part 1 of 3

GEOLOGICAL AND GEOCHEMICAL REPORT ON
HANDEL, CHOPIN 1 & 2 , RAVEL
(Total, 72 Units)

LIARD MINING DIVISION

N.T.S. 104-B-11E and 104-B-10W

Latitude: 56° 40' N Longitude: 130° 59' N

OWNER OF THE CLAIMS:
Du Pont of Canada Exploration Limited

OPTIONED BY:
Placer Development Limited
Skyline Exploration

OPERATOR:
Placer Development Limited

B. BARDE
G. RADFORD

GEOLOGICAL BRANCH
ASSESSMENT REPORT

OCTOBER, 1983

11,326

TABLE OF CONTENTS

		Page
1.0	**Summary**	1
2.0	**Introduction**	1
2.1	Location and Access	1
2.2	Physiography	1
2.2.1	Access to Handel Face	2
2.2.2	Access to Station 9 & 10	2
2.2.3	Access to Chopin Face	2
2.2.4	Recommendation	3
2.3	Claim Status	3
2.4	Summary of Work	3
3.0	**Property History and Economic Assessment**	4
4.0	**Technical Data and Interpretation**	5
4.1	Handel Showing	5
4.1.1	Introduction	5
4.1.2	General Geology	5
4.1.3	Structure	6
4.1.4	Mineralization	7
4.1.5	Alteration	8
4.1.5.1	Iron Products	8
4.1.5.2	Feldspar Products	8
4.1.5.3	Arsenic Products	9
4.1.6	Sampling Methods	9
4.1.7	Analytical Procedure	10
4.1.7.1	Analysis for Mo,Cu,Pb,Zn,As,Pb,Ag	10
4.1.7.2	Analysis for Sb	10
4.1.7.3	Analysis for Hg	10
4.1.7.4	Analysis for Au	11
4.1.8	Results	11
4.1.9	Summary	12
4.2	Chopin Showing	12
4.2.1	Introduction	12
4.2.2	General Geology	13
4.2.3	Structure	13
4.2.4	Mineralization	14
4.2.4.1	Metalliferous Mineralization	14
4.2.4.2	Gangue Mineralization	14
4.2.4.3	Mystery Mineral	15
4.2.5	Sampling Method	15
4.2.6	Results	15
4.3	Summary and Comparison of the Handel and Chopin	16
4.4	Possible Models	17
4.5	Soil Geochemical Survey	18
4.5.1	Analytical Procedure	18
4.5.1.1	Analysis for Cu,Pb,Zn,Ag,As	18
4.5.1.2	Analysis for Au	18
4.5.2	Results	18
4.6	Stream Sediment Survey	19
5.0	**Conclusions**	20
6.0	**Statement of Expenditures**	21
7.0	**Statement of Qualifications**	23
		24

LIST OF TABLES AND ILLUSTRATIONS

		Page
Appendix 1	Sample Description: Handel Property	24
Appendix 2	Handel Soil Grid, Analytical Results	29
Appendix 3	Soil Sample, Description and Code	34
Table 1	Standard Extraction and Analytical Methods	43
Table 2	Handel Showing, Geochem File	44
Table 3	Handel Showing, Summary of Analytical Results	45
Table 4	Handel Showing, Correlation Matrix	46
Table 5	Handel Soil Grid, Summary of Analytical Results	47
Table 6	Handel Soil Grid, Correlation Matrix	48
Table 7	Chopin Showing, Geochem File	49
Table 8	Chopin Showing, Summary of Analytical Results	50
Figure 1	Claim Location Map, Province of British Columbia	51
Figure 2	Claim Location Map, 104B/10W & 11E	52
Figure 3	Regional Structure, Photogeological Interpretation of BC5157-016	53
Figure 4	Geology Map, Handel Showing 1:500	App.4
Figure 5	Geology, Oblique Photo of Handel Showing	54
Figure 6	Sample Location, Handel Showing 1:500	App.4
Figure 7	Sample Location, Oblique Photo of Handel Showing	55
Figure 8	Gold Assay, Handel Showing 1:500	App.4
Figure 9	Gold Assay, Oblique Photo of Handel Showing	57
Figure 10	Geology, Oblique Photo of Chopin Showing	59
Figure 11	Sample Location, Oblique Photo of Chopin Showing	App.4
Figure 12	Gold Assay, Oblique Photo of Chopin Showing	60
Figure 13	Soil Geochemistry Map, Au	App.5
Figure 14	Soil Geochemistry Map, Ag	App.5
Figure 15	Soil Geochemistry Map, As	App.5
Figure 16	Soil Geochemistry Map, Cu	App.5
Figure 17	Soil Geochemistry Map, Zn	App.5
Figure 18	Soil Geochemistry Map, Pb	App.5
Figure 19	Work Area Map	App.6
Figure 20	Handel Showing, Scatter Plot Au vs Ag	61
Figure 21	Handel Showing, Scatter Plot Au vs As	61
Figure 22	Handel Showing, Scatter Plot Au vs Pb	62
Figure 23	Handel Showing, Scatter Plot Ag vs Pb	62
Figure 24	Handel Soil Grid, Histogram Au	63
Figure 25	Handel Soil Grid, Histogram Ag	64
Figure 26	Handel Soil Grid, Histogram As	65
Figure 27	Handel Soil Grid, Histogram Cu	66
Figure 28	Handel Soil Grid, Histogram Zn	67
Figure 29	Handel Soil Grid, Histogram Pb	68

1.0 SUMMARY

A rock chip sampling and mapping was completed over the Handel Chopin 1 & 2 during the period 5 July to 11 August, 1983. This property is 100 kms east of Wrangell(Alaska), south of the Iskut River in B.C. (Figure 1). The property is owned by Du Pont of Canada Exploration Limited and was optioned by Placer Development Limited and Skyline Exploration. The main objective of the work was to establish the extension and potential of the Handel and Chopin showing. A total of 47 rock chip samples from the Handel Showing and 15 from the Chopin were collected. A moderately detailed mapping of most of the obvious portion of the main Handel and Chopin showings has been done. Additionally, 166 soil samples were collected on these claims. Results from the sampling program have indicated two different environments of limited extension.

Cost of the follow-up program was $37,537.40

2.0 INTRODUCTION

2.1 Location and Access

The Handel, Ravel and Chopin 1 & 2 claims are situated south and east of the Iskut River and Bronson Creek, across a northwest trending ridge of Snippaker Mountain. The claims occur within the Liard Mining Division, NTS 104-B-10W & 11E and are centred by latitude 56° 40 min. N and longitude 130° 59 min. W.

Access into the property is by means of helicopter from the Snippaker airstrip (15 kms to the southeast). Fixed wing service into the airstrip is from either Iskut (145 kms to the northeast), Terrace (260 kms to the southeast), or Wrangell, Alaska (100 kms to the west).

2.2 Physiography

Relief over the Handel-Ravel-Chopin 1 & 2 claims is extreme, ranging from 150 m above sea level along the Iskut River valley floor to 2010 m at Snippaker Mountain. South of the property the topography exhibits a relatively uniform moderate-steep south slope. Bronson Creek tributaries which drains this slope have eroded a series of deep ravines.

The north face which comprises the Handel claim and most of the Ravel and Chopin exhibit a precipitous face which has been deeply incised by approximately six stream channels. The foot of each gully is characterized by the development of extensive alluvial fans. Many of the gullies are at least in part accessible. The remainder of the north face, the Handel face (showing), the Chopin face (showing) require the use of ropes.

2.2.1 Access to Handel Face

Access to Handel Face from Snippaker ridge uses a small unstable, precipitous, goat trail above the Handel gully. After this, a steep grass slope leads to the summit of the face. Rappelling anchorages were fixed on a group of bushes. The 120 m face is exposed to rock falls as the climber progresses. The rope needed a plastic pipe as protection, due to strong abrasion. Three 50 m rope lengths were used. Jumar ascending handles were used as self security during transfer of the rappel device from one rope to the other. A horizontal rope was fixed for sampling along the face.

At the bottom, we hit a very steep creek broken by a series of waterfalls and covered in places by snow. Self insurance is recommended when working in this area. The other side of the creek is steep, very unstable and progression is rapidly cut by another vertical face. To exit the creek, we had to "jumar" our way up. An easier and shorter way is on a gully to the left side of the face; the use of rope is still needed.

2.2.2 Access to Station 9 and 10

The Handel fault is cut by a series of gullies and ridges before being cut by the main fault. We reached the Handel fault station 9 and 10, traversing these narrow ridges.

2.2.3 Access to Chopin Face

From the Snippaker ridge, situated under the tree line you follow a very steep slope covered by thick bush, or land on a small helipad situated at point 1880' (Figure 10).

Rappel from point 1700' (Figure 10) is fixed on a good tree. The face is unstable especially along the main fractures and the climber is exposed to numerous rock falls. The exit of the face uses a steep gully leading to the Iskut River.

2.2.4. Recommendation

Work in these areas is dangerous and should be done by climbing experts only.

2.3 Claim Status

The Handel-Ravel-Chopin 1 and 2 property consists of four adjoining mineral claims entailing a total of 72 units (Figure 2). Pertinent data for each claim is outlined below.

HANDEL (20 Units):	Record No	:1450
	Tag No.	:64779
	Date recorded	:1980 07 14
RAVEL (20 units):	Record No.	:1454
	Tag No.	:64780
	Date recorded	:1980 07 14
CHOPIN 1 (20 units):	Record No.	:2080
	Tag No.	:76044
	Date recorded	:1981 09 09
CHOPIN 2 (12 units):	Record No.	:2081
	Tag No.	:76045
	Date recorded	:1982 09 09

The original Handel and Ravel claims were staked on the basis of anomalous gold, silver and lead within Heavy mineral concentrates obtained during a reconnaissance programme in May - June, 1980. The Chopin claims were staked on the basis of the extensive pyritization of the country rocks. Part of which have revealed relatively low grade gold mineralization. The property is owned by Du Pont of Canada Exploration Limited, and is optioned by Placer Development Limited and Skyline Exploration.

2.4 Summary of Work

During the period 1983 July 5 to August 11, a total of 35 man-days of work was performed on the Handel claims and a total of 6 man-day was performed on the Chopin 2 claims.

The 1983 property evaluation program entailed the following:

(1) Two geologist-climbers, Geoff Radford and Bruno Barde mapped and sampled the precipitous Handel and Chopin showings and their extension.

(2) A soil sample grid was established from the Snippaker ridge to the southern boundary of the Handel-Ravel claims.

The geological mapping was preformed at a scale of 1:500. A total of 3 stream sediments, 166 soil samples and 62 rock samples were analysed and assayed.

3.0 PROPERTY HISTORY AND ECONOMIC ASSESSMENT

Prior to 1980 no known mineral exploration appears to have been conducted in the immediate vicinity of the Handel-Ravel-Chopin property.

The Handel-Ravel claims were staked on the basis of anomalous Au-Ag-Pb concentrations obtained during a regional stream sediment survey conducted in May - June, 1980. The evaluation programme undertaken in that year revealed the presence of several sphalerite-galena-chalcopyrite and precious metal bearing quartz veins hosted by andesite and argillite. Such occurrences were principally restricted to float within the various gullies at the base of the north face of Snippaker Mountain.

The investigation in 1981 showed the source of the mineralized float (Handel showing) to be on the north face at about the 1100 meter level. Results from across this area revealed significant values in silver-lead-gold-(zinc). The 1983 follow-up field work was specifically oriented towards assessing the potential and extension of the Handel and Chopin showing.

4.0 TECHNICAL DATA INTERPRETATION

4.1 Handel Showing

4.1.1 Introduction

From July 5th to July 11th 1983, 6 field days were spent mapping and sampling the Handel Showing - a hydrothermally altered, structurally controlled mineralized zone located on the Handel Claims roughly 1.8 km northwest of Snippaker Mountain. Approximately 300 meters along strike length were covered during the 6 days. As deep gullys cut roughly perpendicular to the strike of the system, good sections were revealed in several locations. Roughly 50% of all mapping and sampling was carried out on the "Main Handel Face" - a 125 meter rock face, averaging 70°, located near the eastern end of the study area. Additional mapping and sampling was carried out in gullies and on ridges between the "Main Face" and the system's apparent termination against a fault, some 300 meters to the west. Work on the Handel Property was carried out by Bruno Barde of Placer Development, Vancouver and Geoff Radford, Dihedral Exploration Fairbanks.

4.1.2 General Geology

The Handel mineralized zone is included within a package of sediments generally ranging from sandstones to siltstones, which may grade into slates or possibly phyllites. Bedding attitudes roughly conform with a strike of 250° and dip shallowly (20-40°) to the south. Although previous mapping by Du Pont geologists include this sediment group within the mid-Jurassic Unik formation, no obvious volcanic members were mapped during this project.

The mineralized zone itself is a classic example of hydrothermal alteration caused by magmatic or meteoric waters passing through shear zones and fracture systems. Classification of this particular system (hypo, meso or epithermal) awaits a more detailed study but abundant zones of massive base metals indicate a hypo or mesothermal related depth. Generally, metalliferous mineralization includes pyrite, arsenopyrite, sphalerite and galena and is most massive at the intersection of specific fracture and shear sets. Alteration products include limonite, jarosite, possibly scorodite, and a great deal of clay perhaps resulting from feldspar breakdown. Gangue minerals include quartz and minor calcite.

4.1.3 Structure

A study of the regional structure through use of Airphotos (1:37,000) shows several dominant lineations through the Handel Claim Group (Figure 3). These are as follows: **(1)** A strong NE-SW feature cuts through the northeast quadrant of the claim group. Mapping shows this to be a fault striking 55° and dipping 55° SE. Relative movement appears to be left lateral. Relative up and down movement has not been determined. This feature apparently forms the western boundary or limit of mineralization within the Handel system. **(2)** A series of N-S lineations cut the claim group - terminating against the NE-SW fault. These features are apparent on the ground as roughly N-S gullies (and associated ridges). **(3)** A series of E-W steeply north dipping features cut across the Handel Group. One of these, named for the purposes of this project the "Handel Fault", seems to control the overall strike direction of mineralization. The fault strikes 290-295° and dips 80°N. Drag folding of bedding planes indicates this to be a normal fault. **(4)** A very strong - almost exactly east-west lineation - is identified on the airphoto and appears to strike directly through the mineralized zone. This feature has not been identified on the ground.

Mapping at 1:500 along the Handel system reveals subtle expressions of the larger features seen in the airphoto. The strong NE-SW fault is refleoted in a series of fractures, striking 240° and dipping to the southeast. A parallel system dips 70-90° to the northwest and is assumed to be a member of the same set, it is this set of features the 240° system, that forms the plane of the "Main Handel Face". The NS system seen in the airphoto is evident on a smaller scale as numerous fractures striking 350° and dipping steeply W (and at times steeply E). These fractures occur in some locations (base of the Main Handel Face) to a density of three-four per meter. Occasionally strong expressions of this feature indicate a high degree of shearing evidenced by mylonitization along the contacts. These features also appear as clean fractures or joints. The Handel fault itself is reflected in occasional fracture planes striking 290° and dipping steeply north.

In summary, then, the three prominent structural systems are:

1.	The Handel Fault	-	290° 80° N
2.	The 240° Set	-	240° 50° S (and 70° W)
3.	The 350° Set	-	350° 80° W - 80° E
4.	Bedding	-	240°-260° 30-40° S

It should be noted that bedding appears to have no control over mineralization.

After plotting the 240° and 350° features on the 1:500 geologic map - a typical grid pattern is evident. This may be the result of a shear set / tensional set relationship although no obvious tensional fractures have been noted.

4.1.4 Mineralization

Metalliferous mineralization within the Handel system consists of the sulphides pyrite, arsenopyrite, sphalerite and galena. The occurence of these minerals is controlled by the structural systems described above. Basically, the degree of mineralization may be separated into two categories: **1.** Massive (combined sulphides > 20% of the sample run) and **2.** Submassive (combined sulphides < 20% of the total sample run). These categories have been chosen to give a general idea of sulphide percentages and should not be considered as a true evaluation of sulphide content. In most cases, massive mineralization is restricted to the intersection of the 240° fracture set with either the Handel set, the 350° set, or a combination of all three. Rarely is massive sulphide mineralization seen within an isolated structural set. Two of the most striking examples of massive mineralization occur on and at the base of the Main Handel Face (samples 73945-73949, 73944). In each case, massive mineralization is restricted to the intersection of the 240° set and the 350° set. In the sample run 73945-49, massive mineralization is limited to the southern contact of a massive 240° altered zone and its intersection with strongly sheared 350° components, thus the result is a mineralized band roughly 1 m wide by 10 m long. Pyrite and arsenopyrite compose 50% of the rock while galena and sphalerite compose another 30%. Due to the nature of this intersection - the only continuation of massive mineralization will be down the plunge of the intersection of the two sets.

Submassive sulphide mineralization is found along isolated fracture sets but tends to diminish with increasing distance from a structural intersection. As may be seen on the 1:500 geologic map or the oblique photo overlay (Figure 4 & 5), the Main Handel face is composed mainly of submassive mineralization along the 240° 70° N fracture set, i.e. along the plane of the face. Pyrite may be disseminated throughout this zone from 1-5% and galena and sphalerite occur in occasional clots.

Gangue mineralization is limited to quartz and this usually occurs only within the structural intersections - i.e. associated with massive sulphide mineralization. A prime example is found in the central altered zone on the Main Handel Face. Here, quartz veins with cockscombing and open spaces fill the 350° shear zone at irregular intervals. Along sample 73944 the normally clay altered shear has been highly quartz flooded, and quartz composes 50% of the sample.

Calcite was found only in veinlets within a unit of dark argillites (?) at the base of the Handel Face (and corresponding levels to the west). Therefore calcite is not considered an active mineral in the Handel hydrothermal system.

4.1.5 Alteration

4.1.5.1 Iron Products

Jarosite and limonite are perhaps the most visible alteration products within the Handel showing contributing the orange and yellow colorings to the outcrop. As with the other alteration products - concentrations are highest at structural set intersections.

4.1.5.2 Feldspar (?) Products Clays

Within the altered zones (those mapped as massive or submassive mineralization) the original sedimentary textures of the rock have been destroyed and replaced by a massive, opaque, milky/pearly soft mineral. This is probably a clay resulting from feldspar breakdown. It has been suggested that a slightly harder version of this mineral may be Alunite (R. Young), a common alteration product of feldspars in epithermal systems. Within zones of massive sulphide mineralization, clays may compose 20 - 50% of the rock.

4.1.5.3 Arsenic Products

In several locations on the Main Handel Face, a lime green, brittle, frothy appearing mineral occurs which, may be scorodite; an oxidation product of arsenopyrite. A pervasive green coloring throughout the altered zones may be due to the fine grained scorodite. Geochemical results should verify or deny this supposition.

4.1.6 Sampling Methods

Several points should be stressed concerning sampling on the Handel system:

Chip samples were cut in a continuous line across measured sample intervals on surface exposures. Most sample materials were collected with the aid of a prospector pick.

1. Samples 73926 - 73944 were taken across the face, or parallel with the 240° fracture set. This means that for submassive mineralization, the samples have been taken along strike and do not represent a thickness of the mineralization. In order to emphasize this fact, samples 73934, 73935 were taken directly below 73933, but on a fracture plane approximately 1.5 meters out from 73933. In other words, if the fracture plane along which 73933 was taken represents the footwall of a fracture or shear, then the fracture plane along which 73934, 35 was taken represents the hanging wall. It is significant to note that mineralization along the footwall plane was more pronounced than along the hanging wall. Although these samples are essentially useless for determining the thickness of submassive 240° set related mineralization, they do serve to indicate the thickness of the massive 350° set related mineralization as they cut across roughly perpendicular to strike. A similar problem is encountered in the Handel gully where two separate strike directions are mineralized. Therefore, two sample traverses were made at right angles to each other. All assay results should be considered along with the geologic map to avoid confusion of strike length and width.

4.1.7 Analytical Procedure

All samples were crushed and prepared for assaying at Placer Development Limited Metallurgical Laboratory, Ag, Pb and Au were assayed in this same laboratory. The samples pulps were analyzed by Placer Development Geochem Laboratory for Mo, As, Hg, Sb, Zn and Cu.

4.1.7.1 Analysis for Mo, Cu, Zn and As

Samples are initially dried in a hot-air dryer, then crushed and pulverized to -150 mesh. A 0.50 gm portion of -150 mesh material is weighed with a precision torsion balance. Samples are digested in hot solution of HNO and HC10 for three and half hours, then cooled, diluted and prepared for analysis on Perkin-Elmer 603 Atomic Absorption Spectophotometer for Cu, Pb, Zn, As and Ag.

Detection limits and ranges are listed below:

ELEMENT	DETECTION LIMIT AND RANGE
Copper	2 - 4,000 ppm
Lead	2 - 3,000 ppm
Zinc	2 - 3,000 ppm
Silver	0.2 - 20 ppm
Arsenic	2 - 1,000 ppm
Molybdenum	1 - 1,000 ppm

4.1.7.2 Analysis for Sb

Following the drying and sieving process a 0.50 gm portion of -150 mesh fraction of the sample is weighted with a precision torsion balance. Samples are digested in hot solution of HNO and HC10 for two hours, cooled, then the solution is bulked up to 10 ml for analysis on Perkin-Elmer 603 Atomic Absorption Spectophotometer. Detection limit range is 2 to 1,000 ppm.

4.1.7.3 Analysis for Hg

Following the drying and sieving process, a 0.50 gm portion of -150 mesh fraction of sample is weighted with a precision torsion balance. Samples are digested in dilute sodium chloride which are added to liberate the Hg, prior to analysis for Hg by flameless atomic absorption. Detection limit and range are 5 to 2,000 ppb.

4.1.7.4 Analysis for Au, Ag, Pb -

Au, Ag and Pb were analysed by fire assay.

4.1.8 Results and Interpretation

The following is a compilation of 47 samples obtained on the Handel showing and extension (Table 2).

Gold values range from trace to 11.4 ppm with a mean of 1.93 ppm.

Silver values range from 2 ppm to 120 ppm with a mean of 21.87 ppm.

Arsenic values range from 56 ppm to 36,000 ppm with a mean of 6558 pp.

For the other elements see statistical summary (Table 3).

The high gold silver assays occur along the "Handel" fault at the intersection with either the 240° fracture set or the 350° set (Figures 4, 5, 6, 7 & 8). However the samples of more massive mineralization, 73944-73946 and 64913, carry generally less gold than the very leached and altered samples (64910-73926). It is believed that we have an enrichment in the oxydized and leached zone. The sulfides have been leached out and the gold left behind.

The line of samples 73926-73933 and 73936-73938 which represent 25 meters and 2.4 ppm gold (in average) have been taken along strike and do not represent a thickness of mineralization. Samples 73934-73935 taken directly below 73933 represent the hanging wall of the fracture or shear and is less mineralized, 0.9 ppm average on 6 meters.

A correlation matrix (Table 4) shows the main association: Pb - Zn - Ag - Au - As.

A correlation matrix gives a first measure of interrelationship and is useful to identify pairs of fields to be studied with a 2-D plot. The maximum value for any correlation coefficient is 1.0.

We observe a very high association Ag - Pb Coefficient of correlation, C.C. = 0.94 (Figure 23), a high association Au - Pb, C.C. = 0.78 (Figure 22) a good correlation Au - Ag, C.C. = 0.68 (Figure 20) and a good correlation Au - As, C.C. = 0.67 (Figure 21).

Based on these results it is assumed that galena carries most of the silver and that arsenopyrite, galena and pyrite carry the gold.

To explain these associations a microscopic study should be done.

4.1.9 Summary

The Handel mineralized zone represents a hydrothermally altered system controlled by a combination of three prominent structural sets. The Handel Fault, striking 245° and dipping steeply northwest, dominates the overall strike direction of the mineralized altered body. Massive sulphide mineralization is limited to the intersection of the structural features whereas submassive mineralization and less altered zones extend outward from these intersections along the individual structures. This outward extension, away from the intersections (and basically perpendicular to the strike of the body) is on the order of 10-15 meters. Therefore, in plan, the altered, mineralized zone has an approximate size of 300 m x 20 m. However, the nature of the massively mineralized zones is a series of isolated pods and pipes which may or may not continue down the plunge of the intersection of the structural features. Therefore, although the Handel fault itself may be traced for 300 m, mineralization is by no means continuous within this zone.

Any positive assay results will be offset by the possibility that waste to ore ratios along the Handel zone will be quite high.

4.2 Chopin Showing

4.2.1 Introduction

Between July 13th and July 16th, 1983 three field days were spent mapping the Main Chopin Face, located on the Chopin claims approximately 2 km WNW of AD Marker 3954. Alteration and pyrite mineralization in the Chopin Zone extends over 365 meters vertically by a width of roughly 125 meters. Assuming an overall slope of 60°, the zone is roughly 180 meters thick. The mapped and sampled area (the exposed, open portion of the face) is approximately 150 m x 125 m x 60 m. General structural features were mapped on an oblique photo (Figure 10), along with sample locations (Figure 11), at a rough scale of 1:1660. A total of 16 samples were taken from the Chopin Main Face.

4.2.2 General Geology (Summary)

The Chopin mineralized zone consists of a pyritic stockwork system within dark gray calcareous phyllites. Fine grained biotite and calcite exist along the country rock fracture planes and are probably products of hydrothermal alteration. At least four distinct fracture sets have been recognized and although pyrite is common in all four sets, it occurs to a greater degree in one or two specific sets. Pyrite is seen as coarse cubes - at times massive along the fractures. Pyrite is also disseminated throughout the zone, but usually less than .5%. Total pyrite content of the system may be between 10-15%. The regional structural control for the zone appears to be bearing 315° and dipping steeply north.

4.2.3 Structure

As may be seen on the Airphoto overlay (Airphoto BC 5157.016) the orientation and general plane of the main Chopin Face appears to be controlled (is parallel with) a feature striking 315°. This feature has smaller scale reflections on the face as fractures striking 315° and dipping 75 NE. In addition to this fracture set, at least three others have been recognized. A more detailed study would certainly reveal additional sets.

The face itself seems to have two dominant facets, that controlled by the 315° set and another formed by a 240° 50-60 NW set. This 240° set is most obvious as the main shear or fault which splits the Chopin face up the center (see oblique photo overlay). The combination of these two sets forms a series of dihedrals across the face, especially prevalent in the upper portions near the 1880' el. helipad.

A third fracture set is notable in that it is the most consistantly and massively mineralized set on the face. This set strikes 330° and dips 40° - 60° W. Density of these fractures is high - sample 74035, 3.8 m in length, cut 46 of these pyritic features.

A fourth set of fractures, bearing 210° and dipping 35° - 40° NW appear very flat lying when intersecting a facet of roughly parallel strike. This set is also well mineralized withmassive-cubic pyrite.

In summary - prominent structural features recognized to date:

1. 315° 75 NE - Regional control + local fractures

2. 240° 60 NW - Forms obvious facets on the face

3. 330° 40-60 SW - Apparently the most mineralized

4. 210° 50 NW - Apparently flat lying and well mineralized

Although bedding seems to have no bearing on mineralization its probable orientation is 280-290° 27° S.

4.2.4 Mineralization

4.2.4.1 Metalliferous Mineralization

Metalliferous mineralization is almost exclusively pyrite although trace amounts of chalcopyrite were observed. Pyrite occurs as fracture fillings and is often massive in coarse (to 3 mm) cubes within a vuggy, leached, limonitic siliceous box work. The weathered pyrite has a characteristic white or grey-white color, while cubes on freshly exposed fracture planes will often have a brilliant tarnished, rainbow coloring. Associated chalcopyrite often lends pyrite clots an iridescence. Massive pyrite mineralization is obviously controlled by fractures; pyrite disseminated between the fractures is only in the order of 1% or less. Although there were no fracture sets identified that are constantly barren of pyrite - the 330° 40° - 60° NW set seems to contain the most massive mineralization. In turn, the massively mineralized 330° fractures are concentrated in the upper third of the face (see oblique photo overlay). In certain sections, these 330° pyrite filled fractures have a density of 10-20 per meter. Fracture widths vary from hairline to 20 cm. Overall pyrite content of the Chopin zone may be in the 10-20% range.

4.2.4.2 Gangue Mineralization

Calcite is a pervasive mineral in this system and is found along most fracture planes. However, it is not often found as a massive vein filling, although float at the base of the face contains

rare, massive, crystalline calcite. Quartz is usually found associated with the larger, massive pyrite filled fractures. A prime example is a 15 cm wide vein filling a 315° fracture system on the east (left on the photo) side of the face. Here, 8 cm of extremely leached and powdery dark grey pyrite forms the footwall while 8 cm of solid white quartz with occasional pyrite cubes forms the hanging wall.

4.2.4.3 Mystery Mineral

A translucent soft green, semi micaceous, extremely soft mineral was found in the upper third of the Chopin Face along 330° fracture planes and intersecting hairline fractures. Malachite was excluded as the color is wrong and the mineral does not effervesce with HCL. Possibilities include fuchsite or maraposite but their usual association with basic and ultrabasic rocks make this a suspect conclusion. The presence of chalcopyrite suggests some product of copper.

4.2.5 Sampling Methods

As with any stockwork system, there is a problem determining which sampling direction will best indicate the true grade/volume ratio of the mineralized body. As the 315° fracture set seems to reflect the overall, regional, structural control, and the 330° set seems to be the most mineralized, samples were taken along a bearing of 230-240 or roughly at right angles to those two strikes.

4.2.6 Results

Fifteen (15) samples were taken on the Chopin Face (Figure 11 and 12). Au values range from 0.05 to 5.43 with a mean of 0.81 ppm, Ag values range from 0.5 to 3 ppm with a mean of 1.42. The four greatest samples 74668, 74033, 74665 and 74666 were taken close to the main structure (265° / 60° N) in massive pyrite (30 to 40%).

Mo ranges from 2 to 770 ppm with a mean of 91.6 ppm.

The values of gold and the good values of Mo confirm the possible porphyry environment proposed for the Chopin.

4.3 A Summary and Comparison of the Handel & Chopin Properties

A look at the regional Airphoto (BC 5157-016) suggests that the Handel and Chopin properties lie in two separate "structural environments". These appear to be separated from each other by the main 240° left lateral fault which forms the western terminus of the Handel system. A comparison of the structural and mineral components of each particular zone demonstrates that these are, indeed, disimilar geologic environments.

The Chopin property represents a typical stockwork environment with literally thousands of intersecting fractures. Densities of 10-20 fractures per meter per fracture set were observed across several sample traverses. The Handel property, on the other hand is characterized by intersecting structural features but on a much coarser scale. Target zones within the Handel will likely be individual intersections (higher grade zones) whereas the Chopin, given proper precious metal grades, will probably depend more on a porphyry, low grade, high tonnage development philosophy.

Mineralogically, the two properties differ in several respects. The Handel zone contains numerous pods and pipes of massive sulphide consisting of pyrite, arsenopyrite, sphalerite and galena. Isolated, massive pods of each of these minerals may be found. The Chopin property, in comparison, contains strictly pyrite with trace amounts of chalcopyrite. Calcite is a pervasive mineral throughout the Chopin Main Face whereas that mineral is only found very rarely in the Handel zone, and in that instance it is within unaltered siltstones - slates at the base of the face.

Quartz mineralization is similar in both properties in that it is present, but not a pervasive or dominant feature. Quartz is always related to fracture sets and is not seen as massive quartz flooding. The two environments do share some structural features, primarily the 240° N dipping set. The 315° N dipping set, very common in the Chopin (and probably a overall controlling feature), is recognized in only one location on the Handel.

Each of the two properties has distinctive wallrock (country rock) alteration. In the Handel, a soft, pearly-white mineral, probably a clay, replaces the original sedimentary features. Clay increases to 30-50% of the rock within the highly altered zones. Clay is not so prevalent in the Chopin property, however, fine grained biotite is seen on fracture planes of the phyllites.

In summary:

	Handel	**Chopin**
Mineralization		
1. Metalliferous	Py, Aspy, Gal, Sph	Py. Trace Chalcopy
2. Gangue	Quartz	Calcite, Quartz
Structural	Coarse intersections creating high grade mineralization. Trends typically lineal.	Very dense stockwork
Alteration	Heavy clay alteration Iron alteration products Arsenic alteration products	Lighter clay Heavy calcite Biotite in country rock. Limonite.
Geochem	As, Au, Ag, Pb, Zn	Au, Ag, Mo

4.4. Possible Models

As discussed in the Handel report, that system is typical of hydrothermal alteration, perhaps representing mesothermal (or greater) depths. The Chopin, however, due to the stockwork nature of mineralization, is indicative of porphyry environment. The proximity of the intrusive on the south side of Bronson Creek should be considered.

4.5 Soil Geochemical Survey

Soil samples were collected from holes up to 30 cm deep. In most cases samples were collected from B1 to C horizon and placed in a numbered Kraft paper envelope. Samples were collected above tree line, on a steep, south slope, see sampledescription and code list (Appendix 3).

4.5.1 Analytical Procedure

All soil and stream sediments were analysed by Placer Development's Geochemical Laboratory at Vancouver, B.C.

4.5.1.1 Analysis for Cu, Pb, Zn, As and Ag

Samples are dried in a hot-air dryer, then sifted in -80 mesh nylon sieves. A 0.50 gm portion of this material is weighted with a precision torsion balance. Samples are digested in hot solution of HNO_3 and $HClO_4$ for three and a half hours, then cooled, diluted and prepared for analysis on Perkin-Elmer 603 Atomic Absorption Spectophotometer for Cu, Pb, Zn, As and Ag.

Detection limits and ranges are listed below:

ELEMENT	DETECTION LIMIT AND RANGE
Copper	2 - 4,000 ppm
Lead	2 - 3,000 ppm
Zinc	2 - 3,000 ppm
Silver	0.2 - 20 ppm
Arsenic	2 - 1,000 ppm

4.5.1.2 Analysis for Gold

Following the drying and sieving process, a 3.0 gm portion of -80 mesh fraction is heated at 600° C for one and a half hours. The HBr solution is added and allowed to stand overnight. Water and MIBK solution are added, shaken, centrifuged and then 1% HBr in water is added to the top organic layer separate. Solution is shaken prior to analysis for Au by atomic absorption. Detection limit and range are 0.02 to 4.00 ppm.

4.5.2 Results

The analytical data is given in Appendix 2. Threshold values have been selected from histograms (Figures 23 to 28). Computer contoured maps which illustrate trends in element concentrations are shown on (Figures 13 to 18). Table 5 gives a statistical summary of our data.

A total of 257 soil samples were collected. Au varies from <0.02 to 0.28 ppm with a mean of 0.026. Ag varies from 0.1 to 16 ppm with a mean of 0.82 ppm. The geochemical data shows coherent and essentially coincident anomalies for Au, Ag and As along the main fault and a parallel set of faults along line 900 east and along creeks 1300, 1550, 1700 east. The lead is surprisingly weak along the main fault but shows a broad anomaly along line 900 east. Copper and zinc distribution are very similar along the main fault and line 900 east. It is believed that these weak anomalies are the results of leaching from lightly mineralized structures.

Two lines of soil samples were taken on the Snippaker ridge in an attempt to intersect the extension of the Handel fault. Ten (10) samples were above the detection limit for gold and sample HAX606, last sample of the line assayed; 0.16 ppm gold. This sampling opens an area to the east of HAX606. All these samples were taken in a BC horizon, consisting of partly developed B and C horizon.

4.6 Stream Sediment Survey

Three stream sediment samples were collected from main creeks on the north side of Snippaker Ridge (Figure 19). Stream samples are prepared and analysed like soil samples. These three creeks were anomalous in gold. A zoning occurs in these samples with gold increasing to the east and copper decreasing to the east.

5.0 CONCLUSIONS

Handel Showing

Anomalous As, Au, Ag, Pb and Zn emanates from the Handel showing. Mineralization consists of pyrite, arsenopyrite, galena, sphalerite and quartz and is hosted by sandstone and siltstone. Structural intersections create the greatest mineralization. Alteration consists of clays, scorodite and limonite. This system is typical of hydrothermal alteration.

Chopin Showing

Anomalous Mo, Au and Ag emanates from the Chopin Showing. Mineralization consists of pyrite, trace of chalcopyrite, calcite and quartz concentrated in a dense stockwork. Alteration consists of clay, calcite, limonite and biotite in the country rock. The nature of the mineralization suggests a porphyry (Au,Ag,Mo) model for this occurrence.

The exteme slope limits exploration techniques needed for a better understanding of the general system.

6.0 STATEMENT OF EXPENDITURES

The following expenses were incurred by Placer Development Limited for geological work on Handel, Chopin 1 and 2 claims part of the DuPont-Placer-Skyline agreement.

Field work was undertaken in July and August, 1983.

Personnel Costs

Personnel	Period Employed	Days and Rate	Cost
J. Barbeau	6 August	1 day @ $200./day	$ 200.00
B. Barde	5 July to 11 Aug.	16 days @ $250./day	4,000.00
M. Gareau	6 to 11 August	4 days @ $250./day	1,000.00
B. Ott	6 to 11 August	4 days @ $250./day	1,000.00
G. Radford	5 to 17 July	13 days @ $375./day	4,875.00
M. Wawrychuck	6 to 11 August	3 days @ $200./day	600.00

Crew Board and Room Costs	
Skyline Camp	
41 man days @ $100. per day per man	4,100.00
Helicopter	
10 hours @ $850. per hour (Including fuel)	8,500.00
Crew Mob and Demob	
G. Radford airfare $175. + $130.	305.00
B. Barde and M. Gareau Charter	578.50
Sample Preparation and Assaying Costs	
62 rock samples @ $16.70 per sample	1,035.40
166 soils samples @ $12.20 per sample	2,025.20
3 silt samples @ $12.20 per sample	36.60
Freight	500.00
Equipment and Supplies Costs	
Mountain gear	300.00
Maps, airphotos	56.70
Sampling supplies	125.00

Report and Map Preparation Costs

Personnel	Days and Rate	
B. Barde	15 days @ $250./day	3,750.00
A. Kemp	15 days @ $200./day	3,000.00
G. Radford	3 days @ $200./day	600.00
D. Dussault	3 days @ $200./day	600.00
Map Reprodutions		
Computer Time		350.00

Total Expenditures Handel and Chopin 1 & 2 $37.537.40

7.0 Statement of Qualification

September 28, 1983

I, B.W. Barde, of Placer Development Limited do hereby certify that:

1. I am a geologist.

2. I am a graduate of the University of Geneva with a M.Sc. in Geology in 1981.

3. From 1981 until the present, I have been engaged in exploration geology in British Columbia, and Yukon Territory.

4. I personally participated in the field work and have compiled, reviewed and assessed the data resulting from this work.

Sincerely,

PLACER DEVELOPMENT LTD.

7 October 83 B.W. Barde

B.W. Barde
Geologist

BWB/dd

October 4th, 1983

I, G. Radford of Dihedral Exploration do hereby certify that:

1. I am a consulting geologist, mountain climber. I graduated from Middelburry College, Vermont, with a B.A. in Geology in 1978.

2. My address is Box 82554, College, Alaska 99708

3. I have practiced geology since graduation, mainly in Alaska, British Columbia and Nicaragua.

4. I personally participated in the field work and have compiled the data resulting from this work.

Sincerely,

G. Radford

GR/dd

APPENDIX 1

SAMPLE DESCRIPTIONS - HANDEL PROPERTY

July 1983

SAMPLE	LENGTH	PPM Au, Ag	DESCRIPTION
73926	2.0m	6.23, 6.00	Sample cuts a zone of very bleached, light lime green altered sediments. Pyrite is disseminated in cubes < .5 mm in size. Cubes often occur in pods with a limonitic rim. over all pyrite content to 5%. Light green color may be an iron oxidation product or perhaps scorodite. Occasional pods of silification, but not prevalent.
73927	0.7m	2.16, 2.00	This sample is quite quartz flooded and contains less than 1% pyrite. The lime green color is still apparent but not as dominant which may reflect pyrite content.
73928	1.2m	3.46, 18.00	Sample zone contains about .8 m of partially silicified material with clots of pyrite and extremely fine grained galena. PBS < .5% and often occurs in stringers. FES2 < 1%.
73929	2.4m	1.04, 8.00	The first 1.2m of this sample is the shattered lime green altered wall rock with occasional clots of pyrite and partial quartz flooding. The 2nd half of the sample is extremely shattered, almost a soil, and an orange color due to high limonite content. This zone reflects the passage of a steeply dipping shear striking 330 and dipping 80° NE.
73930	2 m	2.60, 13.00	The shear above seems to be a conduit of solutions. As this sample on the footwall side is obviously more mineralized. Bands and pods of massive pyrite and galena are abundant with sulphide content to 20% some silicified box work although silicification is not dominant. Sulphide content increasing away from the shear and the last few chips of this sample contain 1.5 cm band of massive galena.

SAMPLE PPM Au, Ag	LENGTH	DESCRIPTION
73931 1.95, 23	1.7m	Galena content high, perhaps 5% in this zone, especially concentrated along a small fracture bearing 315 dipping steeply northeast. The lime green oxide material (scorodite?) is also concentrated along this fracture. Quartz flooding is present but not dominant. Rock is foliated, or fractured along the plane of the face i.e. perpendicular to the 290 - 300° shears. This foliation, or fracture system strikes roughly 45°.
73932 2.84, 42	1.8m	As previous sample, sulphide content 20 - 30%
73933 2.75, 80	3.0m	Taken directly along the 50° fracture plane (see 73931 for expl.) galena to 5% rock is well bleached.
73934 0.53, 5.00	2.0m	Same lateral location as 73933 but approx. 2.5m plane. This zone, although bleached and fractured contains < .1% sulphides, only occasional pyrite.
73935 1.22, 9.00	4.0m	Pyrite and galena content 5 to 10% combined. This sample begins on one 230 fracture plane, moves outward to another 230 fracture plane, and cuts back to the original fracture plane. Sulphide content seems higher on the inner plane.
73936 1.58, 71.00	4.0m	Highly fractured and bleached - as previous samples. Total sulphides 5 - 10% occasional pods of massive galena. Vuggy quartz veinlets (.25 - .5 cm) wind through the zone but are generally parallel with the vertical shears of the area. Occasional pods of massive pyrite.
73937 1.61, 10.60	2.0m	Zone is as others, well bleached with pyrite and galena to 10% combined. Zones of darker iron staining are totally leeched with bits of remanent galena. A trace amount of resinous dark red mineral, probably sphalerite, occurs in clots.

SAMPLE	LENGTH	PPM Au, Ag	DESCRIPTION
73938	4.3m	0.13, 3.00	This sample is a sandstone to silty sandstone with fairly fresh textures. Pyrite varies but is certainly less than 1%. Most of this sample appears to be unaltered country rock. An obvious alteration cuts the west end of sample.
73939	3.6m	0.19, 5.00	Rock is the typical homogeneous, fine grained textured "greenstone" or altered sediment. This stage seems to be intermediate between the fresh sediments and the extremely clay altered zones. Sample ends to the northeast at the contact with highly altered, green/yellow leached rock which composes the higher grade mineralized zone.
73940	2.5m	3.63, 15.00	Sample zone is very vuggy, leached, clots of disseminated pyrite (2-4%)
73941	2.8m	4.25, 7.00	Gouge, 20 - 30% of pyrite, pods and stringers of quartz
73942	2.5m	0.71, 8.00	Sandstone is lightly leached, .1% pyrite
73943	5.5m	0.43, 6.00	Slightly metamorphosed sandstone, trace of pyrite
73944	3.8m	1.58, 11.00	Central shear very silicified bands of massive pyrite and galena (1 - 5%)
73945	2.0m	0.39, 34.00	Slightly mineralized country rock disseminated pyrite trace of arsenopyrite
73946	1.4m	0.31, 6.0	Fairly altered, 5% pyrite
73947	1.5m	9.81, 89.00	Massive sulfide 50 - 60% combined arsenopyrite, sphalerite
73948	2.0m	.50, 30.00	Highly sheared spotty zone of pyrite, arsenopyrite, galena and sphalerite (70 - 80%)
73949	3.0m	3.40, 21.00	10 - 20% sulfide, sheared the last .5m contains massive sphalerite and galena
73950	4.0m	1.18, 12.00	Slightly altered country rock 5% total sulfide

SAMPLE PPM Au, Ag	LENGTH	DESCRIPTION
64901 0.16, 14	2.0m	Sandstone, 1% of disseminated pyrite, carbonate veins some limonite
64902 1.78, 48	6.5m	Heavily oxidized, well leached some silicification, 15% of disseminated pyrite 1% of sphalerite, iron oxydation
64903 0.04, 4.00	8.0m	Unaltered sandstone 1% of disseminated pyrite
64904 0.11, 4.00	3.0m	Unaltered sandstone some quartz veins up to 2 mm. limonite in pods
64905 0.99, 33	7.0m	Altered and leached sample, yellow iron oxydation and limonite
64906 1.95, 29.00	.7m	Well leached fault zone some gouge limonite and yellow alteration sulfides in stockwork
64907 1.93, 26	.8m	Fault zone with some silicified material pyrite and galena, wll leached
64908 0.16, 5	2.5m	Chloritirized sandstone 3 - 5% disseminated pyrite trace of limonite
64909 1.08, 51	3.5m	Green - yellow altered sandstone, heavy limonite well leached
64910 11.40, 120	1.0m	Very altered and leached, some galena and pyrite
64911 2.20, 31.00	1.5m	Well leached yellow alteration, 5% disseminated pyrite
64912 0.88, 9.00	3.0m	Sandstone from the hanging wall some altered pods
64913 5.57, 18.00	.5m	Duplicate of 64910 in "high grade material" massive galena, sphalerite and pyrite
64914 0.35, 15.00	1.0m	Fault zone pyrite and galena in a fine pale siltstone

SAMPLE	LENGTH	PPM Au, Ag	DESCRIPTION
64915	3.0m	0.34, 4.00	Sandstone and siltstone from the hanging wall some coarse disseminated pyrite
64916	2.8m	0.24, 13.00	Sandstone with patches of massive galena and pyrite some silicified pods
64917	4.0	0.10, 25.00	Sandstone with some fine stockwork, a few pods of galena
64918	2.0m	0.06, 3.00	Layered sandstone and argillite across a 20 cm. fault
64919	1.5m	0.13, 4.00	Layered sandstone and argillite, some quartz veins

BWB/dd

SAMP	X (M)	Y(M)	CU(PPM)	ZN(PPM)	PB (PPM)	AG (PPM)	AU(PPM)	AS(PPM)
HAX100	0.	1000.	65.00	54.00	14.00	.60	.01	6.00
HAX101	25.	1000.	35.00	29.00	22.00	.80	.01	.50
HAX102	50.	1000.	17.00	42.00	16.00	.60	.01	.50
HAX103	75.	1000.	24.00	33.00	19.00	.80	.01	2.00
HAX104	100.	1000.	26.00	75.00	36.00	1.50	.01	8.00
HAX105	125.	1000.	29.00	135.00	33.00	.20	.01	32.00
HAX106	150.	1000.	140.00	242.00	52.00	1.20	.02	80.00
HAX107	175.	1000.	52.00	40.00	49.00	1.10	.01	36.00
HAX108	200.	1000.	157.00	81.00	18.00	1.20	.13	60.00
HAX109	225.	1000.	74.00	420.00	77.00	1.00	.04	48.00
HAX110	250.	1000.	28.00	395.00	41.00	.90	.01	40.00
HAX111	275.	1000.	22.00	173.00	46.00	1.40	.01	16.00
HAX112	300.	1000.	25.00	80.00	33.00	.50	.01	20.00
HAX113	325.	1000.	29.00	114.00	36.00	.50	.01	20.00
HAX114	350.	1000.	35.00	136.00	67.00	1.70	.01	120.00
HAX115	375.	1000.	29.00	78.00	25.00	.30	.01	8.00
HAX116	400.	1000.	278.00	107.00	36.00	.80	.01	.50
HAX117	425.	1000.	80.00	164.00	178.00	.70	.05	46.00
HAX118	450.	1000.	75.00	98.00	330.00	.80	.01	44.00
HAX119	475.	1000.	152.00	203.00	560.00	1.60	.05	24.00
HAX120	500.	1000.	101.00	95.00	22.00	.30	.02	32.00
HAX121	525.	1000.	90.00	261.00	109.00	1.00	.01	.50
HAX122	550.	1000.	36.00	83.00	73.00	.70	.01	72.00
HAX123	575.	1000.	42.00	84.00	32.00	.50	.01	24.00
HAX124	600.	1000.	22.00	56.00	24.00	.60	.01	4.00
HAX125	625.	1000.	100.00	56.00	22.00	.40	.01	.50
HAX126	650.	1000.	56.00	103.00	15.00	.70	.01	.50
HAX127	675.	1000.	55.00	135.00	30.00	.90	.01	26.00
HAX128	700.	1000.	103.00	150.00	25.00	.80	.01	104.00
HAX129	725.	1000.	69.00	108.00	29.00	.50	.01	40.00
HAX130	750.	1000.	45.00	165.00	60.00	.80	.01	30.00
HAX131	775.	1000.	79.00	330.00	101.00	1.40	.01	100.00
HAX132	800.	1000.	100.00	376.00	92.00	1.00	.01	174.00
HAX133	825.	1000.	193.00	610.00	2820.00	8.00	.04	220.00
HAX134	850.	1000.	112.00	178.00	66.00	2.10	.01	84.00
HAX135	875.	1000.	78.00	231.00	55.00	.70	.01	26.00
HAX136	900.	1000.	69.00	82.00	32.00	.70	.01	80.00
HAX137	925.	1000.	106.00	159.00	54.00	1.60	.01	112.00
HAX138	950.	1000.	170.00	231.00	73.00	3.50	.01	124.00
HAX139	975.	1000.	124.00	346.00	170.00	2.30	.01	286.00
HAX140	1000.	1000.	102.00	204.00	72.00	2.80	.01	142.00
HAX141	1025.	1000.	119.00	170.00	55.00	2.30	.01	80.00
HAX142	1050.	1000.	78.00	107.00	20.00	.60	.01	46.00
HAX143	1075.	1000.	85.00	103.00	16.00	.50	.01	46.00
HAX144	1100.	1000.	96.00	101.00	15.00	.40	.01	44.00
HAX145	1125.	1000.	245.00	129.00	27.00	.70	.01	66.00
HAX146	1150.	1000.	96.00	77.00	21.00	.30	.01	48.00
HAX147	1175.	1000.	286.00	88.00	24.00	.70	.01	28.00
HAX148	1200.	1000.	97.00	109.00	19.00	1.10	.01	40.00
HAX149	1225.	1000.	65.00	123.00	16.00	.50	.01	74.00
HAX150	1250.	1000.	99.00	124.00	17.00	.70	.01	62.00
HAX151	1275.	1000.	72.00	107.00	12.00	.20	.01	30.00
HAX152	1300.	1000.	50.00	100.00	20.00	.30	.01	6.00
HAX153	1325.	1000.	89.00	110.00	13.00	.40	.01	16.00
HAX154	1350.	1000.	64.00	112.00	21.00	.50	.01	28.00
HAX155	1375.	1000.	30.00	100.00	20.00	.50	.01	30.00
HAX156	1400.	1000.	31.00	120.00	48.00	.60	.01	36.00
HAX157	1425.	1000.	47.00	124.00	39.00	.60	.01	12.00
HAX158	1450.	1000.	68.00	122.00	20.00	.40	.01	30.00
HAX159	1475.	1000.	45.00	105.00	24.00	.40	.01	18.00

APPENDIX 2

Handel Soil Grid

Analytical Data

LIST DATA FILE: PAI GEOCHEM FILE: HANDEL GRID V-191

SAMP	X (M)	Y (M)	CU (PPM)	ZN (PPM)	PB (PPM)	AG(PPM)	AU(PPM)	AS(PPM)
HAX160	1500.	1000.	127.00	122.00	23.00	1.80	.01	2.00
HAX161	1525.	1000.	52.00	95.00	14.00	.30	.01	10.00
HAX162	1550.	1000.	56.00	85.00	10.00	.30	.01	16.00
HAX163	1575.	1000.	62.00	99.00	13.00	.20	.01	4.00
HAX164	1600.	1000.	45.00	78.00	13.00	.10	.01	.50
HAX165	1600.	900.	108.00	169.00	62.00	1.80	.01	16.00
HAX166	1575.	900.	116.00	230.00	52.00	2.40	.01	142.00
HAX167	1525.	900.	74.00	133.00	27.00	.30	.01	184.00
HAX168	1500.	900.	65.00	141.00	27.00	.20	.01	16.00
HAX169	1450.	900.	110.00	144.00	39.00	.80	.01	28.00
HAX170	1425.	900.	47.00	148.00	28.00	.10	.01	10.00
HAX171	1400.	900.	38.00	218.00	63.00	.30	.01	30.00
HAX172	1375.	900.	45.00	107.00	27.00	.10	.01	20.00
HAX173	1350.	900.	42.00	107.00	37.00	.10	.07	28.00
HAX174	1325.	900.	117.00	420.00	340.00	16.00	.05	72.00
HAX175	1300.	900.	38.00	100.00	31.00	.40	.01	20.00
HAX176	1275.	900.	41.00	162.00	81.00	.50	.01	100.00
HAX177	1250.	900.	88.00	138.00	36.00	.80	.03	60.00
HAX178	1225.	900.	71.00	175.00	36.00	.90	.01	64.00
HAX179	1200.	900.	40.00	106.00	17.00	.50	.03	50.00
HAX180	1175.	900.	43.00	101.00	20.00	.30	.01	40.00
HAX181	1150.	900.	54.00	97.00	19.00	.30	.01	20.00
HAX182	1125.	900.	42.00	85.00	14.00	.30	.01	30.00
HAX183	1100.	900.	46.00	93.00	10.00	.20	.01	40.00
HAX184	1075.	900.	36.00	66.00	8.00	.30	.01	24.00
HAX185	1050.	900.	57.00	88.00	9.00	.20	.01	34.00
HAX186	1025.	900.	95.00	160.00	46.00	1.00	.01	90.00
HAX187	1000.	900.	76.00	143.00	38.00	.70	.01	122.00
HAX188	975.	900.	48.00	131.00	31.00	.40	.01	22.00
HAX189	950.	900.	204.00	1200.00	168.00	4.00	.03	280.00
HAX190	900.	900.	163.00	143.00	32.00	.70	.01	76.00
HAX191	875.	900.	103.00	276.00	137.00	.60	.01	50.00
HAX192	800.	900.	54.00	170.00	58.00	.60	.01	66.00
HAX193	775.	900.	46.00	135.00	21.00	.60	.01	40.00
HAX194	750.	900.	77.00	107.00	10.00	.30	.01	32.00
HAX195	725.	900.	107.00	114.00	8.00	.60	.01	34.00
HAX196	700.	900.	42.00	140.00	25.00	.60	.01	12.00
HAX197	675.	900.	93.00	188.00	38.00	.50	.02	34.00
HAX198	650.	900.	57.00	141.00	33.00	.40	.01	40.00
HAX199	625.	900.	51.00	126.00	19.00	.50	.01	.50
HAX200	600.	900.	47.00	175.00	54.00	1.30	.01	88.00
HAX201	575.	900.	35.00	101.00	27.00	.60	.01	36.00
HAX202	550.	900.	88.00	200.00	53.00	1.00	.01	80.00
HAX203	525.	900.	63.00	130.00	40.00	.50	.01	44.00
HAX204	500.	900.	86.00	98.00	39.00	.40	.01	30.00
HAX205	475.	900.	71.00	89.00	27.00	.30	.01	32.00
HAX206	450.	900.	103.00	133.00	50.00	1.00	.01	102.00
HAX207	425.	900.	51.00	80.00	147.00	.80	.06	234.00
HAX208	400.	900.	96.00	86.00	23.00	.60	.01	18.00
HAX209	375.	900.	67.00	73.00	41.00	.20	.01	28.00
HAX210	325.	900.	107.00	105.00	31.00	.10	.01	16.00
HAX211	300.	900.	90.00	205.00	49.00	.60	.13	26.00
HAX212	275.	900.	90.00	228.00	50.00	.60	.01	28.00
HAX213	250.	900.	46.00	88.00	20.00	.10	.02	4.00
HAX214	225.	900.	65.00	61.00	12.00	.20	.01	20.00
HAX215	200.	900.	125.00	146.00	27.00	1.30	.04	26.00
HAX216	175.	900.	43.00	101.00	36.00	.70	.03	38.00
HAX217	150.	900.	128.00	70.00	59.00	1.10	.04	104.00
HAX218	125.	900.	181.00	180.00	56.00	1.40	.03	186.00
HAX219	100.	900.	62.00	280.00	163.00	1.40	.02	46.00

LIST DATA FILE: PAI GEOCHEM FILE: HANDEL GRID V-191

'P	X (M)	Y (M)	CU (PPM)	ZN (PPM)	PB(PPM)	AG(PPM)	AU(PPM)	AS(PPM)
HAX220	75.	900.	102.00	168.00	50.00	1.00	.03	128.00
HAX221	50.	900.	147.00	202.00	63.00	1.30	.05	168.00
HAX222	25.	900.	31.00	85.00	30.00	1.20	.04	24.00
HAX223	0.	900.	41.00	37.00	40.00	1.20	.02	26.00
HAX224	25.	1100.	69.00	80.00	49.00	.80	.03	100.00
HAX225	50.	1100.	94.00	177.00	32.00	.30	.01	60.00
HAX226	75.	1100.	49.00	92.00	41.00	.80	.01	20.00
HAX227	100.	1100.	71.00	150.00	34.00	.10	.03	14.00
HAX228	125.	1100.	58.00	130.00	61.00	.10	.07	78.00
HAX229	150.	1100.	196.00	400.00	51.00	.90	.05	280.00
HAX230	175.	1100.	122.00	216.00	35.00	.90	.03	160.00
HAX231	200.	1100.	141.00	480.00	50.00	1.80	.13	64.00
HAX232	225.	1100.	70.00	131.00	37.00	.30	.04	26.00
HAX233	250.	1100.	66.00	82.00	43.00	.50	.06	20.00
HAX234	275.	1100.	80.00	158.00	80.00	1.00	.08	84.00
HAX235	300.	1100.	34.00	78.00	54.00	.30	.03	38.00
HAX236	325.	1100.	86.00	119.00	46.00	.50	.04	46.00
HAX237	350.	1100.	89.00	158.00	48.00	.60	.05	52.00
HAX238	375.	1100.	75.00	138.00	101.00	.60	.04	114.00
HAX239	400.	1100.	182.00	167.00	71.00	1.30	.05	114.00
HAX240	425.	1100.	58.00	130.00	98.00	.60	.04	112.00
HAX241	450.	1100.	68.00	200.00	139.00	1.40	.15	700.00
HAX242	475.	1100.	48.00	73.00	50.00	.60	.09	100.00
HAX243	500.	1100.	42.00	112.00	52.00	.30	.02	36.00
HAX244	525.	1100.	53.00	83.00	70.00	.50	.04	44.00
HAX245	550.	1100.	59.00	93.00	36.00	.30	.03	34.00
HAX246	575.	1100.	69.00	101.00	56.00	.60	.01	60.00
HAX247	600.	1100.	30.00	64.00	25.00	.30	.06	36.00
HAX248	600.	700.	73.00	110.00	13.00	.20	.06	24.00
HAX249	575.	700.	61.00	159.00	26.00	.30	.05	14.00
HAX250	550.	700.	51.00	107.00	12.00	.20	.06	14.00
HAX251	525.	700.	68.00	117.00	19.00	.20	.01	12.00
X252	500.	700.	39.00	95.00	17.00	.30	.01	6.00
(500	0.	800.	63.00	61.00	13.00	.40	.28	24.00
HAX501	25.	800.	31.00	97.00	49.00	.50	.09	116.00
HAX502	50.	800.	33.00	61.00	23.00	.90	.05	46.00
HAX503	75.	800.	27.00	106.00	18.00	1.60	.04	36.00
HAX504	100.	800.	25.00	80.00	26.00	2.30	.04	46.00
HAX505	125.	800.	29.00	51.00	27.00	2.10	.05	40.00
HAX506	150.	800.	30.00	133.00	33.00	2.30	.05	40.00
HAX507	175.	800.	88.00	204.00	80.00	1.70	.03	114.00
HAX508	200.	800.	156.00	140.00	61.00	1.70	.04	260.00
HAX509	225.	800.	222.00	1000.00	135.00	2.20	.04	1500.00
HAX510	250.	800.	88.00	132.00	31.00	1.10	.04	200.00
HAX511	275.	800.	79.00	162.00	18.00	.40	.05	40.00
HAX512	300.	800.	54.00	123.00	10.00	.20	.04	40.00
HAX513	350.	800.	41.00	90.00	10.00	.20	.03	22.00
HAX514	375.	800.	160.00	151.00	5.00	.40	.05	20.00
HAX515	400.	800.	99.00	147.00	11.00	.20	.04	20.00
HAX516	425.	800.	117.00	187.00	25.00	.30	.05	30.00
HAX517	450.	800.	62.00	140.00	8.00	.10	.02	10.00
HAX518	475.	800.	44.00	105.00	12.00	.10	.02	.50
HAX519	500.	800.	65.00	108.00	7.00	.30	.03	46.00
HAX520	525.	800.	44.00	109.00	8.00	.10	.05	12.00
HAX521	550.	800.	36.00	88.00	14.00	.20	.05	22.00
HAX522	575.	800.	65.00	114.00	7.00	.40	.06	38.00
HAX523	600.	800.	42.00	110.00	14.00	.20	.05	14.00
HAX524	625.	800.	110.00	112.00	18.00	2.40	.09	30.00
HAX525	650.	800.	135.00	140.00	10.00	.20	.06	20.00
HAX526	675.	800.	107.00	143.00	14.00	.40	.07	40.00

TEST DATA FILE: PAI GEOCHEM FILE: HANDEL GRID V-191

SAMP	X (M)	Y (M)	CU(PPM)	ZN (PPM)	PB (PPM)	AG(PPM)	AU(PPM)	AS(PPM)
HAX527	700.	800.	42.00	218.00	58.00	.30	.01	160.00
HAX528	725.	800.	53.00	224.00	62.00	.80	.03	214.00
HAX529	750.	800.	69.00	160.00	40.00	.90	.04	36.00
HAX530	775.	800.	75.00	153.00	25.00	.50	.01	100.00
HAX531	800.	800.	84.00	125.00	18.00	.70	.01	20.00
HAX532	825.	800.	73.00	106.00	18.00	.40	.01	.50
HAX533	850.	800.	67.00	125.00	21.00	.30	.01	28.00
HAX534	875.	800.	48.00	124.00	25.00	.10	.01	20.00
HAX535	900.	800.	63.00	141.00	23.00	.70	.01	40.00
HAX536	925.	800.	129.00	187.00	47.00	.70	.01	42.00
HAX540	975.	800.	128.00	148.00	16.00	.60	.01	12.00
HAX541	1000.	800.	93.00	158.00	47.00	1.70	.01	22.00
HAX542	1025.	800.	106.00	240.00	97.00	2.70	.01	184.00
HAX543	1050.	800.	104.00	152.00	51.00	2.10	.01	36.00
HAX544	1075.	800.	112.00	90.00	11.00	.30	.01	8.00
HAX545	1100.	800.	74.00	151.00	12.00	.60	.01	22.00
HAX546	1125.	800.	61.00	107.00	20.00	.70	.01	26.00
HAX547	1150.	800.	30.00	139.00	23.00	.40	.02	34.00
HAX548	1175.	800.	38.00	108.00	18.00	.70	.01	28.00
HAX549	1200.	800.	51.00	131.00	20.00	.60	.01	60.00
HAX550	1225.	800.	43.00	109.00	30.00	1.20	.01	42.00
HAX551	1250.	800.	66.00	140.00	41.00	1.00	.01	66.00
HAX552	1275.	800.	62.00	121.00	31.00	1.00	.01	54.00
HAX553	1300.	800.	37.00	116.00	32.00	.60	.01	48.00
HAX554	1325.	800.	61.00	87.00	16.00	.30	.01	22.00
HAX555	1350.	800.	16.00	111.00	22.00	.30	.01	18.00
HAX556	1375.	800.	31.00	92.00	23.00	.60	.01	18.00
HAX557	1400.	800.	62.00	129.00	35.00	.30	.01	300.00
HAX558	1425.	800.	118.00	195.00	52.00	1.50	.01	400.00
HAX559	1450.	800.	75.00	63.00	27.00	.60	.01	76.00
X560	1475.	800.	65.00	103.00	31.00	.60	.01	84.00
X561	1500.	800.	105.00	129.00	35.00	.50	.01	124.00
X562	1525.	800.	257.00	217.00	48.00	1.10	.13	200.00
HAX563	1550.	800.	79.00	128.00	42.00	1.00	.01	54.00
HAX564	1575.	800.	93.00	217.00	63.00	2.10	.01	70.00
HAX565	1600.	800.	51.00	111.00	25.00	.80	.01	26.00
HAX566	1625.	800.	66.00	107.00	18.00	.40	.04	22.00
HAX567	1650.	800.	62.00	102.00	13.00	.40	.03	20.00
HAX568	1675.	800.	58.00	110.00	15.00	.40	.02	38.00
HAX569	1700.	800.	52.00	120.00	19.00	.40	.02	46.00
HAX570	1725.	800.	72.00	106.00	13.00	.50	.01	72.00
HAX571	1750.	800.	69.00	122.00	20.00	.60	.02	102.00
HAX572	1775.	800.	51.00	116.00	20.00	1.00	.05	90.00
HAX573	1800.	800.	72.00	135.00	22.00	.70	.01	82.00
HAX574	1625.	1000.	117.00	135.00	9.00	.70	.04	36.00
HAX575	1650.	1000.	77.00	107.00	13.00	.40	.03	24.00
HAX576	1675.	1000.	130.00	116.00	11.00	.90	.03	20.00
HAX577	1700.	1000.	109.00	103.00	11.00	.50	.04	28.00
HAX578	1725.	1000.	119.00	104.00	12.00	.80	.05	74.00
HAX579	1750.	1000.	106.00	116.00	13.00	.80	.06	38.00
HAX580	1775.	1000.	147.00	98.00	15.00	.60	.03	38.00
HAX581	1800.	1000.	166.00	106.00	16.00	.60	.01	36.00
HAX582	1800.	900.	107.00	113.00	18.00	.70	.01	72.00
HAX583	1775.	900.	96.00	90.00	11.00	.60	.01	40.00
HAX584	1750.	900.	107.00	107.00	12.00	.50	.03	56.00
HAX585	1725.	900.	129.00	150.00	31.00	1.10	.04	100.00
HAX586	1700.	900.	87.00	150.00	16.00	.70	.03	116.00
HAX587	1675.	900.	61.00	108.00	8.00	.30	.04	40.00
HAX588	1650.	900.	67.00	116.00	17.00	.50	.03	32.00
HAX589	1625.	900.	111.00	150.00	42.00	.60	.03	180.00

LIST DATA FILE: PAI GEOCHEM FILE: HANDEL GRID V-191

SAMP	X (M)	Y (M)	CU (PPM)	ZN (PPM)	PB(PPM)	AG(PPM)	AU(PPM)	AS (PPM)
HAX590	1000.	2000.	20.00	160.00	8.00	.10	.03	20.00
HAX591	1025.	2000.	40.00	84.00	6.00	.20	.03	18.00
HAX592	1050.	2000.	114.00	108.00	10.00	.40	.02	32.00
HAX593	1075.	2000.	71.00	123.00	9.00	.20	.01	32.00
HAX594	1100.	2000.	116.00	138.00	8.00	.70	.01	26.00
HAX595	1125.	2000.	81.00	105.00	8.00	.10	.01	18.00
HAX596	1150.	2000.	57.00	152.00	10.00	.10	.01	26.00
HAX597	1175.	2000.	66.00	91.00	11.00	.20	.03	26.00
HAX598	1200.	2000.	96.00	150.00	12.00	.30	.03	26.00
HAX599	1225.	2000.	82.00	150.00	10.00	.30	.03	32.00
HAX600	1250.	2000.	207.00	146.00	21.00	.40	.03	20.00
HAX601	1275.	2000.	306.00	126.00	42.00	.30	.03	20.00
HAX602	1275.	1900.	83.00	99.00	12.00	.50	.01	14.00
HAX603	1300.	1900.	131.00	129.00	12.00	.50	.01	28.00
HAX604	1325.	1900.	76.00	127.00	13.00	.40	.02	8.00
HAX605	1350.	1900.	69.00	175.00	19.00	.40	.01	20.00
HAX606	1375.	1900.	180.00	146.00	18.00	.30	.16	36.00

D OF LISTING - 257 RECORDS PRINTED

APPENDIX 3

Soil Sample

Description and Code

LIST DATA FILE: HANDEL GRID: SOIL SAMPLE DESCRIPTION DATE: 83-09-27 PAGE 1

SAMP	TERR	ENV1	DRAN	PRNT	HRZN	CLAY	SILT	SAND	GRAV	ORG	X (m)	Y (m)	DPTH (cm)
HAX100	RG		FR	CL	B1	1	6	3			.10	1000.00	20.00
HAX101	RG		FR	CL	B1	1	2	7			25.00	1000.00	20.00
HAX102	SS		FR	CL	B1		3	6	1		50.00	1000.00	20.00
HAX103	RG		FR	CL	B1		6	4			75.00	1000.00	20.00
HAX104	SS		FR	CL	B1		9	1			100.00	1000.00	20.00
HAX105	SS		FR	CL	B1		8	1	1		125.00	1000.00	20.00
HAX106	SS	TA	FR	CL	B1		4	2	4		150.00	1000.00	20.00
HAX107	RG		FR	CL	B1		7	2	1		175.00	1000.00	20.00
HAX108	SS		FR	CL	B1		5		5		200.00	1000.00	20.00
HAX109	SS		FR	CL	B1		6	2	2		225.00	1000.00	20.00
HAX110	SS		FR	CL	B1		5	1		4	250.00	1000.00	20.00
HAX111	SS		FR	CL	B1		8	1	1	1	275.00	1000.00	20.00
HAX112	SS		FR	CL	B1		6		1	3	300.00	1000.00	20.00
HAX113	SS		FR	CL	B1		6		1	3	325.00	1000.00	20.00
HAX114	SS		FR	CL	B1		6		2	2	350.00	1000.00	20.00
HAX115	SS		FR	CL	B1		6		2	2	375.00	1000.00	20.00
HAX116	SS		FR	CL	B1		6	2	2		400.00	1000.00	20.00
HAX117	SS	TA	FR	CL	B1		6	2	2		425.00	1000.00	20.00
HAX118	SS		FR	CL	B1		2	1	6	1	450.00	1000.00	20.00
HAX119	SS		FR	CL	B1		4		5	1	475.00	1000.00	20.00
HAX120	RG		FR	CL	BC		6	1	2	1	500.00	1000.00	20.00
HAX121	RG		FR	CL	BC		6	2	2		525.00	1000.00	20.00
HAX122	SS		FR	CL	B1			7	2	1	550.00	1000.00	20.00
HAX123	SS		FR	CL	B1		8	1		1	575.00	1000.00	20.00
HAX124	SS		FR	CL	B1		8			2	600.00	1000.00	20.00
HAX125	SS		FR	CL	BC		3		5	2	625.00	1000.00	10.00
HAX126	SS		FR	CL	B1		7	1		2	650.00	1000.00	20.00
HAX127	SS		FR	CL	BC			6	3	1	675.00	1000.00	20.00
HAX128	SS		FR	CL	B1		3	6	2		700.00	1000.00	20.00
HAX129	SS		FR	CL	B1		6		2	2	725.00	1000.00	20.00
HAX130	SS		FR	CL	B1		6		2	2	750.00	1000.00	20.00
HAX131	SS		FR	CL	B1		6		2	2	775.00	1000.00	20.00
HAX132	SS		FR	CL	B1		7		2	1	800.00	1000.00	20.00
HAX133	SS		FR	CL	B1		5		4	1	825.00	1000.00	20.00
HAX134	SS		FR	CL	BC		4		4	2	850.00	1000.00	5.00
HAX135	SS		FR	CL	BC		4		4	2	875.00	1000.00	5.00
HAX136	SS		FR	CL	BC		5		3	2	900.00	1000.00	5.00
HAX137	SS		FR	CL	BC		6		3	1	925.00	1000.00	5.00
HAX138	SS		FR	CL	B1		5	2	2	1	950.00	1000.00	15.00
HAX139	SS		FR	CL	B1		6		3	1	975.00	1000.00	15.00
HAX140	SS		FR	CL	B1		7		2	1	1000.00	1000.00	15.00
HAX141	SS		FR	CL	B1		7		2	1	1025.00	1000.00	15.00
HAX142	SS		FR	CL	BC		6		2	2	1050.00	1000.00	5.00
HAX143	SS		FR	CL	BC	1	5		3	1	1075.00	1000.00	5.00
HAX144	SS		FR	CL	B1		4		3	3	1100.00	1000.00	15.00
HAX145	SS		FR	CL	BC		5		4	1	1125.00	1000.00	5.00
HAX146	SS		FR	CL	BC		6		2	2	1150.00	1000.00	5.00
HAX147	SS		FR	CL	BC		5		3	2	1175.00	1000.00	5.00
HAX148	SS		FR	CL	BC		6		2	2	1200.00	1000.00	5.00
HAX149	SS		FR	CL	BC		7		3	1	1225.00	1000.00	5.00
HAX150	SS		FR	CL	BC		4		4	2	1250.00	1000.00	15.00
HAX151	SS		FR	CL	B1		6		2	2	1275.00	1000.00	15.00
HAX152	SS		FR	CL	B1		6		2	2	1300.00	1000.00	15.00
HAX153	SS		FR	CL	B1	1	6		2	1	1325.00	1000.00	15.00
HAX154	SS		FR	CL	B1		6		3	1	1350.00	1000.00	15.00
HAX155	SS		FR	CL	BC		4		4	2	1375.00	1000.00	15.00
HAX156	SS		FR	CL	BC		4		5	1	1400.00	1000.00	15.00
HAX157	SS		FR	CL	BC		4		5	1	1425.00	1000.00	15.00
HAX158	SS		FR	CL	BC		7		2	1	1450.00	1000.00	15.00
HAX159	SS		FR	CL	BC		6		2	2	1475.00	1000.00	15.00

SAMP	TERR	ENV1	DRAN	PRNT	HRZN	CLAY	SILT	SAND	GRAV	ORG	X (m)	Y (m)	DPTH (cm)
HAX160	SS		FR	CL	B1		7	1	1	1	1500.00	1000.00	15.00
HAX161	SS		FR	CL	BC		5		2	3	1525.00	1000.00	15.00
HAX162	SS	ST	FR	CL	BC		5	1	3	1	1550.00	1000.00	15.00
HAX163	SS		FR	CL	BC		5		3	2	1575.00	1000.00	15.00
HAX164	SS		FR	CL	BC		4		4	2	1600.00	1000.00	15.00
HAX574	SS		FR	CL	B1		6		3	1	1625.00	1000.00	20.00
HAX575	SS		FR	CL	B1		7		2	1	1650.00	1000.00	20.00
HAX576	SS		FR	CL	B1		7		2	1	1675.00	1000.00	20.00
HAX577	SS		FR	CL	B1		6		3	1	1700.00	1000.00	20.00
HAX578	SS		FR	CL	B1		7		2	1	1725.00	1000.00	20.00
HAX579	SS		FR	CL	B1			7	3		1750.00	1000.00	20.00
HAX580	SS		FR	CL	B1		7	2		1	1775.00	1000.00	20.00
HAX581	SS		FR	CL	B1		2		7	1	1800.00	1000.00	20.00
HAX582	SS	TL	FR	CL	B1		7		2	1	1800.00	900.00	20.00
HAX583	SS		FR	CL	B1		7		2	1	1775.00	900.00	20.00
HAX584	SS		FR	CL	B1		7	1	1	1	1750.00	900.00	20.00
HAX585	SS		FR	CL	B1		7		2	1	1725.00	900.00	20.00
HAX586	SS		FR	CL	B1		7		2	1	1700.00	900.00	20.00
HAX587	SS		FR	CL	B1		7		2	1	1675.00	900.00	20.00
HAX588	SS		FR	CL	B1		7		2	1	1650.00	900.00	20.00
HAX589	SS		FR	CL	B1		7		2	1	1625.00	900.00	20.00
HAX165	SS		FR	CL	BC		6		3	1	1600.00	900.00	15.00
HAX166	SS		FR	CL	BC		6		3	1	1575.00	900.00	15.00
HAX167	SS		FR	CL	BC		4		4	2	1525.00	900.00	15.00
HAX168	SS		FR	CL	BC		5		2	3	1500.00	900.00	15.00
HAX169	SS		FR	CL	BC		4		4	2	1450.00	900.00	15.00
HAX170	SS		FR	CL	BC		6		2	2	1425.00	900.00	15.00
HAX171	SS		FR	CL	BC		5		3	2	1400.00	900.00	15.00
HAX172	SS		FR	CL	BC		6		2	2	1375.00	900.00	15.00
HAX173	SS		FR	CL	BC		6		2	2	1350.00	900.00	15.00
HAX174	SS	ST	FR	CL	BC	1	6		3		1325.00	900.00	15.00
HAX175	SS		FR	CL	BC		5		3	2	1300.00	900.00	15.00
HAX176	SS		FR	CL	BC		6		2	2	1275.00	900.00	15.00
HAX177	SS		FR	CL	BC		7		1	2	1250.00	900.00	15.00
HAX178	SS		FR	CL	B1		6		2	2	1225.00	900.00	15.00
HAX179	SS		FR	CL	BC		5		3	2	1200.00	900.00	15.00
HAX180	SS		FR	CL	BC		5		3	2	1175.00	900.00	15.00
HAX181	SS		FR	CL	BC		5		3	2	1150.00	900.00	15.00
HAX182	SS		FR	CL	BC		6		2	2	1125.00	900.00	15.00
HAX183	SS		FR	CL	BC		5		4	2	1100.00	900.00	15.00
HAX184	SS		FR	CL	BC		5		3	2	1075.00	900.00	15.00
HAX185	SS		FR	CL	BC		6		2	2	1050.00	900.00	15.00
HAX186	SS		FR	CL	BC		5		3	2	1025.00	900.00	15.00
HAX187	SS		FR	CL	BC		7		1	2	1000.00	900.00	15.00
HAX188	SS		FR	CL	BC		5		3	2	975.00	900.00	15.00
HAX189	SS		FR	CL	BC		4		6	1	950.00	900.00	15.00
HAX190	SS	BR	FR	BR	XC		4	4	1	1	900.00	900.00	15.00
HAX191	SS	BR	FR	BR	XC		3	4	1	2	875.00	900.00	20.00
HAX192	SS	BO	FR	TL	B1		3	4	1	2	800.00	900.00	20.00
HAX193	SS		FR	TL	B1		3	4	1	2	775.00	900.00	20.00
HAX194	SS	BO	FR	TL	B1	1	3	4	1	1	750.00	900.00	25.00
HAX195	SS	BR	FR	BR	XC		3	4	1	2	725.00	900.00	20.00
HAX196	SS		FR	CL	B1		3	4	1	2	700.00	900.00	20.00
HAX197	SS		FR	CL	B1	1		6	2	1	675.00	900.00	20.00
HAX198	SS	BR	FR	BR	XC	1	4	4	1		650.00	900.00	20.00
HAX199	SS		FR	CL	B1		2	3	4	1	625.00	900.00	20.00
HAX200	SS		FR	CL	B1	1	7		1	1	600.00	900.00	20.00
HAX201	SS		FR	CL	B1	1	6		2	1	575.00	900.00	20.00
HAX202	SS		FR	CL	B1	1	4	4	1	1	550.00	900.00	20.00
HAX203	SS		FR	CL	B1	1		2	6	1	525.00	900.00	20.00

SAMP	TERR	ENV1	DRAN	PRNT	HRZN	CLAY	SILT	SAND	GRAV	ORG	X(m)	Y(m)	DPTH (cm)
HAX204	SS		FR	CL	B1		3	3	5	1	500.00	900.00	20.00
HAX205	SS	BR	FR	BR	BC	=	3	3	3	1	475.00	900.00	10.00
HAX206	SS		FR	CL	B1		7		2	1	450.00	900.00	20.00
HAX207	BS	LD	IM	CL	B1		8			2	425.00	900.00	20.00
HAX208	RG	LS	FR	CL	B1		2	4	3	1	400.00	900.00	15.00
HAX209	RG	LS	FR	BR	XC		1	1	7	1	375.00	900.00	20.00
HAX210	SS		FR	BR	XC		2	2	5	1	325.00	900.00	10.00
HAX211	SS		FR	CL	XC		1	1	7	1	300.00	900.00	15.00
HAX212	SS		FR	CL	BC	1	1	3	4	1	275.00	900.00	15.00
HAX213	SS		FR	CL	BC	1	1	3	4	1	250.00	900.00	15.00
HAX214	SS		FR	CL	B1			9		1	225.00	900.00	20.00
HAX215	SS	BR	FR	TI	BC		2	2	5	1	200.00	900.00	20.00
HAX216	SS		FR	CL	BC		3	4	2	1	175.00	900.00	20.00
HAX217	SS	DG	FR	CL	BC		2	3	5		150.00	900.00	10.00
HAX218	SS	DG	FR	CL	XC		2	3	5	1	125.00	900.00	10.00
HAX219	SS		FR	CL	BC	=	4	2	2	1	100.00	900.00	15.00
HAX220	SS		FR	CL	XC		2		7	1	75.00	900.00	15.00
HAX221	RG	LS	FR	CL	XC		2		8		50.00	900.00	10.00
HAX222	BS		FR	CL	B1		6		3	1	25.00	900.00	20.00
HAX223	RG	LS	FR	CL	B1	=	7		1	1	.10	900.00	25.00
HAX500	SS		FR	TL	BC		2	3	3	2	.10	800.00	30.00
HAX501	SS		FR	TL	BC	=	4	3	2	=	25.00	800.00	30.00
HAX502	SS		FR	TL	BC	1	3	1	1	4	50.00	800.00	30.00
HAX503	SS		FR	CL	BC	1	4	4	=		75.00	800.00	30.00
HAX504	SS		FR	CL	BC	=	6	1	1	1	100.00	800.00	30.00
HAX505	SS		FR	CL	BC		5	3		2	125.00	800.00	25.00
HAX506	SS	ST	FR	CL	BC	1	5	3		=	150.00	800.00	20.00
HAX507	SS		FR	CL	BC	=	5	3		=	175.00	800.00	25.00
HAX508	SS	ST	FR	TL	BC		5	3	2		200.00	800.00	10.00
HAX509	SS	ST	FR	TL	BC		3	3	4		225.00	800.00	10.00
HAX510	SS		FR	TL	BC	1	6	3	=		250.00	800.00	20.00
HAX511	SS		FR	CL	BC		2	2	4	2	275.00	800.00	25.00
HAX512	SS		FR	TL	BC		2	4	3	1	300.00	800.00	25.00
HAX513	SS		FR	TL	BC	=	2	2	5	1	350.00	800.00	25.00
HAX514	SS		FR	TL	BC	2	1	3	4		375.00	800.00	10.00
HAX515	SS	BO	FR	TL	BC		3		5	2	400.00	800.00	20.00
HAX516	SS	BR	FR	TL	XC		3		5	2	425.00	800.00	10.00
HAX517	SS		IM	BR	XC		6	3		1	450.00	800.00	25.00
HAX518	SS		FR	BR	XC		6	1	2	1	475.00	800.00	15.00
HAX519	SS		FR	BR	XC	=	7	2		=	500.00	800.00	30.00
HAX520	SS		FR	BR	BC		6	3	=	=	525.00	800.00	20.00
HAX521	SS		FR	TL	BC		5	2	=	2	550.00	800.00	30.00
HAX522	SS		FR	TL	BC		6	3	1		575.00	800.00	30.00
HAX523	SS		FR	TL	BC		4	1	3	2	600.00	800.00	20.00
HAX524	SS		FR	TL	BC	1	5	2	1	1	625.00	800.00	30.00
HAX525	SS		FR	TL	BC	1	2	3	3	1	650.00	800.00	20.00
HAX526	SS		FR	TL	BC	1	4	2	2	1	675.00	800.00	20.00
HAX527	SS		FR	TL	BC	=	2	2	4	1	700.00	800.00	30.00
HAX528	SS		FR	TL	BC	=	3	2	3	1	725.00	800.00	30.00
HAX529	SS		FR	TL	BC	=	5	4		1	750.00	800.00	30.00
HAX530	SS		FR	TL	BC	1	4	3	1	1	775.00	800.00	20.00
HAX531	SS	br	FR	TL	BC		4	3	3	=	800.00	800.00	20.00
HAX532	SS	BO	FR	TL	BC		5	3	1	=	825.00	800.00	20.00
HAX533	SS	BO	FR	TL	BC		3	5	2		850.00	800.00	20.00
HAX534	SS	BO	FR	TL	BC		1	1	6	2	875.00	800.00	20.00
HAX535	SS	BO	FR	TL	BC	=	2	=	4	3	900.00	800.00	30.00
HAX536	SS	BO	FR	TL	BC		2	2	6		925.00	800.00	15.00
HAX540	SS		FR	TI	B1		8	1		1	975.00	800.00	20.00
HAX541	SS		FR	CL	B1		8	1		1	1000.00	800.00	20.00
HAX542	SS		FR	CL	B1		8	1		1	1025.00	800.00	20.00

SAMP	TERR	ENV1	DRAN	PRNT	HRZN	CLAY	SILT	SAND	GRAV	ORG	X(m)	Y(m)	DPTH(cm)
HAX543	SS		FR	CL	B1		8	1		1	1050.00	800.00	20.00
HAX544	SS		FR	CL	B1		7	1		1	1075.00	800.00	20.00
HAX545	SS		FR	CL	B1	1	7	1		1	1100.00	800.00	20.00
HAX546	SS		FR	CL	B1	1	4	1	3	1	1125.00	800.00	20.00
HAX547	SS		FR	CL	B1		7	1		2	1150.00	800.00	20.00
HAX548	SS		FR	CL	B1		7	1		2	1175.00	800.00	20.00
HAX549	SS		FR	CL	B1		7	1		2	1200.00	800.00	20.00
HAX550	SS		FR	CL	B1		7	1		2	1225.00	800.00	20.00
HAX551	SS		FR	CL	B1		7	1	1	1	1250.00	800.00	20.00
HAX552	SS		FR	CL	B1		7	1		2	1275.00	800.00	20.00
HAX553	SS		FR	CL	B1		7	1	2	1	1300.00	800.00	20.00
HAX554	SS		FR	CL	B1		7		3	1	1325.00	800.00	20.00
HAX555	SS		FR	CL	B1		8			2	1350.00	800.00	20.00
HAX556	SS		FR	CL	B1		8			2	1375.00	800.00	20.00
HAX557	SS		FR	CL	B1		8		2	2	1400.00	800.00	20.00
HAX558	SS	BO	FR	CL	B1		6	2	2		1425.00	800.00	20.00
HAX559	SS		FR	CL	B1		8		1	1	1450.00	800.00	20.00
HAX560	SS		FR	CL	B1		8		1	1	1475.00	800.00	20.00
HAX561	SS	BO	FR	CL	B1		8		1	1	1500.00	800.00	20.00
HAX562	SS		FR	CL	B1		8			2	1525.00	800.00	20.00
HAX563	SS		FR	CL	B1		7		1	2	1550.00	800.00	20.00
HAX564	SS		FR	CL	B1		7		1	2	1575.00	800.00	20.00
HAX565	SS		FR	CL	B1		8		1	1	1600.00	800.00	20.00
HAX566	SS		FR	CL	B1		6		2	2	1625.00	800.00	20.00
HAX567	SS		FR	CL	B1		8	1		2	1650.00	800.00	20.00
HAX568	SS		FR	CL	B1		8	1		1	1675.00	800.00	20.00
HAX569	SS		FR	CL	B1		8	1		1	1700.00	800.00	20.00
HAX570	SS		FR	CL	B1		8		1	2	1725.00	800.00	20.00
HAX571	SS		FR	CL	B1		8		1	1	1750.00	800.00	20.00
HAX572	SS		FR	CL	B1		8			2	1775.00	800.00	20.00
HAX573	SS		FR	CL	B1		7			3	1800.00	800.00	20.00
HAX224	RG		FR	TI	B1		3	3	3	1	25.00	1100.00	20.00
HAX225	RG	LD	FR	TI	BC			4	6		50.00	1100.00	10.00
HAX226	RG	LD	FR	TI	BC	1	4	4		1	75.00	1100.00	10.00
HAX227	RG	DG	FR	BR	XC			8	2		100.00	1100.00	15.00
HAX228	SS	DG	FR	TL	XC		3	4	2	1	125.00	1100.00	10.00
HAX229	GV	DG	FR	TI	XC		4	4	2		150.00	1100.00	10.00
HAX230	RG	DG	FR	TI	XC		3	4	3		175.00	1100.00	10.00
HAX231	SS		FR	CL	BC		3	3	3	1	200.00	1100.00	15.00
HAX232	SS	DG	FR	BR	XC			7	3		225.00	1100.00	10.00
HAX233	SS		FR	CL	BC			6	2	2	250.00	1100.00	15.00
HAX234	SS	DG	FR	CL	BC		4	3	2	1	275.00	1100.00	15.00
HAX235	SS		FR	CL	BC		3	3	2	2	300.00	1100.00	15.00
HAX236	SS	DG	FR	TL	XC		3	3	4		325.00	1100.00	15.00
HAX237	SS	ST	FR	TL	XC		2	6	2		350.00	1100.00	15.00
HAX238	BS	LD	FR	TL	XC		2	6	2		375.00	1100.00	15.00
HAX239	SS		FR	TL	XC			3	6	1	400.00	1100.00	15.00
HAX240	SS	DG	FR	TL	XC		1	2	6	1	425.00	1100.00	25.00
HAX241	SS		FR	CL	B1		3	3	2	2	450.00	1100.00	15.00
HAX242	SS		FR	CL	B1		4	4	1	1	475.00	1100.00	20.00
HAX243	SS		FR	CL	B1		3	4	2	1	500.00	1100.00	15.00
HAX244	RG	LS	FR	CL	B1	1	5	1	2	1	525.00	1100.00	15.00
HAX245	RG	ST	FR	CL	B1			8	1	1	550.00	1100.00	15.00
HAX246	SS		FR	TL	XC			5	4	1	575.00	1100.00	10.00
HAX247	SS		FR	TL	XC			5	4	1	600.00	1100.00	10.00
HAX 24	SS		FR	CL	BC		7		1	2	8600.00	700.00	15.00
HAX 24	SS	BO	FR	TL	BC		7		1	2	9575.00	700.00	15.00
HAX 25	SS	BO	FR	TL	XC		6			4	550.00	700.00	15.00
HAX 25	SS	BO	FR	TL	XC		6			4	1525.00	700.00	15.00
HAX 25	SS	BO	FR	TL	XC		6			4	2500.00	700.00	15.00

SAMP	TERR	ENV1	DRAN	PRNT	HRZN	CLAY	SILT	SAND	GRAV	ORG	x(m)	y(m)	DPTH (cm)
HAX590	TP		FR	TI	BC		2	6	2		1000.00	2000.00	10.00
HAX591	TP		FR	TI	BC			8		2	1025.00	2000.00	10.00
HAX592	TP		FR	TI	BC			5	5		1050.00	2000.00	10.00
HAX593	TP		FR	TI	BC			X			1075.00	2000.00	10.00
HAX594	TP		FR	TI	BC			X			1100.00	2000.00	10.00
HAX595	TP		FR	TI	BC			2	3		1125.00	2000.00	10.00
HAX596	TP		FR	TI	BC		2	4	3	1	1150.00	2000.00	10.00
HAX597	TP		FR	TI	BC			X			1175.00	2000.00	10.00
HAX598	TP		FR	TI	BC			4	6		1200.00	2000.00	10.00
HAX599	TP		FR	TI	BC			3	7		1225.00	2000.00	10.00
HAX600	TP		FR	TI	BC		2	6	2		1250.00	2000.00	10.00
HAX601	TP		FR	TI	BC			5	5		1275.00	2000.00	10.00
HAX602	TP		FR	TI	BC			5	4	1	1275.00	1900.00	10.00
HAX603	TP		FR	TI	BC			6	4	1	1300.00	1900.00	10.00
HAX604	TP		FR	TI	BC			6	4	1	1325.00	1900.00	10.00
HAX605	TP		FR	TI	BC			8	2	1	1350.00	1900.00	10.00
HAX606	TP		FR	TI	BC			7	3	1	1375.00	1900.00	10.00

END OF LISTING - 257 RECORDS PRINTED

Fields 23-24, 25-26 and 27-28 — SECONDARY ENVIRONMENT AND FACTORS AFFECTING CONDITIONS (ENV1)

Three fields of two alpha codes to describe features of the local environment that may influence the geochemical dispersion of metals.

Feature	Code
Swamp, bog or fen	SW
Groundwater Seepage Area	SP
Base of outcrop	BO
Gossan	GO
Caliche	GA
Permafrost	PF
Cemented Soil	CS
Disturbed ground	DG
Road Bed	RB
Burnt Over	BT
Agricultural Land	AG
Prospect trenches	MN

If more detail is required an alpha code that is project defined may be devised.

Fields 29-30 — DRAINAGE STATUS

Two alpha code to describe the manner in which water leaves the sample site.

Status	Description	Code
Excessive -	all water moves rapidly down - through soil, site seldom saturated	EX
Free -	normal soil with dominent downward water - movement, site occasionally waterlogged	FR
Imperfect -	Site seasonally or perennially water-logged but with unobstructed downward or lateral movement of water.	IM
Impeeded -	Water seasonally or perennially ponded in soil, leaving site by flow across the surface	IP
Irrigated -	Water supplied to site by artificial means	IR

Field 31-32 PARENT MATERIAL (PRNT)

Two alpha code describing generalized generic parentage of the soil material

Material	Description	Code
Bedrock	Intensely weathered rock	BR
Talus	Soils developed on talus or broken rock, usually on slopes	TL
Colluvium	Soils developed on material of uncertain origin as a result of mass sidehill wasting	CL
Alluvium	Soils developed on recent fluvial deposits	AL
Glacial Till	Soils on basal till, drumlinised till plains and moraine deposit	TI
Fluvio Glacial Sediments	Outwash materials	FG
Lacustrine Deposits	Fine to coarse, usually stratified sediments deposited in old lakes e.g. varved clay	GL
Mine Waste	Spoil heaps and Tailings from old workings	MT

If more detail is required an alpha code that is project defined can be devised.

Field 33 PERCENT RESIDUAL

Estimated percentage of residual material at Sample site. Insert the appropriate G Scale value.

Fields 64-65 SOIL HORIZON SAMPLED (HRZN)

A two character code based on existing convention describing the material collected in the field.

Horizon Code	Description
A0	Partially decomposed organic debris with no mineral matter.
A1	Dark brown to black organic-rich horizon with some mineral matter.
A2	Loosely packed light grey leached horizon; may be prominently or faintly developed in mature soils or absent in immature soils.
B1	Brown to orange brown soil. Soil horizon characterized by accumulation of clay and less than 30% organic matter.
B2	Rusty brown soil horizon characterized by accumulation of iron oxides.
XC	Parent material derived by weathering and consists essentially of decomposed rock in situ.
AC	A lithosol consisting of a thin organic layer overlying rock fragments.
BC	Immature soils lacking distinct horizons; soil usually consists of partially developed B-horizon and C-horizon material.
XG	Gley soil - usually dark bluish grey, sticky clay-rich gleyed horizon directly beneath A1-horizon.
XP	Peat-organic accummulation in swamp, bog or hollow.

amount of clay
amount of silt
amount of sand
amount of gravel
amount of organic material

G-SCALE

SCALE VALUE	ASSIGNED VALUE	RANGE	DECODED 2-DIGIT FORM
X	100	100	H%
9	90	85 to 99	90
8	80	75 to <85	80
7	70	65 to <75	70
6	60	55 to <65	60
5	50	45 to <55	50
4	40	35 to <45	40
3	30	25 to <35	30
2	20	15 to <25	20
1	10	7 to <15	10
=	5	4 to < 7	5%
+	3	2 to < 4	3%
)	1	.5 to < 2	1%
*	.3	.2 to <.5	.3
(	.1	.05 to <.2	.1
-	.03	.02 to <.05	03
.	.01	Trace = <.02	01
0	0	Nil, Absent	00
/	.07	Present: Estimate impossible	07
?	0	Possibly Present	??

NOTE IN PARTICULAR

1 - that the X 1) (. are an order of magnitude apart
2 - that the + * - are also an order of magnitude apart
3 - that the +) * (- . are a multiple of 3 apart
4 - that the 8 4 2 1 = + are a multiple of 2 apart. Because of considerable separation between these scale values, the G-Scale is a powerful estimating tool --- it might be difficult to distinguish between say . 3 and .4 but with a little bit of practice it should not be too hard to distinguish between .3 and 3 times .3 = 1.

TABLE I

STANDARD EXTRACTION AND ANALYTICAL METHODS

Element	Units	WT(grams)	Extraction Procedure Attack Used	Time	Analytical Method	Detection Range
Mo	ppm	0.5	C $HClO_4/HNO_3$	4 hrs.	Atomic Absorption (A.A.)	1-1000
Cu	ppm	0.5	C $HClO_4/HNO_3$	4 hrs.	Atomic Absorption	2-4000
Zn	ppm	0.5	C $HClO_4/HNO_3$	4 hrs.	Atomic Absorption	2-3000
Pb	ppm	0.5	C $HClO_4/HNO_3$	4 hrs.	A.A. Background Corrected	2-3000
Ag	ppm	0.5	C HNO_3	2 hrs.	A.A. Solvent Extraction	0.02-4.00
Au	ppm	3.0	C HBr/Br	12 hrs.	A.S. Solvent Extraction	0.02-4.00
As	ppm	0.5	C $HClO_4/HNO_3$	4 hrs.	A.A. Background corrected	2-1000
Sb	ppm	0.5	C $HClO_4/HNO_3$	4 hrs.	A.A. Background corrected	2-1000
Hg	ppb	0.5	Dic HNO_3	2 hrs.	A.A. Cold vapor GEN	5-2000 ppb

TABLE 2

Handel Showing
Geochem file

FILE: HANDEL SHOWING GEOCHEM FILE DATE: 83-09-13

SAMP	PROJ	MO(PPM)	CU(PPM)	ZN(PPM)	AU(PPM)	AG(PPM)	PB(%)	AS(PPM)	HG(PPB)	SB(PPM)
64901	3108	2.00	99.00	245.00	.16	14.00	.01	184.00	21.00	7.00
64902	3108	.50	111.00	1000.00	1.78	48.00	.27	4800.00	116.00	71.00
64903	3108	4.00	107.00	272.00	.04	4.00	.01	6600.00	17.00	6.00
64904	3108	2.00	93.00	213.00	.11	4.00	.02	320.00	27.00	1.00
64906	3106	.50	80.00	2900.00	1.95	29.00	.93	26000.00	404.00	22.00
64907	3106	4.00	51.00	1500.00	1.93	26.00	.63	3600.00	159.00	18.00
64908	3106	4.00	188.00	610.00	.16	5.00	.04	64.00	31.00	1.00
64909	3106	2.00	193.00	1300.00	1.08	51.00	.64	3600.00	124.00	17.00
64910	3106	2.00	95.00	2300.00	11.40	120.00	3.82	13200.00	430.00	37.00
64911	3106	3.00	54.00	1630.00	2.20	31.00	.86	6000.00	277.00	12.00
64912	3106	6.00	62.00	270.00	.88	9.00	.18	4000.00	131.00	7.00
64913	3106	2.00	238.00	12600.00	5.57	48.00	1.05	20800.00	54.00	31.00
64914	3106	2.00	187.00	7400.00	.39	15.00	.41	2100.00	80.00	10.00
64915	3106	2.00	55.00	1900.00	.34	4.00	.03	220.00	65.00	1.00
64916	3106	1.00	146.00	14300.00	.24	13.00	.30	1900.00	66.00	9.00
64917	3106	1.00	208.00	2700.00	.10	25.00	.64	300.00	86.00	23.00
64918	3108	1.00	60.00	172.00	.06	3.00	.01	100.00	27.00	4.00
64919	3108	1.00	56.00	223.00	.13	4.00	.02	360.00	15.00	4.00
73926	3106	.50	35.00	291.00	6.23	6.00	.08	1000.00	107.00	1.00
73927	3106	2.00	89.00	1300.00	2.16	2.00	.01	20000.00	414.00	1.00
73928	3106	2.00	18.00	126.00	3.46	18.00	.54	380.00	162.00	3.00
73937	3108	1.00	24.00	240.00	1.61	10.00	.32	1000.00	184.00	22.00
73938	3106	1.00	66.00	1700.00	.13	3.00	.04	280.00	37.00	5.00
73939	3108	1.00	123.00	1400.00	.19	5.00	.04	380.00	31.00	6.00
73940	3108	.50	30.00	285.00	3.63	15.00	.41	5000.00	129.00	39.00
73941	3108	.50	38.00	178.00	4.25	7.00	.14	11000.00	84.00	47.00
73942	3108	1.00	69.00	920.00	.71	8.00	.21	5400.00	98.00	23.00
73943	3108	2.00	106.00	980.00	.43	6.00	.05	600.00	36.00	7.00
73944	3108	5.00	17.00	240.00	1.58	11.00	.41	6000.00	145.00	25.00
73945	3106	.50	182.00	8400.00	.39	34.00	1.00	3000.00	118.00	1.00
73946	3106	.50	154.00	1700.00	.31	6.00	.05	800.00	28.00	2.00
73947	3106	.50	261.00	33500.00	9.81	89.00	2.15	36000.00	121.00	73.00
73948	3108	1.00	244.00	7600.00	6.50	30.00	.54	36000.00	101.00	106.00
73950	3108	2.00	134.00	5300.00	1.18	12.00	.25	3800.00	42.00	28.00
74026	3110	10.00	75.00	420.00	.09	2.00	.01	56.00	.01	6.00
74027	3110	1.00	62.00	310.00	.06	2.00	.01	168.00	.01	2.00
74028	3110	2.00	49.00	1020.00	.66	4.00	.11	200.00	.01	9.00
73929		********	50.00	********	1.04	8.00	********	********	********	********
73931		********	30.00	********	1.95	23.00	********	********	********	********
73932		********	100.00	********	2.84	42.00	********	********	********	********
73933		********	20.00	********	2.75	80.00	********	********	********	********
73934		********	10.00	********	.53	5.00	********	********	********	********
73935		********	30.00	********	1.22	9.00	********	********	********	********
73936		********	40.00	********	1.58	71.00	********	********	********	********
73949	3110	2.00	158.00	15000.00	3.40	21.00	.36	24000.00	17.00	87.00
73930		********	********	********	2.60	13.00	.41	********	********	********
64905		********	80.00	********	.99	33.00	********	********	********	********

P L A C E R D E V E L O P M E N T L T D

Placer Data Analysis System - STATS

run on 83:09:14 at 14:09:03

HANDEL SHOWING

Summary of data from file : EXPL*V-191A-HAN.

This data file contains an internal header: (5 records)
Data grouped into 12 fields
with format: (2a8,a4, 9f5.0)

Character ID fields:
GRID SAMP PROJ

Coordinate fields:

Other data fields:
MO CU ZN AU AG PB AS HG SB

Missing data indicated by NULL value .000000

BASIC STATISTICS OF SELECTED DATA FIELDS:

NAME	NDATA	NULLS	MINIMUM	MAXIMUM	MEAN	STD. DEV.
MO	38	9	.500000	10.0000	2.00000	1.87444
CU	46	1	10.0000	261.000	95.1522	66.5532
ZN	38	9	126.000	33500.0	3490.06	6387.30
AU	47	0	.400000-001	11.4000	1.93191	2.46998
AG	47	0	2.00000	120.000	21.8723	25.4410
PB	39	8	.600000-002	3.82000	.435487	.699216
AS	38	9	50.0000	36000.0	6558.21	9874.20
HG	38	9	.100000-001	430.000	104.843	110.232
SB	38	9	1.00000	106.000	20.3684	25.6056

TABLE 3

Handel Showing
Summary of analytical results

Data from file: EXPL*V-191A-HAN.

HANDEL SHOWING

Correlation matrix for 47 records with 9 variables

LOG:	MO 0	CU 0	ZN 0	AU 0	AG 0	PB 0	AS 0	HG 0
MO	1.000	-.160	-.204	-.195	-.157	-.111	-.170	-.086
CU	-.160	1.000	.661	.220	.267	.281	.473	-.152
ZN	-.204	.661	1.000	.477	.497	.430	.642	-.032
AU	-.195	.220	.477	1.000	.684	.777	.670	.462
AG	-.157	.267	.497	.684	1.000	.940	.505	.491
PB	-.111	.281	.430	.777	.940	1.000	.458	.581
AS	-.170	.473	.642	.670	.505	.458	1.000	.397
HG	-.086	-.152	-.032	.462	.491	.581	.397	1.000
SB	-.211	.399	.506	.591	.482	.348	.745	.092

LOG:	SB 0
MO	-.211
CU	.399
ZN	.506
AU	.591
AG	.482
PB	.348
AS	.745
HG	.092
SB	1.000

Number of data pairs contributing to correlation

	MO	CU	ZN	AU	AG	PB	AS	HG
MO	38	38	38	38	38	38	38	38
CU	38	46	38	46	46	38	38	38
ZN	38	38	38	38	38	38	38	38
AU	38	46	38	47	47	39	38	38
AG	38	46	38	47	47	39	38	38
PB	38	38	38	39	39	39	38	38
AS	38	38	38	38	38	38	38	38
HG	38	38	38	38	38	38	38	38
SB	38	38	38	38	38	38	38	38

	SB
MO	38
CU	38
ZN	38
AU	38
AG	38
PB	38
AS	38
HG	38

TABLE 4

Handel Showing
Correlation matrix

P L A C E R D E V E L O P M E N T L T D

Placer Data Analysis System - STATS

run on 83:09:16 at 15:12:16

HANDEL GRID AG

Summary of data from file : EXPL*V-191A.SOI2

This data file contains an internal header: (5 records)
Data grouped into 12 fields
with format: (3A8, 2F10.1, 7F10.2)

Character ID fields:
SMP1 SAMP PROJ

Coordinate fields:
X Y

Other data fields:
CU ZN PB AG AU AS ELEV

Missing data indicated by NULL value -9999.00

BASIC STATISTICS OF SELECTED DATA FIELDS:

NAME	NDATA	NULLS	MINIMUM	MAXIMUM	MEAN	STD. DEV.
CU	257	0	16.0000	306.000	81.0506	47.5202
ZN	257	0	29.0000	1200.00	144.047	110.866
PB	257	0	5.00000	2820.00	50.5058	180.868
AG	257	0	.100000+000	16.0000	.817120	1.21138
AU	257	0	.100000-001	.280000	.260700-001	.296944-001
AS	257	0	.500000	1500.00	63.4669	114.889
ELEV	257	0	.000000	.000000	.000000	.000000

TABLE 5

Handel Soil Grid

Summary of Analytical Results

CORMAT: RUN ON 83:09:16 AT 15:12:16

Data from file: EXPL*V-191A.S012

HANDEL GRID AG

Correlation matrix for 257 records with 7 variables

LOG:	CU 1	ZN 1	PB 1	AG 1	AU 1	AS 1	ELEV 1
CU	1.000	.444	.173	.300	.165	.290	.000
ZN	.444	1.000	.507	.386	.107	.458	.000
PB	.173	.507	1.000	.588	.060	.406	.000
AG	.300	.386	.588	1.000	.053	.389	.000
AU	.165	.107	.060	.053	1.000	.229	.000
AS	.290	.458	.406	.389	.229	1.000	.000
ELEV	.000	.000	.000	.000	.000	.000	.000

Number of data pairs contributing to correlation

	CU	ZN	PB	AG	AU	AS	ELEV
CU	257	257	257	257	257	257	257
ZN	257	257	257	257	257	257	257
PB	257	257	257	257	257	257	257
AG	257	257	257	257	257	257	257
AU	257	257	257	257	257	257	257
AS	257	257	257	257	257	257	257
ELEV	257	257	257	257	257	257	257

TABLE 6

Handel Soil Grid

Correlation matrix

TABLE 7

Chopin Showing

Geochem File

TA FILE: CHOPIN SHOWING GEOCHEM FILE DATE: 83-09-13

SAMP	PROJ	MO(PPM)	CU(PPM)	ZN(PPM)	AS(PPM)	HG(PPB)	SB(PPM)	AU(PPM)	AG(PPM)	PB(%)
64920	3110	2.000	205.000	26.000	.500	84.000	1.000	********	********	********
64922	3110	10.000	265.000	34.000	.500	36.000	1.000	.130	2.000	.003
64923	3110	38.000	248.000	21.000	.500	22.000	1.000	.210	1.000	.003
64924	3110	3.000	88.000	27.000	.500	193.000	1.000	.140	.500	.003
74029	3110	22.000	175.000	45.000	.500	16.000	1.000	.060	2.000	.002
74030	3110	9.000	145.000	31.000	.500	.010	1.000	.960	1.000	.003
74031	3110	25.000	203.000	190.000	240.000	197.000	3.000	.180	.500	.008
74032	3110	9.000	198.000	92.000	8.000	74.000	1.000	.060	1.000	.005
74033	3110	770.000	44.000	31.000	154.000	51.000	1.000	1.090	1.000	.009
74034	3110	28.000	287.000	73.000	.500	130.000	1.000	.050	1.000	.003
74664		********	********	********	********	********	********	.190	1.000	********
74665		********	********	********	********	********	********	1.080	3.000	********
74666		********	********	********	********	********	********	1.610	2.000	********
74667		********	********	********	********	********	********	.080	2.000	********
74668		********	********	********	********	********	********	5.430	2.000	********

P L A C E R D E V E L O P M E N T L T D

Placer Data Analysis System - STATS

run on 83:09:14 at 14:24:45

CHOPIN SHOWING

Summary of data from file : EXPL*V-191A-CHO.

This data file contains an internal header: (5 records)
Data grouped into 12 fields
with format: (2a8,a4, 9f5.0)

Character ID fields:
GRID SAMP PROJ

Coordinate fields:

Other data fields:
MO CU ZN AS HG SB AU AG PB

Missing data indicated by NULL value .000000

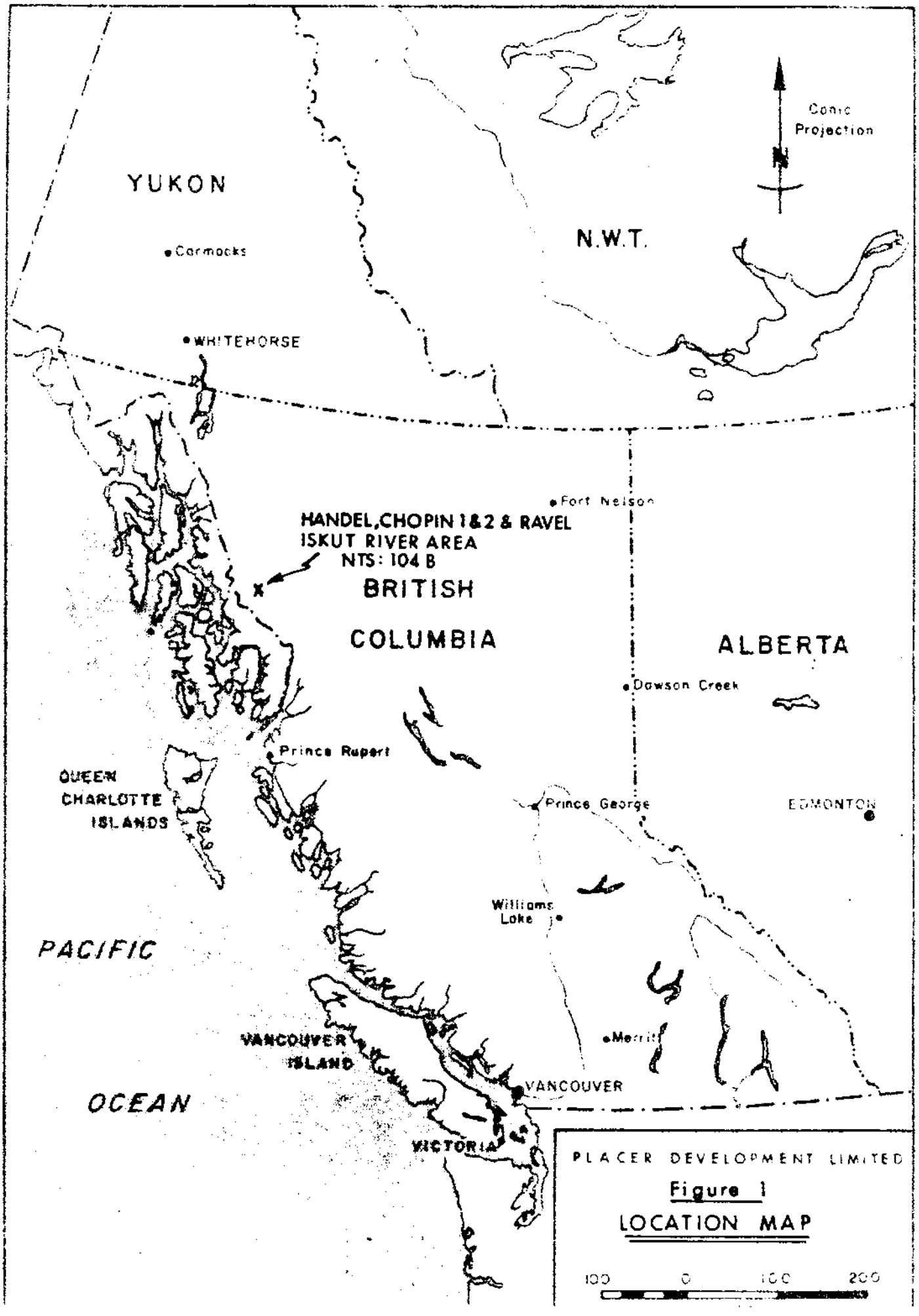
BASIC STATISTICS OF SELECTED DATA FIELDS:

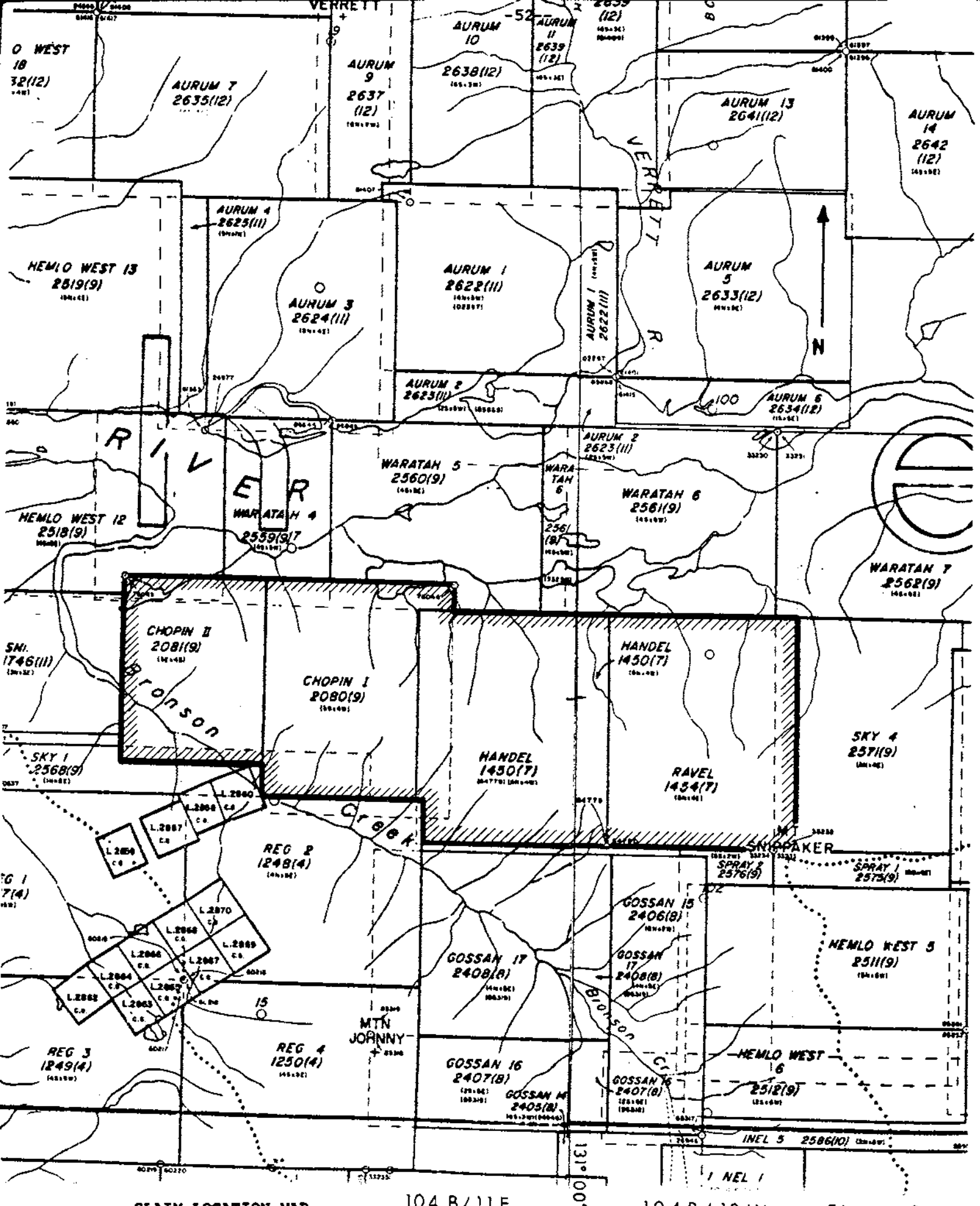
NAME	NDATA	NULLS	MINIMUM	MAXIMUM	MEAN	STD. DEV.
MO	10	5	2.00000	770.000	91.6000	238.655
CU	10	5	44.0000	287.000	165.800	76.4850
ZN	10	5	21.0000	190.000	57.0000	52.0171
AS	10	5	.500000	240.000	40.5500	84.9436
HG	10	5	.100000-001	197.000	80.3010	71.2152
SB	10	5	1.00000	3.00000	1.20000	.632456
AU	14	1	.500000-001	5.43000	.805000	1.42629
AG	14	1	.500000	3.00000	1.42857	.730046
PB	9	6	.200000-002	.900000-002	.433333-002	.000000

TABLE 8

Chopin Showing

Summary of Analytical Results


Conic Projection
N
YUKON
N.W.T.
Carmacks
WHITEHORSE
Fort Nelson
HANDEL, CHOPIN 1 & 2 & RAVEL
ISKUT RIVER AREA
NTS: 104 B
BRITISH
COLUMBIA
ALBERTA
Dawson Creek
Prince Rupert
QUEEN
CHARLOTTE
ISLANDS
Prince George
EDMONTON
Williams Lake
PACIFIC
OCEAN
VANCOUVER ISLAND
Merritt
VANCOUVER
VICTORIA
PLACER DEVELOPMENT LIMITED
Figure 1
LOCATION MAP
100 0 100 200



CLAIM LOCATION MAP 104 B/11E. 104 B/10 W. Figure 2

Scale 1:50,000

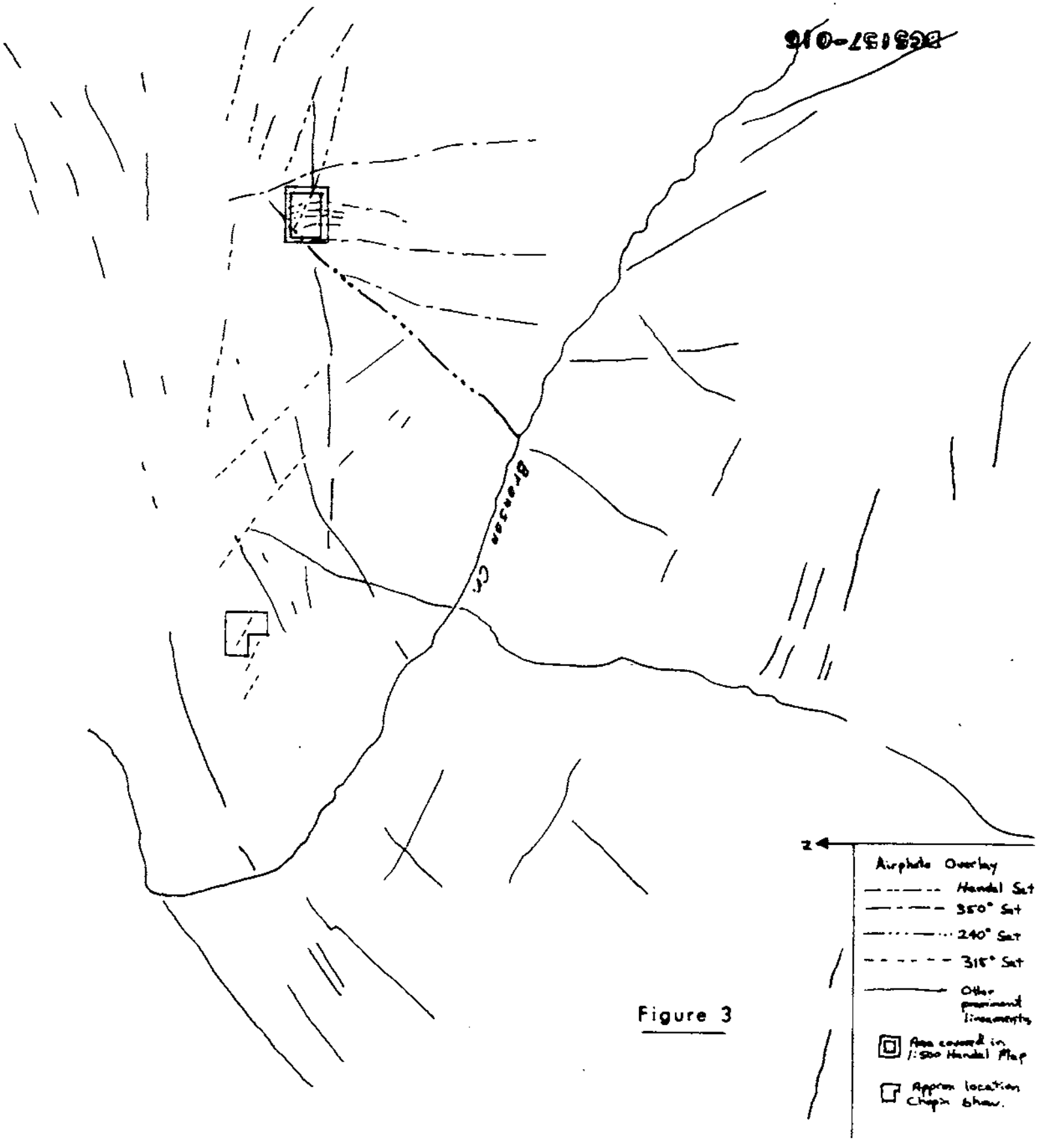

Branson Cr.
N
Airphoto Overlay
Handel Set
350° Set
240° Set
315° Set
Other prominent lineaments
Area covered in 1:500 Handel Map
Approx location Chapin show.

Figure 3

MAIN HANDEL FACE GENERAL GEOLOGY

Oblique Photo Scale Approx. 1:1460 July 1983

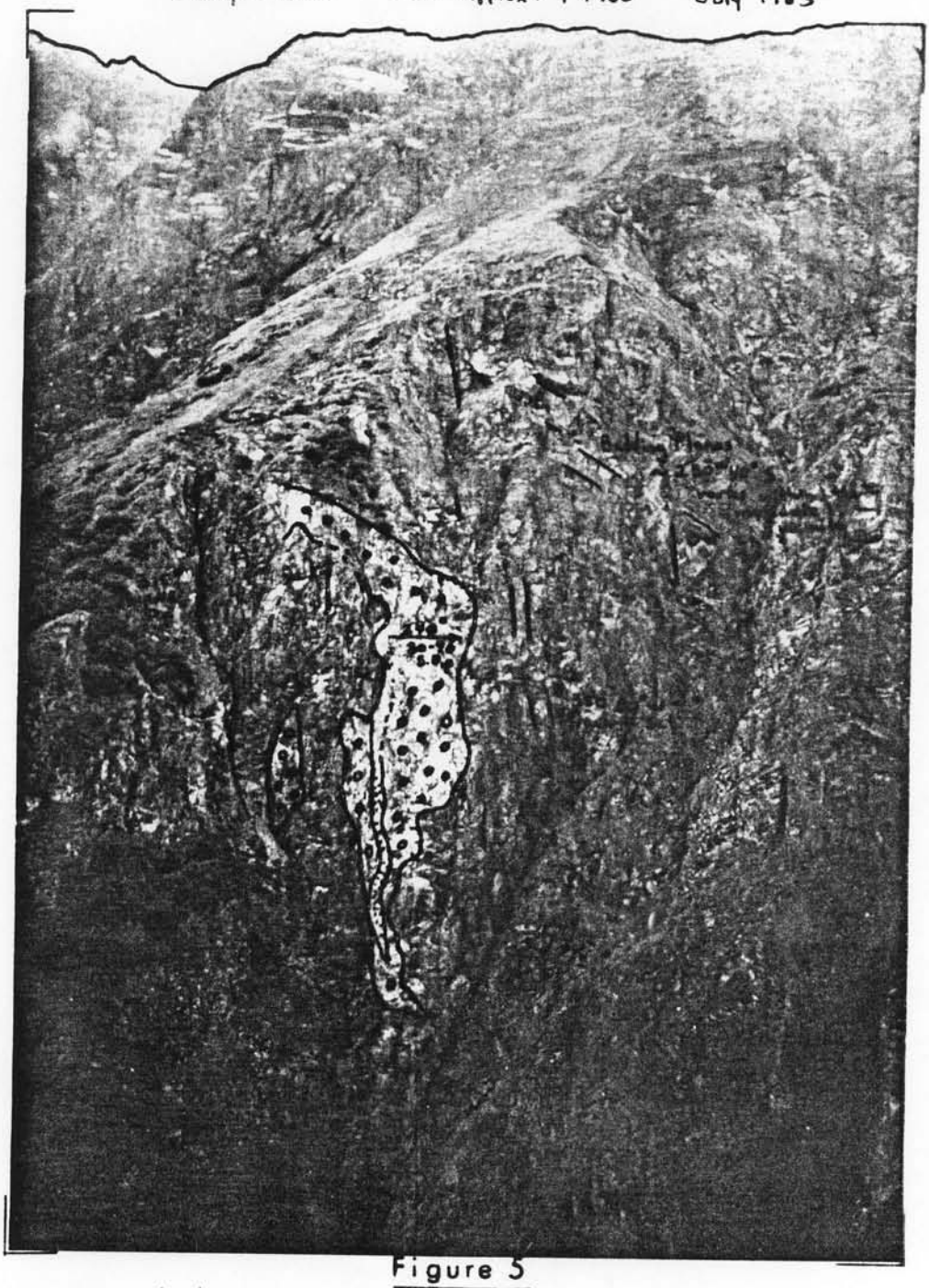


Figure 5

High grade mineralized zone

Massive sulphide mineralization associated with the intersection of the 240° 70°N fracture set and the 050° 80°W shear set. May contain: Pyrite, arsenopyrite, galena, sphalerite (20-80%) within mylonitic contacts clay content is high quartz flooding and quartz veinlets are common though not dominant.

Mineralized Zones

Bleached and leached zones with pervasive green (secondite?) and yellow (limonite) alteration. Sulphide mineralization is locally massive in pods and may be 5% overall. Pyrite is commonly disseminated throughout. Quartz flooding is evident although not common, pervasive. These zones are localized along the 240° 50-70°N fracture sets. A pervasive, dirty appearing though soft alteration product may be clays from feldspar

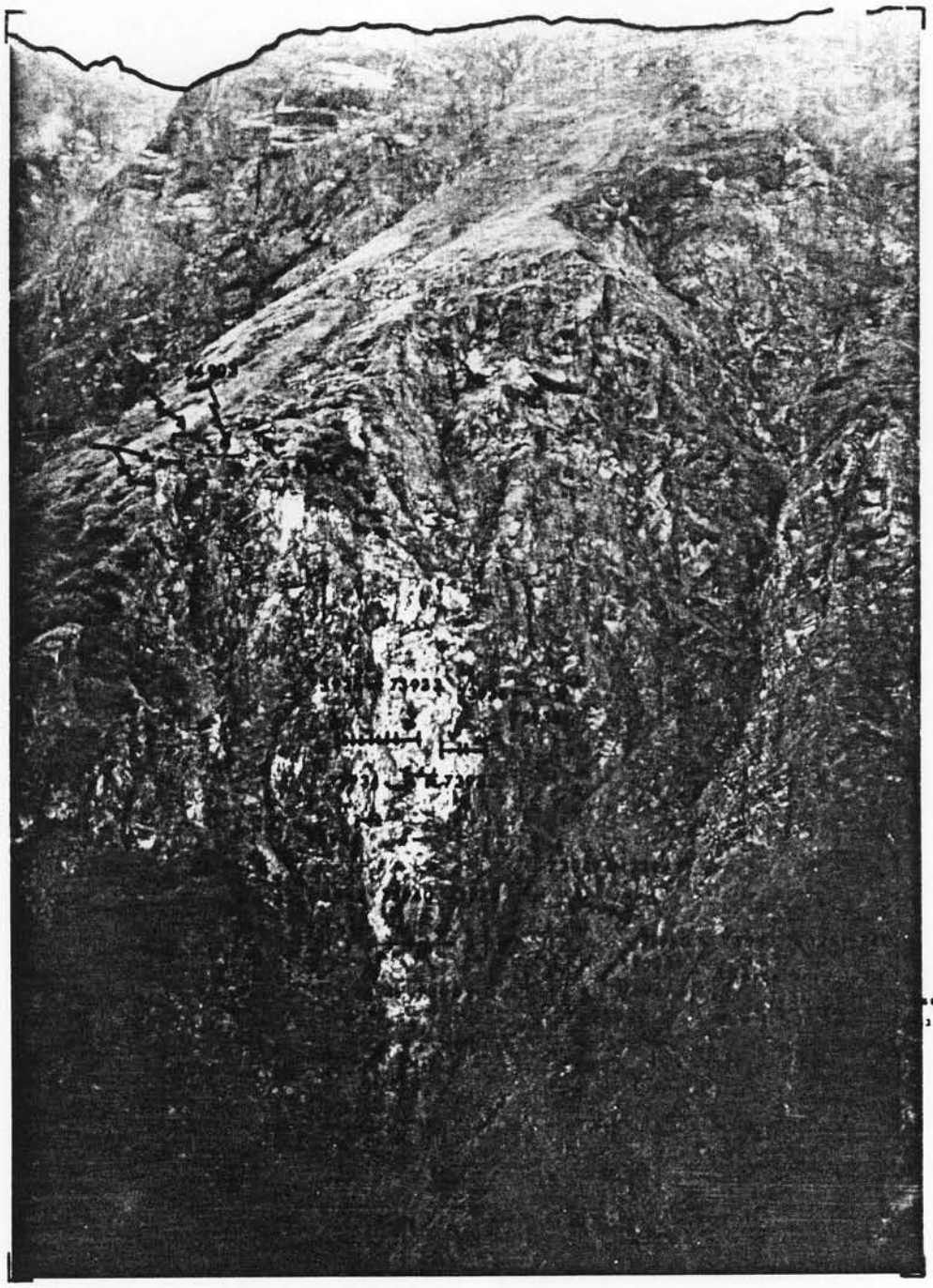


Figure 7

Main Handel Face — Sample Location Map

Oblique Photo — Scale Approx. 1:1460

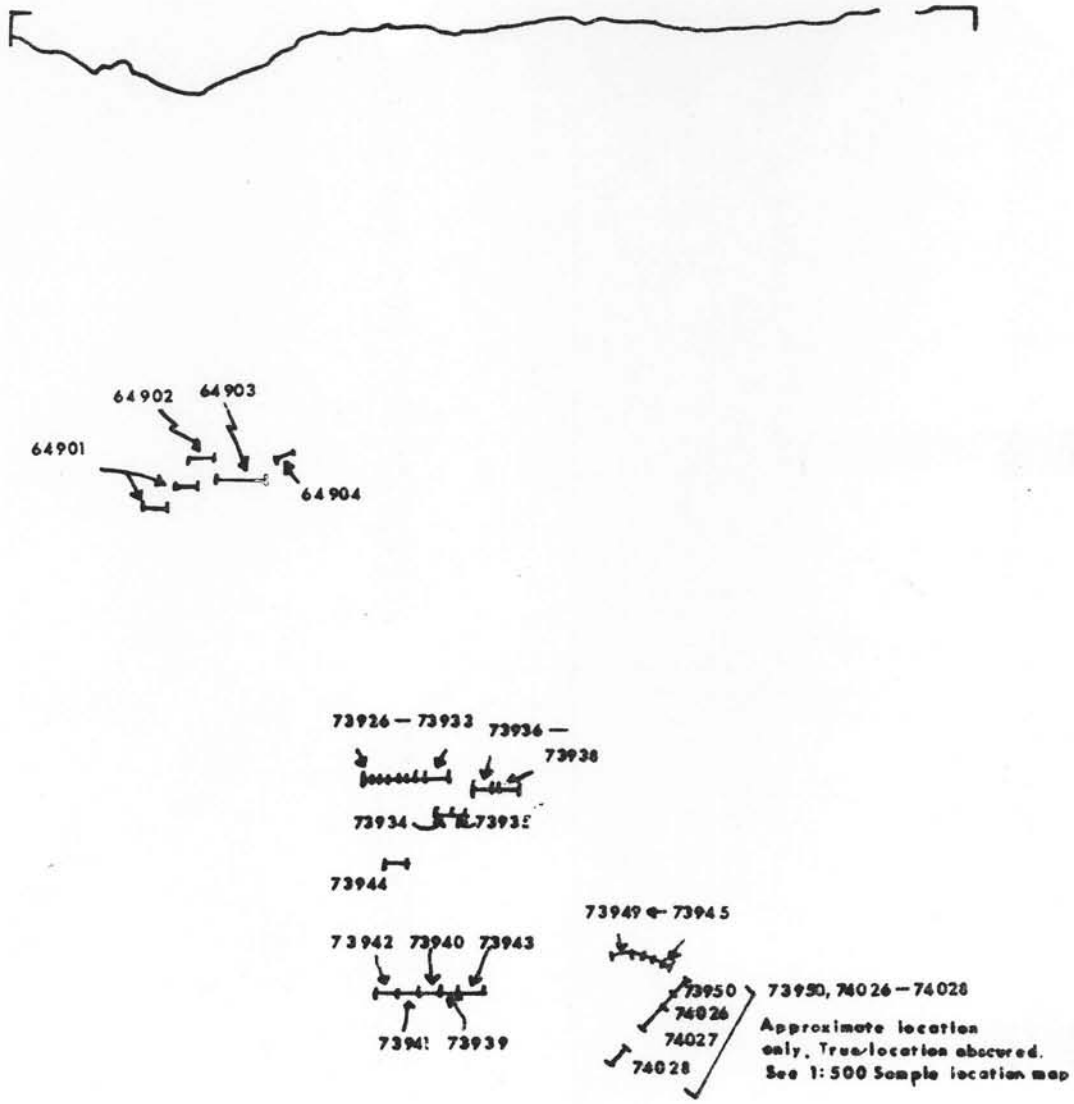


Figure 7

Main Handel Face — Sample Location Map

Oblique Photo — Scale Approx. 1:1460

Figure 9

Main Handel Face — Gold Assay Overlay

Oblique Photo — Scale — Approx. 1:1460

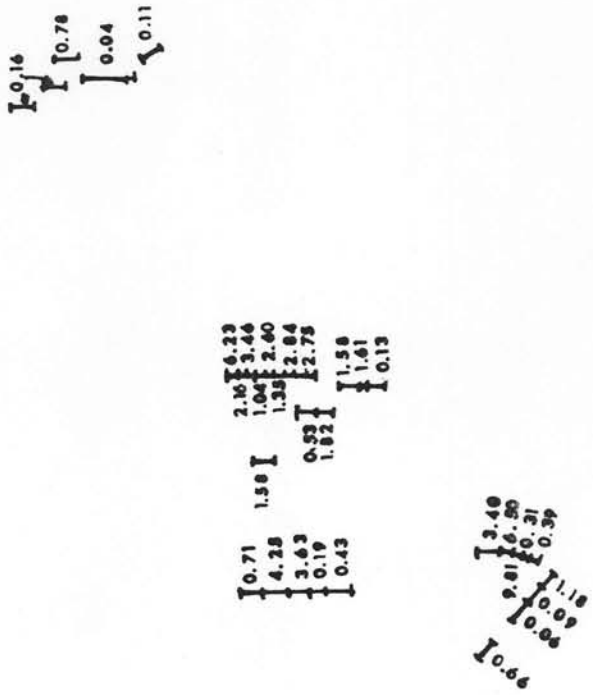


Figure 9

Main Handel Face — Gold Assay Overlay

Oblique Photo — Scale — Approx. 1:1460

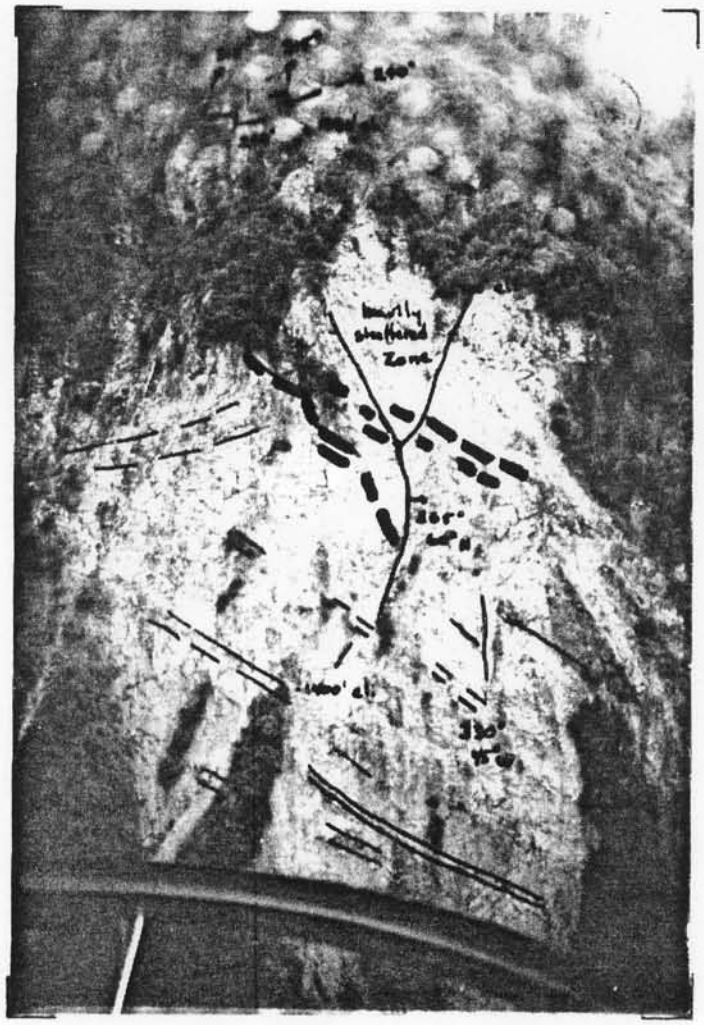


Figure 10

General Geologic Features Main Chapin Face

Oblique Photo Overlay Approximate Scale 1:1660

Although pyrite is present in most fracture sets, and disseminated throughout- the 330° 45W set is the most massively mineralized. Those zones colored in red are the more heavily mineralized zones found on the face.

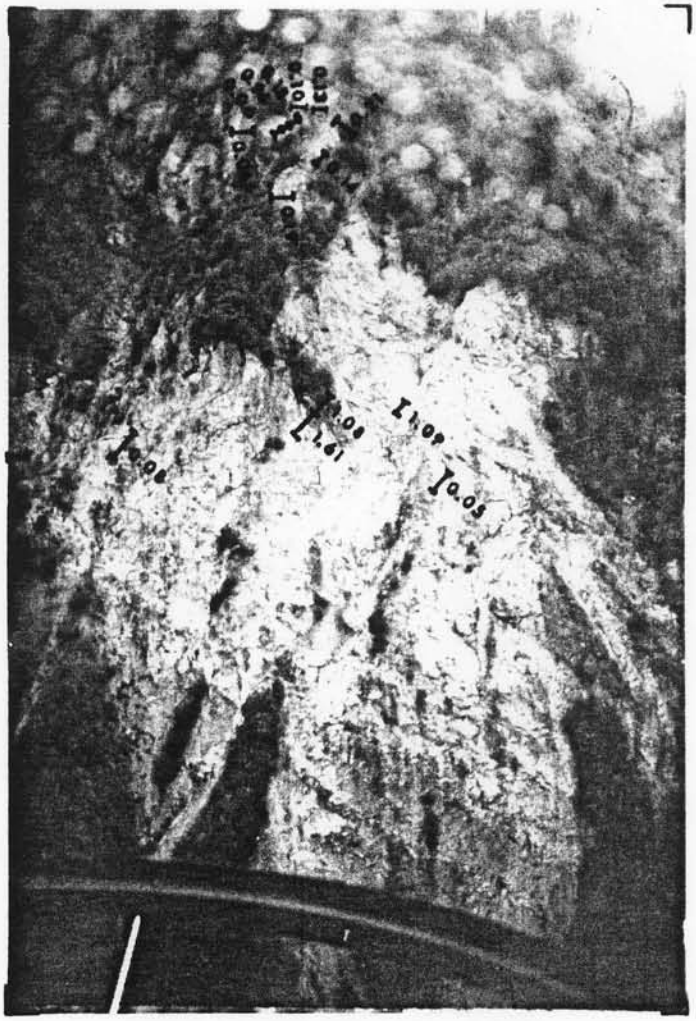


Figure 12

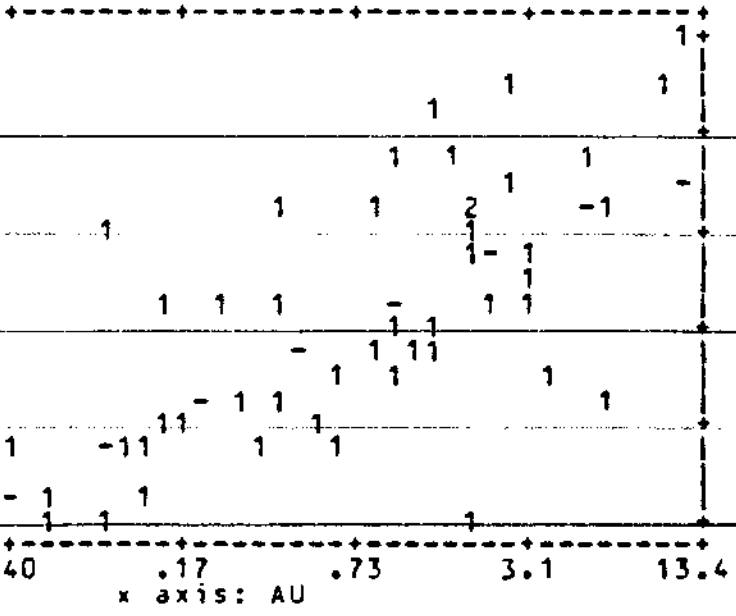
Gold Assay — Main Chopin Face

Oblique Photo Overlay

Approx. Scale 1 : 1660

SCPLOT : Figure 20 HANDEL SHOWING

file: EXPL*V-191A-HAN. AU vs AG LOGX =1 LOGY =1



PLOT SUMMARY
47 X-Y PAIRS
0 VALUES>MAX
0 VALUES<MIN
47 PLOTTED

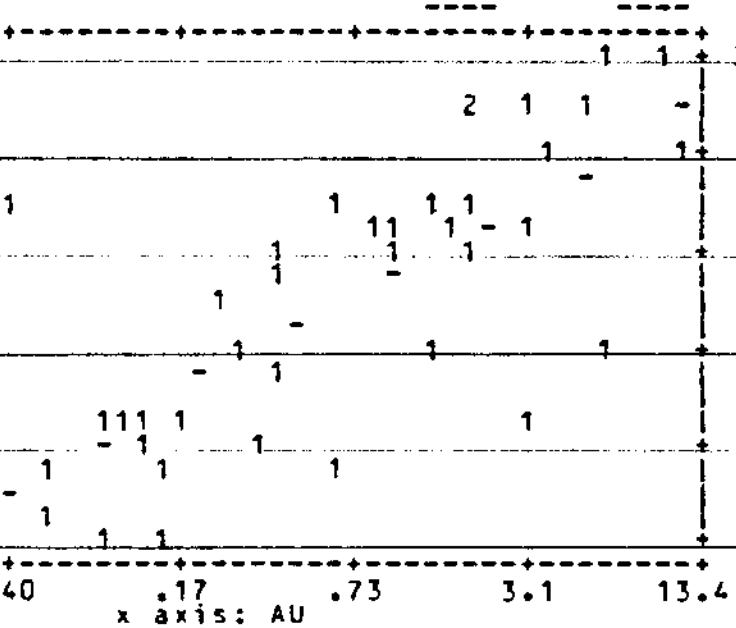
X	MINMAX	Y
.040		2.0
11.4		120

REGRESSION LINE
A = 1.1322
B = .47344
VARIANCE
.13366
STD. DEVIATION
.36560
CORRELATION COEF
.64330

PLOT INCREMENTS
XINC: .70138-001
YINC: .88908-001

SCPLOT : Figure 21 HANDEL SHOWING

file: EXPL*V-191A-HAN. AU vs AS LOGX =1 LOGY =1



PLOT SUMMARY
47 X-Y PAIRS
0 VALUES>MAX
9 VALUES<MIN
38 PLOTTED

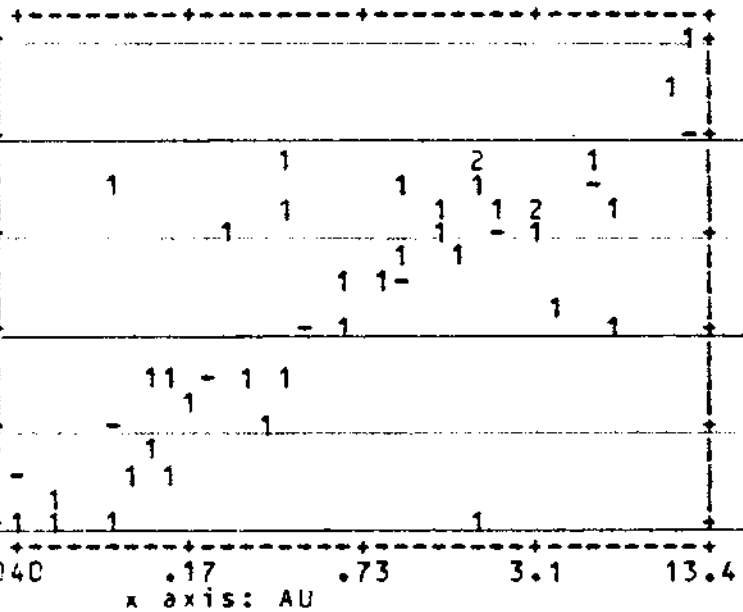
X	MINMAX	Y
.040		56.0
11.4		36000

REGRESSION LINE
A = 3.3631
B = .87292
VARIANCE
.31822
STD. DEVIATION
.56411
CORRELATION COEF
.73535

PLOT INCREMENTS
XINC: .70138-001
YINC: .14041

SCPLOT : Figure 22 HANDEL SHOWING

file: EXPL*V-191A-HAN. AU vs PB LOGX =1 LOGY =1



PLOT SUMMARY
47 X-Y PAIRS
0 VALUES>MAX
8 VALUES<MIN
39 PLOTTED

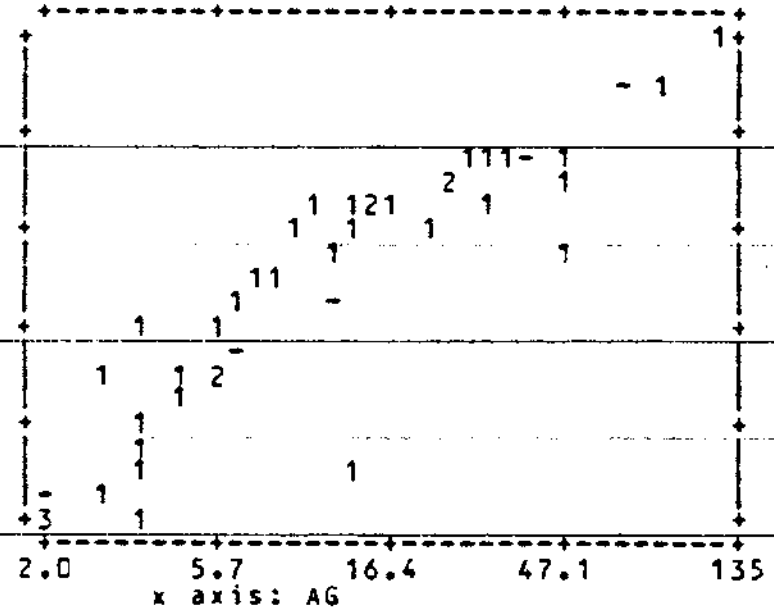
X	MINMAX	Y
.040		.006
11.4		3.8

REGRESSION LINE
A = -.75130
B = .80341
VARIANCE
.29878
STD. DEVIATION
.54661
CORRELATION COEF
.71588

PLOT INCREMENTS
XINC: .70138-001
YINC: .14020

SCPLOT : Figure 23 HANDEL SHOWING

file: EXPL*V-191A-HAN. AG vs PB LOGX =1 LOGY =1



PLOT SUMMARY
47 X-Y PAIRS
0 VALUES>MAX
8 VALUES<MIN
39 PLOTTED

X	MINMAX	Y
2.0		.006
120		3.8

REGRESSION LINE
A = -2.4108
B = 1.4950
VARIANCE
.11873
STD. DEVIATION
.34457
CORRELATION COEF
.89793

PLOT INCREMENTS
XINC: .50804-001
YINC: .14020

HISTO: PAT GEOCHEM FILE: HANDEL GRID V-191 RUN ON 83:09:16 AT 08:20:33

File: EXPL*V-191A.SOI2 Field name: AU LOG = 1

STATISTICS: MINIMUM: .100000-001 MAXIMUM: .260000
MEAN: .260700-001 STD. DEV.: .296944-001

257 VALUES PLOTTED (0 OUTSIDE RANGE 0 NULLS)

SCALE OF HISTOGRAM IS 2.00 COUNTS/PRINT POSITION

N	MIDPOINT	PERCENT	0 20 40 60 80 100 120 140 160 180 200
148	.10000-001	57.59	**********
0	.10969-001	.00	
0	.11813-001	.00	
0	.12839-001	.00	
0	.13955-001	.00	
0	.15167-001	.00	
0	.16484-001	.00	
0	.17916-001	.00	
15	.19473-001	5.84	********
0	.21165-001	.00	
0	.23003-001	.00	
0	.25002-001	.00	
0	.27174-001	.00	
30	.29534-001	11.67	**********
0	.32100-001	.00	
0	.34889-001	.00	
0	.37920-001	.00	
23	.41214-001	8.95	**********
0	.44794-001	.00	
19	.48686-001	7.39	**********
0	.52915-001	.00	
0	.57512-001	.00	
8	.62508-001	3.11	****
3	.67938-001	1.17	**
0	.73841-001	.00	
1	.80255-001	.39	*
3	.87227-001	1.17	**
0	.94805-001	.00	
0	.10304	.00	
0	.11199	.00	
0	.12172	.00	
4	.13230	1.56	**
0	.14379	.00	
2	.15628	.78	*
0	.16986	.00	
0	.18461	.00	
0	.20065	.00	
0	.21808	.00	
0	.23703	.00	
0	.25762	.00	
1	.28000	.39	*
257			0 20 40 60 80 100 120 140 160 180 200

FIGURE: 24

Handel Soil Grid
Histogram Au

HISTO: HANDEL GRID AG RUN ON 83:09:16 AT 15:10:39

File: EXPL*V-191A.SOI2 Field name: AG LOG = 1

FIGURE: 25

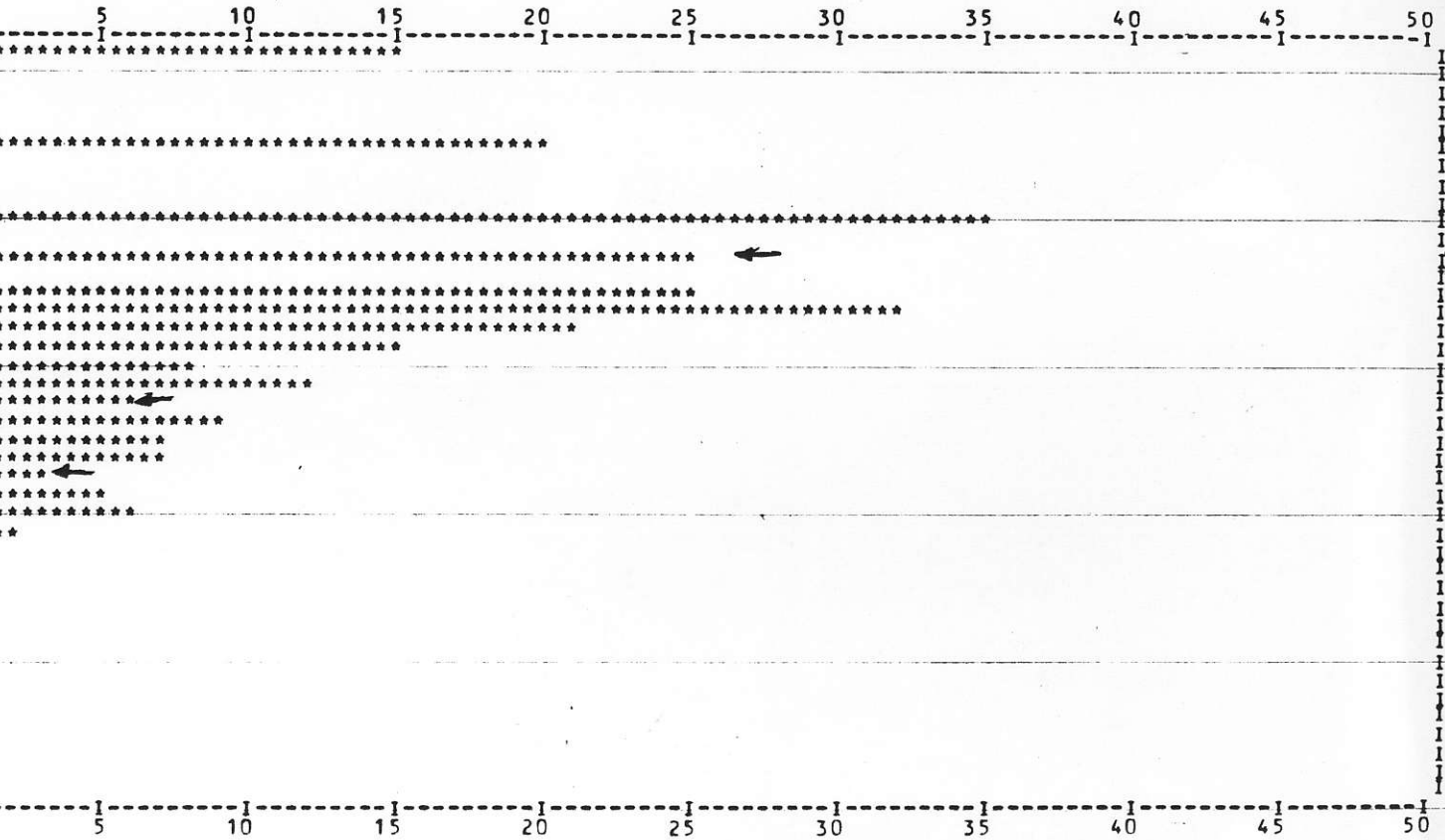
Handel Soil Grid
Histogram Ag

STATISTICS: MINIMUM: .100000+000 MAXIMUM: 16.0000
MEAN: .817120 STD. DEV.: 1.21138

257 VALUES PLOTTED (0 OUTSIDE RANGE 0 NULLS)

SCALE OF HISTOGRAM IS .50 COUNTS/PRINT POSTIION

N	MIDPOINT	PERCENT
15	.10000	5.84
0	.11353	.00
0	.12889	.00
0	.14632	.00
0	.16612	.00
20	.18859	7.78
0	.21410	.00
0	.24306	.00
0	.27595	.00
35	.31328	13.62
0	.35566	.00
25	.40377	9.73
0	.45839	.00
25	.52040	9.73
32	.59080	12.45
21	.67073	8.17
15	.76146	5.84
8	.86447	3.11
12	.98142	4.67
6	1.1145	2.33
9	1.2649	3.50
7	1.4360	2.72
7	1.6303	2.72
3	1.8508	1.17
5	2.1012	1.95
6	2.3855	2.33
2	2.7082	.78
0	3.0745	.00
1	3.4905	.39
1	3.9627	.39
0	4.4987	.00
0	5.1073	.00
0	5.7982	.00
0	6.5826	.00
0	7.4731	.00
1	8.4841	.39
0	9.6318	.00
0	10.935	.00
0	12.414	.00
0	14.093	.00
1	16.000	.39
257		



HISTO: PAL GEOCHEM FILE: HANDEL GRID V-191 RUN ON 83:09:16 AT 08:20:33

File: EXPL*V-191A.SOIL Field name: AS LOG = 1

FIGURE: 26

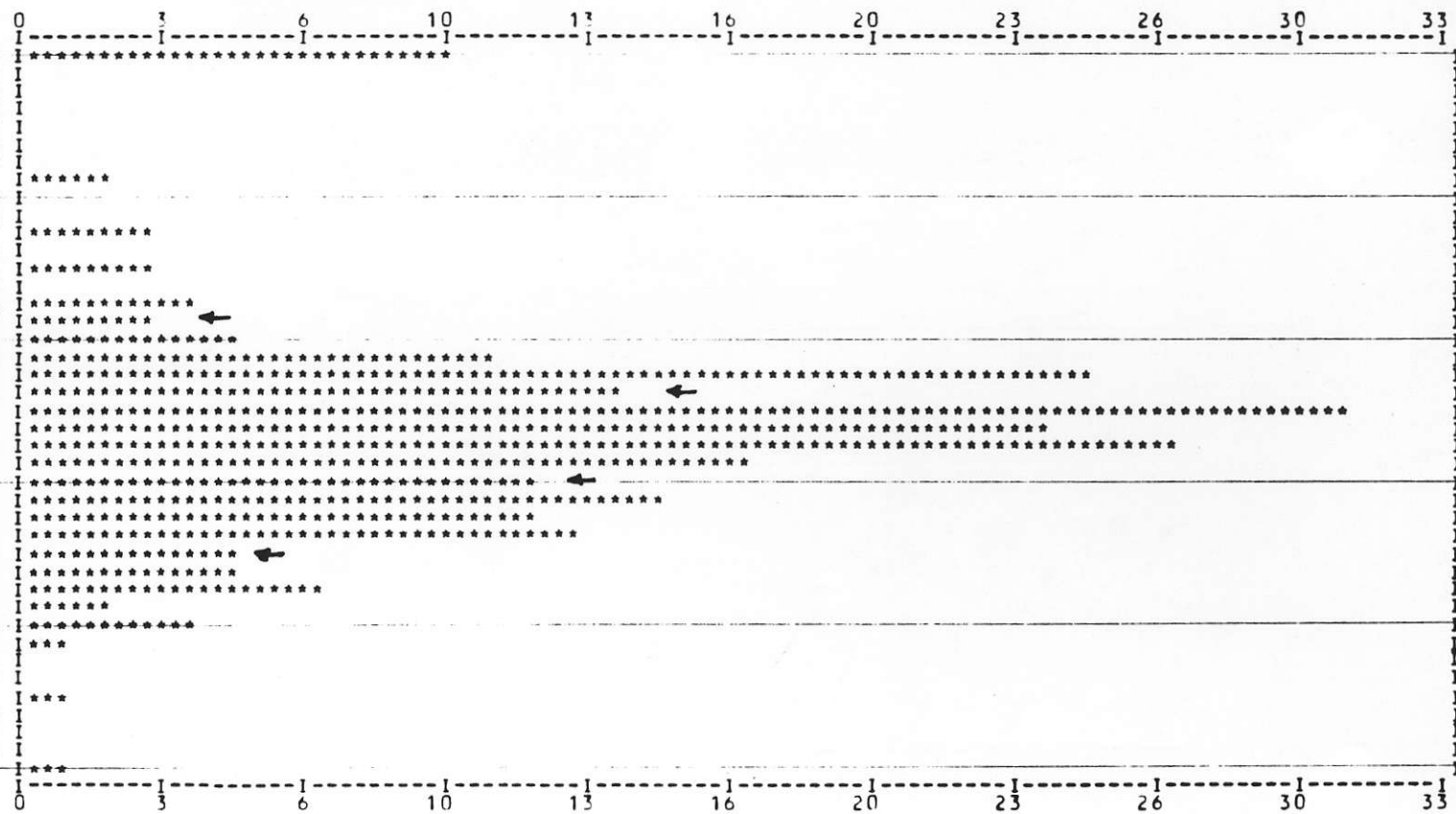
Handel Soil Grid
Histogram As

STATISTICS: MINIMUM: .500000 MAXIMUM: 1500.00
MEAN: 63.4669 STD. DEV.: 114.889

257 VALUES PLOTTED (0 OUTSIDE RANGE 0 NULLS)

SCALE OF HISTOGRAM IS .33 COUNTS/PRINT POSTIION

N	MIDPOINT	PERCENT
10	.50000	3.89
0	.61080	.00
0	.74615	.00
0	.91149	.00
0	1.1135	.00
0	1.3602	.00
0	1.6616	.00
2	2.0299	.78
0	2.4797	.00
0	3.0292	.00
3	3.7004	1.17
0	4.5204	.00
3	5.5221	1.17
0	6.7458	.00
4	8.2407	1.56
3	10.067	1.17
5	12.298	1.95
11	15.023	4.28
25	18.352	9.73
14	22.418	5.45
31	27.386	12.06
24	33.455	9.34
27	40.868	10.51
17	49.925	6.61
12	60.988	4.67
15	74.502	5.84
12	91.012	4.67
13	111.18	5.06
5	135.82	1.95
5	165.91	1.95
7	202.68	2.72
2	247.59	.78
4	302.46	1.56
1	369.48	.39
0	451.36	.00
0	551.38	.00
1	673.56	.39
0	822.82	.00
0	1005.2	.00
0	1227.9	.00
1	500.0	.39
257		



HISTO: PAI GEOCHEM FILE: HANDEL GRID V-191 RUN ON 83:09:16 AT 08:24:56

File: EXPL*V-191A.SOI2 Field name: CU LOG = 1

FIGURE: 27

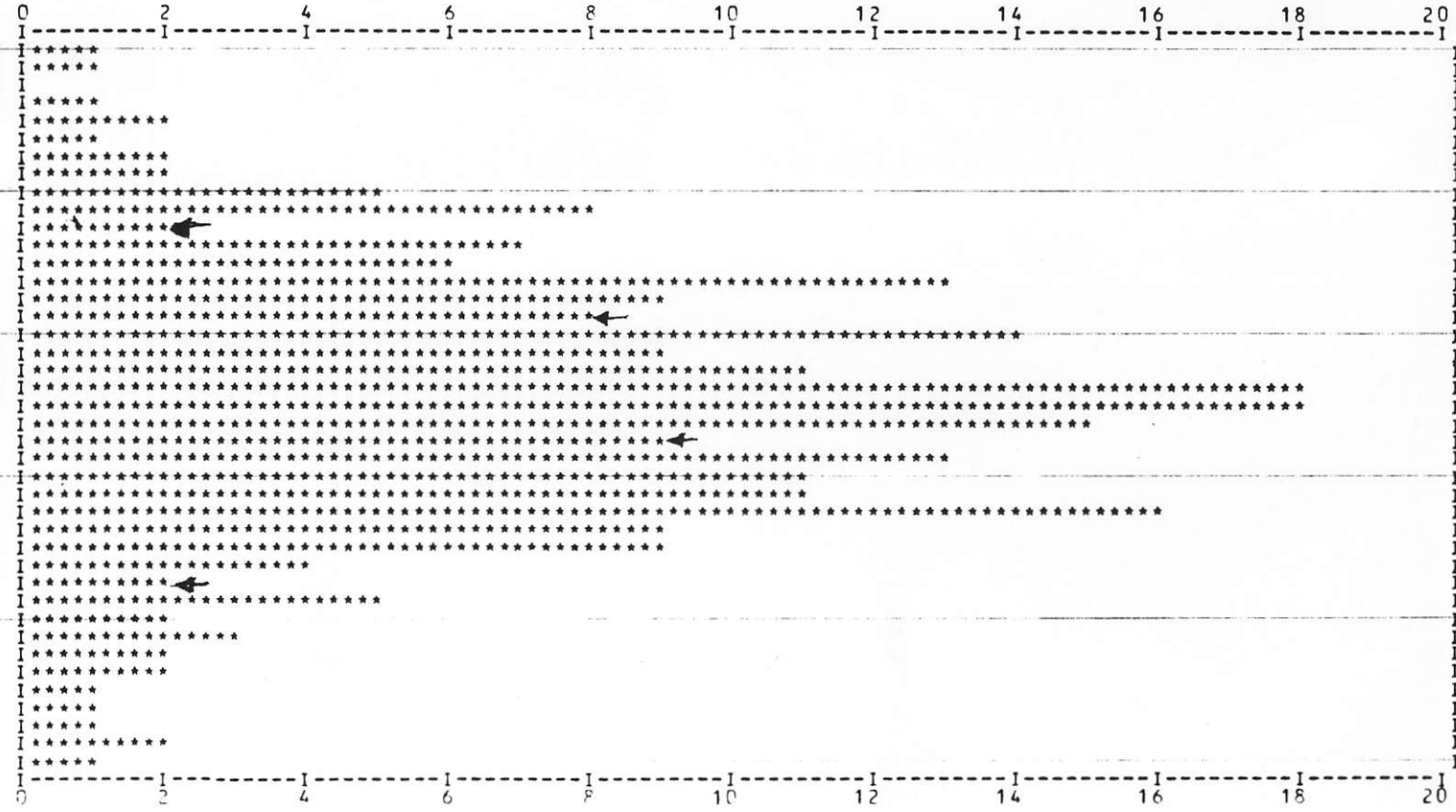
Handel Soil Grid
Histogram Cu

STATISTICS: MINIMUM: 16.0000 MAXIMUM: 306.000
MEAN: 81.0506 STD. DEV.: 47.5202

257 VALUES PLOTTED (0 OUTSIDE RANGE 0 NULLS)

SCALE OF HISTOGRAM IS .20 COUNTS/PRINT POSTIION

N	MIDPOINT	PERCENT
1	16.000	.39
1	17.225	.39
0	18.544	.00
1	19.964	.39
2	21.492	.78
1	23.138	.39
2	24.909	.78
2	26.816	.78
5	28.870	1.95
8	31.080	3.11
2	33.460	.78
7	36.021	2.72
6	38.779	2.33
13	41.748	5.06
9	44.945	3.50
8	48.386	3.11
14	52.091	5.45
9	56.079	3.50
11	60.373	4.28
18	64.995	7.00
18	69.971	7.00
15	75.329	5.84
9	81.096	3.50
13	87.305	5.06
11	93.990	4.28
11	101.19	4.28
16	108.93	6.23
9	117.27	3.50
9	126.25	3.50
4	135.92	1.56
2	146.33	.78
5	157.53	1.95
2	169.59	.78
3	182.57	1.17
2	196.55	.78
2	211.60	.78
1	227.80	.39
1	245.25	.39
1	264.02	.39
2	284.24	.78
1	306.00	.39
257		



HISTO: PAI GEOCHEM FILE: HANDEL GRID V-191 RUN ON 83:09:16 AT 08:24:56

File: EXPL*V-191A.SOI2 Field name: ZN LOG = 1

FIGURE: 28

Handel Soil Grid
Histogram Zn

STATISTICS: MINIMUM: 29.0000 MAXIMUM: 1200.00
MEAN: 144.047 STD. DEV.: 110.866

257 VALUES PLOTTED (0 OUTSIDE RANGE 0 NULLS)

SCALE OF HISTOGRAM IS .50 COUNTS/PRINT POSTIION

N	MIDPOINT	PERCENT
1	29.000	.39
1	31.829	.39
0	34.933	.00
2	38.340	.78
1	42.080	.39
0	46.184	.00
1	50.689	.39
3	55.633	1.17
4	61.060	1.56
3	67.015	1.17
4	73.552	1.56
14	80.726	5.45
16	88.600	6.23
20	97.242	7.78
40	106.73	15.56
20	117.14	7.78
26	128.56	10.12
26	141.10	10.12
24	154.86	9.34
13	169.97	5.06
5	186.55	1.95
7	204.74	2.72
10	224.71	3.89
2	246.63	.78
3	270.69	1.17
0	297.09	.00
1	326.07	.39
1	357.87	.39
3	392.78	1.17
2	431.09	.78
1	473.14	.39
0	519.28	.00
0	569.93	.00
1	625.52	.39
0	686.54	.00
0	753.50	.00
0	826.99	.00
0	907.66	.00
1	996.19	.39
0	1093.4	.00
1	1200.0	.39
257		

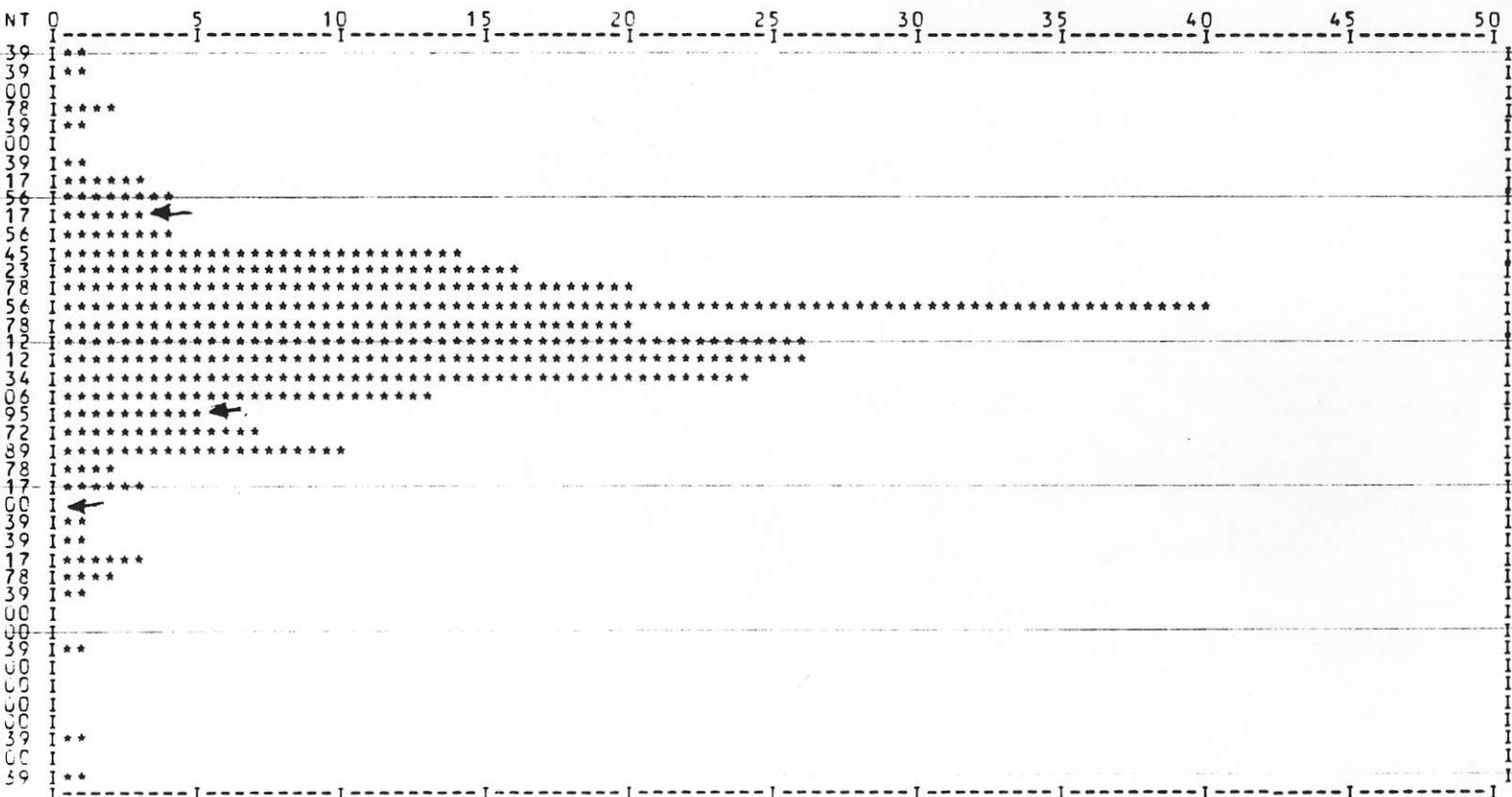


FIGURE: 29

Handel Soil Grid

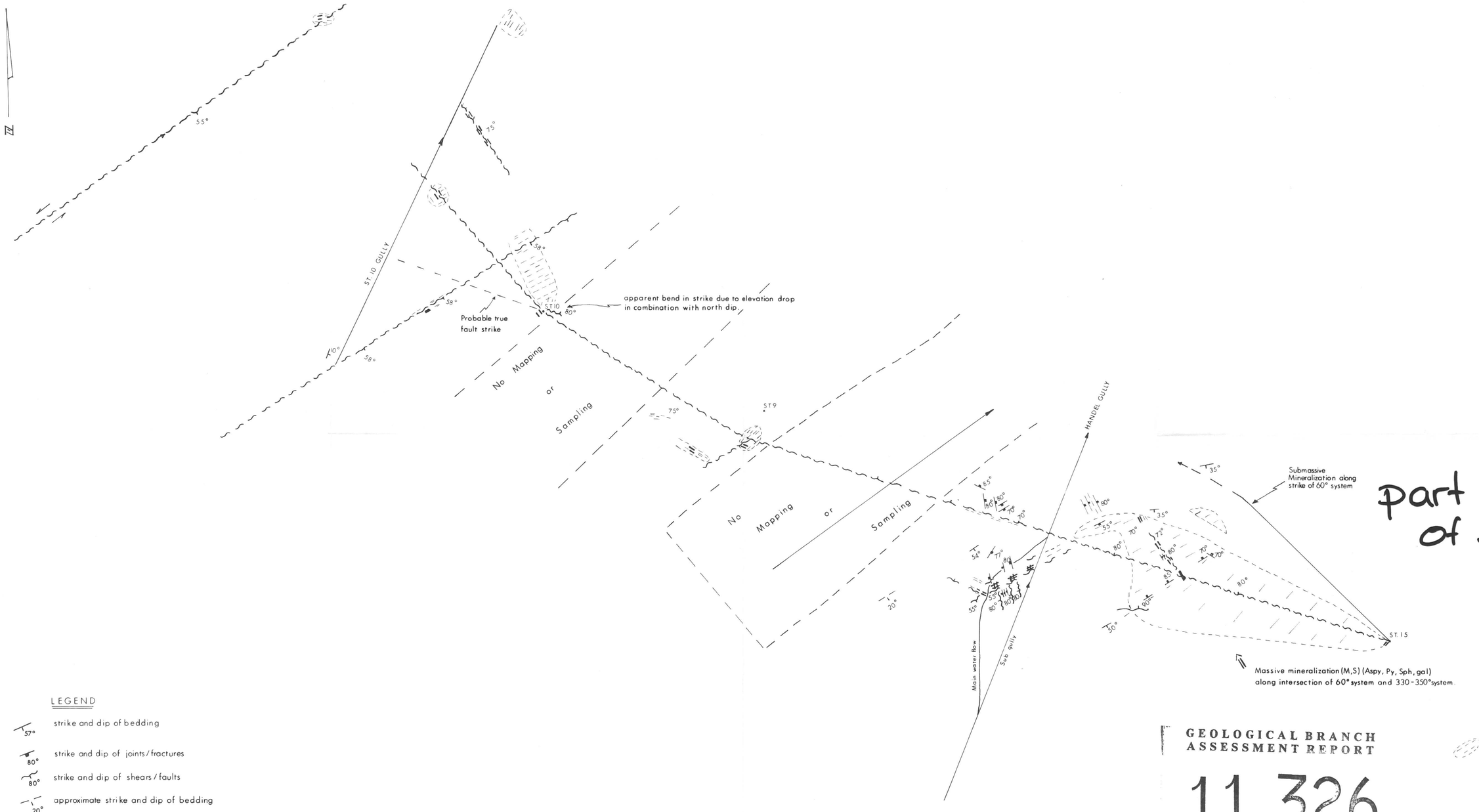
Histogram Pb

```
HISTO:            PAI GEOCHEM FILE:  HANDEL GRID  V-191                    RUN ON 83:09:16  AT  08:20:33

File: EXPL*V-191A.SOI2          Field name: PB      LOG = 1

STATISTICS:      MINIMUM:   5.00000          MAXIMUM:  2820.00
                    MEAN:   50.5058        STD. DEV.:  180.868

  257 VALUES PLOTTED    (    0 OUTSIDE RANGE     0 NULLS)

  SCALE OF HISTOGRAM IS     .33 COUNTS/PRINT POSTIION

  N   MIDPOINT  PERCENT 0         3         6         10        13        16        20        23        26        30        33
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
  1    5.0000     .39  I***                                                                                                I
  1    5.8580     .39  I***                                                                                                I
  2    6.8633     .78  I******                                                                                             I
  8    8.0411    3.11  I************************                                                                            I
 12    9.4210    4.67  I*************************************                                                                I
  6   11.038     2.33  I******************                                                                                  I
 20   12.932     7.78  I*************************************************************                                       I
 17   15.151     6.61  I*****************************************************                                               I
 21   17.751     8.17  I*****************************************************************                                   I
 20   20.797     7.78  I*************************************************************                                       I
 19   24.366     7.39  I***********************************************************                                        I
 14   28.548     5.45  I*******************************************                                                         I
 27   33.447    10.51  I*********************************************************************************************      I
 17   39.186     6.61  I*****************************************************                                               I
 13   45.911     5.06  I****************************************                                                            I
 21   53.790     8.17  I*****************************************************************                                   I
 11   63.020     4.28  I**********************************                                                                  I
  6   73.835     2.33  I******************                                                                                  I
  4   86.506     1.56  I*************                                                                                       I
  5   101.35     1.95  I****************                                                                                    I
  0   118.74      .00  I                                                                                                    I
  4   139.12     1.56  I*************                                                                                       I
  3   162.99     1.17  I*********                                                                                           I
  1   190.97      .39  I***                                                                                                 I
  0   223.74      .00  I                                                                                                    I
  0   262.13      .00  I                                                                                                    I
  1   307.12      .39  I***                                                                                                 I
  1   359.62      .39  I***                                                                                                 I
  0   421.57      .00  I                                                                                                    I
  0   493.91      .00  I                                                                                                    I
  1   576.67      .39  I***                                                                                                 I
  0   677.97      .00  I                                                                                                    I
  0   794.32      .00  I                                                                                                    I
  0   930.03      .00  I                                                                                                    I
  0   1090.3      .00  I                                                                                                    I
  0   1277.4      .00  I                                                                                                    I
  0   1496.7      .00  I                                                                                                    I
  0   1753.5      .00  I                                                                                                    I
  0   2054.4      .00  I                                                                                                    I
  0   2406.9      .00  I                                                                                                    I
  1   2820.0      .39  I***                                                                                                 I
-----                  I---------I---------I---------I---------I---------I---------I---------I---------I---------I---------I
 257                   0         3         6         10        13        16        20        23        26        30        33
```

APPENDIX 4

Figure 4
Figure 8
Figure 6
Figure 11

P.O. BOX 49330
BENTALL POSTAL STATION,
VANCOUVER, B.C., CANADA
V7X 1P1



part 1 of 3

LEGEND

- 57° strike and dip of bedding
- 80° strike and dip of joints/fractures
- 80° strike and dip of shears/faults
- 20° approximate strike and dip of bedding
- approximate strike of gully systems

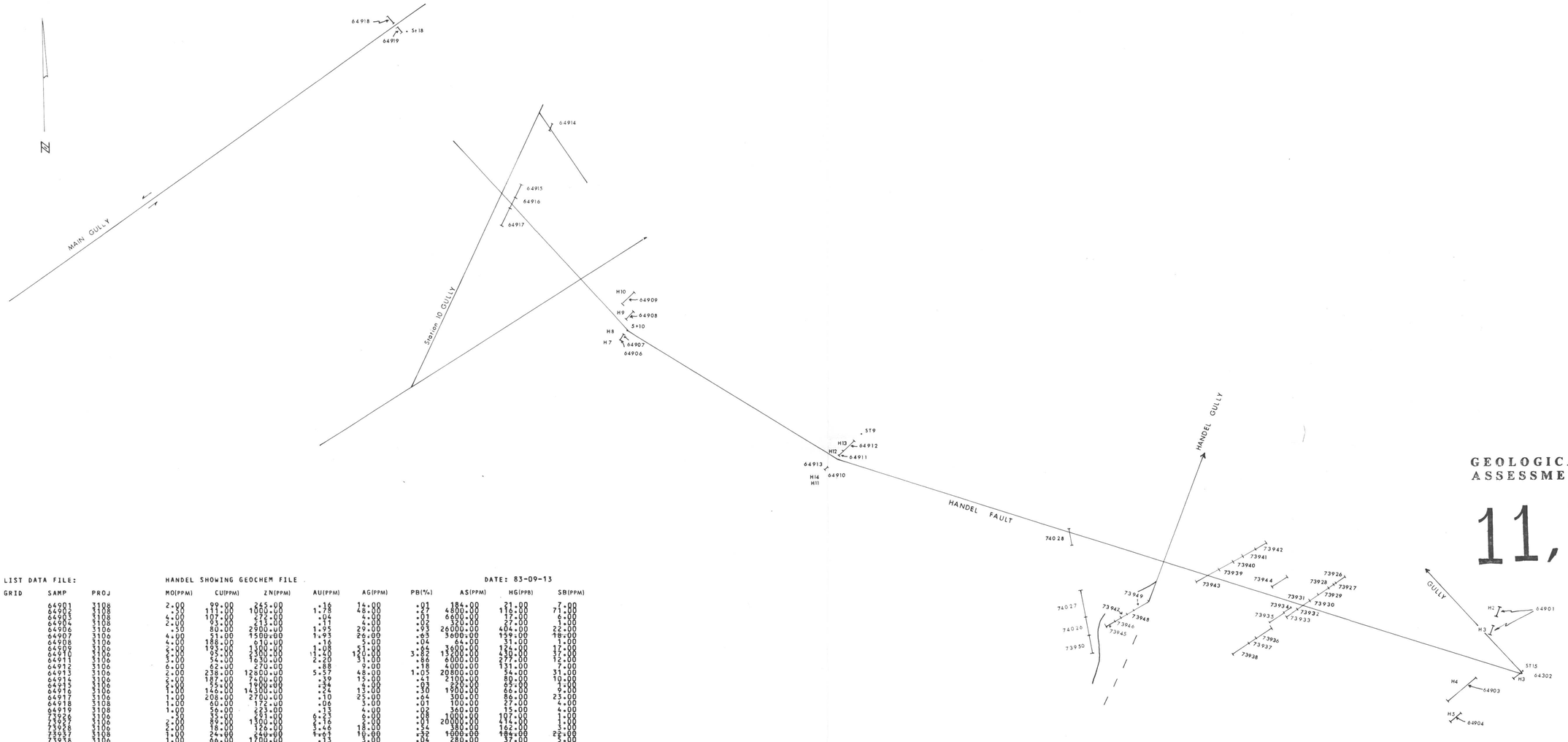
0 5 10 20 30 40
METRES

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

Figure 4

DRAWN: B. W.B.	SCALE: 1:500	PLACER DEVELOPMENT LIMITED	GEOLOGY
DRAFTING: A.K.	DATE: SEPT., 1983	HANDEL SHOWING	
APPROVED:	REVISED:	ISKUT RIVER AREA, B.C.-NTS 104 B/11E.	FILE REF. No.:



GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

LIST DATA FILE: HANDEL SHOWING GEOCHEM FILE DATE: 83-09-13

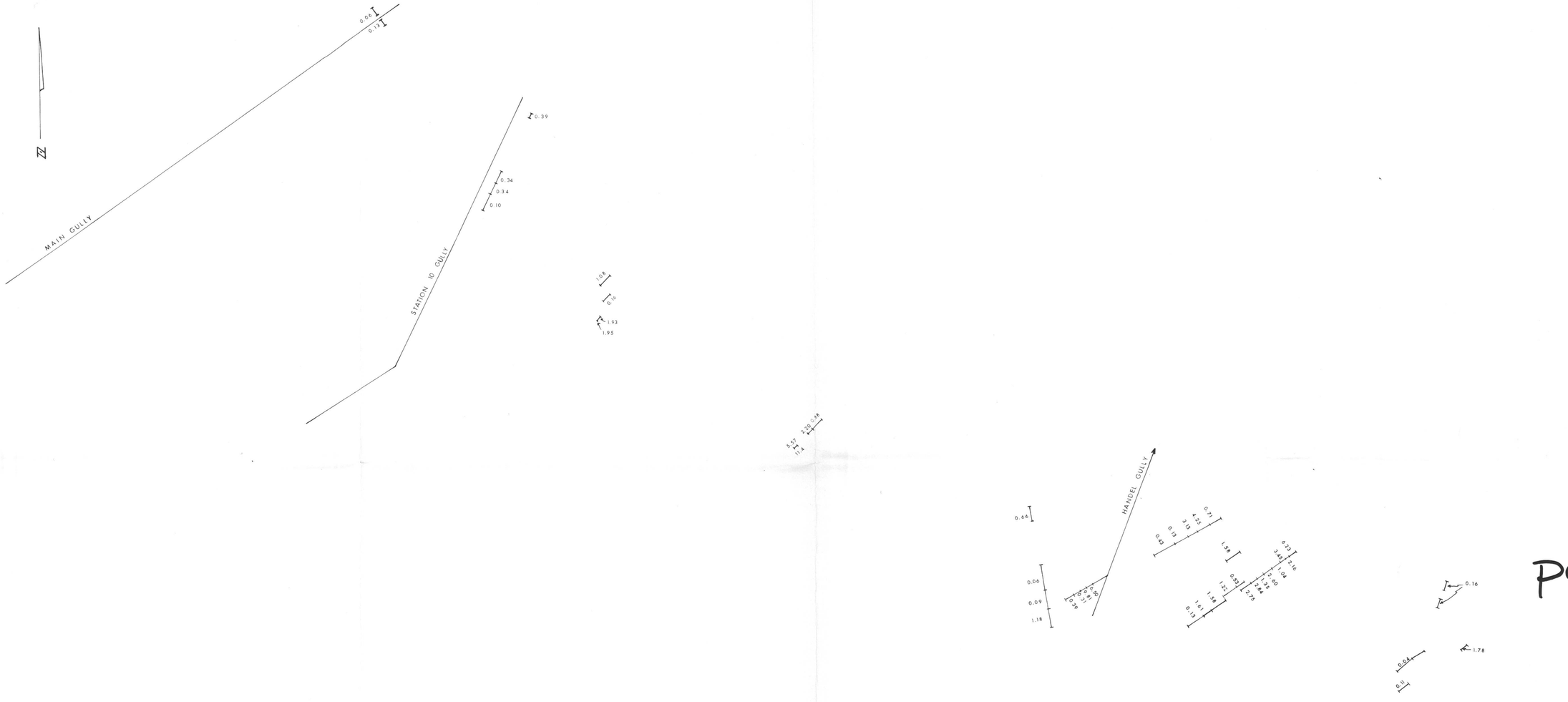
GRID	SAMP	PROJ	MO(PPM)	CU(PPM)	ZN(PPM)	AU(PPM)	AG(PPM)	PB(%)	AS(PPM)	HG(PPB)	SB(PPM)
	64901	3108	2.00	99.00	245.00	.16	14.00	.01	184.00	21.00	7.00
	64902	3108	.50	111.00	1000.00	1.78	48.00	.67	4800.00	116.00	71.00
	64903	3108	4.00	107.00	272.00	.04	4.00	.01	600.00	17.00	6.00
	64904	3108	2.00	93.00	213.00	.11	4.00	.02	320.00	27.00	1.00
	64906	3106	.50	80.00	2900.00	1.95	29.00	.93	26000.00	404.00	22.00
	64907	3106	4.00	51.00	1500.00	1.93	26.00	.63	3600.00	159.00	18.00
	64908	3106	4.00	188.00	610.00	.16	5.00	.04	64.00	31.00	1.00
	64909	3106	6.00	193.00	1300.00	1.08	51.00	.64	3600.00	124.00	17.00
	64910	3106	4.00	95.00	2300.00	11.40	120.00	3.82	13200.00	430.00	37.00
	64911	3106	5.00	54.00	1630.00	2.20	31.00	.86	6000.00	277.00	12.00
	64912	3106	6.00	62.00	270.00	.88	9.00	.18	4000.00	131.00	7.00
	64913	3106	2.00	238.00	12600.00	5.57	48.00	1.05	20800.00	34.00	31.00
	64914	3106	6.00	187.00	7400.00	.39	15.00	.41	2100.00	80.00	10.00
	64915	3106	2.00	55.00	1900.00	.54	4.00	.03	220.00	65.00	1.00
	64916	3106	1.00	144.00	14300.00	.24	13.00	.30	1900.00	66.00	9.00
	64917	3106	1.00	208.00	2700.00	.10	25.00	.64	300.00	86.00	23.00
	64918	3108	1.00	60.00	172.00	.06	3.00	.01	100.00	27.00	4.00
	64919	3108	1.00	56.00	223.00	.13	4.00	.02	360.00	15.00	4.00
	73926	3106	.50	35.00	551.00	6.23	6.00	.08	1000.00	107.00	1.00
	73927	3106	2.00	89.00	1300.00	2.16	7.00	.01	20000.00	474.00	1.00
	73928	3106	2.00	18.00	126.00	3.46	18.00	.34	380.00	162.00	3.00
	73937	3108	1.00	24.00	649.00	1.61	10.00	.32	1000.00	184.00	25.00
	73938	3106	1.00	66.00	1700.00	.13	3.00	.04	280.00	37.00	5.00
	73939	3108	1.00	123.00	1400.00	.19	5.00	.04	380.00	31.00	6.00
	73940	3108	.50	30.00	295.00	2.63	15.00	.41	5000.00	189.00	39.00
	73941	3108	.50	38.00	128.00	4.42	7.00	.14	11000.00	84.00	47.00
	73942	3108	1.00	69.00	920.00	.71	8.00	.21	5400.00	98.00	23.00
	73943	3108	2.00	106.00	980.00	.43	6.00	.05	600.00	36.00	7.00
	73944	3108	5.00	17.00	240.00	1.58	11.00	.41	6000.00	145.00	25.00
	73945	3106	.50	182.00	8400.00	.39	34.00	1.00	3000.00	118.00	1.00
	73946	3106	.50	134.00	1700.00	.31	6.00	.05	800.00	28.00	75.00
	73947	3106	.50	261.00	33500.00	9.81	89.00	2.15	36000.00	121.00	73.00
	73948	3108	1.00	244.00	7600.00	6.50	30.00	.54	36000.00	101.00	106.00
	73950	3108	2.00	134.00	5300.00	1.18	12.00	.25	3800.00	42.00	28.00
	74026	3110	10.00	75.00	420.00	.09	2.00	.01	56.00	.01	6.00
	74027	3110	1.00	62.00	310.00	.06	2.00	.01	168.00	.01	2.00
	74028	3110	2.00	49.00	1020.00	.66	4.00	.11	200.00	.01	9.00
	73929		*********	50.00	*********	1.04	8.00	*********	*********	*********	*********
	73931		*********	30.00	*********	1.95	23.00	*********	*********	*********	*********
	73932		*********	100.00	*********	2.84	42.00	*********	*********	*********	*********
	73933		*********	20.00	*********	2.75	80.00	*********	*********	*********	*********
	73934		*********	10.00	*********	.53	5.00	*********	*********	*********	*********
	73935		*********	30.00	*********	1.22	9.00	*********	*********	*********	*********
	73936		*********	40.00	*********	1.58	71.00	*********	*********	*********	*********
	73949	3110	2.00	158.00	15000.00	3.40	21.00	.36	24000.00	17.00	87.00
	73930		*********	*********	*********	2.80	13.00	.49	*********	*********	*********
	64905		*********	80.00	*********	.99	33.00	*********	*********	*********	*********

0 5 10 20 30 40
METRES

Part 1 of 3

Figure 6

DRAWN: B.W.B.	SCALE: 1:500	PLACER DEVELOPMENT LIMITED	SAMPLE LOCATION MAP
DRAFTING: A.K.	DATE SEPT., 1983	HANDEL SHOWING	
SAMPLED: B.W.B., G.R.	REVISED:	ISKUT RIVER AREA, B.C. – NTS 104 B 11 E.	FILE REF. No. :



Part 1 of 3

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

Figure 8

0 5 10 20 30 40
METRES

DRAWN: B.W.B.	SCALE: 1:500	PLACER DEVELOPMENT LIMITED	GOLD ASSAY
DRAFTING: A.K.	DATE: SEPT., 1983	HANDEL SHOWING	
SAMPLED: B.W.B., G.R.	REVISED:	ISKUT RIVER AREA, B.C. — NTS 104B11E	FILE REF. No.:

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

CHOPIN SHOWING GEOCHEM FILE

DATE: 83-09-13

SAMP	PROJ	MO(PPM)	CU(PPM)	ZN(PPM)	AS(PPM)	HG(PPB)	SB(PPM)	AU(PPM)	AG(PPM)	PB(%)
64920	3110	2.000	205.000	26.000	.500	84.000	1.000	.10	2.000	.003
64922	3110	10.000	265.000	34.000	.500	36.000	1.000	.130	2.000	.003
64923	3110	38.000	248.000	21.000	.500	22.000	1.000	.210	1.000	.003
64924	3110	3.000	88.000	27.000	.500	193.000	1.000	.140	.500	.003
74029	3110	22.000	175.000	45.000	.500	16.000	1.000	.060	2.000	.002
74030	3110	9.000	145.000	31.000	.500	.010	1.000	.960	1.000	.003
74031	3110	25.000	203.000	190.000	240.000	197.000	3.000	.180	.500	.008
74032	3110	9.000	198.000	92.000	8.000	74.000	1.000	.060	1.000	.005
74033	3110	770.000	44.000	31.000	154.000	51.000	1.000	1.090	1.000	.009
74034	3110	28.000	287.000	73.000	.500	130.000	1.000	.050	1.000	.003
74664		********	********	********	********	********	********	.190	1.000	********
74665		********	********	********	********	********	********	1.080	3.000	********
74666		********	********	********	********	********	********	1.610	2.000	********
74667		********	********	********	********	********	********	.080	2.000	********
74668		********	********	********	********	********	********	5.430	2.000	********

Part 1 of 3

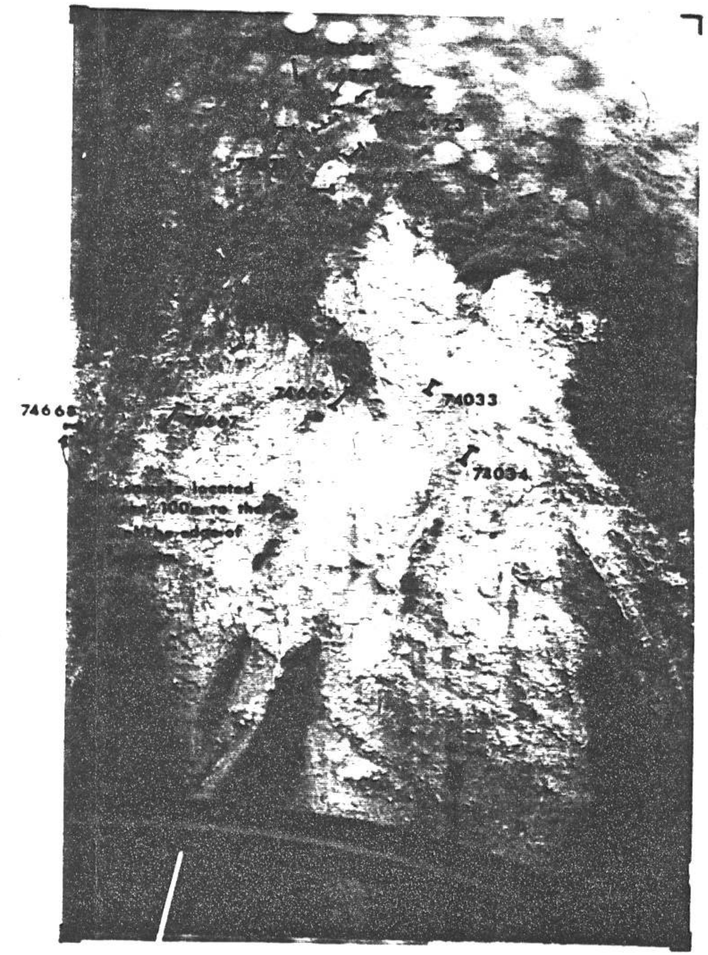


Figure 11

Sample Locations - Main Chopin Face

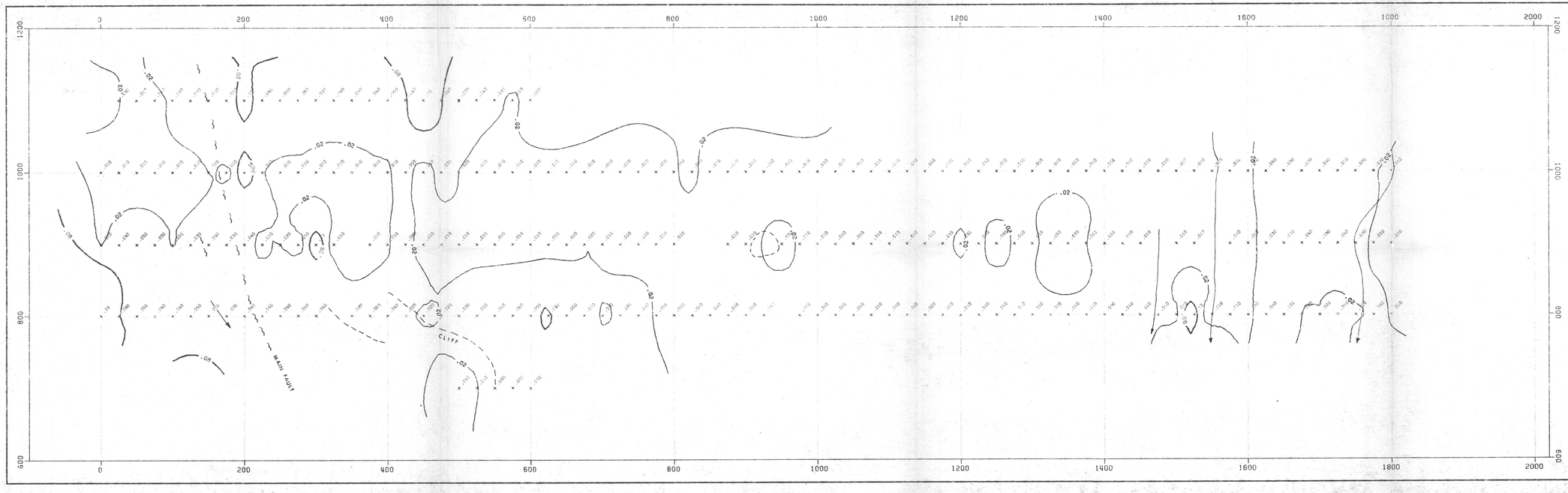
Oblique Photo Overlay

Approximate Scale 1: 1660

APPENDIX 5

Figure 13
Figure 14
Figure 15
Figure 16
Figure 18

P.O. BOX 49330
BENTALL POSTAL STATION,
VANCOUVER, B.C., CANADA
V7X 1P1



V-191: HANDEL GRID

SOIL GEOCHEM SAMPLES
GOLD ASSAY (PPM)
CONTOUR LEVELS: .021 .08

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

Part 1 of 3

DATA PLOTTED ON THIS MAP:

	FIELD	FILE
+ CONTOURS:	AU	EXPL*V-191A.S012
× POINTS:	AU	EXPL*V-191A.S012

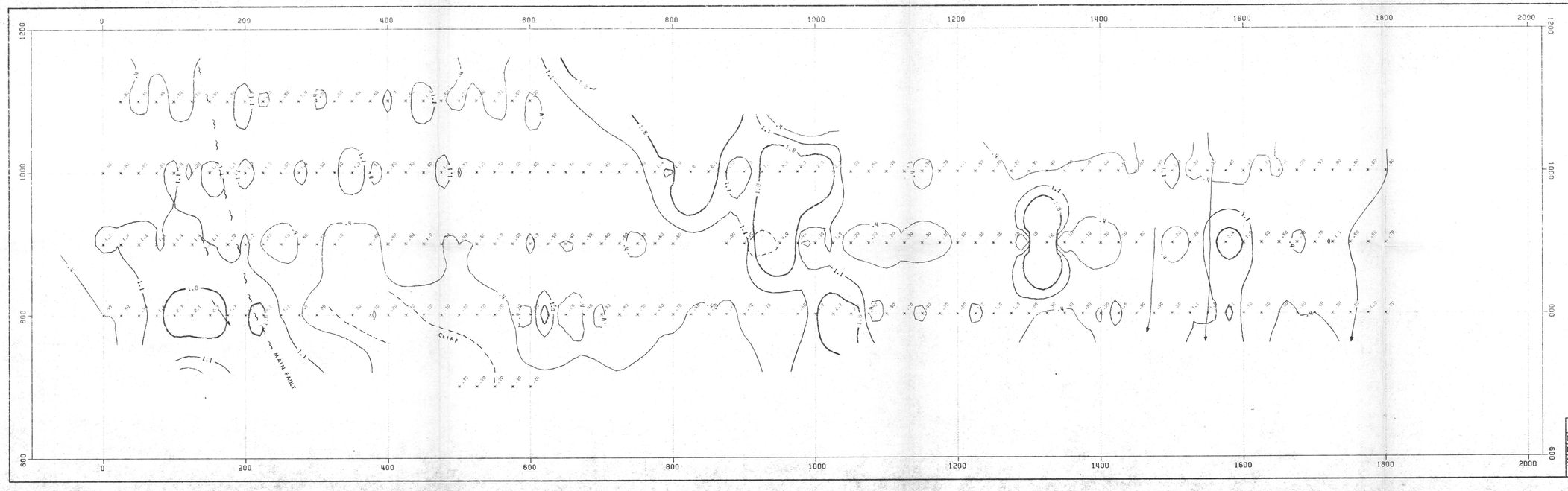
DIRECTION OF NORTH AT CENTRE OF MAP

0 100 200 300
METRES

Figure 13

PLACER DEVELOPMENT LIMITED

DRAWN BG	V-191: HANDEL GRID
DATE 83/09/16	
SCALE 1:2500	
	NO.



V-191: HANDEL

SOIL GEOCHEM GRID
SILVER ASSAY
CONTOUR: 0.4 1.1 1.85 (PPM)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

part 1 of 3

DATA PLOTTED ON THIS MAP:

	FIELD	FILE
▲ CONTOURS:	AG	EXPL*V-191A.S012
× POINTS:	AG	EXPL*V-191A.S012

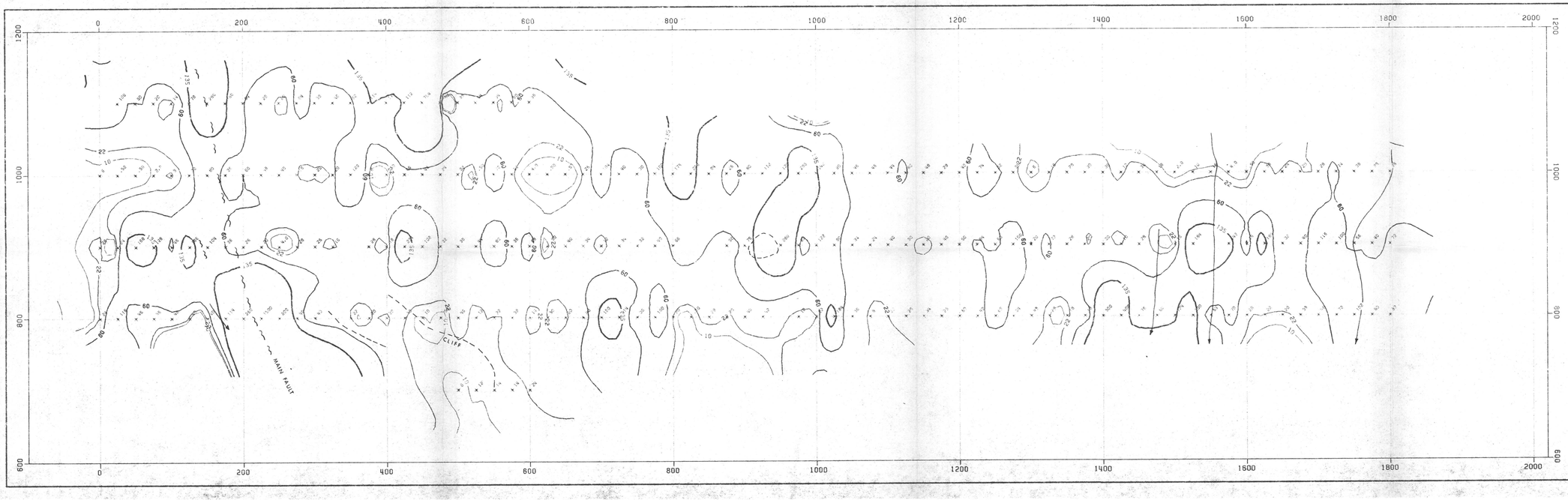
DIRECTION OF NORTH AT CENTRE OF MAP

0 100 200 300
METRES

Figure 14

PLACER DEVELOPMENT LIMITED

DRAWN BWB	V-191: HANDEL
DATE 83/09/16	
SCALE 1:2500	
	NO.



V-191: HANDEL GRID

SOIL GEOCHEM SAMPLES
ARSENIC ASSAY (PPM)
CONTOUR LEVELS 10 22 60 135

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

Part 1 of 3

DATA PLOTTED ON THIS MAP:

	FIELD	FILE
+ CONTOURS:	AS	EXPL:V-191A.S012
× POINTS:	AS	EXPL:V-191A.S012

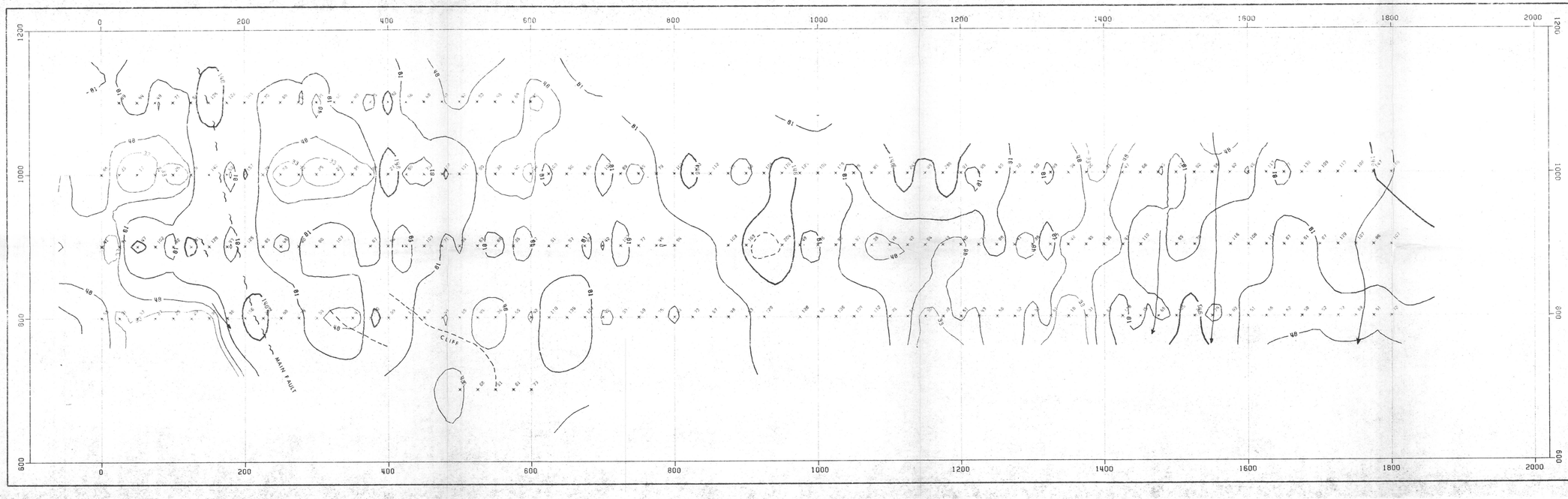
DIRECTION OF NORTH AT CENTRE OF MAP

0 100 200 300
METRES

Figure 15

PLACER DEVELOPMENT LIMITED

DRAWN BG	V-191: HANDEL GRID
DATE 83/09/16	
SCALE 1:2500	
	NO.



V-191: HANDEL GRID

SOIL GEOCHEM SAMPLES
CONTOUR LEVEL
COPPER ASSAYS
CONTOUR LEVEL 33 49 81 146

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,326

part 1 of 3

DATA PLOTTED ON THIS MAP:

	FIELD	FILE
+ CONTOURS:	CU	EXPL\V-191A.S012
× POINTS:	CU	EXPL\V-191A.S012

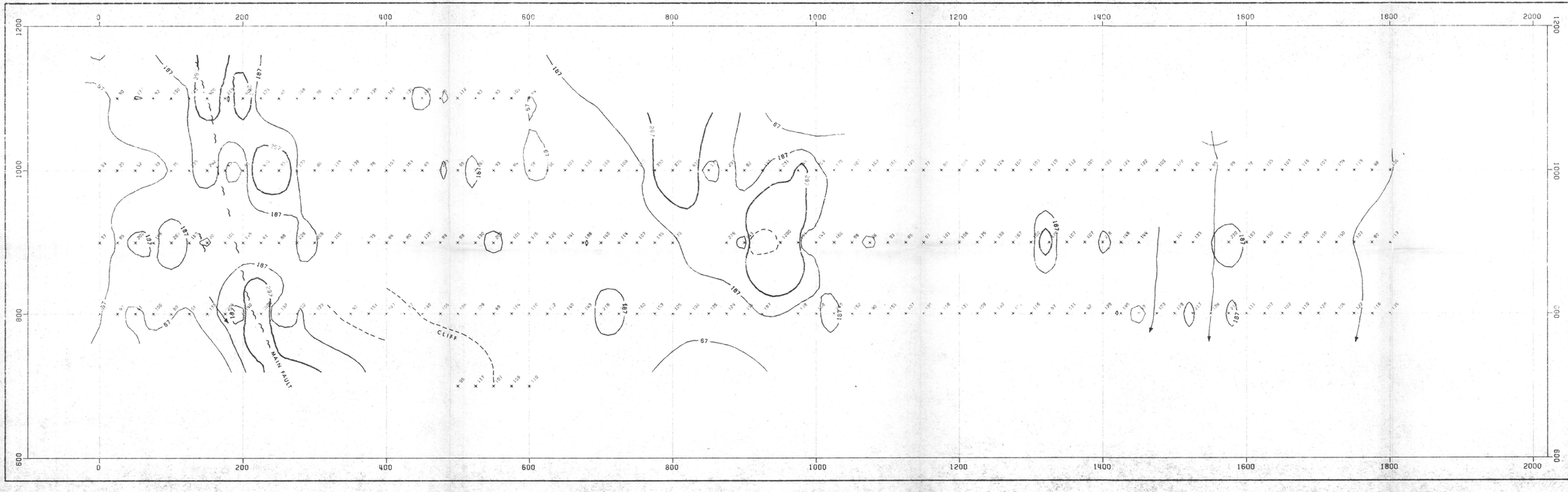
DIRECTION OF NORTH AT CENTRE OF MAP

0 100 200 300
METRES

Figure 16

PLACER DEVELOPMENT LIMITED

DRAWN BWB	V-191: HANDEL GRID
DATE 83/09/16	
SCALE 1:2500	
	NO.



V-191: HANDEL GRID

SOIL GEOCHEM SAMPLES
ZINC ASSAY (PPM)
CONTOUR LEVEL 67 187 297

part 1 of 3

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,326

DATA PLOTTED ON THIS MAP:

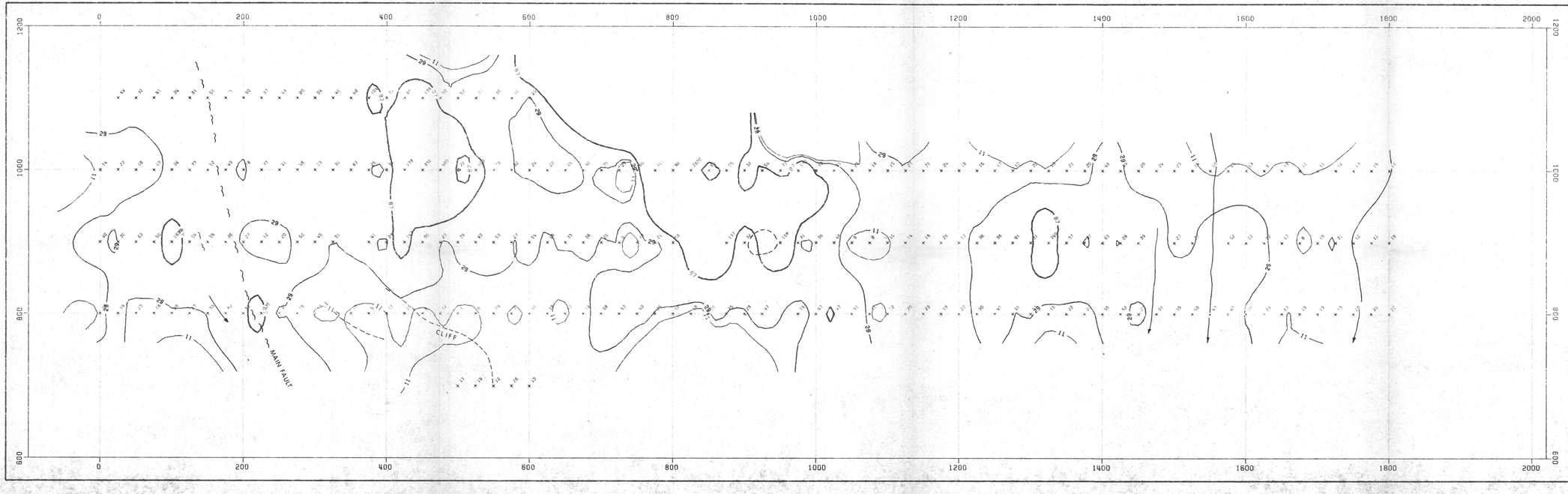
	FIELD	FILE
+ CONTOURS:	ZN	EXPL*V-191A.SO12
× POINTS:	ZN	EXPL*V-191A.SO12

DIRECTION OF NORTH AT CENTRE OF MAP

0 100 200 300
METRES

Figure 17

PLACER DEVELOPMENT LIMITED	
DRAWN BWB	V-191: HANDEL GRID
DATE 83/09/16	
SCALE 1:2500	
	NO.



HANDEL GEOCHEM SOIL GRID PB

CONTOUR LEVEL 11 PPM
29 PPM
87 PPM

Part 1 of 3

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,326

DATA PLOTTED ON THIS MAP:

	FIELD	FILE
+ CONTOURS:	PB	EXPL*V-191A.S012
× POINTS:	PB	EXPL*V-191A.S012

DIRECTION OF NORTH AT CENTRE OF MAP

0 100 200 300
METRES

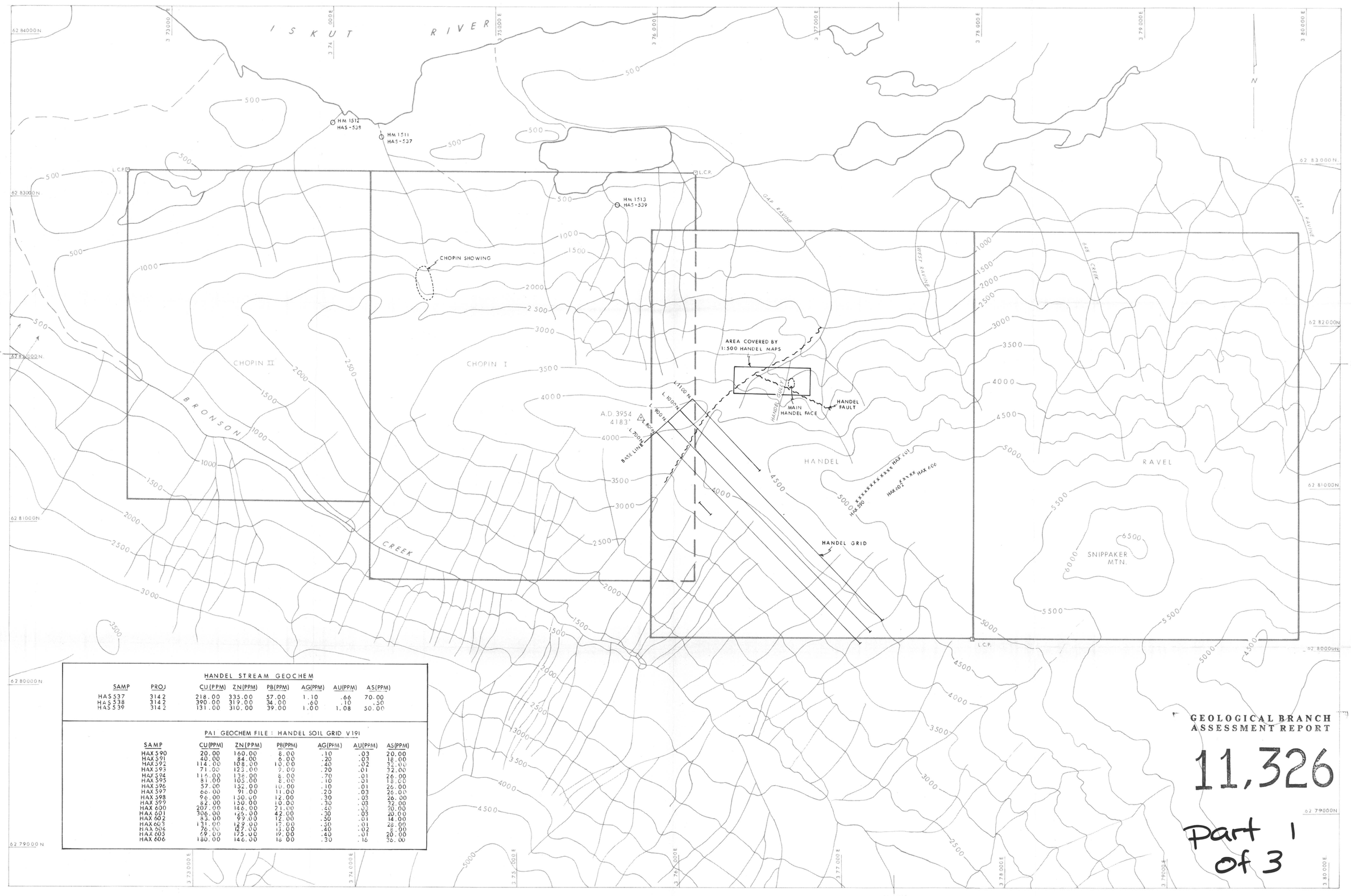
Figure 18

PLACER DEVELOPMENT LIMITED	
DRAWN BNB	HANDEL GEOCHEM SOIL GRID PB
DATE 83/09/16	
SCALE 1:2500	
	NO.

APPENDIX 6

Figure 19

P.O. BOX 49330
BENTALL POSTAL STATION,
VANCOUVER, B.C., CANADA
V7X 1P1



HANDEL STREAM GEOCHEM

SAMP	PROJ	CU(PPM)	ZN(PPM)	PB(PPM)	AG(PPM)	AU(PPM)	AS(PPM)
HAS537	3142	218.00	335.00	57.00	1.10	.66	70.00
HAS538	3142	390.00	319.00	34.00	.60	.10	.50
HAS539	3142	131.00	310.00	39.00	1.00	1.08	50.00

PA1 GEOCHEM FILE : HANDEL SOIL GRID V191

SAMP	CU(PPM)	ZN(PPM)	PB(PPM)	AG(PPM)	AU(PPM)	AS(PPM)
HAX590	20.00	160.00	8.00	.10	.03	20.00
HAX591	40.00	84.00	6.00	.20	.03	18.00
HAX592	114.00	108.00	10.00	.40	.02	32.00
HAX593	71.00	123.00	9.00	.20	.01	32.00
HAX594	116.00	136.00	8.00	.70	.01	26.00
HAX595	81.00	105.00	8.00	.10	.01	18.00
HAX596	57.00	152.00	10.00	.10	.01	26.00
HAX597	66.00	91.00	11.00	.20	.03	26.00
HAX598	96.00	150.00	12.00	.30	.03	26.00
HAX599	82.00	150.00	10.00	.30	.03	32.00
HAX600	207.00	146.00	21.00	.40	.03	70.00
HAX601	306.00	125.00	42.00	.30	.03	20.00
HAX602	83.00	99.00	12.00	.50	.01	14.00
HAX603	131.00	129.00	17.00	.50	.01	28.00
HAX604	76.00	127.00	13.00	.40	.02	8.00
HAX605	69.00	175.00	19.00	.40	.01	20.00
HAX606	180.00	146.00	16.00	.30	.16	36.00

O - STREAM SEDIMENT SAMPLE LOCATION.

X - SOIL SAMPLE LOCATION.

300 0 300 600
METRES

Figure 19

DRAWN:	SCALE: 1:10,000	PLACER DEVELOPMENT LIMITED	WORK AREA MAP
DRAFTING: A.K.	DATE: SEPT, 1981.	HANDEL SHOWING	
APPROVED:	REVISED:	ISKUT RIVER AREA, B.C.–NTS 104B/11E.	FILE REF. No.: