bedded limestone, quartzite sediments with chalcopyrite
1629	grab	bedded limestone and shale sediment unit
1630	grab	bedded limestone and sediment unit with pyritic clay zone
1631	float	boulder, train of siliceous pyritic material, at corner post
1632	float	boulder train or siliceous pyritic material
1633	float	large quartz boulders with disseminated pyrite
1728	float	pyritic limestone

Sample No.	Sample Type	Description
SPHAL 6 Cont'd.		
1729	grab	pyritic limestone
1730	grab	limestone unit with trace pyrite and chalcopyrite
1731	float	limestone with trace pyrite
1732	grab	limestone and carbonate sediment with trace pyrite
1733	float	quartz veins with pyritic fractures
1734	float	quartz carbonate cemented limestone breccia
1425	grab	quartz ankerite zone within ignembrite zone with specular hematite
1426	grab	intermediate volcanic, green and purple with amygdules and Fe carbonate zones
1427	grab	limey purple contact unit, volcanic?
1428	grab	orange rusty weathered ankerite zone within limestone
1429	grab	quartz epidote hematite zone within volcanic unit
1430	grab	quartz with minor ankerite zone with orange weathering
1431	float	rusty weathered ruggy ankerite zone at contact of limestone and purple volcanics
1432	grab	quartz ankerite zone
1433	grab	ankerite siderite shear zone with trace pyrite
1434	float	quartz vein with chalcopyrite, pyrite and bornite
1435	grab	Fe-carbonate zone with a shear within volcanic unit
39	float	1/2m wide quartz carbonate vein with pyrite and chalcopyrite
40	grab	red lapilli tuff with pyritic shear, talc alteration
41	float	mixed limy tuff and limestone with disseminated pyrite
42	grab	mixed limy tuff and limestone with disseminated pyrite
43	float	quartz carbonate vein with grey mineral

Sample No.	Sample Type	Description
SPHAL 6 cont..		
44	grab	limey sediment with malachite and chalcopyrite
17	silt	1/2m wide stream in shear gully
19	float	quartz carbonate vein with chalcopyrite bornite and pyrite, on Sphal 6 claim line
20	float	quartz vein with chalcocite and malachite
21	grab	shear gully with quartz carbonate vein with black-grey mineral
22	grab	rusty weathered propylitic green sheared tuff with pyrite
23	float	large boulders of rusty pyritic altered tuff,
24	float	limey carbonate rock with chalcocite, malachite and pyrite
25	grab	shear zone in limey carbonate with chalcorite and pyrite, talus
26	float	limey carbonate with malachite chalcorite and pyrite, talus
27	float	white limey chyolite with calcite stringers and chalcopyrite
SPHAL 8		
1401	silt	
1402	silt	
1418	1m chip	purple agglomerate lense within felsic ankerite zone within limestone
1419	silt	north east glacier creek
1420	silt	east glacier creek
1421	float	quartz ankerite zone with 5% sulphide lenses, pyrite
1422	float	quartz ankerite zone with 5% sulphides lenses, pyrite
1423	grab	rusty green agglomeratic tuff with ankerite zones
1424	grab	quartz ankerite shear zone with possible chromite
1436	grab	quartz ankerite vein within shear zone within volcanics
1437	grab	quartz ankerite vein within shear zone at contact of limestone and volcanic units purple contact zone

Sample No.	Sample Type	Description
SPHAL 8 cont..		
1438	grab	quartz ankerite zone within black banded sediment and/or volcanic tuff?
1439	silt	
1440	float	rusty weathered intermidiate volcanic tuff with amygdukes and disseminated pyrite arsenopyrite zones
1441	grab	quartz rich ankerite shear zone within volcanic unit
1442	grab	mixed volcanic and limestone brecciat with disseminated chalcopyrite
1443	1m chip	yellow weathered quartz ankerite zone in shear within volcanic
1444	1m chip	quartz ankerite shear zone within volcanic unit
1735	grab	sheared schistose sediment unit with quartz and pyrite
1736	grab	sediment unit with quartz shear zones with trace pyrrite
1737	grab	siliceous sediment with pyrite
1738	grab	siliceous quartz flooded sediment with trace chalcopyrite and pyrite
1739	float	quartz cemented brecciated sediment with quartz carbonate zone with chalcopyrite pyrite and malachite, talus
1740	float	large boulders of quartz carbonate rock with chalcopyrite, malachite and pyrite
1741	grab	quartz carbonate zone with 1% chalcopyrite
1742	grab	quartz ankerite zone with barite and malachite
1743	grab	quartz ankerite zone with barite and trace chalcopyrite and pyrite
1744	grab	schistose sediment with pyrite with quartz carbonate
1745	grab	quartz ankerite sediment unit with chalcopyrite and pyrite
1746	grab	quartz vein, grey with pyrite blebs
1757	grab	rusty weathered schistose zone with quartz and black mineral
1635	grab	rusty pyritic shear zone, calcareous and schistose

Sample No.	Sample Type	Description
SPHAL 8 cont..		
1636	grab	quartz ankerite vein with pyrite
1637	grab	quartz ankerite zone with pyrite
1638	grab	sheared quartz carbonate zone with barite and chalcopyrite
1639	grab	sheared quartz carbonate zone with barite and chalcopyrite
1640	grab	sheared quartz carbonate zone with barite and chalcopyrite
1641	grab	sheared quartz carbonate zone with barite and chalcopyrite
1642	grab	bedded sediment with pyrite seams and quartz carbonate zones
1643	grab	bedded sediment with pyrite seams and quartz carbonate zones
1644	grab	schistose bleached quartz carbonate zone intersection of faults
1645	grab	schistose clay altered quartz carbonate zone with chalcedomy

SPHAL 2

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PP
1366	0.4	14150	15	3	4343	1.3	8	20200	2.1	17	21	17430	1790	52	10170	384	7	500	13	240	10	1	40	1	1	23.5	30	3	2	6	145	5
1367	1.4	9670	12	3	2960	0.6	8	530	1.6	16	29	26470	1560	54	8480	213	11	440	39	270	23	4	8	1	1	40.2	57	5	2	3	91	5
1442	0.7	1660	3	4	4	1.4	1	121340	5.6	22	460	54790	1040	43	46890	1821	5	470	6	160	4	54	3	3	1	32.9	74	7	1	1	43	5
1443	3.5	1190	38	1	48	0.4	10	2140	2.6	11	25	6370	1050	49	2160	205	8	480	13	150	15	9	6	1	6	13.5	12	20	1	16	216	5
1444	0.3	4240	1	4	165	1	1	64250	3.7	21	4	37300	1730	48	10710	1070	5	440	18	240	11	1	3	2	1	59.8	24	2	1	1	132	5
1445	0.5	19540	34	4	169	1.1	1	14220	1.3	36	100	47330	11750	68	17390	700	4	3790	24	1400	18	1	57	1	1	185	113	1	3	4	173	10
1446	0.7	24660	25	5	122	0.8	9	52960	0.6	19	65	20740	4690	57	7370	472	7	1910	24	1100	14	2	171	1	1	49.2	31	2	3	2	103	5
1447	0.3	23240	24	6	32	0.8	1	98550	2.1	23	947	41890	4640	48	10920	11471	9	1180	2	780	41	1	1	1	1	87.9	57	1	3	1	57	15
1448	1	11740	15	4	2	0.8	1	164290	3.7	22	911	33070	3540	49	13290	13466	9	460	4	470	42	1	2	1	1	54.8	64	1	3	1	45	20
1449	1.6	6790	38	3	245	0.8	9	18560	2.9	16	26	22000	3690	46	4640	696	7	810	7	1220	27	2	54	1	1	20.4	73	7	2	1	65	5
1450	0.6	3610	10	2	303	0.7	5	190760	2.1	14	29	20880	1760	39	11250	870	7	350	9	420	6	2	173	1	1	28.1	19	3	1	1	37	5
1501	9.3	2930	26	3	22	1	47	158580	3.2	14	140	32500	2210	44	12770	868	7	390	7	460	203	3	106	1	1	20.9	70	1	2	1	52	10
1502	6.5	2360	2	3	17	0.7	3	64100	4.1	17	7	28990	1540	46	18370	950	7	400	14	310	15	1	7	1	1	63.8	24	2	2	1	69	5
1503	0.4	14270	2	5	83	1.4	2	5960	1.9	24	63	40430	1460	48	8470	1593	9	560	33	1030	56	1	11	1	1	55.6	151	4	8	1	54	50
1504	0.9	14810	3	7	114	1.3	8	1380	1.2	21	22	34980	1930	72	10680	175	8	930	58	320	21	1	11	1	1	46.4	127	1	2	1	84	5
1505	1.7	6730	74	10	98	1.5	7	114730	2.3	24	47	37020	1830	49	8780	396	8	990	32	790	14	10	253	1	1	51.5	64	2	1	2	51	5
1506	0.2	7210	1	3	73	1	3	26760	1.6	22	5	37030	2710	56	17420	538	7	860	15	1470	17	1	40	1	1	44.8	79	1	1	2	64	5
1507	3	9310	111	5	74	1.4	7	42760	2	27	62	51890	2090	52	9350	370	9	850	42	1070	16	11	88	1	1	63.1	98	1	1	1	64	5
1822	2.7	2150	38	1	49	0.7	9	16620	3.4	12	36	8480	1550	49	3790	186	7	470	21	210	10	9	11	1	4	14.8	39	14	1	8	138	10
1823	0.4	8290	12	5	103	1.2	1	47220	4.2	31	9	29840	1920	59	27470	2269	6	580	26	390	14	1	63	1	1	23.3	38	1	1	1	67	5
1942	1.5	340	10	1	1	0.5	8	82230	4	9	17	3260	940	44	12950	84	6	350	12	130	6	7	11	1	1	9.8	24	12	1	5	81	10
1943	0.5	990	8	1	2	0.7	6	190180	3.6	9	12	14850	990	45	14620	467	6	310	9	200	6	7	81	1	1	16.4	11	1	2	1	34	5
1944	0.4	29290	5	8	70	1.4	2	44060	0.8	48	85	74570	1590	73	35450	1066	4	520	136	2820	6	4	207	2	1	221.9	79	1	1	1	153	5

SPHAL 4

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
1329	1.2	540	14	1	12	0.6	5	23890	3.4	10	70	14730	910	45	9790	816	7	400	12	190	14	5	1	1	1	12.5	10	5	2	16	252	5
1330	0.6	480	1	2	1	1.1	5	158410	6.6	8	18	3510	920	43	59470	303	5	320	8	130	6	4	2	1	1	6.8	1	1	1	1	41	5
1331	0.3	360	1	2	1	1	1	73680	5.2	9	4	27050	930	44	33990	1920	7	370	4	110	11	1	1	1	1	12.4	6	1	1	6	200	5
1332	0.7	16020	1	10	98	1.5	3	8450	1	24	5	72890	3130	52	9780	588	4	1250	5	300	10	1	10	1	1	41.1	40	4	1	2	41	10
1333	0.3	440	4	2	1	1	4	95630	6.5	9	17	4260	800	39	49380	188	5	320	12	80	6	2	1	1	1	9.9	3	5	1	2	109	5
1353	0.3	790	6	3	84	1	1	142500	7.3	10	4	26720	1230	33	60590	1643	6	420	3	170	8	1	3	1	1	10.6	6	1	1	1	38	5
1354	0.1	890	8	2	4	1.2	2	147020	4.8	11	8	21200	1120	35	60810	1351	7	380	7	160	4	1	1	1	1	12.5	7	7	1	1	40	20
1355	3	250	29	1	8	0.5	10	60130	3.2	11	21	3940	1140	32	10360	171	8	460	13	160	10	9	2	1	1	12.6	5	22	1	11	133	5
1356	0.3	15290	6	5	231	0.9	9	4540	1.1	15	19	25840	2410	45	11530	580	7	560	17	260	16	1	7	1	1	44.2	64	1	2	3	113	10
1357	0.3	29470	27	7	72	1	3	18130	2.1	41	83	43120	1200	53	30580	882	6	740	55	780	14	5	33	1	1	152.4	57	5	4	3	187	5
1358	2.7	4850	33	1	101	0.4	10	390	2.4	13	61	9540	1630	40	4060	46	8	590	23	180	13	8	8	1	1	24	11	14	2	12	172	5
1359	0.1	19720	8	4	26	0.7	3	107010	3.4	24	2106	31990	1220	49	20440	738	8	510	35	540	5	1	5	1	1	74.3	24	1	1	1	129	135
1360	0.4	24670	17	8	18	1.6	17	24210	0.5	35	4	61190	1280	46	14200	840	6	770	2	4440	11	1	22	1	1	92.8	73	4	5	1	68	5
1361	0.1	33140	9	8	6	1.4	2	42390	0.1	49	5	75120	1420	52	24550	860	5	550	3	2040	6	4	40	3	1	323.6	75	1	3	1	47	10
1362	0.2	27580	16	10	97	1.4	9	14240	1.4	59	33	77210	1480	49	16440	644	7	740	11	2320	11	1	6	1	1	249.3	73	5	6	3	55	5
1363	0.3	26070	3	6	8	0.9	2	99180	2.7	28	28	30230	1670	52	27750	966	7	430	37	630	3	1	3	1	1	86.6	28	5	2	1	105	5
1364	0.1	37680	19	12	191	1.9	6	9700	1.7	42	3	79940	2320	59	34350	570	41	460	159	2020	21	8	5	1	1	103.4	93	6	2	3	279	25
1365	0.6	30060	31	6	57	0.9	9	8870	1.1	30	43	41050	2170	54	21330	760	7	630	12	540	13	5	10	1	1	90.2	61	1	3	1	61	10
1508	0.3	450	7	1	5	1.3	1	158150	7.9	9	5	28830	980	22	67650	1042	5	390	2	100	6	1	2	1	1	7.9	10	1	1	1	38	5
1509	0.4	16320	10	6	93	1.2	1	46480	3	27	41	49880	2490	38	25280	1017	5	820	12	960	8	3	3	1	1	105.1	54	3	1	1	88	5
1510	0.8	11020	7	1	340	0.8	8	16850	2.2	21	97	17220	2420	44	11090	641	7	540	33	460	22	1	129	1	1	29.1	52	2	1	3	121	20
1511	1.4	6750	44	2	115	1.2	7	131700	4.5	18	29	18210	1790	42	22710	533	8	540	34	720	14	5	2	1	1	30.4	48	1	1	1	44	5
1512	2.8	5550	28	2	41	1	10	5520	1.8	12	8	32320	3880	31	2270	33	8	800	29	1750	15	4	17	1	1	21.4	41	15	1	1	52	5
1513	0.7	670	436	17	26	0.1	1	45570	3.7	75	4	243120	1180	30	8870	522	183	370	225	990	22	6	5	5	1	28.1	86	8	1	2	46	5
1514	1.9	4540	8	8	31	0.8	4	1220	0.9	9	4	123830	3850	35	1710	2	10	650	10	710	10	6	4	1	1	13.8	29	6	1	1	94	5
1515	1.5	4690	5	8	32	0.5	4	1190	1.2	8	4	126980	3870	35	1700	1	10	630	13	720	11	5	4	1	1	13.2	29	4	1	1	97	10
1634	3.4	170	30	1	7	0.6	9	22990	4.1	10	18	5780	930	49	13530	233	7	410	14	130	13	8	1	1	3	12.4	6	20	2	11	164	5

SPHAL 6

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
17	1.3	16240	17	3	40	0.6	8	4840	1.9	22	28	42940	830	41	10750	633	4	350	13	1010	17	4	9	1	3	71.3	57	1	1	1	35	10

#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPB	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPB
19	1	2297	11	199	3.5	6	6	2988	4	316	5	0	2	64	1	729	6	9	20.78	0.001	4	10	5.45	8	0.01	12		0.02	0.03	1	22	
20	1	854	2	2	0.8	1	1	299	0.38	4	5	1	3	43	1	4	2	10	1.94	0.003	2	2	0.02	6	0.01	5	6.25	0.01	0.01	1	31	
21	1	34	6	21	0.1	8	12	4042	7.62	8	5	8	2	180	1	2	3	22	22.7	0.007	8	2	3.44	1498	0.01	14	0.47	0.02	0.04	1	1	
22	35	204	20	44	0.2	21	39	1290	14.07	35	5	8	4	16	1	2	3	63	3.12	0.034	3	24	0.83	11	0.01	9	2.27	0.03	0.03	1	1	
23	13	20	14	19	0.1	46	6	96	5.31	30	5	8	2	25	1	2	2	1	0.85	0.688	21	1	0.86	11	0.01	6	0.4	0.02	0.23	1	1	
24	1	2102	9	43	0.4	4	4	4273	6.83	198	5	0	1	47	1	913	3	2	21.47	0.006	4	1	7.16	7	0.01	2	0.03	0.01	0.02	1	98	
25	1	1324	5	27	0.3	7	5	7003	9.12	92	5	0	2	38	1	263	26	5	20.9	0.014	4	4	5.48	8	0.01	5	0.05	0.01	0.02	1	106	
26	1	766	2	24	0.3	4	4	3990	6.2	92	5	0	1	45	1	226	2	1	21.85	0.009	5	3	6.93	3	0.01	4	0.03	0.01	0.01	1	67	
27	1	163	2	13	0.1	1	1	507	0.69	5	5	1	1	71	1	4	2	1	26.6	0.007	3	1	2.41	6	0.01	4	0.01	0.01	0.01	1	1	
39	1	139	3	15	0.1	2	2	1669	2.73	14	5	0	2	119	1	2	2	6	35.18	0.002	6	5	2.71	11	0.01	2	0.04	0.01	0.01	1	3	
40	26	86	22	122	0.4	26	63	1564	11.52	61	5	0	3	22	1	2	2	89	5.14	0.017	4	15	1.41	13	0.01	3	3.6	0.02	0.01	1	2	
41	22	22	13	77	0.1	34	6	105	14.73	35	5	0	3	35	1	2	4	3	1.2	0.047	14	1	0.84	5	0.01	6	0.29	0.02	0.16	1	1	
42	1	1	2	17	0.1	5	1	828	1.93	2	5	0	1	40	1	2	2	2	16.22	0.066	2	2	6.3	11	0.01	34	0.06	0.02	0.01	1	1	
43	1	547	8	77	0.2	7	7	4338	8.65	42	5	0	2	41	1	251	2	2	22.45	0.004	3	3	6.85	7	0.01	3	0.04	0.01	0.02	1	3	
44	1	733	4	24	0.2	6	4	4351	6.29	69	5	0	1	44	1	202	2	2	23.83	0.009	4	2	6.18	6	0.01	30	0.03	0.02	0.01	1	27	

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
1425	0.6	1830	15	4	38	1.1	2	162550	3.5	16	50	71120	840	42	30860	3809	5	290	1	210	6	2	1	1	1	20.5	11	1	1	1	32	5
1426	0.6	2670	13	4	1282	1.3	3	106650	3.9	16	14	52840	1590	42	37080	1974	4	450	1	310	2	1	16	1	1	27.9	24	6	1	1	38	10
1427	0.9	450	55	18	58	3.6	4	9450	1.4	25	16	325420	860	40	7170	10761	4	360	7	30	17	3	1	2	1	20.8	24	18	1	1	52	5
1428	0.6	350	13	2	7	1	2	196950	5.3	9	10	25270	900	42	43170	1581	5	300	2	100	7	1	4	1	1	6.8	6	5	1	1	27	5
1429	0.7	230	13	2	2	1.2	2	209910	4.5	9	13	28650	830	42	46790	1024	8	290	5	160	5	4	5	1	1	6.1	9	1	1	1	24	5
1430	0.7	420	8	2	1	1.1	2	206380	5.3	9	4	17350	880	42	43290	1026	5	310	4	100	6	1	1	1	1	13.6	10	1	1	1	28	5
1431	1.2	1660	550	19	11	0.1	2	62920	0.1	7	6	307440	1010	38	21550	1642	14	350	7	130	68	1	2	1	1	20.8	20	1	2	4	26	5
1432	0.3	440	8	1	3	0.9	1	156020	5.7	9	11	10760	900	44	42050	1138	5	330	5	120	4	2	5	1	1	7.8	6	3	1	1	44	10
1433	0.6	1430	11	2	127	1	2	78210	4.4	8	4	41890	1170	44	26320	984	5	470	1	230	10	1	3	1	1	10	14	1	1	1	24	5
1434	0.8	780	10	3	25	0.7	3	31860	4	12	10	24780	930	44	19490	673	108	770	32	120	22	1	220	1	1	14.6	23	4	1	3	92	60
1435	0.2	3120	12	5	52	1.3	2	101910	3.9	15	3	51350	2030	42	33500	2550	5	390	2	280	5	1	2	1	1	22.9	13	5	1	1	58	5
1627	2.9	4410	49	3	269	0.7	9	13240	2.2	17	72	14230	2110	46	3440	132	9	440	36	4900	33	1	1	1	2	17.5	13	10	1	1	178	10
1628	0.7	430	11	2	2	0.9	1	221950	4	11	1068	21860	930	43	22610	1686	7	280	5	230	7	1	2	1	1	7.1	5	1	1	1	26	15
1629	0.3	20070	38	9	42	1.2	1	84650	1.2	27	3	122780	930	59	20920	2614	2	360	2	2320	3	7	6	1	1	35.3	28	3	1	1	49	5
1630	0.3	4440	25	4	162	1.3	5	24920	2.3	25	8	37260	3040	46	7620	814	5	430	18	490	20	4	14	1	1	14.4	9	2	1	1	36	5
1631	4	550	47	1	125	0.5	11	1100	3	11	25	4140	980	48	1370	39	9	420	17	210	29	11	6	1	4	11.5	6	21	2	10	157	5
1632	3.5	560	45	1	91	0.6	9	3290	3	13	23	11610	1030	49	2350	136	9	420	21	230	16	5	6	1	3	11.9	8	20	1	8	135	10
1633	0.5	970	9	3	15	1.3	2	119260	6.5	12	4	28210	880	46	56140	2247	6	420	11	160	9	1	4	1	1	16	11	1	1	1	64	5
1728	0.2	560	12	1	339	1	6	193790	5.7	10	38	4870	950	44	35250	172	7	290	16	120	6	7	11	2	1	17.5	14	1	1	1	41	5
1729	0.7	390	8	2	35	0.6	7	256900	2.9	9	33	7340	960	44	7150	792	6	250	9	150	5	7	2	1	1	9.3	6	1	2	1	22	5
1730	0.5	320	9	2	13	1.2	1	155290	7	8	15	15340	860	42	75170	922	4	330	1	70	6	1	4	3	1	6.4	2	2	1	1	33	5
1731	2.3	2930	28	2	414	0.6	9	10890	1.9	13	21	24830	1180	49	3780	812	11	490	11	160	14	7	12	1	1	18.6	24	12	1	10	184	5
1732	0.3	900	117	3	32	1	5	179290	2.4	20	12	30770	1280	45	8730	1130	6	320	27	710	13	3	2	1	1	12.1	10	1	2	1	27	5
1733	4.1	280	52	1	44	0.3	12	940	2.7	11	24	3080	980	50	8280	21	8	430	15	110	14	13	7	1	3	11.3	7	27	2	10	135	5
1734	0.3	490	10	1	21	0.7	8	207150	4	9	15	8330	950	47	11100	471	7	290	10	130	5	10	2	1	1	9.5	12	7	1	1	24	5

SHEET 8

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SE	SR	TH	U	V	ZN	GA	SN	W	CR	40-PPB
1401	1.8	11510	21	1	206	0.6	9	10540	3.1	16	18	32380	1400	42	12590	630	5	390	12	760	13	4	16	1	4	51.7	45	2	4	1	46	5
1402	1.9	11450	22	1	118	0.9	9	19730	3.2	16	25	33890	1210	44	12980	617	5	380	8	1010	17	6	14	1	4	56.2	40	2	1	1	33	5
1418	0.5	9110	4	3	1418	0.9	1	40040	2.6	16	53	21180	1500	60	14050	575	5	510	10	690	10	1	19	1	1	56.3	19	1	1	1	64	5
1419	0.6	21790	15	7	639	1.1	1	23230	0.4	21	30	41860	2300	59	17280	773	5	760	11	1100	16	3	34	1	1	79.3	54	1	1	1	74	5
1420	0.5	25200	7	7	270	1.4	2	27500	0.3	24	23	43440	2270	63	19340	788	5	670	5	990	7	1	21	1	1	95.2	52	2	2	2	60	10
1421	0.6	1030	45	6	68	1.5	1	105310	1.8	21	177	106530	990	40	47470	2654	3	390	1	90	51	1	3	3	1	42.7	30	10	1	1	36	10
1422	0.4	17750	17	4	146	0.9	6	25210	0.8	19	5	46860	1640	60	11110	798	6	670	2	660	18	1	2	1	1	39.8	40	1	2	1	53	5
1423	0.6	19290	12	7	304	0.9	1	14590	1	20	14	46040	1840	59	13780	365	6	550	4	480	24	1	5	1	1	55.6	46	1	1	2	89	5
1424	0.5	2150	12	4	171	1	2	117790	4.7	19	4	63560	1040	42	43590	2003	4	510	2	150	5	1	2	2	1	27.2	25	7	1	1	39	10
1436	0.2	1090	10	1	140	0.9	1	92050	5.6	11	10	16690	1190	42	30830	1200	6	380	6	120	7	1	2	1	1	12.6	26	5	1	1	87	5
1437	0.3	2260	12	3	31	1.2	1	81840	4.9	17	5	36630	1160	46	30430	1447	5	440	5	310	9	1	3	1	1	46.4	12	3	1	1	38	5
1438	1.9	640	15	2	29	0.7	6	27110	3.4	9	11	14850	920	46	12430	405	7	420	12	130	10	4	1	1	1	15.6	27	10	1	9	153	5
1439	0.7	10320	15	7	75	1.1	1	7830	1.3	21	14	38680	1650	54	5520	792	6	740	11	750	14	1	9	1	1	81.7	37	1	2	1	65	5
1440	0.5	35480	3	10	94	1.1	1	1610	0.3	24	28	49130	1740	77	21090	189	5	740	37	1050	9	5	5	2	1	120.1	34	5	1	1	87	5
1441	0.3	3580	1	4	52	0.9	1	137690	2.4	19	56	46780	1010	45	12970	1922	5	410	15	290	11	1	2	2	1	85.4	40	2	1	1	45	5
1442	0.7	1660	3	4	6	1.4	1	121340	5.6	22	460	54790	1040	43	48890	1821	5	470	6	160	4	54	3	2	1	32.5	24	2	1	1	43	5
1443	3.5	1190	38	1	48	0.4	10	2160	2.6	11	25	6370	1050	49	2160	205	8	490	13	150	15	9	6	1	6	13.5	12	20	1	16	216	5
1444	0.3	4260	1	4	165	1	1	64250	3.7	21	6	37300	1230	48	18710	1070	5	480	18	260	11	1	3	2	1	59.8	26	2	1	1	132	5
1635	0.6	5890	1	1	4	0.5	7	82330	2.7	14	16	16010	1170	47	6140	573	7	510	15	270	12	2	32	1	1	21.6	43	4	2	2	73	5
1636	0.3	1220	14	5	22	1.4	1	144300	5.2	17	264	62060	1100	38	45280	2503	5	510	4	180	8	1	2	3	1	20.7	54	1	1	1	37	5
1637	0.3	21260	14	5	11	0.8	2	154070	1.6	26	20	31400	1080	59	19880	2865	6	400	12	290	9	1	55	1	1	65.5	24	4	1	1	52	10
1638	0.6	1610	15	5	6	1	5	115340	5	20	10309	60650	1070	42	46720	1639	6	450	6	330	14	1	1	1	1	49.9	65	1	1	1	36	35
1639	0.4	2010	1	7	7	0.9	2	125310	2.1	28	38	92290	1180	44	25450	1364	4	450	4	220	8	4	3	1	1	59.6	48	4	1	1	34	5
1640	0.3	2050	11	4	83	1	1	87850	4	22	6015	54898	1360	38	30280	1476	7	580	9	460	19	1	1	1	1	49.8	21	7	1	1	40	15
1641	0.6	1040	1	5	3	1.3	1	125170	4.7	20	163	59890	1090	40	46720	1994	5	460	3	170	5	2	3	2	1	25	50	3	1	1	37	5
1642	0.2	13720	11	8	11	0.9	1	86490	0.3	12	34	98610	1200	47	18760	1119	9	430	4	430	8	1	8	3	1	34.4	34	1	1	1	40	5
1643	1.8	2680	5	1	51	0.6	8	31250	4.5	13	18	17170	1090	44	12960	593	7	460	11	200	14	5	3	1	1	17.4	26	11	2	2	52	10
1644	0.5	2180	4	4	22	1	1	99480	5.4	22	6	55670	1120	43	33130	1636	10	430	6	170	7	22	1	1	1	37.7	42	5	1	1	38	5
1645	0.5	1460	5	3	9	1	2	82000	6.2	20	8	39470	1180	44	35020	1450	7	480	6	110	6	1	2	1	1	34	37	2	1	1	70	5
1735	3.8	3950	41	3	18	0.4	13	370	3.7	13	24	9670	1110	48	4140	223	9	530	19	160	14	10	8	1	1	20.5	28	26	2	20	253	5
1736	2.4	560	12	1	16	0.4	10	28230	4.7	13	13	17710	1210	47	8480	621	16	500	10	190	13	6	1	1	1	14.4	16	13	1	9	140	5
1737	0.7	1840	14	3	8	0.8	1	124990	5.5	26	72	37140	1050	47	28400	2427	7	500	17	350	13	4	4	1	1	62.6	31	6	1	1	56	5
1738	0.4	1260	6	3	1	0.9	1	108630	4.6	17	321	46650	1130	42	41710	1914	6	470	10	180	6	1	2	1	1	49.4	84	1	1	2	56	5
1739	0.7	1210	1	4	1	1	1	117170	3.2	23	547	60670	1160	31	45470	1908	5	480	6	170	5	36	3	1	1	39.1	81	8	1	1	55	10
1740	0.3	1860	214	4	9	0.7	4	92010	2.3	24	2095	53330	1200	42	30950	1617	8	510	7	230	12	96	1	1	1	48.9	73	5	1	1	66	15
1741	0.4	890	1	5	16	1	2	120840	7.1	18	13649	64170	990	43	48010	2086	8	440	4	360	14	1	2	1	1	33.8	43	2	1	1	44	25
1742	5.5	300	31	1	2422	0.4	6	6410	3	15	2840	8890	1100	46	3830	234	8	510	13	100	13	3	327	1	1	15.8	10	4	2	3	35	30
1743	0.4	1470	5	4	493	0.9	1	80610	4.7	27	1326	40190	1320	49	31770	1610	28	540	9	160	15	1	52	1	1	37.6	19	4	1	2	53	15
1744	0.5	7440	5	3	1422	0.6	2	133430	2.5	26	84	27050	1580	50	11590	1227	6	540	22	450	7	1	50	1	1	40.3	24	1	2	1	44	5
1745	0.3	730	10	4	196	1	1	120930	6	21	217	54630	990	42	49460	1933	6	420	3	100	3	1	2	1	1	37.9	42	1	1	2	53	5
1746	0.6	3650	1	2	453	0.5	6	208970	4.2	14	22	17990	1090	46	10620	942	7	360	13	190	3	3	5	1	1	19.9	19	1	1	1	34	5

STATEMENT OF COSTS

SPHAL 2, 4, 6, 8 - PROSPECTING

Prospecting 16 man days @ $250/man day	$ 4,000.00
Samples (including shipping) 138 @ $25/sample	3,450.00
Food @ $30/man day	480.00
Supplies and Equipment	175.00
Contract Base Camp	3,637.00
Mob - De Mob (Aircraft Charter)	750.00
Helicopter Support 16 hours @ $625/hr	10,000.00
Report Preparation	750.00
TOTAL	$23,242.00

Dates: July 7, 9, 10, 11, 12, 15, 16, 17; 1988

STATEMENT OF QUALIFICATIONS

I, **PAUL WILLIAM JONES** of the City if Vancouver, B.C. declare that:

1. I have been actively involved in the mining industry in Canada and the United States for 12 years.

2. I have personally directed and performed the work enclosed in this report under the supervision of Corona Corporation's Senior Geologist, **Darrel Johnson.**

Paul W. Jones

DATED THIS 11th DAY OF Dec 19 89
AT VICTORIA , BRITISH COLUMBIA.

SPHAL 1

SPHAL 7

B SPHAL

Sphaler

Glacier

Volcanics

limestone

argillite

ankerite

ankerite Alt. Zone

EXPLANATION

- Fault with dip
- Contact, interved
- Outcrop
- Strike and dip
- Rock sample location Cu-ppm / Au-ppb
- Legal corner Post

19206

MAP SCALE

200 m 0 200 400 600 m

N.T.S. _____

REVISIONS	No	Date	MADE BY	DESCRIPTION
	1			
	2			
	3			
	4			
	5			

DATE	DRAWN BY	CHECKED	APPROVED
OCT. /1989			

CORONA CORPORATION

OFFICE	DEPARTMENT

SPHAL CLAIM

GEOLOGY MAP

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1 : 10,000	

SPHAL 2

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
1366	0.4	16250	15	3	4343	1.3	8	20200	2.1	17	21	17430	1790	52	10170	384	7	500	13	240	10	1	40	1	1	23.5	30	3	2	6	145	5
1367	1.4	9670	12	3	290	0.6	8	550	1.6	16	29	26470	1560	54	8480	213	11	640	39	270	23	4	8	1	1	40.2	57	5	2	3	91	5
1442	0.7	1660	3	4	6	1.4	1	121340	5.6	22	460	54790	1040	43	48890	1821	5	470	6	160	4	54	3	3	1	32.9	74	7	1	1	43	5
1443	3.5	1190	38	1	48	0.4	10	2160	2.6	11	25	6370	1050	49	2160	205	8	480	13	150	15	9	6	1	6	13.5	12	20	1	16	216	5
1444	0.3	4260	1	4	165	1	1	64250	3.7	21	6	37300	1230	48	18710	1070	5	480	18	280	11	1	3	2	1	59.8	26	2	1	1	132	5
1445	0.5	35540	34	8	162	1.1	1	16220	1.1	30	100	47330	11750	68	17390	700	6	3790	26	1400	18	1	57	1	1	185	113	1	3	4	123	10
1446	0.7	24600	3	5	122	0.8	7	52960	0.6	19	65	20240	4090	57	7370	472	7	1910	24	1100	14	2	171	1	1	69.2	31	2	3	2	103	5
1447	0.3	25240	24	6	32	0.6	1	96550	2.1	23	947	41890	4640	48	10920	11471	9	1180	2	780	41	1	1	1	1	87.9	57	1	3	1	57	15
1448	1	11740	15	4	2	0.6	1	164290	3.7	22	911	33070	3540	49	13290	13666	9	460	4	420	42	1	2	1	1	54.8	64	1	3	1	45	20
1449	1.6	6790	53	3	245	0.8	9	18560	2.9	16	26	22000	3690	46	4640	696	7	810	7	1220	27	2	54	1	1	20.4	73	7	2	1	85	5
1450	0.6	3610	10	2	303	0.7	5	190760	2.1	14	29	20880	1760	39	11250	870	7	350	9	420	6	2	173	1	1	28.1	19	3	1	1	32	5
1501	9.2	2930	28	3	72	1	47	158580	3.2	14	160	32500	2210	44	12770	668	7	390	7	460	203	3	106	1	1	20.9	70	1	2	1	52	10
1502	0.3	2360	2	3	17	0.7	3	64100	4.1	17	7	28990	1540	46	18370	950	7	400	14	310	15	1	7	1	1	63.8	24	2	2	1	69	5
1503	0.4	14270	2	5	63	1.4	2	5960	1.9	24	63	40430	1460	48	8470	1593	9	560	33	1030	56	1	11	1	1	55.6	151	4	8	1	54	50
1504	0.9	14510	3	7	114	1.3	8	1360	1.2	21	22	34960	1930	72	10680	175	8	930	58	320	21	1	11	1	1	46.4	127	1	2	1	84	5
1505	1.7	6750	74	15	98	1.5	7	114730	2.3	24	47	37020	1830	49	8780	396	8	990	32	790	14	10	253	1	1	51.5	64	2	1	2	51	5
1506	0.2	7210	1	3	73	1	3	26760	1.6	22	5	37030	2710	56	17420	538	7	860	15	1470	17	1	60	1	1	44.8	79	1	1	2	64	5
1507	3	9310	111	5	74	1.4	7	42760	2	27	62	51890	2090	52	9350	370	9	850	42	1070	16	11	88	1	1	63.1	98	1	1	1	64	5
1822	2.7	2150	38	1	49	0.7	9	16620	3.4	12	35	8480	1550	49	3790	186	7	470	21	210	10	9	11	1	4	14.8	39	14	1	8	138	10
1823	0.4	6700	12	5	103	1.2	1	47220	4.2	31	9	29840	1920	59	27470	2269	6	560	26	390	14	1	63	1	1	23.3	38	1	1	1	67	5
1942	1.5	340	10	1	1	0.5	8	82230	4	9	17	3260	940	44	12950	84	6	350	12	130	6	7	11	1	1	9.8	24	12	1	5	81	10
1943	0.5	990	8	1	2	0.7	6	190180	3.6	9	12	14650	990	45	14620	467	6	310	9	200	6	7	81	1	1	16.4	11	1	2	1	34	5
1944	0.4	29250	5	8	70	1.4	2	44060	0.8	48	85	74570	1590	73	35450	1066	4	520	136	2820	6	4	207	2	1	221.9	79	1	1	1	153	5

SPHAL 4

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
1329	1.2	540	14	1	12	0.6	5	23990	3.4	10	70	14730	910	45	9790	816	7	400	12	190	14	5	1	1	1	12.5	10	5	2	16	252	5
1330	0.6	480	1	2	1	1.1	5	158410	6.6	8	18	3510	920	43	59470	303	5	320	8	130	6	4	2	1	1	6.8	1	1	1	1	41	5
1331	0.3	360	1	2	1	1	1	73660	5.2	9	4	27050	930	44	33990	1920	7	370	4	110	11	1	1	1	1	12.4	6	1	1	6	200	5
1332	0.7	15020	1	10	98	1.5	3	8450	1	24	5	72890	3130	52	9780	588	4	1250	5	300	10	1	10	1	1	61.1	40	4	1	2	41	10
1333	0.3	440	4	2	1	1	4	55630	6.5	9	17	4260	800	39	49380	188	5	320	12	80	6	2	1	1	1	9.9	3	5	1	2	109	5
1353	0.3	790	6	3	84	1	1	142500	7.3	10	4	26720	1230	33	60590	1643	6	420	3	170	8	1	3	1	1	10.6	6	1	1	1	38	5
1354	0.1	870	8	2	4	1.2	2	147020	4.8	11	8	21200	1120	35	60810	1351	7	380	7	160	4	1	1	1	1	12.5	7	1	1	1	40	20
1355	3	250	29	1	6	0.5	10	60130	3.2	11	21	3940	1140	32	10300	171	8	460	13	160	10	9	2	1	1	12.6	5	22	1	11	133	5
1356	0.3	15290	6	3	231	0.9	9	4540	1.1	15	19	25840	2410	45	11530	580	7	560	17	260	16	1	7	1	1	44.2	64	1	2	3	113	10
1357	0.3	29470	27	7	72	1	3	18130	2.1	41	83	43120	1200	53	30580	882	6	740	55	780	14	5	33	1	1	152.4	57	5	4	3	187	5
1358	2.7	4850	33	1	101	0.4	10	390	2.4	13	61	9540	1630	40	4060	46	8	590	23	180	13	8	8	1	1	24	11	16	2	12	172	5
1359	0.1	19720	6	4	26	0.7	3	107010	3.4	24	2106	31990	1220	49	20440	738	8	510	35	540	5	1	5	1	1	76.3	24	1	1	1	129	135
1360	0.4	24670	17	6	18	1.6	17	24210	0.5	35	4	61190	1280	46	14200	840	6	770	2	4440	11	1	22	1	1	92.8	73	4	5	1	68	5
1361	0.1	33140	9	8	6	1.4	2	42390	0.1	49	5	75120	1420	52	26550	860	5	550	3	2040	6	4	40	3	1	323.6	75	1	3	1	47	10
1362	0.2	27580	16	10	97	1.4	9	16240	1.4	59	33	77210	1680	49	16440	644	7	740	11	2320	11	1	6	1	1	249.3	73	5	6	3	55	5
1363	0.3	26070	3	6	8	0.9	2	99180	2.7	28	28	30230	1870	52	27750	966	7	430	37	630	3	1	3	1	1	88.6	28	5	1	1	105	5
1364	0.1	37650	17	12	191	1.9	6	9700	1.7	42	3	79940	2370	59	36350	570	41	460	159	2020	21	8	5	1	1	103.4	93	6	2	3	279	25
1365	0.6	30060	31	6	57	0.9	9	8870	1.1	30	43	41050	2170	54	21330	760	7	630	12	540	13	5	10	1	1	98.2	61	1	3	1	61	10
1508	0.3	650	7	1	5	1.3	1	158150	7.9	9	5	28830	980	22	67650	1042	5	390	2	100	6	1	2	1	1	7.9	10	1	1	1	38	5
1509	0.4	16320	10	6	93	1.2	1	46480	3	27	41	49880	2490	38	25280	1017	5	820	12	960	8	3	3	1	1	105.1	54	3	1	1	86	5
1510	0.6	11020	7	1	340	0.8	8	16850	2.2	21	97	17220	2420	44	11090	641	7	540	33	460	22	1	129	1	1	29.1	52	2	1	3	121	20
1511	1.4	6750	44	2	115	1.2	7	131700	4.5	18	29	18210	1790	42	22710	533	8	540	34	720	14	5	2	1	1	38.4	48	1	1	1	44	5
1512	2.8	5550	29	2	41	1	10	5520	1.8	12	8	32320	3880	31	2270	33	8	800	29	1750	15	4	17	1	1	21.4	41	15	1	1	52	5
1513	0.7	670	436	17	26	0.1	1	45570	3.7	75	4	243120	1180	30	8870	522	183	370	225	990	22	6	5	5	1	28.1	86	8	1	2	46	5
1514	1.9	4540	8	8	31	0.8	4	1220	0.9	9	4	123830	3850	35	1710	2	10	650	10	710	10	6	4	1	1	13.8	29	6	1	1	94	5
1515	1.5	4690	5	8	32	0.5	4	1190	1.2	8	4	126980	3870	35	1700	1	10	630	13	720	11	5	4	1	1	13.2	29	4	1	1	97	10
1634	3.4	170	30	1	7	0.6	9	22990	4.1	10	18	5780	930	49	13530	233	7	410	14	130	13	8	1	1	3	12.4	6	20	2	11	164	5

SPHAL 6

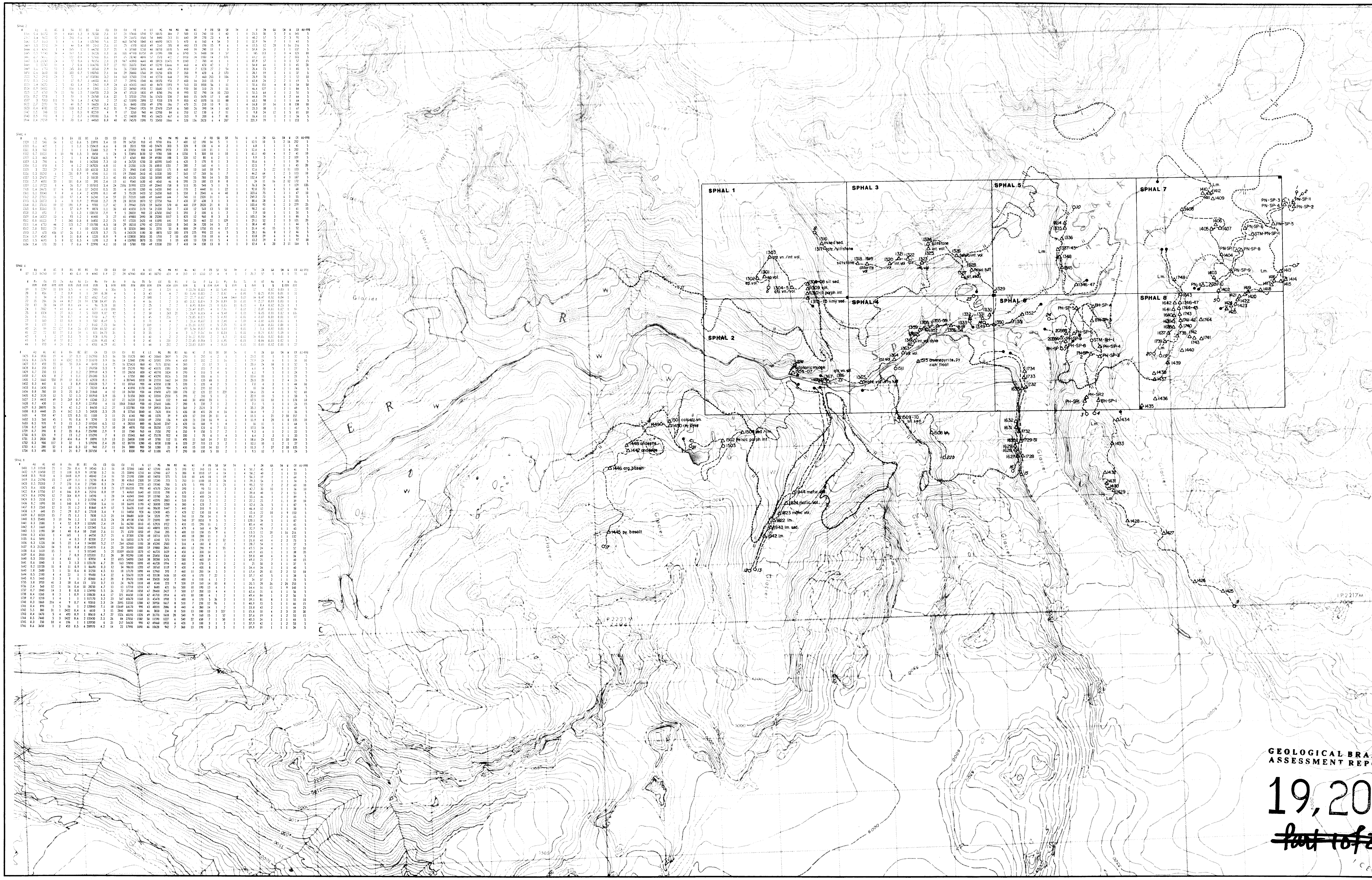
#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
17	1.3	16260	17	3	40	0.6	8	4840	1.9	22	28	42940	830	41	10750	633	4	350	13	1010	12	4	9	1	3	71.3	52	1	1	1	35	10

#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPB	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au PPB
19	1	2297	11	199	3.5	6	6	2909	6	316	5	0	2	64	1	729	6	9	20.78	0.001	4	10	5.45	6	0.01	12		0.02	0.03	1	22
20	1	856	2	2	0.8	1	1	299	0.38	4	5	1	3	43	1	4	2	10	1.94	0.003	2	2	0.02	6	0.01	5	0.25	0.01	0.01	1	31
21	1	34	6	21	0.1	8	12	6062	7.62	6	5	0	2	180	1	2	3	22	22.7	0.097	8	2	3.44	1459	0.01	14	0.47	0.02	0.04	1	1
22	35	206	20	64	0.2	21	39	1200	14.87	35	5	0	4	16	1	2	3	63	3.12	0.096	3	24	0.83	11	0.01	9	2.27	0.03	0.03	1	1
23	13	20	14	19	0.1	68	6	96	5.31	30	5	0	2	25	1	2	2	1	0.65	0.065	21	1	0.06	11	0.01	6	0.4	0.02	0.23	1	1
24	1	2102	9	43	0.4	4	4	4273	6.63	196	5	0	1	47	1	913	3	2	21.47	0.006	4	1	7.16	7	0.01	2	0.03	0.01	0.02	1	98
25	1	1324	5	27	0.3	7	5	7003	9.12	92	5	0	2	38	1	263	20	5	20.9	0.014	4	4	5.48	6	0.01	5	0.05	0.01	0.02	1	106
26	1	765	2	24	0.2	4	4	3370	6.2	92	5	0	1	45	1	226	2	1	21.05	0.005	5	3	6.93	3	0.01	4	0.03	0.01	0.01	1	87
27	1	163	2	13	0.1	1	1	507	0.69	5	5	1	1	71	1	4	2	1	28.6	0.007	3	1	2.41	6	0.01	4	0.01	0.01	0.01	1	1
39	1	137	3	12	0.1	2	2	1660	2.73	14	5	0	2	119	1	2	2	6	35.15	0.002	6	5	2.71	11	0.01	2	0.04	0.01	0.01	1	3
40	26	66	22	127	0.4	26	63	1504	11.52	61	5	0	3	22	1	2	2	83	5.14	0.017	4	15	1.41	17	0.01	2	3.6	0.02	0.01	1	2
41	22	22	13	77	0.1	34	6	105	14.73	36	5	0	3	35	1	2	4	3	1.2	0.047	14	1	0.04	5	0.01	6	0.29	0.02	0.18	1	1
42	1	1	2	17	0.1	5	1	828	1.93	2	5	0	1	40	1	2	2	2	16.22	0.006	2	2	6.3	11	0.01	34	0.06	0.02	0.01	1	1
43	1	547	8	77	0.2	7	7	6338	8.65	42	5	0	2	41	1	251	2	2	22.45	0.004	3	3	6.85	7	0.01	2	0.04	0.01	0.02	1	3
44	1	733	4	24	0.2	6	4	4351	6.29	60	5	0	1	44	1	202	2	2	23.63	0.009	4	2	6.15	6	0.01	33	0.03	0.02	0.01	1	27

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
1425	0.6	1830	15	4	39	1.1	2	162950	3.5	16	50	71120	840	42	30660	3609	5	290	1	210	6	2	1	1	1	20.5	11	1	1	1	32	5
1426	0.6	2670	13	4	1262	1.3	3	106090	3.9	16	14	52640	1590	42	37080	1974	4	450	1	310	2	1	16	1	1	27.9	24	6	1	1	36	10
1427	0.9	450	55	18	50	3.6	4	8490	1.6	25	16	325420	860	40	7170	10761	4	360	7	30	17	3	1	2	1	20.5	24	18	1	1	52	5
1428	0.6	350	13	2	7	1	2	196950	5.3	9	10	25270	900	42	43170	1581	5	300	2	103	7	1	6	1	1	6.6	6	5	1	1	27	5
1429	0.7	230	13	2	2	1.2	2	209910	4.5	9	13	28650	830	42	40790	1024	8	290	5	100	5	4	5	1	1	6.1	9	1	1	1	24	5
1430	0.7	420	8	2	1	1.1	2	206380	5.3	9	6	17350	880	42	43290	1026	5	310	4	100	6	1	1	1	1	13.6	10	1	1	1	28	5
1431	1.2	1660	550	19	11	0.1	2	62920	0.1	7	6	307440	1010	38	21550	1662	14	350	7	139	68	1	2	1	1	20.8	20	1	2	4	26	5
1432	0.3	440	6	1	3	0.9	1	150020	5.7	9	11	18760	900	44	42050	1138	5	330	5	120	4	2	5	1	1	7.8	6	3	1	1	44	10
1433	0.6	1430	11	2	127	1	2	78210	4.4	8	4	41890	1170	44	26320	984	5	470	1	230	10	1	3	1	1	10	14	1	1	1	74	5
1434	0.8	780	10	3	25	0.7	3	31660	4	12	10	24780	930	44	19490	673	108	770	32	120	22	1	220	1	1	14.6	23	4	1	3	92	60
1435	0.2	3120	12	5	52	1.3	2	101910	3.9	15	3	51350	2030	42	33500	2550	5	390	2	280	5	1	2	1	1	22.9	13	5	1	1	58	5
1627	2.9	4410	49	3	269	0.7	9	13240	2.2	17	72	16230	2110	46	3440	132	9	440	30	4900	33	1	1	1	2	17.5	13	10	1	1	178	10
1628	0.7	430	11	2	2	0.9	1	221950	4	11	1068	21860	930	43	22610	1686	7	280	5	230	7	1	2	1	1	7.1	5	1	1	1	26	15
1629	0.3	20070	36	9	42	1.2	1	84650	1.2	27	3	122780	930	59	20920	2614	2	360	2	2320	3	7	6	1	1	35.3	28	3	1	1	49	5
1630	0.3	4440	25	4	162	1.3	5	24920	2.3	25	8	37760	3040	46	7620	814	5	430	18	400	20	4	16	1	1	16.4	9	2	1	1	36	5
1631	4	550	47	1	125	0.5	11	1100	3	11	25	6140	980	48	1370	39	9	420	17	210	20	11	6	1	4	11.5	6	21	2	10	157	5
1632	3.5	560	45	1	91	0.6	9	3290	3	13	23	11610	1030	49	2350	136	9	420	21	230	16	9	6	1	3	11.9	8	20	1	8	135	10
1633	0.5	970	9	3	15	1.3	2	119260	6.5	12	4	28210	880	46	56140	2247	6	420	11	180	9	1	4	1	1	16	11	1	1	1	64	5
1728	0.2	560	12	1	339	1	6	193790	5.7	10	38	4870	950	44	35250	172	7	290	16	120	6	7	11	2	1	17.5	14	1	1	1	41	5
1729	0.7	390	8	2	35	0.6	7	256900	2.9	9	33	7340	960	44	7150	792	6	250	9	150	5	7	2	1	1	9.3	6	1	2	1	22	5
1730	0.5	320	9	2	13	1.2	1	155290	7	8	15	15340	860	42	75170	922	4	330	1	70	6	1	4	3	1	6.4	2	2	1	1	33	5
1731	2.3	2830	28	2	414	0.6	9	10890	1.9	13	21	26830	1180	49	3780	112	11	490	11	160	14	7	12	1	1	18.6	24	12	1	10	184	5
1732	0.3	900	117	3	32	1	5	179290	2.4	20	12	30770	1280	45	8730	1130	6	320	27	710	13	3	2	1	1	12.1	10	1	2	1	27	5
1733	4.1	280	52	1	64	0.3	12	940	2.7	11	24	3880	980	50	1280	21	8	430	15	110	14	13	7	1	3	11.3	7	27	2	10	135	5
1734	0.3	490	10	1	21	0.7	8	207150	4	9	15	8330	950	47	11100	471	7	290	10	130	5	10	2	1	1	9.5	12	7	1	1	24	5

SPHAL 8

#	Ag	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W	CR	AU-PPB
1401	1.8	11510	21	1	206	0.6	9	18540	3.1	16	18	32380	1400	42	12590	630	5	390	12	760	13	4	16	1	4	51.7	45	2	4	1	46	5
1402	1.9	11450	22	1	118	0.9	9	19730	3.2	16	25	33890	1210	44	12980	617	5	380	8	1010	17	6	14	1	4	58.2	40	2	1	1	33	5
1418	0.5	9110	6	3	1418	0.9	1	40040	2.6	16	53	21180	1500	60	14050	575	5	510	10	690	10	1	19	1	1	56.3	19	1	1	1	64	5
1419	0.6	21790	15	7	639	1.1	1	23230	0.4	21	30	41860	2300	59	17280	773	5	700	11	1100	10	3	34	1	1	79.3	54	1	1	1	74	5
1420	0.5	25200	7	7	270	1.4	2	27500	0.3	24	23	43440	2220	63	19340	788	5	670	5	990	7	1	21	1	1	95.2	52	2	2	2	60	10
1421	0.6	1030	45	6	68	1.5	1	105310	1.8	21	177	106530	990	40	47670	2654	3	390	1	90	51	1	3	3	1	42.7	30	10	1	1	36	10
1422	0.4	17750	17	4	146	0.9	6	25210	0.8	19	5	46860	1640	60	11110	798	6	670	2	600	18	1	2	1	1	38.8	40	1	2	1	53	5
1423	0.6	19290	12	7	304	0.9	1	14590	1	20	14	46040	1840	59	13780	365	6	550	4	480	24	1	5	1	1	55.6	46	1	1	2	89	5
1424	0.5	2150	12	4	171	1	2	117790	4.7	19	4	63560	1040	42	43590	2003	4	510	2	150	5	1	2	2	1	27.2	25	7	1.	1	39	10
1436	0.2	1090	10	1	140	0.9	1	92050	5.6	11	10	16690	1190	42	30830	1200	6	380	6	120	7	1	2	1	1	12.6	26	5	1	1	87	5
1437	0.3	2260	12	3	31	1.2	1	81840	4.9	17	5	36630	1160	46	30630	1447	5	440	5	310	9	1	3	1	1	46.4	12	3	1	1	38	5
1438	1.9	640	15	2	29	0.7	6	27110	3.4	9	11	14850	920	46	12430	405	7	420	12	130	10	4	1	1	1	15.6	22	10	1	9	153	5
1439	0.7	10320	15	7	75	1.1	1	7830	1.3	21	14	38680	1650	54	5520	792	6	740	11	750	14	1	9	1	1	81.7	37	1	2	1	65	5
1440	0.5	35480	3	10	94	1.1	1	1610	0.3	24	28	49130	1740	77	21090	189	5	740	37	1050	9	5	5	2	1	120.1	34	5	1	1	87	5
1441	0.3	3580	1	4	52	0.9	1	137690	2.4	19	56	46280	1010	45	12920	1922	5	410	15	290	11	1	2	1	1	85.4	40	2	1	1	45	5
1442	0.7	1660	3	4	6	1.4	1	121340	5.6	22	460	54790	1040	43	48890	1821	5	470	6	160	4	54	3	3	1	32.9	74	7	1	1	43	5
1443	3.5	1190	38	1	48	0.4	10	2160	2.6	11	25	6370	1050	49	2160	205	8	480	13	150	15	9	6	1	6	13.5	12	20	1	16	216	5
1444	0.3	4260	1	4	165	1	1	64250	3.7	21	6	37300	1230	48	18710	1070	5	480	18	280	11	1	3	2	1	59.8	26	2	1	1	132	5
1635	0.6	5890	1	1	4	0.5	7	82330	2.7	14	16	16010	1170	47	6140	573	7	510	15	270	12	2	32	1	1	21.8	43	4	2	2	73	5
1636	0.3	1220	14	5	22	1.4	1	144300	5.2	17	264	62060	1100	38	45280	2503	5	510	4	180	8	1	2	1	1	20.7	54	1	1	1	37	5
1637	0.3	21260	14	5	11	0.8	2	154070	1.6	20	20	31400	1080	59	19880	2865	6	400	13	290	9	1	55	1	1	65.5	24	4	1	1	52	10
1638	0.6	1610	15	5	6	1	5	115340	5	20	10309	60650	1070	42	46720	1639	6	450	6	330	14	1	1	1	1	49.9	65	1	1	1	38	35
1639	0.4	2010	1	7	7	0.9	2	125310	2.1	28	38	92290	1180	44	25450	1364	4	450	4	220	8	4	3	1	1	59.8	48	1	1	1	34	5
1640	0.3	2050	11	4	83	1	1	87850	4	22	6015	54890	1360	38	30260	1476	7	580	9	460	19	1	1	1	1	49.8	21	7	1	1	40	15
1641	0.6	1040	1	5	3	1.3	1	125170	6.7	20	163	59890	1090	40	46720	1994	5	460	3	170	5	2	3	2	1	25	50	3	1	1	37	5
1642	0.2	13720	11	8	11	0.9	1	86690	0.3	12	34	98610	1200	47	18760	1119	9	430	4	430	8	1	8	3	1	34.4	34	1	1	1	40	5
1643	1.8	2680	5	1	51	0.6	8	31250	4.5	13	18	17170	1090	44	12960	593	7	460	11	200	14	5	3	1	1	17.4	26	11	2	2	52	10
1644	0.5	2180	4	4	22	1	1	99480	5.4	22	6	55670	1120	43	33130	1636	10	430	6	170	7	22	1	1	1	37.7	42	5	1	1	38	5
1645	0.5	1460	5	3	9	1	2	82000	6.2	20	8	39470	1180	44	35020	1450	7	480	6	110	6	1	2	1	1	34	37	2	1	1	70	5
1735	3.8	3950	41	3	18	0.4	13	370	3.7	13	24	9670	1110	48	4140	223	9	530	19	160	14	10	8	1	1	20.5	28	26	2	20	253	5
1736	2.4	560	12	1	16	0.4	10	28230	4.6	13	13	17710	1210	47	8680	621	16	500	10	190	13	6	1	1	1	14.4	16	13	1	9	140	5
1737	0.7	1840	14	3	8	0.8	1	124990	5.5	26	72	37140	1050	47	29400	2427	7	500	17	350	13	4	4	1	1	62.6	31	6	1	1	56	5
1738	0.4	1260	8	3	1	0.9	1	108630	4.6	17	321	46650	1130	42	41710	1914	6	470	10	180	6	1	2	1	1	49.4	84	1	1	2	56	5
1739	0.7	1210	1	4	1	1	1	117170	3.2	23	547	60670	1160	31	45470	1908	5	480	6	170	5	36	3	1	1	39.1	81	8	1	1	55	10
1740	0.3	1860	216	4	9	0.7	4	92010	2.3	24	2095	53330	1200	42	30950	1617	8	510	7	230	12	96	1	1	1	46.9	73	5	1	1	66	15
1741	0.4	890	1	5	16	1	2	120840	7.1	18	13649	64170	990	43	48010	2086	8	440	4	360	14	1	2	1	1	33.8	43	2	1	1	44	25
1742	5.5	300	31	1	2422	0.4	6	6610	3	15	2840	8890	1100	46	3830	234	8	510	13	180	13	3	327	1	1	15.6	10	4	2	3	35	30
1743	0.4	1470	5	4	493	0.9	1	80610	4.7	27	1326	40190	1320	49	31770	1610	28	540	9	160	15	1	52	1	1	37.6	19	4	1	2	53	15
1744	0.5	7440	5	3	1422	0.6	2	133430	2.5	26	84	27050	1580	50	11590	1227	6	540	22	650	7	1	50	1	1	40.3	24	1	2	1	44	5
1745	0.3	730	10	4	196	1	1	120930	6	21	217	54630	990	42	49460	1933	6	420	3	100	3	1	2	1	1	37.9	42	1	1	2	53	5
1746	0.6	3650	1	2	453	0.5	6	208970	4.2	14	22	17990	1090	46	10620	942	7	360	13	190	3	3	5	1	1	19.9	19	1	1	1	34	5



ABBREVIATIONS

ep.	epidote	porph.	porphyry
and.	andesite	qtz.	quartz
arg.	argillite	sed.	sediments
int.	intrussive	sil.	silicified
Lm. lm.	limestone	vol.	volcanics
		vn.	vein

△ Rock Sample

○ Silt Sample

i < 5% Outcrop

ii ≥80% Outcrop

TRAVERSE

12○- - - - - -● *Start* *End*

MAP SCALE

m500 0 500 1000 1500m

NTS.________

	No	Date	MADE BY	DESCRIPTION
REVISIONS	1			
	2			
	3			
	4			
	5			
	DATE	DRAWN BY	CHECKED	APPROVED
	NOV. /1988			

CORONA CORPORATION

OFFICE	DEPARTMENT

SPHAL PROPERTY

SPHAL 2,4,6,8

COMPILATION MAP

MAP INDEX NUMBER	SCALE	DRAWING NUMBER
	1: 25,000	B

VANCAL-46754