

GEOCHEMICAL, GEOLOGICAL AND GEOPHYSICAL  
REPORT ON STAN CLAIM GROUP

VANCOUVER MINING DIVISION,  
BRANDYWINE CREEK AREA, BRITISH COLUMBIA

LOCATION:

N.T.S.: 92 J-3E  
LATITUDE: 50° 05' N.  
LONGITUDE: 123° 11' W.

CLAIMS:

STAN 1 (#2295)  
STAN 2 (#2350)  
STAN 3 (#2351)

LOG NO:	0813	RD.
ACTION:		
FILE NO:		

REPORT FOR:

DOREX MINERALS INC.  
705-543 GRANVILLE STREET  
VANCOUVER, B.C. V6C 1X8

PREPARED BY:

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JANUARY 3, 1990

20-174  
**GEOLOGICAL ASSESSMENT REPORT**

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SUMMARY

The Stan Claim Group, consisting of 45 units in 3 modified grid claims, covers about 900 ha (2224 acres) in the Vancouver Mining Division near Whistler, British Columbia. The property has excellent access from Vancouver via Highway 99 and the Brandywine Creek logging road system (Silver Tusk Mine Road). The Discovery Property is situated northwest of Silver Tusk Mines Property. The property was acquired by Dorex Minerals Inc. to explore for deposits similar to those on the adjacent Silver Tusk Mines Property and nearby Northair Mines Property. The Northair deposits are about 3km north and the Silver Tusk deposits are about 1 km west and 3km southwest of the Stan Property.

The Discovery, Manifold, and Warman zone on the nearby Northair Mine Property have yielded 345,700 tons containing 166,582 ounces of gold (5,181 kg.) and 845,854 ounces of silver (26,309 kg.) with by-product copper, lead and zinc. Mineralization occurs as disseminations, veins and massive sulphides in NNW trending, fault segmented structures.

The Stan Property is underlain by quartz diorite intrusions of the Coast Plutonic Complex and a package of intermediate, greenschist facies, meta-volcanic rocks. The geological setting and the northerly to north-northwesterly structures on the Stan Property are similar to mineralized structures on the adjacent Silver Tusk Mines and nearby Northair Mines properties.

The 1989 work program consisted of about 25 Km of VLF-EM and magnetometer survey, 636 soil samples and 99 rock samples. The surveys have been successful in defining a number of multi-element soil geochemical anomalies with gold values to 123 ppb, silver values to 6.5 ppm, copper values to 4725 ppm, and molybdenum values to 128 ppm. Grab sample 89KSR 015 contained 13971 ppm copper, 19.7 ppm silver and 9150 ppb gold and a 0.5 meter chip sample 89KSR 011 contained 20539 ppm copper, 22.8 ppm silver and 260 ppb gold. Magnetic anomalies "A" through "E" and VLF-EM anomalies "A" through "E" were defined by Basil (1989).

Considering the encouraging results obtained during the initial exploration program, further, success contingent, staged exploration of the Stan Property is recommended with a Stage 1 program of geochemical grid extension and trenching followed by 400 meters of diamond drilling, estimated to cost \$ 100,000. Contingent on the success of the Stage 1 program, a Stage 2, 1,000 meter diamond drill program is estimated to cost \$ 160,000. Recommendations for a Stage 3 program should be made by an independent engineer after evaluation of Stage 1 and Stage 2 results.

## INTRODUCTION

The Stan 1, Stan 2, and Stan 3 claims, consisting of 45 metric units, are owned by Dorex Minerals Inc. The writer was retained by the management of Dorex Minerals Inc. to recommend a qualifying exploration program, examine the Stan Property, and prepare a qualifying engineering report on the property, if warranted. The writer examined the property with project geologist Ken Karchman and Dr. J. Duro Adamec, director of Dorex Minerals Inc. on October 27, 1989, reviewed previous reports on the area and compiled the results of the work program conducted between October 3rd and November 18, 1989.

This report reviews the geological setting and 1989 work program on the Stan Property and provides recommendations for further success contingent, staged exploration of the Stan Property.

## LOCATION AND ACCESS (FIGURES 1 & 2)

The Stan Property is located in the Coast Mountains of Southwestern British Columbia about 14 km southwest of the ski-resort of Whistler and 80 km north of Vancouver, British Columbia. The claims are in the Vancouver Mining Division and N.T.S. map sheet 92-J-3E at geographic coordinates 50° 05'N. latitude and 123° 11'W. longitude. The claims are situated in the headwater area of Brandywine Creek about 7 km northwesterly from Daisy Lake.

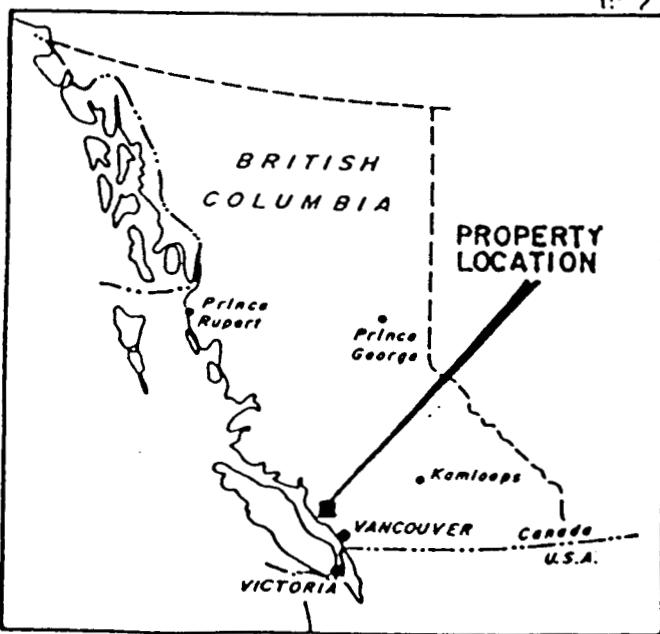
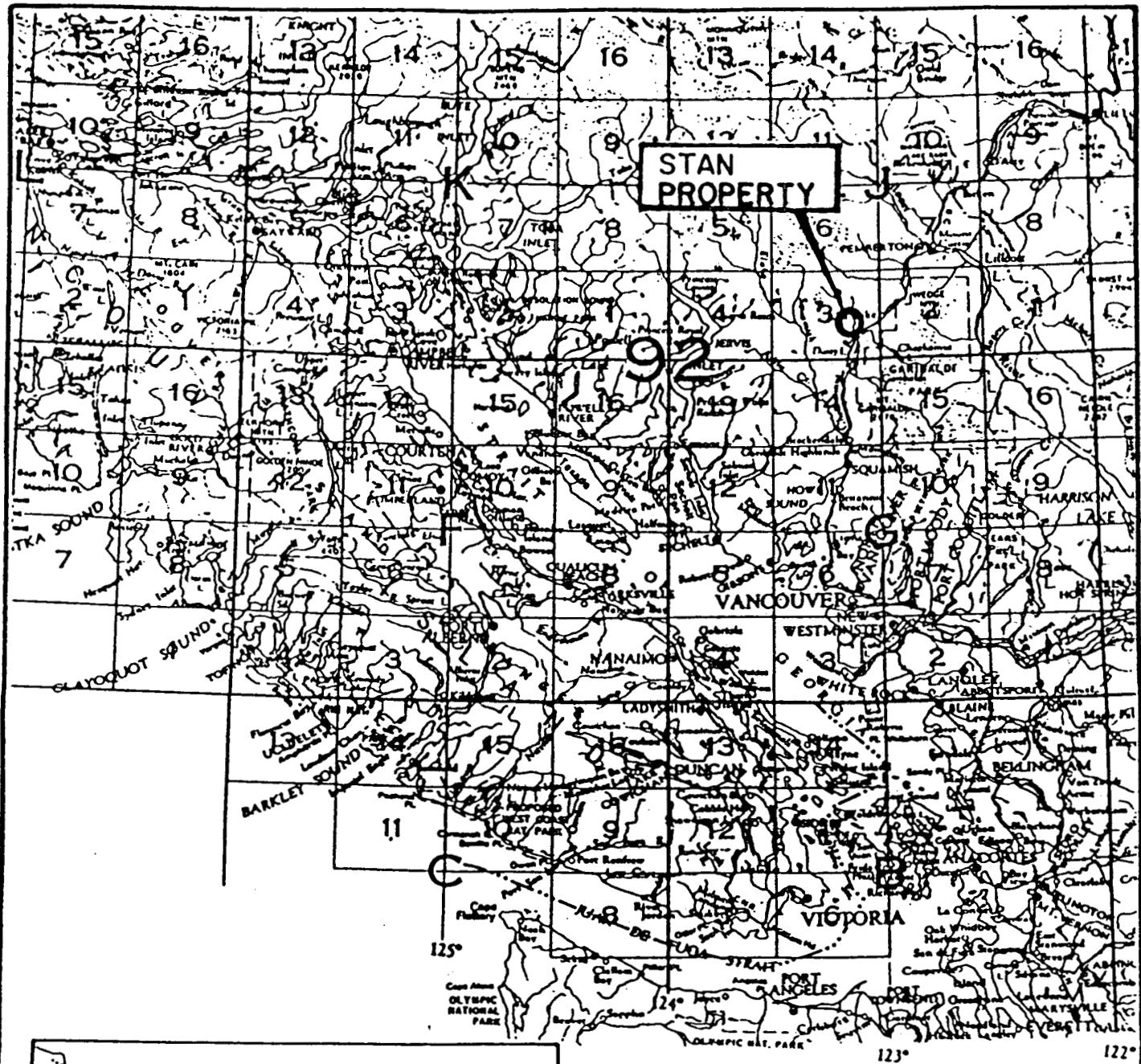
Access to the property from Vancouver is via Highway 99 to the Brandywine Creek Logging (Silver Tusk Mine) Road which extends northward about 8 km to the southern property boundary. Logging operations throughout the property have resulted in a network of two and four-wheel drive roads on the property. The British Columbia Railway branch from Vancouver to Lillooet follows Highway 99 from Vancouver to Pemberton.

Elevations on the property range from about 2700 feet (823 meters) in the Brandywine Creek Valley to about 5600 feet (1707 meters) with moderate to very strong relief of 884 meters. Vegetation is typical of coast rain forest with most of the Stan 1 claim being recently logged for commercial stands of hemlock, yellow cedar and balsam.

## PROPERTY DEFINITION (FIGURE 2)

The Stan Claim Group, consisting of the Stan 1, Stan 2, and Stan 3 metric claims, contains 45 metric units in the Vancouver Mining Division, British Columbia. The Stan 1 claim was staked in May 1988 and the Stan 2 and Stan 3 claims were staked from a common legal corner post (the 5W corner for Stan 1) by Juraj Adamec in September 1988. The claims were purchased by Dorex Minerals Inc. in August 1989. The common legal corner post for the Stan 2 and Stan 3, located about 70 meters east of the 200 meter point on the Brandywine Meadows Trail, was examined by the writer on October 27, 1989.

Claim locations shown on Figure 2 are after government claim map 92 J-3E with pertinent claim data summarized in Table 1.



DOREX MINERALS INC.

STAN CLAIMS  
LOCATION MAP

N.T.S. 93J-3E VANCOUVER M.D., B.C.

0 20 40 60 KM.

P.A. CHRISTOPHER & ASSOCIATES LTD.

SCALE AS SHOWN JAN. 1990 FIGURE 1

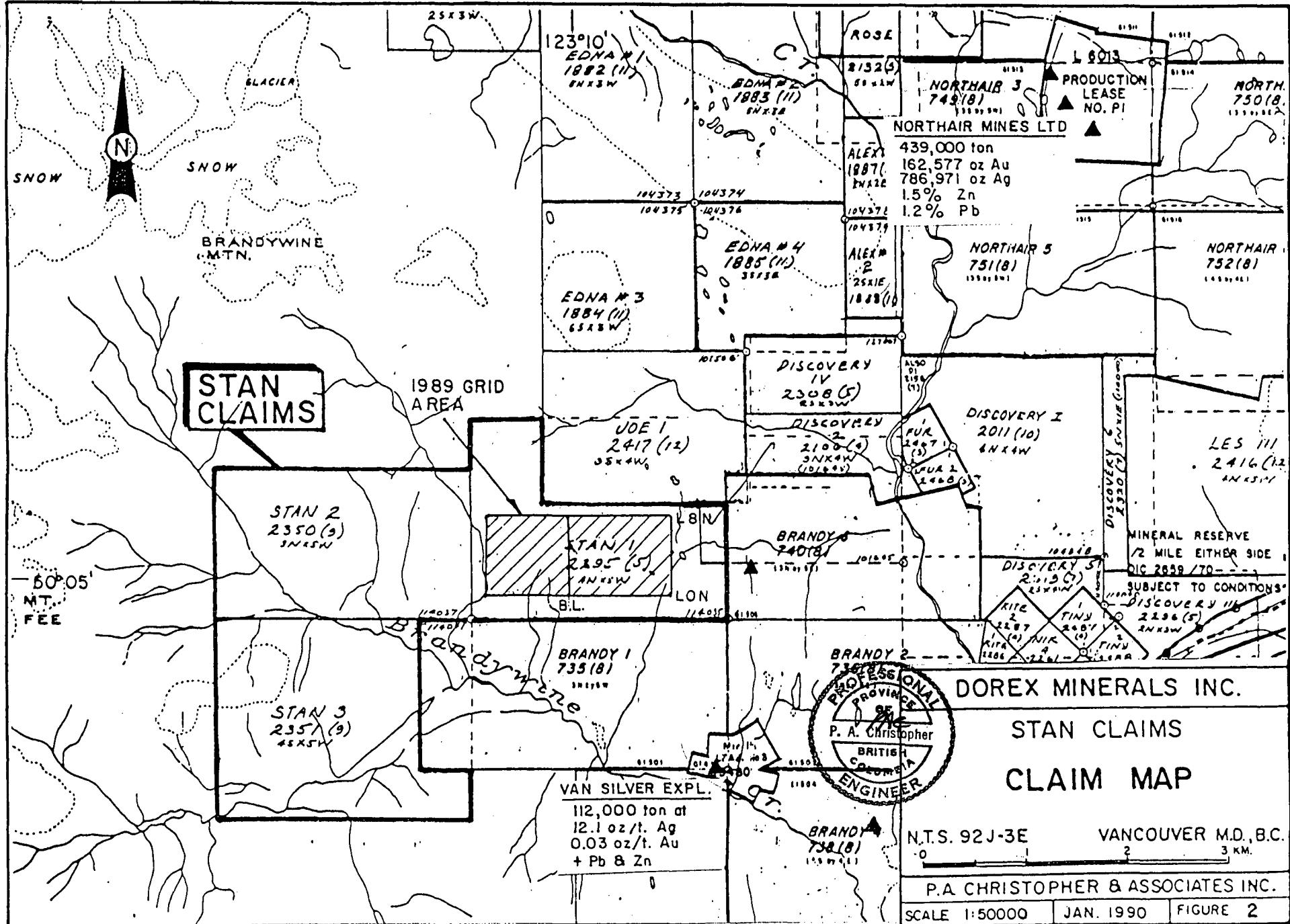


TABLE 1. Pertinent Claim Data for Stan Claim Group.

<u>Name</u>	<u>Rec. #</u>	<u>Units/Shape</u>	<u>Staker</u>	<u>Record Date</u>	<u>Expiry*</u>
Stan 1	2295	20/4Nx5W	J. Adamec	May 10/88	1990
Stan 2	2350	15/3Nx5W	"	Sept 25/88	1990
Stan 3	2351	6/2Sx3N	"	Sept 24/88	1990

\* Prior to Recording 1988 Work Program.

### HISTORY

The first reports of exploration and mineral occurrences along the Pacific Great Eastern Railroad, now British Columbia Railroad, were made by Camsell (1917) in Summary Report, 1917, Part B, Geological Survey of Canada. In the 1924 Report of the Minister of Mines, Brewer states that, "During 1924 discoveries were made by Helmar Hogstrom on a small tributary of the Brandywine River, about 3 miles westerly from McGuire Siding, which are of considerable importance and promise to supply a tonnage of ore and supplies for railway-haul during the coming season of 1925." The description apparently apply to the Astra and Cambria prospects (B.C. Mineral Inventory 92-JW #1) and Blue Jack prospect (B.C. Mineral Inventory 92-JW #3) operated in 1969 and 1970 by Barkley Valley Mines Ltd. and Van Silver Explorations Ltd. (now Silver Tusk Mines Ltd.), respectively.

The area appears to have received a number of prospecting efforts with a few small shipments from the Astra-Cambria and Blue Jack prospects prior to discovery of the Warman Property on Callaghan Creek in 1970 by Dr. M.P. Warshawski, an amateur prospector, and Mr. A. H. Manifold, a geologist. The Warman Property was explored and developed by Northair Mines Ltd. from 1972 to start of production in 1976. From 1976 to June 1982, the Northair Mines milled 345,700 tons yielding 166,582 ounces of gold and 845,854 ounces of silver with by-product production of copper, lead and zinc. Milling was suspended in June 1982 due to economic conditions with reserves as of February 28, 1982 reported at 67,236 tons averaging 0.25 oz Au/ton, 0.77 oz Ag/ton, 1.25% lead and 1.90% zinc.

The Silver Tunnel prospect, situated about 2 kilometers southeast of the Stan Property has been owned by Van Silver Mines Ltd. (presently Silver Tusk Mines Ltd.) or associated companies since 1967. A mill was built on the property in 1977 to mine probable reserves at the Silver Tunnel prospect of about 112,000 tons reported to average 12.1 oz Ag/ton, 0.03 oz Au/ton, 0.19% lead and 0.34% zinc.

Acquisition of the Stan Claim Group was started by Dr. Juraj Adamec, geologist with staking of the Stan 1 claim on May 10, 1988. The Stan 1 claim area was formerly held as the Skyline claim on which no work was recorded. The Stan 2 and Stan 3 claims were added to the property in September 1988. Dorex Minerals Inc. obtained the property from Dr. Adamec in August 1988. Prior to acquisition by Dorex Minerals Inc. exploration of the Stan Property consisted of a brief geological and geochemical prospecting program to satisfy assessment

requirements (Adamec, 1988). The prospecting program consisted of 47 rock samples (Figure 4) and 10 silt samples with rock samples contained up to 4654 ppm copper, 9.2 ppm silver, and 98 ppb gold. A summary of the better mineralized samples follows:

Table 2. Adamec's (1988) prospecting sample summary.

<u>Sample #</u>	<u>Width (CM)</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>	<u>Copper (ppm)</u>
18355	25	40	3.5	1625
18361	50	98	9.2	4517
JA 04	40	49	3.3	1473
JA 05	30	27	7.0	4658
JA 25	30	9	3.2	252
18357	100	44	3.2	655

Peter Christopher & Associates Inc. was retained by Dorex Minerals Inc. in September 1989 to review the property and recommend a program of exploration. A geological, geochemical and geophysical program was conducted on the Stan Property by Bush Resources Ltd. for Dorex Minerals Inc. from October 3rd, 1989 to November 18th, 1989. The geophysical program was conducted by Coast Mountain Geological Ltd. (Basil, 1989), and grid geology was mapped by professional geologist (Alberta) Ken Karchmar.

The writer examined the Stan claims on October 27, 1989 with Dr. J. Ademec and Ken Karchmar to review the geological setting, to check sample locations and to confirm the property location.

#### WORK PROGRAM

The 1988 field program was conducted by Dr. J. Duro Ademec (1988) in September and October 1988, and consisted of reconnaissance prospecting, 45 rock samples and 10 silt samples. Rock sample locations are shown on Figure 4 with geochemical data presented in Appendix A.

The 1989 field program was mainly conducted on the Stan 1 claim between October 3rd and November 18, 1989 by Bush Resources Ltd. for Dorex Minerals Inc. The work consisted of 28.75 km of surveyed grid with 800 meters of slope corrected baseline. Lines were spaced at 50 meters with the soil stations at 50 meter intervals and VLF-EM stations at 25 meter intervals.

A total of about 25 kilometers of magnetometer and VLF-EM survey was carried out over the grid area with readings collected at 25 meter intervals along lines by Coast Mountain Geological Ltd. (Basil, 1988). Geophysical readings, using a microprocessor based EDA Omni Plus magnetometer/VLF-EM system in conjunction with the EDA Omni IV magnetometer base station. Readings were collected between October 17th and October 27, 1989. Magnetic results is summarized on Figure 10 and VLF-EM data is summarized on Figures 11a, 11b, and 11c.

Geological mapping of the grid area was conducted by geologist Ken Karchman (P. Geol. Alberta) between October 25th and October 27th,

1989. Karshman collected a total of eleven rock chip and eight rock grab samples with locations shown on Figure 5 and rocks descriptions and analytical results presented in Appendix A. Rock samples were submitted to Min-En Laboratories Ltd. in North Vancouver, B.C. for 31 element ICP and gold by fire assay start and atomic adsorption finish.

A total of 636 soil samples were collected at 50 meter intervals along grid lines. Soil samples were collected from the B horizon at 20 to 30 cm and placed in kraft sample bags, dried and shipped to Acme Analytical Labs. in Vancouver, B.C. for 30 element ICP and gold by atomic adsorption. Analytical results for gold-silver, copper-arsenic, lead-zinc and molybdenum are shown on Figures 6 through 9, respectively with analytical results presented in Appendix A. Statistical treatment was completed on copper, lead, zinc, molybdenum, arsenic, silver and gold by Acme Analytical Labs. with results presented in appendix B.

The 1988 field program is presented in assessment report by J. Duro Adamec (1989) with the 1989 field program summarized in this report. The cost of the 1988 and 1989 field programs was in excess of \$75,000.

#### GENERAL GEOLOGY (Figure 3)

The general geology of the Brandywine Creek area has been mapped by Roddick and Woodsworth, (1975), Mathews (1958) and Miller and Sinclair (1978; 1979). Figure 3 is after Miller and Sinclair (1978) mapping published in the B.C. Ministry of Mines and Pet. Resources Fieldwork 1977 and G.S.C. open file map 482 (Woodsworth, 1977). They show the Stan Property to be underlain by dioritic units of the Cretaceous or earlier Coast Plutonic Complex which host roof pendent of metavolcanic and related metasedimentary rocks. Northwesterly trending structures appear to localized Tertiary basalts which occur in the headwater area of Brandywine Creek.

The north-northwesterly trend of Tertiary volcanic rocks is also reflected in the trend of the mineralized zones on the Warman Property of Northair Mines Ltd. The Warman, Discovery and Manifold zones on the Northair Mines Property are believed to have resulted from right lateral separation of a single mineralized zone along northerly trending fault structures.

#### PROPERTY GEOLOGY (Figure 5)

The geology of the 1989 grid area was mapped by geologist Ken Karchmar as shown in Figure 5. He defined two main units:

- Unit 2. Coast Plutonic Complex: 2a. Granodiorite, pale green, pink, fine to medium grained, occasionally perthitic; 2b. Hornblende diorite, 15-35% hornblende, fine to medium grained, fractured, abundant quartz and epidote veinlets; 2c. Hornblende-plagioclase porphyry, dark grey aphanitic matrix, subhedral to euhedral hornblende, zoned plagioclase laths to 1cm.

LEGEND

TERTIARY

[7] VOLCANICS: DIASALT  
BIACIDIC TUFF  
CIMMOLITE

CRETACEOUS (or earlier)

[6] COAST PLUTONIC COMPLEX  
[5] AGGLOMERATE, SOI VOLCANIC BRECCIA  
[4] ACIDIC VOLCANIC ROCKS  
[3] CRYSTAL TUFF  
[2] AGGLOMERATE  
[1] GREENSTONE

HORNBLENDITE CENTRES

BEDDING AND DIP

CONTACT (APPROXIMATE, ASSUMED)

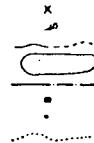
ABUNDANT OUTCROP

FAULT (APPROXIMATE, ASSUMED)

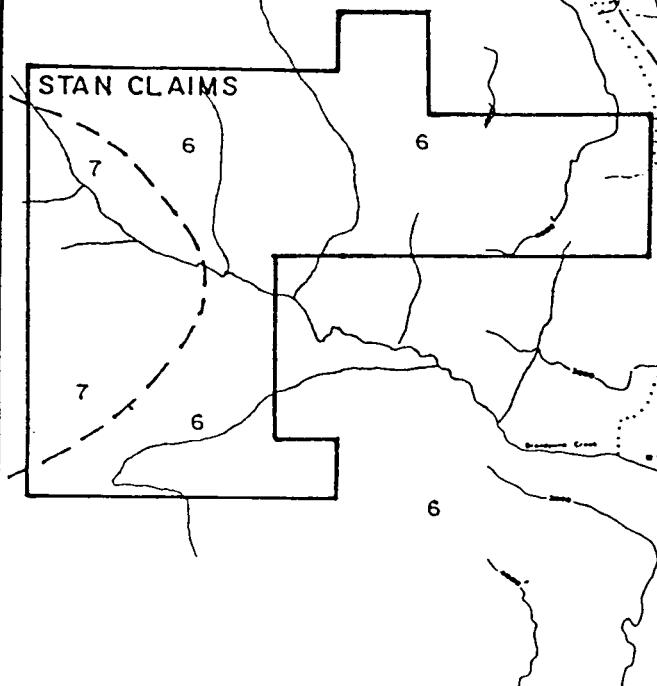
MINE ADIT

MINERAL OCCURRENCE

LIMIT OF FIELD MAPPING



STAN CLAIMS



DOREX MINERALS INC.

STAN CLAIMS

REGIONAL GEOLOGY

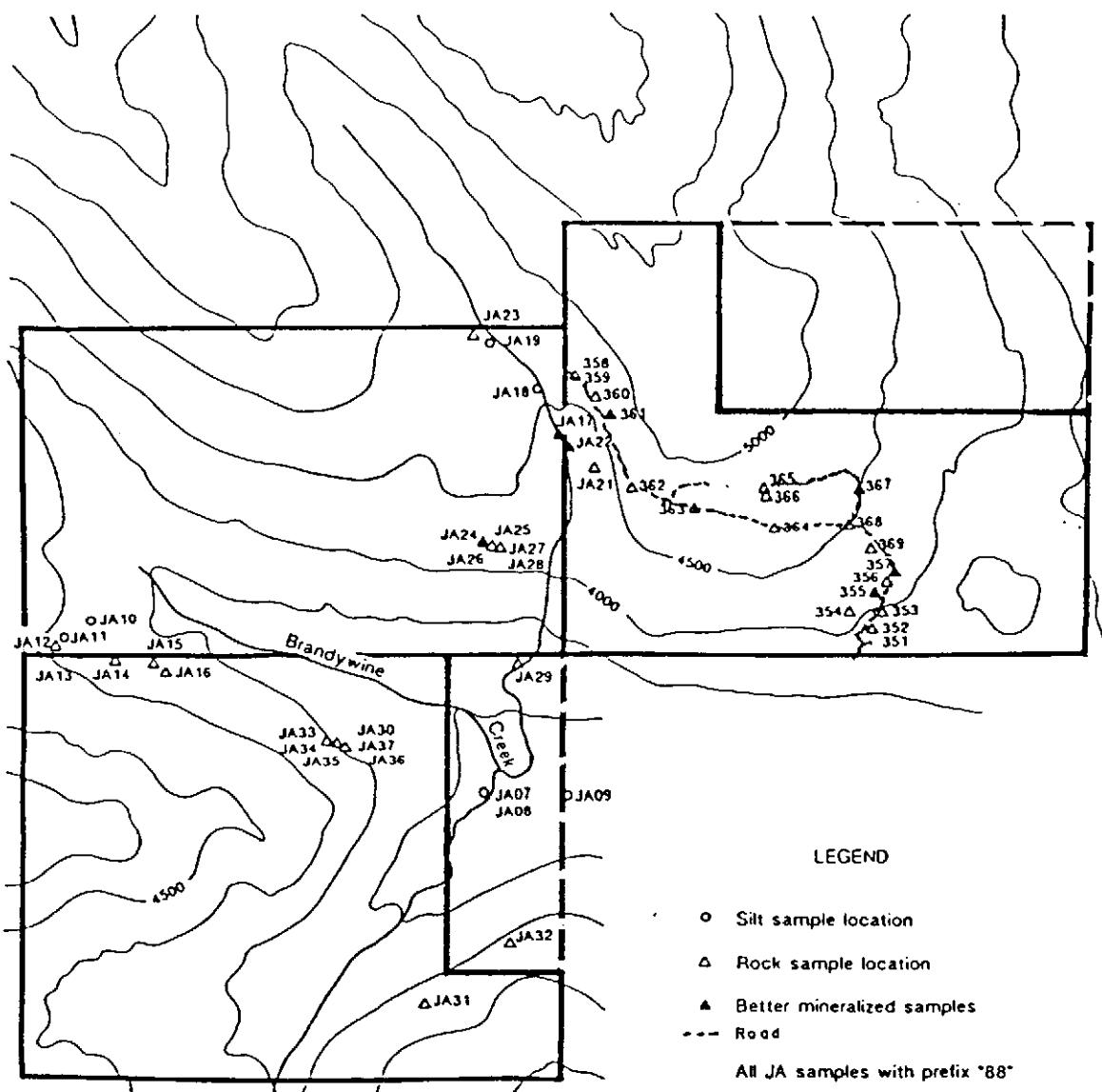
N.T.S. 92J-3E

VANCOUVER M.D., B.C.

0 1 2 3 KM.

P.A. CHRISTOPHER & ASSOCIATES INC.

SCALE AS SHOWN JAN. 1990 FIGURE 3



0 500 1000 metres

After Adamec, 1988

DOREX MINERALS INC.

STAN CLAIMS

1988 ROCK and SILT  
SAMPLE LOCATIONS

N.T.S. 92J-3E

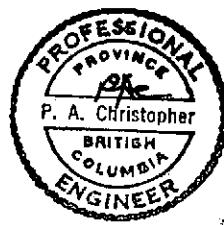
VANCOUVER M.D., B.C.

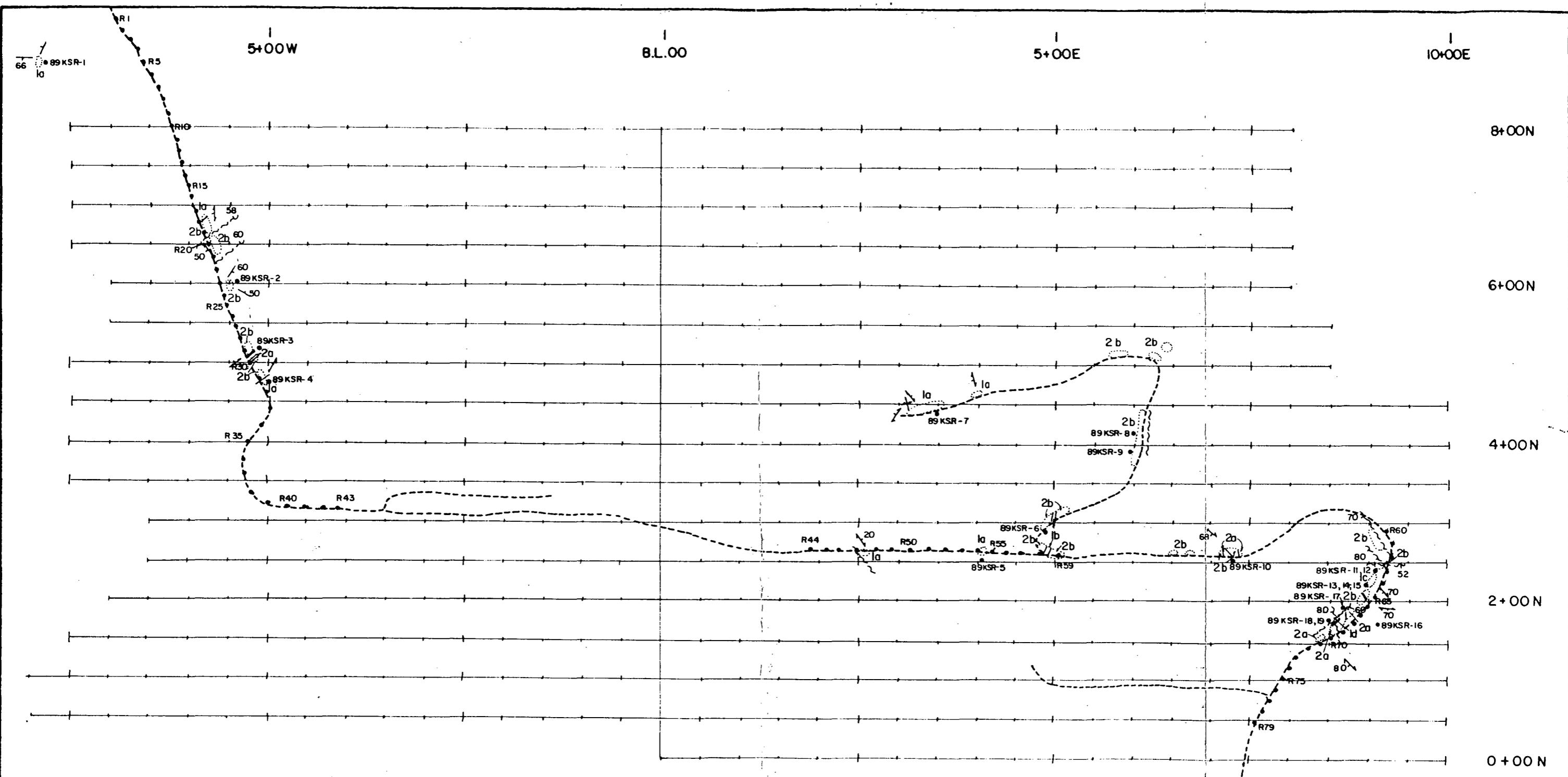
P.A. CHRISTOPHER & ASSOCIATES INC.

SCALE AS SHOWN

JAN. 1990

FIGURE 4





#### LEGEND

- Road
- Outcrop
- Vein, dyke
- Fault, with dip
- Strike & dip of foliation
- Sample location
- 89KSR-1 Rock sample N°
- R10 Soil " along road

- |   |  |
|---|--|
| 2 | a granodiorite, pale green, pink, fine to med. grained, occ. perthitic<br>b hornblende diorite, 20-50% hornblende, fine to med. grained<br>abundant quartz & epidote veinlets  |
| 1 | Greenstone      a med. to dark green, sheared, abundant quartz & epidote<br>veinlets, finely laminated in places, chloritic, probable<br>andesitic composition<br>b agglomerate, occasion rounded to subrounded clasts.<br>c chlorite schist<br>d hornblendite |

**DOREX MINERALS INC.**  
**STAN CLAIMS**  
**GRID GEOLOGY AND**  
**SAMPLE NUMBERS**

N.T.S. 92 J-3E      VANCOUVER M.D., B.C.  
0      100      200      300 METRES

P.A. CHRISTOPHER & ASSOCIATES INC.  
SCALE 1:5000      JAN. 1990      FIGURE

Gambier Group (?)

Unit 1. Greenstone, 1a. Probable andesitic composition, medium to dark green, sheared, occasional fine laminations, chloritic, abundant epidote and quartz veinlets; 1b. Agglomerate, occasional surrounded to rounded clasts to 1cm.; 1c. Chlorite schist; 1d. Hornblendite, >50% hornblende, gneissic, probably basaltic composition.

Previous mapping of the Northair Mines Property suggest that the greenstone unit may be subdividable into hornblendite, chlorite schist, agglomerate, and altered andesitic volcanic. The granitic rocks consist of pale green, fine to medium grained granodiorite and fine to medium grained hornblende diorite with abundant quartz and epidote veinlets. Tertiary basaltic rocks have been mapped by Miller and Sinclair (1978) and Woodaworth (1977) in the area of Mt. Fee (Figure 3).

Greenstones, bounded to the east and west by plutonic rocks, underlies a significant portion of the middle of the grid area, but boundaries are obscure because of sparse outcrop. The greenstone is probably derived from andesitic tuff. Chlorite and muscovite schist appears to be related to major shear or fault zones that cross the property with a number of northerly and north-northwesterly zones recognized. Foliation exhibits a predominantly northwesterly orientation with variable dips. A body of hornblendite occurs at the southeastern edge of the grid area. The unit is highly foliated with gneissic banding, and is bounded on both sides by relatively non-foliated hornblende diorite. A shear zone passes through the hornblendite unit which is cut by a one meter wide quartz vein. Narrow (0.5 meter) massive pyrite lenses occur along the shear zone.

MINERALIZATION

Exploration on the Stan Property has been orientated toward location of deposits similar to those exploited on the nearby Warman Property of Northair Mines Ltd. and adjacent Brandy Property of Silver Tusk Mines Ltd. The deposits on the Warman Property are apparently faulted segments of a single 'volcanogenic' exhalite deposits that has been somewhat deformed and remobilized during metamorphism that accompanied emplacement of the Coast Plutonic Complex (Miller and Sinclair, 1979). Between 1967 and 1982 Northair Mines Ltd. milled 345,700 tons yielding 166,582 ounces of gold (5,181 kg.) and 845,854 ounces of silver (26,309 kg.) with by-product copper, lead and zinc. The Northair Mines Ltd. suspended mining with reserves of about 61,000 metric tonnes grading 7.775 gm. gold, 23.94 gm. silver, 1.25% lead and 1.90% zinc.

Several significant occurrences are found in the Callaghan Creek-Brandywine Creek area. The occurrences (Figure 2), controlled by Northair Mines Ltd. and associated companies (Silver Tusk Mines Ltd. and Brandy Resources Inc.), are of the following types:

1. Discovery -- Massive Sulphide.
2. Warman Zone -- Veins, Massive Sulphide and Disseminated.
3. Manifold Zone -- Veins and Disseminated.
4. Silver Tunnel -- Veins and Disseminated.
5. Millsite -- Veins and Disseminated.
6. Tedi Pit -- Massive Sulphide.
7. Zone 4 -- Massive Sulphide and Skarn.

The Zone 4 occurrences contains sphalerite, pyrite and minor chalcopyrite in a skarn. The other occurrences and deposits are polymetallic, containing galena, sphalerite, and pyrite with significant amounts of several silver mineral and native gold, and minor amounts of chalcopyrite and pyrrhotite (Miller and Sinclair, 1978).

The initial exploration program conducted on the Stan Property by Adamec (1988) consisted of 47 rock samples (Figure 4 and Appendix A). The initial samples contained values up to 90 ppb gold, 9.2 ppm silver and 4517 ppm copper. Follow-up geological mapping in 1989 by geologist Ken Karshmar located fractured greenstone and plutonic rocks with accompanying veinlets of quartz, epidote and pyrite. Pyrite, as veinlets, layers or blebs, appears to parallel the foliation in sheared greenstone. Banded pyrrhotite occurs in a 0.5 meter-wide quartz-epidote vein which cuts hornblende diorite (sample KRS-3).

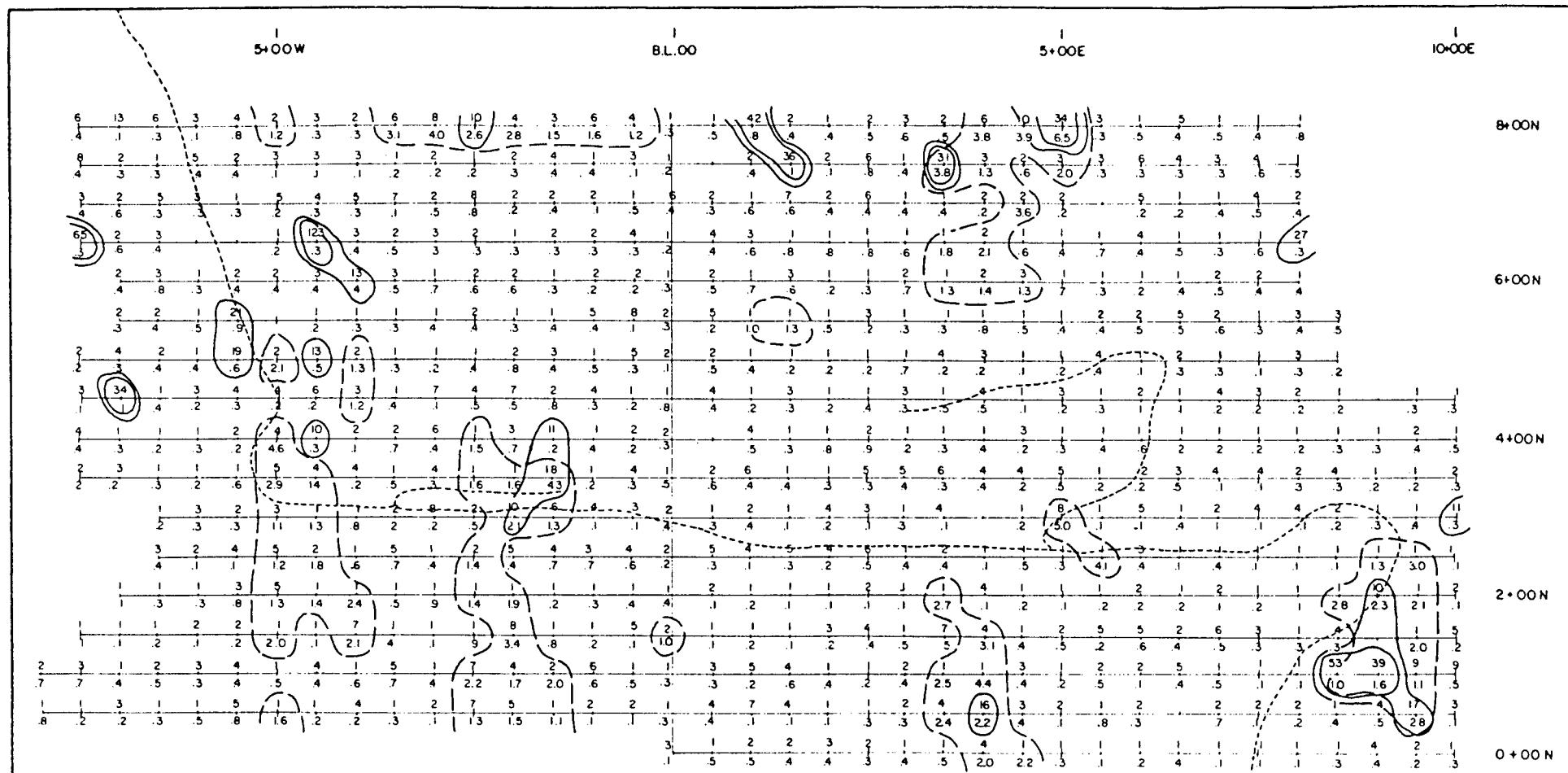
A total of eleven rock chip and eight rock grab samples (Appendix A and Figure 5) were collected by Ken Karshmar. Grab sample 89KSR-15, from chlorite schist with massive and disseminated pyrite contained the highest gold value of 9150 ppb gold and 2 meter chip samples 89KSR-10 and 89KRS-16, from hornplende-plagiocalce porphyry contained strongly anomalous values of 260 ppb and 185 ppb gold, respectively. The association of strongly anomalous gold with porphyry dykes is of interest because similar bodies are associated with mineral deposits on the Silver Tusk and Northair Mines properties.

Table 3. Summary of Rock Sample Results.

<u>Sample #</u>	<u>Type</u>	<u>ppb Au</u>	<u>ppm Ag</u>	<u>ppm Cu</u>	<u>ppm Mo</u>	<u>Comment</u>
KSR 03	0.5M chip	84	17.6	17106	19	<5% py; po. bands
KRS 06	1.0M chip	87	10.8	8602	81	<5% py; ep.+qtz.
KRS 10	2.0M chip	43	14.8	10258	42	<20% py; dyke
KRS 11	0.5M chip	260	22.8	20539	39	<30% py; shear z.
KRS 12	0.5M chip	61	17.4	14000	96	<10% py; qtz. v.
KRS 13	grab	57	13.5	10831	14	<15% py; py+qtz v.
KRS 14	1.0M chip	26	11.8	10955	15	<15% py
KRS 15	grab	9150	19.7	13971	29	<30% py
KRS 16	2.0M chip	185	10.3	8965	19	<10% py; dyke

#### GEOCHEMICAL PROGRAM

The 1989 rock geochemical program consisted of 19 rock geochemical samples by geologist Ken Karchmar and 80 rock geochemical samples by geologist J. Duro Adamec. A total of 636 soil samples were

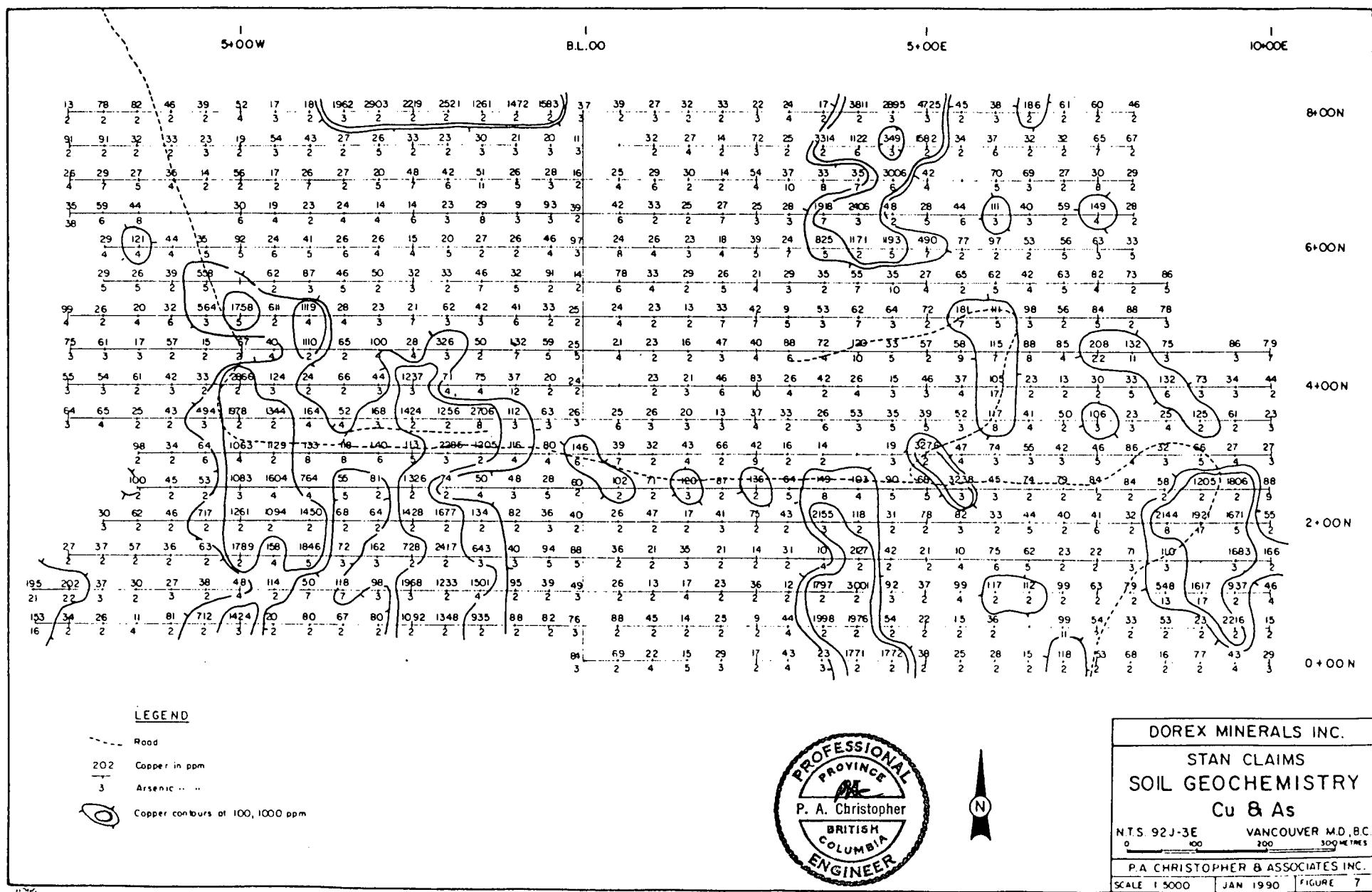


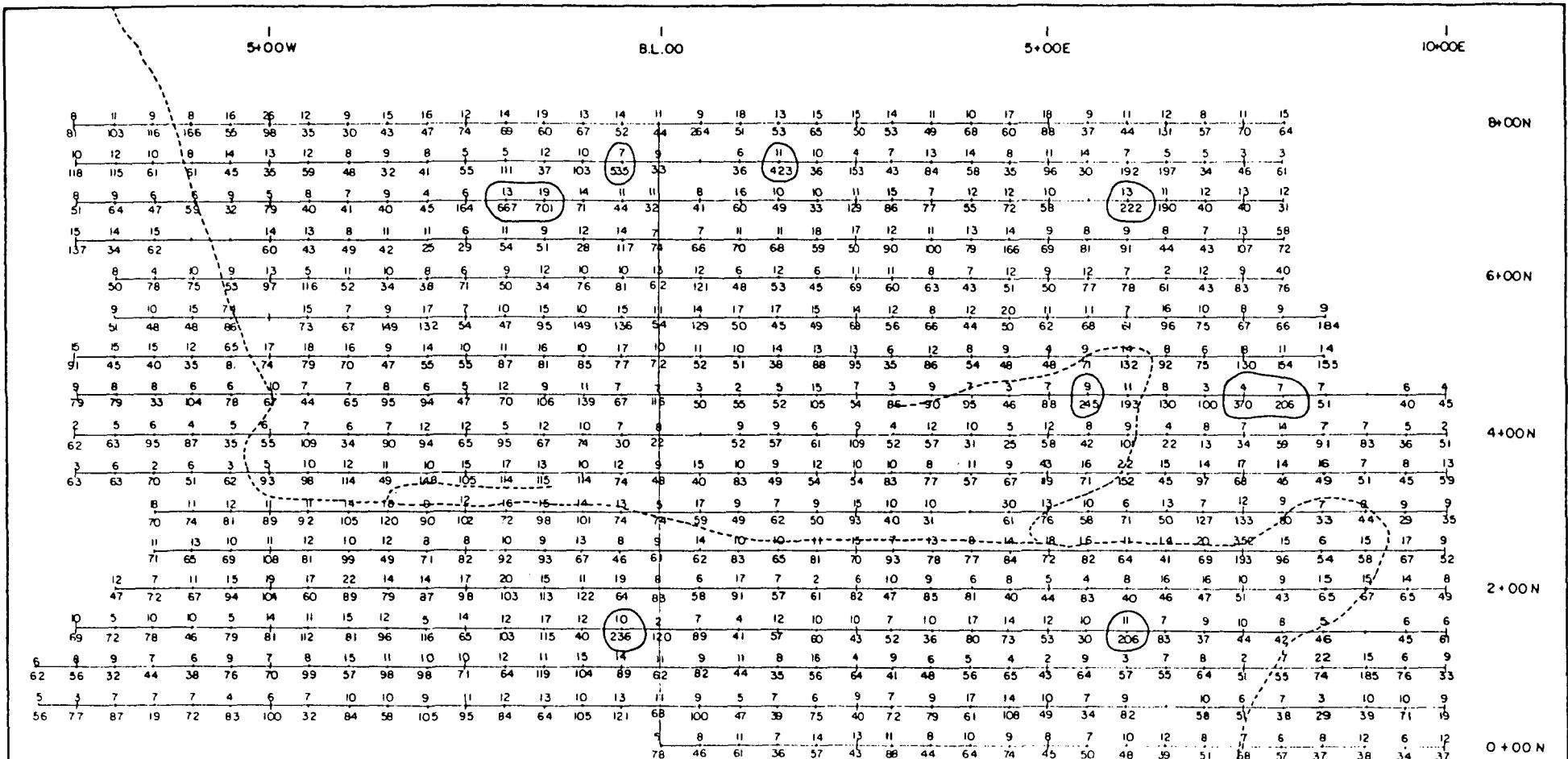
#### LEGEND

- Road
- 18 Gold in ppb
- 43 Silver in ppm.
- ( ) Gold contours at 10, 30 ppb
- ( ) Silver " 10 ppm



DOREX MINERALS INC.		
STAN CLAIMS		
SOIL GEOCHEMISTRY		
Au & Ag		
NTS 92J-3E		VANCOUVER M.D., B.C.
0	100	300 METRES
P.A. CHRISTOPHER & ASSOCIATES INC.		
SCALE 1:5000	JAN 1990	FIGURE 6





#### LEGEND

Road

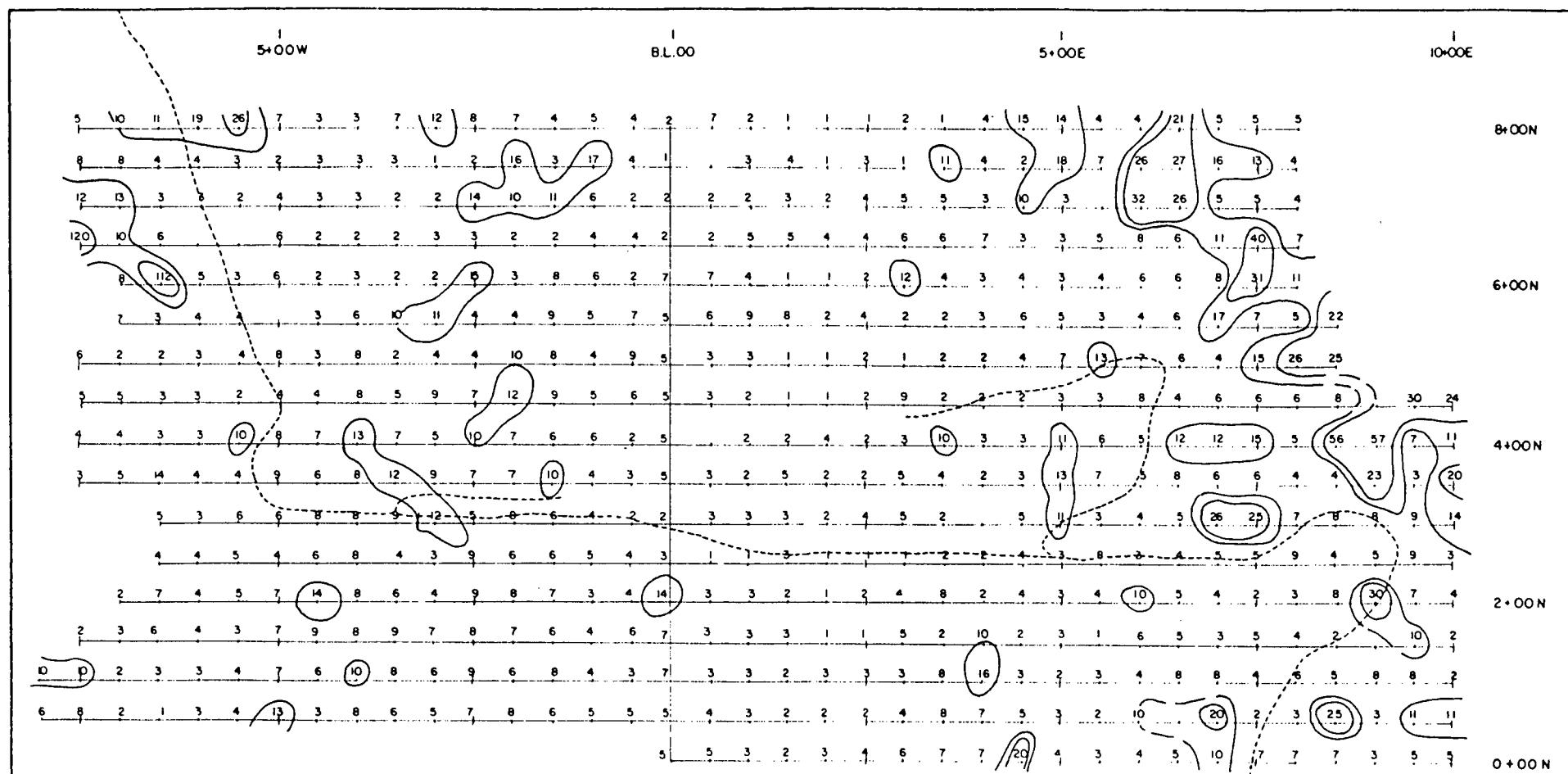
II Lead in ppm

II2 Zinc ..

Circled numbers Zinc contour at 200 ppm



DOREX MINERALS INC.			
STAN CLAIMS			
SOIL GEOCHEMISTRY			
Pb & Zn			
NTS 92 J-3E			
VANCOUVER MD, B.C.			
0 100 200 300 METRES			
P.A. CHRISTOPHER & ASSOCIATES INC.			
SCALE 1:5000 JAN. 1990 FIGURE B			



#### LEGEND

- - - Road
- Mo in ppm
- Contours at 10, 20 ppm Mo

CHONG



DOREX MINERALS INC.		
STAN CLAIMS		
SOIL GEOCHEMISTRY		
Mo		
N.T.S. 92J-3E		
VANCOUVER M.D., B.C.		
0 100 200 300 METRES		
P.A. CHRISTOPHER & ASSOCIATES INC.		
SCALE 1:5000	JAN. 1990	FIGURE 9

collected from the B horizon at about 25 cm with samples placed in kraft sample bags, dried and shipped to Acme Analytical Labs in Vancouver. Soil samples were analyzed by 30 element ICP and gold by atomic absorption with initial rock samples R1 and R0 1 through 79 were analyzed in the same manner. The 19 rock samples collected by Ken Karchmar were submitted to Min-En Labs in North Vancouver for 31 element ICP and gold geochemistry by Atomic Absorption.

Results for the 636 soil samples were summarized using statistical treatment by Acme Analytical Labs with results presented in Appendix B. Rock sample descriptions by Karshmar and analytical results are presented in Appendix A with 1989 rock sample locations shown on Figure 5 and soil results for Au-Ag, Cu-As, Pb-Zn and Mo plotted and contoured on Figures 6 through 9, respectively.

#### Gold

Gold values in the 636 soil samples varied from 1 ppb to 123 ppb with 25 sample results over 10 considered of interest and 9 samples over 30 ppb considered anomalous. Gold values were plotted on Figure 6 and contoured at 10 and 30 ppb levels. The strongest gold response of 123 ppb was obtained form 4+50W on line 6+50N with a concentration of samples of interest in the area of the strongest rock geochemical response at 9+00E and 1+75N. Contour maps of soil results and rock geochemical results (Table 2) show that anomalous gold values tend to occur with anomalous copper, silver, and/or molybdenum values which.

#### Silver

Silver values in soil samples varied from 0.1 to 6.5 ppm with 74 values over 1.0 ppm considered anomalous. Silver values were contoured on Figure 6 at the 1.0 ppm level. Anomalous silver values are concentrated with anomalous copper, and gold with five areas of concentration at 8+50E to 10+00E on lines 0+50N to 2+00N; 3+50E to 4+50E on lines 0+00N to 2+00N; 1+50W to 5+50W on lines 0+00N to 5+00N; 3+50E to 5+00E on lines 6+00N to 8+00N; and 0+50W to 4+00W on line 8+00N.

#### Copper

Copper values in soil samples varied from 9 to 4725 ppm with values over 100 ppm considered anomalous. Copper values were plotted on Figure 7 and contoured at 100 and 1000 ppm levels. The distribution of anomalous copper values follows that of anomalous silver, with a separate anomalous population of anomalous samples of over 400 ppm closely associated with anomalous silver.

#### Arsenic

Arsenic values in soil samples varied from 2 to 38 ppm with only 12 samples over 10 ppm considered of interest. Arsenic values were plotted on Figure 7. Since the only anomalous concentration of arsenic occurs at the very southwest corner of the grid, arsenic values were not contoured.

### Zinc

Zinc values in soil samples varied from 13 to 701 ppm with 11 values over 200 ppm considered anomalous. Zinc values were plotted on Figure 8 and contoured at the 200 ppm level. Anomalous zinc values show no strong concentration.

### Lead

Lead values in soil samples varied from 2 to 352 ppm with 5 values over 30 ppm considered anomalous. Lead values were plotted on Figure 5. Lead values are generally not anomalous.

### Molybdenum

Molybdenum values in soil samples varied from 1 to 128 ppm with values over 5 ppm considered of interest and 80 values  $\geq$  10 ppm considered anomalous and contoured at the 10 and 20 ppm levels on Figure 9. A strong northwest trending concentration of molybdenum values occurs from 10+00E on line 3+00N to 6+50E on line 8+00N.

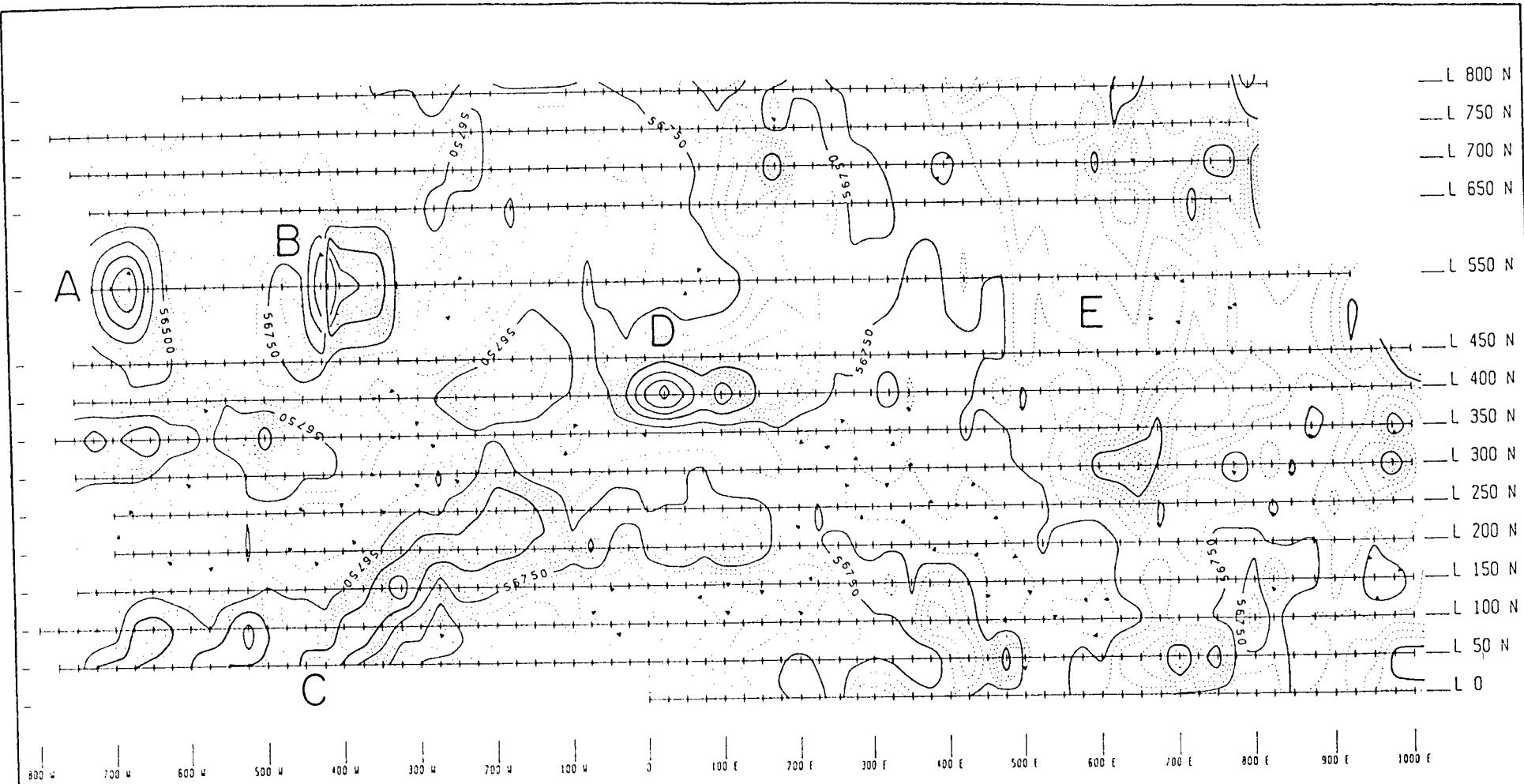
## GEOPHYSICAL PROGRAM

A total of about 25 line kilometer of total field magnetometer and VLF-EM was conducted over the grid area by contractor Coast Mountain Geological Ltd. between October 17 and October 28, 1989 (Basil, 1989). Readings were collected at 25 meter intervals along lines with fill-in readings taken where required. Readings were collected along east-west lines spaced at 50 or 100 meters.

### Magnetometer Survey

Readings were collected with a microprocessor based EDA Omni Plus magnetometer and VLF-EM system in conjunction with the EDA Omni IV magnetometer base station. The base station magnetometer monitored the total magnetic field at 30 second intervals to adjust readings for diurnal variations in the earth's magnetic field. The magnetometer employed for station readings has a sensitivity of 0.1 gammas (nT) with a staff mounted sensor used to reduce possible noise. Magnetometer readings were contoured on Figure 10 with anomalies summarized on Figure 12.

Total magnetic field values have relief of over 2,400 gammas (nT) with values from 55,492nT to 57,959nT, with a mean value for the survey of 56,760nT. Five magnetic anomalies are labeled A through E on Figure 10. Anomaly A, centered at 6+75W on L5+50N is a strong magnetic low (1,200nT drop from surrounding background) that covers a 75 by 150 meter area. Anomaly B, centered at 4+12W on L5+50N has a short anomaly width and may be caused a cultural feature. Anomaly C extends 400 meters from 1+75W on L2+50N to 4+25W on L0+50N with values 250 to 500 gammas above mean background over a width of 75 meters. Anomaly D, centered at 0+25E on L4+00N is a local magnetic high of over 1,000nT above mean background that may be related or on strike with Anomaly C. Anomaly E, outlined by the 56,750 gamma contour, covers the eastern third of the survey area and may be caused by hornblende diorite to the east and greenstones to the west.



INSTRUMENT: EDA OMNI PLUS

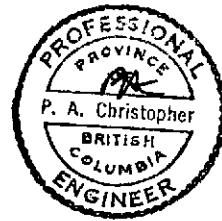
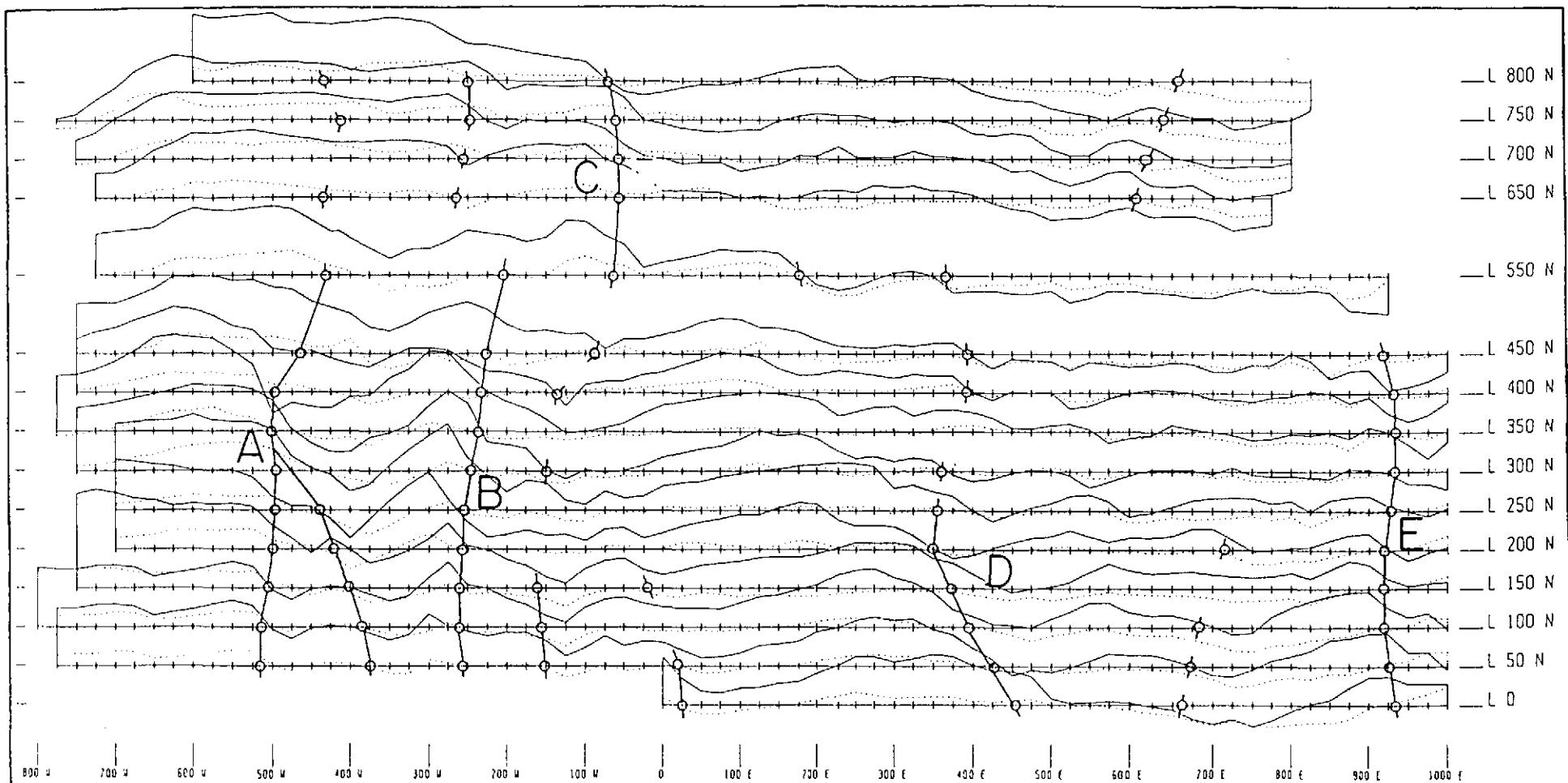
CONTOUR INTERVAL: 50, 250, 1000



After C. Bosl, 1989



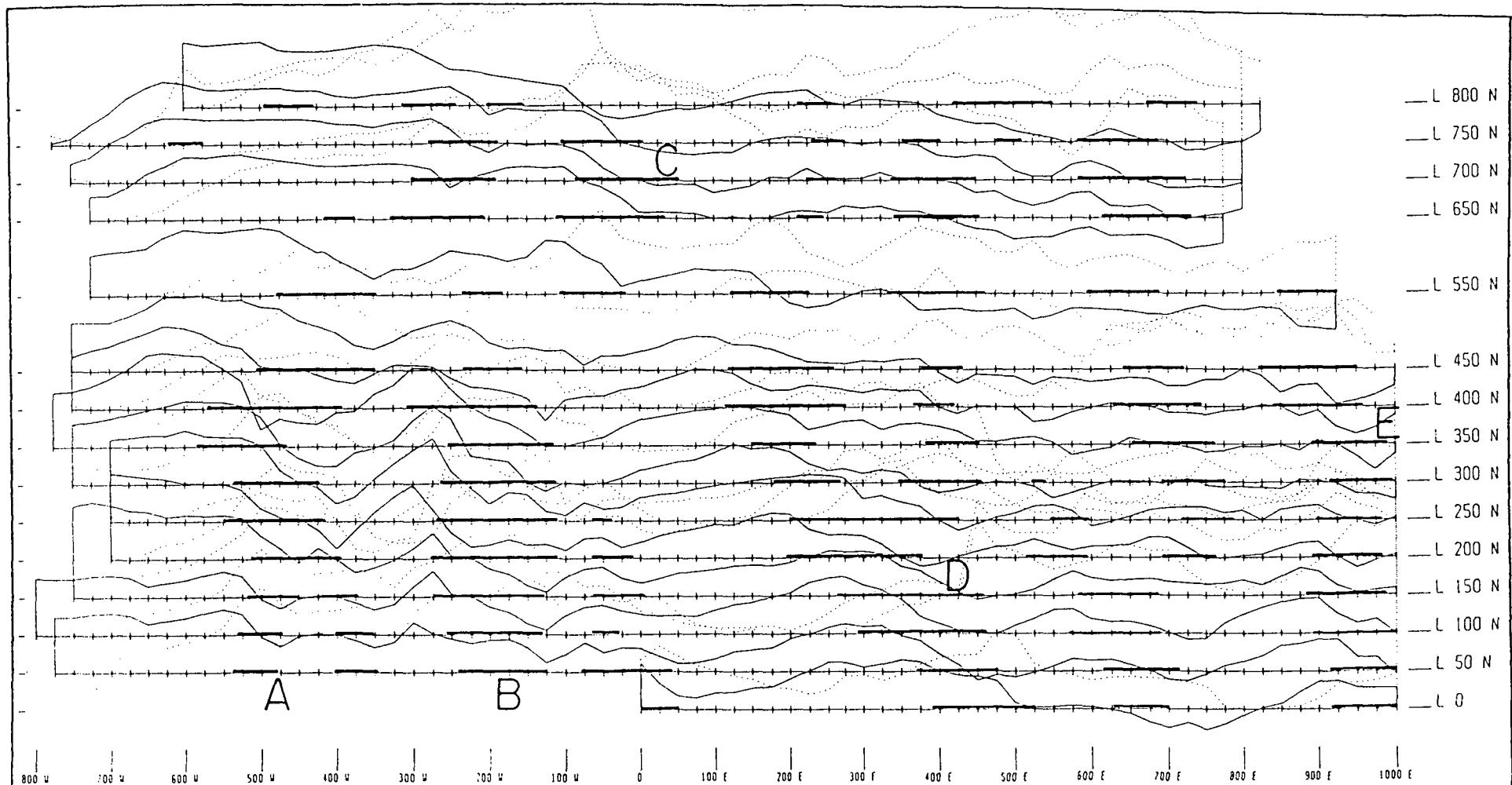
DOREX MINERALS INC.	
STAN CLAIMS	
MAGNETOMETER SURVEY	
NTS 92J-3E 0	VANCOUVER MD., B.C. 300' < 100'
PA CHRISTOPHER & ASSOCIATES INC.	
SCALE 1:5000	JAN 1990
FIGURE 10	



Alter C Basis, 1989



DOREX MINERALS INC.	
STAN CLAIMS	
VLF-EM PROFILES	
IN-PHASE / QUADRATURE	
NTS 92J-3E	VANCOUVER M.D., B.C.
0 00	200 METRES
P.A. CHRISTOPHER & ASSOCIATES INC.	
FILE 15000	JAN. 1990
FIGURE 11A	



800 W 700 W 600 W 500 W 400 W 300 W 200 W 100 W 0 100 E 200 E 300 E 400 E 500 E 600 E 700 E 800 E 900 E 1000 E

PROFILE SCALES

INPHASE-1cm=20%  
FLD STR-1cm=50



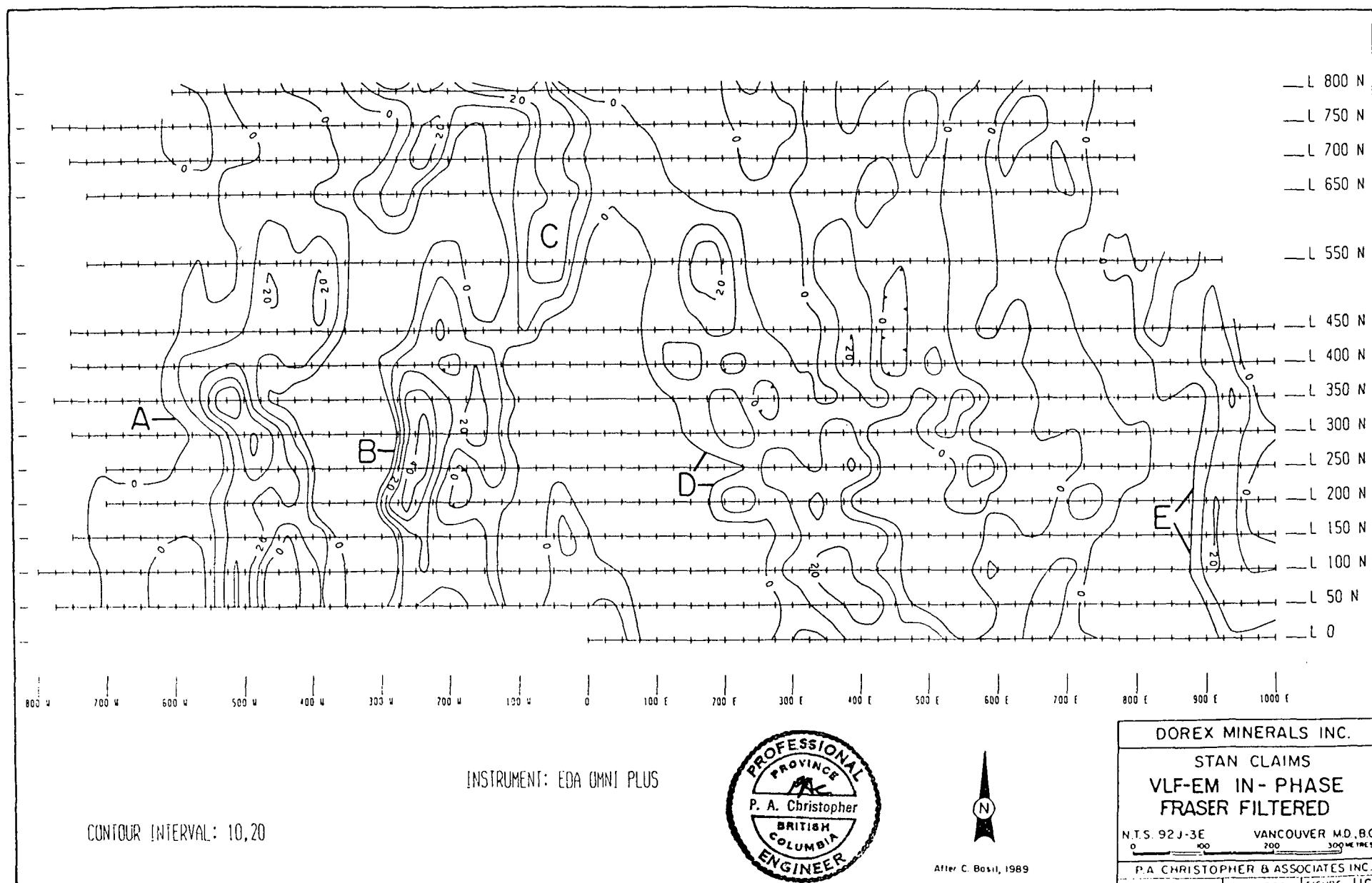
INSTRUMENT: EDA OMNI PLUS

After C. Bassil, 1989

ELEVATED TOTAL FIELD



DOREX MINERALS INC.	
STAN CLAIMS	
VLF-EM PROFILES	
IN-PHASE/FIELD STRENGTH	
N.T.S. 92J-3E	VANCOUVER M.D., B.C.
0	200
300 METRES	
PA CHRISTOPHER & ASSOCIATES INC.	
SCALE 1:5000	JAN 1990
FIGURE 11B	



### VLF-EM Survey

The VLF-EM Omni Plus field unit is a omnidirectional VLF-EM receiver that measures vertical in-phase component (%), the Quadrature, out-of-phase component (%), and the Total Field Strength. The VLF-Em transmitting station at Jim Creek Washington (24.8 khz), the best orientation for east-west grid lines and northerly trending conductors, was utilized. The data is presented in profile format with In Phase/Quadrature components (Fig. 11a), In Phase/Total Field (Fig. 11b) and in contoured format for Fraster Filtered In Phase (Fig. 11c).

VLF-EM anomalies "A" through "E" were selected by Basil (1989) with survey results showing several linear structures trending N-S or NNW. Conductor "A", strikes N-S across the entire grid but is most prominent from 5+00W on L0+50N through 4+50W on L5+50N. VLF-EM anomaly A passes through the area of magnetic anomaly B. Anomaly "B", strike N-S across the entire grid and is in part coincident with magnetic anomaly C. Anomaly C is subparallel to anomaly B and may reflect the same shear or fault zone. Conductor "D" occurs along the western edge of magnetic anomaly E and may be further defining a greenstone contact with hornblende diorite. Conductor "E" occurs near the eastern edge of the survey and may be due to conductive overburden or a good narrow conductor. Conductor E passes through a copper, gold, silver geochemical anomaly. Conductors A and B are associated with strong copper and silver anomalies.

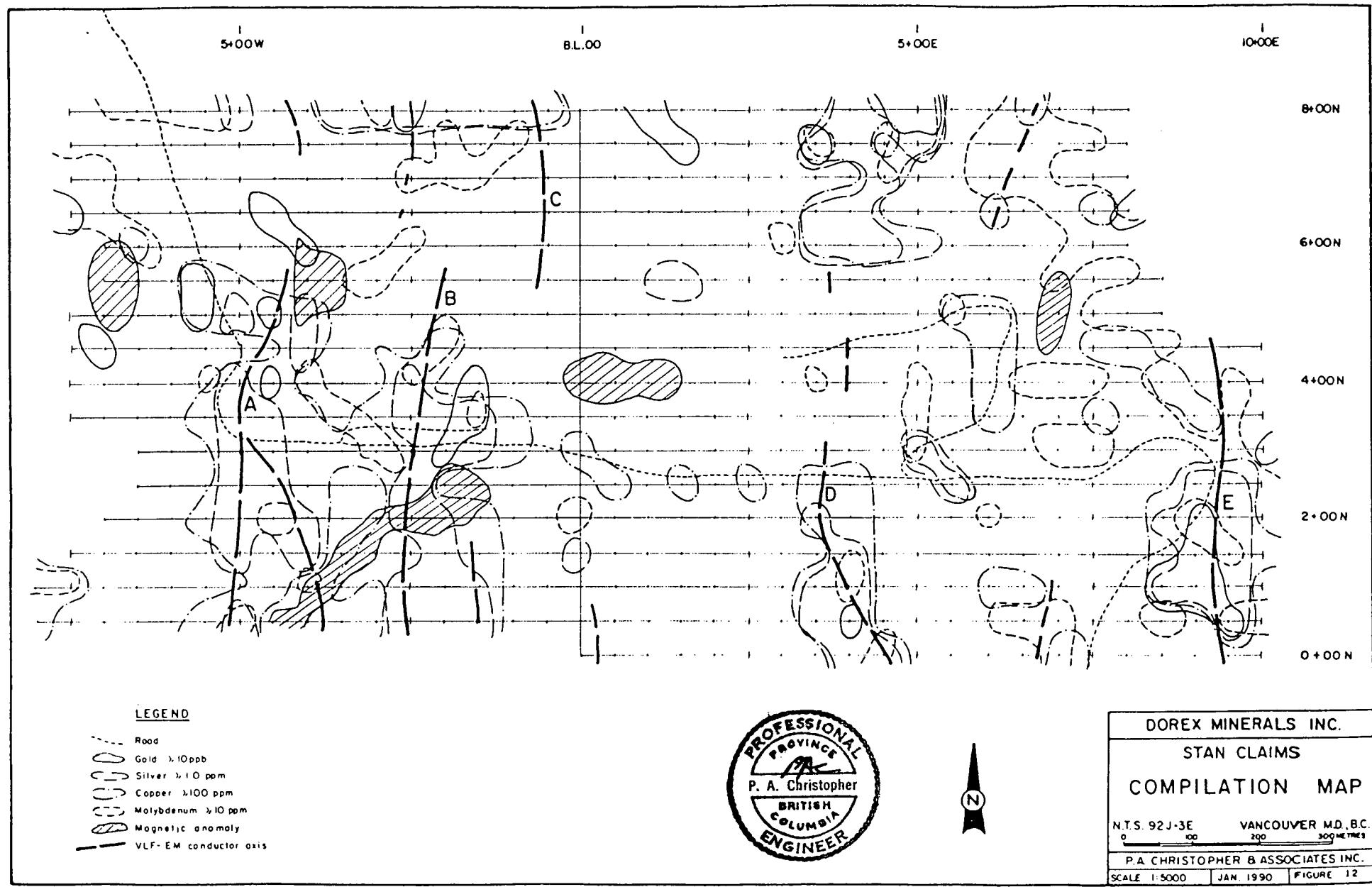
### DISCUSSION OF STAN PROPERTY

The Stan Property was acquired to evaluate an area with similar geological setting to the nearby Northair Mines and adjacent Silver Tusk properties. Initial exploration (Adamec, 1988) of the Stan Property by Adamec (1988) revealed extensive pyrite mineralization and anomalous rock values for copper (to 4658 ppm), silver (to 9.2 ppm) and gold (to .98 ppb).

A 1989 follow-up geological, geochemical, magnetic and VLF-EM grid program was conducted for Dorex Minerals Inc. Figure 12 is a compilation of anomalous results obtained from the geophysical and geochemical surveys which shows that VLF-EM conductors A and B and magnetic anomalies B and C are associated with strong silver and copper responses. VLF-EM conductor D, situated along the western edge of magnetic anomaly E, probably represents a conductive contact. Conductor D has coincident copper and silver anomalies which may indicate a mineralized contact. Conductor E has coincident copper, gold and silver soil geochemical anomalies and passes near grab sample KSR 015 which contained 9150 ppb gold.

### CONCLUSIONS AND RECOMMENDATIONS

The initial programs on the Stan Property have been successful in defining a number of geological, geophysical and geochemical targets that warrant follow-up exploration. The strong base and precious metal response from soils and several N-S trending VLF-EM conductors suggest mineralized structures which may be similar to those on the nearby Northair Mines and Silver Tusk properties.



Further, success contingent, phased exploration of the Stan Property is warranted with a recommended Stage 1 program of further grid geochemistry and trenching followed by 400 meter of diamond drilling, estimated to cost \$ 100,000. Contingent on the success of the Stage 1 program, a Stage 2, 1,000 meter diamond drill program is estimated to cost \$ 160,000. Recommendations for a Stage 3 program should be made by an independent engineer after evaluation of Stage 1 and Stage 2 results.

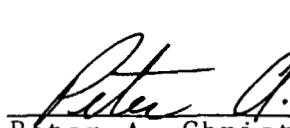
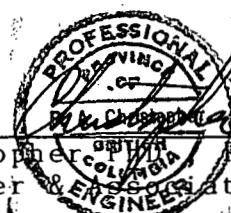
COST ESTIMATES

Stage 1. Geochemistry, Trenching and Diamond Drilling.

Project Preparation.....	\$ 1,000
Supervision .....	5,000
Geological Support.....	5,000
Trenching & Site Preparation.....	15,000
Diamond Drilling 400 meters @ \$ 80 ea. ....	32,000
Geochemical Sampling & Analyses.....	10,000
Transportation & Shipping .....	3,000
Field Support.....	4,000
Field Supplies .....	1,000
Reporting & Engineering.....	6,000
Management .....	8,000
Contingency .....	<u>10,000</u>
Stage 1 Total	<u>\$100,000</u>

Stage 2. Diamond Drilling (Contingent)

Project Preparation.....	\$ 1,000
Supervision .....	8,000
Geological Support.....	8,000
Trenching & Site Preparation.....	10,000
Diamond Drilling 1000 meters @ \$ 80 ea. ....	80,000
Geochemical Costs .....	10,000
Transportation & Shipping .....	4,000
Field Support.....	6,000
Field Supplies .....	2,000
Reporting & Engineering.....	6,000
Management .....	10,000
Contingency .....	<u>15,000</u>
Stage 2 Total	<u>\$160,000</u>

  
Peter A. Christopher, P.Eng.  
Peter Christopher & Associates Inc.  
January 3, 1990  


BIBLIOGRAPHY

- Adamec, J. Duro, 1988. Geology and Geochemical Report on the Stan Property. Assessment Report dated December 1988.
- Basil, C., 1988. Geophysical Report on the Discovery 2 and Discovery 4 Claims in the Vancouver Mining Division. for Hadley Resources Inc. dated July 22, 1988.
- \_\_\_\_\_, 1989. Geophysical Survey, Stan I Claim, Vancouver Mining Division. for Dorex Minerals Inc. dated November 1989.
- Cairnes, C.E., 1925. Pemberton area, Lillooet District, British Columbia. Geol. Surv. Can., Sum. Rep. 1924, Pt. A, pp. 76-99.
- Camsell, C., 1918. Reconnaissance along the Pacific Great Eastern Railway between Squamish and Lillooet. Geol. Surv. Can., Sum. Rept. 1917, Pt. B, pp. 12-23.
- Christopher, P.A., 1988. Geological, Geochemical and Geophysical Assessment Report on the Discovery Claim Group. for Hadley Resources Inc. dated September 28, 1988.
- Demczuk, L. and Cuttle, J., 1987. Geological and Geochemical Report on the Discovery I and Discovery II Claim Group. dated October 1987.
- Dickson, M.P. and McLeod, D.A., 1975. Northair Mines: Grass roots to Senior Financing. Cdn. Min. Jour., April, pp. 79-82.
- Little, L.M., 1974. The Geology and Mineralogy of the Brandywine Property Lead-Zinc-Gold-Silver Deposit, Southwest British Columbia. unpubl. B.Sc. thesis, University of British Columbia, Dept. of Geological Sciences, Vancouver.
- Mathews, W.H., 1958. Geology of the Mount Garibaldi Map-Area, Southwest British Columbia, Canada. Geol. Soc. Amer. Bull., Vol. 69, No. 2, pp. 161-178.
- Miller, J.H.L. and Sinclair, A.J., 1979. Geology of an Area Including Northair Mines Ltd. Callaghan Creek Property. B.C. Min. Energy, Mines and Pet. Res., Geological Fieldwork 1978, Paper 1979-1, pp. 124-131.
- \_\_\_\_\_, 1978. Geology of the Callaghan Creek - Roof Pendant. B.C. Min. Energy, Mines and Pet. Res., Geological Fieldwork 1977, pp. 96-102.
- Pearson, D.E., 1973. Warman (92-J-89). in B.C. Ministry of Mines GEM 1973, pp. 245-248.
- Roddick, J.A., and Woodsworth, G.J., 1975. Coast Mountains Project: Pemberton (92J West Half) Map-Area, British Columbia. Geol. Surv., Canada, Paper 75-1, Pt. A, pp. 37-40.

Sinclair, A.J., Wynne-Edwards, H.R., and Sutherland Brown, A., 1978.  
An Analysis of Distribution of Mineral Occurrences in British Columbia. B.C. Ministry of Mines & Pet. Res., Bull 68.

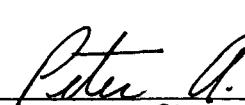
Woodsworth, G.J., Pearson, D.E., and Sinclair, A.J., 1977. Metal Distribution Patterns Across the Eastern Flank of the Coast Plutonic Complex, South-Central British Columbia, Econ. Geol., Vol. 71, pp. 170-183.

Woodsworth, G.J., 1977. Geology, Pemberton (92J) Map-Area. Geol. Surv. Can. O.F. 482.

CERTIFICATE

I, Peter A. Christopher, with business address at 3707 West 34th Avenue, Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer registered with the Association of Professional Engineers of British Columbia since 1976.
- 2) I am a Fellow of the Geological Association of Canada and a member of the Society of Economic Geologists.
- 3) I hold a B.Sc. (1966) from the State University of New York at Fredonia, a M.A. (1968) from Dartmouth College and a Ph.D. (1973) from the University of British Columbia.
- 4) I have been practising my profession as a Geologist for over 20 years.
- 5) I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly in the property or securities of Dorex Minerals Inc.
- 6) I have based this report on previous exploration experience in the area of the Stan Claim Group, a review of government and company reports listed in the bibliography, a field examination conducted by me on October 27, 1989 and an exploration program conducted between October 3rd and November 18, 1989.
- 7) I consent to the use of this report by for any Filing Statement, Statement of Material Facts, Prospectus, support document, or assessment work by Dorex Minerals Inc.

  
Peter A. Christopher, P.Eng.  
January 3, 1990

  
PROFESSIONAL  
ENGINEERS  
OF  
BRITISH COLUMBIA  
P. A. Christopher  
P. Eng.  
ENGINEER

**Peter Christopher & Associates Inc.**  
**GEOLOGICAL & EXPLORATION SERVICES**  
3707 West 34th Ave., Vancouver, B.C. V6N 2K9

Office/Res: 263-6152

January 3, 1990

Dorex Minerals Inc.  
705-543 Granville Street  
Vancouver, B.C. V6C 1X8

Dear Sirs:

I, Peter A. Christopher, Ph.D., P.Eng., hereby consent to the use of my report dated January 3, 1989 on the Stan Claim Group, Vancouver Mining Division, British Columbia, in any Filing Statement, Statement of Material Facts, Prospects or for obtaining private financing.

Dated at Vancouver, British Columbia, this 3rd day of January, 1990.

  
Peter A. Christopher  
Peter A. Christopher, Ph.D., P.Eng.  


## STATEMENT OF COSTS

### 1989 EXPLORATION PROGRAM - STAN CLAIMS

Project preparation	\$ 1,800
Mob / Demob	\$ 4,785
Geophysical survey 24.45 km @ \$400/km	\$ 9,780
Truck rental and fuel 26 days @ \$ 130/day	\$ 3,380
Grid preparation 28.75 km @ \$ 190/km	\$ 5,462.50
Geochemistry	\$ 6,777.35
Equipment rentals	\$ 600
Domicile 120 MD \$75/day	\$ 9,000
Accounting, communications	\$ 800
Report, drafting	\$ 3,420

### PERSONNEL

1 Project geologist	17 days @ \$ 310/day	\$ 5,270
1 Geologist	3 days @ \$ 225/day	\$ 675
1 Senior geologist	1 day @ \$ 400/day	\$ 400
4 Technicians	20 days @ \$ 150/day	\$ 12,000
1 Cook	20 days @ \$ 120/day	\$ 2,400
Management Fee		\$ 7,480
TOTAL INVOICE		\$ 75,929.85

APPENDIX A.  
CERTIFICATES OF ANALYSIS  
ROCK SAMPLE DESCRIPTIONS





































COMPANY: J.D.ADAMEC &amp; ASSOCIATES

PROJECT NO: 88 BC 11

ATTENTION: J.ADAMEC

MIN-EN LABS ICP REPORT  
705WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
(604)399-5814 DR (604)988-4524

(ACT:F31) PAGE 1 OF 3

FILE NO: 8-2158/P1+2

DATE: DECEMBER 8, 1988

(VALUES IN PPM)	AG	AL	AS	B	BA	BE	B1	CA	CD	CO	CU	FE
18351	.8	25980	15	11	180	.7	15	13470	3.8	34	46	39170
18352	1.1	27610	8	13	75	.6	20	14650	3.9	35	204	50470
18353	.5	11260	23	7	147	.6	8	7690	3.5	15	81	15770
18354	1.6	27560	14	13	180	.6	21	19730	3.3	45	174	48340
18355	3.5	17580	21	10	36	.6	23	21360	3.8	161	1625	50450
18356	1.6	14990	19	9	153	.7	15	11780	3.1	35	234	32290
18357	3.2	21690	16	12	16	1.0	19	19440	1.8	85	655	88460
18358	.7	30990	7	14	45	.8	9	26910	3.3	60	84	55850
18359	.9	19570	18	10	124	.8	10	11570	4.2	29	158	38770
18360	1.1	27910	21	13	58	.5	14	20220	2.3	33	164	40800
18361	9.2	12320	19	10	10	.9	21	14320	.5	221	4517	169330
18362	1.5	33800	25	15	68	.6	20	11970	1.7	45	270	64610
18363	.7	26170	19	12	375	1.0	12	17140	2.7	26	121	35730
18364	.9	21160	20	10	161	.8	13	11600	4.0	26	79	35080
18365	1.1	20780	20	10	162	.7	15	10480	3.4	26	97	35250
18366	.9	24100	25	10	363	.6	14	8440	2.0	28	94	47540
18368	1.5	24260	19	12	228	.7	18	15490	2.6	25	100	40200
18369	1.7	24020	22	11	144	.6	19	17500	2.0	34	172	45750
D5JA04	3.3	20950	27	10	177	.7	19	14490	4.2	22	1473	21270
D5JA05	7.0	25560	21	12	62	.7	29	12940	3.7	24	4658	41010
D5JA06	.4	12740	25	7	37	.6	11	143890	4.2	24	297	12520
D5JA07	1.3	22290	22	11	248	.8	15	13150	3.9	28	193	33330
D6JA01	1.1	16420	19	8	267	.8	11	12040	3.3	17	46	18760
D6JA02	.9	18880	21	9	97	.8	10	10460	4.7	18	35	24090
D6JA03	1.2	21280	21	9	103	.7	15	14950	2.6	17	54	25150
88JA12	1.4	16660	23	9	49	.6	16	16749	4.9	30	85	31620
88JA14	.6	16120	75	19	172	1.6	6	5210	1.3	20	15	171970
88JA15	.8	23010	23	11	154	.6	15	15430	3.8	25	39	36700
88JA16	1.3	27280	19	11	223	.8	20	22450	2.3	42	185	51220
88JA21	2.7	22980	19	9	21	.5	31	30520	1.1	38	40	35840
88JA22	3.2	21100	15	15	208	1.4	16	20320	7.5	33	133	32720
88JA23	2.2	28060	12	14	147	1.1	15	17990	4.5	26	87	40640
88JA24	1.6	16310	24	9	266	1.0	11	11540	4.3	15	30	18580
88JA25	3.2	29380	11	13	112	.8	29	19270	2.8	39	252	52980
88JA26	.5	51080	26	21	178	.9	13	16030	4.0	47	87	58470
88JA27	1.1	44380	28	18	86	.6	20	23220	1.1	48	165	97410
88JA28	1.9	28030	16	13	142	.6	16	23060	2.8	36	173	52670
88JA29	1.4	33950	5	14	212	1.0	14	32850	5.2	38	83	52850
88JA30	1.2	15420	18	8	126	.5	13	9810	3.0	18	41	25060
88JA31	1.3	34920	18	14	54	.7	17	33630	2.1	28	34	38410
88JA32	1.4	35370	9	14	279	1.0	19	29940	3.0	36	185	60170
88JA33	1.2	8050	23	5	78	.6	10	4650	5.1	14	36	12340
88JA34	1.4	11550	26	6	40	.5	12	11010	4.4	16	46	15710
88JA35	1.1	21420	18	12	179	.8	13	12600	5.3	25	59	35050
88JA36	1.4	27080	16	14	310	.8	15	12350	4.0	24	30	37330
88JA37	1.9	52710	33	21	38	.5	29	13240	2.0	61	211	101270
NONNUMBER	1.4	23190	15	9	220	.6	16	14860	4.3	31	44	39760

COMPANY: J.D.ADAMEC &amp; ASSOCIATES

PROJECT NO: 88 BC 11

## MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

(ACT:F31) PAGE 2 OF 3

ATTENTION: J.DADAMEC

FILE NO: 8-2158/P1+2

(604)980-5814 OR (604)988-4524

DATE: DECEMBER 8, 1988

(VALUES IN PPM)	K	LI	M5	MN	MO	NA	NI	P	PB	SB	SR	TH
18351	2560	12	18410	703	7	940	14	800	25	1	51	1
18352	1540	11	19050	721	6	930	13	710	30	1	34	1
18353	2390	9	4910	272	8	920	14	430	24	3	37	1
18354	3140	11	20880	892	6	680	39	1700	51	1	40	1
18355	1430	10	15190	576	6	1700	50	680	33	1	21	1
18356	2800	10	9130	400	8	950	14	1510	27	3	28	1
18357	730	10	9650	405	8	250	63	830	17	1	42	1
18358	1290	14	26710	2257	7	670	28	1540	28	1	52	2
18359	2280	11	14730	882	10	610	16	1630	32	2	50	1
18360	1140	11	18710	788	7	540	17	1040	32	3	91	1
18361	500	8	4590	327	1	170	1	880	26	1	47	1
18362	2280	12	24520	659	6	720	17	1010	37	2	38	1
18363	1710	11	13430	697	7	290	13	2100	31	4	115	1
18364	2510	11	14300	688	8	890	14	1230	31	1	56	1
18365	2310	11	14760	704	8	830	13	1090	28	4	49	1
18366	2820	13	17300	456	23	330	28	2060	37	3	25	1
18368	3900	11	14410	857	9	550	15	1400	44	4	51	1
18369	2190	11	16060	581	7	1010	28	1820	26	3	76	1
D5JA04	3540	11	11210	481	7	790	15	970	27	1	84	1
D5JA05	2270	13	15220	1139	8	1030	13	1690	36	1	60	1
D5JA06	1820	9	4390	287	8	470	16	990	18	4	27	1
D5JA07	3250	13	15300	632	6	840	19	1210	31	2	38	1
D6JA01	6770	11	6660	406	7	850	12	810	23	4	65	1
D6JA02	2050	11	11730	806	7	730	20	850	31	3	60	1
D6JA03	2320	11	11010	629	6	700	15	990	36	5	118	1
88JA12	2520	16	7650	371	8	2230	25	1690	19	5	68	1
88JA14	1350	12	3320	982	3	1750	3	1050	16	1	36	1
88JA15	2900	12	12870	739	6	1200	11	1510	24	4	101	1
88JA16	5470	12	19310	724	6	3420	51	1360	27	1	34	1
888JA21	900	8	8830	442	8	750	26	800	26	5	85	1
888JA22	3770	17	15660	665	14	680	14	1280	45	16	68	1
888JA23	2520	13	13770	812	15	590	11	1380	30	5	98	1
888JA24	4370	11	6690	425	9	940	12	620	32	7	80	1
888JA25	2030	11	16970	883	7	1140	20	610	40	3	55	2
888JA26	2100	17	40960	1251	3	1180	124	850	38	1	47	1
888JA27	1590	12	24650	1471	8	650	9	1360	43	1	91	1
888JA28	1770	12	18610	952	9	640	26	1830	32	1	48	1
888JA29	8390	14	26080	1085	5	960	16	1410	29	1	64	1
888JA30	4510	11	9810	531	7	1270	13	550	33	2	25	1
888JA31	2120	14	16230	609	7	1220	12	1980	26	5	129	1
888JA32	5470	13	17040	844	7	4140	7	2660	30	2	65	1
888JA33	2760	10	4160	297	9	960	16	530	25	4	28	1
888JA34	1220	9	3820	347	8	500	15	510	25	5	34	1
888JA35	6750	12	14290	604	6	1750	25	770	24	3	27	1
888JA36	8220	18	17370	821	7	1230	21	1400	32	3	47	1
888JA37	990	17	43320	1658	4	630	48	1040	25	1	25	2
XNUMBER	7750	13	15490	759	6	1680	21	1030	34	4	33	1

COMPANY: J.D.ADAMEC &amp; ASSOCIATES

PROJECT NO: 66 BC 11

ATTENTION: J.ADAMEC

MIN-EN LABS ICP REPORT  
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
(604) 980-5814 OR (604) 988-4524 TYPE ROCK GEOCHEM

(ACT:F31) PAGE 3 OF 3

FILE NO: 8-2158/P1+2

DATE: DECEMBER 8, 1988

(VALUES IN PPM)	B	V	ZN	SA	SN	W	CR	AL-PPB
18351	1	80.2	47	1	2	1	208	2
18352	1	145.3	57	1	4	1	185	11
18353	1	27.9	27	6	1	5	253	3
18354	1	94.7	80	1	4	1	163	2
18355	1	106.5	61	2	3	1	207	40
18356	1	70.2	40	3	2	2	199	1
18357	1	92.1	40	2	1	1	183	44
18359	1	104.9	69	1	2	1	175	1
18359	1	57.5	106	4	2	1	160	1
18360	1	78.5	69	3	2	1	168	5
18361	1	60.5	29	1	1	1	206	98
18362	1	190.7	78	1	3	1	145	2
18363	1	79.7	55	3	3	2	213	32
18364	1	71.2	82	3	2	3	219	1
18365	1	63.0	87	2	2	5	254	3
18366	1	113.4	56	4	2	4	267	?
18368	1	84.8	97	3	3	3	158	1
18369	1	88.9	57	5	3	4	232	1
D5JA04	1	55.3	54	5	3	3	236	49
D5JA05	1	42.1	75	7	3	1	265	27
D5JA06	1	63.5	19	8	1	1	82	2
D5JA07	1	61.3	90	4	3	2	203	1
D6JA01	1	40.2	28	3	2	3	207	1
D6JA02	1	54.5	63	5	1	3	224	1
D6JA03	1	68.2	32	7	2	7	279	2
88JA12	1	60.4	27	7	2	3	212	2
88JA14	1	81.3	60	1	1	1	105	1
88JA15	1	97.6	60	4	1	8	325	2
88JA16	1	166.2	56	1	4	2	206	3
S88JA21	1	128.7	23	6	6	6	263	2
S88JA22	1	71.2	83	4	2	1	175	3
S88JA23	1	90.0	77	2	2	1	188	1
S88JA24	1	39.8	44	7	1	5	256	2
S88JA25	1	148.4	71	1	6	1	154	9
S88JA26	1	179.0	117	1	5	1	248	2
S88JA27	1	226.4	100	1	4	1	168	6
S88JA28	1	95.5	78	2	3	5	263	2
S88JA29	1	147.2	75	1	3	1	152	1
88JA30	1	67.4	37	3	1	2	219	1
88JA31	1	125.8	48	5	5	1	138	1
88JA32	1	195.0	76	2	4	1	118	3
88JA33	2	32.4	22	6	1	2	201	2
88JA34	2	37.7	25	7	1	6	265	2
88JA35	1	127.8	50	5	3	1	174	5
88JA36	1	102.1	63	4	3	1	176	3
88JA37	1	283.2	109	1	7	1	152	4
NONNUMBER	1	111.1	65	4	2	1	163	5

COMPANY: J.D.ADAMEC &amp; ASSOCIATES

PROJECT NO: 88 BC 11

ATTENTION: J.ADAMEC

## MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

(604)980-5814 OR (604)988-4524

(AUDIT:FS1) PAGE 1 OF 3

FILE NO: B-21589/P1

DATE: DECEMBER 8, 1988

(VALUES IN PPM)	AG	AL	AS	B	BA	BE	BI	CA	CC	CO	CU	FE
88JA07	.7	13760	14	7	122	.7	9	7550	3.4	17	18	31120
88JA08	.6	11220	13	4	84	.4	9	5450	2.3	15	10	46070
88JA09	.9	8240	12	1	40	.7	9	5730	3.7	13	21	20030
88JA10	.7	15400	11	4	62	.7	9	8920	3.4	18	33	23840
88JA11	.7	10340	12	1	49	.4	9	6690	2.4	14	30	20270
88JA13	.5	16790	6	3	149	.8	10	6120	2.4	20	27	34620
88JA17	.6	13270	7	3	47	.5	9	8210	2.9	19	31	24000
88JA18	.6	12410	6	2	32	.6	7	7160	4.8	23	50	25550
88JA19	.4	9826	7	1	31	.3	6	4770	3.3	14	33	14860
88JA20	.4	14140	12	4	49	.6	5	7610	4.0	18	42	20770

COMPANY: J.D.ADAMEC &amp; ASSOCIATES

PROJECT NO: 88 BC 11

ATTENTION: J.ADAMEC

## MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

(ALI1731) PAGE 2 OF 3

FILE NO: 8-21589/71

(604)980-5814 OR (604)988-4524

\* TYPE SILT GEOCHEM \* DATE: DECEMBER 8, 1988

(VALUES IN PPM)	K	Li	Mg	Mn	Mo	Na	Ni	P	Pb	SB	SR	Th
89JA07	1860	16	7740	490	5	520	10	960	25	6	35	1
88JA08	1590	14	6320	410	4	420	6	920	24	3	30	1
88JA09	870	9	4040	263	5	820	13	820	17	4	30	1
88JA10	1410	12	6390	470	5	1220	21	900	19	2	53	1
88JA11	960	9	3790	274	5	1080	14	710	14	2	37	1
88JA13	2590	12	7120	497	5	650	12	1630	20	1	27	1
88JA17	740	8	6790	497	7	230	9	820	23	1	55	1
88JA18	570	8	9390	540	11	140	14	910	20	1	36	1
88JA19	540	7	6510	348	6	170	10	640	19	1	35	1
88JA20	710	8	10150	566	6	240	16	870	23	1	41	1

COMPANY: J.D.ADAMEC &amp; ASSOCIATES

PROJECT NO: 88 BC 11

ATTENTION: J.ADAMEC

## MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

(604)980-5814 OR (604)732-4524

(ACT:F31) PAGE 3 OF 3

FILE NO: B-21585/F1

TYPE SILT GEOCHEM

DATE: DECEMBER 9, 1988

(VALUES IN PPM )	U	V	ZN	GA	SN	W	CR	AU-PPB
88JA07	1	92.5	45	1	2	1	39	2
88JA08	1	113.6	36	1	2	1	36	3
88JA09	1	55.1	23	2	2	2	34	1
88JA10	1	67.5	40	1	2	1	41	3
88JA11	1	59.3	27	2	2	2	33	2
88JA13	1	85.5	42	1	2	1	31	4
88JA17	1	60.8	46	2	2	1	33	1
88JA18	1	44.7	114	1	2	1	38	1
88JA19	1	34.8	30	1	2	1	27	2
88JA20	1	46.9	56	1	1	1	35	1



ROCK SAMPLES BY KEN KARCHMAR OCT. 25-27, 1989

<u>SAMPLE #</u>	<u>TYPE</u>	<u>WIDTH</u>	<u>DESCRIPTION</u>
89-KSR-01	CHIP	1 M	Greenstone, very fine grained, medium green, <5% pyrite as small blebs and disseminations.
89-KSR-02	CHIP	.5 M	Hornblende diorite, fine grained, medium-light green, <5% disseminated pyrite, <2% pyrrhotite.
89-KSR-03	CHIP	.5 M	Epidote-quartz vein material, <5% pyrite in large blebs, banded pyrrhotite.
89-KSR-04	GRAB	-	Greenstone, from contact with granodiorite, no visible mineralization.
89-KSR-05	CHIP.	1 M	Greenstone, sheared, clay alteration, no visible mineralization.
89-KSR-06	CHIP	1 M	Hornblende diorite, fractured, with epidote and quartz veinlets, <5% pyrite as small blebs and veinlets.
89-KSR-07	GRAB	-	Greenstone, very dark green, heavy limonite stain, <2% pyrite as small blebs.
89-KSR-08	GRAB	-	Hornblende diorite, fractured, abundant epidote veinlets, <2% pyrite as fine disseminations.
89-KSR-09	GRAB	-	Hornblende diorite, medium grained, <5% pyrite as small blebs, occasional blebs of pyrrhotite.
89-KSR-10	CHIP	2 M	Hornblende-plagioclase porphyry dike, medium-dark grey, euhedral to subhedral zoned plagioclase, <20% pyrite as small blebs, uniformly mineralized across dike.

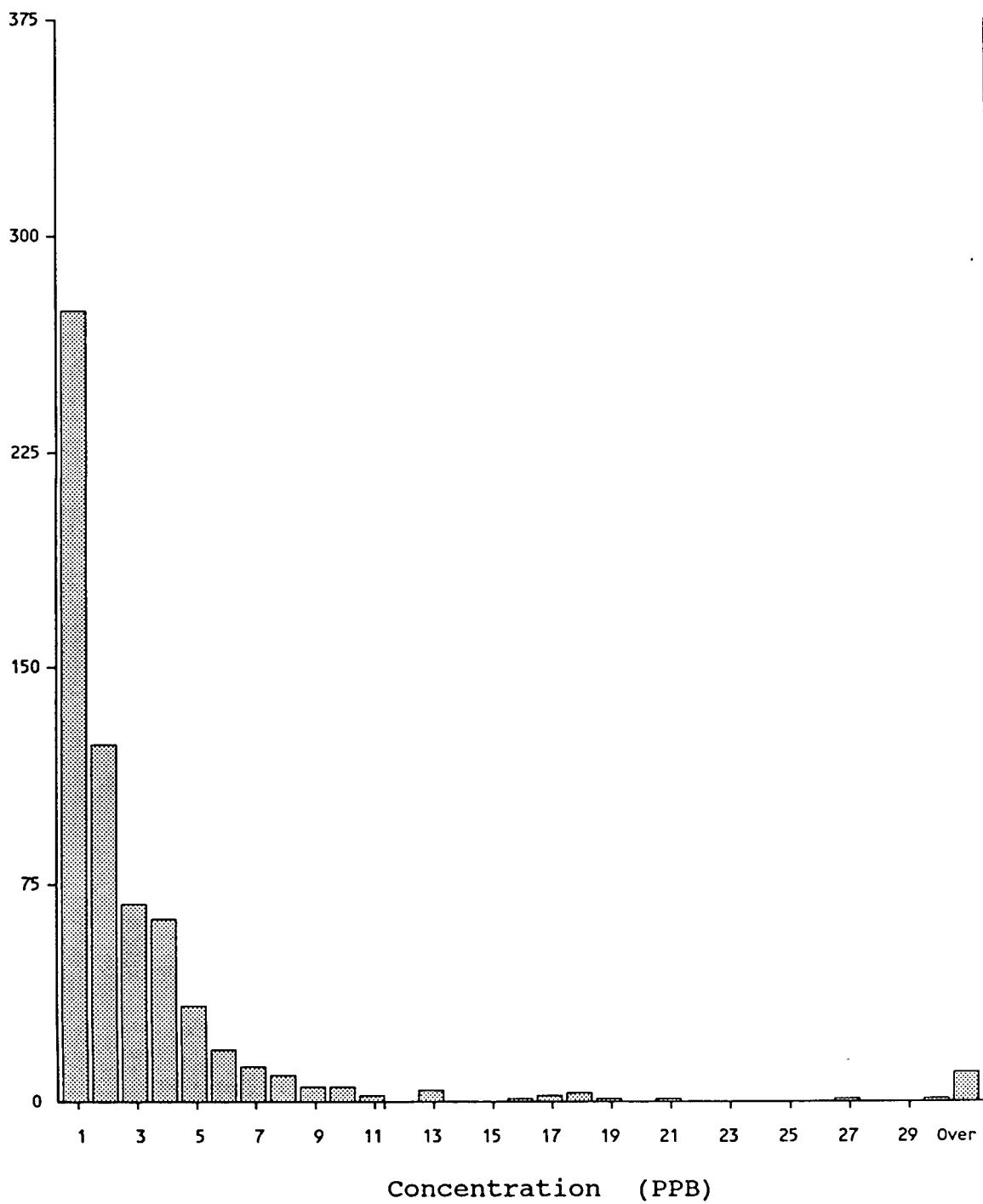
<u>SAMPLE #</u>	<u>TYPE</u>	<u>WIDTH</u>	<u>DESCRIPTION</u>
89-KSR-11	CHIP	.5 M	Chlorite schist in shear zone within greenstone, clay alteration, intense limonite staining, <30% massive pyrite.
89-KSR-12	CHIP	.5 M	Hornblende diorite, sheared, near contact with greenstone, fractured, quartz and pyrite mixed as fracture infill, epidote alteration, <10% pyrite as subhedral crystals with quartz as blebs, veins and veinlets.
89-KSR-13	GRAB	-	Chlorite schist, pyrite and quartz as veinlets along foliation, <15% subhedral pyrite.
89-KSR-14	CHIP	1 M	Chlorite schist, from same location as KSR-13, <15% subhedral pyrite.
89-KSR-15	GRAB	-	Chlorite schist, massive and subhedral pyrite, <30% pyrite.
89-KSR-16	CHIP	2 M	Hornblende-plagioclase porphyry dike, probable same unit as KRS-10, <10% pyrite as uniformly distributed small blebs.
89-KSR-17	GRAB	-	Hornblende diorite, sheared, from small pod within granodiorite, <10% pyrite as small blebs.
89-KSR-18	CHIP	.5 M	Quartz vein material, milky, sheared, light limonite staining, no visible mineralization.
89-KSR-19	GRAB	-	Hornblende diorite, sheared, massive to subhedral pyrite as veinlets with quartz, <30% pyrite.

APPENDIX B.  
Statistical Summaries

# BUSH RESOURCES 89-5021

Au\*

Number of  
Samples



636 Samples

Maximum: 123

Mean: 4

Minimum: 1

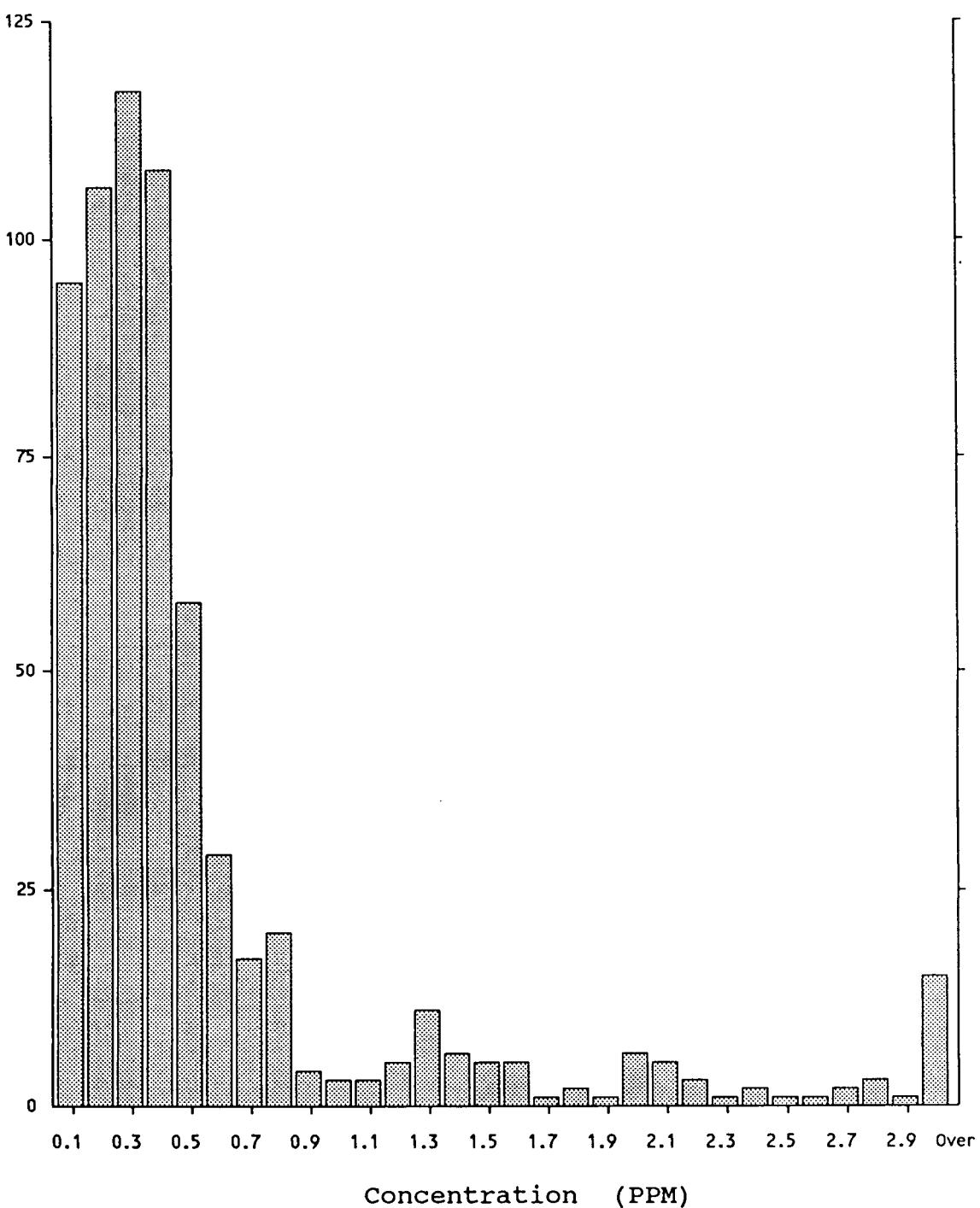
Median: 2

Standard Deviation: 7

# BUSH RESOURCES 89-5021

Ag

Number of  
Samples



636 Samples

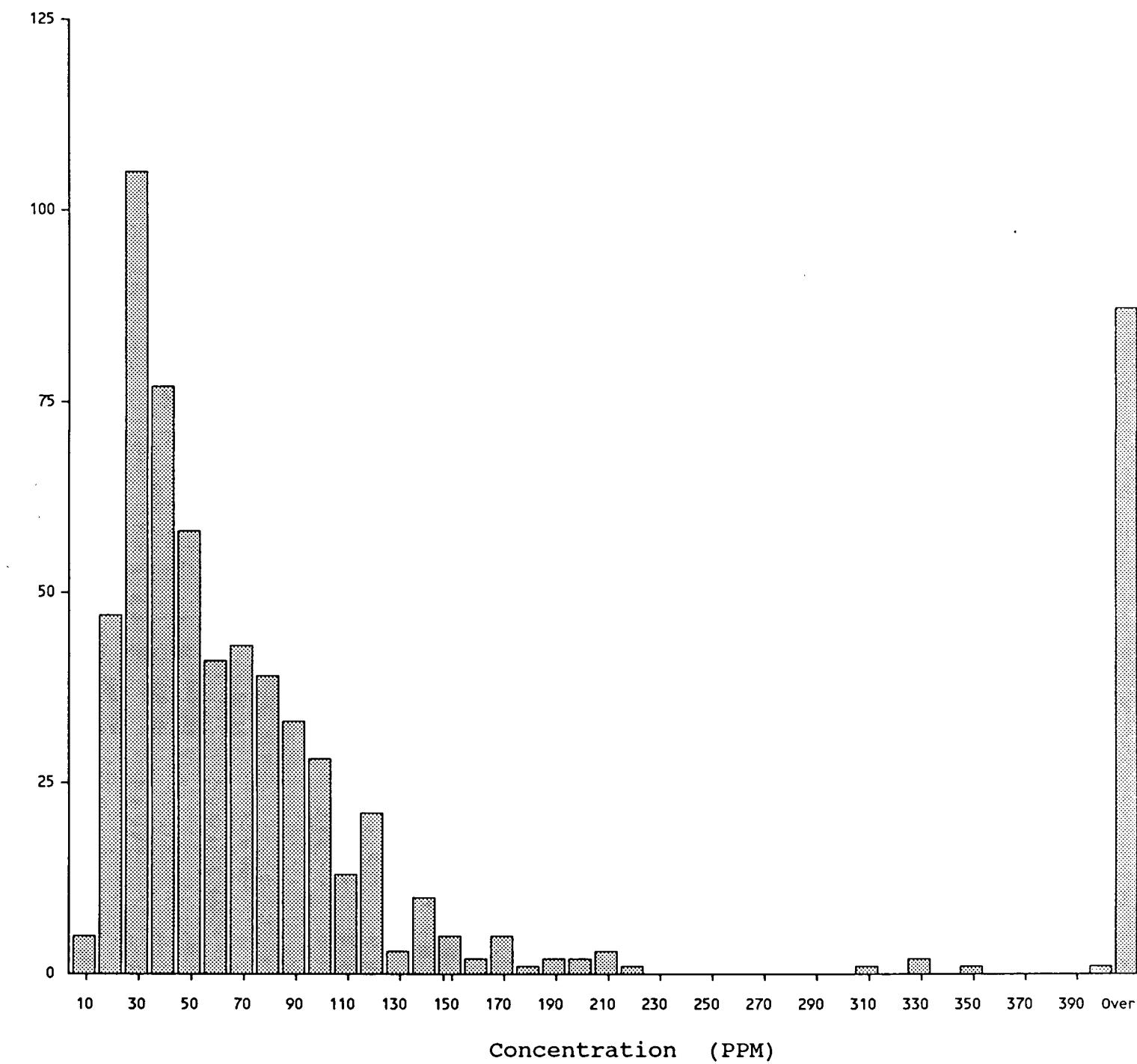
Maximum: 6.5  
Minimum: 0.1

Mean: 0.6  
Median: 0.3  
Standard Deviation: 0.7

# BUSH RESOURCES 89-5021

Cu

Number of  
Samples



636 Samples

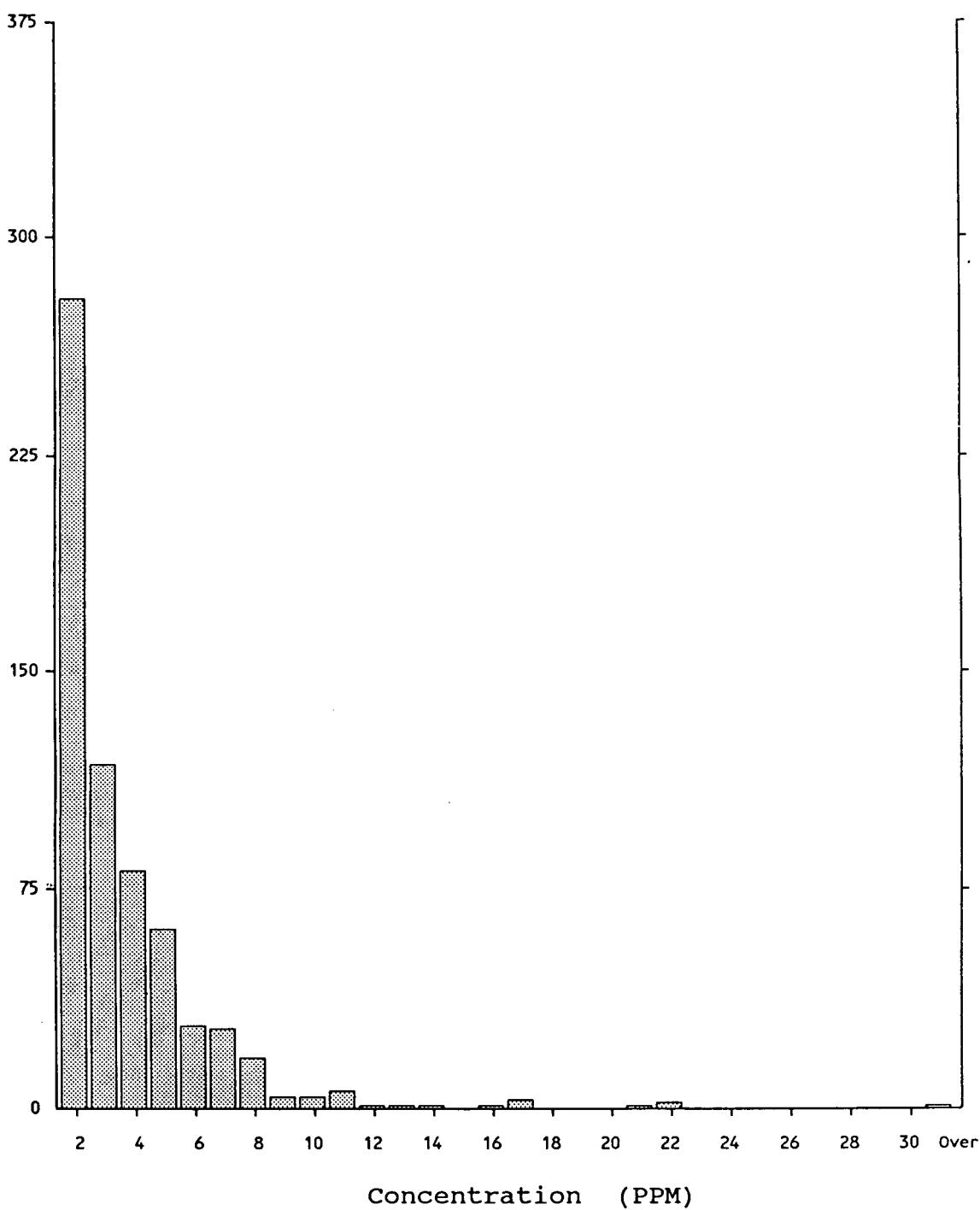
Maximum: 4725  
Minimum: 9

Mean: 279  
Median: 56  
Standard Deviation: 627

# BUSH RESOURCES 89-5021

As

Number of  
Samples



636 Samples

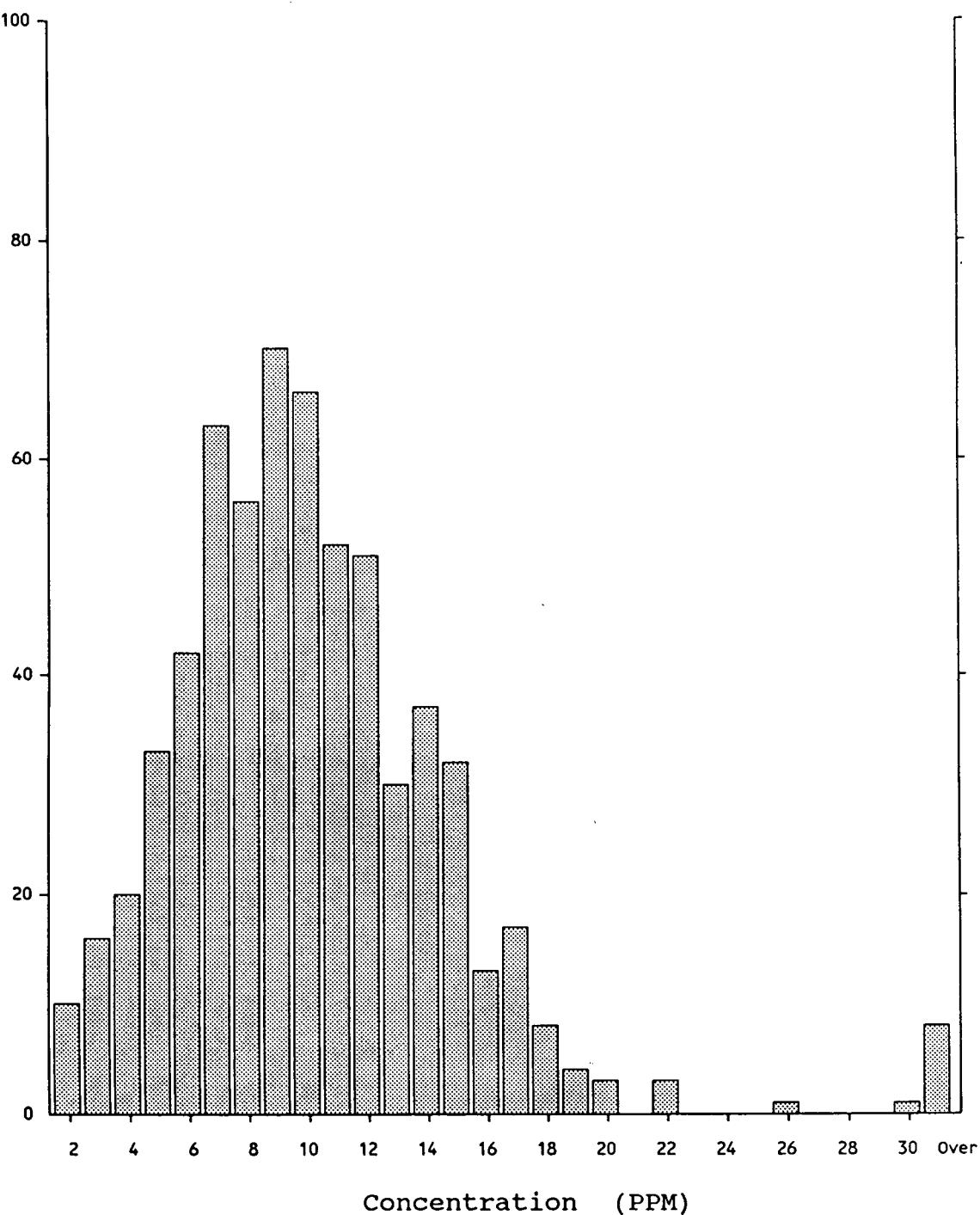
Maximum: 38  
Minimum: 2

Mean: 4  
Median: 3  
Standard Deviation: 3

# BUSH RESOURCES 89-5021

Pb

Number of  
Samples



636 Samples

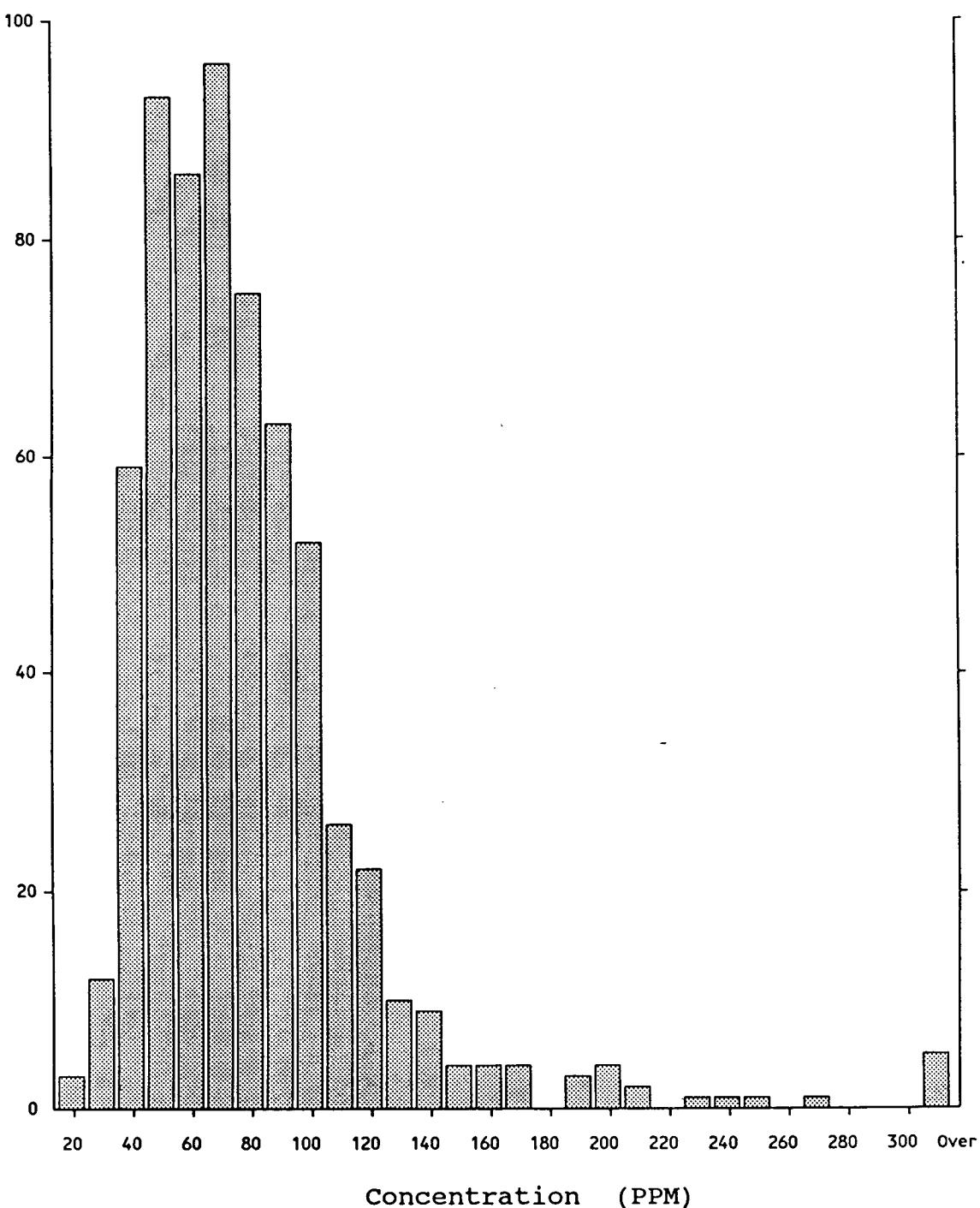
Maximum: 352  
Minimum: 2

Mean: 11  
Median: 10  
Standard Deviation: 15

# BUSH RESOURCES 89-5021

Zn

Number of  
Samples



636 Samples

Maximum: 701

Mean: 77

Minimum: 13

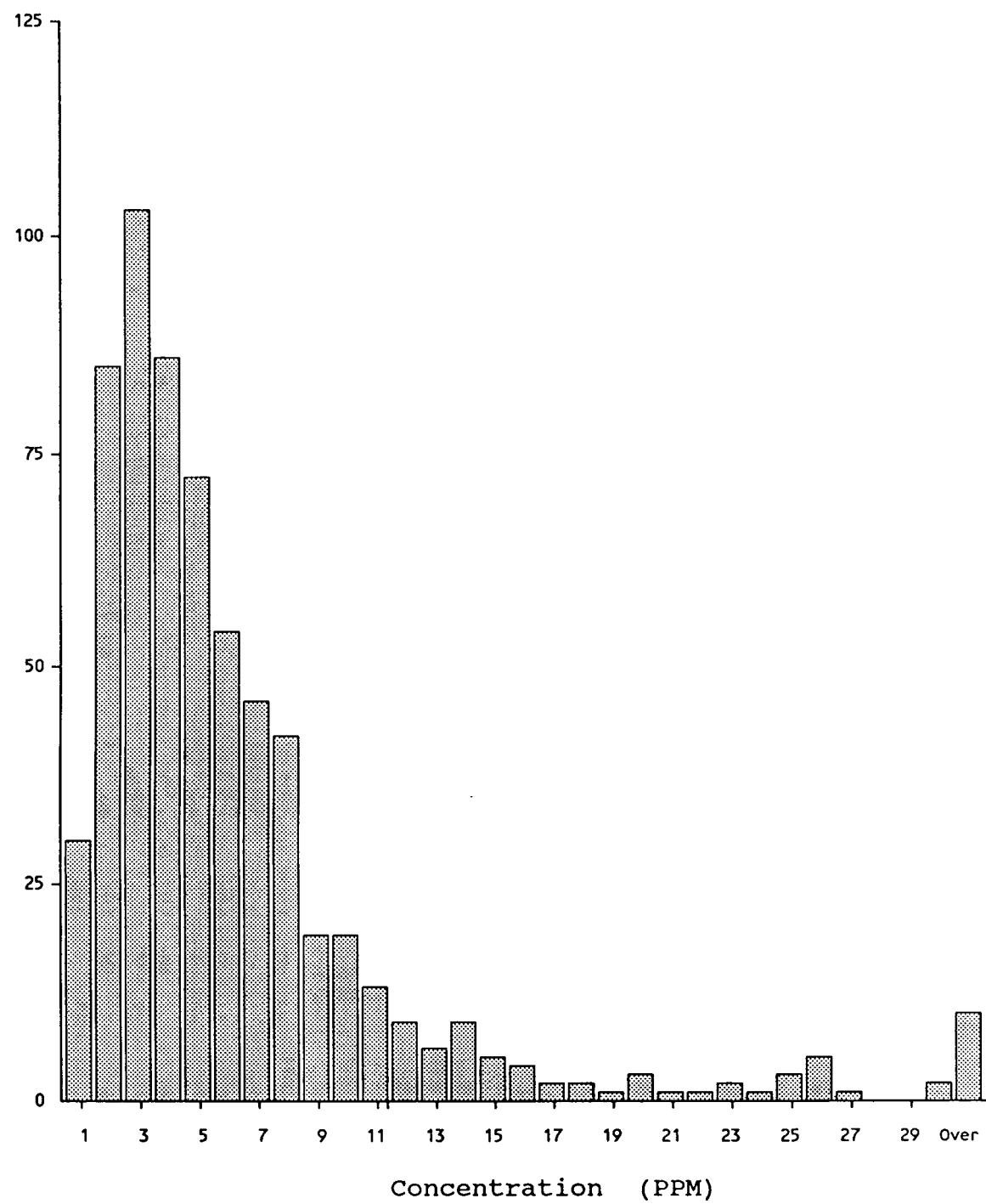
Median: 67

Standard Deviation: 54

# BUSH RESOURCES 89-5021

Mo

Number of  
Samples



636 Samples

Maximum: 128  
Minimum: 1

Mean: 7  
Median: 5  
Standard Deviation: 10