

D. L. COOKE AND ASSOCIATES LTD.
MINERAL EXPLORATION CONSULTANTS

ASSESSMENT REPORT

GEOLOGICAL
GEOCHEMICAL AND GEOPHYSICAL SURVEY

ON THE

WOLF CLAIM

COURTENAY AREA

NANAIMO MINING DIVISION, B. C.

NTS 92F/14E

49° 46' N.

125° 12' W.

FILMED

FOR

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

Operator: ST. JAMES'S MINERALS LTD.
715 - 475 HOWE STREET
VANCOUVER, B.C., V6C 2B3

Owner: Michael P. Raftery
BY

14,434

DAVID L. COOKE, PH.D., P.ENG.
D. L. COOKE AND ASSOCIATES LTD.
800 - 675 WEST HASTINGS STREET
VANCOUVER, B.C., V6B 1N2.

December 12, 1985

Work Done: November 1-10, 1985

CLAIM WORKED

| <u>Claim Name</u> | <u>Units</u> | <u>Record No.</u> | <u>Anniversary Date</u> |
|-------------------|--------------|-------------------|-------------------------|
| Wolf | 6 | 1296 | January 24 |

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MINERAL EXPLORATION CONSULTANTS

SUMMARY

The Wolf claim is held by St. James's Minerals Ltd. The claim is situated on the east slope of Mt. Washington, approximately 19 kilometers northwest of Courtenay B.C. Access is by good paved and gravel roads.

Mt. Washington is a Tertiary volcanic centre containing copper, gold and silver mineralization. It is the site of the former Mt. Washington copper mine. The area consists of Upper Triassic Karmutsen Group volcanic rocks, unconformably overlain by Cretaceous sediments of the Nanaimo Group, and intruded by early Tertiary intermediate and acid hypabyssal rocks.

The Wolf claim lies on a fault which radiates in an easterly direction from Mt. Washington, and it covers an arsenopyrite prospect reported on from as early as 1927. Exploration work in 1983 and 1984 consisted of a preliminary rock, silt and soil traverse along an easterly flowing creek and preparation of a grid over the eastern portion of the claim. Some anomalous results for copper, arsenic and gold prompted further work.

Geological mapping and soil geochemistry were done over approximately two thirds of the property in 1985. Two VLF-EM and magnetometer test lines were done at the same time. The soil survey defined anomalies for silver, gold, copper and arsenic which warrant further evaluation. The VLF-EM work appears to be useful in outlining mineralized structures, and is a useful tool to be used in conjunction with soil geochemistry. The best rock sample returned 12.7 ppm Ag, 90 ppb Au, and 3,717 ppm Cu.

A VLF-EM survey and completion of the soil survey are recommended. Magnetometer work and trenching should also be considered.

INTRODUCTION

The 1985 mapping and soil survey program was done for St. James's Minerals Ltd. between November 1 and 10, 1985. The work was carried out by J. P. Sobara, M.Sc., geologist, and A. Smallwood, geological assistant. The exploration program was supervised by D. L. Cooke, Ph.D., P.Eng., who visited the property on November 1, 1985. This report deals with the results of the 1985 program. Seven years' assessment credits are being applied for with the expenditures of this work. Total expenditures are \$9,041.74.

PROPERTY

Property and Ownership

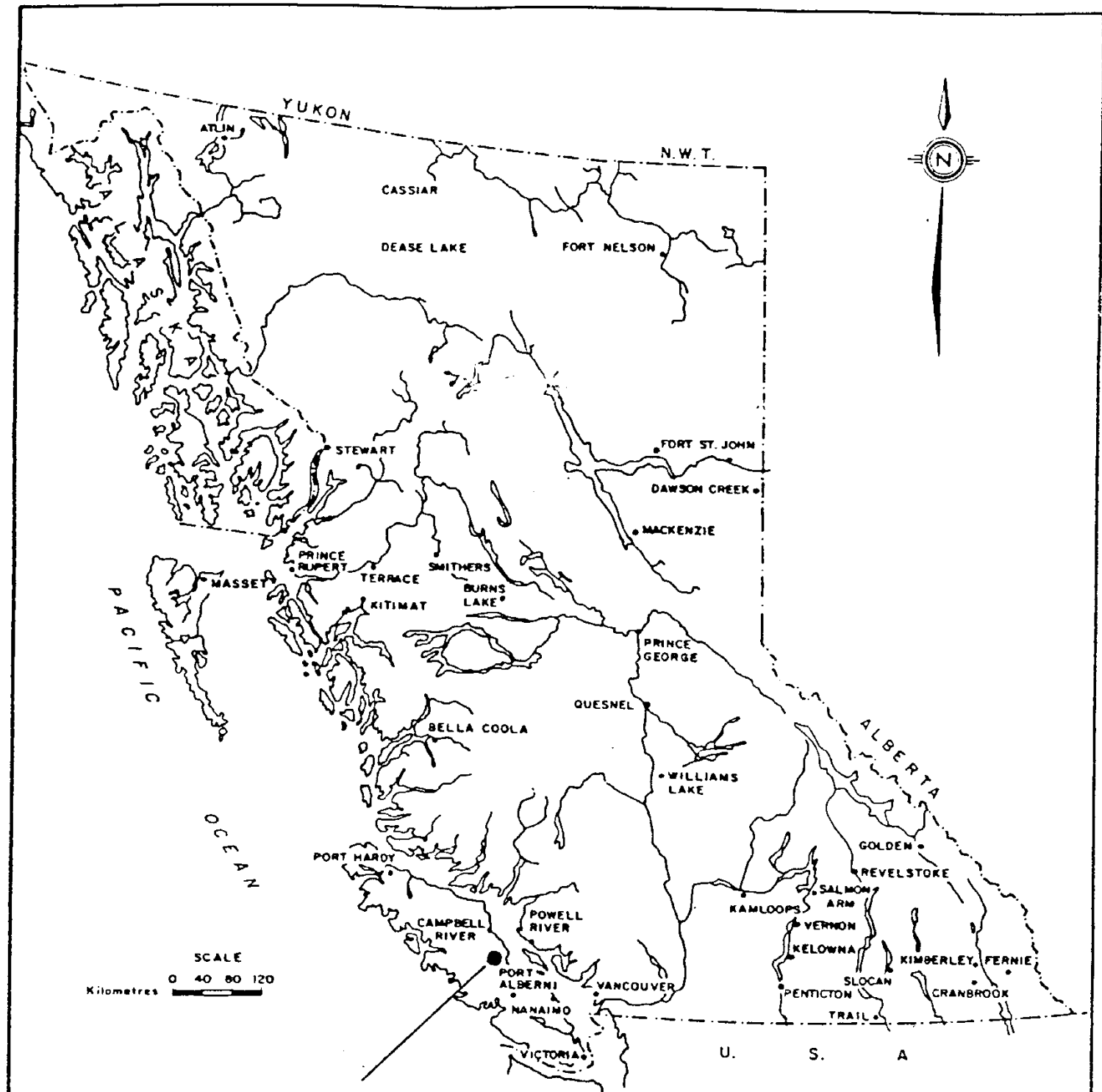
The property consists of the Wolf claim (Figure 2). The claim was staked and recorded by Jim Watt on January 24, 1983, and is owned by St. James's Minerals Ltd. The pertinent claim data are as follows:

| <u>Claim Name</u> | <u>Units</u> | <u>Record No.</u> | <u>Due Date</u> |
|-------------------|--------------|-------------------|------------------|
| Wolf | 6 | 1296 | January 24, 1986 |

Location and Access

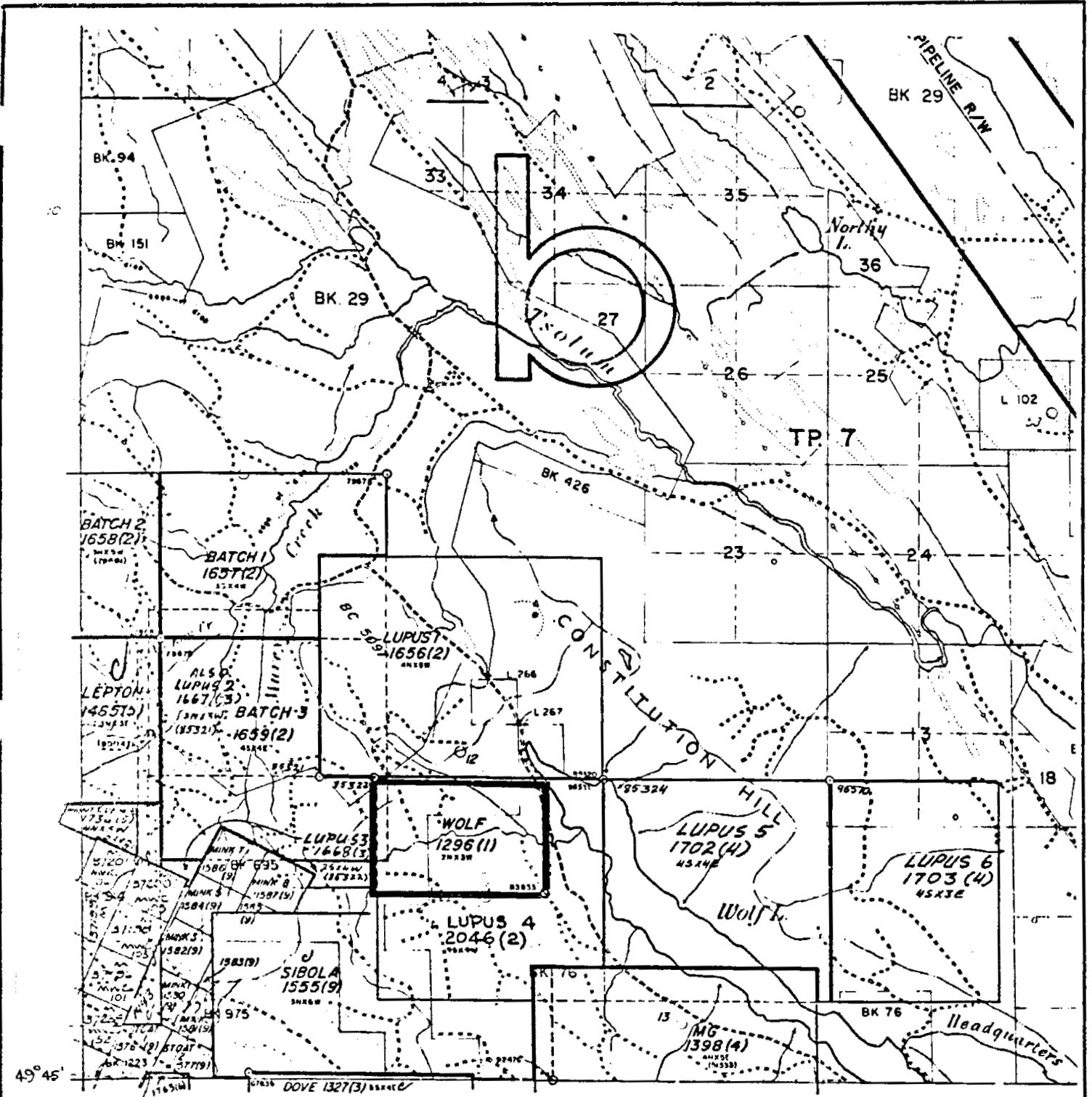
The Wolf claim is located immediately west of Wolf Lake, approximately 19 kilometers northwest of Courtenay B.C. (Figure 1). Elevations on the property range from 250 metres to 500 metres. The area is moderately steep and well timbered by evergreens and firs. There is also a dense undergrowth of shrubs.

Access to the property is partly by paved road from Courtenay and then by the Crown Zellerbach logging road to Wolf Lake. The logging road runs north along the eastern boundary of the claim. An old overgrown road also crosses the western aprt of the property, and would provide access to that area by four wheel drive vehicle.



WOLF CLAIM

| | |
|--|---|
| ST. JAMES'S MINERALS LTD. | |
| WOLF CLAIM | |
| LOCATION MAP | |
| Nanaimo M.D. NTS 92F/14 | |
| D. L. COOKE and ASSOCIATES LTD. | OWN BY: DATE Dec./85 |
| | CHK. BY: FIGURE 1 |
| SCALE AS SHOWN | |



125° 15' NANAIMO MINING DIVISION

TO SOUTH SI

| | |
|---------------------------|--------|
| ST JAMES'S MINERALS LTD. | |
| WOLF CLAIM | |
| CLAIM MAP | |
| Nanaimo M.D. N.T.S.92F/14 | |
| Date: Dec. 1985 | |
| D.L.COOKE & ASST.LTD. | Fig. 2 |

GEOLOGY AND MINERALIZATION

Regional Geology

The Upper Triassic Karmutsen volcanic rocks of the Mt. Washington area consist mainly of basalt and andesite flows and breccias and lesser tuff (Muller and Carson). These are unconformably overlain by sandstone, shale and conglomerate of the Nanaimo Group of Cretaceous age. Both groups of rocks are intruded by Early Tertiary quartz diorite and dacite stocks, plugs and dikes. The area is dissected by many north-west, northeast and north trending fault structures.

Property Geology

The Wolf claim straddles a northeast to east trending fault structure radiating from the Mt. Washington volcanic centre. The northern part of the claim is underlain by basalt and andesite flows and breccias belonging to the Karmutsen Group (Figure 3). Gently east dipping siltstones, greywackes and tuffs of probable Nanaimo Group association occupy the central and southern portions of the property. In the central part of the claim the flows and sedimentary rocks are intimately interbanded.

Mineralization

Pyrite and pyrrhotite are disseminated within altered and silicified volcanic flows and volcaniclastic sediments over a strike distance of about 250 metres along the side of the main creek on the Wolf claim. Some chalcopyrite, arsenopyrite and realgar occurs in the main showing within shears along line 5+00 W where it crosses the creek. Assay results of chip and grab samples of mineralized rocks from this area are shown in Appendix III. The best assay from this zone was

4.9 ppm Ag, 1,041 ppm Cu and 10 ppb Au over 2 metres. A grab sample of altered andesite from line 10+00 W, 2+50 N, returned 12.7 ppm Ag, 3,717 ppm Cu and 90 ppb Au. Arsenic values are generally high and gold low at the creek showing. Although tetrahedrite has been recorded from Mt. Washington copper deposit, it has not been identified on the Wolf claim.

The Mt. Washington open pit deposit produced 400,000 tons of ore which contained 1.4% Cu, 0.015 oz. Au, and 1.2 oz. Ag per ton. This mineralization occurred in a flat lying zone within an area of 250 by 600 feet (Muller and Carson, p.42). The mineralization consisted of chalcopyrite, pyrite, pyrrhotite, arsenopyrite and realgar. Minor tetrahedrite, bornite and molybdenite were present.

GEOCHEMISTRY

Sampling and Analytical Procedure

Soil samples were collected at 50 metre intervals along lines which were approximately 100 metres apart. Control was provided by topochain and compass survey. Samples were taken with a mattock from depths of 15 cm. to 30 cm., placed in numbered kraft paper bags, and shipped to Min-En Laboratories Ltd. in North Vancouver for analysis.

Soil samples were dried at approximately 90°C and then sieved to minus 80 mesh. Rock samples were crushed and pulverized. A 1.0 gram sample was then digested with HNO₃ and HClO₄ mixture. Samples were diluted to standard volume after cooling, and the solutions analysed by computer operated Jarrell Ash 9000 Induction Coupled Plasma (ICP) Analyser. Gold was determined by atomic absorption spectrophotometry.

Presentation and Discussions of Results

The analytical results and statistical treatment are presented in Appendix III. Significant values are plotted on Figures 4a and 4b. It can be seen from the plot for gold that a modest number of soils are anomalous (+15 ppb Au), with several values falling in the range 15 - 40 ppb Au. Only three samples contained in excess of 100 ppb Au. The background for silver is very high on the property, but a value of 3.0 ppm is assumed to be anomalous. The largest area of interest measures about 300 by 300 metres. It is coincident with gold and open to the north. Another anomalous area on line 10 + 00W remains open to the west (Figure 4a).

Anomalous arsenic (+50 ppm) exhibits a linear trend coincident with the sheared and silicified zone along the creek. There is also a vague suggestion of a parallel zone existing to the south of the creek. Elevated copper values (+100 ppm) are in part coincident with the arsenic anomalies (Figure 4b).

GEOPHYSICS

Geophysical responses were measured over two test lines (5 + 00W and 0 + 00W) to check the VLF-EM and magnetometer responses. A Geonics EM-16 unit was employed utilizing the Hawaii, U.S.A., submarine transmitting station ("NPM", 23.4 kHz). Readings were taken at 25 to 50 metres along the two lines. In phase and quadrature readings were taken in a northwesterly direction (330°) to ensure that south and east dips were indicated as negative readings by the instrument. Magnetic readings were taken facing north. The instrument employed was a Scintrex Model MP-2 precession magnetometer. The results of both EM-16 and magnetometer readings are plotted in profile form on Figure 5.

The EM-16 data indicates the presence of a conducting structure between the baseline and 1+00N on line 5+00W, and between 1+00S and 2+00S on line 0+00W. The magnetometer data shows a low between the baseline and 0+50N on line 5+00W, coincident with the EM conductor. This may be due to the presence of a fault or shear zone. On line 1+00W the magnetic response is a broad "stepped" pattern (Figure 5) which might be due to a change from one rock type to another.

CONCLUSIONS AND RECOMMENDATIONS

Very strong silver anomalies occur in soils across broad areas along the northern part of the claim. The source of these anomalies is not known at the present time. Moderate to weak gold anomalies are also present. The distribution of arsenic and copper in soils suggests control by fault structures and contacts between different formations. The Wolf claim appears to have good potential for the discovery of precious metal and copper mineralization.

A program of VLF-EM and magnetometer surveying is recommended for the entire property. Soil sampling should be completed on the western one third of the property on lines 100 metres apart. Evaluation of the anomalous areas by trenching may be contemplated on completion of the geochemistry and geophysics.

Respectfully submitted,

D. L. COOKE AND ASSOCIATES LTD.



David L. Cooke, Ph.D., P.Eng.



REFERENCES

- Carson, D. J. T. (1969), Tertiary Mineral Deposits of Vancouver Island; C.I.M. Transactions, Vol.72, pp.116-125.
- Hurst, M. E. (1927), Arsenic Bearing Deposits in Canada; G.S.C. Econ. Geol. Series #4, pp.36-38.
- Muller, J. E., Carson, D. J. T., 1968, Geology and Mineral Deposits of Alberni Map Area, B.C., (92F); G.S.C., Paper 68-50, pp.52.
- Peto, P., 1984, Geochemical Assessment Report on the Wolf Claim, Nanaimo M.D., pp.5.

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MINERAL EXPLORATION CONSULTANTS

APPENDIX I

STATEMENT OF EXPENDITURES - 1985
WOLF CLAIM, NANAIMO M.D.

GEOLOGY

| | | |
|---|-------|---------------|
| Salaries - J.P.Sobara, Nov.1 - 10, 1985 | | |
| 10 days @ \$200/day | | \$2,000.00 |
| Drafting and Printing | | <u>180.00</u> |
| | | \$2,180.00 |

GEOCHEMISTRY

| | | |
|---|-------|-----------------|
| Salaries - A.Smallwood, Nov.1 - 9, 1985 | | |
| 9 days @ \$150/day | | \$1,350.00 |
| Analyses - 235 samples & misc. | | |
| Min-En Labs | | <u>2,594.45</u> |
| | | 3,934.45 |

GEOPHYSICS

| | | |
|---|-------|--------|
| Equipment Rental - EM-16 and Magnetometer | | |
| Units, Nov.1 - 10, 1985 | | |
| 9 days @ \$60/day | | 540.00 |

FOOD AND ACCOMMODATION

| | | |
|-----------------------------|-------|--------|
| Hotel, etc. Nov.1 - 9, 1985 | | 637.77 |
|-----------------------------|-------|--------|

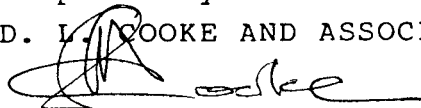
TRANSPORTATION

| | | |
|---------------------------------|-------|--------------|
| Rental - 4 WHD, Nov.1 - 9, 1985 | | |
| 9 days @ \$40/day | | 360.00 |
| Gasoline & Misc. | | <u>99.57</u> |
| | | 459.57 |

ORGANIZATION & SUPERVISION

| | | |
|---|--------|---------------|
| Field Supervision, etc. Nov.1,2, 12, 1985 | 700.00 | |
| Report, Dec. 10, 11, 1985 | | 350.00 |
| Expenses | | <u>239.95</u> |
| | | 1,289.95 |

TOTAL EXPENDITURES \$9,041.74

Prepared by:
D. L. COOKE AND ASSOCIATES LTD.

David L. Cooke, Ph.D., P.Eng.

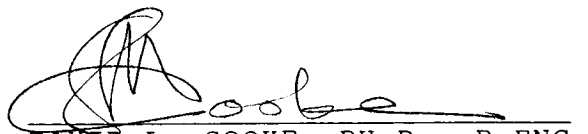


APPENDIX II

STATEMENT OF QUALIFICATIONS

I, DAVID LAWRENCE COOKE, of the Municipality of Surrey
In the Province of British Columbia, hereby certify:

1. That I am a Consulting Geologist residing at 16331 Bell Road, Surrey, B.C., V3S 1J9, with a business office at 800 - 675 West Hastings Street, Vancouver, B.C., V6B 1N2.
2. That I graduated with a B.Sc. degree in Geology from the University of New Brunswick in 1959, and with a M.A. degree and Ph.D. degree in Geology from the University of Toronto in 1961 and 1966 respectively.
3. That I have practised my profession as an exploration geologist from 1959 to the present time in Canada, the U.S.A., Mexico, the Caribbean and South America.
4. That I am a Registered Member of the Association of Professional Engineers of the Province of British Columbia.
5. That I have supervised the 1985 program on the Wolf claim, and am the author of this report.


DAVID L. COOKE, PH.D., P.ENG.



APPENDIX III

ANALYTICAL RESULTS

COMPANY: ST. JAMES MINERALS

MIN-EN LABS ICP REPORT

(ACT:GED27) PAGE 1 OF 1

PROJECT NO: WOLF CLAIMS

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

FILE NO: 5-904R

ATTENTION: MIKE RAFTERY/DAVE COOKE

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

* TYPE ROCK GEOCHEM * DATE: NOV 21, 1985

| (VALUES IN PPM) | AG | AS | CU | PB | SR | ZN | AU-PPM |
|------------------|------|------|------|----|----|-----|--------|
| LSW1+25N CHIP#1 | 4.9 | 309 | 1041 | 21 | 13 | 98 | 10 |
| LSW1+25N CHIP#2 | 1.9 | 1314 | 32 | 12 | 59 | 9 | 5 |
| LSW1+25N CHIP#3 | 1.4 | 185 | 135 | 31 | 10 | 35 | 5 |
| CHIP#3 HAND SHPL | .7 | 100 | 79 | 24 | 6 | 27 | 5 |
| 6+25N0+75NBRAR#1 | 2.7 | 7 | 661 | 35 | 19 | 115 | 10 |
| BRAR#2 | 2.5 | 27 | 134 | 13 | 7 | 42 | 5 |
| L10W0+25N | 1.0 | 140 | 267 | 5 | 3 | 12 | 5 |
| L10W2+50N | 12.7 | 29 | 3717 | 36 | 14 | 235 | 90 |

PROJECT NO: WOLF CLAIMS

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

FILE NO: 5-904S/P1+2

ATTENTION: MIKE RAFTERY/DAVE COOKE

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

* TYPE SOIL GEOCHEM * DATE: NOV 21, 1985

| (VALUES IN PPM) | AG | AS | CU | PR | SP | ZN | AU-PPB |
|-----------------|-----|-----|-----|----|----|-----|--------|
| 0+60W 0+50S | 1.7 | 107 | 70 | 17 | 10 | 73 | 5 |
| 0+60W 1+00S | 2.9 | 1 | 134 | 12 | 5 | 61 | 5 |
| 0+60W 1+50S | 3.2 | 1 | 173 | 16 | 7 | 80 | 10 |
| 0+60W 2+00S | 3.6 | 1 | 177 | 2 | 6 | 72 | 5 |
| 0+60W 2+50S | 1.9 | 1 | 51 | 22 | 4 | 59 | 5 |
| 0+60W 3+00S | 2.6 | 328 | 297 | 7 | 4 | 254 | 5 |
| 0+60W 3+50S | .9 | 56 | 59 | 21 | 8 | 63 | 5 |
| 0+60W 4+00S | 2.9 | 350 | 235 | 13 | 5 | 282 | 3 |
| 0+60W 4+50S | 2.3 | 101 | 104 | 17 | 6 | 58 | 5 |
| 0+60W 5+00S | 2.2 | 397 | 154 | 26 | 8 | 154 | 5 |
| 1+15W 5+00N | 3.6 | 1 | 167 | 14 | 8 | 65 | 5 |
| 1+15W 4+50N | 3.0 | 1 | 67 | 12 | 4 | 78 | 10 |
| 1+15W 4+00N | 3.1 | 1 | 54 | 31 | 4 | 59 | 5 |
| 1+15W 3+50N | 3.3 | 1 | 121 | 12 | 6 | 78 | 5 |
| 1+15W 3+00N | 2.9 | 1 | 54 | 13 | 4 | 67 | 5 |
| 1+15W 2+50N | 3.3 | 1 | 50 | 3 | 5 | 52 | 5 |
| 1+15W 2+00N | 3.0 | 37 | 118 | 12 | 7 | 66 | 5 |
| 1+15W 1+50N | 2.9 | 159 | 161 | 11 | 8 | 65 | 10 |
| 1+15W 1+00N | 1.6 | 34 | 55 | 16 | 6 | 53 | 35 |
| 1+15W 0+50N | 3.3 | 1 | 50 | 12 | 4 | 68 | 5 |
| 1+15W BL | 3.3 | 1 | 85 | 11 | 4 | 57 | 5 |
| 1+15W 0+50S | 3.2 | 23 | 137 | 9 | 5 | 205 | 5 |
| 1+15W 1+00S | 3.1 | 1 | 105 | 6 | 6 | 75 | 15 |
| 1+15W 1+50S | 2.2 | 164 | 222 | 16 | 7 | 112 | 10 |
| 1+15W 2+00S | 3.0 | 1 | 126 | 15 | 7 | 199 | 10 |
| 1+15W 2+50S | 2.8 | 19 | 108 | 22 | 7 | 107 | 55 |
| 1+15W 3+00S | 2.5 | 1 | 87 | 21 | 9 | 103 | 35 |
| 1+15W 3+50S | 1.1 | 26 | 46 | 46 | 9 | 65 | 5 |
| 1+15W 4+00S | 1.9 | 21 | 88 | 38 | 10 | 93 | 5 |
| 1+15W 4+50S | 2.3 | 1 | 114 | 24 | 6 | 73 | 5 |
| 1+15W 5+00S | 1.4 | 1 | 47 | 12 | 4 | 59 | 5 |
| 1+70W 5+00N | 3.2 | 1 | 71 | 7 | 6 | 66 | 10 |
| 1+70W 4+50N | 2.8 | 1 | 37 | 19 | 5 | 67 | 5 |
| 1+70W 4+00N | 3.2 | 1 | 78 | 15 | 7 | 73 | 15 |
| 1+70W 3+50N | 3.3 | 1 | 110 | 12 | 6 | 76 | 10 |
| 1+70W 3+00N | 2.6 | 1 | 16 | 6 | 5 | 39 | 40 |
| 1+70W 2+50N | 2.7 | 1 | 47 | 3 | 4 | 58 | 5 |
| 1+70W 2+00N | 1.5 | 44 | 26 | 9 | 4 | 55 | 5 |
| 1+70W 1+50N | 1.4 | 136 | 88 | 20 | 7 | 71 | 45 |
| 1+70W 1+00N | 2.2 | 43 | 77 | 15 | 7 | 72 | 5 |
| 1+70W 0+50N | 2.5 | 38 | 99 | 15 | 8 | 72 | 5 |
| 1+70W BL | 3.1 | 52 | 80 | 15 | 7 | 105 | 10 |
| 1+70W 0+50S | 2.1 | 1 | 47 | 7 | 5 | 52 | 5 |
| 1+70W 1+00S | 3.6 | 1 | 35 | 5 | 5 | 92 | 5 |
| 1+70W 1+50S | 2.2 | 252 | 178 | 23 | 8 | 214 | 15 |
| 1+70W 2+00S | 2.1 | 1 | 29 | 14 | 5 | 106 | 5 |
| 1+70W 2+50S | 3.7 | 1 | 56 | 7 | 6 | 82 | 5 |
| 1+70W 3+00S | 1.4 | 11 | 53 | 33 | 7 | 61 | 5 |
| 1+70W 3+50S | .9 | 2 | 29 | 17 | 4 | 52 | 5 |
| 1+70W 4+00S | 1.3 | 42 | 62 | 24 | 8 | 98 | 10 |
| 1+70W 4+50S | .9 | 23 | 27 | 17 | 6 | 62 | 5 |
| 1+70W 5+00S | 1.9 | 72 | 76 | 46 | 13 | 89 | 5 |
| 2+25W 5+00N | 3.4 | 1 | 21 | 10 | 7 | 49 | 5 |
| 2+25W 4+50N | 4.7 | 1 | 64 | 10 | 9 | 90 | 10 |
| 2+25W 4+00N | 5.0 | 1 | 84 | 18 | 10 | 91 | 5 |
| 2+25W 3+50N | 4.8 | 1 | 51 | 15 | 9 | 75 | 5 |
| 2+25W 3+00N | 4.1 | 1 | 64 | 27 | 9 | 88 | 10 |
| 2+25W 2+50N | 3.8 | 6 | 51 | 17 | 8 | 85 | 5 |
| 2+25W 2+00N | 2.1 | 88 | 44 | 14 | 7 | 52 | 5 |
| 2+25W 1+50N | 2.1 | 1 | 1 | 1 | 1 | 1 | 1 |

| (VALUES IN PPM) | AG | AS | CU | PB | SR | ZN | AU-PPB |
|-----------------|-----|-----|-----|----|----|-----|--------|
| 2+25W 1+00N | 2.2 | 52 | 64 | 21 | 12 | 47 | 5 |
| 2+25W 0+50N | 2.9 | 1 | 99 | 11 | 8 | 53 | 10 |
| 2+25W BL | 3.3 | 1 | 56 | 11 | 7 | 43 | 5 |
| 2+25W 0+50S | 3.2 | 1 | 28 | 5 | 7 | 60 | 5 |
| 2+25W 1+00S | 2.8 | 1 | 50 | 9 | 7 | 64 | 5 |
| 2+25W 1+50S | 2.4 | 41 | 87 | 23 | 9 | 94 | 15 |
| 2+25W 2+00S | 2.2 | 109 | 164 | 36 | 12 | 125 | 10 |
| 2+25W 2+50S | 3.7 | 1 | 130 | 13 | 7 | 87 | 5 |
| 2+25W 3+00S | 1.1 | 15 | 21 | 19 | 5 | 24 | 5 |
| 2+25W 3+50S | 1.9 | 5 | 28 | 35 | 6 | 63 | 5 |
| 2+25W 4+00S | 1.6 | 9 | 75 | 25 | 5 | 54 | 5 |
| 2+25W 4+50S | 2.5 | 7 | 79 | 14 | 7 | 67 | 5 |
| 2+25W 5+00S | 2.7 | 1 | 153 | 13 | 6 | 57 | 10 |
| 4W 5+00N | 3.2 | 1 | 41 | 2 | 4 | 41 | 5 |
| 4W 4+50N | 3.1 | 1 | 38 | 3 | 4 | 48 | 5 |
| 4W 4+00N | 2.7 | 1 | 35 | 7 | 5 | 44 | 5 |
| 4W 3+50N | 2.9 | 1 | 75 | 11 | 6 | 74 | 5 |
| 4W 3+00N | 3.3 | 1 | 55 | 2 | 5 | 61 | 5 |
| 4W 2+50N | 2.4 | 62 | 91 | 6 | 7 | 55 | 5 |
| 4W 2+00N | 1.4 | 140 | 38 | 13 | 7 | 56 | 20 |
| 4W 1+50N | 1.5 | 3 | 16 | 8 | 3 | 32 | 10 |
| 4W 1+00N | 1.7 | 1 | 42 | 9 | 4 | 33 | 5 |
| 4W 0+50N | 1.1 | 89 | 118 | 22 | 6 | 38 | 15 |
| 4W BL | 2.1 | 57 | 27 | 10 | 5 | 100 | 10 |
| 4W 0+50S | 2.1 | 1 | 20 | 2 | 5 | 66 | 10 |
| 4W 1+00S | 1.8 | 31 | 128 | 18 | 6 | 86 | 10 |
| 4W 1+50S | 1.7 | 8 | 38 | 16 | 7 | 129 | 5 |
| 4W 2+00S | .9 | 39 | 61 | 28 | 10 | 66 | 30 |
| 4W 2+50S | .7 | 22 | 16 | 18 | 5 | 35 | 5 |
| 4W 3+00S | 2.3 | 13 | 34 | 25 | 8 | 62 | 10 |
| 4W 3+50S | 1.2 | 28 | 57 | 20 | 7 | 51 | 15 |
| 4W 4+00S | 1.4 | 14 | 28 | 11 | 6 | 49 | 5 |
| 4W 4+50S | 2.0 | 1 | 45 | 9 | 5 | 51 | 20 |
| 4W 5+00S | 3.7 | 1 | 47 | 10 | 8 | 69 | 10 |
| 5W 5+00N | 5.3 | 1 | 61 | 12 | 8 | 81 | 5 |
| 5W 4+50N | 4.6 | 1 | 116 | 10 | 10 | 70 | 10 |
| 5W 4+00N | 3.8 | 32 | 65 | 44 | 9 | 79 | 5 |
| 5W 3+50N | 3.8 | 1 | 117 | 30 | 11 | 215 | 5 |
| 5W 3+00N | 4.2 | 1 | 78 | 3 | 8 | 99 | 5 |
| 5W 2+50N | 3.0 | 1 | 54 | 20 | 10 | 93 | 10 |
| 5W 2+00N | 3.2 | 1 | 38 | 4 | 8 | 103 | 15 |
| 5W 1+75N | 3.3 | 1 | 62 | 7 | 7 | 91 | 5 |
| 5W 1+50N | 2.2 | 49 | 150 | 12 | 8 | 46 | 5 |
| 5W 1+25W | N/S | | | | | | |
| 5W 1+00N | 1.4 | 1 | 11 | 8 | 3 | 16 | 5 |
| 5W 0+75N | 2.3 | 1 | 61 | 9 | 7 | 60 | 5 |
| 5W 0+50N | 2.8 | 1 | 75 | 6 | 8 | 56 | 5 |
| 5W 0+25N | .8 | 17 | 15 | 22 | 6 | 37 | 5 |
| 5W BL | 2.6 | 15 | 107 | 26 | 13 | 100 | 5 |
| 5W 0+25S | .8 | 38 | 13 | 29 | 8 | 45 | 10 |
| 5W 0+50S | 2.4 | 38 | 27 | 22 | 6 | 131 | 5 |
| 5W 0+75S | 3.1 | 1 | 24 | 11 | 6 | 81 | 10 |
| 5W 1+00S | 3.3 | 1 | 16 | 5 | 2 | 23 | 5 |
| 5W 1+25S | 3.1 | 1 | 55 | 7 | 7 | 90 | 10 |
| 5W 1+50S | 2.2 | 1 | 24 | 6 | 4 | 43 | 5 |
| 5W 1+75S | 1.5 | 8 | 91 | 19 | 9 | 71 | 10 |
| 5W 2+00S | 1.5 | 2 | 56 | 14 | 7 | 61 | 5 |
| 5W 2+50S | 1.1 | 12 | 41 | 21 | 8 | 71 | 10 |
| 5W 3+00S | 1.5 | 55 | 150 | 37 | 15 | 75 | 10 |

| (VALUES IN PPM) | AS | CU | PR | SR | ZN | AG-PPR | |
|-----------------|-----|-----|-----|----|----|--------|-----|
| 5W 4+00S | 1.5 | 12 | 54 | 27 | 8 | 67 | 5 |
| 5W 4+50S | 1.2 | 1 | 24 | 13 | 4 | 41 | 10 |
| 5W 5+00S | 2.5 | 73 | 112 | 24 | 8 | 145 | 10 |
| 6W 5+00N | 3.7 | 1 | 53 | 23 | 7 | 67 | 15 |
| 6W 4+50N | 3.2 | 1 | 51 | 4 | 6 | 64 | 5 |
| 6W 4+00N | 3.1 | 1 | 109 | 24 | 9 | 102 | 20 |
| 6W 3+50N | 3.1 | 1 | 15 | 2 | 3 | 28 | 20 |
| 6W 3+00N | 2.7 | 1 | 24 | 3 | 4 | 35 | 15 |
| 6W 2+50N | 1.8 | 1 | 64 | 15 | 6 | 54 | 5 |
| 6W 2+00N | 2.5 | 1 | 60 | 4 | 6 | 75 | 5 |
| 6W 1+75N | 2.8 | 1 | 48 | 9 | 6 | 67 | 5 |
| 6W 1+50N | 3.2 | 1 | 31 | 7 | 6 | 51 | 5 |
| 6W 1+25N | 2.4 | 1 | 79 | 15 | 9 | 86 | 10 |
| 6W 1+00N | 1.9 | 1 | 10 | 3 | 4 | 19 | 120 |
| 6W 0+75N | 2.0 | 55 | 57 | 28 | 9 | 62 | 20 |
| 6W 0+50N | 2.4 | 23 | 45 | 15 | 8 | 64 | 5 |
| 6W 0+25N | 2.7 | 200 | 44 | 11 | 11 | 52 | 10 |
| 6W 8L | 3.8 | 1 | 61 | 5 | 7 | 81 | 10 |
| 6W 0+25S | 3.3 | 1 | 87 | 17 | 10 | 92 | 10 |
| 6W 0+50S | 3.4 | 1 | 82 | 13 | 8 | 69 | 5 |
| 6W 0+75S | 2.3 | 1 | 61 | 18 | 6 | 98 | 5 |
| 6W 1+00S | 3.1 | 10 | 90 | 17 | 9 | 128 | 5 |
| 6W 1+25S | 2.4 | 1 | 60 | 20 | 9 | 81 | 10 |
| 6W 1+50S | 2.7 | 1 | 14 | 2 | 4 | 31 | 5 |
| 6W 1+75S | 3.6 | 51 | 122 | 23 | 15 | 116 | 5 |
| 6W 2+00S | 2.3 | 1 | 24 | 15 | 7 | 48 | 5 |
| 6W 2+50S | 3.2 | 1 | 45 | 15 | 7 | 79 | 5 |
| 6W 3+00S | 2.5 | 9 | 62 | 14 | 7 | 73 | 10 |
| 6W 3+50S | .8 | 3 | 20 | 17 | 4 | 29 | 5 |
| 6W 4+00S | 1.1 | 8 | 20 | 20 | 5 | 32 | 10 |
| 6W 4+50S | 1.6 | 1 | 53 | 19 | 7 | 61 | 5 |
| 6W 5+00S | 1.6 | 45 | 66 | 20 | 7 | 72 | 20 |
| 7W 5+00N | 3.3 | 1 | 83 | 14 | 7 | 105 | 10 |
| 7W 4+50N | 3.9 | 230 | 96 | 1 | 10 | 79 | 25 |
| 7W 4+00N | 3.3 | 315 | 169 | 25 | 12 | 138 | 20 |
| 7W 3+50N | 2.9 | 1 | 42 | 3 | 6 | 56 | 30 |
| 7W 3+00N | 4.0 | 1 | 77 | 6 | 9 | 69 | 10 |
| 7W 2+50N | 3.5 | 1 | 66 | 7 | 7 | 67 | 120 |
| 7W 2+00N | 3.0 | 1 | 49 | 3 | 6 | 50 | 10 |
| 7W 1+50N | 2.8 | 1 | 35 | 5 | 5 | 47 | 10 |
| 7W 1+00N | 1.7 | 1 | 41 | 11 | 7 | 35 | 5 |
| 7W 0+50N | 1.6 | 168 | 107 | 29 | 17 | 79 | 10 |
| 7W 8L | 2.6 | 14 | 73 | 13 | 11 | 142 | 5 |
| 7W 0+50S | 2.6 | 1 | 42 | 6 | 6 | 52 | 5 |
| 7W 1+00S | 2.1 | 1 | 36 | 5 | 6 | 56 | 5 |
| 7W 1+50S | 1.8 | 1 | 73 | 9 | 6 | 63 | 5 |
| 7W 2+00S | 2.2 | 1 | 67 | 12 | 7 | 82 | 3 |
| 7W 2+50S | 1.4 | 1 | 47 | 15 | 6 | 59 | 5 |
| 7W 3+00S | 1.4 | 1 | 68 | 21 | 8 | 68 | 5 |
| 7W 3+50S | .8 | 3 | 25 | 1 | 5 | 35 | 30 |
| 7W 4+00S (40M) | 1.8 | 155 | 419 | 30 | 11 | 162 | 20 |
| 7W 4+50S | .8 | 104 | 70 | 15 | 5 | 100 | 25 |
| 7W 5+00S | .7 | 56 | 51 | 14 | 5 | 70 | 10 |
| 8W 5+00N | 3.9 | 1 | 126 | 9 | 8 | 98 | 10 |
| 8W 4+50N | 3.2 | 1 | 110 | 3 | 6 | 77 | 10 |
| 8W 4+00N | 2.9 | 1 | 33 | 2 | 5 | 35 | 10 |
| 8W 3+50N | 2.7 | 1 | 38 | 2 | 3 | 47 | 5 |
| 8W 3+00N | 2.9 | 1 | 57 | 4 | 6 | 72 | 30 |
| 8W 2+50N | 3.3 | 1 | 86 | 7 | 8 | 98 | 5 |

PROJECT NO: WOLF CLAIMS

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

FILE NO: S-904S/P8

ATTENTION: MIKE RAFTERY/DAVE COOKE

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

* TYPE SOIL GEOCHEM * DATE: NOV 21, 1985

| (VALUES IN PPM) | AG | AS | CU | PR | SB | ZN | AU-PPB |
|-----------------|-----|-----|-----|----|----|----|--------|
| 9W 3+00S 40M | 2.1 | 21 | 26 | 25 | 7 | 37 | 5 |
| 3+50S | 1.9 | 5 | 17 | 14 | 5 | 34 | 10 |
| 9W 4+00S | 2.0 | 5 | 45 | 15 | 7 | 92 | 40 |
| 9W 4+50S | 1.8 | 12 | 54 | 20 | 6 | 60 | 10 |
| 9W 5+00S 40M | 1.6 | 21 | 57 | 20 | 5 | 56 | 15 |
| 10W 5+00N | 3.9 | 1 | 115 | 4 | 5 | 58 | 10 |
| 10W 4+50N | 3.3 | 1 | 41 | 2 | 3 | 53 | 10 |
| 10W 4+00N | 3.9 | 1 | 137 | 4 | 4 | 58 | 5 |
| 10W 3+50N | 3.1 | 1 | 66 | 8 | 4 | 57 | 15 |
| 10W 3+00N 40M | 3.9 | 1 | 138 | 6 | 7 | 69 | 5 |
| 10W 2+50N | 3.7 | 1 | 78 | 8 | 6 | 60 | 5 |
| 10W 2+00N | 3.9 | 1 | 74 | 1 | 6 | 54 | 5 |
| 10W 1+50N | 2.5 | 1 | 23 | 7 | 5 | 33 | 5 |
| 10W 1+00N | 2.5 | 1 | 78 | 4 | 6 | 41 | 10 |
| 10W 0+50N | 1.1 | 12 | 41 | 22 | 4 | 43 | 5 |
| 10W BL | 1.7 | 4 | 14 | 4 | 2 | 18 | 20 |
| 10W 0+50S | 1.4 | 100 | 76 | 16 | 6 | 71 | 30 |
| 10W 1+00S | .8 | 32 | 14 | 11 | 3 | 13 | 26 |
| 10W 1+50S | 2.3 | 6 | 64 | 11 | 5 | 61 | 10 |
| 10W 2+00S | 2.3 | 2 | 159 | 12 | 6 | 64 | 10 |
| 10W 2+50S | 2.1 | 18 | 55 | 25 | 7 | 57 | 20 |
| 10W 3+00S | 2.0 | 72 | 34 | 16 | 7 | 36 | 30 |
| 10W 3+50S | 2.1 | 1 | 25 | 14 | 5 | 55 | 20 |
| 10W 4+00S | 2.1 | 18 | 72 | 19 | 6 | 82 | 10 |
| 10W 4+50S | 2.0 | 1 | 49 | 10 | 4 | 61 | 5 |
| 10W 5+00S | 2.2 | 6 | 59 | 14 | 4 | 54 | 5 |

MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON AG

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: 5-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

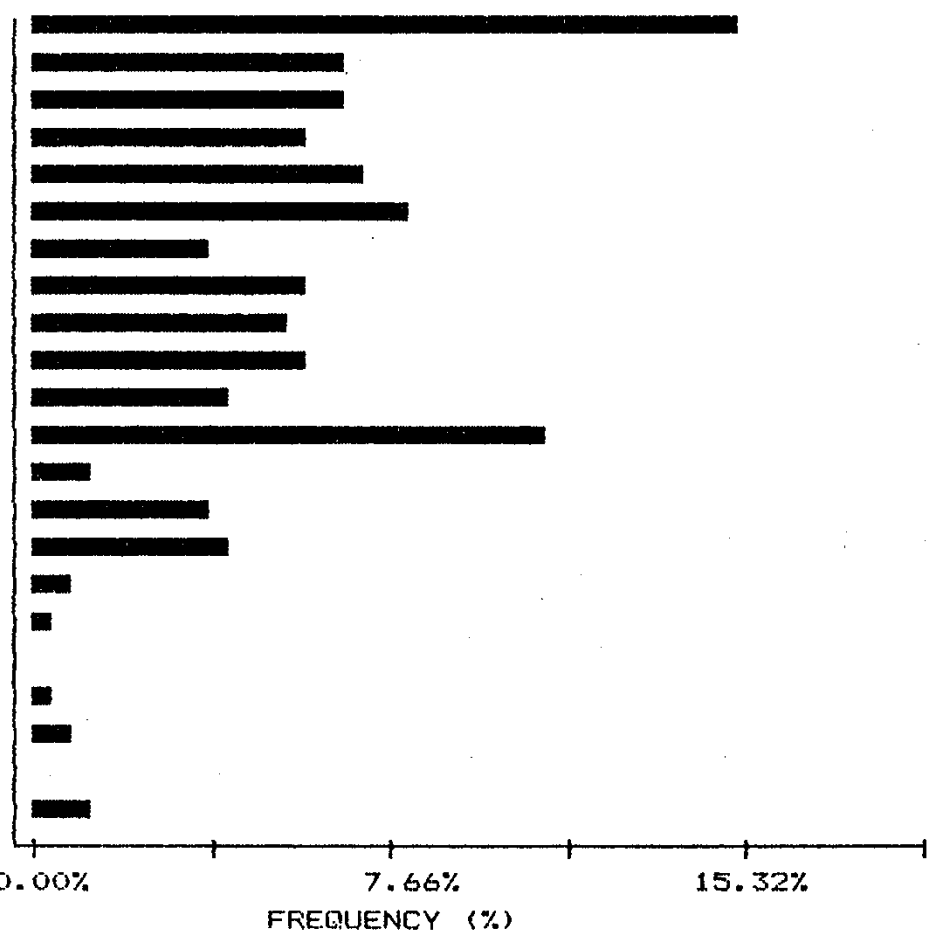
NUMBER OF SAMPLES: 235
 MAXIMUM VALUE: 5.80 PPM
 MINIMUM VALUE: .20 PPM
 MEAN: 2.39 PPM
 STD. DEVIATION: 1.03 PPM
 COEFF. OF VARIATION: .43

5 HIGHEST AG VALUES:
 9W 2+00S 5.8 PPM
 9W 1+50S 5.7 PPM
 5W 5+00N 5.3 PPM
 2+25W 4+00N 5.0 PPM
 2+25W 3+50N 4.8 PPM

HISTOGRAM FOR AG CLASS INTERVAL = .18

| MID CLASS PPM | CLASS % |
|---------------|---------|
|---------------|---------|

| | | |
|---|------|-------|
| < | 1.40 | 15.32 |
| | 1.49 | 6.81 |
| | 1.67 | 6.81 |
| | 1.85 | 5.96 |
| | 2.03 | 7.23 |
| | 2.21 | 8.09 |
| | 2.39 | 3.83 |
| | 2.57 | 5.96 |
| | 2.75 | 5.53 |
| | 2.93 | 5.96 |
| | 3.11 | 4.26 |
| | 3.29 | 11.06 |
| | 3.47 | 1.28 |
| | 3.65 | 3.83 |
| | 3.83 | 4.26 |
| | 4.01 | .85 |
| | 4.19 | .43 |
| | 4.37 | 0.00 |
| | 4.55 | .43 |
| | 4.73 | .85 |
| | 4.91 | 0.00 |
| > | 5.00 | 1.28 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

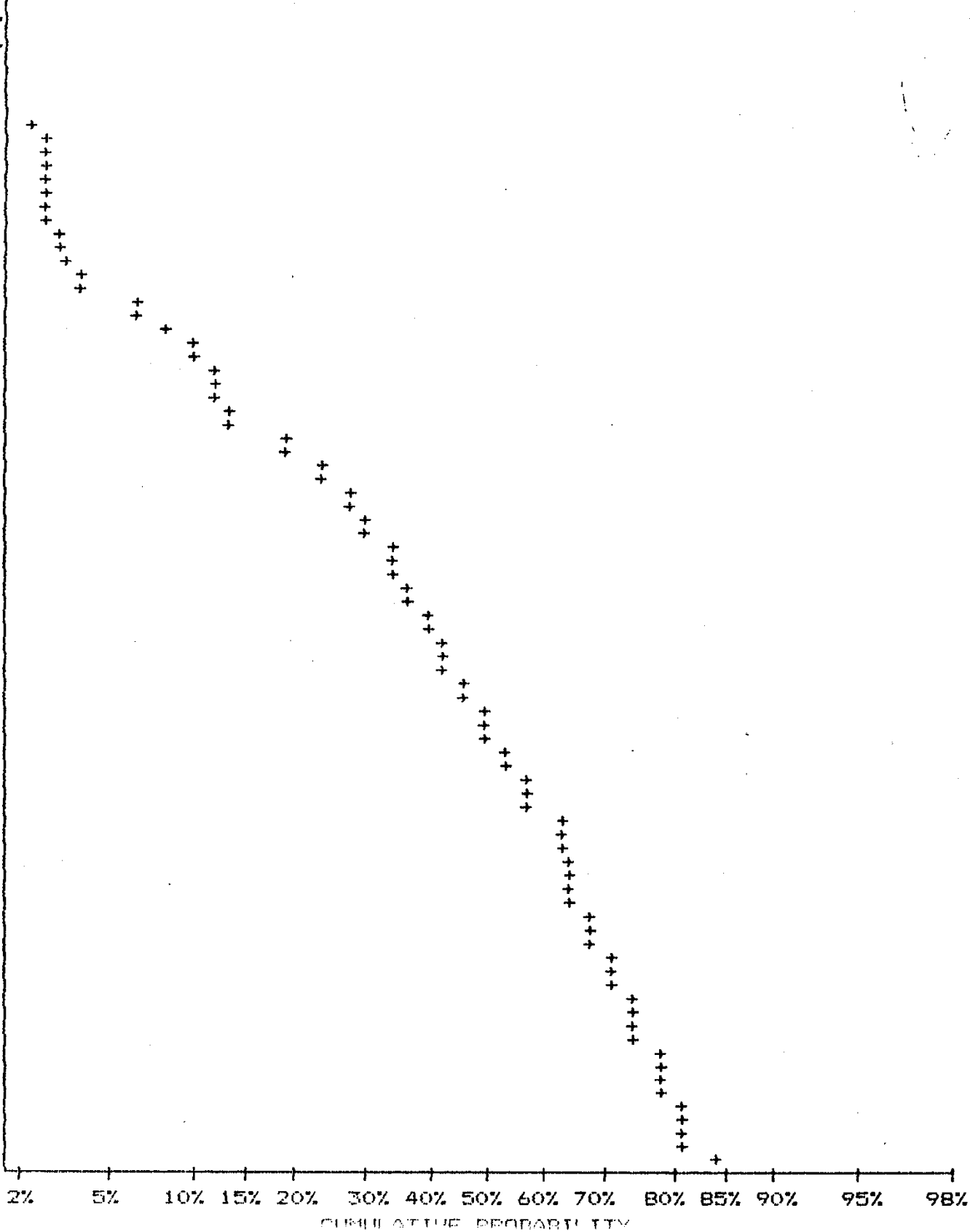
TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

CUMMULATIVE PROBABILITY PLOT ON AG

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: 5-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

| UPPER LIMIT (PPM) | CUMMUL. FREQ. (%) |
|-------------------------|-------------------------|
| 4.92 | 1.70 |
| 4.77 | 2.13 |
| 4.61 | 2.55 |
| 4.47 | 2.98 |
| 4.33 | 2.98 |
| 4.19 | 3.40 |
| 4.06 | 3.83 |
| 3.93 | 4.26 |
| 3.80 | 6.81 |
| 3.68 | 10.64 |
| 3.57 | 12.34 |
| 3.45 | 12.77 |
| 3.34 | 13.62 |
| 3.24 | 19.57 |
| 3.13 | 24.68 |
| 3.04 | 28.94 |
| 2.94 | 31.06 |
| 2.84 | 34.89 |
| 2.76 | 37.45 |
| 2.67 | 40.43 |
| 2.58 | 42.55 |
| 2.50 | 42.55 |
| 2.42 | 46.38 |
| 2.34 | 50.21 |
| 2.27 | 54.04 |
| 2.20 | 58.30 |
| 2.13 | 58.30 |
| 2.06 | 63.40 |
| 2.00 | 65.53 |
| 1.93 | 65.53 |
| 1.87 | 68.51 |
| 1.81 | 68.51 |
| 1.75 | 71.49 |
| 1.70 | 74.89 |
| 1.64 | 74.89 |
| 1.59 | 78.30 |
| 1.54 | 78.30 |
| 1.49 | 80.85 |
| 1.45 | 80.85 |
| 1.40 | 84.68 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON AS

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: S-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

NUMBER OF SAMPLES: 235
 MAXIMUM VALUE: 7365.00 PPM
 MINIMUM VALUE: 1.00 PPM
 MEAN: 60.14 PPM
 STD. DEVIATION: 482.33 PPM
 COEFF. OF VARIATION: 8.02

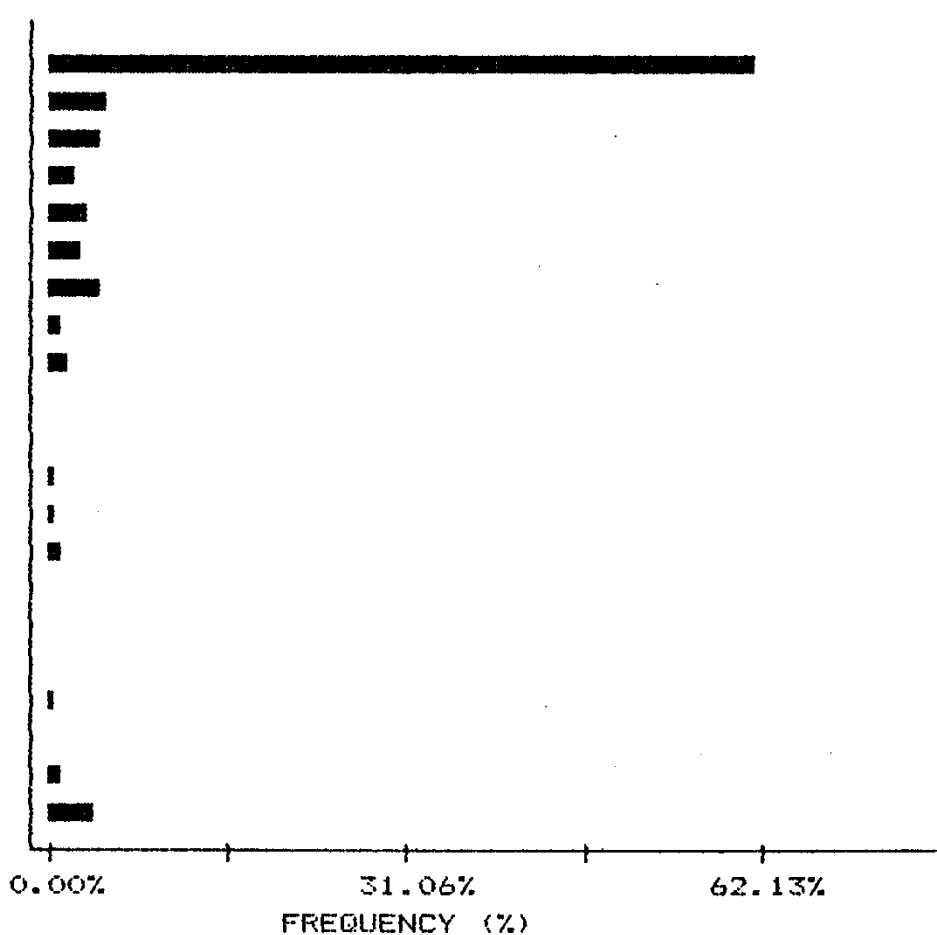
5 HIGHEST AS VALUES:
 8W BL (40M) 7365 PPM
 0+60W 5+00S 397 PPM
 0+60W 4+00S 350 PPM
 0+60W 3+00S 328 PPM
 7W 4+00N 315 PPM

HISTOGRAM FOR AS

CLASS INTERVAL = 7.9

| MID CLASS PPM | CLASS % |
|------------------|------------|
|------------------|------------|

| | |
|----------|-------|
| < 1.00 | .43 |
| 4.95 | 62.13 |
| 12.85 | 5.53 |
| 20.75 | 4.68 |
| 28.65 | 2.55 |
| 36.55 | 3.40 |
| 44.45 | 2.98 |
| 52.35 | 4.68 |
| 60.25 | 1.28 |
| 68.15 | 1.70 |
| 76.05 | .43 |
| 83.95 | 0.00 |
| 91.85 | .85 |
| 99.75 | .85 |
| 107.65 | 1.28 |
| 115.55 | 0.00 |
| 123.45 | 0.00 |
| 131.35 | .43 |
| 139.25 | .85 |
| 147.15 | .43 |
| 155.05 | 1.28 |
| > 159.00 | 4.26 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

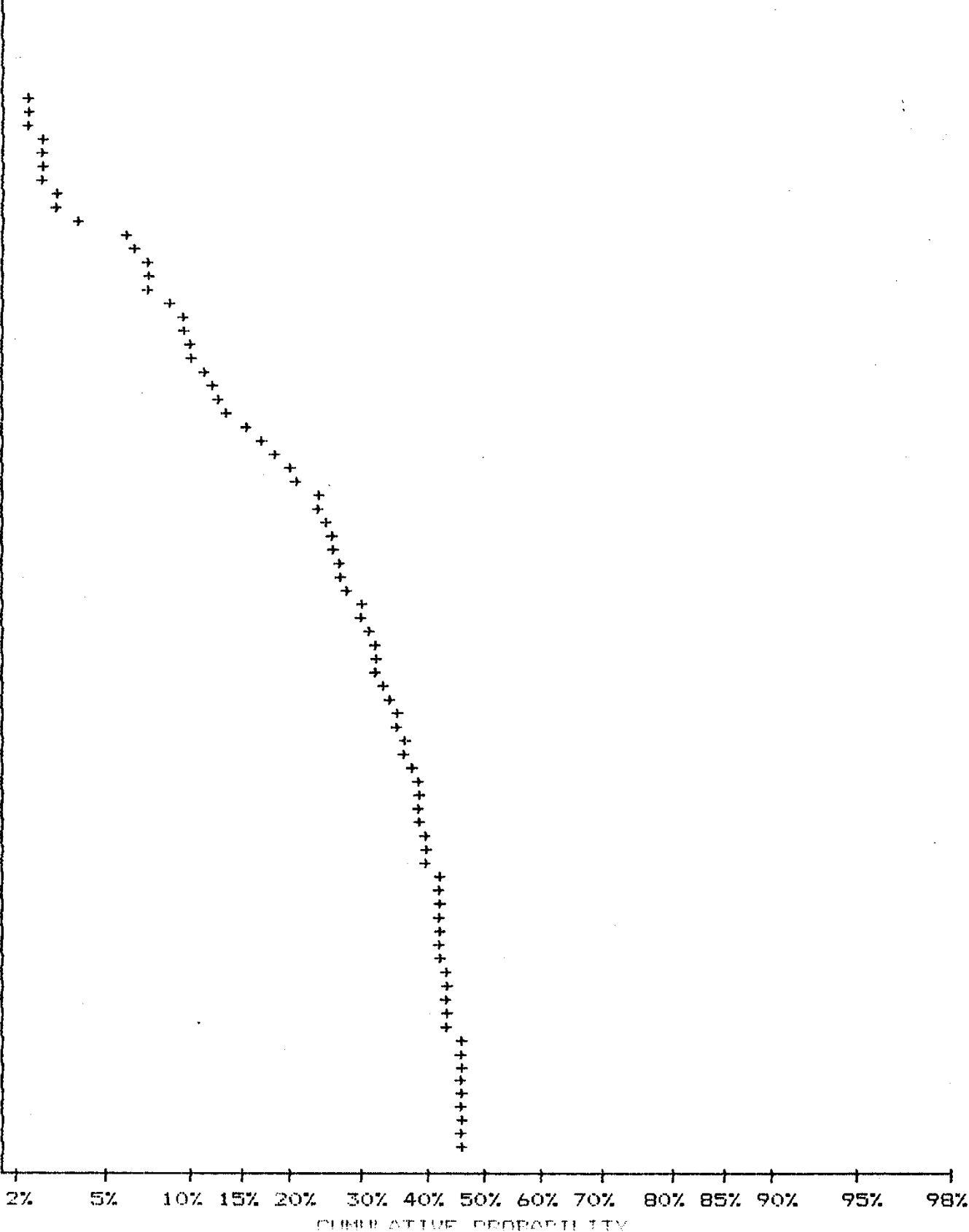
TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

CUMMULATIVE PROBABILITY PLOT ON AS

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: S-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

| UPPER LIMIT (PPM) | CUMMUL. FREQ. (%) |
|--------------------------|-------------------------|
| 313.33 | 2.13 |
| 270.40 | 2.13 |
| 233.35 | 2.55 |
| 201.37 | 2.98 |
| 173.78 | 3.40 |
| 149.97 | 6.38 |
| 129.42 | 7.66 |
| 111.69 | 7.66 |
| 96.38 | 9.79 |
| 83.18 | 10.64 |
| 71.78 | 11.91 |
| 61.94 | 13.19 |
| 53.46 | 16.17 |
| 46.13 | 18.72 |
| 39.81 | 21.70 |
| 34.36 | 24.68 |
| 29.65 | 26.38 |
| 25.59 | 27.23 |
| 22.08 | 28.94 |
| 19.05 | 30.64 |
| 16.44 | 32.34 |
| 14.19 | 33.19 |
| 12.25 | 34.47 |
| 10.57 | 36.60 |
| 9.12 | 37.02 |
| 7.87 | 39.15 |
| 6.79 | 39.57 |
| 5.86 | 40.85 |
| 5.06 | 40.85 |
| 4.37 | 42.55 |
| 3.77 | 42.98 |
| 3.25 | 42.98 |
| 2.80 | 44.68 |
| 2.42 | 44.68 |
| 2.09 | 44.68 |
| 1.80 | 46.38 |
| 1.56 | 46.38 |
| 1.34 | 46.38 |
| 1.16 | 46.81 |
| 1.00 | 99.57 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON CU

COMPANY: ST. JAMES MINERALS
ATTN: MR. DAVE COOKE
PROJECT: WOLF CLAIMS
FILE#: 5-904

DATE: NOV 26/85
SAMPLE TYPE: SOILS
ANALYSIS TYPE: ICP

NUMBER OF SAMPLES: 235
MAXIMUM VALUE: 419.00 PPM
MINIMUM VALUE: 8.00 PPM
MEAN: 69.57 PPM
STD. DEVIATION: 48.90 PPM
COEFF. OF VARIATION: .70

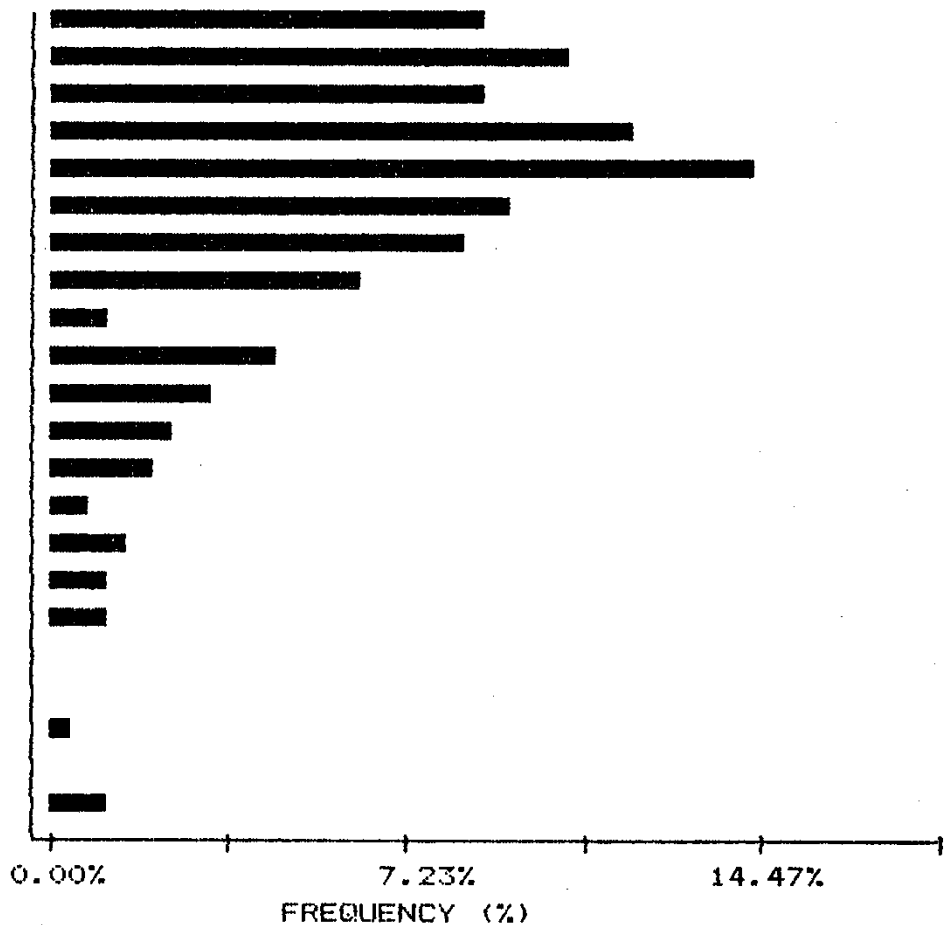
5 HIGHEST CU VALUES:
7W 4+00S (40M) 419 PPM
BW 0+50S 237 PPM
0+60W 4+00S 235 PPM
1+15W 1+50S 222 PPM
0+60W 3+00S 207 PPM

HISTOGRAM FOR CU

CLASS INTERVAL = 10.05

| MID CLASS PPM | CLASS % |
|---------------|---------|
|---------------|---------|

| | |
|----------|-------|
| < 21.00 | 8.94 |
| 26.02 | 10.64 |
| 36.07 | 8.94 |
| 46.12 | 11.91 |
| 56.17 | 14.47 |
| 66.22 | 9.36 |
| 76.27 | 8.51 |
| 86.32 | 6.38 |
| 96.37 | 1.28 |
| 106.42 | 4.68 |
| 116.47 | 3.40 |
| 126.52 | 2.55 |
| 136.57 | 2.13 |
| 146.62 | .85 |
| 156.67 | 1.70 |
| 166.72 | 1.28 |
| 176.77 | 1.28 |
| 186.82 | 0.00 |
| 196.87 | 0.00 |
| 206.92 | .43 |
| 216.97 | 0.00 |
| > 222.00 | 1.28 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

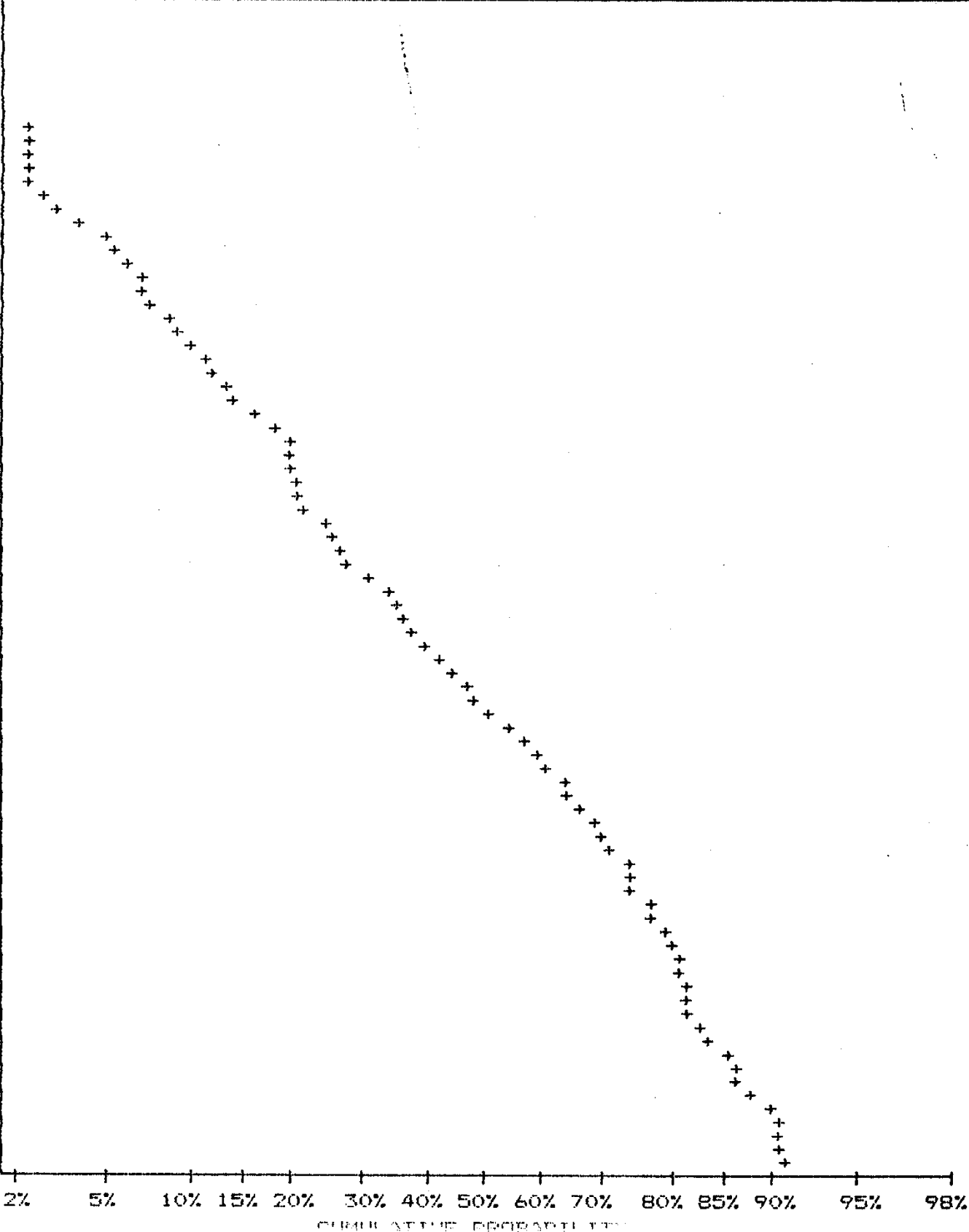
TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

CUMMULATIVE PROBABILITY PLOT ON CU

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: 5-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

| UPPER LIMIT (PPM) | CUMMUL. FREQ. (%) |
|--------------------------|-------------------------|
| 216.89 | 1.70 |
| 204.27 | 2.13 |
| 192.40 | 2.13 |
| 181.23 | 2.13 |
| 170.69 | 3.40 |
| 160.78 | 5.11 |
| 151.43 | 6.38 |
| 142.63 | 7.23 |
| 134.34 | 8.94 |
| 126.55 | 10.21 |
| 119.17 | 12.34 |
| 112.27 | 14.89 |
| 105.73 | 18.72 |
| 99.58 | 20.00 |
| 93.81 | 21.28 |
| 88.35 | 22.98 |
| 83.22 | 26.81 |
| 78.39 | 28.94 |
| 73.84 | 34.47 |
| 69.53 | 37.45 |
| 65.50 | 40.00 |
| 61.70 | 45.53 |
| 58.11 | 49.79 |
| 54.73 | 55.32 |
| 51.55 | 60.00 |
| 48.55 | 64.68 |
| 45.74 | 67.66 |
| 43.07 | 70.64 |
| 40.57 | 74.04 |
| 38.22 | 74.47 |
| 35.99 | 77.87 |
| 33.89 | 80.43 |
| 31.94 | 80.85 |
| 30.07 | 81.70 |
| 28.33 | 82.98 |
| 26.69 | 85.96 |
| 25.14 | 86.81 |
| 23.67 | 90.21 |
| 22.30 | 90.64 |
| 21.00 | 91.06 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON PB

COMPANY: ST. JAMES MINERALS
ATTN: MR. DAVE COOKE
PROJECT: WOLF CLAIMS
FILE#: 5-904

DATE: NOV 26/85
SAMPLE TYPE: SOILS
ANALYSIS TYPE: ICP

NUMBER OF SAMPLES: 235
MAXIMUM VALUE: 62.00 PPM
MINIMUM VALUE: 1.00 PPM
MEAN: 13.69 PPM
STD. DEVIATION: 9.62 PPM
COEFF. OF VARIATION: .70

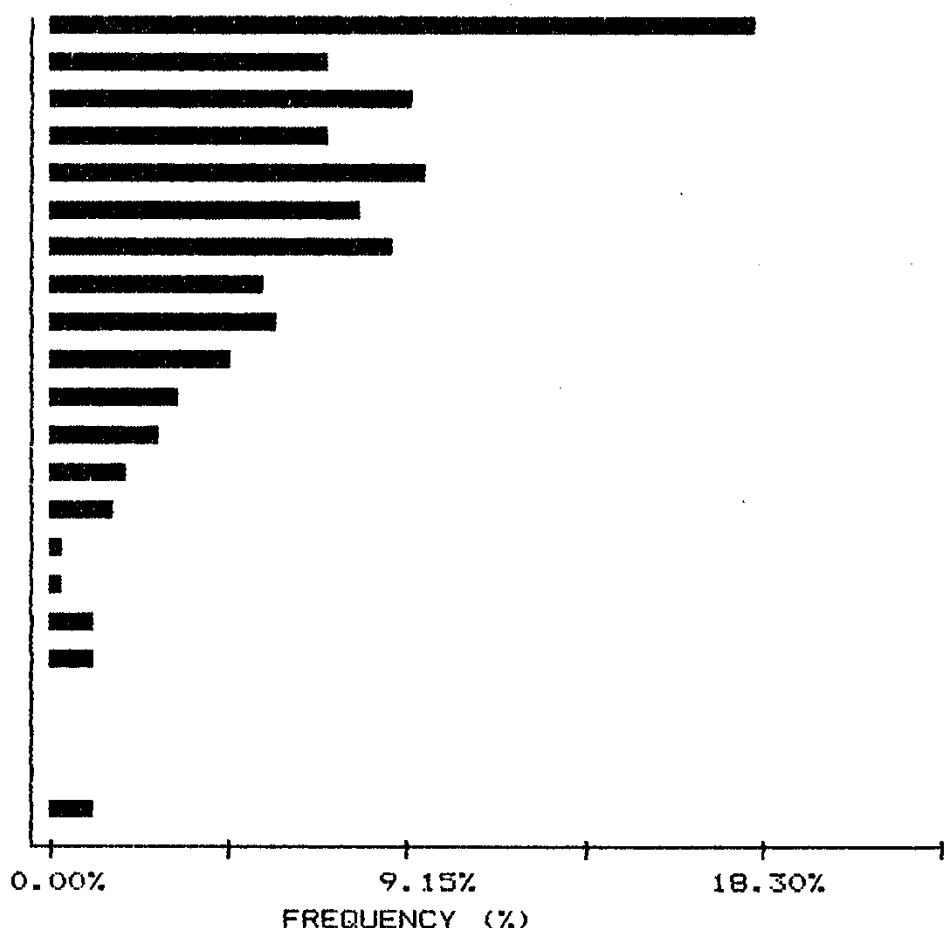
5 HIGHEST PB VALUES:
8W BL (40M) 62 PPM
1+15W 3+50S 46 PPM
1+70W 5+00S 46 PPM
5W 4+00N 44 PPM
1+15W 4+00S 38 PPM

HISTOGRAM FOR PB

CLASS INTERVAL = 1.95

| MID CLASS PPM | CLASS % |
|---------------|---------|
|---------------|---------|

| | |
|---------|-------|
| < 5.00 | 18.30 |
| 5.97 | 7.23 |
| 7.92 | 9.36 |
| 9.87 | 7.23 |
| 11.82 | 9.79 |
| 13.77 | 8.09 |
| 15.72 | 8.94 |
| 17.67 | 5.53 |
| 19.62 | 5.96 |
| 21.57 | 4.68 |
| 23.52 | 3.40 |
| 25.47 | 2.98 |
| 27.42 | 2.13 |
| 29.37 | 1.70 |
| 31.32 | .43 |
| 33.27 | .43 |
| 35.22 | 1.28 |
| 37.17 | 1.28 |
| 39.12 | 0.00 |
| 41.07 | 0.00 |
| 43.02 | 0.00 |
| > 44.00 | 1.28 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

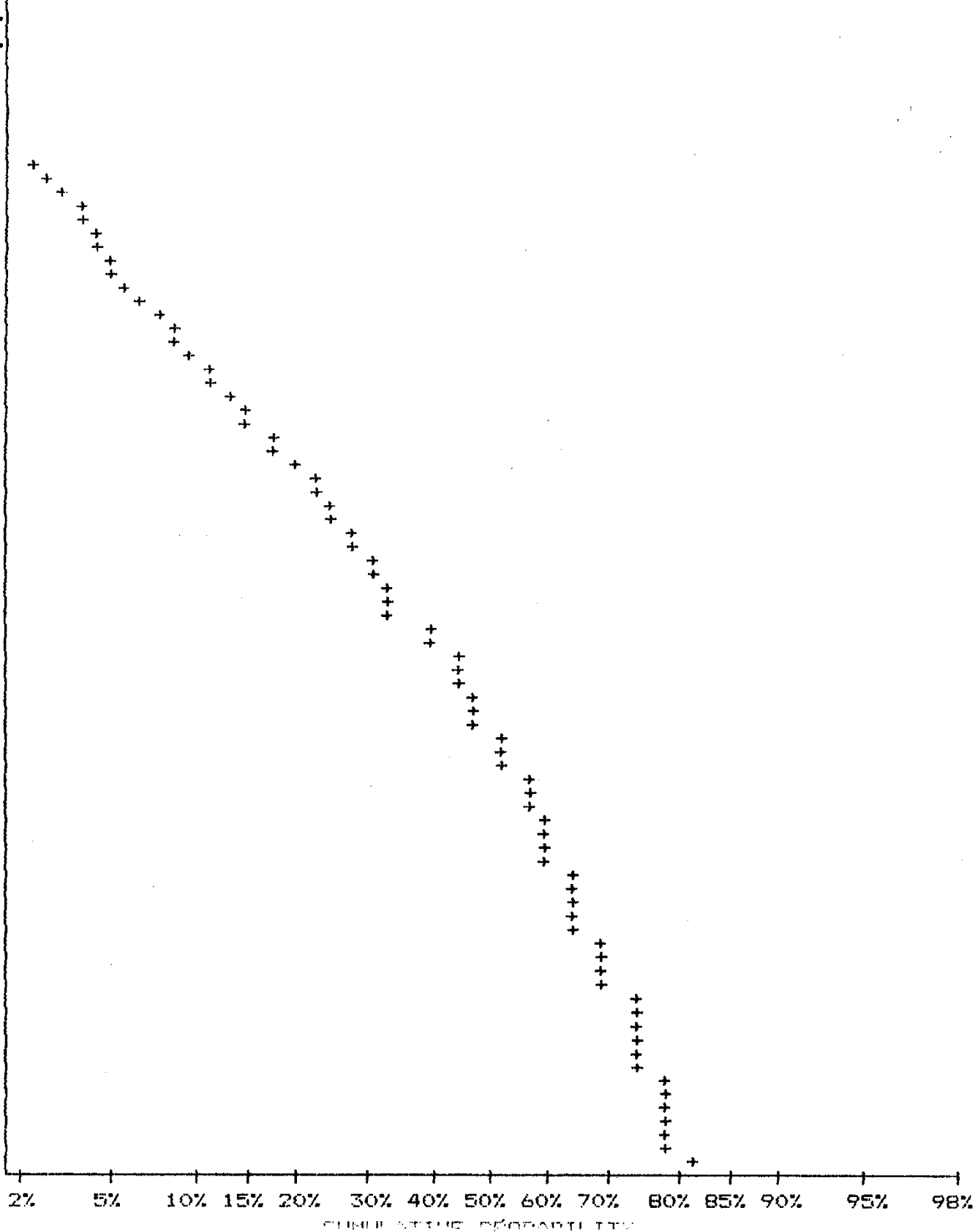
TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

CUMMULATIVE PROBABILITY PLOT ON PB

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: 5-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

| UPPER LIMIT (PPM) | CUMMUL. FREQ. (%) |
|--------------------------|-------------------------|
| 43.15 | 1.70 |
| 40.83 | 1.70 |
| 38.64 | 1.70 |
| 36.55 | 2.98 |
| 34.59 | 4.26 |
| 32.73 | 4.68 |
| 30.97 | 5.11 |
| 29.30 | 5.96 |
| 27.73 | 8.09 |
| 26.24 | 8.94 |
| 24.83 | 11.91 |
| 23.49 | 13.62 |
| 22.23 | 15.32 |
| 21.03 | 17.87 |
| 19.91 | 23.83 |
| 18.84 | 25.96 |
| 17.83 | 28.09 |
| 16.87 | 31.49 |
| 15.96 | 34.04 |
| 15.10 | 34.04 |
| 14.29 | 40.43 |
| 13.52 | 45.11 |
| 12.79 | 48.51 |
| 12.10 | 48.51 |
| 11.45 | 53.19 |
| 10.84 | 58.30 |
| 10.25 | 58.30 |
| 9.70 | 60.85 |
| 9.18 | 60.85 |
| 8.69 | 65.53 |
| 8.22 | 65.53 |
| 7.78 | 69.79 |
| 7.36 | 69.79 |
| 6.96 | 74.89 |
| 6.59 | 74.89 |
| 6.23 | 74.89 |
| 5.90 | 78.72 |
| 5.58 | 78.72 |
| 5.28 | 78.72 |
| 5.00 | 81.70 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON SB

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: 5-904

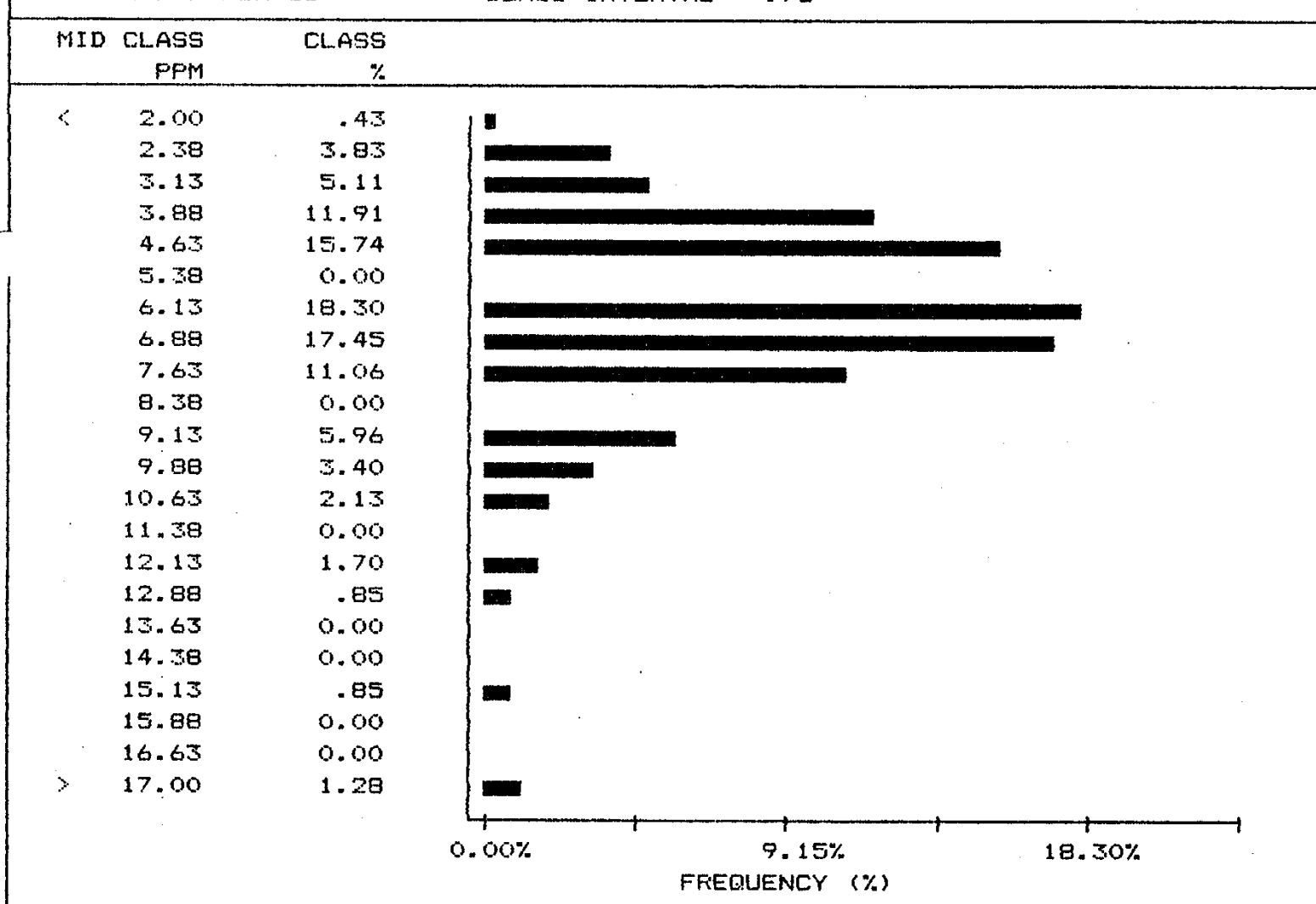
DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

NUMBER OF SAMPLES: 235
 MAXIMUM VALUE: 78.00 PPM
 MINIMUM VALUE: 2.00 PPM
 MEAN: 6.84 PPM
 STD. DEVIATION: 5.45 PPM
 COEFF. OF VARIATION: .80

5 HIGHEST SB VALUES:
 BW BL (40M) 78 PPM
 9W 1+50S 23 PPM
 9W 2+00S 20 PPM
 7W 0+50N 17 PPM
 5W 3+00S 15 PPM

HISTOGRAM FOR SB

CLASS INTERVAL = .75



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SPECIALISTS IN MINERAL ENVIRONMENTS

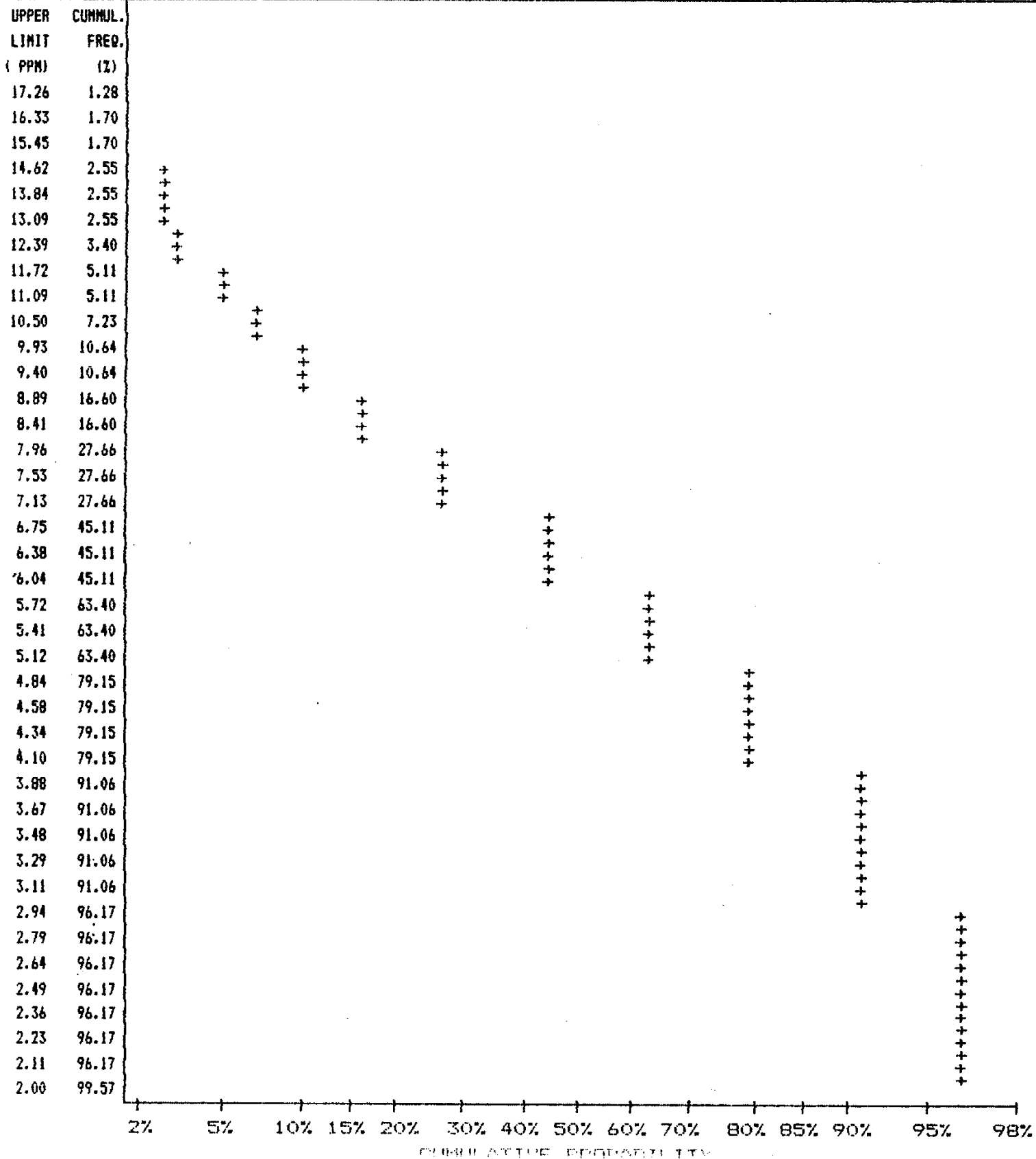
705 WEST 15TH STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

CUMMULATIVE PROBABILITY PLOT ON SB

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: 5-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604) 980-5814 OR (604) 988-4524

STATISTICAL SUMMARY ON ZN

COMPANY: ST. JAMES MINERALS
ATTN: MR. DAVE COOKE
PROJECT: WOLF CLAIMS
FILE#: 5-904

DATE: NOV 26/85
SAMPLE TYPE: SOILS
ANALYSIS TYPE: ICP

NUMBER OF SAMPLES: 235
MAXIMUM VALUE: 282.00 PPM
MINIMUM VALUE: 13.00 PPM
MEAN: 70.69 PPM
STD. DEVIATION: 37.90 PPM
COEFF. OF VARIATION: .54

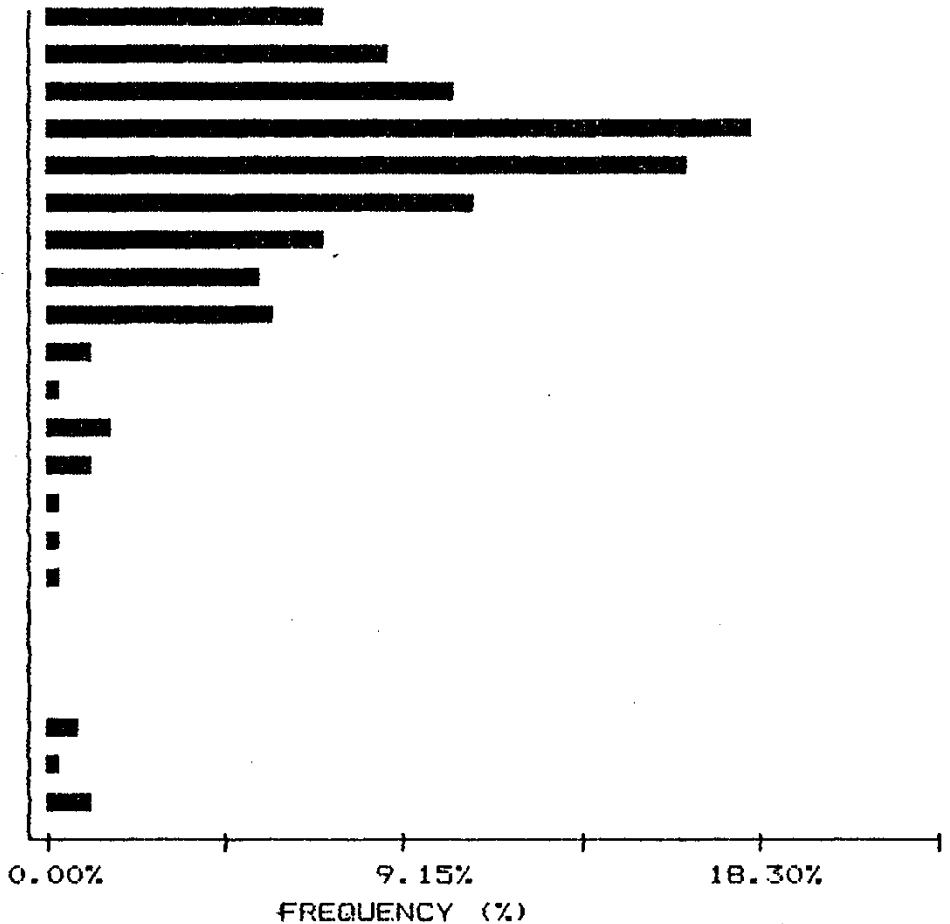
5 HIGHEST ZN VALUES:
0+60W 4+00S 282 PPM
0+60W 3+00S 254 PPM
8W 0+50S 221 PPM
5W 3+50N 215 PPM
1+70W 1+50S 214 PPM

HISTOGRAM FOR ZN

CLASS INTERVAL = 9.1

| MID CLASS PPM | CLASS % |
|---------------|---------|
|---------------|---------|

| | |
|----------|-------|
| < 33.00 | 7.23 |
| 37.55 | 8.94 |
| 46.65 | 10.64 |
| 55.75 | 18.30 |
| 64.85 | 16.60 |
| 73.95 | 11.06 |
| 83.05 | 7.23 |
| 92.15 | 5.53 |
| 101.25 | 5.96 |
| 110.35 | 1.28 |
| 119.45 | .43 |
| 128.55 | 1.70 |
| 137.65 | 1.28 |
| 146.75 | .43 |
| 155.85 | .43 |
| 164.95 | .43 |
| 174.05 | 0.00 |
| 183.15 | 0.00 |
| 192.25 | 0.00 |
| 201.35 | .85 |
| 210.45 | .43 |
| > 215.00 | 1.28 |



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SPECIALISTS IN MINERAL ENVIRONMENTS

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

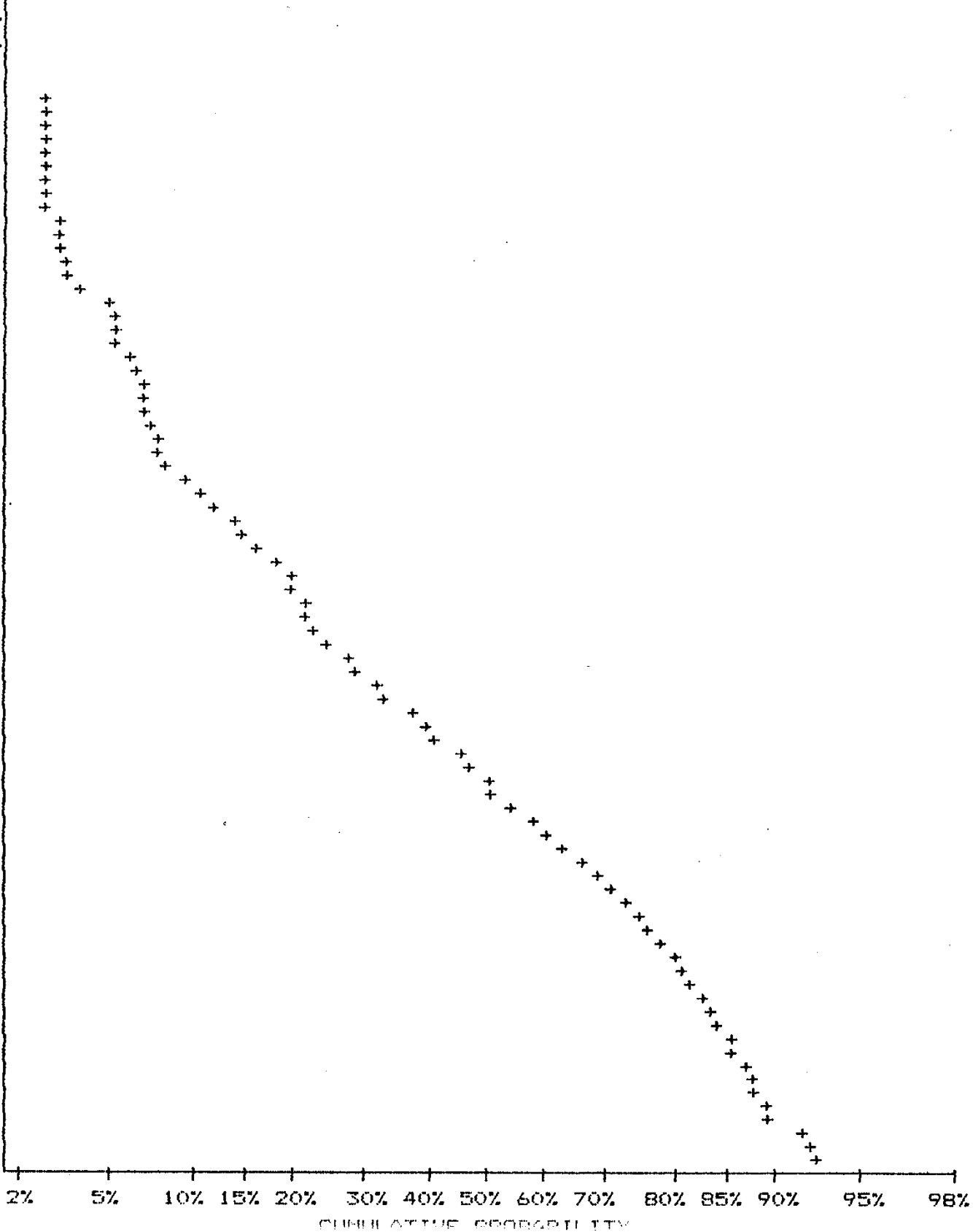
TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

CUMMULATIVE PROBABILITY PLOT ON ZN

COMPANY: ST. JAMES MINERALS
ATTN: MR. DAVE COOKE
PROJECT: WOLF CLAIMS
FILE#: 5-904

DATE: NOV 26/85
SAMPLE TYPE: SOILS
ANALYSIS TYPE: ICP

| UPPER LIMIT (PPM) | CUMMUL. FREQ. (%) |
|--------------------------|-------------------------|
| 198.86 | 2.98 |
| 189.88 | 2.98 |
| 181.33 | 2.98 |
| 173.18 | 2.98 |
| 165.40 | 2.98 |
| 157.94 | 3.40 |
| 150.84 | 3.83 |
| 144.04 | 4.26 |
| 137.58 | 5.53 |
| 131.37 | 5.53 |
| 125.47 | 6.81 |
| 119.82 | 7.23 |
| 114.41 | 7.66 |
| 109.26 | 8.09 |
| 104.35 | 9.79 |
| 99.66 | 12.34 |
| 95.17 | 15.32 |
| 90.88 | 18.72 |
| 86.79 | 20.85 |
| 82.90 | 22.13 |
| 79.17 | 25.96 |
| 75.60 | 29.79 |
| 72.20 | 34.04 |
| 68.94 | 40.43 |
| 65.84 | 46.38 |
| 62.86 | 51.49 |
| 60.06 | 55.32 |
| 57.35 | 61.28 |
| 54.78 | 67.23 |
| 52.30 | 71.06 |
| 49.96 | 75.74 |
| 47.68 | 78.30 |
| 45.54 | 81.28 |
| 43.49 | 82.98 |
| 41.55 | 84.68 |
| 39.67 | 86.38 |
| 37.88 | 88.09 |
| 36.17 | 89.36 |
| 34.55 | 91.91 |
| 33.00 | 92.77 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604)980-5814 OR (604)988-4524

STATISTICAL SUMMARY ON AU

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: 5-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

NUMBER OF SAMPLES: 235
 MAXIMUM VALUE: 120.00 PPB
 MINIMUM VALUE: 3.00 PPB
 MEAN: 9.45 PPB
 STD. DEVIATION: 13.17 PPB
 COEFF. OF VARIATION: 1.39

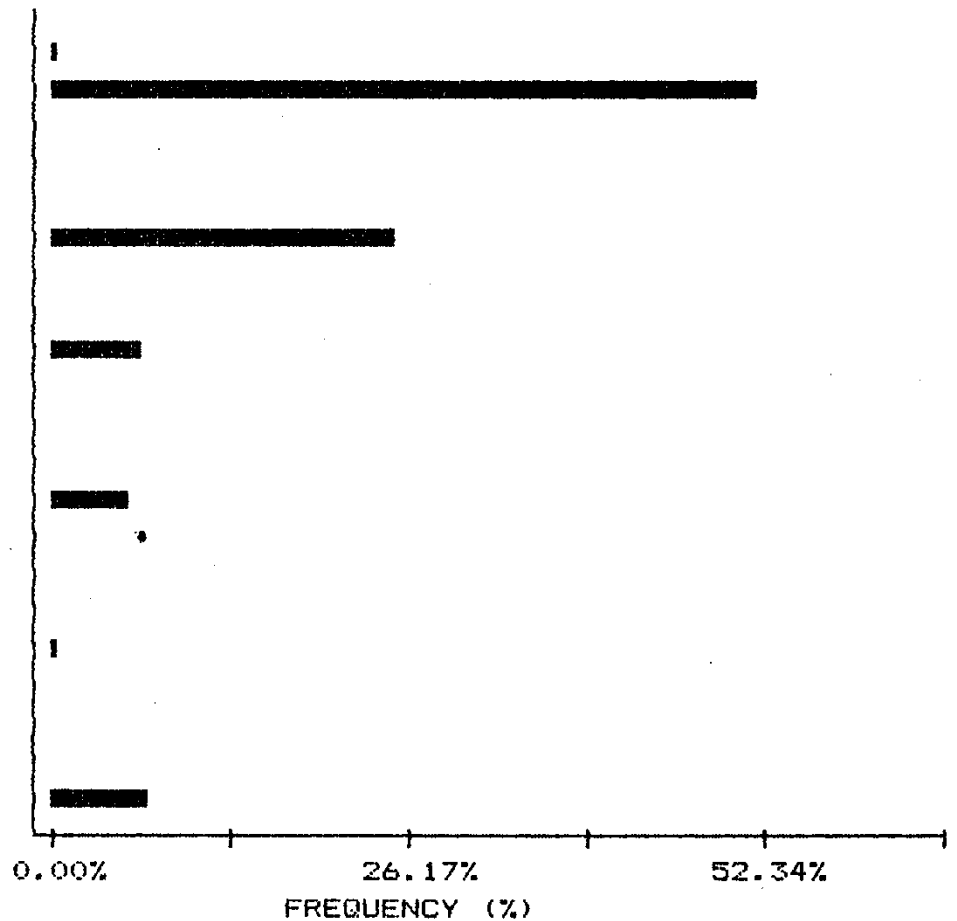
5 HIGHEST AU VALUES:
 6W 1+00N 120 PPB
 7W 2+50N 120 PPB
 1+15W 2+50S 55 PPB
 1+70W 1+50N 45 PPB
 1+70W 3+00N 40 PPB

HISTOGRAM FOR AU

CLASS INTERVAL = 1.35

| MID CLASS | CLASS |
|-----------|-------|
| PPM | % |

| | | |
|---|-------|-------|
| < | 3.00 | .43 |
| | 3.67 | .85 |
| | 5.02 | 52.34 |
| | 6.37 | 0.00 |
| | 7.72 | 0.00 |
| | 9.07 | 0.00 |
| | 10.42 | 25.53 |
| | 11.77 | 0.00 |
| | 13.12 | 0.00 |
| | 14.47 | 6.81 |
| | 15.82 | 0.00 |
| | 17.17 | 0.00 |
| | 18.52 | 0.00 |
| | 19.87 | 5.96 |
| | 21.22 | 0.00 |
| | 22.57 | 0.00 |
| | 23.92 | 0.00 |
| | 25.27 | .85 |
| | 26.62 | 0.00 |
| | 27.97 | 0.00 |
| | 29.32 | 0.00 |
| > | 30.00 | 7.23 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

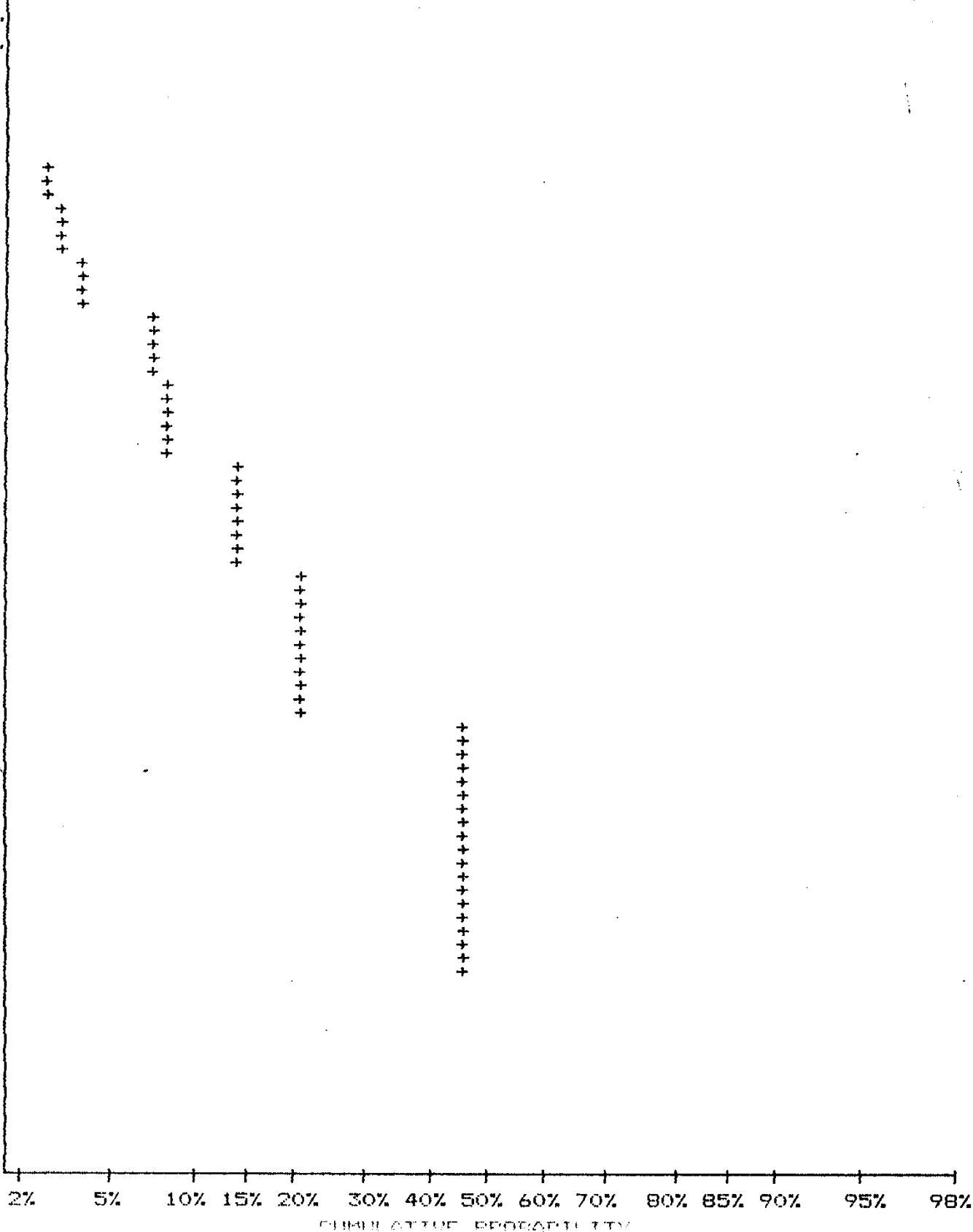
TELEX: 04-35282B PHONE: (604)980-5814 OR (604)988-4524

CUMMULATIVE PROBABILITY PLOT ON AU

COMPANY: ST. JAMES MINERALS
 ATTN: MR. DAVE COOKE
 PROJECT: WOLF CLAIMS
 FILE#: S-904

DATE: NOV 26/85
 SAMPLE TYPE: SOILS
 ANALYSIS TYPE: ICP

| UPPER LIMIT (PPB) | CUMMUL. FREQ. (%) |
|--------------------------|-------------------------|
| 53.10 | 1.70 |
| 49.33 | 1.70 |
| 45.83 | 1.70 |
| 42.57 | 2.55 |
| 39.55 | 3.40 |
| 36.74 | 3.40 |
| 34.13 | 4.26 |
| 31.70 | 4.26 |
| 29.45 | 7.66 |
| 27.36 | 7.66 |
| 25.42 | 7.66 |
| 23.61 | 8.51 |
| 21.93 | 8.51 |
| 20.38 | 8.51 |
| 18.93 | 14.47 |
| 17.58 | 14.47 |
| 16.34 | 14.47 |
| 15.17 | 14.47 |
| 14.10 | 21.28 |
| 13.09 | 21.28 |
| 12.16 | 21.28 |
| 11.30 | 21.28 |
| 10.50 | 21.28 |
| 9.75 | 46.81 |
| 9.06 | 46.81 |
| 8.41 | 46.81 |
| 7.82 | 46.81 |
| 7.26 | 46.81 |
| 6.75 | 46.81 |
| 6.27 | 46.81 |
| 5.82 | 46.81 |
| 5.41 | 46.81 |
| 5.03 | 46.81 |
| 4.67 | 99.15 |
| 4.33 | 99.15 |
| 4.03 | 99.15 |
| 3.74 | 99.15 |
| 3.48 | 99.15 |
| 3.23 | 99.15 |
| 3.00 | 99.57 |



MIN-EN LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS

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

TELEX: 04-352828 PHONE: (604) 980-5814 OR (604) 988-4524

CORRELATION COEFFICIENTS

COMPANY: ST. JAMES MINERALS
ATTN: MR. DAVE COOKE
PROJECT: WOLF CLAIMS
FILE#: 5-904

DATE: NOV 26/85
SAMPLE TYPE: SOILS
ANALYSIS TYPE: ICP

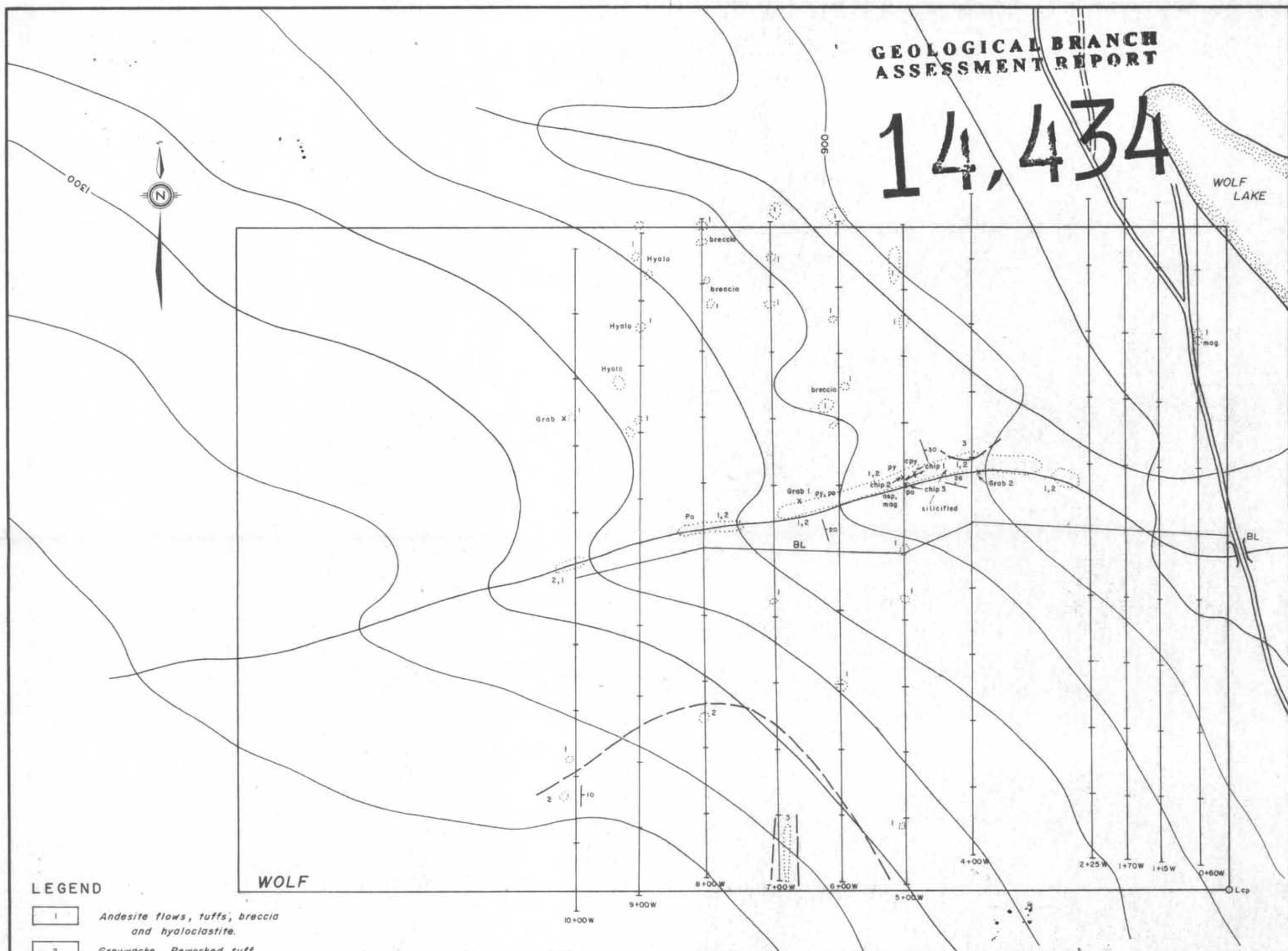
THE TABLE BELOW REPRESENTS THE PEARSON CORRELATION MATRIX,
SHOWING THE INTER-ELEMENT CORRELATION COEFFICIENTS. THOSE VALUES THAT
EXCEED THEIR CRITICAL VALUE FOR .01 LEVEL OF SIGNIFICANCE ARE SHOWN
IN DARKER PRINT AND UNDERLINED.

| | AG | AS | CU | PB | SB | ZN | AU |
|----|-------|-------|-------------|-------------|-------------|-------------|-------------|
| AG | 1.000 | -.021 | <u>.236</u> | -.089 | <u>.172</u> | <u>.275</u> | <u>.223</u> |
| AS | | 1.000 | .008 | <u>.354</u> | <u>.866</u> | .055 | -.005 |
| CU | | | 1.000 | <u>.211</u> | <u>.146</u> | <u>.635</u> | <u>.175</u> |
| PB | | | | 1.000 | <u>.580</u> | <u>.291</u> | .141 |
| SB | | | | | 1.000 | <u>.196</u> | <u>.174</u> |
| ZN | | | | | | 1.000 | <u>.213</u> |
| AU | | | | | | | 1.000 |

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,434

WOLF LAKE



LEGEND

- 1 Andesite flows, tuffs, breccia and hyaloclastite.
- 2 Greywacke, Reworked tuff.
- 3 Felsic intrusive.
- Geological contact.
- Outcrop.
- Strike and dip of bedding.
- Strike and dip of shear.



St. James's Minerals — Wolf Claim

| | |
|------------------|------------------|
| Drawn by: JPS | Traced by: FJF |
| Revised by: Date | Revised by: Date |
| | |
| | |
| | |
| | |

GEOLOGY

NTS 92F/14

NANAIMO M.D.

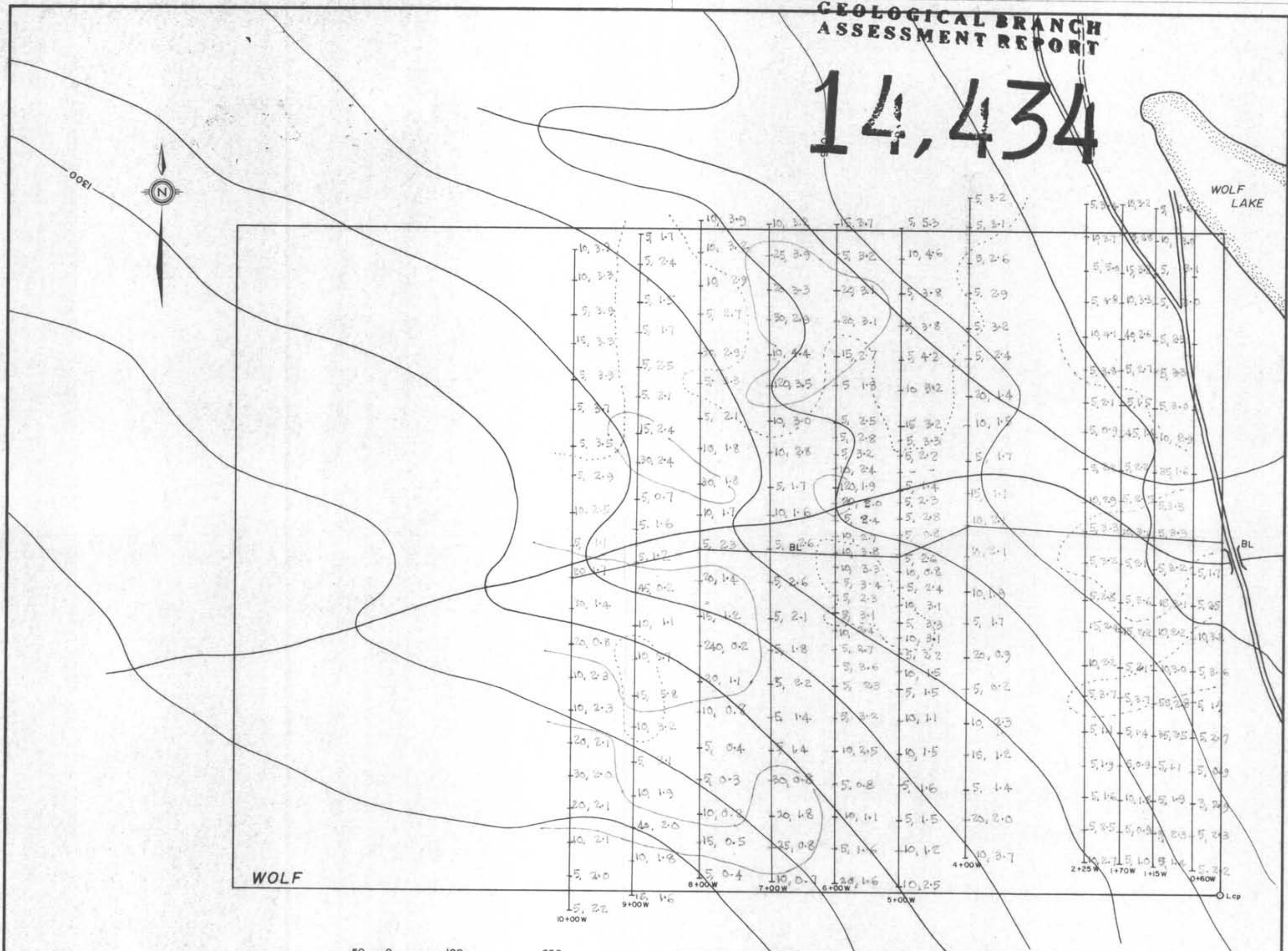
Scale: 1:5,000

Date: Nov. 15, 1985

Plate: 3

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,434



WOLF



SOIL SAMPLE RESULTS
 15, 2.3 = 15 ppb Au, 2.3 ppm Ag
 — + 15 ppb Au
 - - - + 3.0 ppm Ag

St. James's Minerals — Wolf Claim

| | |
|---------------|----------------|
| Drawn by: JPS | Traced by: FJF |
| Revised by: | Revised by: |
| | |
| | |
| | |
| | |
| | |

**SOIL GEOCHEMISTRY
GOLD AND SILVER**

NTS 92F/14

NANAIMO M.D.

Scale: 1:5,000

Date: Nov. 15, 1985

Plate: 4a

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,434

WOLF LAKE

WOLF



SOIL SAMPLE RESULTS

72, 18 = 72 ppm Cu, 18 ppm As

+100 ppm Cu

+ 50 ppm As

St. James's Minerals — Wolf Claim

Drawn by: JPS Traced by: FJF

Revised by Date Revised by Date

SOIL GEOCHEMISTRY
COPPER AND ARSENIC

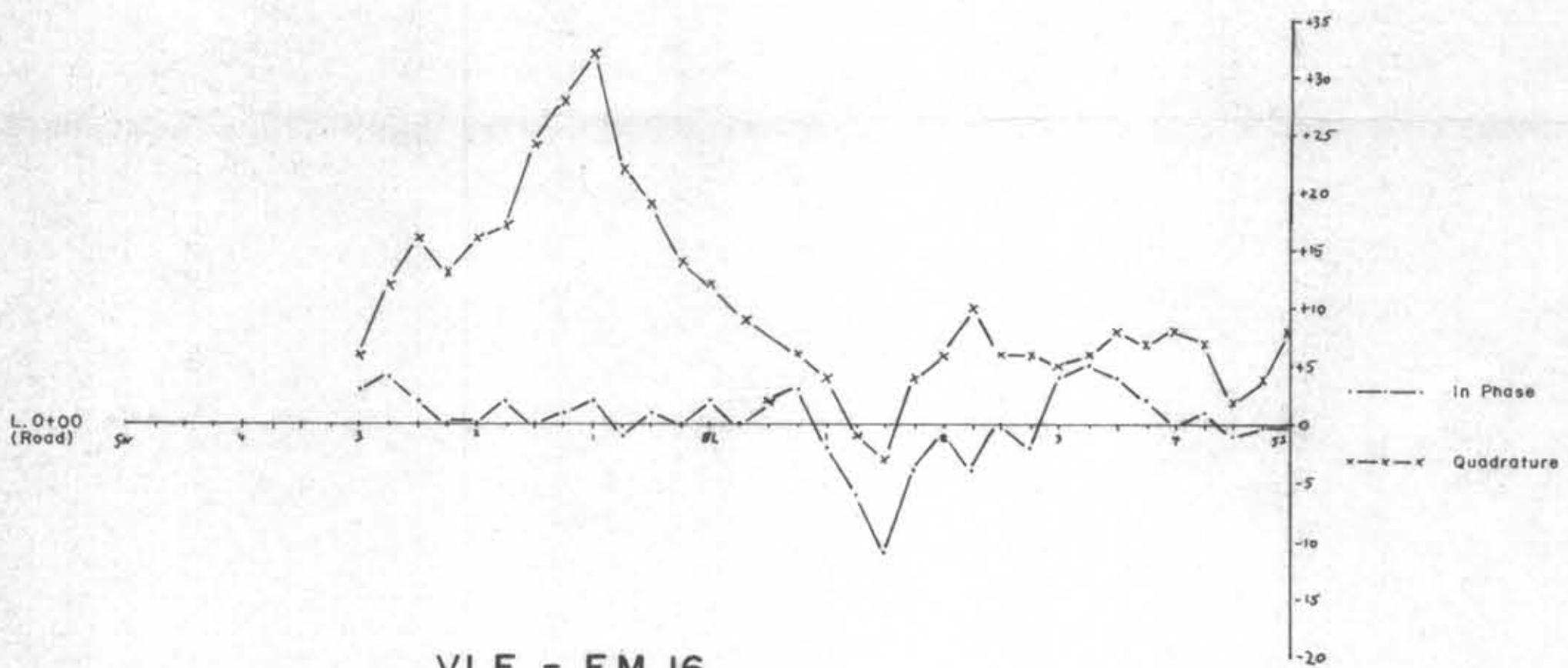
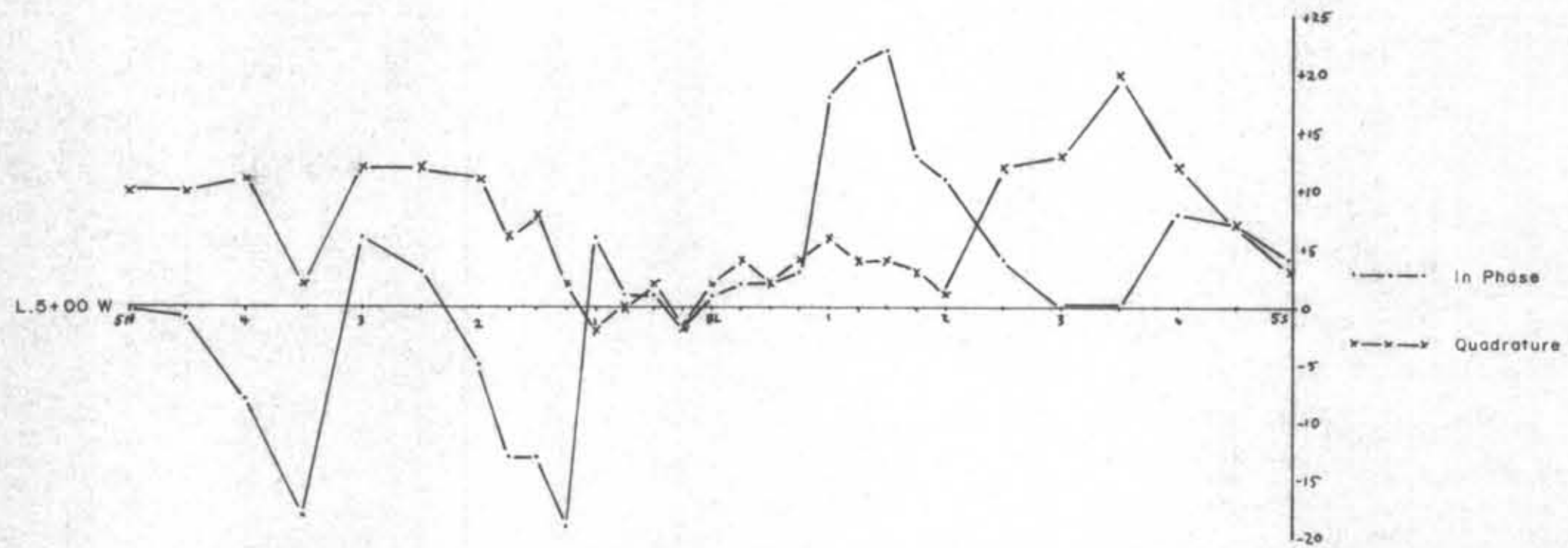
NTS 92F/14

NANAIMO M.D.

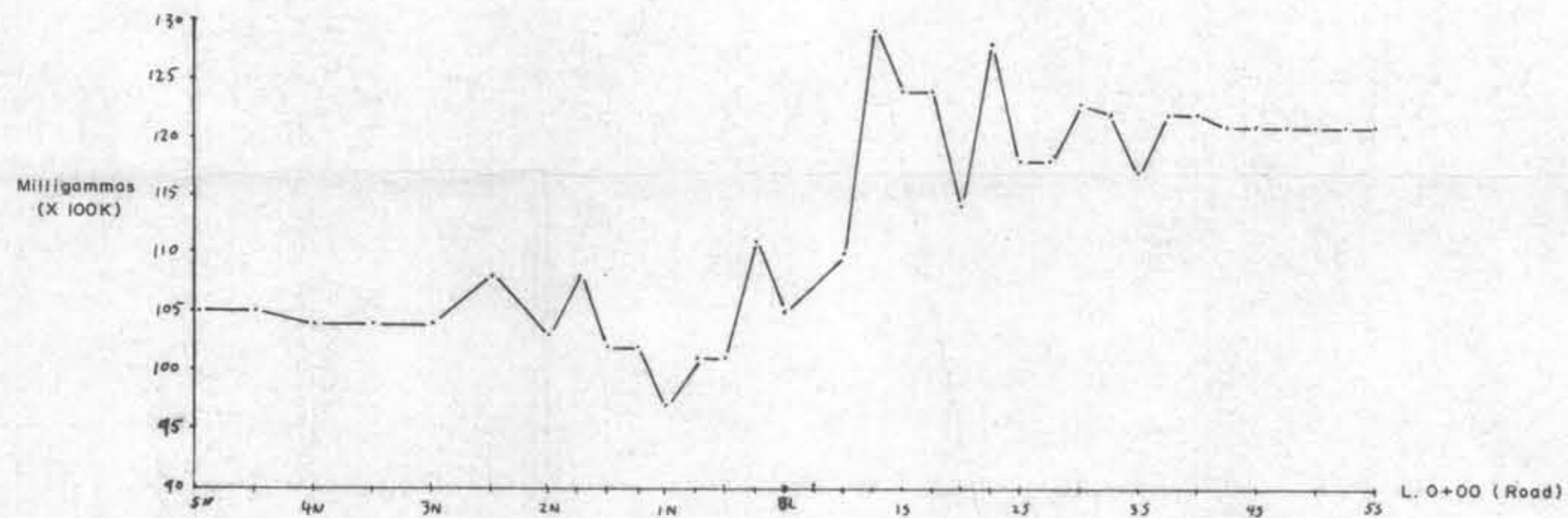
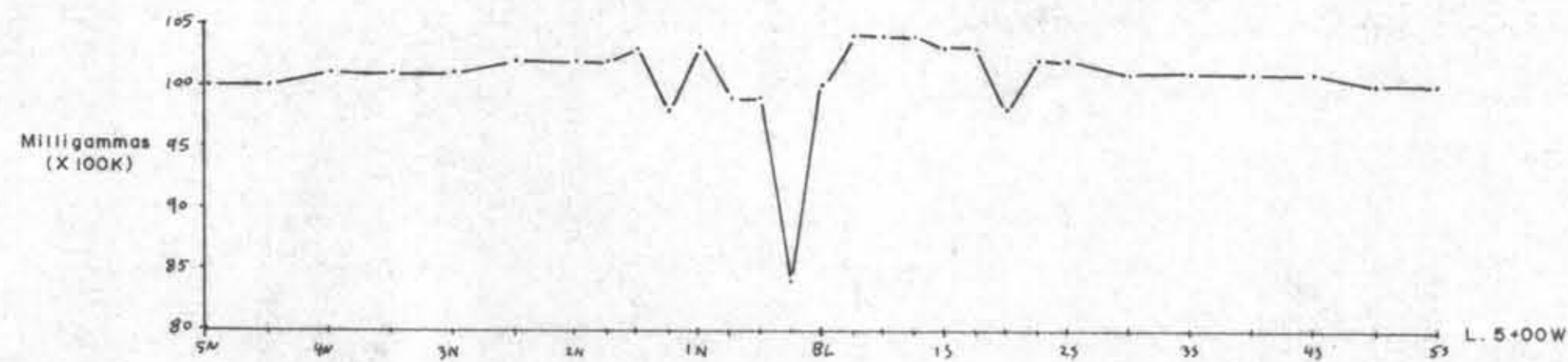
Scale: 1:5,000

Date: Nov. 15, 1985

Plate: 4b



VLF - EM 16



MAGNETOMETER

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,434

St. James's Minerals — Wolf Claim

| | |
|-------------------|-------------------|
| Drawn by: JPS | Traced by: |
| Revised by: Date: | Revised by: Date: |
| | |
| | |
| | |

MAGNETOMETER & VLF PROFILES

NTS 92 F/14
Scale: 1:5000
Date: Nov. 15, 1985
NANAIMO M.D.
Plate: 5