83-#732 - 11787

COMINCO LTD.

EXPLORATION
N.T.S. 82 G/2

WESTERN DISTRICT

HOWELL PROPERTY

1983 ASSESSMENT REPORT

FORT STEELE MINING DIVISION, B.C.

LATITUDE: 49°13' N

LONGITUDE: 114°41' W

NOVEMBER 1983

A.B. MAWER

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LIST OF ATTACHMENTS

TABLES

COMINCO LTD.

EXPLORATION
NTS 82 G/2

WESTERN DISTRICT
November 21, 1983

HOWELL PROPERTY

1983 ASSESSMENT REPORT

FORT STEELE MINING DIVISION, B.C.

LATITUDE: 49°13'N;

LONGITUDE: 114°41'W

I. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Howell Group of five claims (88 units) is located on NTS map sheet 82 G/2. Latitude 49°13' N; Longitude 114°41'W. The area is approximately 31 km E.S.E. of Elko, B.C. and at the headwaters of Howell and Twenty Mile Creeks within the MacDonald Range. Access is by vehicle along gravel logging roads via Morrissy, B.C., 16 km south of Fernie.

The area was mapped by the G.S.C. in 1965 and the first claims staked by N.C. Lenard of Calgary in 1969. Subsequently, the claims lapsed and were partially restaked by J.S. Storey of Fernie in late 1982. Cominco staked the Howell 1,2 and 3 in July 1983, and in October added Howell 4 and Howell 5 to cover additional favourable ground and J. Storey's lapsed claims.

The claims are underlain by a complexely faulted pyritic and altered trachyte-syenite of Cretaceous age intruding Proterozoic, Paleozoic and Mesozoic age sediments.

In September 1983 a preliminary evaluation program was conducted on the property consisting of contour soil sampling, minor silt sampling, prospecting and geological mapping. The results of the program indicated three areas of interest where there are coincident anomalous gold and silver values in the soils.

II. INTRODUCTION

The Howell claims were staked in July of 1983. A small evaluation program of contour soil sampling, prospecting and geological mapping has supported the original interpretation and further work is proposed.

(A) Ownership

The claims are owned 100% by Cominco Ltd. The area has been staked prevously as the Rok-Cat (1971-72), Croft KRO (1977), Elk (1982).
Property 5 claims Howell (1 to 5 inclusive) 88 units

CLAIMS	RECORD NO.	RECORDED	ASSESSMENT WORK DUE
Howell 1 (20 units)	1968	July 14, 1983	July 14, 1983
Howell 2 (20 units)	1869	July 14, 1983	July 14, 1983
Howell 3 (20 units)	1870	July 14, 1983	July 14, 1983
Howell 4 (20 units)		October 31, 1984	October 31, 1984
Howell 5 (20 units)		October 31, 1984	October 31, 1984

(B) Location

The property is located in the Fort Steele Mining Division of B.C., NTS map sheet 82 G/2. Latitude 49°13' N; Longitude 114°41' W at the headwaters of Howell and Twenty Nine Mile Creeks, and lying within the MacDonald Range of S.E.B.C. Access to the area is by all weather gravel logging roads approximatley 50 km distance from Morrissy on Highway 3, 16 km south of Fernie, B.C.

The claim area is sub-alpine with steep slopes and a relief of approximately 600 m. The area, once heavily forested, is now mostly logged by clear cut methods and burnt over by forest fires. On the northerly facing slopes into Howell there is considerable merchantable timber which is now controlled by Crestbrook. The two creeks, Howell and Twenty Nine Mile Creek and their small tributary streams, would provide sufficient water for most explortion purposes.

The nearest electrical power is at Morrissy and a natural gas trunk line passes through the area approximately 25 km to the west.

III. HISTORY AND DEVELOPMENT

(A) Previous Exploration

1958-59-60 the G.S.C. (R.A. Price) mapped the area on a scale of 1" = 1 mile and outlined the Howell Creek Trachyte-Syenite Complex Paper 61-24, published in 1962, Memoir 336 - 1965 and studies of the Howell Creek area were done by P.B. Jones in 1964. The property was first staked by N.C. Lenard in 1969. During 1969-1970 reconnaissance stream geochemical sampling and prospecting were carried out.

1971 Canarctic Resources Ltd. of Calgary optioned the property and conducted detailed geochemical and geological evaluations by consultants H.H. Williams, and E.W. Jones. The results of this work indicated no gold or uranium mineralization but that there were possibilities for Cu, Pb, Zn mineralization within the syenitic intrusives and further work was recommended.

In 1972, geological, geochemical and geophysical work was conducted on the property for Canarctic by Consultant R.K. Netolitsky of Calgary. The results of this program indicated areas of significant Pb/Zn anomalies in soils and some Pb/Zn mineralization was located in outcrop. The potential for Pb/Zn mineralization was rated as good and further work was recommended.

In 1972, G.L. Webber conducted a reconnaisance over the claim area. This work consisted of prospecting and soil and silt geochemical checks of previously outlined anomalies. The results of this work indicated the Pb/Zn anomalies are related to a network of sparsley mineralized quartz veins and associated silicification of syenite and trachyte. G.L. Webber recommends trenching to better expose a pyritic zone with traces of fluorite and galena.

In 1983, Cominco work in the area consisted of heavy mineral concentrate stream sampling, silt sampling, prospecting and geological mapping. This limited program indicated anomalous amounts of gold in the heavies and located surface rubble with small amounts of silicified and quartz veined material. The mapping located areas of intense silicification, argillic alteration within the intrusives and sediments.

In the fall of 1983, a limited program of contour soil sampling, minor silt sampling, prospecting and geological mapping was conducted on the Howell Group. The results of this program indicated three areas of interest where there are coincident anomalous gold and siver values in the soil.

IV. GEOLOGY

(A) General

The Howell Creek area lies 12 km west of the Flathead Fault and the western most exposures of the Lewis Thrust (Fig. 1) between Howell Creek area and the Flathead Fault is the MacDonald Dome (Range) which is a broad, open structure broken by many small faults. It is quite unlike the areas to the east and west which are thrust faulted and tightly folded (Fig. 2)

The igneous rocks are confined almost entirely within this central area. They predate the thrust faulting, a fact which can be observed on the ridge north of Twenty Nine Mile Creek where Precambrian and Paleozoic rocks are cut by intrusives which do not pass through the thrust fault into the Cretaceous strata below. It is inferred from this that the intrusives were not implaced when the strata of the MacDonald Dome were in their present position relative to the Lewis Plate strata, but have been displaced by thrusting a substantial distance eastwards. The restricted area within which they occur is believed to be an allochthonous block which has been let down by a series of major normal faults. (D.H. Oswald - 1964).

Stratigraphic relationships and age determinations suggest a late lower Cretaceous or early upper Cretaceous emplacement of the syenite complex. Price (1965) has shown that the intrusives cut Precambrian Kintla Formation, Cambrian Flathead and Elko Formation, Devonian Rundle Fairhold Group, Permian Rocky Mountain Formation, Jurassic Fernie Group and Basal Cover Cretaceous Strata. In the Howell Creek area, the intrusives are not seen cutting the lower Cretaceous strata but are shown to be in fault contact with these younger rocks.

(B) Property

The time spent on the property in September permitted only a very preliminary geological appraisal. Mapping of major lithological units and structures was accomplished by traverses along ridge tops, creek exposures and logging road cuts; small local areas were mapped in more detail to try and define sources of mineralized float and to provide a rudimentary control for sampling.

The Howell claims are underlain by a northwesterly striking and steep westerly dipping complexly faulted package of intrusives and sediments. The intrusives consist of trachyte and syenite occurring as sills, dykes, and fault bounded wedge-like bodies of considerable size. On the whole, there is considerably less intrusive in the area than was indicated by previous mapping (Price 1965).

Together within the fault slices with intrusives occur sediments ranging in age from Proterozoic Mesozoic and consist of red hematitic and green siltstone (Kintla Formation - C) green and yellowish dolomitic siltstone (Kintla Formtion - D) quartzite and sandstone (Cambrian-Flathead Formation) mottled dolomite and limestone (Cambrian Elko Formation) black shaley limestone (Devonian Fairholme Group) sandstone, dark shale sandstone (Mesozoic Alberta Group) mudstone, shale, sandstone (Mesozoic Belly River Formation)

All of the rock units have varying amounts of pyritization, silicification, argillic alteration, minute to large quartz veining and in the case of some sediments, there are hornfels and skarn developed near intrusive contacts and fault zones.

In some areas, the intrusive-sediment contact is marked by silicified breccia zones that contain fragments of a number of rock lithologies. In other areas this breccia resembles a conglomerate or residual lag deposit.

(C) Mineralization

Pyrite mineralization is extensive in both the intrusives and sediments occuring in the silicified areas and quartz veins as disseminations, fracture and breccia infillings. The surface oxidation of the pyrite has led to a distinctive rusty weathering outcrop of the whole complex and extensive areas of yellowish Jarosite are common. Occuring with the pyrite are purple fluorite, galena sphalerite, barite, minor chalcopyrite and chalcocite. These minerals occur mainly as fracture infillings in silicified areas or with late quartz veining.

Small localized patches of pyrite-fluorite-galena vein mineralization were noted on the north slope into Wutluk Creek (M57 and G.L. Webber's showing). This mineralization may be localized by a thrust fault that is interpreted to cross through the area.

V. GEOPHYSICS

None done during this program.

VI. GEOCHEMISTRY

(A) Silt and Soil Geochemistry

During the period of September 8 to September 17, approximately 417 soil, 14 silt and 74 rock samples were collected. The soils were collected along contour lines at 5,500 foot elevations and 6,000 foot elevations at 50 m spacing. A few lines were also run along road cuts and claim lines in specific areas. The samples were collected from the "B" horizon where possible, placed in Kraft sample envelopes and shipped to Bondar Clegg, 130 Pemberton Ave., North Vancouver. The samples are dried, sieved to 80 mesh, digested in HNO3-HCL Hot Extraction, and analysed by Atomic Absorption for Pb, Zn, Ag. Samples analysed for Au were treated by Aqua Regia and Fire Assay A.A. All sample pulps are now stored at the Cominco Exploration Research Laboratory in Vancouver.

Threshold values for Pb, Zn, Ag, Au were calculated by cumulative frequency plots to distinguish the response of mineralization from the background response and are illustrated in Table 2. Results of the sampling may be noted on the accompanying Plates 5 to 16.

(B) Rock Geochemisty

During the period September 8 to September 17, approximately 74 rock samples and or specimens were collected from the Howell claims. Random specimans were collected and sample sections were done in certain other areas as noted on the accompanying plates. The samples are single grabs to four metre chip samples. They were collected in plastic bags and shipped to Bondar Clegg, 130 Pemberton Avenue, North Vancouver. Samples were dried, crushed to 100 mesh and analysed by HNO3-HCL Hot Extraction and Atomic Absorption for Cu, Pb, Zn, Ag. Samples analysed for Au were analysed by Aqua-Regia Extracton and Fire Assay A.A. All sample pulps are now stored at Cominco Exploration Research Laboratory in Vancouver.

Threshold values for Cu, Pb, Zn, Ag, Au were calculated by cumulative frequency plots to distinguish the response of mineralization from background response and are illustrated in Table 2. Results of the sampling may be noted in the accompanying Plates 5-16.

TABLE 2

Table of calculated thresholds
Ag, Cu, Pb, Zn in ppm, Au in ppb

Sample Type	Threshold Value				
	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
Soils	100	1.3	-	>50	>500
Silt	30	-	-	-	-
Rock	>250	>7	-	>100	>1000

In the contour soil sampling, gold ranges from 5-780 ppb but is mainly 5-100 ppb with nearly 27 ppb. Samples with more than 100 ppb Au can be regarded as anomalous in this area. The Au values are usually supported by silver in the range from 0.2 - 15 ppm but generally 0.2-2.0 ppm. Silver values over 1.2 ppm should be regarded as anomalous. On this basis, the following areas of the property merit further work.

(i) On the 6000' contour line (Howell 2 and 3 boundary) high gold background (30-80 ppb) with spot highs supported by silver eg. -

Au (ppb)	Ag (ppm)
165	15.0
110	1.7
630	4.4
340	7.0
360	1.8

High gold and silver values extend to the lower line at 5,500 foot elevation. Area should be investigated by detailed grid sampling, prospecting, and mapping.

(ii) On the 6,000 foot contour line - Howell 3 claim - north of base camp. A good grouping of very anomalous gold values supported by silver.

Au (ppb)	Ag (ppm)
625	4.2
740	14.0
540	9.6
345	2.8

These samples occur close to the contour line for a distance of approximately 200 m. The anomaly does not extend to the lower line but heavy mineral sampling at the base of slope from a creek east of the anomalous soils gave high gold values 600-1,500 ppb. This should be investigated by detailed grid sampling, prospecting and geological mapping.

(iii) On the 5,500 contour line and intermediate lines, Howell 2 and Howell 5 Boundry. Soil sampling gave isolated highs.

Au (ppb)	Ag (ppm)
780	4.8
765	20.8

These were followed up by extensive four metre chip sampling along road and logging trail cuts.

(ii) On the 6,200 foot elevation and the 6,350 foot elevation contour lines are scattered gold values (130 ppb to 5.15 ppb Au) with moderate silver (3.2-6.8 ppm Ag) in a generally normal background.

VII. FINANCIAL AND ECONOMIC CONSIDERATIONS

(A) Property owned 100% by Cominco
(B) See attached Financial Statement

VIII. CONCLUSIONS

Preliminary evaluation of the Howell claims has indicated that anomalous gold-silver values exist in the soils in at least three areas on the claims.

IX. RECOMMENDATIONS

It is recommended that cut grid base-lines be established over the areas of anomalous Au-Ag soil values and that detailed soil sampling be done at 100 m line spacing and 25 m sample spacing. Detailed prospecting and geological mapping should also be done in these areas. Other parts of the claim group should be investigated by additional contour sampling prospecting and geological mapping. The results of the recommended program has the objective of establishing areas that should be tested by cat trenching and or diamond drilling.

Report by: A.B. Mawer
A.B. Mawer, Senior Geologist

Endorsed by: J.A. Collins
J.A. Collins, Assistant Manager

Approved for Release by:
G. Harden, Manager
Exploration
Western District

ABM/cgs

REFERENCES

B.C. Department of Mines and Petroleum Resources Assessment Reports No. 3162, No. 3785, and No. 6387.

Cominco Internal Company Files (Memo I.L. Elliott, October 11, 1983)

Cominco Internal Reports - Exploration and Research Laboratory

G.S.C. Paper 35-1961 Fernie East

G.S.C. Memoir 336 Flathead

Jones, P.B. Bulletin of Canadian Petroleum Geology, Vol. 12, pgs. 350-362.

Oswald, D.H. Bulletin of Canadian Petroleum Geology, Vol. 12, pgs. 363-377

APPENDIX "1"

IN THE MATTER OF THE B.C. MINERAL ACT AND IN THE MATTER OF A PRELIMINARY GEOLOGICAL AND GEOCHEMICAL SURVEY CARRIED OUT ON MINERAL CLAIMS OF THE HOWELL PROPERTY LOCATED IN THE FORT STEELE MINING DIVISION, BRITISH COLUMBIA MORE PARTICULARLY N.T.S. 82 G/2.

A F F I D A V I T

I, A.B. MAWER, OF THE DISTRICT OF NORTH VANCOUVER, IN THE PROVINCE OF BRITISH COLUMBIA, SENIOR GEOLOGIST, MAKE OATH AND SAY:-

(1) THAT I am employed as a senior geologist by Cominco Ltd., and, as such have a personal knowledge of the facts to which I hereinafter depose;

(2) THAT annexed hereto and marked "Appendix 2" to this my affidavit is a true copy of expenditures on geological mapping and geochemical sampling claims on the Howell Property.

(3) THAT the said expenditures were incurred between the 6th day of September, 1983 and the 30th day of November, 1983, for the purpose of mineral exploration on the above noted property.

Signed: A. B. Mawer
A.B. Mawer, Senior Geologist

November 30, 1983

APPENDIX "2"

HOWELL PROPERTY - ASSESSMENT REPORT

STATEMENT OF EXPENDITURES

APPLICABLE FOR ASSESSMENT CREDITS

(SEPETMBER 6 - NOVEMBER 30, 1983)

SALARIES		
A.B. Mawer	15 days @ $259.60/day	$3,894.00
Al McGregor	15 days @ $124.08/day	1,861.20
GEOLOGICAL SUPPLIES AND EQUIPMENT		
GEOCHEMICAL ANALYSES		330.00
Soil, silt and rock samples		7,039.00
DOMICILE		2,248.00
Transportation - vehicle - fuel and freight		1,776.00
DRAFTING AND REPRODUCTION		3,036.00
Report Writing, map preparation		
A.B. Mawer	6 days @ $259.60/day	1,557.60
	Total Expenditure Applicable for Assessment Credits	$21,741.80

C A N A D A
PROVINCE OF BRITISH COLUMBIA
TO WIT:

STATUTORY DECLARATION

I, ROBIN LAWSON WOODS, of the District of North Vancouver, in the Province of British Columbia, DO SOLEMNLY DECLARE THAT:

1. I am the Supervisor, Exploration Accounting for Cominco Ltd., 2300 - 200 Granville Street, Vancouver, British Columbia, and, as such have knowledge of the facts deposed to herein.

2. Attached to this Statutory Declaration, as Schedule A, is a statement of expenditures indicating the expenditures charged by Cominco Ltd. to the Howell Property for the period January 1, 1983 to October 31, 1983.

3. The statement of expenditures referred to in paragraph 2 is true and accurate to the best of my knowledge, information and belief.

4. This Statutory Declaration is made in support of an application for credit as assessment work pursuant to the Mineral Act of British Columbia.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

DECLARED before me at the City of Vancouver in the Province of British Columbia, this 16th day of November 1983

Robin Lawson Woods

A Commissioner for taking Affidavits for British Columbia

Anthony Allen Zoobkoff
A Commissioner for taking
Affidavits for British Columbia.

This is Schedule A referred to
in the Statutory Declaration
of ROBIN LAWSON WOODS
Declared before me this 16th
day of November 1983.

Anthony A. Zoobkoff
A Commissioner for taking Affidavits
for British Columbia.

Anthony Allen Zoobkoff
A Commissioner for taking
Affidavits for British Columbia.

STATEMENT OF EXPENDITURES

HOWELL PROPERTY

FORT STEELE M.D., BRITISH COLUMBIA

JANUARY 1, 1983 TO OCTOBER 31, 1983

GEOLOGY:		
Salaries - Permanent	$3,742	
Supplies & Equipment	330	
Expense Accounts	1,729	
Supervision	930	$6,731
TRANSPORTATION:		
Fuel	$ 795	
Freight	113	
All Other	71	$ 979
CAMP COSTS:		
Supplies		$ 519
GEOCHEMISTRY:		
Assay & Analysis		$7,039
ORGANIZATION & FIELD SUPERVISION:		
Salaries	$6,994	
Supervision	1,140	$8,134
DRAFTING & REPRODUCTION:		
Salaries	$2,136	
Supervision	900	$3,036
TENURE		$ 440
ADMINISTRATIVE SERVICES		$2,688
		$29,566

Cominco Ltd.
Vancouver Office
November 15, 1983
Copies: Senior Technician (DLG)
Mining Recorder (2)
File

R.L. Woods
Supervisor,
Exploration Acctg.

APPENDIX "3"

STATEMENT OF QUALIFICATIONS

I, A.B. MAWER, SENIOR GEOLOGIST WITH BUSINESS ADDRESS IN VANCOUVER, BRITISH COLUMBIA AND RESIDENTIAL ADDRESS IN NORTH VANCOUVER, BRITISH COLUMBIA HEREBY CERTIFY THAT:

1. From 1944 to the present, I have been actively engaged as a prospector and geologist in mineral exploration.

2. I am a Fellow of the Geological Association of Canada.

3. I am a member of the Canadian Institute of Mining and Metallurgy.

4. I personally supervised the field work on the the Howell Group and have interpreted the data resulting form this work.

A.B. Mawer

A.B. Mawer, Senior Geologist

November 30, 1983

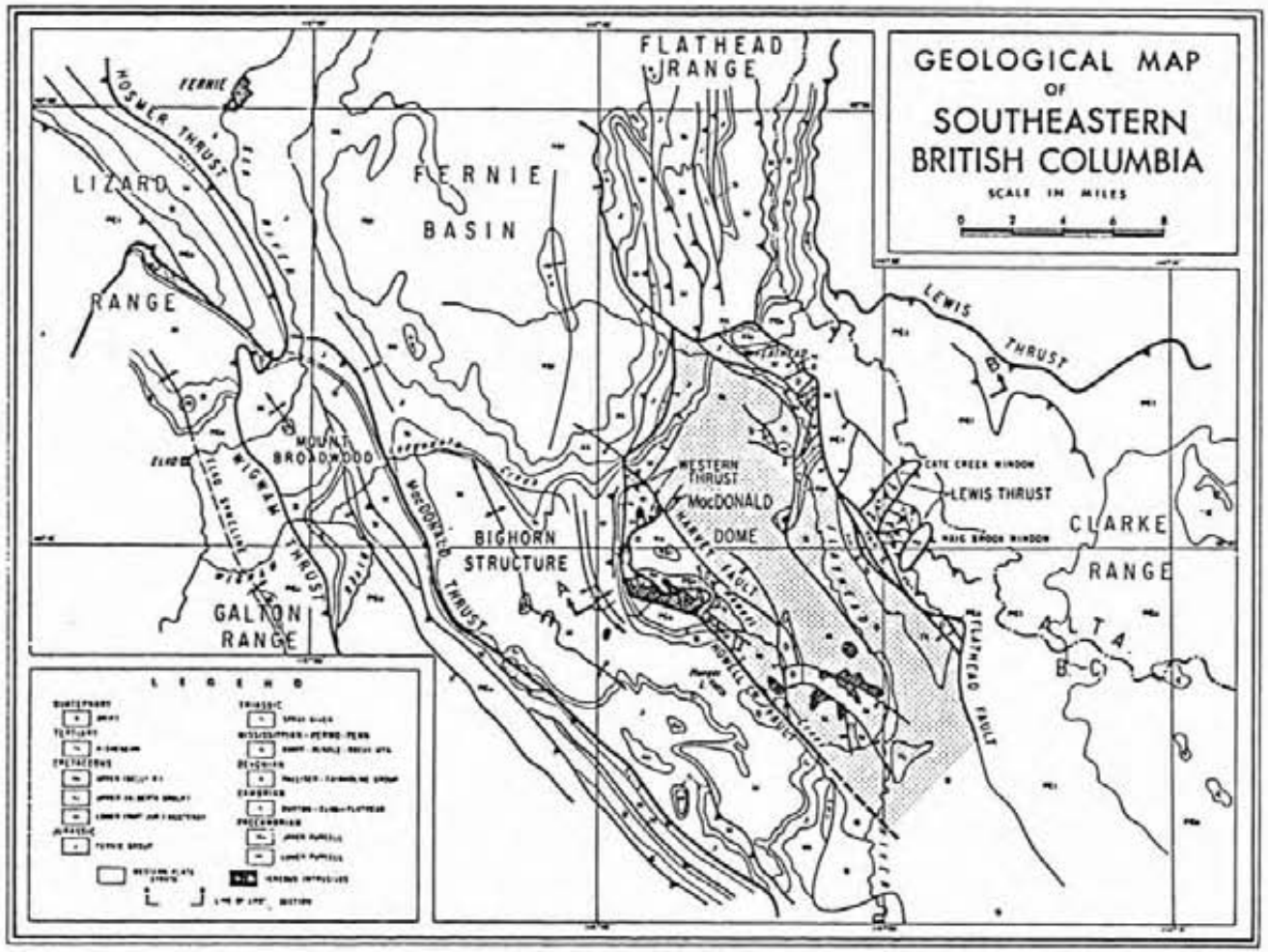

Fig 1. OSWALD-1964

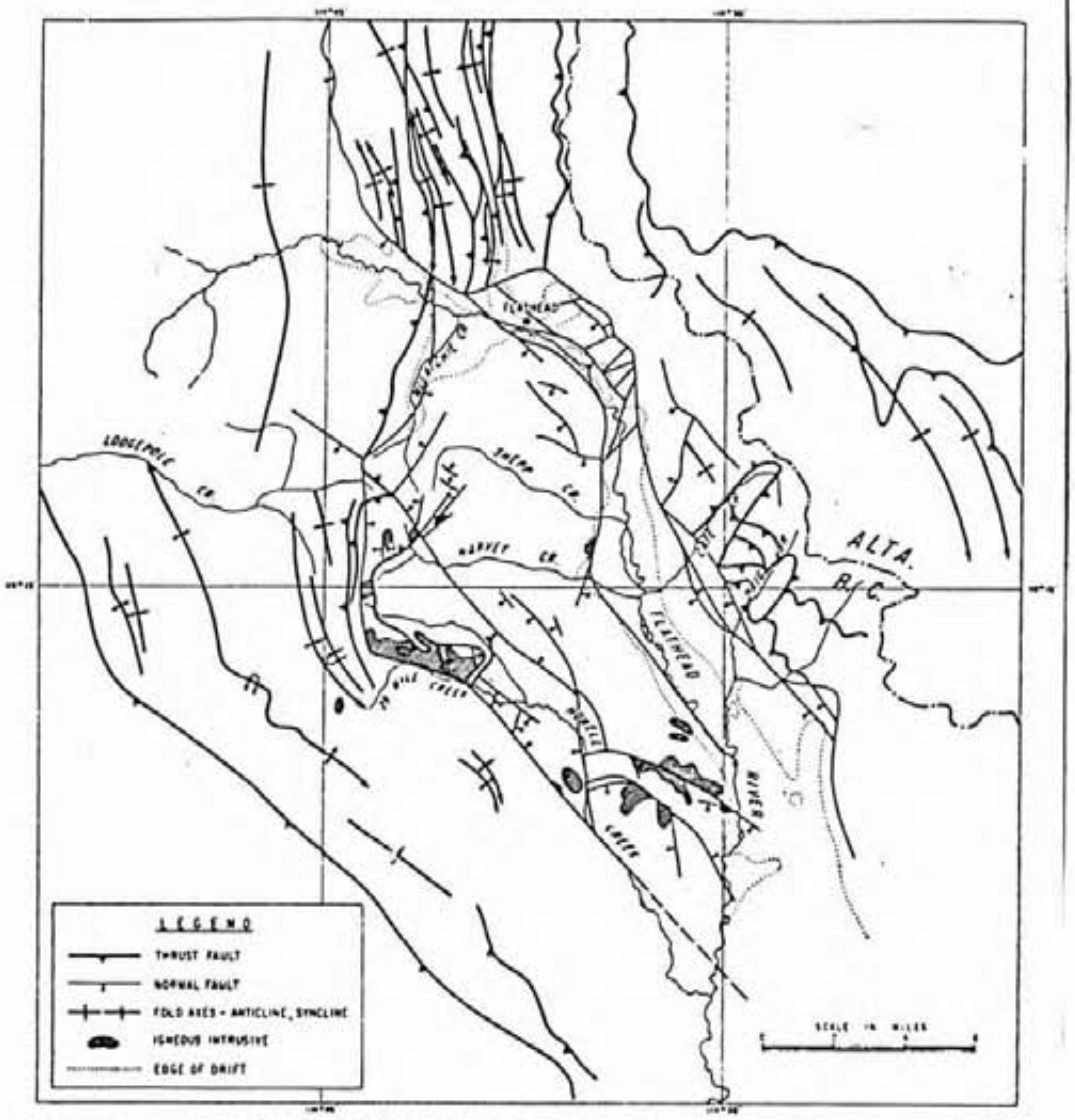

Fig. 2.—Compressional and Tensional Structures surrounding the Howell Creek Area and Relationship of Igneous Intrusives.

OSWALD - 1964

TABLE OF FORMATIONS

AGE		FORMATION	THICKNESS IN FEET
TERTIARY		KISHENEHN	0 – 6000
		UNCONFORMITY	
CRETACEOUS	UPPER	BELLY RIVER	2500+
		WAPIABI (ALBERTA GROUP)	
		CARDIUM (ALBERTA GROUP)	2800
		BLACKSTONE (ALBERTA GROUP)	
	LOWER	BLAIRMORE	6500
		UNCONFORMITY	
JURASSIC-CRETACEOUS		KOOTENAY	3500
JURASSIC		FERNIE	2000–3000
		DISCONFORMITY	
TRIASSIC		SPRAY RIVER	1000
		UNCONFORMITY	
PERMO-PENNSYLVANIAN		ROCKY MOUNTAIN	1200
MISSISSIPPIAN		RUNDLE	3000
		BANFF	600
		EXSHAW	40
		DISCONFORMITY	
DEVONIAN	UPPER	PALLISER	700
		FAIRHOLME	1000
		UNCONFORMITY	
CAMBRIAN	MIDDLE &/ OR UPPER	ELKO	500
	MIDDLE	BURTON	200
		FLATHEAD	100
		UNCONFORMITY	
PRECAMBRIAN	UPPER PURCELL	ROOSVILLE = KINTLA D	1700–3500
		PHILLIPS = KINTLA C	600
		GATEWAY = KINTLA A & B	3000
	LOWER PURCELL	KITCHENER – SIYEH	5500–12000+
		GRINNELL	
		APPEKUNNY	
		ALTYN	
		WATERTON	

TABLE I

OSWALD - 1964

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

BONDAR-CLEGG

Geochemical
Lab Report

COMINCO LTD.
MR. A. B. MAWER
700-409 GRANVILLE STREET
VANCOUVER, B.C.
V6C 1T2

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

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 123-2863

FROM: COMINCO LTD. SUBMITTED BY: A. MAWER
DATE: 03-OCT-83 PROJECT: NONE GIVEN

ORDER	ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATIONS
01	Cu	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-100	ROCKS	CRUSH,PULVERIZE -100
02	Pb	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-100		RETENTION OF REJECTS
03	Zn	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-100		
04	Ag	.2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-100		
05	Au	5 PPB	AQUA REGIA	Fire Assay AA	-100		

REPORT COPIES TO: MR. A. B. MAWER INVOICE TO: MR. A. B. MAWER

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

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 123-2863

PROJECT: NONE GIVEN PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-084		16	72	9	4.7	780	
R M-085		28	130	26	1.2	70	
R M-086		16	128	25	0.8	80	
R M-087		22	127	20	1.2	40	
R M-088		39	305	30	1.9	80	
R M-089		16	147	15	1.4	95	
R M-090		29	83	20	0.8	35	
R M-091		9	35	7	0.9	75	
R M-092		10	87	7	1.3	90	
R M-093		22	147	8	2.0	125	
R M-094		17	250	6	0.8	60	
R M-095		50	1540	20	3.2	140	
R M-096		28	250	12	1.2	40	
R M-097		68	290	25	1.4	30	
R M-098		68	260	22	1.7	55	
R M-099		38	335	15	1.3	45	
R M-100		111	370	40	2.0	100	
R M-101		55	470	35	1.7	155	
R M-102		45	325	20	1.7	120	
R M-103		48	640	24	3.9	145	
R M-104		24	460	10	4.9	280	0.009
R M-105		31	275	22	4.3	180	
R M-106		15	94	10	2.2	130	
R M-108		16	54	13	1.0	40	
R M-109		23	88	20	1.0	40	
R M-110		29	99	17	1.0	40	
R M-111		11	50	10	0.8	40	
R M-112		22	120	12	1.4	65	
R M-113		12	127	8	0.6	50	
R M-114		42	151	33	1.8	45	
R M-115		33	161	10	1.2	40	
R M-116		30	320	9	2.2	80	
R M-117		73	900	12	2.9	60	
R M-118		39	420	10	1.3	40	
R M-119		33	196	9	3.5	80	
R M-120		35	160	7	5.7	110	
R M-121		44	280	5	2.5	40	
R M-122		56	545	8	2.9	60	
R M-123		32	320	4	3.2	55	
R M-124		12	67	3	1.8	85	

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-125		15	95	3	3.4	135	
R M-126		23	119	4	5.4	155	
R M-127		20	68	5	6.6	175	
R M-128		18	97	8	4.0	45	
R M-129		28	67	20	2.0	150	
R M-130		54	114	16	1.9	205	
R M-131		80	157	8	6.0	215	
R M-132		348	4400	15	7.0	45	
R M-133		331	192	330	30.0	80	
R M-134		13	18	20	0.7	40	
R M-135		37	27	79	0.4	15	
R M-136		7	16	25	0.8	110	
R M-137		22	14	39	1.3	145	
R M-140		6	265	5	3.9	185	
R M-141		23	395	15	1.8	60	
R M-142		835	280	19	24.0	15	
R M-143		21	22	10	3.6	65	
R M-144		25	200	8	2.0	25	
R M-145		56	300	35	3.4	110	
R M-146		101	26	54	0.3	10	
R M-147		450	300	15	3.8	10	
R M-148		9	103	2	1.0	90	
R M-149		4	67	1	0.6	50	
R M-150		7	41	1	0.8	60	
R M-151		6	116	1	1.0	70	
R M-152		90	445	328	1.2	100	
R M-153		86	585	990	2.6	85	
R M-154		388	20	39	0.3	140	
R M-155		23	50	113	0.6	90	
R M-156		63	29	39	0.7	115	
R M-157		58	34	25	0.7	105	
R M-158		129	68	39	1.5	75	
R M-159		1620	8800	20	30.0	1210	
R M-160		13	30	71	0.2	10	
R M-161		9	72	19	0.4	85	

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Geochemical Lab Report

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Geochemical Lab Report

REPORT: I23-2873

FROM: COMINCO LTD. SUBMITTED BY: A. MAWER
DATE: 30-SEP-83 PROJECT: NONE GIVEN

ORDER	ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATION
01	Pb	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-80	SOILS	DRY, SEIVE -80
02	Zn	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-80		
03	As	.2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption	-80		
04	Au	5 PPB	AQUA REGIA	Fire Assay AA	-80		

REPORT COPIES TO: MR. A. B. MAWER

INVOICE TO: MR. A. B. MAWER

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Geochemical Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
S HS-001		140	120	1.7	5	
S HS-002		880	194	6.2	25	
S HS-003		32	100	0.3	5	
S HS-004		30	120	0.6	<5	
S HS-005		125	64	4.6	70	
S HS-006		260	188	2.7	30	
S HS-007		92	50	2.8	255	
S HS-008		110	100	2.9	185	
S HS-009		20	100	0.7	<5	
S HS-010		15	107	0.8	<5	
S HS-011		16	100	0.7	<5	
S HS-012		11	58	<0.2	<5	
S HS-013		28	85	0.6	5	
S HS-014		33	114	0.5	30	
S HS-015		42	65	0.3	25	
S HS-016		11	77	0.2	<5	
S HS-017		10	54	0.2	<5	
S HS-018		31	76	0.2	15	
S HS-019		15	66	0.2	<5	
S HS-020		11	80	0.2	<5	
S HS-021		10	88	1.0	<5	
S HS-022		8	84	0.6	<5	
S HS-023		11	125	0.3	<5	
S HS-024		10	80	<0.2	<5	
S HS-025		35	208	1.6	65	
S HS-026		32	140	0.4	<5	
S HS-027		64	240	5.9	155	
S HS-028		26	200	9.2	170	
S HS-029		34	19	5.3	630	
S HS-030		94	126	2.7	30	
S HS-031		12	97	1.3	20	
S HS-032		16	130	0.6	15	
S HS-033		14	106	1.4	100	
S HS-034		50	83	1.1	55	
S HS-035		26	81	0.4	10	
S HS-036		35	141	0.6	20	
HS-037		18	135	0.7	10	
HS-038		10	82	0.4	10	
S HS-039		19	109	0.4	30	
S HS-040		250	134	1.5	40	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
S HS-041		19	106	1.1	20	
S HS-042		27	79	0.8	35	
S HS-043		23	92	1.2	20	
S HS-044		34	68	1.5	125	
S HS-045		20	92	0.7	15	
S HS-046		28	166	0.6	15	
S HS-047		35	93	1.5	30	
S HS-048		21	77	0.8	10	
S HS-049		28	89	1.6	35	
S HS-050		35	108	1.2	55	
S HS-051		23	88	1.4	15	
S HS-052		25	70	0.7	5	
S HS-053		70	92	2.0	60	
S HS-054		19	42	1.4	10	
S HS-055		18	62	1.0	20	
S HS-056		24	51	0.5	15	
S HS-057		27	80	1.0	30	
S HS-058		15	107	0.4	<5	
S HS-059		24	37	1.0	20	
S HS-060		24	112	1.0	25	
S HS-061		18	44	0.7	15	
S HS-062		22	84	1.0	75	
S HS-063		25	128	1.3	20	
S HS-064		20	67	0.7	15	
S HS-065		10	60	0.8	<5	
S HS-066		19	162	0.3	10	
S HS-067		35	275	0.6	30	
S HS-068		60	272	0.7	195	
S HS-069		18	112	0.2	10	
S HS-070		28	200	0.2	10	
S HS-071		37	252	0.5	30	
S HS-072		26	86	<0.2	10	
S HS-073		26	72	0.3	5	
S HS-074		28	81	0.2	10	
S HS-075		15	90	0.9	<5	
S HS-076		19	97	0.4	<5	
S HS-077		23	97	0.3	<5	
S HS-078		66	285	1.5	115	
S HS-079		53	73	0.7	75	
S HS-080		90	138	1.7	155	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Au PPB	NOTES
S HS-081		18	88	<0.2	10	
S HS-082		8	38	0.5	<5	
S HS-083		26	79	0.6	20	
S HS-084		73	560	2.5	135	
S HS-085		26	345	0.4	55	
S HS-086		26	140	0.4	40	
S HS-087		55	160	3.1	60	
S HS-088		30	65	0.3	35	
S HS-089		16	45	0.2	115	
S HS-090		23	53	0.2	25	
S HS-091		22	53	0.3	35	
S HS-092		18	77	0.7	15	
S HS-093		18	60	0.9	10	
S HS-094		34	84	0.4	45	
S HS-095		18	70	0.7	5	
S HS-096		16	82	0.6	20	
S HS-097		8	20	0.3	5	
S HS-098		16	70	0.4	<5	
S HS-099		14	74	0.3	<5	
S HS-100		9	30	<0.2	<5	
S HS-101		134	36	3.6	100	
S HS-102		112	53	1.5	40	
S HS-103		48	98	3.3	30	
S HS-104		37	104	2.4	15	
S HS-105		43	87	1.2	40	
S HS-106		40	106	1.8	40	
S HS-107		35	122	0.9	25	
S HS-108		35	208	1.0	20	
S HS-109		68	193	1.4	35	
S HS-110		76	236	1.6	40	
S HS-111		62	120	3.9	40	
S HS-112		62	28	0.8	10	
S HS-113		56	98	4.2	55	
S HS-114		72	73	3.5	45	
S HS-115		105	885	1.3	15	
S HS-116		182	300	1.8	30	
S HS-117		265	280	1.5	30	
S HS-118		460	218	6.4	180	
S HS-119		168	480	0.9	40	
S HS-120		185	274	1.5	20	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Au PPB	NOTE
S HS-121		260	370	1.6	25	
S HS-122		176	348	1.2	35	
S HS-123		176	560	1.0	15	
S HS-124		107	162	0.6	40	
S HS-125		420	775	2.9	450	
S HS-126		56	200	0.7	20	
S HS-127		43	132	0.5	15	
S HS-128		40	140	0.5	20	
S HS-129		14	48	0.7	40	
S HS-130		42	156	0.4	10	
S HS-131		36	182	0.5	30	
S HS-132		20	71	0.8	30	
S HS-133		24	84	0.4	30	
S HS-134		13	100	0.2	40	
S HS-135		22	110	0.2	30	
S HS-136		16	164	0.2	40	
S HS-137		12	80	0.4	10	
S HS-138		23	200	0.4	25	
S HS-139		16	145	0.2	55	
S HS-140		15	100	0.4	35	
S HS-141		8	55	0.2	25	
S HS-142		8	50	0.2	40	
S HS-143		9	90	<0.2	20	
S HS-144		8	76	<0.2	35	
S HS-145		28	125	0.2	5	
S HS-146		30	170	0.5	10	
S HS-147		40	141	0.4	5	
S HS-148		28	116	1.0	25	
S HS-149		60	109	2.4	215	
S HS-150		24	138	1.2	80	
S HS-151		31	210	4.6	305	
S HS-152		26	102	1.1	85	
S HS-153		16	91	0.7	20	
S HS-154		37	100	0.4	10	
S HS-155		123	160	1.3	25	
S HS-156		168	200	2.3	55	
S HS-157		14	92	0.6	10	
S HS-158		14	135	0.4	5	
S HS-159		20	110	0.9	35	
S HS-160		44	286	0.8	<5	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
S HS-161		15	118	0.6	5	
S HS-162		56	146	1.3	10	
S HS-163		28	106	0.4	10	
S HS-164		21	60	0.5	15	
S HS-165		121	63	0.9	20	
S HS-166		22	89	0.5	25	
S HS-167		42	116	0.6	20	
S HS-168		45	135	0.4	5	
S HS-169		46	175	0.8	<5	
S HS-170		70	175	0.7	5	
S HS-171		117	155	2.0	15	
S HS-172		86	188	1.2	10	
S HS-173		82	260	1.3	40	
S HS-174		22	192	1.8	25	
S HS-175		23	202	0.6	5	
S HS-176		60	105	0.9	25	
S HS-177		17	136	0.8	55	
S HS-178		23	164	1.2	40	
S HS-179		13	104	0.7	30	
S HS-180		17	117	1.0	50	
S HS-181		29	127	0.7	20	
S HS-182		22	60	0.4	25	
S HS-183		48	78	0.2	50	
S HS-184		29	124	0.4	20	
S HS-185		21	104	0.4	10	
S HS-186		40	115	0.3	25	
S HS-187		75	136	0.2	25	
S HS-188		47	100	0.4	25	
S HS-189		30	86	0.5	20	
S HS-190		47	144	0.5	35	
S HS-191		99	97	0.4	50	
S HS-192		36	70	0.6	40	
S HS-193		62	92	0.6	35	
S HS-194		54	99	0.6	45	
S HS-195		30	74	0.3	50	
S HS-196		230	286	1.4	75	
S HS-197		130	310	0.9	50	
S [illegible]98		152	152	1.3	40	
S HS-199		89	130	0.4	85	
S HS-200		36	135	0.4	15	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Au PPB	NOTE
S HS-201		37	76	0.3	5	
S HS-202		28	104	0.2	25	
S HS-203		54	118	0.4	5	
S HS-204		23	104	<0.2	5	
S HS-205		44	120	0.3	10	
S HS-206		12	90	0.2	<5	
S HS-207		33	58	0.4	5	
S HS-208		27	81	0.5	<5	
S HS-209		48	105	0.2	5	
S HS-210		22	99	0.2	<5	
S HS-211		27	101	0.4	5	
S HS-212		7	13	0.3	<5	
S HS-213		6	34	0.4	<5	
S HS-214		34	100	0.4	35	
S HS-215		240	136	1.2	55	
S HS-216		510	50	2.5	130	
S HS-217		113	57	1.5	55	
S HS-218		101	76	1.1	45	
S HS-219		440	40	1.0	55	
S HS-220		42	74	0.3	5	
S HS-221		67	85	2.3	40	
S HS-222		36	88	0.5	95	
S HS-223		163	92	0.8	35	
S HS-224		960	84	2.0	70	
S HS-225		127	77	4.5	50	
S HS-226		56	51	1.7	70	
S HS-227		100	41	1.0	120	
S HS-228		84	45	2.4	25	
S HS-229		140	55	20.0	765	
S HS-230		180	91	4.6	110	
S HS-231		43	78	0.3	20	
S HS-232		44	88	0.4	5	
S HS-233		44	68	0.6	15	
S HS-234		600	46	4.0	55	
S HS-235		280	54	2.6	45	
S HS-236		170	81	1.1	60	
S HS-237		8	60	0.2	<5	
S HS-238		7	39	0.2	<5	
S HS-239		14	80	0.4	5	
S HS-240		4	84	<0.2	<5	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Au PPB	NOTES
S HS-241		14	92	0.2	10	
S HS-242		11	74	0.2	<5	
S HS-243		6	32	<0.2	<5	
S HS-244		8	64	0.2	<5	
S HS-245		7	51	0.2	<5	
S HS-246		12	69	<0.2	<5	
S HS-247		12	70	0.2	5	
S HS-248		14	95	0.2	<5	
S HS-249		11	74	<0.2	<5	
S HS-250		13	44	0.4	<5	
S HS-251		13	63	0.2	<5	
S HS-252		11	55	0.3	<5	
S HS-253		26	98	<0.2	10	
S HS-254		15	86	<0.2	<5	
S HS-255		16	92	0.4	<5	
S HS-256		15	64	<0.2	<5	
S HS-257		29	68	0.7	75	
S HS-258		29	195	0.9	50	
S HS-259		36	76	0.3	25	
S HS-260		32	65	0.6	85	
S HS-261		39	55	0.3	35	
S HS-262		27	59	0.4	65	
S HS-263		110	224	0.3	65	
S HS-264		640	236	0.7	175	
S HS-265		160	212	0.8	55	
S HS-266		230	155	1.0	100	
S HS-267		240	143	1.3	240	
S HS-268		58	80	4.6	60	
S HS-269		640	1460	3.2	140	
S HS-270		160	202	0.9	35	
S HS-271		67	168	1.0	40	
S HS-272		106	178	1.4	70	
S HS-273		2300	515	6.0	515	
S HS-274		160	122	1.0	60	
S HS-275		1400	495	6.8	360	
S HS-276		380	160	1.2	60	
S 277		153	382	0.9	80	
S HS-278		56	120	0.6	70	
S HS-279		96	370	0.8	45	
S HS-280		151	192	1.1	55	
S HS-281		29	25	0.2	<5	
S HS-282		31	11	0.5	<5	
S HS-283		360	168	1.3	130	
S HS-284		70	44	0.5	20	
S HS-285		57	17	1.0	20	
S HS-286		73	70	0.7	40	
S HS-287		290	233	0.9	75	
S HS-288		148	290	0.5	105	
S HS-289		61	115	1.2	30	
S HS-290		26	22	1.7	25	
S HS-291		78	111	0.8	75	
S HS-292		135	142	1.0	50	
S HS-293		245	98	1.6	85	
S HS-294		28	44	0.4	60	
S HS-295		23	56	0.6	40	
S HS-296		16	40	<0.2	40	
S HS-297		81	80	0.5	85	
S HS-298		64	56	0.4	65	
S HS-299		46	86	0.4	50	
S HS-300		33	146	1.1	50	
S HS-301		20	98	0.6	5	
S HS-302		14	63	0.4	10	
S HS-303		22	103	0.4	5	
S HS-304		42	103	0.2	15	
S HS-305		38	80	0.6	15	
S HS-306		106	160	0.4	40	
S HS-307		19	106	0.2	10	
S HS-308		13	81	0.3	<5	
S HS-309		12	80	0.2	<5	
S HS-310		27	84	0.3	10	
S HS-311		32	120	0.8	10	
S HS-312		101	132	1.3	60	
S HS-313		87	179	1.9	45	
S HS-314		81	202	2.0	55	
S HS-315		27	180	1.4	30	
S HS-316		23	174	0.8	15	
S HS-317		25	126	2.5	60	
S HS-318		49	336	15.0	165	
S HS-319		32	196	1.7	110	
S HS-320		34	144	0.6	65	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Au PPB	NOTES
S HS-321		10	98	2.7	70	
S HS-322		34	127	2.2	60	
S HS-323		82	200	1.6	60	
S HS-324		118	228	4.4	630	
S HS-325		60	280	7.0	340	
S HS-326		53	172	0.9	50	
S HS-327		31	256	1.8	360	
S HS-328		26	156	0.5	20	
S HS-329		44	201	1.3	40	
S HS-330		53	76	1.5	60	
S HS-331		18	66	1.0	30	
S HS-332		15	55	0.5	35	
S HS-333		12	15	0.5	30	
S HS-334		54	94	0.6	35	
S HS-335		38	75	3.0	70	
S HS-336		21	85	0.9	10	
S HS-337		41	129	0.7	85	
S HS-338		25	121	0.4	15	
S HS-339		34	124	1.2	25	
S HS-340		28	147	0.7	30	
S HS-341		52	210	1.2	65	
S HS-342		46	148	0.4	15	
S HS-343		62	232	0.7	40	
S HS-344		100	274	1.1	130	
S HS-345		97	126	1.5	35	
S HS-346		40	90	0.9	15	
S HS-347		52	180	1.3	20	
S HS-348		45	90	0.8	15	
S HS-349		77	280	1.2	45	
S HS-350		172	650	4.2	625	
S HS-351		310	980	14.0	740	
S HS-352		74	255	9.6	340	
S HS-353		82	250	2.8	345	
S HS-354		50	90	1.1	45	
S HS-355		11	99	<0.2	5	
S HS-356		11	91	<0.2	<5	
S HS-357		18	85	0.4	10	
S HS-358		13	107	<0.2	<5	
S HS-359		14	41	<0.2	10	
S HS-360		12	28	<0.2	5	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Au PPB	NOTE
S HS-361		42	64	0.3	20	
S HS-362		43	99	0.5	10	
S HS-363		32	96	0.4	10	
S HS-364		16	71	0.2	35	
S HS-365		10	34	<0.2	<5	
S HS-366		20	84	<0.2	10	
S HS-367		32	80	<0.2	15	
S HS-368		20	73	0.2	25	
S HS-369		63	140	0.2	15	
S HS-370		138	144	0.4	35	
S HS-371		130	224	0.8	30	
S HS-372		100	174	0.4	20	
S HS-373		87	153	0.4	65	
S HS-374		20	84	0.3	5	
S HS-375		22	140	<0.2	15	
S HS-376		7	41	<0.2	10	
S HS-377		12	75	<0.2	10	
S HS-378		22	93	<0.2	10	
S HS-379		14	74	<0.2	5	
S HS-380		14	80	<0.2	30	
S HS-381		26	120	0.2	25	
S HS-382		52	174	1.0	190	
S HS-383		48	165	0.3	75	
S HS-384		15	108	<0.2	25	
S HS-385		29	105	0.3	20	
S HS-386		22	110	0.2	5	
S HS-387		26	122	0.7	40	
S HS-388		99	250	1.7	95	
S HS-389		27	105	0.8	30	
S HS-390		17	59	0.6	20	
S HS-391		36	120	0.9	20	
S HS-392		99	251	0.5	10	
S HS-393		24	120	1.1	25	
S HS-394		22	98	0.3	160	
S HS-395		23	108	0.2	<5	
S HS-396		15	58	<0.2	10	
S HS-397		16	68	0.3	<5	
S HS-398		23	50	0.4	30	
S HS-399		60	104	<0.2	15	
S HS-400		40	105	0.3	45	

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Geochemical
Lab Report

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Au PPB	NOTES
S HS-401		24	72	3.2	160	
S HS-402		6	25	0.2	<5	
S HS-403		14	73	0.7	10	
S HS-404		44	135	1.0	45	
S HS-405		11	41	1.4	<5	
S HS-406		17	100	0.7	10	
S HS-407		60	134	<0.2	35	
S HS-408		25	122	1.0	20	
S HS-409		19	106	0.2	<5	
S HS-410		81	168	0.2	10	
S HS-411		16	68	0.2	10	
S HS-412		15	68	0.2	10	
S HS-413		27	104	0.2	25	
S HS-414		41	129	0.3	30	
S HS-415		25	88	0.5	25	
S HS-416		53	140	0.4	140	
S HS-417		43	167	0.2	70	
T HT-01		18	235	0.2	15	
T HT-02		16	245	0.3	25	
T HT-03		13	175	0.3	20	
T HT-04		13	165	0.4	10	
T HT-05		12	120	0.2	<5	
T HT-06		12	136	0.3	<5	
T HT-07		10	108	0.2	<5	
T HT-08		12	156	<0.2	<5	
T HT-09		11	160	0.3	<5	
T HT-10		9	108	0.2	<5	
T HT-11		10	100	<0.2	<5	
T HT-12		11	136	0.2	15	
T HT-13		8	100	0.2	5	
T HT-14		16	144	0.3	30	

HOWELL 24 OCT 1983

JOB V83-8455/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8323819	S HS-001	140	120	1.7	5
S8323820	S HS-002	880	194	6.2	25
S8323821	S HS-003	32	100	0.3	5
S8323822	S HS-004	30	120	0.6	<5
S8323823	S HS-005	125	64	4.6	70
S8323824	S HS-006	260	188	2.7	50
S8323825	S HS-007	92	50	2.8	255
S8323826	S HS-008	110	100	2.9	185
S8323827	S HS-009	20	100	0.7	<5
S8323828	S HS-010	15	107	0.8	<5
S8323829	S HS-011	16	100	0.7	<5
S8323830	S HS-012	11	58	<0.2	<5
S8323831	S HS-013	28	85	0.6	5
S8323832	S HS-014	33	114	0.5	30
S8323833	S HS-015	42	65	0.3	25
S8323834	S HS-016	11	77	0.2	<5
S8323835	S HS-017	10	54	0.2	<5
S8323836	S HS-018	31	76	0.2	15
S8323837	S HS-019	15	66	0.2	<5
S8323838	S HS-020	11	80	0.2	<5
S8323839	S HS-021	10	88	1.0	<5
S8323840	S HS-022	8	84	0.6	<5
S8323841	S HS-023	11	125	0.3	<5
S8323842	S HS-024	10	80	<0.2	<5
S8323843	S HS-025	35	208	1.6	65
S8323844	S HS-026	32	140	0.4	<5
S8323845	S HS-027	64	240	5.9	155
S8323846	S HS-028	26	200	9.2	170
S8323847	S HS-029	34	19	5.3	630
S8323848	S HS-030	94	126	2.7	30
S8323849	S HS-031	12	97	1.3	20
S8323850	S HS-032	16	130	0.6	15
S8323851	S HS-033	14	106	1.4	100
S8323852	S HS-034	50	83	1.1	55
S8323853	S HS-035	26	81	0.4	10
S8323854	S HS-036	35	141	0.6	20
S8323855	S HS-037	18	135	0.7	10
S8323856	S HS-038	10	82	0.4	10
S8323857	S HS-039	19	109	0.4	30
S8323858	S HS-040	250	134	1.5	40
S8323859	S HS-041	19	106	1.1	20
S8323860	S HS-042	27	79	0.8	35
S8323861	S HS-043	23	92	1.2	20
S8323862	S HS-044	34	68	1.5	125
S8323863	S HS-045	20	92	0.7	15
S8323864	S HS-046	28	166	0.6	15
S8323865	S HS-047	35	95	1.5	30
S8323866	S HS-048	21	77	0.8	10
S8323867	S HS-049	28	89	1.6	35
S8323868	S HS-050	35	108	1.2	55
S8323869	S HS-051	23	88	1.4	15
S8323870	S HS-052	25	70	0.7	5
S8323871	S HS-053	70	92	2.0	60

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8323872	S HS-054	19	42	1.4	10
S8323873	S HS-055	18	62	1.0	20
S8323874	S HS-056	24	51	0.5	15
S8323875	S HS-057	27	80	1.0	30
S8323876	S HS-058	15	107	0.4	<5
S8323877	S HS-059	24	37	1.0	20
S8323878	S HS-060	24	112	1.0	25
S8323879	S HS-061	18	44	0.7	15
S8323880	S HS-062	22	84	1.0	75
S8323881	S HS-063	25	128	1.3	20
S8323882	S HS-064	20	67	0.7	15
S8323883	S HS-065	10	60	0.8	<5
S8323884	S HS-066	19	162	0.3	10
S8323885	S HS-067	35	275	0.6	30
S8323886	S HS-068	60	272	0.7	195
S8323887	S HS-069	18	112	0.2	10
S8323888	S HS-070	28	200	0.2	10
S8323889	S HS-071	37	252	0.5	30
S8323890	S HS-072	26	86	<0.2	10
S8323891	S HS-073	26	72	0.3	5
S8323892	S HS-074	28	81	0.2	10
S8323893	S HS-075	15	90	0.9	<5
S8323894	S HS-076	19	97	0.4	<5
S8323895	S HS-077	23	97	0.3	<5
S8323896	S HS-078	66	285	1.5	115
S8323897	S HS-079	53	73	0.7	75
S8323898	S HS-080	90	138	1.7	155
S8323899	S HS-081	18	88	<0.2	10
S8323900	S HS-082	8	38	0.5	<5
S8323901	S HS-083	26	79	0.6	20
S8323902	S HS-084	73	560	2.5	135
S8323903	S HS-085	26	345	0.4	55
S8323904	S HS-086	26	140	0.4	40
S8323905	S HS-087	55	160	3.1	60
S8323906	S HS-088	30	65	0.3	35
S8323907	S HS-089	16	45	0.2	115
S8323908	S HS-090	23	53	0.2	25
S8323909	S HS-091	22	53	0.3	35
S8323910	S HS-092	18	77	0.7	15
S8323911	S HS-093	18	60	0.9	10
S8323912	S HS-094	34	84	0.4	45
S8323913	S HS-095	18	70	0.7	5
S8323914	S HS-096	16	82	0.6	20
S8323915	S HS-097	8	20	0.3	5
S8323916	S HS-098	16	70	0.4	<5
S8323917	S HS-099	14	74	0.3	<5
S8323918	S HS-100	9	30	<0.2	<5
S8323919	S HS-101	134	36	3.6	100
S8323920	S HS-102	112	53	1.5	40
S8323921	S HS-103	48	98	3.3	30
S8323922	S HS-104	37	104	2.4	15
S8323923	S HS-105	43	87	1.2	40
S8323924	S HS-106	40	106	1.8	40
S8323925	S HS-107	35	122	0.9	25
S8323926	S HS-108	35	208	1.0	20
S8323927	S HS-109	68	193	1.4	35

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8323928	S HS-110	76	236	1.6	40
S8323929	S HS-111	62	120	3.9	40
S8323930	S HS-112	62	28	0.8	10
S8323931	S HS-113	56	98	4.2	55
S8323932	S HS-114	72	73	3.5	45
S8323933	S HS-115	105	885	1.3	15
S8323934	S HS-116	182	500	1.8	30
S8323935	S HS-117	265	280	1.5	30
S8323936	S HS-118	460	218	6.4	180
S8323937	S HS-119	168	480	0.9	40
S8323938	S HS-120	185	274	1.5	20
S8323939	S HS-121	260	370	1.6	25
S8323940	S HS-122	176	348	1.2	35
S8323941	S HS-123	176	560	1.0	15
S8323942	S HS-124	107	162	0.6	40
S8323943	S HS-125	420	775	2.9	450
S8323944	S HS-126	56	200	0.7	20
S8323945	S HS-127	43	132	0.5	15
S8323946	S HS-128	40	140	0.5	20
S8323947	S HS-129	14	48	0.7	40
S8323948	S HS-130	42	156	0.4	10
S8323949	S HS-131	36	182	0.5	30
S8323950	S HS-132	20	71	0.8	30
S8323951	S HS-133	24	84	0.4	30
S8323952	S HS-134	13	100	0.2	40
S8323953	S HS-135	22	110	0.2	30
S8323954	S HS-136	16	164	0.2	40
S8323955	S HS-137	12	80	0.4	10
S8323956	S HS-138	23	200	0.4	25
S8323957	S HS-139	16	145	0.2	55
S8323958	S HS-140	15	100	0.4	35
S8323959	S HS-141	8	55	0.2	25
S8323960	S HS-142	8	50	0.2	40
S8323961	S HS-143	9	90	<0.2	20
S8323962	S HS-144	8	76	<0.2	35
S8323963	S HS-145	28	125	0.2	5
S8323964	S HS-146	30	170	0.5	10
S8323965	S HS-147	40	141	0.4	5
S8323966	S HS-148	28	116	1.0	25
S8323967	S HS-149	60	109	2.4	215
S8323968	S HS-150	24	138	1.2	80
S8323969	S HS-151	31	210	4.6	305
S8323970	S HS-152	26	102	1.1	85
S8323971	S HS-153	16	91	0.7	20
S8323972	S HS-154	37	100	0.4	10
S8323973	S HS-155	123	160	1.3	25
S8323974	S HS-156	168	200	2.3	55
S8323975	S HS-157	14	92	0.6	10
S8323976	S HS-158	14	135	0.4	5
S8323977	S HS-159	20	110	0.9	35
S8323978	S HS-160	44	286	0.8	<5
S8323979	S HS-161	15	118	0.6	5
S8323980	S HS-162	56	146	1.3	10
S8323981	S HS-163	28	106	0.4	10
S8323982	S HS-164	21	60	0.5	15
S8323983	S HS-165	121	63	0.9	20

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8323984	S HS-166	22	89	0.5	25
S8323985	S HS-167	42	116	0.6	20
S8323986	S HS-168	45	135	0.4	5
S8323987	S HS-169	46	175	0.8	<5
S8323988	S HS-170	70	175	0.7	5
S8323989	S HS-171	117	155	2.0	15
S8323990	S HS-172	86	188	1.2	10
S8323991	S HS-173	82	260	1.3	40
S8323992	S HS-174	22	192	1.8	25
S8323993	S HS-175	23	202	0.6	5
S8323994	S HS-176	60	105	0.9	25
S8323995	S HS-177	17	136	0.8	55
S8323996	S HS-178	23	164	1.2	40
S8323997	S HS-179	13	104	0.7	30
S8323998	S HS-180	17	117	1.0	50
S8323999	S HS-181	29	127	0.7	20
S8324000	S HS-182	22	60	0.4	25
S8324001	S HS-183	48	78	0.2	50
S8324002	S HS-184	29	124	0.4	20
S8324003	S HS-185	21	104	0.4	10
S8324004	S HS-186	40	115	0.3	25
S8324005	S HS-187	75	136	0.2	25
S8324006	S HS-188	47	100	0.4	25
S8324007	S HS-189	30	86	0.5	20
S8324008	S HS-190	47	144	0.5	35
S8324009	S HS-191	99	97	0.4	50
S8324010	S HS-192	36	70	0.6	40
S8324011	S HS-193	62	92	0.6	35
S8324012	S HS-194	54	99	0.6	45
S8324013	S HS-195	30	74	0.3	50
S8324014	S HS-196	230	286	1.4	75
S8324015	S HS-197	130	310	0.9	50
S8324016	S HS-198	152	152	1.3	40
S8324017	S HS-199	89	130	0.4	85
S8324018	S HS-200	36	135	0.4	15
S8324019	S HS-201	37	76	0.3	5
S8324020	S HS-202	28	104	0.2	25
S8324021	S HS-203	54	118	0.4	5
S8324022	S HS-204	23	104	<0.2	5
S8324023	S HS-205	44	120	0.3	10
S8324024	S HS-206	12	90	0.2	<5
S8324025	S HS-207	33	58	0.4	5
S8324026	S HS-208	27	81	0.5	<5
S8324027	S HS-209	48	105	0.2	5
S8324028	S HS-210	22	99	0.2	<5
S8324029	S HS-211	27	101	0.4	5
S8324030	S HS-212	7	13	0.3	<5
S8324031	S HS-213	6	34	0.4	<5
S8324032	S HS-214	34	100	0.4	35
S8324033	S HS-215	240	136	1.2	55
S8324034	S HS-216	510	50	2.5	130
S8324035	S HS-217	113	57	1.5	55
S8324036	S HS-218	101	76	1.1	45
S8324037	S HS-219	440	40	1.0	55
S8324038	S HS-220	42	74	0.3	5
S8324039	S HS-221	67	85	2.3	40

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8324040	S HS-222	36	88	0.5	95
S8324041	S HS-223	163	92	0.8	35
S8324042	S HS-224	960	84	2.0	70
S8324043	S HS-225	127	77	4.5	50
S8324044	S HS-226	56	51	1.7	70
S8324045	S HS-227	100	41	1.0	120
S8324046	S HS-228	84	45	2.4	25
S8324047	S HS-229	140	55	20.0	765
S8324048	S HS-230	180	91	4.6	110
S8324049	S HS-231	43	78	0.3	20
S8324050	S HS-232	44	88	0.4	5
S8324051	S HS-233	44	68	0.6	15
S8324052	S HS-234	600	46	4.0	55
S8324053	S HS-235	280	54	2.6	45
S8324054	S HS-236	170	81	1.1	60
S8324055	S HS-237	8	60	0.2	<5
S8324056	S HS-238	7	39	0.2	<5
S8324057	S HS-239	14	80	0.4	5
S8324058	S HS-240	4	84	<0.2	<5
S8324059	S HS-241	14	92	0.2	10
S8324060	S HS-242	11	74	0.2	<5
S8324061	S HS-243	6	32	<0.2	<5
S8324062	S HS-244	8	64	0.2	<5
S8324063	S HS-245	7	51	0.2	<5
S8324064	S HS-246	12	69	<0.2	<5
S8324065	S HS-247	12	70	0.2	5
S8324066	S HS-248	14	95	0.2	<5
S8324067	S HS-249	11	74	<0.2	<5
S8324068	S HS-250	13	44	0.4	<5
S8324069	S HS-251	13	63	0.2	<5
S8324070	S HS-252	11	55	0.3	<5
S8324071	S HS-253	26	98	<0.2	10
S8324072	S HS-254	15	86	<0.2	<5
S8324073	S HS-255	16	92	0.4	<5
S8324074	S HS-256	15	64	<0.2	<5
S8324075	S HS-257	29	68	0.7	75
S8324076	S HS-258	29	195	0.9	50
S8324077	S HS-259	36	76	0.3	25
S8324078	S HS-260	32	65	0.6	85
S8324079	S HS-261	39	55	0.3	35
S8324080	S HS-262	27	59	0.4	65
S8324081	S HS-263	110	224	0.3	65
S8324082	S HS-264	640	236	0.7	175
S8324083	S HS-265	160	212	0.8	55
S8324084	S HS-266	230	155	1.0	100
S8324085	S HS-267	240	143	1.3	240
S8324086	S HS-268	58	80	4.6	60
S8324087	S HS-269	640	1460	3.2	140
S8324088	S HS-270	160	202	0.9	35
S8324089	S HS-271	67	168	1.0	40
S8324090	S HS-272	106	178	1.4	70
S8324091	S HS-273	2300	515	6.0	515
S8324092	S HS-274	160	122	1.0	60
S8324093	S HS-275	1400	495	6.8	360
S8324094	S HS-276	380	160	1.2	60
S8324095	S HS-277	153	382	0.9	80

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8324096	S HS-278	56	120	0.6	70
S8324097	S HS-279	96	370	0.8	45
S8324098	S HS-280	151	192	1.1	55
S8324099	S HS-281	29	25	0.2	<5
S8324100	S HS-282	31	11	0.5	<5
S8324101	S HS-283	360	168	1.3	130
S8324102	S HS-284	70	44	0.5	20
S8324103	S HS-285	57	17	1.0	20
S8324104	S HS-286	73	70	0.7	40
S8324105	S HS-287	290	233	0.9	75
S8324106	S HS-288	148	290	0.5	105
S8324107	S HS-289	61	115	1.2	30
S8324108	S HS-290	26	22	1.7	25
S8324109	S HS-291	78	111	0.8	75
S8324110	S HS-292	135	142	1.0	50
S8324111	S HS-293	245	98	1.6	85
S8324112	S HS-294	28	44	0.4	60
S8324113	S HS-295	23	56	0.6	40
S8324114	S HS-296	16	40	<0.2	40
S8324115	S HS-297	81	80	0.5	85
S8324116	S HS-298	64	56	0.4	65
S8324117	S HS-299	46	86	0.4	50
S8324118	S HS-300	33	146	1.1	50
S8324119	S HS-301	20	98	0.6	5
S8324120	S HS-302	14	63	0.4	10
S8324121	S HS-303	22	103	0.4	5
S8324122	S HS-304	42	103	0.2	15
S8324123	S HS-305	38	80	0.6	15
S8324124	S HS-306	106	160	0.4	40
S8324125	S HS-307	19	106	0.2	10
S8324126	S HS-308	13	81	0.3	<5
S8324127	S HS-309	12	80	0.2	<5
S8324128	S HS-310	27	84	0.3	10
S8324129	S HS-311	32	120	0.8	10
S8324130	S HS-312	101	132	1.3	60
S8324131	S HS-313	87	179	1.9	45
S8324132	S HS-314	81	202	2.0	55
S8324133	S HS-315	27	180	1.4	30
S8324134	S HS-316	25	174	0.8	15
S8324135	S HS-317	25	126	2.5	60
S8324136	S HS-318	49	336	15.0	165
S8324137	S HS-319	32	196	1.7	110
S8324138	S HS-320	34	144	0.6	65
S8324139	S HS-321	10	98	2.7	70
S8324140	S HS-322	34	127	2.2	60
S8324141	S HS-323	82	200	1.6	60
S8324142	S HS-324	118	228	4.4	630
S8324143	S HS-325	60	280	7.0	340
S8324144	S HS-326	53	172	0.9	50
S8324145	S HS-327	31	256	1.8	360
S8324146	S HS-328	26	156	0.5	20
S8324147	S HS-329	44	201	1.3	40
S8324148	S HS-330	53	76	1.5	60
S8324149	S HS-331	18	66	1.0	50
S8324150	S HS-332	15	55	0.5	35
S8324151	S HS-333	12	15	0.5	30

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8324152	S HS-334	54	94	0.6	35
S8324153	S HS-335	38	75	3.0	70
S8324154	S HS-336	21	85	0.9	10
S8324155	S HS-337	41	129	0.7	85
S8324156	S HS-338	25	121	0.4	15
S8324157	S HS-339	34	124	1.2	25
S8324158	S HS-340	28	147	0.7	30
S8324159	S HS-341	52	210	1.2	65
S8324160	S HS-342	46	148	0.4	15
S8324161	S HS-343	62	232	0.7	40
S8324162	S HS-344	100	274	1.1	130
S8324163	S HS-345	97	126	1.5	35
S8324164	S HS-346	40	90	0.9	15
S8324165	S HS-347	52	180	1.3	20
S8324166	S HS-348	45	90	0.8	15
S8324167	S HS-349	77	280	1.2	45
S8324168	S HS-350	172	650	4.2	625
S8324169	S HS-351	310	980	14.0	740
S8324170	S HS-352	74	255	9.6	540
S8324171	S HS-353	82	250	2.8	345
S8324172	S HS-354	50	90	1.1	45
S8324173	S HS-355	11	99	<0.2	5
S8324174	S HS-356	11	91	<0.2	<5
S8324175	S HS-357	18	85	0.4	10
S8324176	S HS-358	13	107	<0.2	<5
S8324177	S HS-359	14	41	<0.2	10
S8324178	S HS-360	12	28	<0.2	5
S8324179	S HS-361	42	64	0.3	20
S8324180	S HS-362	43	99	0.5	10
S8324181	S HS-363	32	96	0.4	10
S8324182	S HS-364	16	71	0.2	35
S8324183	S HS-365	10	34	<0.2	<5
S8324184	S HS-366	20	84	<0.2	10
S8324185	S HS-367	32	80	<0.2	15
S8324186	S HS-368	20	73	0.2	25
S8324187	S HS-369	63	140	0.2	15
S8324188	S HS-370	138	144	0.4	35
S8324189	S HS-371	130	224	0.8	30
S8324190	S HS-372	100	174	0.4	20
S8324191	S HS-373	87	153	0.4	65
S8324192	S HS-374	20	84	0.3	5
S8324193	S HS-375	22	140	<0.2	15
S8324194	S HS-376	7	41	<0.2	10
S8324195	S HS-377	12	75	<0.2	10
S8324196	S HS-378	22	93	<0.2	10
S8324197	S HS-379	14	74	<0.2	5
S8324198	S HS-380	14	80	<0.2	30
S8324199	S HS-381	26	120	0.2	25
S8324200	S HS-382	52	174	1.0	190
S8324201	S HS-383	48	165	0.3	75
S8324202	S HS-384	15	108	<0.2	25
S8324203	S HS-385	29	105	0.3	20
S8324204	S HS-386	22	110	0.2	5
S8324205	S HS-387	26	122	0.7	40
S8324206	S HS-388	99	250	1.7	95
S8324207	S HS-389	27	105	0.8	30

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
S8324208	S HS-390	17	59	0.6	20
S8324209	S HS-391	36	120	0.9	20
S8324210	S HS-392	99	251	0.5	10
S8324211	S HS-393	24	120	1.1	25
S8324212	S HS-394	22	98	0.3	160
S8324213	S HS-395	23	108	0.2	<5
S8324214	S HS-396	15	58	<0.2	10
S8324215	S HS-397	16	68	0.3	<5
S8324216	S HS-398	23	50	0.4	30
S8324217	S HS-399	60	104	<0.2	15
S8324218	S HS-400	40	105	0.3	45
S8324219	S HS-401	24	72	3.2	160
S8324220	S HS-402	6	25	0.2	<5
S8324221	S HS-403	14	73	0.7	10
S8324222	S HS-404	44	135	1.0	45
S8324223	S HS-405	11	41	1.4	<5
S8324224	S HS-406	17	100	0.7	10
S8324225	S HS-407	60	134	<0.2	35
S8324226	S HS-408	25	122	1.0	20
S8324227	S HS-409	19	106	0.2	<5
S8324228	S HS-410	81	168	0.2	10
S8324229	S HS-411	16	68	0.2	10
S8324230	S HS-412	15	68	0.2	10
S8324231	S HS-413	27	104	0.2	25
S8324232	S HS-414	41	129	0.3	30
S8324233	S HS-415	25	88	0.5	25
S8324234	S HS-416	53	140	0.4	140
S8324235	S HS-417	43	167	0.2	70
S8324236	T HT-01	18	235	0.2	15
S8324237	T HT-02	16	245	0.3	25
S8324238	T HT-03	13	175	0.3	20
S8324239	T HT-04	13	165	0.4	10
S8324240	T HT-05	12	120	0.3	<5
S8324241	T HT-06	12	136	0.3	<5
S8324242	T HT-07	10	108	0.2	<5
S8324243	T HT-08	12	156	<0.2	<5
S8324244	T HT-09	11	160	0.3	<5
S8324245	T HT-10	9	108	0.2	<5
S8324246	T HT-11	10	100	<0.2	<5
S8324247	T HT-12	11	136	0.2	15
S8324248	T HT-13	8	100	0.2	5
S8324249	T HT-14	16	144	0.3	30

HOWELL

HISTOGRAM DATA FOR LEAD

CLASS	LIMITS		FREQ	%FREQ	CUM	CUM%
1	LESS THAN	0.66	0	0.0	431	100.00
2	0.66TO	0.83	0	0.0	431	100.00
3	0.83TO	1.05	0	0.0	431	100.00
4	1.05TO	1.32	0	0.0	431	100.00
5	1.32TO	1.65	0	0.0	431	100.00
6	1.65TO	2.08	0	0.0	431	100.00
7	2.08TO	2.61	0	0.0	431	100.00
8	2.61TO	3.29	0	0.0	431	100.00
9	3.29TO	4.13	1	0.2	431	100.00
10	4.13TO	5.19	0	0.0	430	99.77
11	5.19TO	6.52	3	0.7	430	99.77
12	6.52TO	8.19	13	3.0	427	99.07
13	8.19TO	10.29	12	2.8	414	96.06
14	10.29TO	12.93	24	5.6	402	93.27
15	12.93TO	16.25	48	11.1	378	87.70
16	16.25TO	20.41	31	7.2	330	76.57
17	20.41TO	25.65	41	9.5	299	69.37
18	25.65TO	32.22	55	12.8	258	59.86
19	32.22TO	40.48	36	8.4	203	47.10
20	40.48TO	50.86	33	7.7	167	38.75
21	50.86TO	63.90	30	7.0	134	31.09
22	63.90TO	80.27	17	3.9	104	24.13
23	80.27TO	100.85	22	5.1	87	20.19
24	100.85TO	126.70	15	3.5	65	15.08
25	126.70TO	159.17	12	2.8	50	11.60
26	159.17TO	199.96	13	3.0	38	8.82
27	199.96TO	251.22	6	1.4	25	5.80
28	251.22TO	315.60	6	1.4	19	4.41
29	315.60TO	396.49	2	0.5	13	3.02
30	396.49TO	498.11	3	0.7	11	2.55
31	498.11TO	625.78	2	0.5	8	1.86
32	625.78TO	786.16	2	0.5	6	1.39
33	786.16TO	987.65	2	0.5	4	0.93
34	987.65TO	1240.78	0	0.0	2	0.46
35	1240.78TO	1558.79	1	0.2	2	0.46
36	MORE THAN	1558.79	1	0.2	1	0.00

PPM IN INTERVALS OF .099 LOG (BASE 10)UNITS
THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS
THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN
THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION
JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

HOWELL

HISTOGRAM DATA FOR ZINC

CLASS	LIMITS		FREQ	%FREQ	CUM	CUM%
1	LESS THAN	8.46	0	0.0	431	100.00
2	8.46TO	9.78	0	0.0	431	100.00
3	9.78TO	11.30	1	0.2	431	100.00
4	11.30TO	13.06	1	0.2	430	99.77
5	13.06TO	15.09	1	0.2	429	99.54
6	15.09TO	17.43	1	0.2	428	99.30
7	17.43TO	20.14	2	0.5	427	99.07
8	20.14TO	23.27	1	0.2	425	98.61
9	23.27TO	26.89	2	0.5	424	98.38
10	26.89TO	31.07	3	0.7	422	97.91
11	31.07TO	35.90	3	0.7	419	97.22
12	35.90TO	41.47	10	2.3	416	96.52
13	41.47TO	47.92	8	1.9	406	94.20
14	47.92TO	55.37	18	4.2	398	92.34
15	55.37TO	63.97	17	3.9	380	88.17
16	63.97TO	73.91	31	7.2	363	84.22
17	73.91TO	85.40	54	12.5	332	77.03
18	85.40TO	98.67	46	10.7	278	64.50
19	98.67TO	114.01	55	12.8	232	53.83
20	114.01TO	131.73	36	8.4	177	41.07
21	131.73TO	152.20	36	8.4	141	32.71
22	152.20TO	175.85	30	7.0	105	24.36
23	175.85TO	203.18	23	5.3	75	17.40
24	203.18TO	234.75	11	2.6	52	12.06
25	234.75TO	271.24	12	2.8	41	9.51
26	271.24TO	313.39	12	2.8	29	6.73
27	313.39TO	362.09	3	0.7	17	3.94
28	362.09TO	418.36	3	0.7	14	3.25
29	418.36TO	483.38	1	0.2	11	2.55
30	483.38TO	558.49	3	0.7	10	2.32
31	558.49TO	645.29	2	0.5	7	1.62
32	645.29TO	745.56	1	0.2	5	1.16
33	745.56TO	861.43	1	0.2	4	0.93
34	861.43TO	995.30	2	0.5	3	0.70
35	995.30TO	1149.97	0	0.0	1	0.23
36	MORE THAN	1149.97	1	0.2	1	0.00

PPM IN INTERVALS OF .062 LOG (BASE 10)UNITS

THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS

THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN

THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAWER/

HOWELL

HISTOGRAM DATA FOR SILVER

CLASS	LIMITS	#	FREQ	%FREQ	CUM	CUM%
1	LESS THAN	0.00	0	0.0	431	100.00
2	0.00TO	0.01	0	0.0	431	100.00
3	0.01TO	0.01	0	0.0	431	100.00
4	0.01TO	0.01	0	0.0	431	100.00
5	0.01TO	0.02	0	0.0	431	100.00
6	0.02TO	0.03	0	0.0	431	100.00
7	0.03TO	0.04	0	0.0	431	100.00
8	0.04TO	0.05	0	0.0	431	100.00
9	0.05TO	0.06	0	0.0	431	100.00
10	0.06TO	0.08	0	0.0	431	100.00
11	0.08TO	0.10	36	8.4	431	100.00
12	0.10TO	0.13	0	0.0	395	91.65
13	0.13TO	0.16	0	0.0	395	91.65
14	0.16TO	0.20	54	12.5	395	91.65
15	0.20TO	0.26	0	0.0	341	79.12
16	0.26TO	0.33	37	8.6	341	79.12
17	0.33TO	0.42	53	12.3	304	70.53
18	0.42TO	0.53	24	5.6	251	58.24
19	0.53TO	0.67	26	6.0	227	52.67
20	0.67TO	0.85	44	10.2	201	46.64
21	0.85TO	1.08	37	8.6	157	36.43
22	1.08TO	1.37	35	8.1	120	27.84
23	1.37TO	1.73	30	7.0	85	19.72
24	1.73TO	2.19	9	2.1	55	12.76
25	2.19TO	2.77	13	3.0	46	10.67
26	2.77TO	3.51	10	2.3	33	7.66
27	3.51TO	4.44	6	1.4	23	5.34
28	4.44TO	5.62	6	1.4	17	3.94
29	5.62TO	7.11	6	1.4	11	2.55
30	7.11TO	9.00	0	0.0	5	1.16
31	9.00TO	11.38	2	0.5	5	1.16
32	11.38TO	14.40	1	0.2	3	0.70
33	14.40TO	18.22	1	0.2	2	0.46
34	18.22TO	23.05	1	0.2	1	0.23
35	23.05TO	29.16	0	0.0	0	0.00
36	MORE THAN	29.16	0	0.0	0	0.00

PPM IN INTERVALS OF .102 LOG (BASE 10)UNITS

THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS

THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN

THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

HOWELL
HISTOGRAM DATA FOR GOLD

CLASS	LIMITS	*	FREQ	%FREQ	CUM	CUM%
1	LESS THAN	0.10	0	0.0	431	100.00
2	0.10TO	0.14	0	0.0	431	100.00
3	0.14TO	0.19	0	0.0	431	100.00
4	0.19TO	0.26	0	0.0	431	100.00
5	0.26TO	0.35	0	0.0	431	100.00
6	0.35TO	0.48	0	0.0	431	100.00
7	0.48TO	0.65	0	0.0	431	100.00
8	0.65TO	0.88	0	0.0	431	100.00
9	0.88TO	1.19	0	0.0	431	100.00
10	1.19TO	1.60	0	0.0	431	100.00
11	1.60TO	2.17	0	0.0	431	100.00
12	2.17TO	2.93	65	15.1	431	100.00
13	2.93TO	3.97	0	0.0	366	84.92
14	3.97TO	5.36	32	7.4	366	84.92
15	5.36TO	7.25	0	0.0	334	77.49
16	7.25TO	9.80	0	0.0	334	77.49
17	9.80TO	13.25	46	10.7	334	77.49
18	13.25TO	17.91	30	7.0	288	66.82
19	17.91TO	24.21	32	7.4	258	59.86
20	24.21TO	32.72	54	12.5	226	52.44
21	32.72TO	44.23	47	10.9	172	39.91
22	44.23TO	59.78	38	8.8	125	29.00
23	59.78TO	80.80	36	8.4	87	20.19
24	80.80TO	109.21	12	2.8	51	11.83
25	109.21TO	147.61	12	2.8	39	9.05
26	147.61TO	199.50	11	2.6	27	6.26
27	199.50TO	269.64	3	0.7	16	3.71
28	269.64TO	364.44	5	1.2	13	3.02
29	364.44TO	492.56	1	0.2	8	1.86
30	492.56TO	665.73	5	1.2	7	1.62
31	665.73TO	899.77	2	0.5	2	0.46
32	899.77TO	1216.10	0	0.0	0	0.00
33	1216.10TO	1643.64	0	0.0	0	0.00
34	1643.64TO	2221.48	0	0.0	0	0.00
35	2221.48TO	3002.47	0	0.0	0	0.00
36	MORE THAN	3002.47	0	0.0	0	0.00

PPB IN INTERVALS OF .130 LOG (BASE 10)UNITS
THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS
THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN
THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION
JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

SUMMARY OF STATISTICS FOR HOWELL

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	UNITS	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
LEAD	431	2300 TO 4	PPM	71.1 (394)	36.1 (265)
ZINC	431	1460 TO 11	PPM	132.4 (378)	106.0 (375)
SILVER	431	20.0 TO (0.2	PPM	1.1 (4)	0.6 (4)
GOLD	431	765 TO (5	PPB	49.3 (237)	20.8 (290)

IF YOU WISH TO REPLOT THE HISTOGRAM DATA USE ORDINARY ARITHMETIC GRAPH PAPER AND PLOT THE CONC MID-POINTS AT EQUAL SPACINGS ON THE X-AXIS AND FREQUENCY % ON THE Y AXIS

IF YOU WISH TO REPLOT THE CUMULATIVE PLOT USE GRAPH PAPER WITH ARITHMETIC SCALE FOR PPM LOWER LIMITS AND PROBABILITY SCALE FOR CUMULATIVE %

THREE USEFUL REFERENCES :LEPELTIER,C.1969 A SIMPLIFIED STATISTICAL TREATMENT OF GEOCHEMICAL DATA BY GRAPHICAL REPRESENTATION.ECON GEOLOGY 64(5),P538

SINCLAIR,A.J. 1974 SELECTION OF THRESHOLD VALUES IN GEOCHEMICAL DATA USING PROBABILITY GRAPHS.JOURN. GEOCHEM. EXPLORATION 3 ,P129

SINCLAIR,A.J. 1976 APPLICATIONS OF PROBABILITY GRAPHS IN MINERAL EXPLORATION.SPECIAL VOL 4,ASSOCIATION OF EXPL.GEOCHEMISTS,95 P

HOWELL

LOG TRANSFORM HISTOGRAM FOR LEAD

FREQUENCY (ARITHMETIC SCALE)

SCALED FOR LARGEST CLASS =100

MID-POINT	FREQ%	0 20 40 60 80 100
) 1558.84	0.2	*
1390.78	0.2	*
1107.05	0.0	*
881.21	0.5	**
701.45	0.5	**
558.36	0.5	**
444.46	0.7	***
353.79	0.5	**
281.62	1.4	******
224.18	1.4	******
178.45	3.0	**********
142.06	2.8	**********
113.09	3.5	**********
90.02	5.1	**********
71.67	3.9	**********
57.06	7.0	**********
45.43	7.7	**********
36.17	8.4	**********
28.80	12.8	**********
22.93	9.5	**********
18.26	7.2	**********
14.55	11.1	**********
11.59	5.6	**********
9.23	2.8	**********
7.36	3.0	**********
5.87	0.7	***
4.68	0.0	*
3.73	0.2	*
2.98	0.0	*
2.38	0.0	*
1.91	0.0	*
1.53	0.0	*
1.22	0.0	*
0.98	0.0	*
0.79	0.0	*
(0.71	0.0	*

PPM

NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.099),VALUES ARE MID-POINTS OF CLASSES

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
LEAD	431	4 TO 2300 PPM	71.1 (394)	36.1 (265)

HOWELL
LOG TRANSFORM HISTOGRAM FOR ZINC

FREQUENCY (ARITHMETIC SCALE)
SCALED FOR LARGEST CLASS =100

MID-POINT	FREQ%	0 20 40 60 80 100
) 1150.02	0.2	*
1069.89	0.0	*
926.00	0.5	**
801.45	0.2	*
693.66	0.2	*
600.37	0.5	**
519.63	0.7	***
449.74	0.2	*
389.26	0.7	***
336.91	0.7	***
291.60	2.8	**********
252.39	2.8	**********
218.45	2.6	**********
189.07	5.3	**********
163.65	7.0	**********
141.64	8.4	**********
122.60	8.4	**********
106.11	12.8	**********
91.85	10.7	**********
79.50	12.5	**********
68.81	7.2	**********
59.56	3.9	**********
51.56	4.2	**********
44.63	1.9	**********
38.63	2.3	**********
33.44	0.7	***
28.95	0.7	***
25.06	0.5	**
21.70	0.2	*
18.79	0.5	**
16.27	0.2	*
14.08	0.2	*
12.20	0.2	*
10.56	0.2	*
9.15	0.0	*
(8.51	0.0	*

PPM
NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.062),VALUES ARE MID-POINTS OF CLASSES
JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAWER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
ZINC	431	11 TO 1460 PPM	132.4 (378)	106.0 (375)

HOWELL

LOG TRANSFORM HISTOGRAM FOR SILVER

FREQUENCY (ARITHMETIC SCALE)

SCALED FOR LARGEST CLASS =100

	MID-POINT	FREQ%	0 20 40 60 80 100
)	29.21	0.0	*
	25.97	0.0	*
	20.54	0.2	*
	16.25	0.2	*
	12.85	0.2	*
	10.17	0.5	**
	8.05	0.0	*
	6.37	1.4	******
	5.05	1.4	******
	4.00	1.4	******
	3.17	2.3	**********
	2.51	3.0	*************
	2.00	2.1	*********
	1.59	7.0	*******************************
	1.27	8.1	************************************
	1.01	8.6	**************************************
	0.81	10.2	**
	0.65	6.0	***************************
	0.52	5.6	************************
	0.42	12.3	***
	0.34	8.6	**************************************
	0.28	0.0	*
	0.23	12.5	***
	0.19	0.0	*
	0.16	0.0	*
	0.14	8.4	*************************************
	0.12	0.0	*
	0.10	0.0	*
	0.09	0.0	*
	0.08	0.0	*
	0.07	0.0	*
	0.07	0.0	*
	0.06	0.0	*
	0.06	0.0	*
	0.06	0.0	*
(	0.05	0.0	*

PPM

NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.102),VALUES ARE MID-POINTS OF CLASSES

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
SILVER	431	(0.2 TO 20.0 PPM	1.1 (4)	0.6 (4)

HOWELL

LOG TRANSFORM HISTOGRAM FOR GOLD

FREQUENCY (ARITHMETIC SCALE)

SCALED FOR LARGEST CLASS =100

MID-POINT	FREQ%	0 20 40 60 80 100
> 3002.52	0.0	*
2582.67	0.0	*
1910.89	0.0	*
1413.85	0.0	*
1046.10	0.0	*
774.00	0.5	**
572.68	1.2	****
423.73	0.2	*
313.52	1.2	****
231.98	0.7	***
171.65	2.6	*********
127.01	2.8	**********
93.99	2.8	**********
69.55	8.4	********************************
51.47	8.8	*********************************
38.10	10.9	***
28.20	12.5	**
20.87	7.4	****************************
15.46	7.0	**************************
11.45	10.7	**
8.48	0.0	*
6.29	0.0	*
4.66	7.4	**************************
3.46	0.0	*
2.57	15.1	**
1.92	0.0	*
1.43	0.0	*
1.07	0.0	*
0.80	0.0	*
0.61	0.0	*
0.46	0.0	*
0.35	0.0	*
0.27	0.0	*
0.21	0.0	*
0.17	0.0	*
< 0.15	0.0	*

PPB

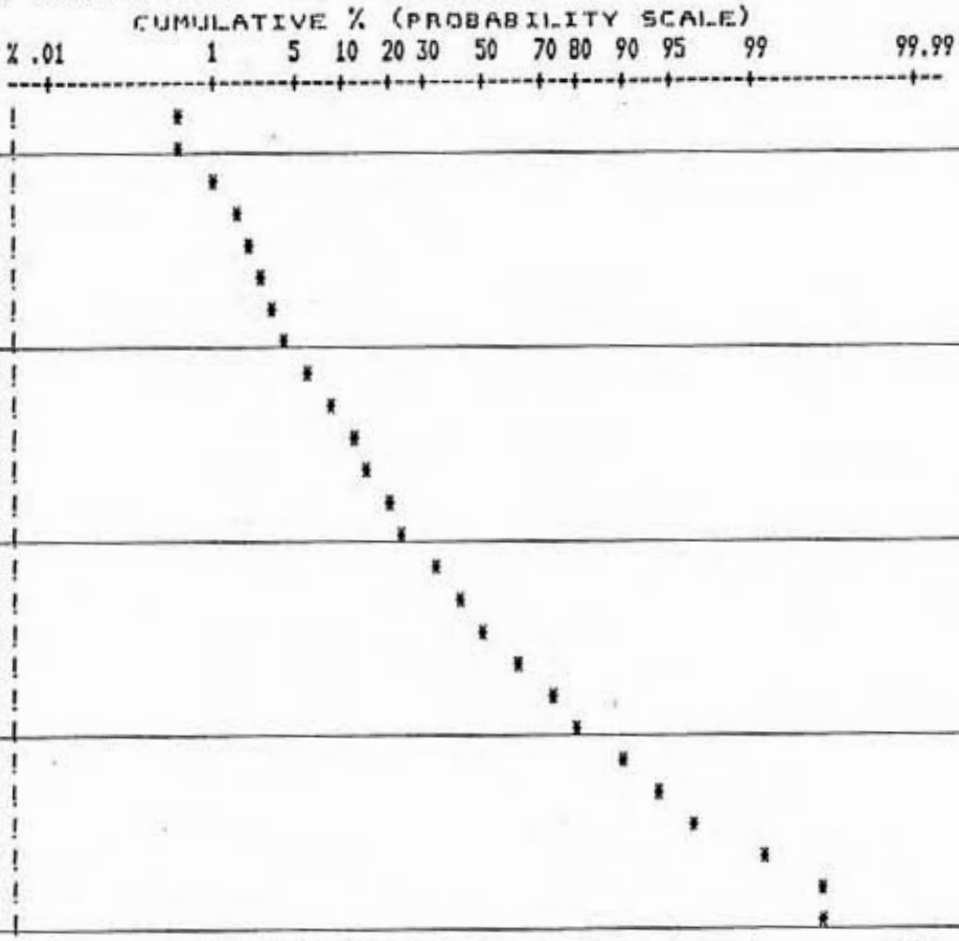
NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.130),VALUES ARE MID-POINTS OF CLASSES

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
GOLD	431	(5 TO 765 PPB	49.3 (237)	20.8 (290)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR LEAD



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PPM

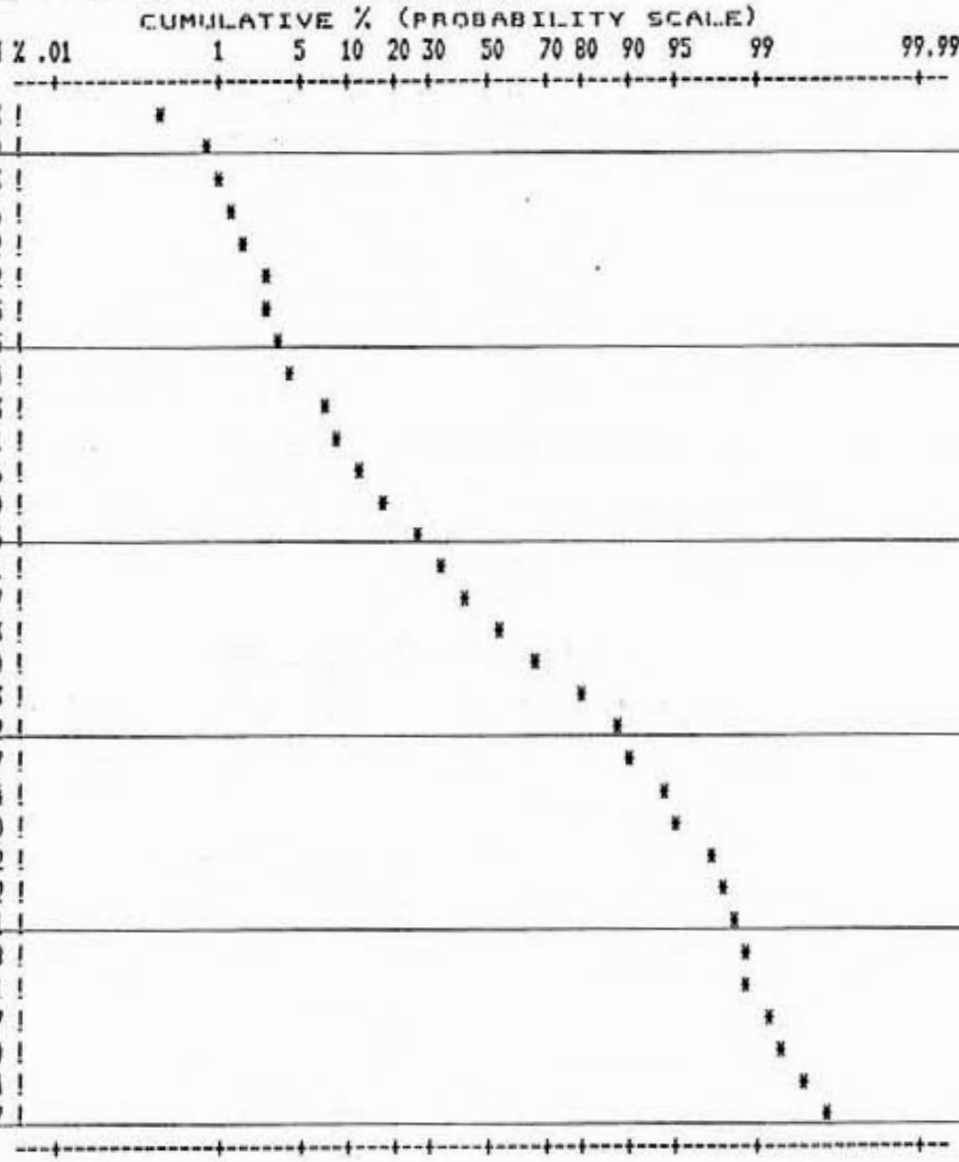
NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.099),VALUES ARE CLASS LOWER LIMITS

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
LEAD	431	4 TO 2300 PPM	71.1 (394)	36.1 (265)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR ZINC



PPM

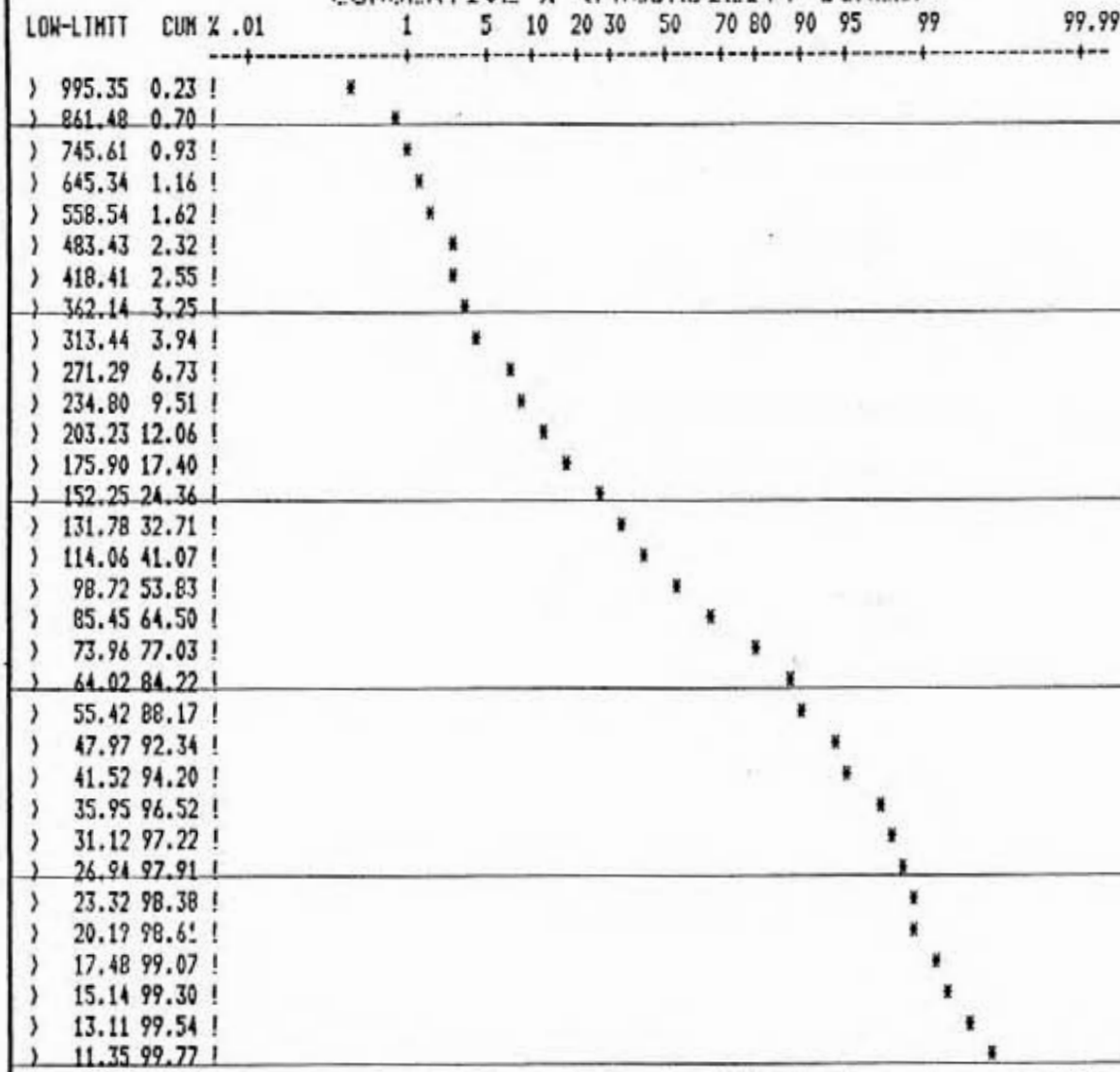
NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.062),VALUES ARE CLASS LOWER LIMITS

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
ZINC	431	11 TO 1460 PPM	132.4 (378)	106.0 (375)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR ZINC



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PPM

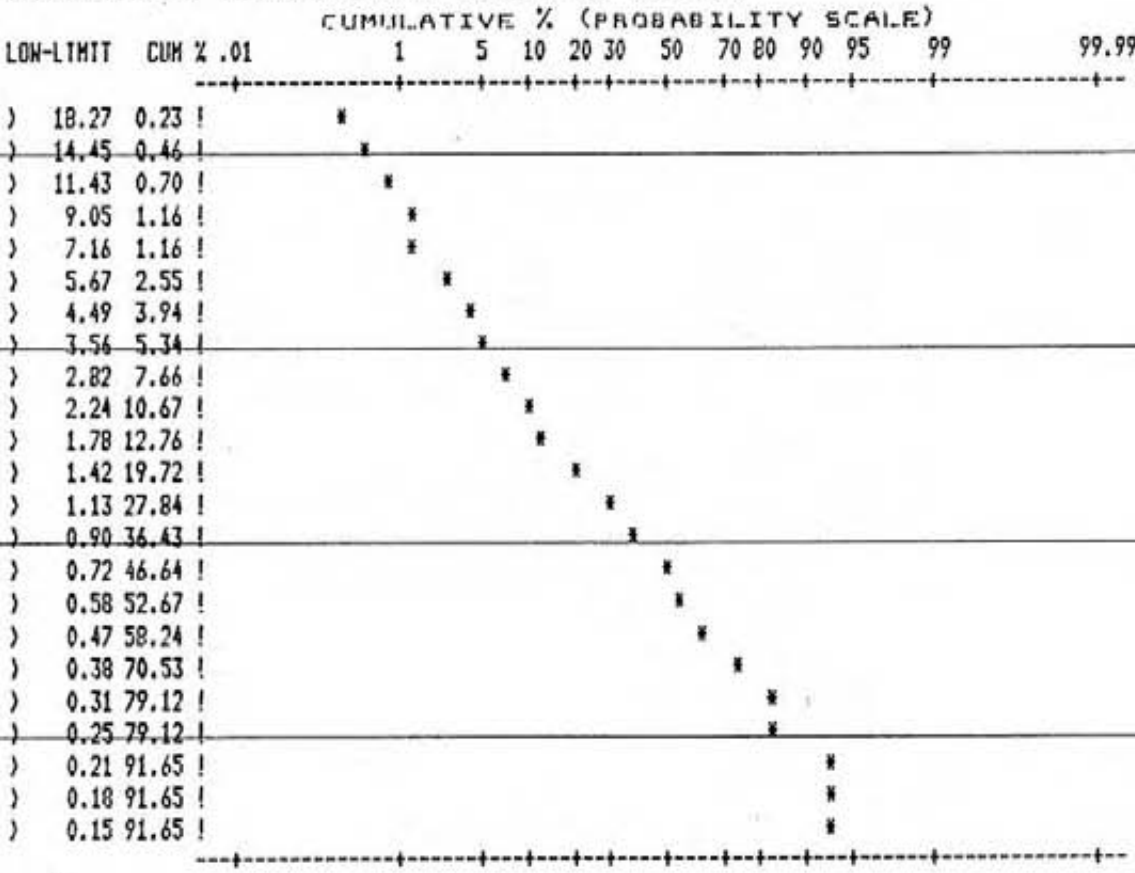
NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.062),VALUES ARE CLASS LOWER LIMITS

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
ZINC	431	11 TO 1460 PPM	132.4 (378)	106.0 (375)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR SILVER



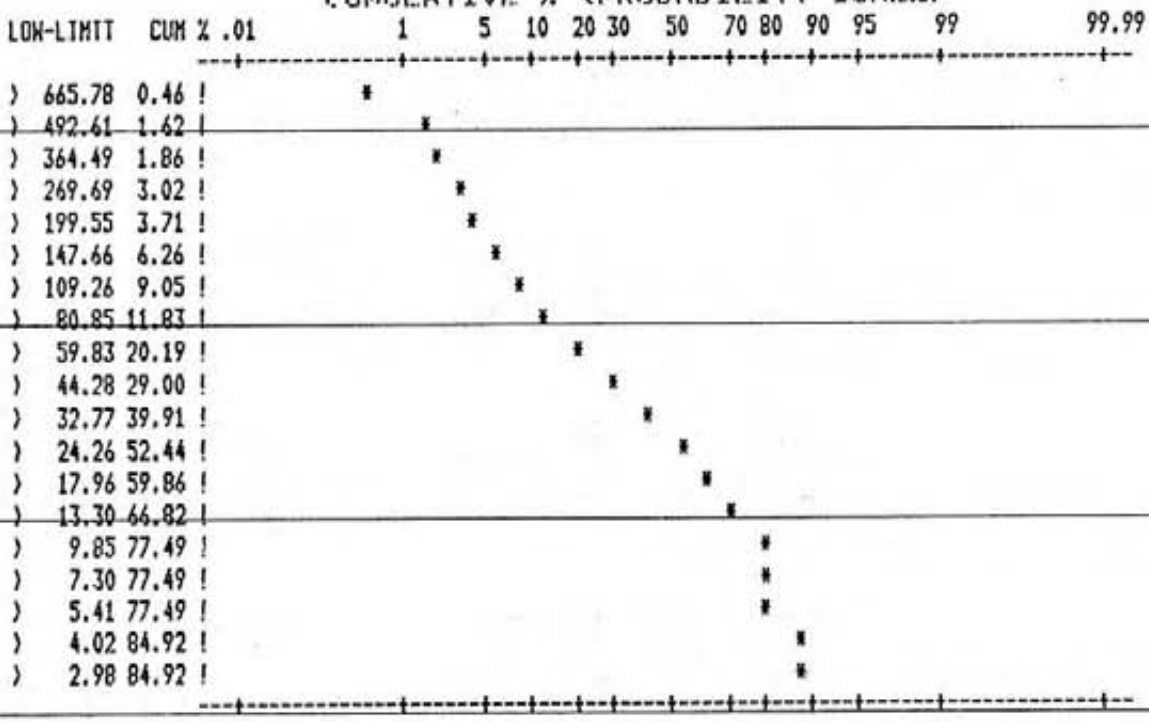
NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.102),VALUES ARE CLASS LOWER LIMITS

JOB V83-345S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
SILVER	431	(0.2 TO 20.0 PPM	1.1 (4)	0.6 (4)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR GOLD



PPB

NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.130),VALUES ARE CLASS LOWER LIMITS

JOB V83-845S/PB,ZN,AS,AU/REQUESTED BY AB MAHER/

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
GOLD	431	(5 TO 765 PPB	49.3 (237)	20.8 (290)

CORRELATION MATRICES OF LOG TRANSFORMED DATA

MATRIX WITH INCOMPLETE DATA EXCLUDED

	Pb	Zn	Ag	Au
Pb	1.00	0.48	0.61	0.61
Zn	0.48	1.00	0.33	0.36
Ag	0.61	0.33	1.00	0.63
Au	0.61	0.36	0.63	1.00

THERE WERE 431 SAMPLES ,OF WHICH 431 HAD DATA FOR ALL 4 ELEMENTS
ONLY SAMPLES WITH DATA FOR ALL ELEMENTS WERE CONSIDERED

MATRIX WITH INCOMPLETE DATA INCLUDED

	Pb	Zn	Ag	Au
Pb	1.00	0.48	0.61	0.61
Zn	0.48	1.00	0.33	0.36
Ag	0.61	0.33	1.00	0.63
Au	0.61	0.36	0.63	1.00

ALL AVAILABLE DATA FOR EACH SAMPLE WERE USED,EVEN IF SOME ELEMENTS WERE MISSING

NUMBER OF DATA PAIRS FOUND

	Pb	Zn	Ag	Au
Pb	431	431	431	431
Zn	0	431	431	431
Ag	0	0	431	431
Au	0	0	0	431

THESE ARE THE NUMBERS OF SAMPLES WHERE DATA WAS FOUND FOR BOTH ELEMENTS IN EACH PAIR
SEE INCOMPLETE DATA INCLUDED MATRIX ABOVE

24 OCT 1983

HOWELL

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
R8314689	R M-084	72	9	4.7	780
R8314690	R M-085	130	26	1.2	70
R8314691	R M-086	128	25	0.8	80
R8314692	R M-087	127	20	1.2	40
R8314693	R M-088	305	30	1.9	80
R8314694	R M-089	147	15	1.4	95
R8314695	R M-090	83	20	0.8	35
R8314696	R M-091	35	7	0.9	75
R8314697	R M-092	87	7	1.3	90
R8314698	R M-093	147	8	2.0	125
R8314699	R M-094	250	6	0.8	60
R8314700	R M-095	1540	20	3.2	140
R8314701	R M-096	250	12	1.2	40
R8314702	R M-097	290	25	1.4	30
R8314703	R M-098	260	22	1.7	55
R8314704	R M-099	335	15	1.3	45
R8314705	R M-100	370	40	2.0	100
R8314706	R M-101	470	35	1.7	155
R8314707	R M-102	325	20	1.7	120
R8314708	R M-103	640	24	3.9	145
R8314709	R M-104	460	10	4.9	280
R8314710	R M-105	275	22	4.3	180
R8314711	R M-106	94	10	2.2	130
R8314712	R M-108	54	13	1.0	40
R8314713	R M-109	88	20	1.0	40
R8314714	R M-110	99	17	1.0	40
R8314715	R M-111	50	10	0.8	40
R8314716	R M-112	120	12	1.4	65
R8314717	R M-113	127	8	0.6	50
R8314718	R M-114	151	33	1.8	45
R8314719	R M-115	161	10	1.2	40
R8314720	R M-116	320	9	2.2	80
R8314721	R M-117	900	12	2.9	60
R8314722	R M-118	420	10	1.3	40
R8314723	R M-119	196	9	3.5	80
R8314724	R M-120	160	7	5.7	110
R8314725	R M-121	280	5	2.5	40
R8314726	R M-122	545	8	2.9	60
R8314727	R M-123	320	4	3.2	55
R8314728	R M-124	67	3	1.8	85
R8314729	R M-125	95	3	3.4	135
R8314730	R M-126	119	4	5.4	155
R8314731	R M-127	68	5	6.6	175
R8314732	R M-128	97	8	4.0	45
R8314733	R M-129	67	20	2.0	150
R8314734	R M-130	114	16	1.9	205
R8314735	R M-131	157	8	6.0	215
R8314736	R M-132	4400	15	7.0	45
R8314737	R M-133	192	330	30.0	80
R8314738	R M-134	18	20	0.7	40
R8314739	R M-135	27	79	0.4	15
R8314740	R M-136	16	25	0.8	110
R8314741	R M-137	14	39	1.3	145

LAB NO	FIELD NO	Pb PPM	Zn PPM	Ag PPM	Au PPB
R8314742	R M-140	265	5	3.9	185
R8314743	R M-141	395	15	1.8	60
R8314744	R M-142	280	19	24.0	15
R8314745	R M-143	22	10	3.6	65
R8314746	R M-144	200	8	2.0	25
R8314747	R M-145	300	35	3.4	110
R8314748	R M-146	26	54	0.3	10
R8314749	R M-147	300	15	3.8	10
R8314750	R M-148	103	2	1.0	90
R8314751	R M-149	67	1	0.6	50
R8314752	R M-150	41	1	0.8	60
R8314753	R M-151	116	1	1.0	70
R8314754	R M-152	445	328	1.2	100
R8314755	R M-153	585	990	2.6	85
R8314756	R M-154	20	39	0.3	140
R8314757	R M-155	50	113	0.6	90
R8314758	R M-156	29	39	0.7	115
R8314759	R M-157	34	25	0.7	105
R8314760	R M-158	68	39	1.5	75
R8314761	R M-159	8800	20	30.0	1210
R8314762	R M-160	30	71	0.2	10
R8314763	R M-161	72	19	0.4	85

HOWELL
HISTOGRAM DATA FOR LEAD

CLASS	LIMITS		FREQ	%FREQ	CUM	CUM%
1	LESS THAN	1.21	0	0.0	75	100.00
2	1.21TO	1.59	0	0.0	75	100.00
3	1.59TO	2.09	0	0.0	75	100.00
4	2.09TO	2.74	0	0.0	75	100.00
5	2.74TO	3.60	0	0.0	75	100.00
6	3.60TO	4.74	0	0.0	75	100.00
7	4.74TO	6.23	0	0.0	75	100.00
8	6.23TO	8.18	0	0.0	75	100.00
9	8.18TO	10.76	0	0.0	75	100.00
10	10.76TO	14.14	1	1.3	75	100.00
11	14.14TO	18.58	2	2.7	74	98.67
12	18.58TO	24.41	2	2.7	72	96.00
13	24.41TO	32.08	4	5.3	70	93.33
14	32.08TO	42.15	3	4.0	66	88.00
15	42.15TO	55.39	3	4.0	63	84.00
16	55.39TO	72.78	7	9.3	60	80.00
17	72.78TO	95.63	5	6.7	53	70.67
18	95.63TO	125.66	7	9.3	48	64.00
19	125.66TO	165.12	10	13.3	41	54.67
20	165.12TO	216.97	3	4.0	31	41.33
21	216.97TO	285.10	7	9.3	28	37.33
22	285.10TO	374.62	9	12.0	21	28.00
23	374.62TO	492.26	5	6.7	12	16.00
24	492.26TO	646.83	3	4.0	7	9.33
25	646.83TO	849.93	0	0.0	4	5.33
26	849.93TO	1116.81	1	1.3	4	5.33
27	1116.81TO	1467.48	0	0.0	3	4.00
28	1467.48TO	1928.27	1	1.3	3	4.00
29	1928.27TO	2533.75	0	0.0	2	2.67
30	2533.75TO	3329.34	0	0.0	2	2.67
31	3329.34TO	4374.74	0	0.0	2	2.67
32	4374.74TO	5748.40	1	1.3	2	2.67
33	5748.40TO	7553.39	0	0.0	1	1.33
34	7553.39TO	9925.13	1	1.3	1	1.33
35	9925.13TO	13041.60	0	0.0	0	0.00
36	MORE THAN	13041.60	0	0.0	0	0.00

PPM IN INTERVALS OF .118 LOG (BASE 10)UNITS
THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS
THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN
THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION
JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

HOWELL

HISTOGRAM DATA FOR ZINC

CLASS	LIMITS	*	FREQ	%FREQ	CUM	CUM%
1	LESS THAN	0.13	0	0.0	75	100.00
2	0.13TO	0.17	0	0.0	75	100.00
3	0.17TO	0.23	0	0.0	75	100.00
4	0.23TO	0.30	0	0.0	75	100.00
5	0.30TO	0.39	0	0.0	75	100.00
6	0.39TO	0.52	0	0.0	75	100.00
7	0.52TO	0.68	0	0.0	75	100.00
8	0.68TO	0.89	0	0.0	75	100.00
9	0.89TO	1.17	3	4.0	75	100.00
10	1.17TO	1.53	0	0.0	72	96.00
11	1.53TO	2.00	1	1.3	72	96.00
12	2.00TO	2.62	0	0.0	71	94.67
13	2.62TO	3.44	2	2.7	71	94.67
14	3.44TO	4.50	2	2.7	69	92.00
15	4.50TO	5.89	3	4.0	67	89.33
16	5.89TO	7.71	4	5.3	64	85.33
17	7.71TO	10.09	15	20.0	60	80.00
18	10.09TO	13.21	4	5.3	45	60.00
19	13.21TO	17.29	7	9.3	41	54.67
20	17.29TO	22.64	12	16.0	34	45.33
21	22.64TO	29.63	6	8.0	22	29.33
22	29.63TO	38.78	4	5.3	16	21.33
23	38.78TO	50.75	5	6.7	12	16.00
24	50.75TO	66.43	1	1.3	7	9.33
25	66.43TO	86.94	2	2.7	6	8.00
26	86.94TO	113.79	1	1.3	4	5.33
27	113.79TO	148.93	0	0.0	3	4.00
28	148.93TO	194.91	0	0.0	3	4.00
29	194.91TO	255.10	0	0.0	3	4.00
30	255.10TO	333.87	2	2.7	3	4.00
31	333.87TO	436.97	0	0.0	1	1.33
32	436.97TO	571.91	0	0.0	1	1.33
33	571.91TO	748.51	0	0.0	1	1.33
34	748.51TO	979.64	0	0.0	1	1.33
35	979.64TO	1282.14	1	1.3	1	1.33
36	MORE THAN	1282.14	0	0.0	0	0.00

PPM IN INTERVALS OF .116 LOG (BASE 10)UNITS

THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS

THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN

THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

HOWELL

HISTOGRAM DATA FOR SILVER

CLASS	LIMITS		FREQ	%FREQ	CUM	CUM%
1	LESS THAN	0.03	0	0.0	75	100.00
2	0.03TO	0.04	0	0.0	75	100.00
3	0.04TO	0.05	0	0.0	75	100.00
4	0.05TO	0.07	0	0.0	75	100.00
5	0.07TO	0.09	0	0.0	75	100.00
6	0.09TO	0.11	0	0.0	75	100.00
7	0.11TO	0.14	0	0.0	75	100.00
8	0.14TO	0.17	0	0.0	75	100.00
9	0.17TO	0.22	1	1.3	75	100.00
10	0.22TO	0.27	0	0.0	74	98.67
11	0.27TO	0.34	2	2.7	74	98.67
12	0.34TO	0.42	2	2.7	72	96.00
13	0.42TO	0.53	0	0.0	70	93.33
14	0.53TO	0.66	3	4.0	70	93.33
15	0.66TO	0.82	9	12.0	67	89.33
16	0.82TO	1.02	6	8.0	58	77.33
17	1.02TO	1.27	5	6.7	52	69.33
18	1.27TO	1.58	8	10.7	47	62.67
19	1.58TO	1.97	8	10.7	39	52.00
20	1.97TO	2.45	6	8.0	31	41.33
21	2.45TO	3.06	4	5.3	25	33.33
22	3.06TO	3.81	7	9.3	21	28.00
23	3.81TO	4.74	5	6.7	14	18.67
24	4.74TO	5.91	3	4.0	9	12.00
25	5.91TO	7.35	3	4.0	6	8.00
26	7.35TO	9.16	0	0.0	3	4.00
27	9.16TO	11.40	0	0.0	3	4.00
28	11.40TO	14.20	0	0.0	3	4.00
29	14.20TO	17.68	0	0.0	3	4.00
30	17.68TO	22.01	0	0.0	3	4.00
31	22.01TO	27.40	1	1.3	3	4.00
32	27.40TO	34.12	2	2.7	2	2.67
33	34.12TO	42.48	0	0.0	0	0.00
34	42.48TO	52.89	0	0.0	0	0.00
35	52.89TO	65.86	0	0.0	0	0.00
36	MORE THAN	65.86	0	0.0	0	0.00

PPM IN INTERVALS OF .095 LOG (BASE 10)UNITS
THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS
THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN
THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION
JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

HOWELL
HISTOGRAM DATA FOR GOLD

CLASS	LIMITS	#	FREQ	%FREQ	CUM	CUM%
1	LESS THAN	2.69	0	0.0	75	100.00
2	2.69TO	3.25	0	0.0	75	100.00
3	3.25TO	3.93	0	0.0	75	100.00
4	3.93TO	4.75	0	0.0	75	100.00
5	4.75TO	5.73	0	0.0	75	100.00
6	5.73TO	6.93	0	0.0	75	100.00
7	6.93TO	8.37	0	0.0	75	100.00
8	8.37TO	10.11	3	4.0	75	100.00
9	10.11TO	12.22	0	0.0	72	96.00
10	12.22TO	14.76	0	0.0	72	96.00
11	14.76TO	17.83	2	2.7	72	96.00
12	17.83TO	21.54	0	0.0	70	93.33
13	21.54TO	26.02	1	1.3	70	93.33
14	26.02TO	31.44	1	1.3	69	92.00
15	31.44TO	37.98	1	1.3	68	90.67
16	37.98TO	45.88	14	18.7	67	89.33
17	45.88TO	55.43	4	5.3	53	70.67
18	55.43TO	66.96	7	9.3	49	65.33
19	66.96TO	80.89	9	12.0	42	56.00
20	80.89TO	97.71	7	9.3	33	44.00
21	97.71TO	118.04	7	9.3	26	34.67
22	118.04TO	142.59	6	8.0	19	25.33
23	142.59TO	172.26	5	6.7	13	17.33
24	172.26TO	208.09	4	5.3	8	10.67
25	208.09TO	251.38	1	1.3	4	5.33
26	251.38TO	303.68	1	1.3	3	4.00
27	303.68TO	366.85	0	0.0	2	2.67
28	366.85TO	443.16	0	0.0	2	2.67
29	443.16TO	535.35	0	0.0	2	2.67
30	535.35TO	646.71	0	0.0	2	2.67
31	646.71TO	781.24	1	1.3	2	2.67
32	781.24TO	943.76	0	0.0	1	1.33
33	943.76TO	1140.08	0	0.0	1	1.33
34	1140.08TO	1377.25	1	1.3	1	1.33
35	1377.25TO	1663.74	0	0.0	0	0.00
36	MORE THAN	1663.74	0	0.0	0	0.00

PPB IN INTERVALS OF .082 LOG (BASE 10)UNITS
THERE ARE 34 REGULAR CLASSES ,AN OVERFLOW AND UNDERFLOW CLASS
THE RANGE CONSIDERED IS 8 STD DEVIATIONS CENTRED ON THE GEOMETRIC MEAN
THE CLASS INTERVAL IS APPROX ONE-QUARTER STD DEVIATION
JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAWER

SUMMARY OF STATISTICS FOR HOWELL

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	UNITS	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
LEAD	75	8800 TO	14 PPM	380.1 (2623)	144.0 (1571)
ZINC	75	990 TO	1 PPM	40.5 (287)	15.1 (159)
SILVER	75	30.0 TO	0.2 PPM	3.1 (13)	1.7 (12)
GOLD	75	1210 TO	10 PPB	109.3 (430)	73.5 (384)

IF YOU WISH TO REPLOT THE HISTOGRAM DATA USE ORDINARY ARITHMETIC GRAPH PAPER AND PLOT THE CONC MID-POINTS AT EQUAL SPACINGS ON THE X-AXIS AND FREQUENCY % ON THE Y AXIS

IF YOU WISH TO REPLOT THE CUMULATIVE PLOT USE GRAPH PAPER WITH ARITHMETIC SCALE FOR PPM LOWER LIMITS AND PROBABILITY SCALE FOR CUMULATIVE %

THREE USEFUL REFERENCES :LEPELTIER,C.1969 A SIMPLIFIED STATISTICAL TREATMENT OF GEOCHEMICAL DATA BY GRAPHICAL REPRESENTATION.ECON GEOLOGY 64(5),P538

SINCLAIR,A.J. 1974 SELECTION OF THRESHOLD VALUES IN GEOCHEMICAL DATA USING PROBABILITY GRAPHS.JOURN. GEOCHEM. EXPLORATION 3 ,P129

SINCLAIR,A.J. 1976 APPLICATIONS OF PROBABILITY GRAPHS IN MINERAL EXPLORATION.SPECIAL VOL 4,ASSOCIATION OF EXPL.GEOCHEMISTS,95 P

HOWELL

LOG TRANSFORM HISTOGRAM FOR LEAD

FREQUENCY (ARITHMETIC SCALE)

SCALED FOR LARGEST CLASS =100

MID-POINT	FREQ%	0 20 40 60 80 100
>13041.65	0.0	*
11377.20	0.0	*
8658.48	1.3	******
6589.43	0.0	*
5014.81	1.3	******
3816.46	0.0	*
2904.48	0.0	*
2210.42	0.0	*
1682.22	1.3	******
1280.24	0.0	*
974.32	1.3	******
741.51	0.0	*
564.32	4.0	*******************
429.48	6.7	********************************
326.86	12.0	**
248.76	9.3	***
189.33	4.0	*******************
144.10	13.3	***
109.67	9.3	***
83.48	6.7	********************************
63.54	9.3	***
48.37	4.0	*******************
36.82	4.0	*******************
28.03	5.3	*************************
21.34	2.7	************
16.25	2.7	************
12.38	1.3	******
9.43	0.0	*
7.19	0.0	*
5.48	0.0	*
4.18	0.0	*
3.19	0.0	*
2.44	0.0	*
1.87	0.0	*
1.43	0.0	*
< 1.26	0.0	*

PPM

NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.118),VALUES ARE MID-POINTS OF CLASSES

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
LEAD	25	14 TO 8800 PPM	380.1 (2623)	144.0 (1571)

HOWELL

LOG TRANSFORM HISTOGRAM FOR ZINC

FREQUENCY (ARITHMETIC SCALE)

SCALED FOR LARGEST CLASS =100

```
MID-POINT  FREQ%  0        20        40        60        80        100
                  +----+----+----+----+----+----+----+----+----+----+
) 1282.19   0.0   *
  1120.78   1.3   ****
   856.36   0.0   *
   654.32   0.0   *
   499.96   0.0   *
   382.01   0.0   *
   291.89   2.7   *******
   223.04   0.0   *
   170.42   0.0   *
   130.23   0.0   *
    99.51   1.3   ****
    76.04   2.7   *******
    58.11   1.3   ****
    44.41   6.7   ******************
    33.95   5.3   **************
    25.95   8.0   **********************
    19.84  16.0   ********************************************
    15.17   9.3   *************************
    11.60   5.3   **************
     8.87  20.0   ******************************************************
     6.79   5.3   **************
     5.20   4.0   ***********
     3.98   2.7   *******
     3.05   2.7   *******
     2.34   0.0   *
     1.80   1.3   ****
     1.39   0.0   *
     1.07   4.0   ***********
     0.83   0.0   *
     0.64   0.0   *
     0.50   0.0   *
     0.39   0.0   *
     0.31   0.0   *
     0.25   0.0   *
     0.20   0.0   *
(    0.18   0.0   *
                  +----+----+----+----+----+----+----+----+----+----+
  ^
```

PPM

NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.116),VALUES ARE MID-POINTS OF CLASSES

JOB V03-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
ZINC	75	1 TO 990 PPM	40.5 (287)	15.1 (159)

HOWELL

LOG TRANSFORM HISTOGRAM FOR SILVER

FREQUENCY (ARITHMETIC SCALE)

SCALED FOR LARGEST CLASS =100

```
MID-POINT  FREQ%  0        20        40        60        80        100
                  +---------+---------+---------+---------+---------+
)   65.91   0.0   *
    59.07   0.0   *
    47.45   0.0   *
    38.12   0.0   *
    30.63   2.7   *************
    24.61   1.3   ******
    19.77   0.0   *
    15.89   0.0   *
    12.77   0.0   *
    10.27   0.0   *
     8.26   0.0   *
     6.64   4.0   ******************
     5.34   4.0   ******************
     4.30   6.7   ******************************
     3.46   9.3   ******************************************
     2.79   5.3   ************************
     2.25   8.0   ************************************
     1.82  10.7   ************************************************
     1.47  10.7   ************************************************
     1.19   6.7   ******************************
     0.96   8.0   ************************************
     0.78  12.0   ******************************************************
     0.64   4.0   ******************
     0.52   0.0   *
     0.43   2.7   *************
     0.35   2.7   *************
     0.29   0.0   *
     0.24   1.3   ******
     0.20   0.0   *
     0.17   0.0   *
     0.15   0.0   *
     0.13   0.0   *
     0.11   0.0   *
     0.10   0.0   *
     0.09   0.0   *
(    0.08   0.0   *
                  +---------+---------+---------+---------+---------+
```

PPM

NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.095),VALUES ARE MID-POINTS OF CLASSES

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
SILVER	75	0.2 TO 30.0 ppm	3.1 (13)	1.7 (12)

HOWELL

LOG TRANSFORM HISTOGRAM FOR GOLD

FREQUENCY (ARITHMETIC SCALE)

SCALED FOR LARGEST CLASS =100

MID-POINT	FREQ%	0 20 40 60 80 100
) 1663.79	0.0	*
1513.78	0.0	*
1253.12	1.3	****
1037.34	0.0	*
858.72	0.0	*
710.85	1.3	****
588.45	0.0	*
487.13	0.0	*
403.25	0.0	*
333.82	0.0	*
276.34	1.3	****
228.77	1.3	****
189.38	5.3	*****************
156.78	6.7	*********************
129.79	8.0	*************************
107.45	9.3	*****************************
88.95	9.3	*****************************
73.64	12.0	**************************************
60.97	9.3	*****************************
50.48	5.3	*****************
41.79	18.7	**
34.60	1.3	****
28.65	1.3	****
23.73	1.3	****
19.65	0.0	*
16.27	2.7	********
13.48	0.0	*
11.17	0.0	*
9.25	4.0	************
7.67	0.0	*
6.35	0.0	*
5.27	0.0	*
4.37	0.0	*
3.62	0.0	*
3.01	0.0	*
(2.74	0.0	*

PPB

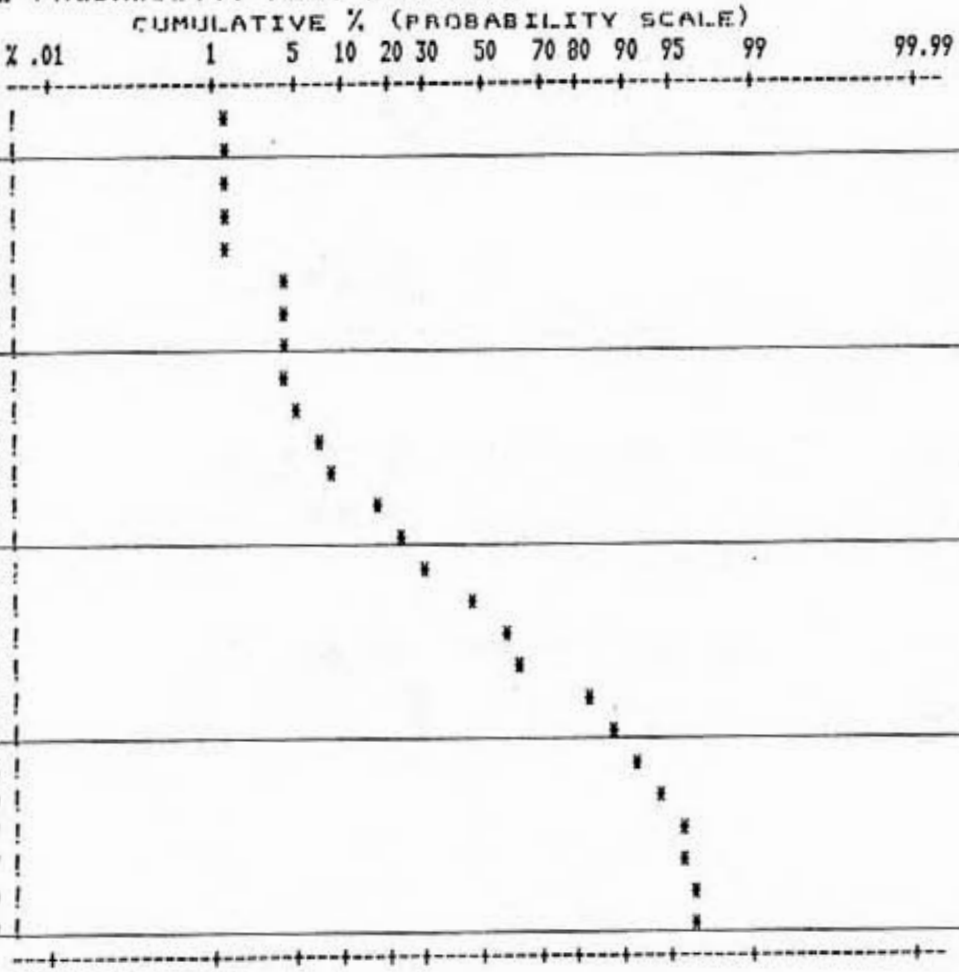
NOTE :CONC SCALE IS LOGARITHMIC(INTERVAL=.082),VALUES ARE MID-POINTS OF CLASSES

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
GOLD	75	10 TO 1210 PPB	109.3 (430)	73.5 (384)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR ZINC



PPM

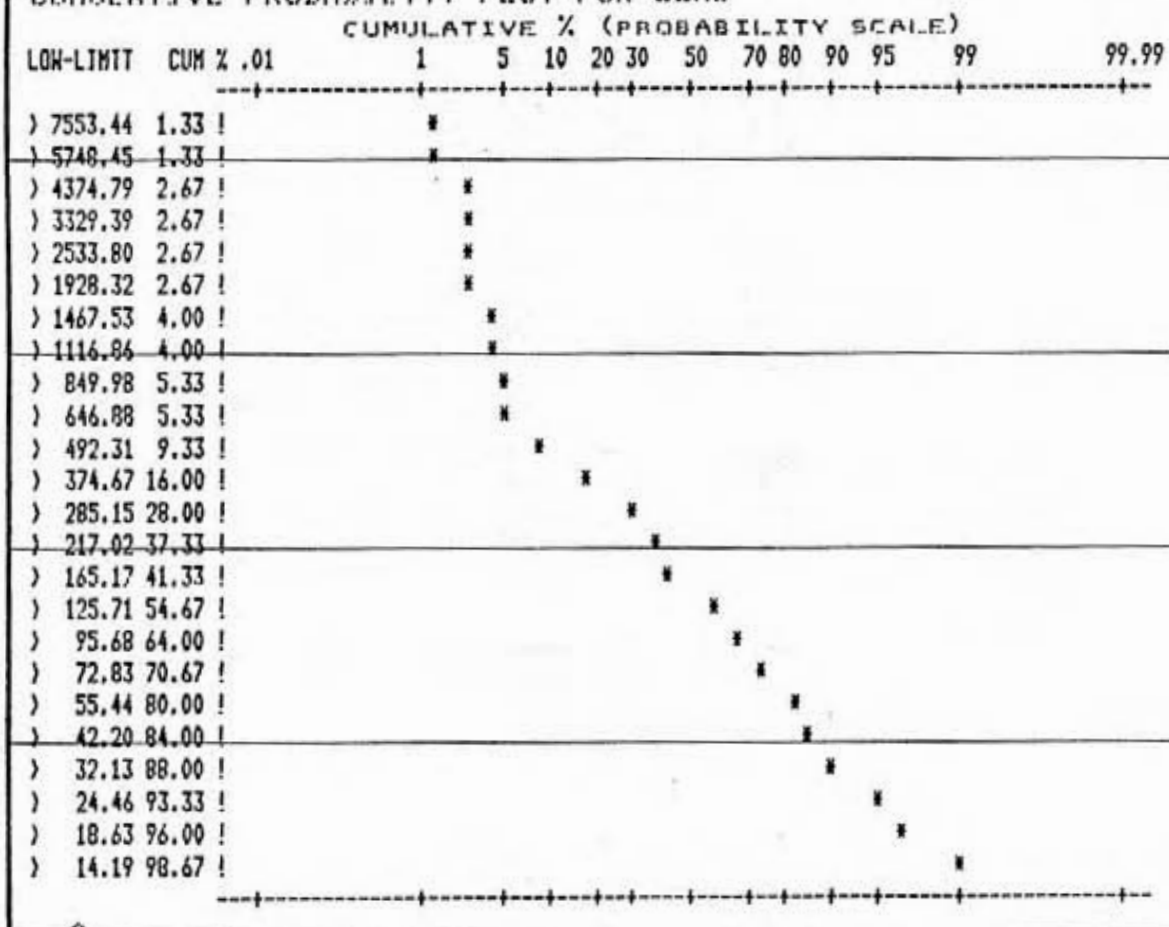
NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.116),VALUES ARE CLASS LOWER LIMITS

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
ZINC	75	1 TO 990 PPM	40.5 (287)	15.1 (159)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR LEAD



PPM

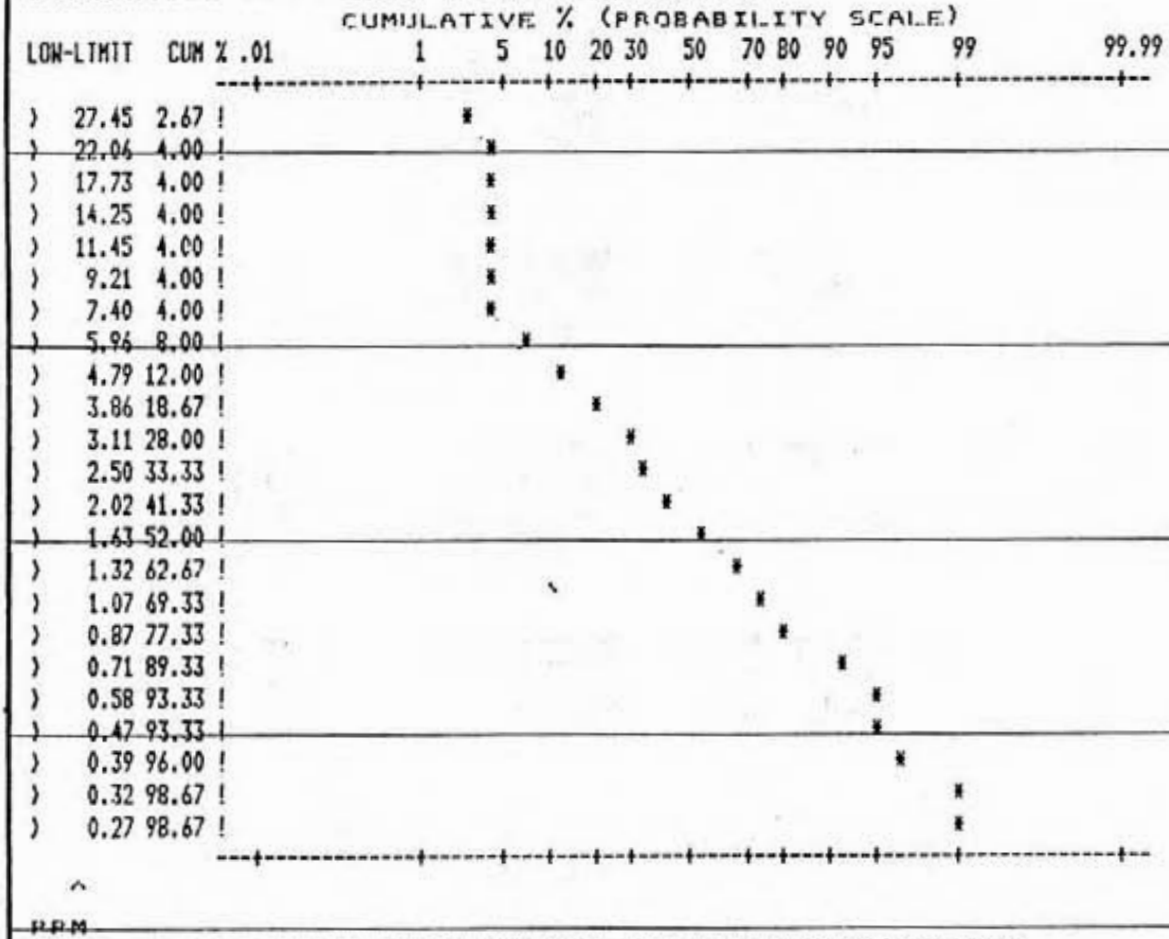
NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.118),VALUES ARE CLASS LOWER LIMITS

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
LEAD	75	14 TO 8800 ppm	380.1 (2623)	144.0 (1571)

HOWELL

CUMULATIVE PROBABILITY PLOT FOR SILVER



PPM

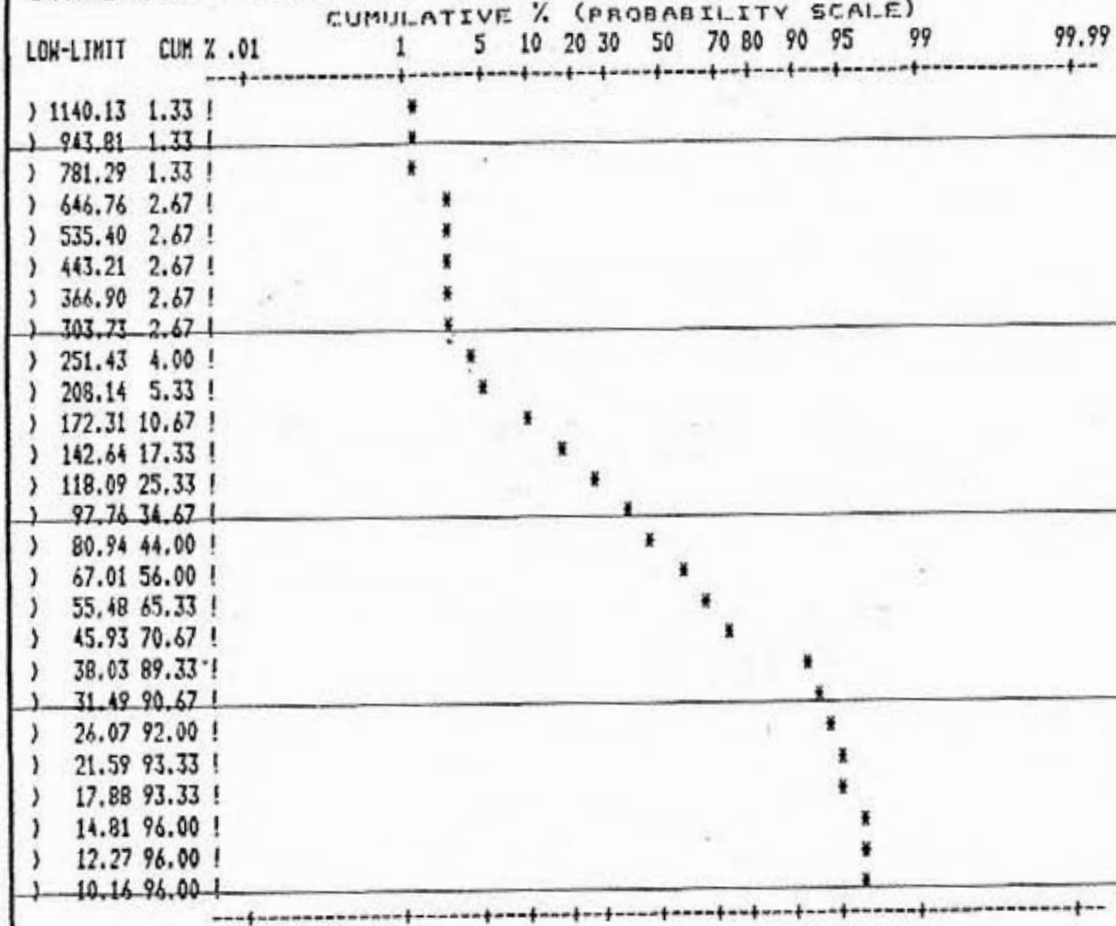
NOTE: CONCENTRATION SCALE IS LOGARTTHMTC(INTERVAL=.095),VALUES ARE CLASS LOWER LIMITS

JOB V83-344R/PD,ZN,AG,AU/REQUESTED BY AD MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
SILVER	75	0.2 TO 30.0 PPM	3.1 (13)	1.7 (12)

JWELL

CUMULATIVE PROBABILITY PLOT FOR GOLD



PPB

NOTE: CONCENTRATION SCALE IS LOGARITHMIC(INTERVAL=.082),VALUES ARE CLASS LOWER LIMITS

JOB V83-844R/PB,ZN,AG,AU/REQUESTED BY AB MAHER

ELEMENT	NO OF ANALYSES	RANGE	ARITH MEAN (M+2STD DEV)	GEO MEAN (M+2STD DEV)
GOLD	75	10 TO 1210 PPB	109.3 (430)	73.5 (384)

CORRELATION MATRICES OF LOG TRANSFORMED DATA

MATRIX WITH INCOMPLETE DATA EXCLUDED

	Pb	Zn	Ag	Au
Pb	1.00	0.05	0.59	0.21
Zn	0.05	1.00	-0.03	-0.06
Ag	0.59	-0.03	1.00	0.40
Au	0.21	-0.06	0.40	1.00

THERE WERE 75 SAMPLES ,OF WHICH 75 HAD DATA FOR ALL 4 ELEMENTS
ONLY SAMPLES WITH DATA FOR ALL ELEMENTS WERE CONSIDERED

MATRIX WITH INCOMPLETE DATA INCLUDED

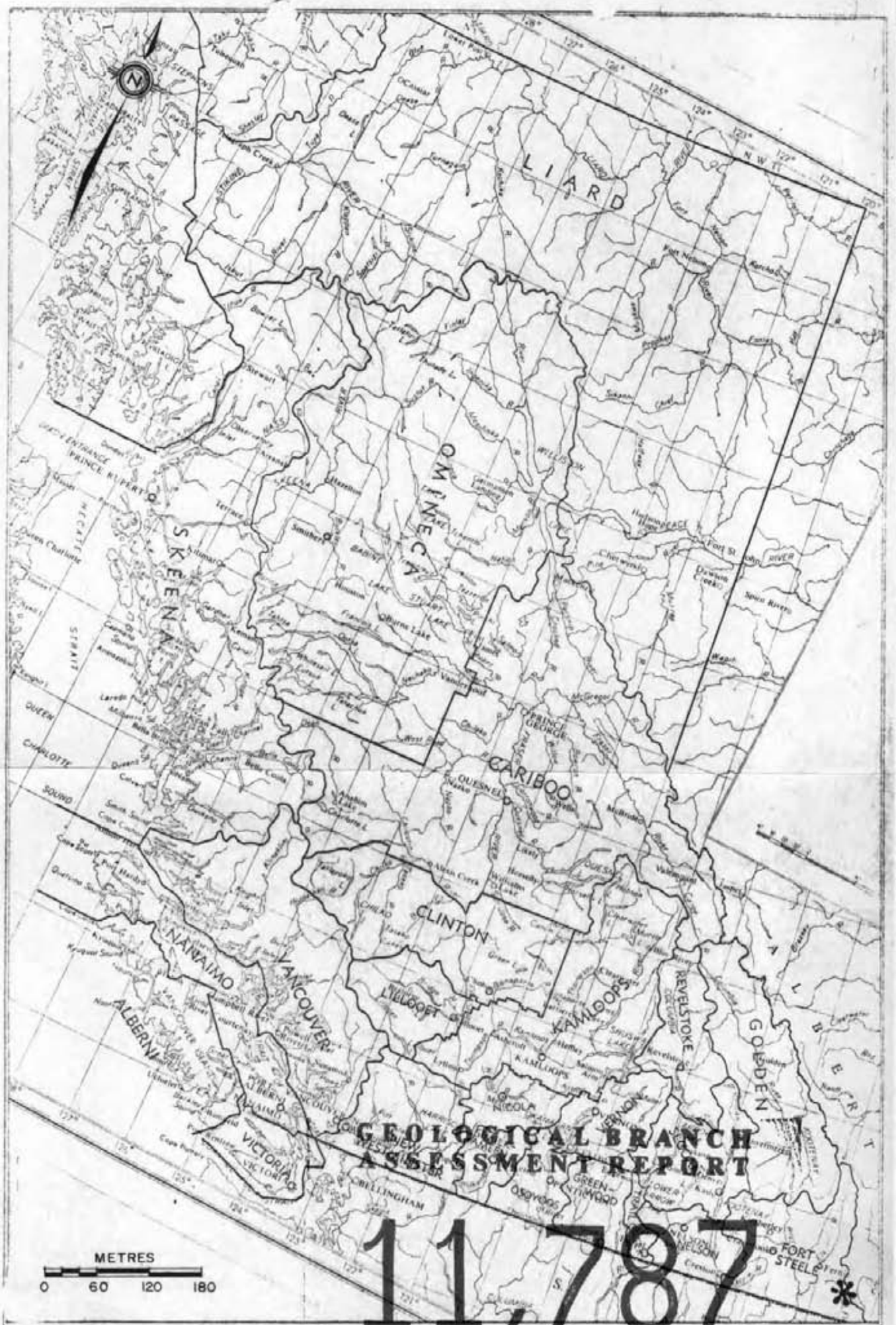
	Pb	Zn	Ag	Au
Pb	1.00	0.05	0.59	0.21
Zn	0.05	1.00	-0.03	-0.06
Ag	0.59	-0.03	1.00	0.40
Au	0.21	-0.06	0.40	1.00

ALL AVAILABLE DATA FOR EACH SAMPLE WERE USED,EVEN IF SOME ELEMENTS WERE MISSING

NUMBER OF DATA PAIRS FOUND

	Pb	Zn	Ag	Au
Pb	75	75	75	75
Zn	0	75	75	75
Ag	0	0	75	75
Au	0	0	0	75

THESE ARE THE NUMBERS OF SAMPLES WHERE DATA WAS FOUND FOR BOTH ELEMENTS IN EACH PAIR
SEE INCOMPLETE DATA INCLUDED MATRIX ABOVE



HOWELL CLAIMS

NTS 82 G-2

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

LOCATION MAP
FORT STEELE M.D., B.C.

Scale: AS SHOWN | Date: AUG 1983 | Plate: 1

GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,787
HOWELL CLAIMS
SHEET 2
GEOCHEMISTRY
SILVER
FORT STEELE M.D., B.C.
Traced by: W.C.W.
Scale: 1:5000
Date: JULY 1983
Plate: 10
NTS 82 G-2
YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400
SHEET 1
SHEET 2
LEGEND
SOIL
SILVER in ppm. ○ SAMPLE No. HS–
>1.2 ● ANOMALOUS
SILT
SILVER in ppm. □ SAMPLE No. HT–
>1.2 ■ ANOMALOUS
ROCK
SILVER in ppm ○ SAMPLE No. M–
5.0 ● ANOMALOUS
CAMP (B.L.W.)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LCP LEGAL CORNER POST
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET
THRESHOLD
SOILS GOLD 100ppb SILVER 1.3 ppm LEAD >50 ppm ZINC >500ppm
ROCKS GOLD >250 ppb SILVER >7 ppm LEAD >100 ppm ZINC >1000ppm
MATCH LINE
MAGNETIC 18°08'E
N
HOWELL CREEK
Wutluck Creek
HOWELL 1
HOWELL 4
HOWELL 5
LCP
5500
6000
6500
7000
7500
8000
8500

SAMPLE LINE-1 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-085		28	130	26	1.2	70	
R M-086		16	128	25	0.8	80	
R M-087		22	127	20	1.2	40	
R M-088		39	305	30	1.9	80	
R M-089		16	147	15	1.4	95	
R M-090		29	83	20	0.8	35	
R M-091		9	35	7	0.9	75	
R M-092		10	87	7	1.3	90	
R M-093		22	147	8	2.0	125	
R M-094		17	250	6	0.8	60	
R M-095		50	1540	20	3.2	140	
R M-096		28	250	12	1.2	40	
R M-097		68	290	25	1.4	30	
R M-098		68	260	22	1.7	55	
R M-099		38	335	15	1.3	45	
R M-100		111	370	40	2.0	100	
R M-41					29.0	100	
R M-42		229	44,200	1750	4270	171	

SAMPLE LINE-2 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-101		55	470	35	1.7	155	
R M-102		45	325	29	1.7	120	
R M-103		48	640	24	3.9	145	
R M-104		24	460	10	4.9	280	0.005
R M-105		31	275	22	4.3	180	
R M-106		15	94	10	2.2	130	
R M-108		16	54	13	1.0	40	
R M-109		23	88	20	1.0	40	
R M-110		29	99	17	1.0	40	
R M-111		11	50	10	0.8	40	
R M-112		22	129	12	1.4	65	
R M-113		12	127	8	0.6	50	
R M-114		42	151	33	1.8	45	
R M-115		33	161	10	1.2	40	
R M-116		30	320	9	2.2	80	
R M-117		73	900	12	2.9	60	
R M-118		39	420	10	1.3	40	
R M-119		33	196	9	3.5	80	
R M-120		35	160	7	5.7	0.01 110	
R M-121		44	280	5	2.5	40	
R M-122		56	545	8	2.9	60	
R M-123		32	320	4	3.2	55	
R M-124		12	67	3	1.8	85	
R M-125		15	95	3	3.4	135	
R M-126		23	119	4	5.4	155	
R M-127		20	68	5	6.6	175	
R M-128		18	97	8	4.0	45	

HOWELL 5

SAMPLE LINE-1
M85 to M100

SAMPLE LINE-2
M101 to M128

HOWELL 2

HOWELL 3

LCP

MATCH LINE

HOWELL CREEK

Twentynine Mile Creek

CAMP

J 21-2,3

J 21-4

J 21-7

J 21-10

J 21-8

N 18° 00' E MAGNETIC

THRESHOLD

SOILS
GOLD 100ppb
SILVER 1.3 ppm
LEAD > 50 ppm
ZINC > 500ppm

ROCKS
GOLD > 250 ppb
SILVER > 7 ppm
LEAD > 100 ppm
ZINC > 1000 ppm

LEGEND

SOIL
LEAD in ppm ○ SAMPLE No. HS-
● ANOMALOUS

SILT
LEAD in ppm □ SAMPLE No. HT-
■ ANOMALOUS

ROCK
LEAD in ppm ○ SAMPLE No. M-
● ANOMALOUS

● CAMP (ABM)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LCP LEGAL CORNER POST
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,787

YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400

SHEET 1 | SHEET 2

HOWELL CLAIMS

NTS 82 G-2

Drawn by:		Traced by: W. C. W	
Revised by	Date	Revised by	Date

SHEET 1
GEOCHEMISTRY
LEAD
FORT STEELE M. D., B. C.

Scale: 1:5000 | Date: JULY 1983 | Plate: 11

FORM 210 0867

HOWELL 4
HOWELL 1
HOWELL 5
HOWELL CREEK
Wutluck Creek
MAGNETIC
N
7000
7500
8000
8500
6500
6000
MATCH LINE
LCP
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,787
THRESHOLD
SOILS GOLD 100ppb
SILVER 1.3 ppm
LEAD > 50 ppm
ZINC > 500ppm
ROCKS GOLD > 250ppb
SILVER > 7 ppm
LEAD > 100 ppm
ZINC > 1000ppm
LEGEND
SOIL
LEAD in ppm. SAMPLE No. HS-
ANOMALOUS
SILT
LEAD in ppm SAMPLE No. HT-
ANOMALOUS
ROCK
LEAD inppm SAMPLE No M-
ANOMALOUS
CAMP (BLW)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LEGAL CORNER POST
LCP
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET
SHEET 1
SHEET 2
YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400
HOWELL CLAIMS
NTS 82 G-2
Drawn by:
Traced by: W.C.W.
Revised by
Date
SHEET 2
GEOCHEMISTRY
LEAD
FORT STEELE M.D., B.C.
Scale: 1:5000
Date: JULY 1983
Plate: 12
FORM 210 - 0660

SAMPLE LINE-1 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-085		28	130	26	1.2	70	
R M-086		16	128	25	0.8	80	
R M-087		22	127	20	1.2	40	
R M-088		39	305	30	1.9	80	
R M-089		16	147	15	1.4	95	
R M-090		29	83	20	0.8	35	
R M-091		9	35	7	0.9	75	
R M-092		10	87	7	1.3	90	
R M-093		22	147	8	2.0	125	
R M-094		17	250	6	0.8	60	
R M-095		50	1540	20	3.2	140	
R M-096		28	250	12	1.2	40	
R M-097		68	290	25	1.4	30	
R M-098		68	260	22	1.7	55	
R M-099		38	335	15	1.3	45	
R M-100		111	370	40	2.0	100	
R M-41					29.0	100	
R M-42		229	44,200	1780	4220	171	

SAMPLE LINE-2 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-101		55	470	35	1.7	155	
R M-102		45	325	20	1.7	120	
R M-103		48	640	24	3.9	145	
R M-104		24	460	10	4.9	280	0.05%
R M-105		31	275	22	4.3	180	
R M-106		15	94	10	2.2	130	
R M-108		16	54	13	1.0	40	
R M-109		23	88	20	1.0	40	
R M-110		29	99	17	1.0	40	
R M-111		11	50	10	0.8	40	
R M-112		22	120	12	1.4	65	
R M-113		12	127	8	0.6	50	
R M-114		42	151	33	1.8	45	
R M-115		33	161	10	1.2	40	
R M-116		30	320	9	2.2	80	
R M-117		73	900	12	2.9	60	
R M-118		39	420	10	1.3	40	
R M-119		33	196	9	3.5	80	
R M-120		35	160	7	5.7	110	
R M-121		44	280	5	2.5	40	
R M-122		56	545	8	2.9	60	
R M-123		32	320	4	3.2	55	
R M-124		12	67	3	1.8	85	
R M-125		15	95	3	3.4	135	
R M-126		23	119	4	5.4	155	
R M-127		20	68	5	6.6	175	
R M-128		18	97	8	4.0	45	

HOWELL 5

SAMPLE LINE-1
M85 to M100

SAMPLE LINE-2
M101 to M128

MATCH LINE

HOWELL 2

LCP

HOWELL 3

HOWELL CREEK

Twentynine Mile Creek

CAMP

THRESHOLD

SOILS
GOLD 100ppb
SILVER 1.3 ppm
LEAD > 50 ppm
ZINC > 500ppm

ROCKS
GOLD > 250 ppb
SILVER > 7 ppm
LEAD > 100 ppm
ZINC > 1000 ppm

LEGEND

SOIL
ZINC in ppm. ○ SAMPLE No. HS-
● ANOMALOUS

SILT
ZINC in ppm. □ SAMPLE No. HT-
■ ANOMALOUS

ROCK
ZINC in ppm. ○ SAMPLE No. M-
● ANOMALOUS

● CAMP (A.B.M.)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LCP LEGAL CORNER POST
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET

GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,787

YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400

SHEET 1 | SHEET 2

HOWELL CLAIMS

NTS 82 G-2

Drawn by:		Traced by: W. C. W	
Checked by	Date	Checked by	Date
A.B.M.	OCT/83		

SHEET 1
GEOCHEMISTRY
ZINC
FORT STEELE M. D., B. C.

Scale: 1:5000 Date: JULY 1983 Plate: 13

FORM 210 0661

N

18°30'E MAGNETIC

HOWELL 4

HOWELL 1

HOWELL CREEK

HOWELL 5

Whitluck

Whitluck Creek

MATCH LINE

LCP

THRESHOLD

SOILS	GOLD	100ppb
	SILVER	1.3 ppm
	LEAD	> 50 ppm
	ZINC	> 500ppm
ROCKS	GOLD	> 250 ppb
	SILVER	> 7 ppm
	LEAD	> 100 ppm
	ZINC	> 500 ppm

LEGEND

SOIL
ZINC in ppm. ○ SAMPLE No. HS–
● ANOMALOUS

SILT
ZINC in ppm. □ SAMPLE No. HT–
■ ANOMALOUS

ROCK
ZINC in ppm ○ SAMPLE No. M–
● ANOMALOUS

● CAMP (B.L.M.)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LCP LEGAL CORNER POST
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET

SHEET 1 | SHEET 2

YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,787

HOWELL CLAIMS

NTS 82 G-2

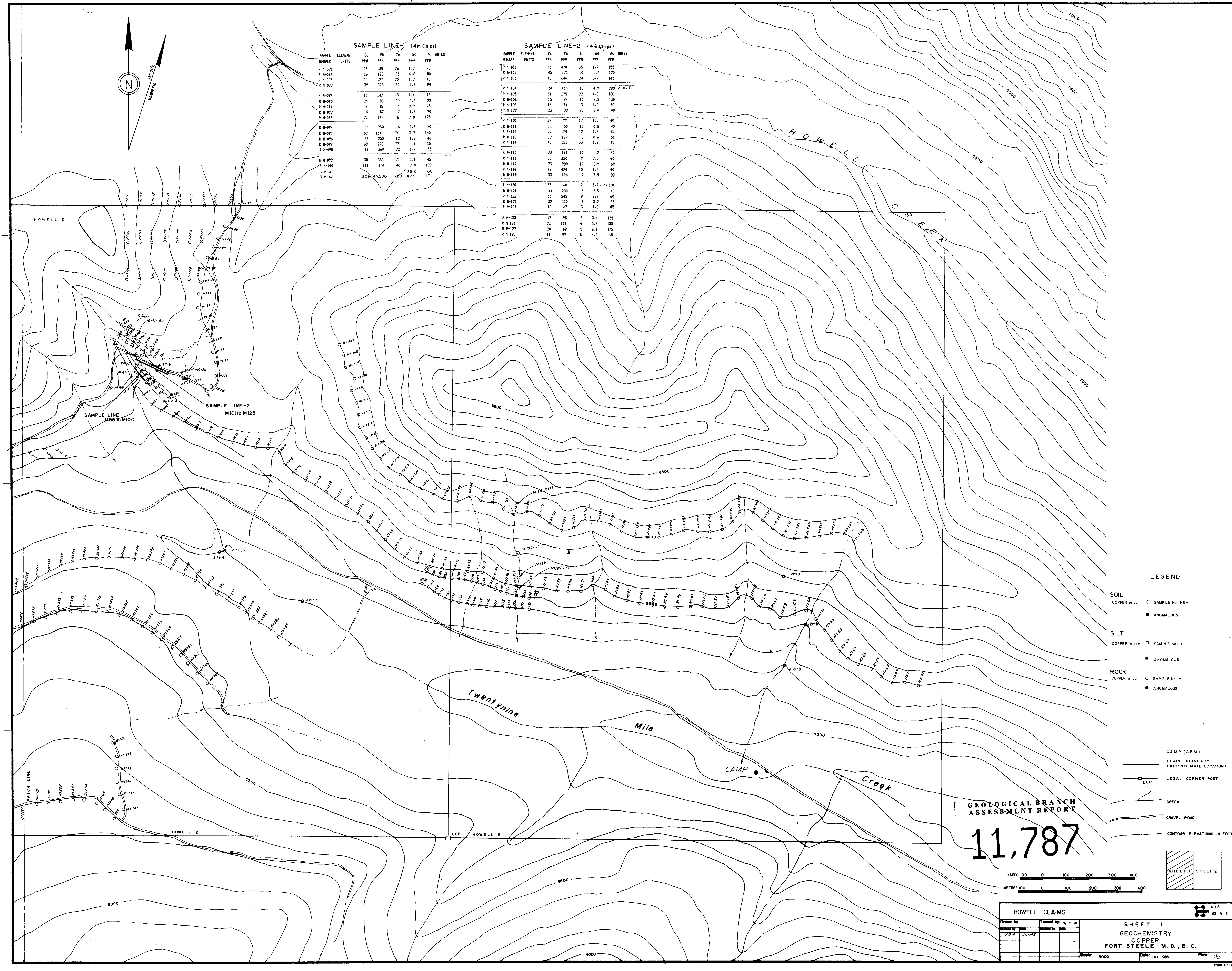
Drawn by:		Traced by: W.C.W.	
Checked by	Date	Checked by	Date
ABH	Oct/83		

SHEET 2
GEOCHEMISTRY
ZINC
FORT STEELE M.D., B.C.

Scale: 1:5000 Date: JULY 1983 Plate: 14

MCI-119-C.L.

FORM 210-0880

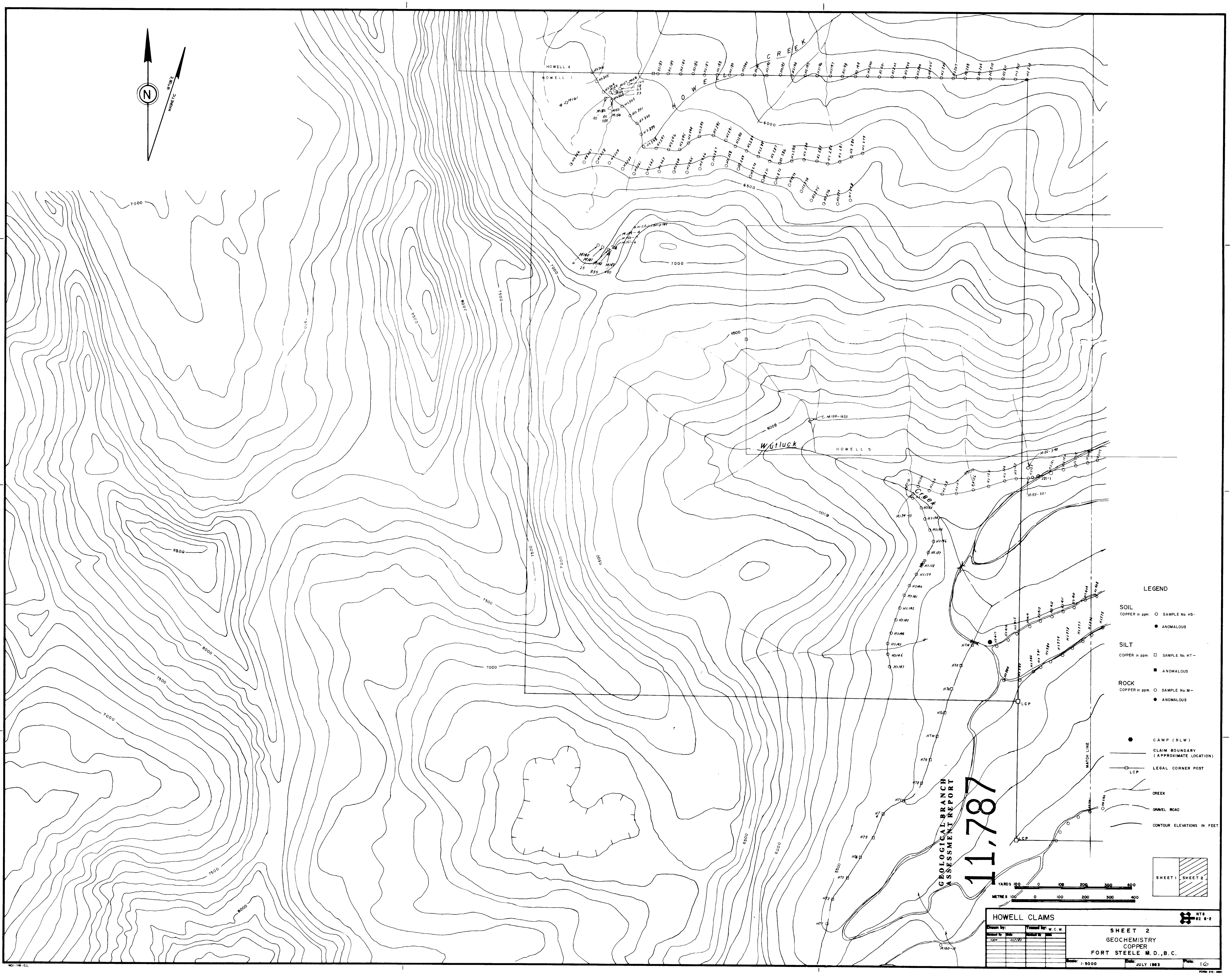


SAMPLE LINE-1 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-085		28	130	26	1.2	70	
R M-086		16	128	25	0.8	80	
R M-087		22	127	20	1.2	40	
R M-088		39	305	30	1.9	80	
R M-089		16	147	15	1.4	95	
R M-090		29	83	20	0.8	35	
R M-091		9	35	7	0.9	75	
R M-092		10	87	7	1.3	90	
R M-093		22	147	8	2.0	125	
R M-094		17	250	6	0.8	60	
R M-095		50	1540	20	3.2	140	
R M-096		28	250	12	1.2	40	
R M-097		68	290	25	1.4	30	
R M-098		68	260	22	1.7	55	
R M-099		38	335	15	1.3	45	
R M-100		111	370	40	2.0	100	
RM-41					29.0	100	
RM-42		229	44,200	1750	427.0	171	

SAMPLE LINE-2 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-101		55	470	35	1.7	155	
R M-102		45	325	20	1.7	120	
R M-103		48	640	24	3.9	145	
R M-104		24	460	10	4.9	280	0.005
R M-105		31	275	22	4.3	180	
R M-106		15	94	10	2.2	130	
R M-108		16	54	13	1.0	40	
R M-109		23	88	20	1.0	40	
R M-110		29	99	17	1.0	40	
R M-111		11	50	10	0.8	40	
R M-112		22	120	12	1.4	65	
R M-113		12	127	8	0.6	50	
R M-114		42	151	33	1.8	45	
R M-115		33	161	10	1.2	40	
R M-116		30	320	9	2.2	80	
R M-117		73	900	12	2.9	60	
R M-118		39	420	10	1.3	40	
R M-119		33	196	9	3.5	80	
R M-120		35	160	7	5.7	110	0.17
R M-121		44	280	5	2.5	40	
R M-122		56	545	8	2.9	60	
R M-123		32	320	4	3.2	55	
R M-124		12	67	3	1.8	85	
R M-125		15	95	3	3.4	135	
R M-126		23	119	4	5.4	155	
R M-127		20	68	5	6.6	175	
R M-128		18	97	8	4.0	45	



N
MAGNETIC
HOWELL 4
HOWELL 1
HOWELL 5
HOWELL CREEK
Wutluck Creek
7000
7500
8000
8500
6500
6000
5500
MATCH LINE
LCP
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,787
LEGEND
SOIL
COPPER in ppm. O SAMPLE No. HS-
ANOMALOUS
SILT
COPPER in ppm. SAMPLE No. HT-
ANOMALOUS
ROCK
COPPER in ppm. O SAMPLE No. M-
ANOMALOUS
CAMP (BLW)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LEGAL CORNER POST
LCP
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET
SHEET 1
SHEET 2
YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400
HOWELL CLAIMS
NTS 82 G-2
Drawn by:
Traced by: W.C.W.
ABM oct/83
SHEET 2
GEOCHEMISTRY
COPPER
FORT STEELE M.D., B.C.
Scale: 1:5000
Date: JULY 1983
Plate: 16
FORM 210-0880

SAMPLE LINE-1 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-085		28	130	26	1.2	70	
R M-086		16	128	25	0.8	80	
R M-087		22	127	20	1.2	40	
R M-088		39	305	30	1.9	80	
R M-089		16	147	15	1.4	95	
R M-090		29	83	20	0.8	35	
R M-091		9	35	7	0.9	75	
R M-092		10	87	7	1.3	90	
R M-093		22	147	8	2.0	125	
R M-094		17	250	6	0.8	60	
R M-095		50	1540	20	3.2	140	
R M-096		28	250	12	1.2	40	
R M-097		68	290	25	1.4	30	
R M-098		68	260	22	1.7	55	
R M-099		38	335	15	1.3	45	
R M-100		111	370	40	2.0	100	
RM-41					29.0	100	
RM-42		229	44,200	1780	42.0	171	

SAMPLE LINE-2 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-101		55	470	35	1.7	155	
R M-102		45	325	20	1.7	120	
R M-103		48	640	24	3.9	145	
R M-104		24	460	10	4.9	280	0.005
R M-105		31	275	22	4.3	180	
R M-106		15	94	10	2.2	130	
R M-108		16	54	13	1.0	40	
R M-109		23	88	20	1.0	40	
R M-110		29	99	17	1.0	40	
R M-111		11	50	10	0.8	40	
R M-112		22	120	12	1.4	65	
R M-113		12	127	8	0.6	50	
R M-114		42	151	33	1.8	45	
R M-115		33	161	10	1.2	40	
R M-116		30	320	9	2.2	80	
R M-117		73	900	12	2.9	60	
R M-118		39	420	10	1.3	40	
R M-119		33	196	9	3.5	80	
R M-120		35	160	7	5.7	110	
R M-121		44	280	5	2.5	40	
R M-122		56	545	8	2.9	60	
R M-123		32	320	4	3.2	55	
R M-124		12	67	3	1.8	85	
R M-125		15	95	3	3.4	135	
R M-126		23	119	4	5.4	155	
R M-127		20	68	5	6.6	175	
R M-128		18	97	8	4.0	45	

HOWELL 5

SAMPLE LINE-2
M101 to M128

SAMPLE LINE-1
M85 to M100

HOWELL CREEK

Twentynine Mile Creek

CAMP

HOWELL 2

LCP

HOWELL 3

WATCH LINE

J 21-2,3

J 21-4

J 21-7

J 21-10

J 21-8

THRESHOLD

SOILS
GOLD 100ppb
SILVER 1.3 ppm
LEAD > 50 ppm
ZINC > 500ppm

ROCKS
GOLD > 250 ppb
SILVER > 7 ppm
LEAD > 100 ppm
ZINC > 1000 ppm

LEGEND

SOIL
GOLD in ppb SAMPLE No. HS—
>100 ● ANOMALOUS

SILT
GOLD in ppb □ SAMPLE No. HT-
>30 ■ ANOMALOUS

ROCK
GOLD in ppb ○ SAMPLE No. M-
>100 ● ANOMALOUS

● CAMP (A B M)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LCP LEGAL CORNER POST
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,787

YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400

SHEET 1 | SHEET 2

HOWELL CLAIMS

NTS 82 G-2

Drawn by:		Traced by: W. C. W.	
Checked by	Date	Checked by	Date
ABM	Oct/83		

SHEET 1
GEOCHEMISTRY
GOLD
FORT STEELE M. D., B. C.

Scale: 1:5000 Date: JULY 1983 Plate: 7

FORM 210 - 0661

N

18°30'E MAGNETIC

HOWELL 4

HOWELL 1

HOWELL CREEK

HOWELL 5

Whitluck Creek

LCP

MATCH LINE

CAMP (BLW)

CLAIM BOUNDARY (APPROXIMATE LOCATION)

LCP LEGAL CORNER POST

CREEK

GRAVEL ROAD

CONTOUR ELEVATIONS IN FEET

SHEET 1 SHEET 2

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,787

YARDS 100 0 100 200 300 400

METRES 100 0 100 200 300 400

HOWELL CLAIMS

NTS 82 G-2

SHEET 2

SAMPLE LOCATION

FORT STEELE M.D., B.C.

Drawn by:	Traced by: W.C.W.		
Checked by: R.G.H.	Date: OCT/83	Checked by:	Date:

Scale: 1:5000 Date: JULY 1983 Plate: 6

NCI - 119 - C.L.

FORM 216 - 0860

N

18°30'E MAGNETIC

HOWELL 4

HOWELL 1

HOWELL CREEK

HOWELL 5

Wildluck

LCP

LCP

LCP

MATCH LINE

THRESHOLD

SOILS	GOLD	100ppb
	SILVER	1.3 ppm
	LEAD	> 50 ppm
	ZINC	> 500ppm
ROCKS	GOLD	> 250 ppb
	SILVER	> 7 ppm
	LEAD	> 100 ppm
	ZINC	> 1000ppm

LEGEND

SOIL
GOLD in ppb. ○ SAMPLE No. HS-
>100 ● ANOMALOUS

SILT
GOLDin ppb □ SAMPLE No. HT-
>30 ■ ANOMALOUS

ROCK
GOLD in ppb ○ SAMPLE No. M-
>100 ● ANOMALOUS

- CAMP (B L W)
- CLAIM BOUNDARY (APPROXIMATE LOCATION)
- LCP — LEGAL CORNER POST
- CREEK
- GRAVEL ROAD
- CONTOUR ELEVATIONS IN FEET

SHEET 1 | SHEET 2

YARDS 100 0 100 200 300 400

METRES 100 0 100 200 300 400

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,787

HOWELL CLAIMS

NTS 82 G-2

Drawn by:		Traced by: W. C. W.	
Checked by	Date	Checked by	Date

SHEET 2
GEOCHEMISTRY
GOLD
FORT STEELE M.D., B.C.

Scale: 1:5000 Date: JULY 1983 Plate: B

SAMPLE LINE-1 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-085		28	130	26	1.2	70	
R M-086		16	128	25	0.8	80	
R M-087		22	127	20	1.2	40	
R M-088		39	305	30	1.9	80	
R M-089		16	147	15	1.4	95	
R M-090		29	83	20	0.8	35	
R M-091		9	35	7	0.9	75	
R M-092		10	87	7	1.3	90	
R M-093		22	147	8	2.0	125	
R M-094		17	250	6	0.8	60	
R M-095		50	1540	20	3.2	140	
R M-096		28	250	12	1.2	40	
R M-097		68	290	25	1.4	30	
R M-098		68	260	22	1.7	55	
R M-099		38	335	15	1.3	45	
R M-100		111	370	40	2.0	100	
R M-41					29.0	100	
R M-42		229	44,200	1750	4270	171	

SAMPLE LINE-2 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-101		55	470	35	1.7	135	
R M-102		45	325	20	1.7	120	
R M-103		48	640	24	3.9	145	
R M-104		24	460	10	4.9	280	0.005
R M-105		31	275	22	4.3	180	
R M-106		15	94	10	2.2	130	
R M-108		16	54	13	1.0	40	
R M-109		23	88	20	1.0	40	
R M-110		29	99	17	1.0	40	
R M-111		11	50	10	0.8	40	
R M-112		22	120	12	1.4	65	
R M-113		12	127	8	0.6	50	
R M-114		42	151	33	1.8	45	
R M-115		33	161	10	1.2	40	
R M-116		30	320	9	2.2	80	
R M-117		73	900	12	2.9	60	
R M-118		39	420	10	1.3	40	
R M-119		33	196	9	3.5	80	
R M-120		35	160	7	5.7	110	
R M-121		44	280	5	2.5	40	
R M-122		56	545	8	2.9	60	
R M-123		32	320	4	3.2	55	
R M-124		12	67	3	1.8	85	
R M-125		15	95	3	3.4	135	
R M-126		23	119	4	5.4	155	
R M-127		20	68	5	6.6	175	
R M-128		18	97	8	4.0	45	

HOWELL 5

SAMPLE LINE-1
M85 to M100

SAMPLE LINE-2
M101 to M128

MATCH LINE

HOWELL 2

LCP

HOWELL 3

HOWELL CREEK

Twentynine Mile Creek

CAMP

J 21-2,3
J 21-4
J 21-7
J 21-10
J 21-9
J 21-8

M131
M132
M133-M134
M135
M136
M137

THRESHOLD

SOILS
GOLD > 100ppb
SILVER > 1.3 ppm
LEAD > 50 ppm
ZINC > 500ppm

ROCKS
GOLD > 250 ppb
SILVER > 7 ppm
LEAD > 100 ppm
ZINC > 1000 ppm

LEGEND

SOIL
SILVER in ppm. ○ SAMPLE No. HS-
1.2 ● ANOMALOUS

SILT
SILVER in ppm □ SAMPLE No. HT-
1.2 ■ ANOMALOUS

ROCK
SILVER in ppm ○ SAMPLE No. M-
5 ● ANOMALOUS

● CAMP (A.B.M.)
CLAIM BOUNDARY (APPROXIMATE LOCATION)
LCP LEGAL CORNER POST
CREEK
GRAVEL ROAD
CONTOUR ELEVATIONS IN FEET

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,787

YARDS 100 0 100 200 300 400
METRES 100 0 100 200 300 400

SHEET 1 SHEET 2

HOWELL CLAIMS

NTS 82 G-2

Drawn by: RAM. OCT/85
Traced by: W.C.W.

SHEET 1
GEOCHEMISTRY
SILVER
FORT STEELE M.D., B.C.

Scale: 1:5000 Date: JULY 1985 Plate: 3

N

18° 08'E MAGNETIC

Sandstone Quartzite

OLD ROAD

Trachyte

Sediments

Syenite

Light green Siltstone abundant Quartz Stringers

Quartzite Breccia grey medium grained

Green Siltstone

Sample Line

Trachyte Syenite

Mudstone, Sandstone (Fe Concretions)

Alberta Group

Pyrrhotite rich Skarn

Fault Zone

Trachyte-Syenite Sediments

Silicified Siltstone

HOWELL 4

Black (Fe Concretions) Mudstone Grey Sandstone

J 21-2,3

J 21-4

J 21-7

Siltstone

Siltstone (Dolomitic) thin bedded to 20cm light green-grey over dark brown

Green Siltstone Salt Casts

MATCH LINE

HOWELL 2

HOWELL 3

LCP

Syenite Quartzite Breccia

Quartzite Breccia

10m dark greeny Syenite Silt

Greeny Syenite

Sandstone Quartzite Breccia

Light green Siltstone, Purple Sandstone

Dark greeny grey Syenite

Syenite Trachyte Sedimentary Breccia

Light green Siltstone

Quartzite Breccia

Quartzite Breccia Sandstone

Minor Trachyte Syenite Dykes and Sills

Fault Zone

Brecciated Syenite-Trachyte and Sediments

Light green Porphritic Syenite

J 21-10

J 21-9

J 21-8

Twentynine Mile Creek

CAMP (A.B.M) Elev. 4950 ft 1508m

Red Siltstone (Kintla Fm.)

7000

6800

6500

6000

5500

5000

LEGEND

MESOZOIC – UPPER CRETACEOUS

7 BELLY RIVER FM: GREEN AND GREY SANDSTONE MUDSTONE, AND SHALE

6 ALBERTA GROUP: DARK GREY SHALE, SANDSTONE, SILTSTONE

PALAEOZIC – DEVONIAN

5 FAIRHOLME GROUP: BLACK SHALY LIMESTONE, SHALE

– CAMBRIAN

4 ELKO FM: MASSIVE GREY DOLOMITE AND LIMESTONE

3 FLATHEAD: LIGHT GREY YELLOWISH COARSE GRAINED QUARTZ-SANDSTONE

PRECAMBIAN – PURCELL

2 KINTLA FM (D): GREEN ARGILLITE AND ARGILLACEOUS SANDSTONE

1 KINTLA FM (C): RED AND PURPLISH RED QUARTZITE AND QUARTZITIC SANDSTONE

LOWER CRETACEOUS OR LATER

A TRACHYTE, SYENITE AND BRECCIA

FAULT

THRUST FAULT

10° BEDDING

OUTCROP

GEOLOGICAL BOUNDARY

GEOLOGICAL BOUNDARY (APPROXIMATE)

ANTICLINE OR SYNCLINE

CAMP (A.B.M)

CLAIM BOUNDARY (APPROXIMATE LOCATION)

LCP LEGAL CORNER POST

CREEK

GRAVEL ROAD

CONTOUR ELEVATIONS IN FEET

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,787

YARDS 100 0 100 200 300 400

METRES 100 0 100 200 300 400

SHEET 1 SHEET 2

HOWELL CLAIMS

NTS 82 G-2

Drawn by:		Traced by: W. C. W	
Revised by	Date	Revised by	Date

SHEET 1

GEOLOGY

FORT STEELE M.D., B.C.

Scale: 1:5000 Date: JULY 1983 Plate: 3

FORM 210 0860

N

18° 30' E MAGNETIC

HOWELL 4

HOWELL 1

HOWELL 5

Syenite
Pyritic-Trachyte trace of Fluorite included Pyritic light green Siltstone

Syenite Rubble Subcrop

Mostly Biotite Hornfels bleached Siltstone Pyrite

Purple Fluorite Galena Chalcopyrite Sphalerite

Silicified Syenite-Trachyte Sedimentary Breccia

Rusty weathering Trachyte-Syenite green Siltstone

Syenite-Trachyte

Buff weathering Carbonate X Rock with Fluorite

Trachyte-Syenite

Altered light green Siltstone Biotite Hornfels, Pyritic scattered Fluorite

Quartz Veins Malachite-Chalcocite

Rusty Siltstone and Syenite

Quartzite

Limestone

Probably underlain by Pyritic Syenite and Biotite Hornfels

Altered Syenite

Altered and fractured Syenite Fluorite Galena Chalcopyrite

Probable Fault Zone

Pyritic shattered Syenite

Fluorite Galena Showing (G.L.W.) (1975) in Dolomite near Pyritic Syenite

Syenite and Trachyte with Quartz Veins

Silicified greeny Siltstone

Float Quartz Veins

Silicified-Altered Trachyte-Syenite

Disseminated Galena

Float Limonite Trachyte Breccia

321-1

Wutluck Creek

Light grey Trachyte fractured with Ankerite

Dolomite

Altered sediments

Rusty Weathering Trachyte

CAMP (B.L.W.)

Red to Green Siltstone purply Sandstone beds to 100m

LCP

MATCH LINE

7000 8000 8500 7500 6000 6500 5500

LEGEND

MESOZOIC – UPPER CRETACEOUS

7 BELLY RIVER FM: GREEN AND GREY SANDSTONE MUDSTONE, AND SHALE

6 ALBERTA GROUP: DARK GREY SHALE, SANDSTONE, SILTSTONE

PALAEOZIC – DEVONION

5 FAIRHOLME GROUP: BLACK SHALY LIMESTONE, SHALE

– CAMBRIAN

4 ELKO FM: MASSIVE GREY DOLOMITE AND LIMESTONE

3 FLATHEAD: LIGHT GREY YELLOWISH COARSE GRAINED QUARTZ-SANDSTONE

PRECAMBIAN – PURCELL

2 KINTLA FM (D): GREEN ARGILLITE AND ARGILLACEOUS SANDSTONE

1 KINTLA FM (C): RED AND PURPLISH RED QUARTZITE AND QUARTZITIC SANDSTONE

LOWER CRETACEOUS OR LATER

A TRACHYTE, SYENITE AND BRECCIA

FAULT

THRUST FAULT

BEDDING

OUTCROP

GEOLOGICAL BOUNDARY

GEOLOGICAL BOUNDARY (APPROXIMATE)

ANTICLINE OR SYNCLINE

CAMP (B.L.W.)

CLAIM BOUNDARY (APPROXIMATE LOCATION)

LCP LEGAL CORNER POST

CREEK

GRAVEL ROAD

CONTOUR ELEVATIONS IN FEET

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,787

SHEET 1 SHEET 2

YARDS 100 0 100 200 300 400

METRES 100 0 100 200 300 400

HOWELL CLAIMS

NTS 82 G-2

Drawn by:	Traced by: W.C.W.
Revised by / Date	Revised by / Date

SHEET 2

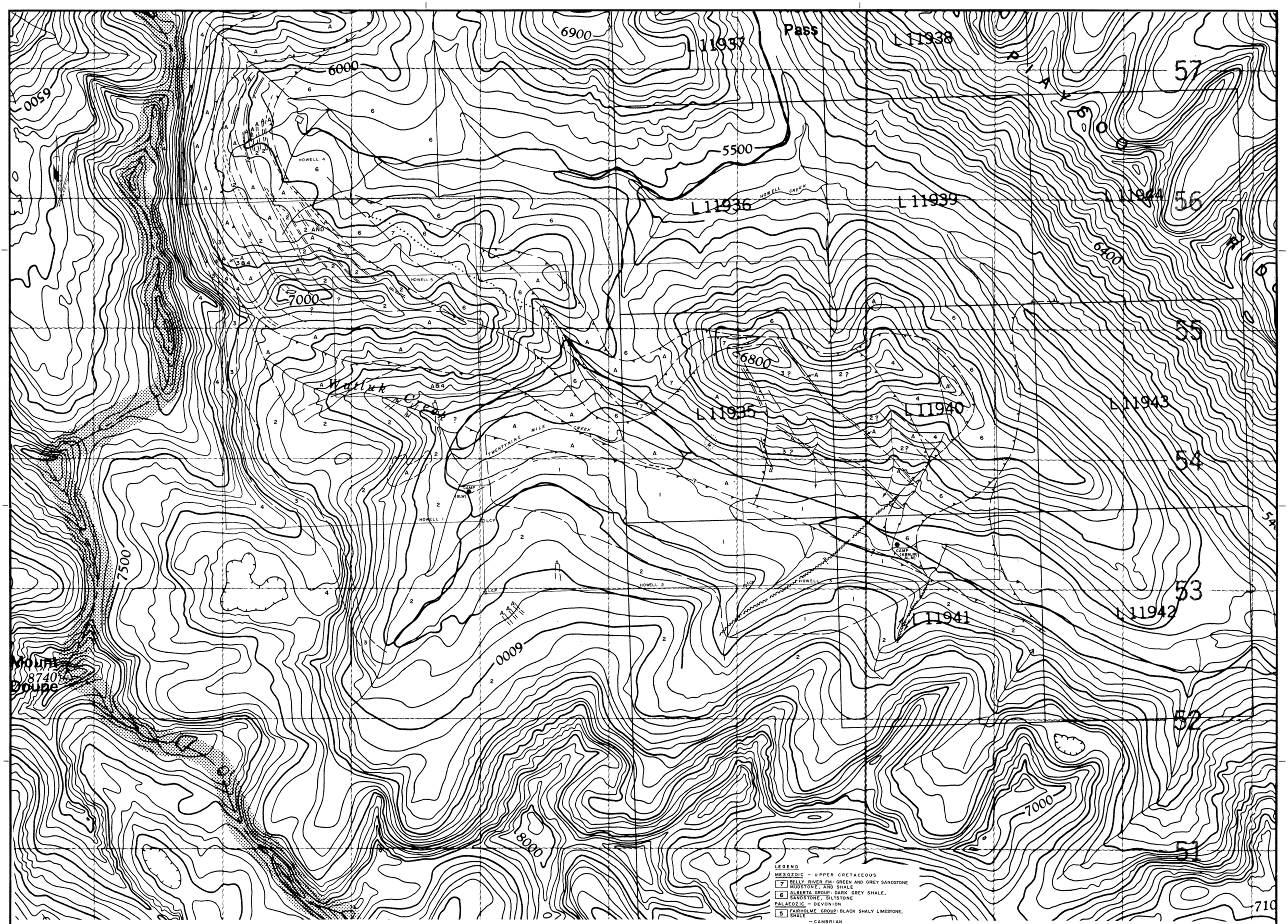
GEOLOGY

FORT STEELE M.D., B.C.

Scale: 1:5000 Date: JULY 1983 Plate: 4

NCI - 119 - C.L.

FORM 210 - 0680



LEGEND

MESOZOIC – UPPER CRETACEOUS

7 BELLY RIVER FM: GREEN AND GREY SANDSTONE MUDSTONE, AND SHALE

6 ALBERTA GROUP: DARK GREY SHALE, SANDSTONE, SILTSTONE

PALAEOZIC – DEVONION

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PRECAMBIAN – PURCELL

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1 KINTLA FM (C): RED AND PURPLISH RED QUARTZITE AND QUARTZITIC SANDSTONE

LOWER CRETACEOUS OR LATER

A TRACHYTE, SYENITE AND BRECCIA

NOTE:

AFTER R. A. PRICE
G.S.C. MEMOIRS 336 (1965)

METRES
0 200 400 600 800 1000

HOWELL CLAIMS

NTS 82 G-2

Drawn by: ABM	Traced by: JPS		
Revised by	Date	Revised by	Date

GEOLOGY

FORT STEELE M.D., B.C.

Scale: 1:10,000 Date: OCTOBER 1983 Plate: 2

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,787

NCI-119-C.L.

FORM 210-0680

SAMPLE LINE-1 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-085		28	130	26	1.2	70	
R M-086		16	128	25	0.8	80	
R M-087		22	127	20	1.2	40	
R M-088		39	305	30	1.9	80	
R M-089		16	147	15	1.4	95	
R M-090		29	83	20	0.8	35	
R M-091		9	35	7	0.9	75	
R M-092		10	87	7	1.3	90	
R M-093		22	147	8	2.0	125	
R M-094		17	250	6	0.8	60	
R M-095		50	1540	20	3.2	140	
R M-096		28	250	12	1.2	40	
R M-097		68	290	25	1.4	30	
R M-098		68	260	22	1.7	55	
R M-099		38	335	15	1.3	45	
R M-100		111	370	40	2.0	100	
R M-41					29.0	100	
R M-42		229	44,200	1750	427.0	171	

SAMPLE LINE-2 (4m Chips)

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	As PPM	Au PPB	NOTES
R M-101		55	470	35	1.7	155	
R M-102		45	325	20	1.7	120	
R M-103		48	640	24	3.9	145	
R M-104		24	460	10	4.9	280	0.005
R M-105		31	275	22	4.3	180	
R M-106		15	94	10	2.2	130	
R M-108		16	54	13	1.0	40	
R M-109		23	88	20	1.0	40	
R M-110		29	99	17	1.0	40	
R M-111		11	50	10	0.8	40	
R M-112		22	120	12	1.4	65	
R M-113		12	127	8	0.6	50	
R M-114		42	151	33	1.8	45	
R M-115		33	161	10	1.2	40	
R M-116		30	320	9	2.2	80	
R M-117		73	900	12	2.9	60	
R M-118		39	420	10	1.3	40	
R M-119		33	196	9	3.5	80	
R M-120		35	160	7	5.7	0.011	110
R M-121		44	280	5	2.5	40	
R M-122		56	545	8	2.9	60	
R M-123		32	320	4	3.2	55	
R M-124		12	67	3	1.8	85	
R M-125		15	95	3	3.4	135	
R M-126		23	119	4	5.4	155	
R M-127		20	68	5	6.6	175	
R M-128		18	97	8	4.0	45	

N

180° TRUE
MAGNETIC

HOWELL 5

HOWELL CREEK

SAMPLE LINE-1
M85 to M100

SAMPLE LINE-2
M101 to M128

I. Bath
M131

M129-M130

J 21-2,3

J 21-4

J 21-7

J 21-10

J 21-9

J 21-8

M137

M136

M135

Twentynine Mile Creek

CAMP

WATCH LINE

HOWELL 2

LCP

HOWELL 3

7000
6500
6000
5500
5000

CAMP (A B M)

CLAIM BOUNDARY (APPROXIMATE LOCATION)

LCP LEGAL CORNER POST

CREEK

GRAVEL ROAD

CONTOUR ELEVATIONS IN FEET

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,787

SHEET 1 SHEET 2

YARDS 100 0 100 200 300 400

METRES 100 0 100 200 300 400

HOWELL CLAIMS

NTS 82 G-2

Drawn by:		Traced by: W. C. W.	
Revised by	Date	Revised by	Date
A. B. M.	OCT. 1983		

SHEET 1
SAMPLE LOCATION
FORT STEELE M. D., B. C.

Scale: 1:5000 Date: JULY 1983 Plate: 5

FORM 210 3661