SUMMARY REPORT - 1982 Drill Programme and Investigation of Mineralized Zones, Windy Craggy Claim Area, Alsek River, B. C.
Atlin M.D. NTS 114P/12E

November, 1982 T. Chandler

6415 - 64th Street, Delta, B.C.

INTER-OFFICE MEMORANDUM

DATE: November 23, 1982

TO: C. M. H. Jennings/A. M. Clarke

COPIES TO: H. R. Stockford, T. E. Chandler

FROM: J. B. Gammon

SUBJECT: Report No. 63-052-82, Windy Craggy 1982 Drilling

Please find attached Terry Chandler's report on 1982 drill results at Windy Craggy. This years programme has developed significant additional tonnage at higher grades than those previously suspected. The importance of determining the presence, or otherwise, of a higher grade zone plunging northwestwards is emphasized. The drills currently on the property would be capable of answering this question if the programme Terry recommends were to be carried out.

J. B. Gammon

JBG:ik

SUMMARY REPORT

1982 Drill Programme and Investigation of Mineralized Zones, Windy Craggy Claim Area, Alsek River, British Columbia.

Atlin M.D.

Lat. 59°44'N Long. 137°44'W

NTS 114P/12E

PN 052

T. Chandler

November, 1982

TABLE OF CONTENTS

	Page
INTRODUCTION	3
LOCATION, ACCESS, TOPOGRAPHY	4
CLAIM STATUS	5
REGIONAL GEOLOGY	9
GEOLOGY OF MINERALIZED ZONES	10
Windy Craggy:	10
1982 Drill Programme Objectives	10
Interpretation of Results	12
DDH 9-82 Section G-G'	12
DDH 11-82 Section I-I'	12
DDH 12-82 Section M-M'	13
Surface and Drill Inferred Geology	23
General	23
Lithologies	23
Structures	26
Conclusions and Recommendations	28
Tats Showing:	30
Introduction	30
Geological Mapping	30
1) Introduction	30
2) Field Methods	31
3) Results	31
4) Conclusions and Recommendations	34
Geochemistry	35
1) Map Plots	35
2) Computer Analysis	36
3) Conclusions	37
Geophysical Survey	37

LIST OF TABLES

		Page
Table 1	Claim Status	6
Table 2	Weighted Assay Averages - Highlights .	15&16
Table 3	Analytical Data - Tats Showing	38
Table 4	Pearson Correlation Coefficients - Tats Showing	39

LISTS OF FIGURES

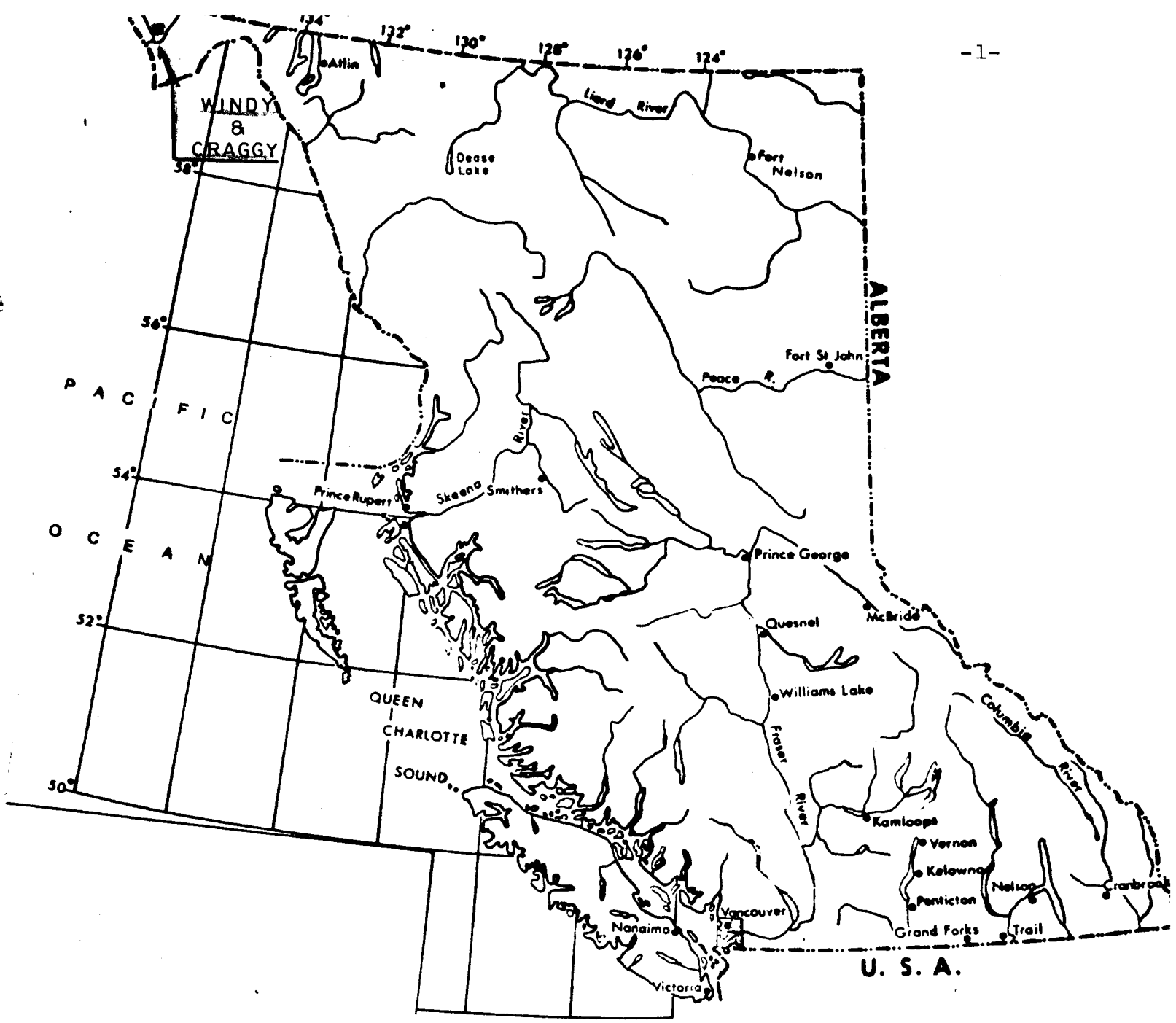
Fig. 1	Index Map	1
Fig. 2	Location Map	2
Fig. 3	Claim ownership Status 1:50,000 . . .	7
Fig. 4	Claim grouping configuration 1:50,000.	8
Fig. 5	Geology Compilation Map, Dighem Anomaly, Proposed '83 Holes 1:5,000	11
Fig. 6	Section G-G', Hole 9-82, Geology 1:2,500	17
Fig. 7	Section G-G', Hole 9-82, Cu/Co Assay Histograms 1:2,500	18
Fig. 8	Section G-G', Hole 9-82, Cu/Co Assays 1:2,500	in pocket
Fig. 9	Section I-I', Hole 11-82, Geology 1:2,500	19
Fig. 10	Section I-I', Hole 11-82, Cu/Co Assay Histograms 1:2,500	20
Fig. 11	Section I-I', Hole 11-82, Cu/Co Assays 1:2,500	in pocket
Fig. 12	Section M-M', Hole 12-82, Geology 1:2,500	21
Fig. 13	Section M-M', Hole 12-82, Cu/Co Assay Histograms 1:2,500	22
Fig. 14	Section M-M', Hole 12-82, Cu/Co Assays 1:2,500	in pocket
Fig. 15	Geology Compilation Map 1:2,500 scale.	in pocket
Fig. 16	Tats Showing, Contour Plot Cu, ppm 1:2,500	40

LIST OF FIGURES CONT.

		Page
Fig. 17	Tats Showing, Contour Plot Co, ppm 1:2,500	41
Fig. 18	Tats Showing, Contour Plot Total Fe% 1:2,500	42
Fig. 19	Tats Showing, Contour Plot S% 1:2,500 .	43
Fig. 20	Tats Showing, Contour Plot CaO% 1:2,500 .	44
Fig. 21	Tats Showing, Contour Plot Na_2O% 1:2,500.	45
Fig. 22	Tats Showing, Contour Plot SiO_2% 1:2,500.	46
Fig. 23	Tats Showing, Correlation Plot Co ppm against S%.	47
Fig. 24	Tats Showing, Correlation Plot Total Fe% against S%.	48
Fig. 25	Tats Showing, Correlation Plot Na_2O% against TiO_2%	49
Fig. 26	Tats Showing, Correlation Plot Total Fe% against CaO%	50
Fig. 27	Tats Showing - Survey Control 1:2,500 .	in pocket
Fig. 28	Tats Showing - Geology 1:2,500	in pocket
Fig. 29	Tats Showing - Magnetometer Survey 1:2,500	in pocket
Fig. 30	Tats Showing - Rock Geochem, Sample I.D. 1:2,500	in pocket
Fig. 31	Tats Showing - Rock Geochem, SiO_2, Tot. Fe, Al_2O_3, MgO% 1:2,500	in pocket
Fig. 32	Tats Showing - Rock Geochem, CaO, Na_2O, K_2O, MnO% 1:2,500	in pocket
Fig. 33	Tats Showing - Rock Geochem, TiO_2, P_2O_5, S, L.O.I.% 1:2,500	in pocket
Fig. 34	Tats Showing - Rock Geochem, Cu, Zn, Co, Ag ppm 1:2,500	in pocket

LIST OF APPENDICES

Appendix A:	Detailed Logs and Assays DDH 9-82, 11-82, 12-82.	after page 50
Appendix B:	Photos	after page 50
Appendix C:	1982 Programme Cost Analysis PN 052 .	after page 50



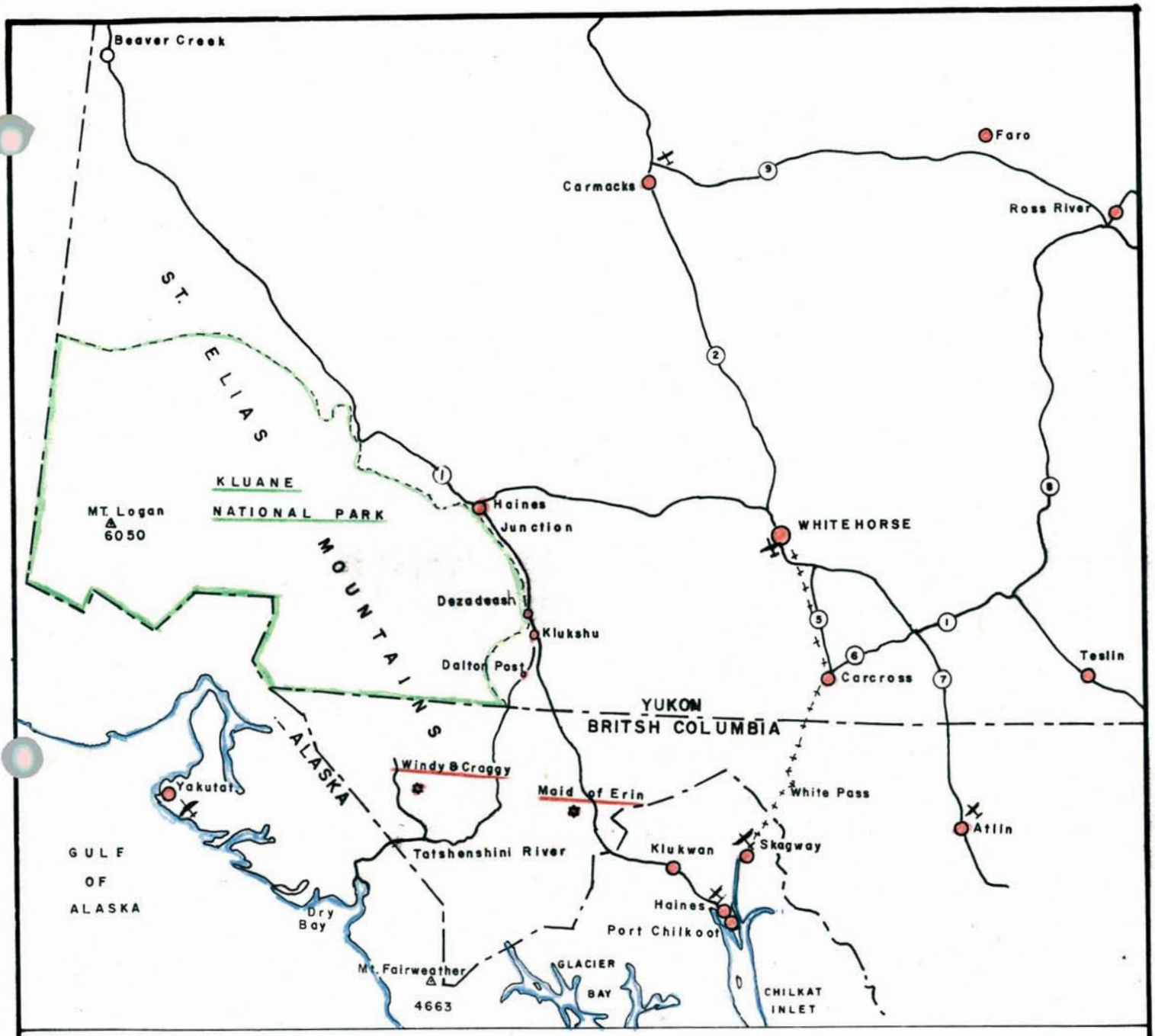
INDEX MAP

BRITISH COLUMBIA

150 0 150 300 450 Km.

SCALE 1: 7·500·000

FIG. NO.:052-82-1



INDEX MAP

BRITISH COLUMBIA & YUKON

50 0 50 100 150 Km.

SCALE 1:2·500·000

FIG. NO.:052-82-2

INTRODUCTION

This report summarizes the results of drilling and related field activities on the Windy and Craggy Claim groups in N.W.B.C. as per location map Figs. 1 and 2. The reader is referred to previous summary reports by J. J. McDougall and J. B. Gammon/T. Chandler for descriptions of the work history of the area and results of prior programmes.

The 1982 programme was primarily directed towards continuation of the 1981 drilling programme with emphasis on the northwest strike extension of the massive sulphide zone. The drilling contractor employed was Longyear Canada using one FLY-38 rig and one Longyear 44 rig. A total of 1363.7m (4474 ft) of combined NQ and BQ drilling was completed in three holes between July 10 and August 11, 1982. Minor geological mapping was carried out in the northwest sector of the drilling area and subsequent revisions were made to the base topographic map. In addition the Tats showing to the south was mapped in some detail and covered by limited lithogeochemical sampling and magnetometer survey.

Preparations for the 1982 season involved an early (March 1982) fuel drop at the Tats Lake base camp. This was followed by early July mobilization of the Longyear 44 rig, extra drill rods, mud and drilling additives and miscellaneous supplies. During this period one of the 1981 programme FLY 38 rigs was demobilized as well as a JD 450 tractor, both being surplus to 1982 programme requirements.

Drilling operations were supported by a Hughes 500 D helicopter under contract from Pacific Helicopters Ltd. This machine was utilized for crew changes, equipment supply and for moving the FLY 38 rig from Hole 9-82 to Hole 12-82. It also assisted in mobilization, demobilization

and flying out the drill core at end of season for transport and storage at the Delta exploration office.

Assaying was carried out by Bondar - Clegg in Whitehorse.

Financing for this project, administered by Falconbridge, was made available under the terms of the Geddes Resources - Falconbridge Agreement.

LOCATION, ACCESS, TOPOGRAPHY:

The deposit is located at Latitude 59°44'N and Longitude 137°44'W in the NW corner of British Columbia (Figs 1 and 2) within the St. Elias Mountains on NTS sheet 114P/12E. The centre of drilling operations is situated 10 km east of the Alsek River, 25 km north of its confluence with the Tatshenshini River - the other major drainage system of the region. The climate is typically alpine and topography is rugged, dominated by numerous glaciers and permanent snow packs. Elevations range from c. 400 m. in the major river valleys to + 2000 m. on the major peaks. The deposit itself occurs on the northern flank of a northwest trending ridge at elevations ranging from 1500 to 2008 metres. The base camp for the field activities is located at Tats Lake, some 12 km. south of the deposit, at an elevation of 650 m.

Access to the project is limited at present to helicopter transport or by float plane to Tats Lake and thence by helicopter to the drilling operations. Whitehorse is the nearest major supply centre located 200 air km. to the northeast. The nearest major road access is via the Haines Cutoff highway running north from Haines, Alaska and approaching within 55 air km. ENE of Windy Craggy.

CLAIM STATUS: Figs. 3 and 4

The claim area consist of 11 two-post Located Claims and 13 Modified Grid Located Claims comprising 192 units covering 4800 hectares. These claims have the following ownership status:

1) Claims subject to the Geddes Resources - Falconbridge Agreement dated June 4, 1981:

   Windy #1 through Windy #8, Craggy #1, #2, #4 (the 11 two-post claims), W.C. 1, W.C. 2, W.C. 3.

2) Claims owned by Falconbridge Limited and proposed as additions to the above stated agreement, such proposal presently awaiting confirmation and ratification:

   W-C-7, W-C-8 and W-C-9.

3) Claims owned by Falconbridge Limited and proposed as part of a new Geddes - Falconbridge Agreement, to be known as the Tats Property, with such proposal presently awaiting confirmation and ratification:

   W-C-14, W-C-15, W-C-16 and W-C-17.

4) Claims owned by Falconbridge Limited through an option agreement with C. Kowall dated 1st February, 1982 and proposed as part of the above stated Tats Property, subject to confirmation and ratification of the agreement between Geddes and Falconbridge:

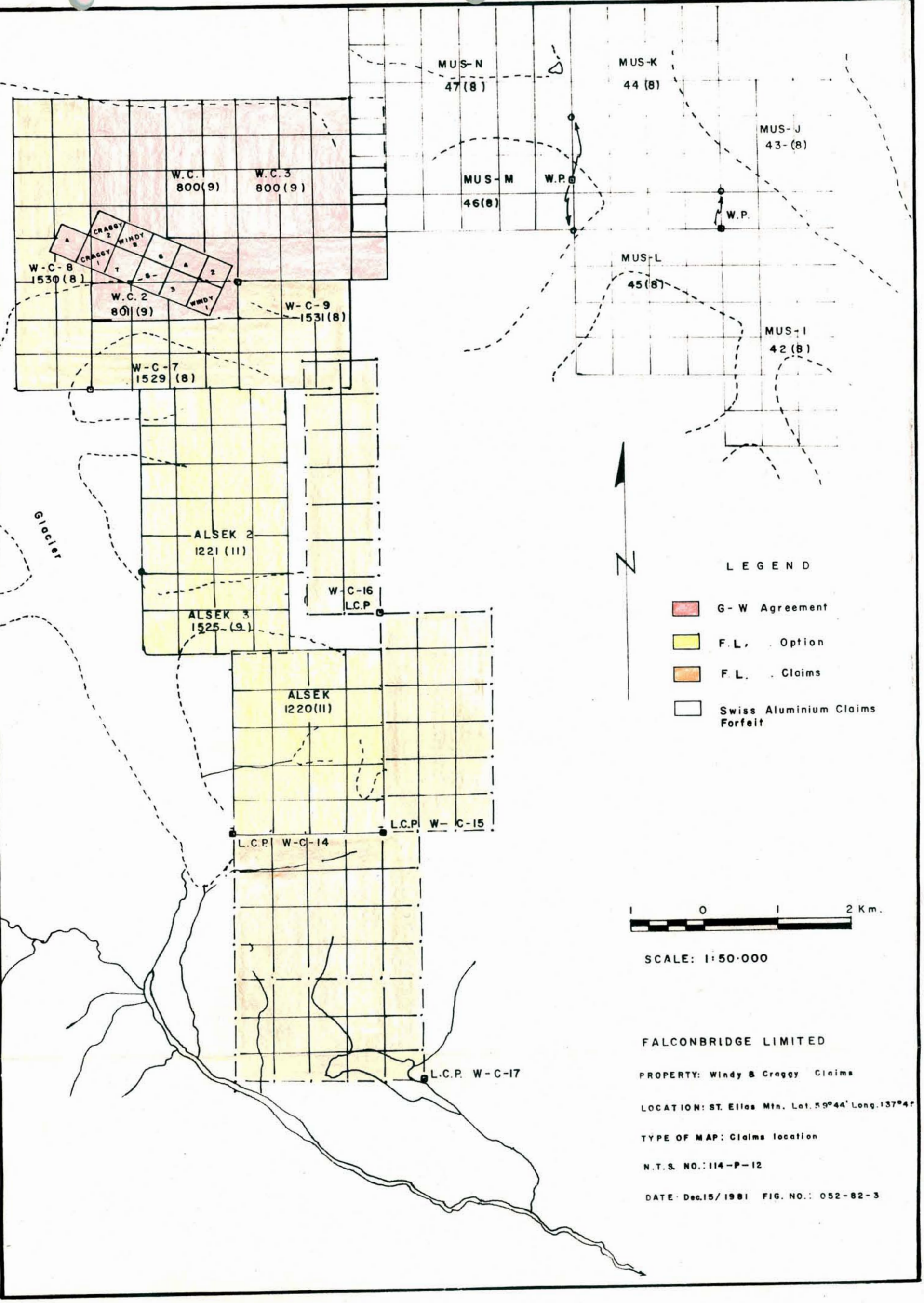
   Alsek, Alsek 2 and Alsek 3.

For assessment credit purposes the above claims have been grouped as shown on Fig. 4. Filings for assessment credits have been submitted for work performed in the 1982 season sufficient to maintain all Claims in the East and West Groups in good standing until 1992. An additional filing for assessment credits has been submitted to maintain the Alsek Group Claims in good standing until at least 1983. Table 1 summarizes the present claim status and the expected status assuming acceptance of the recent assessment credit submissions.

TABLE 1 - CLAIM STATUS

Claim	Owner	Present Expiry Date	New Expiry Date *
Windy #1	Falconbridge 51%	Sept. 8/83	Sept. 8/92
Windy #2	Geddes Resources 49%	Sept. 8/83	Sept. 8/92
Windy #3	as per agreement	Sept. 8/83	Sept. 8/92
Windy #4	dated July 4, 1981.	Sept. 8/83	Sept. 8/92
Windy #5		Sept. 8/83	Sept. 8/92
Windy #6		Sept. 8/83	Sept. 8/92
Windy #7		Sept. 8/83	Sept. 8/92
Windy #8		Sept. 8/83	Sept. 8/92
Craggy #1		Sept. 8/83	Sept. 8/92
Craggy #2		Sept. 8/83	Sept. 8/92
Craggy #4		Sept. 8/83	Sept. 8/92
W.C. 1		Sept. 14/86	Sept. 14/92
W.C. 2		Sept. 14/87	Sept. 14/92
W.C. 3		Sept. 14/87	Sept. 14/92
W-C-7	Falconbridge Ltd.	Aug. 27/86	Aug. 27/92
W-C-8	(proposed for Joint	Aug. 27/86	Aug. 27/92
W-C-9	Falconbridge-Geddes	Aug. 27/87	Aug. 27/92
W-C-14	Resources ownership	Jan. 5/86	Jan. 5/92
W-C-15	subject to confirm-	Jan. 5/88	Jan. 5/92
W-C-16	ation and ratifica-	Jan. 5/88	Jan. 5/92
W-C-17	tion).	Jan. 5/83	Jan. 5/83
Alsek 2	Falconbridge by	Sept. 15/83	Sept. 15/84
Alsek 2	option from C.Kowall	Nov. 18/82	Nov. 18/83
Alsek 3	proposed for joint Falconbridge-Geddes ownership as above.	Nov. 18/82	Nov. 18/83

* New expiry date assumes acceptance of assessment credits applied for in 1982.



FALCONBRIDGE LIMITED

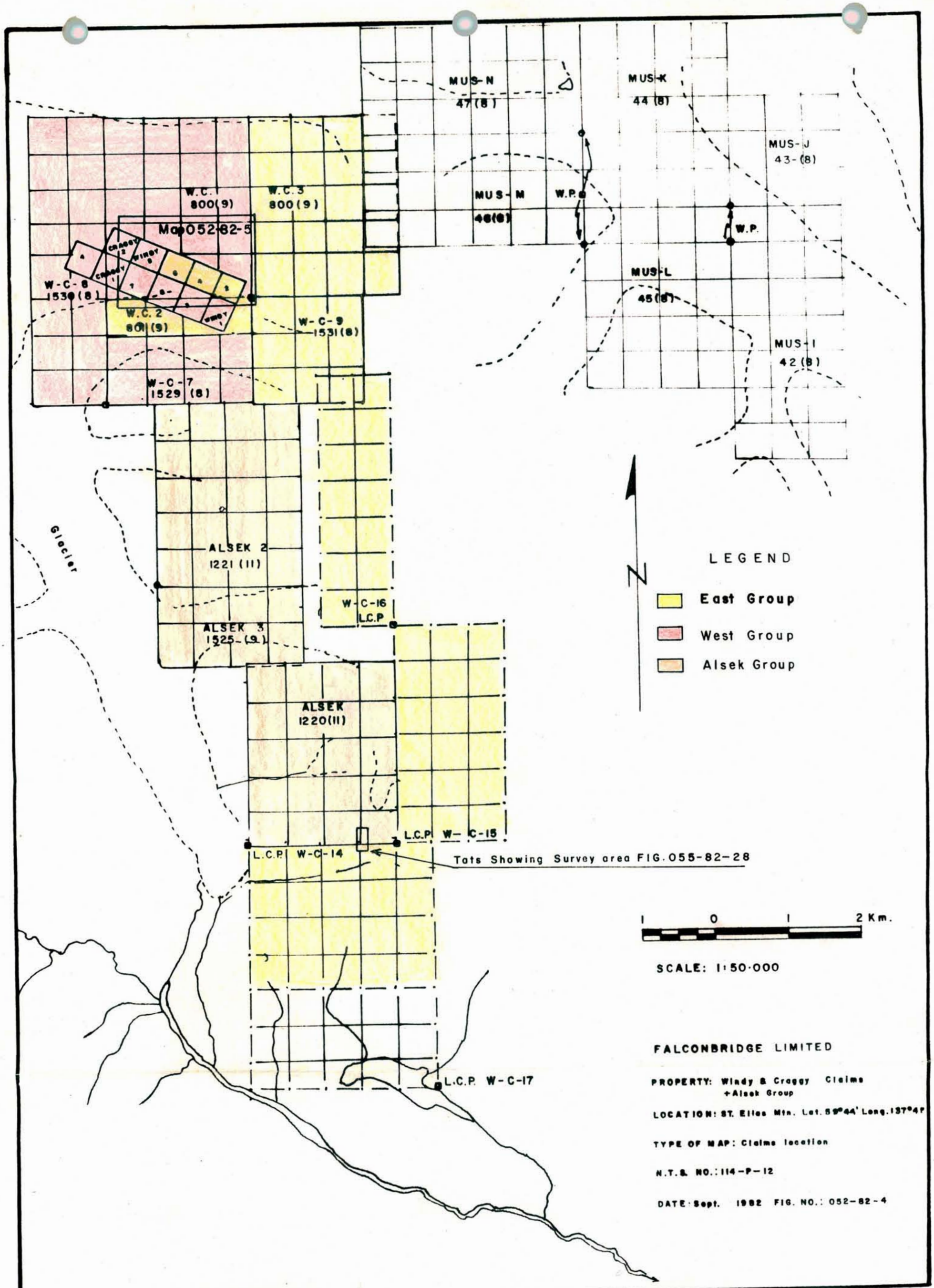
PROPERTY: Windy & Craggy Claims

LOCATION: ST. Elias Mtn. Lat. 59°44' Long. 137°4

TYPE OF MAP: Claims location

N.T.S. NO.: 114-P-12

DATE: Dec.15/1981 FIG. NO.: 052-82-3


MUS-N
47 (8)
MUS-K
44 (8)
MUS-J
43-(8)
MUS-M
46(8)
W.P.
W.P.
MUS-L
45(8)
MUS-I
42(8)
W.C.
800(9)
W.C.3
800(9)
Map 052-82-5
CRAGGY 2
WINDY 3
CRAGGY 1
WINDY 1
W-C-8
1530(8)
W.C.2
80(9)
W-C-9
1531(8)
W-C-7
1529 (8)
Glacier
ALSEK 2
1221 (11)
W-C-16
LC.P
ALSEK 3
1525-(9)
ALSEK
1220(11)
L.C.P W-C-15
L.C.P W-C-14
Tats Showing Survey area FIG. 055-82-28
L.C.P W-C-17
N
LEGEND
East Group
West Group
Alsek Group
1 0 1 2 Km.
SCALE: 1:50·000
FALCONBRIDGE LIMITED
PROPERTY: Windy & Craggy Claims
+Alsek Group
LOCATION: ST. Elias Mtn. Lat. 59°44' Long. 137°41'
TYPE OF MAP: Claims location
N.T.S. NO.: 114-P-12
DATE: Sept. 1982 FIG. NO.: 052-82-4

REGIONAL GEOLOGY:

This portion of the St. Elias Mountains has only been mapped at the preliminary reconnaissance level to date. Therefore the regional stratigraphy is poorly understood and the major structural controls and tectonic history have yet to be studied. A condensed summary of the major elements of the regional geology is presented below. For further details and implications of the tectonic history the reader is referred to previous Falconbridge reports.

Reconnaissance mapping by Campbell and Dodds of the GSC, 1979, has subdivided this portion of NW British Columbia into a series of discrete and distinct terranes separated by major NW-SE striking faults. The Windy Craggy deposit occurs within terrane 3, the largest in areal extent and forming part of the Alexandran allochthonous terrane described by Monger et al.,GSC. The majority of the lithologies in this terrane have been informally lumped as the Kaskawalsh Group from tentative correlations with similar rocks described in the Kluane area of the Yukon. Subdivisions within this group consist of an extensive suite of shales, carbonates and greywackes of presumed Ordovician-Silurian age, probably correlative with the argillite sequence observed at Windy Craggy, and local accumulations of ?Cambro-Ordovician pillow basalts, flows and breccias represented by the massive volcanic suite adjacent to the Windy Craggy zone. The area as a whole is intruded by a variety of plutonic rocks ranging from Paleozoic to Late Tertiary in age.

GEOLOGY OF MINERALIZED ZONES

Windy Craggy

1982 Drill Programme

Progamme Objectives:

The 1981 programme completed 2541 m. of drilling in 9 holes on 5 sections at approximately 100 m. section spacings. This drilling completed the preliminary examination of the SE portion of the deposit. 8 of the nine holes made partial or complete intersection of the sulphide zone. A tenth hole on section G-G' (DDH 9-81) encountered difficulties and was postponed for completion in 1982. Results from the 1981 programme showed a trend towards increasing copper grade and width of mineralization along the NW strike extension of the deposit. The 1982 programme was designed to extend the drilling along this trend. Increasingly rugged topography allowed only limited drill site selection. Due to the need for greater depth capability a Longyear 44 was mobilized to the site in early July at which time one of the previous FLY 38 rigs was demobilized as well as the JD 450 tractor which was not capable of reaching the new drill sites. The Longyear 44 rig was set up to drill on Section I-I' on hole 11-82. The remaining FLY 38 rig was rehabilitated to continue drill hole 9-81 on section G-G'. The hole was renumbered DDH 9-82. On completion of this hole the FLY 38 was moved to Section M-M' to drill hole 12-82, some 400 m. along strike from DDH 11-82. These three holes completed the 1982 drilling programme with a total of 1363.7 metres drilled. Fig. 5, the geology plan, shows the location of the 1981 and 1982 drill holes.

Interpretation of Results:

Detailed drill logs and assay records are attached in Appendix A for reference. The reader may also refer to Fig. 6 through 14 which show geological sections, copper and cobalt assays and copper/cobalt assay histograms for each of the 1982 drill holes. The logs and sections are self explanatory and provide all pertinent information. The following discussions will summarize the salient features from the drill sections.

DDH 9-82 Section G-G' Collar inclination -58° at 048°24' Final Depth 507.5m(1665 ft.)

Fig. 6 shows the geology section, Fig. 7 the copper cobalt assay histograms. The hole was very similar to the 1981 drill holes in terms of sulphide mineralogy and width of intersected mineralization. The copper values however were dissappointingly low,averaging slightly more than .5% Cu over the total intersection. Assay highlights are listed in Table 2. Cobalt values were uniformly higher than average and generally correlate well with the most massive pyrrhotite zones. Pyrrhotite was the dominant sulphide mineral by far, with very subordinate pyrite and even less chalcopyrite. Scattered seams and bands of magnetite were observed in the massive sulphides along with siderite or ferroan dolomite.

DDH 11-82 Section I-I' Collar inclination -54° at 058° Final Depth 616.0 m. (2021 ft)

Fig. 9 shows the section geology, Fig. 10 the copper/ cobalt histograms. DDH 11-82 intersected the massive sulphide zone at 273.1 m. (896 ft) after drilling through a thick sequence of the interbedded argillites, siltstones and andesitic volcanics of the (?) footwall lithologies. The hole encountered immediate difficulties due to severe flattening and intersected a series of open cavities and leached boxwork gossan to a depth of 331.32 m. Thereafter the hole remained in massive to semi-massive sulphide mineralization to 533.40 m.

Below this point were intersected variably cherty argillites and minor volcanic flows or tuffs to the end of the hole. Hole 11 differed from all previous holes on the property in that the major portion of the mineralized zone was composed primarily of pyrite with subordinate pyrrhotite and significant chalcopyrite. Copper assay grades are listed in Table 2 and generally averaged better than 1.5% with significant thicknesses of +2% material. A 30 foot section of high grade material (11.12%) was intersected at depth in a notably vuggy and oxidized zone in the massive sulphides. This section apparently represents local supergene enrichment perhaps due to percolating groundwaters. The appearance of visible sphalerite was also noted in Hole 11 with very minor values near the bottom of the sulphide zone. Several tops determinations from graded beds and sedimentary load structures were obtained both above and below the sulphide zone. Structures above the mineralization show tops in a down-hole direction, those below the sulphide zone show tops in an up-hole direction. This would seem to indicate a possible synclinal fold structure through the zone.

DDH 12-82 Section M-M' Collar inclination -45° at 229°
Final Depth 415.14 m. (1362 ft)

Hole 12 was designed to intercept the subsurface expression of the altered gossanous volcanics exposed on surface some 200 m. SW of the collar on the section (see Fig. 5, 15). The drilling results were surprising in that massive sulphides were intercepted at shallow depth after passing through minor argillites, weathered volcanics and a strong fault zone. Fig. 12 shows the geology section and Fig. 13 the copper/cobalt assay histograms. The first sulphide intersection has no surface expression, being covered by shale/argillite talus. Below this intersection was encountered

a series of relatively unmineralized altered volcanics, cherty tuffs and argillites which probably correspond to the exposed volcanics and argillites mapped on surface south west of the collar. Below these rocks occurred a sequence of altered foliated volcanics, tuffs and argillites bearing stringer to semi massive sulphides and several bands of massive pyrrhotite. This section probably corresponds to the original target of the hole - the altered gossanous volcanics exposed on surface. Interpretation of the drill hole is difficult. Observed core angles allow a steep SW dip to the intercepted zones or alternatively a shallow (20^{o}) NE dip. Although the hole is some 400 metres NW of the nearest drilled section (Hole 11 Section I-I') the writer inclines towards the view that the sulphides probably have a steep dip in common with the interpreted attitude of the south eastern portion of the deposit. This raises the intriguing possibility that the two mineralized intercepts represent the limbs of a synclinal fold structure, as suggested by tops determinations in hole 11 to the SE. Problems with this interpretation are raised by the variance in sulphide mineralogy of the two mineralized zones. The upper zone is generally pyrite rich and bears significant sphalerite in its lower portion (see Assay Table 2). The lower intersection is almost exclusively pyrrhotite with very minor pyrite and chalcopyrite. Clearly at least one more hole is required in this area to aid in interpreting the section.

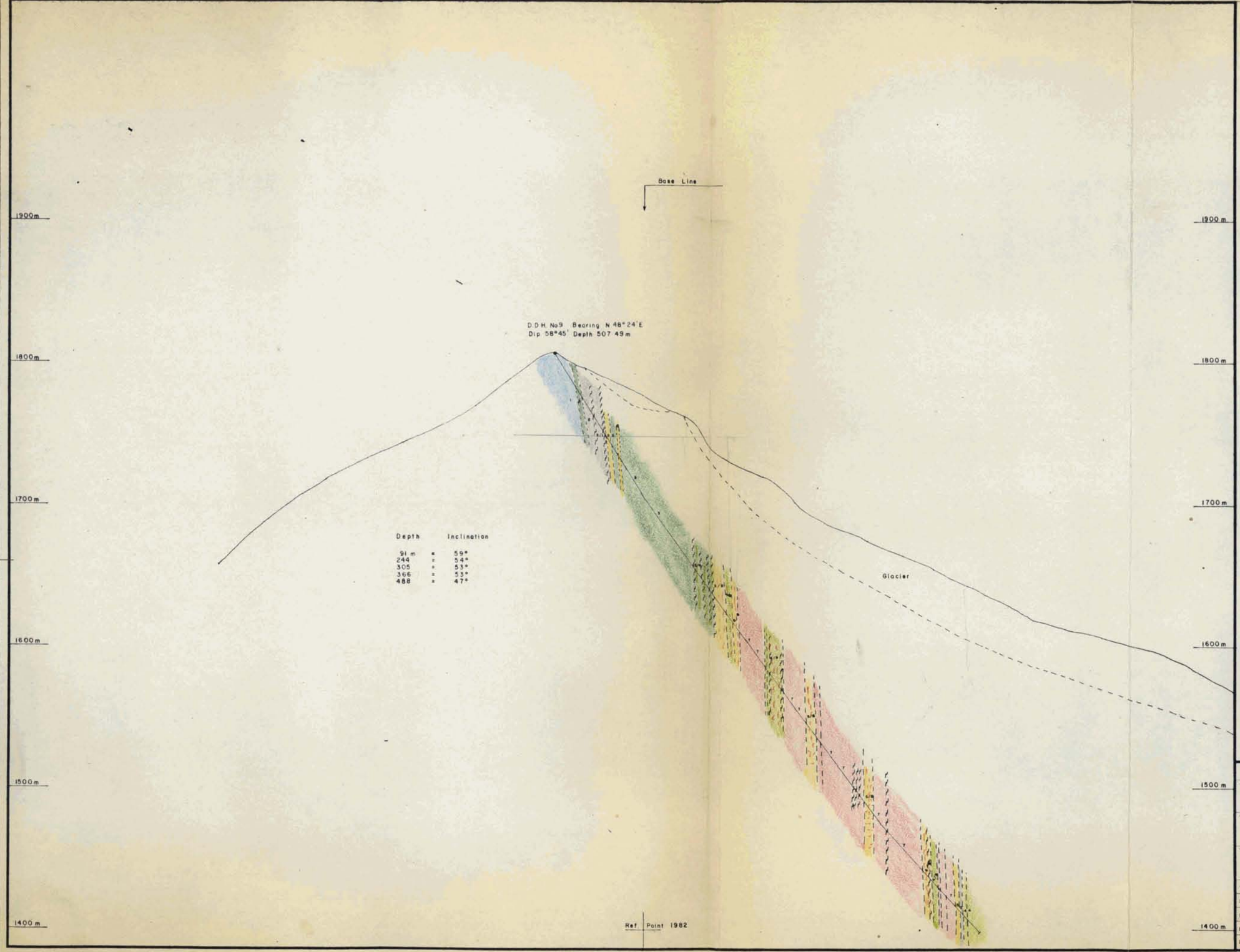
TABLE 2 WEIGHTED ASSAY AVERAGES - HIGHLIGHTS

Interval (ft)	Drilled Width (ft)	% Cu	% Co	% Zn	Ag oz/t	Au oz/t	Remarks
1) Hole 9-82							
780 - 820	40	1.03					Massive sulphides.
1190 - 1260	70	1.04					Massive sulphides.
1300 - 1450	150		.197				Massive sulphides.
1590 - 1620	30	2.20					Massive and stringer sulphides.
Average grade over total Mineralized Zone							
700 - 1620	920	0.55	.121				
2) Hole 11-82							
896 - 922	26	2.55					Massive sulphides.
922 - 943	21						Open cavity, 6" ground core.
943 - 957	14	2.64					Massive sulphides.
957 - 1080	123	0.28					Gossan.
1080 - 1086	6						Open cavity.
1086 - 1194	108	1.57					Massive sulphides.
1194 - 1214	20	0.39					Fault gouge, volcanics.
1214 - 1224	10	2.45					Massive sulphides.
1224 - 1234	10						Open cavity.
1234 - 1374	140	1.86					Massive sulphides.
1374 - 1404	30	11.12					Supergene enriched sulphides.
1404 - 1604	200	2.18					Massive sulphides.
1604 - 1749	145	0.99					Semi massive to massive sulphides.

a) Averaged grade of assayed sulphides excluding gossan, cavities, shear zones and supergene enrichment = 1.77% over 643'.
b) Averaged grade of above + supergene enriched zone = 2.18% over 673'.
c) Averaged grade of above + cavities, gossans, etc. = 1.77% over 853'.
d) Averaged grade of assayed sulphides excluding gossan, cavities, shear zones, supergene enrichment and using 1% assay cut-off = 2.2% over 498', (excludes sulphides below 1604 ft.).
e) Averaged grade of assayed sulphides + supergene = 2.71% over 528' using 1% assay cut-off as above.

TABLE 2 WEIGHTED ASSAY AVERAGES CONT.

Interval (ft)	Drilled Width (ft)	% Cu	% Co	% Zn	Ag oz/t	Au oz/t	Remarks
3) Hole 12-82							
80 - 108	28	2.46	.075	0.80	2.36	.022	Secondary py, Fault zone.
108 - 178	70	0.81	.063	.067	1.33	.027	Secondary py, Fault zone.
178 - 351	173	3.09	.122				Massive sulphides.
351 - 614	263	1.18					Massive to semi massive sulphides.
876 - 1113	237	0.60					Stringer to semi massive sulphides.
1113 - 1236	123	1.46					Semi massive to massive sulphides.
1236 - 1362	126	0.74					Stringer sulphides.
Composites							
80 - 614	534	1.82					
178 - 614	436	1.94					1st Intersection
477 - 614	137			1.63 (Zinc Zone)			
876 - 1362	486	0.85					2nd Intersection



MAP REF. NO.:
N.T.S.:

LEGEND

- Limestone, calcareous argillite
- Argillite, siltstone
- Undifferentiated flows, tuffs, rare dykes
- Chloritic altered volcanics
- Cherty or siliceous zones
- Gossan
- Sulphides
- Disseminated or stringer sulphides
- s/s Disseminated or stringer sulphides in cherty rock
- c/s " " " " in chloritic volcanics

25 0 25 50 75m
SCALE: 1:2500

FALCONBRIDGE LIMITED

PROPERTY: WINDY- CRAGGY

LOCATION: St Elias Mtn. B.C. Lat 59°44' Long 137°48'

TYPE OF MAP: Section G-G' D.D.H. No 9 Geology

WORKING PLACE:

BASED ON:

DATE OF WORK: Aug 1982	MAP REF. NO.:	FIG. NO.:
DRAWN BY: G.T.		
DATE: Sept 1982	N.T.S. NO.: 114-P-12	052-82-6

MAP REF. NO.:
N.T.S.:

Base Line

D.D.H. No 9 Bearing N 48°24'E
Dip. 58°45' Depth 507·49m.

1900m
1800m
1700m
1600m
1500m
1400m

Glacier

0
0.1%
1%
2% Cu

0.2%Cu

Ref. Point 1982

25 0 25 50 75m
SCALE: 1" = 2500

FALCONBRIDGE LIMITED

PROPERTY:
WINDY– CRAGGY

LOCATION:
St. Elias Mtn. B.C. Lat. 59°44' Long. 137°45'

TYPE OF MAP:
Section G–G' D.D.H. No. 9
Assay Histogram. % Cu. & Co

WORKING PLACE:

BASED ON:

DATE OF WORK: Aug. 1982	MAP REF. NO.:	FIG. NO.:
DRAWN BY: G.T.		
DATE: Sept. 1982	N.T.S. NO.: 114-P-12	052-82-7

MAP REF. NO.:
N.T.S.:

Base Line

1900 m

D.D.H. No. 11 Bearing N 58° E
Dip 54° Depth 616 m

1800 m

1700 m

1600 m

1500 m

1400 m

Depth		Inclination
4·6 m	=	52°
30·5	=	46°
61·0	=	46°
91·4	=	42°
122·0	=	41°
182·9	=	42°
243·8	=	40°
304·8	=	40°
335·3	=	42°
365·8	=	40°
423·7	=	39°
493·8	=	37°
554·7	=	36°
616·0	=	31°

Ref. Point 1982

LEGEND

- Limestone calcareous argillite
- Argillite siltstone
- Undifferentiated flows, tuffs, rare dykes
- Chloritic altered volcanics
- Cherty or siliceous zones
- Gosson
- Sulphides
- Disseminated or stringer sulphides

25 0 25 50 75 m

SCALE: 1" = 250'

FALCONBRIDGE LIMITED

PROPERTY:
WINDY – CRAGGY

LOCATION:
St. Elias Mtn. B.C. Lat. 59°44' Long. 137°45'

TYPE OF MAP:
Section 1 – 1' D.D.H. No. 11 Geology

WORKING PLACE:

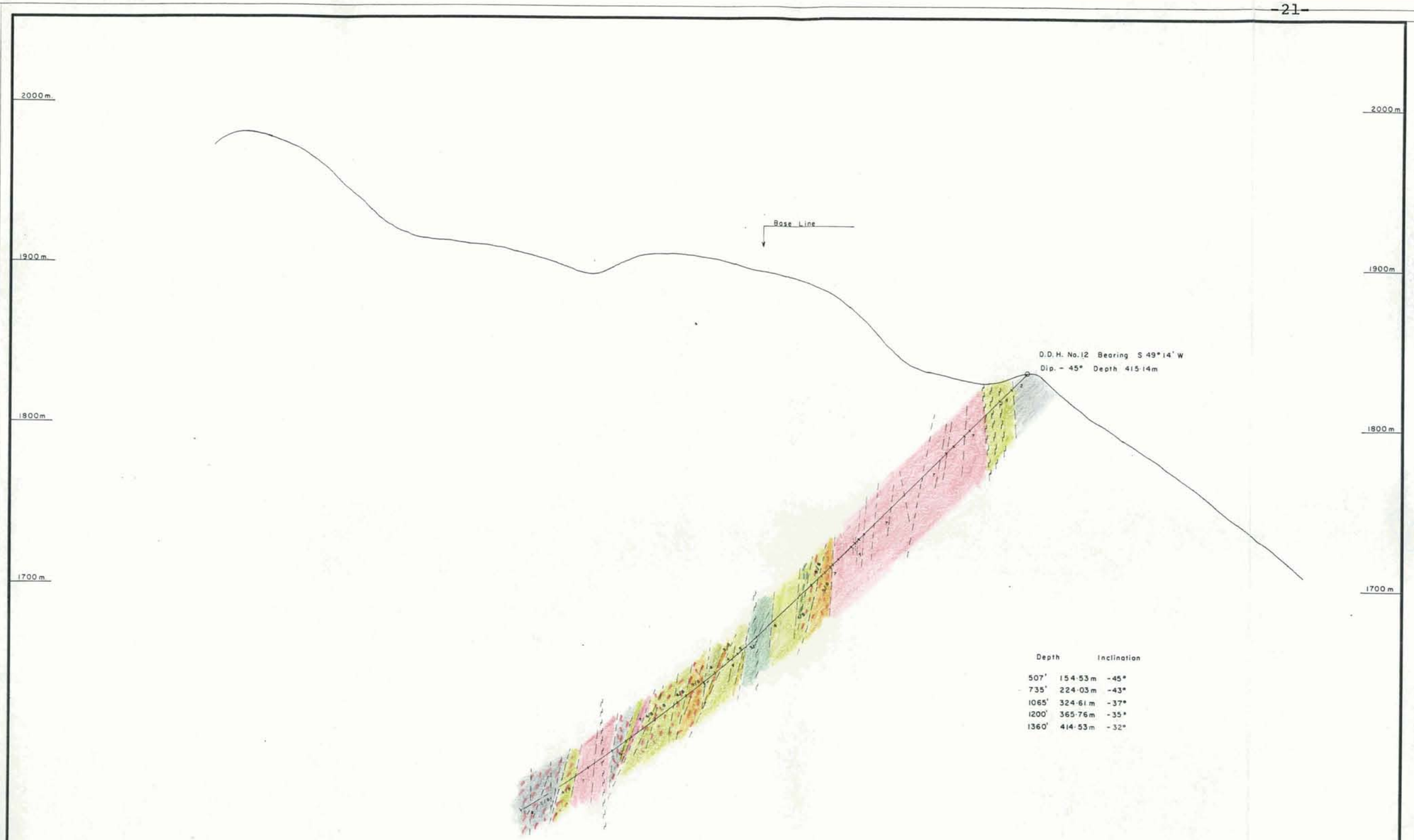
BASED ON:

DATE OF WORK: Aug. 1982	MAP REF. NO.:	FIG. NO.:
DRAWN BY: G.T.		
DATE: Sept. 1982	N.T.S. NO.: 114-P-12	052-82-9

MAP REF. NO.:
N.T.S.:

25 0 25 50 75m
SCALE: 1:2500

FALCONBRIDGE LIMITED		
PROPERTY: WINDY – CRAGGY		
LOCATION: St. Elias Mtn. B.C. Lat. 59°44' Long. 137°45'		
TYPE OF MAP: Section 1-1' D.D.H. No 11 Assay Histogram % Cu. & Co.		
WORKING PLACE:		
BASED ON:		
DATE OF WORK: Aug. 1982	MAP REF. NO.:	FIG. NO.:
DRAWN BY: G.T.		
DATE: Sept. 1982	N.T.S. NO.: 114-P-12	052-82-10



MAP REF. NO.:
N.T.S.:

LEGEND

- Limestone calcareous argillite
- Argillite, siltstone
- Undifferentiated flows, tuffs, rare dykes
- Chloritic altered volcanics
- Cherty or siliceous zones
- Gossan
- Sulphides
- Disseminated or stringer sulphides

25 0 25 50 75m

SCALE: 1: 2500

FALCONBRIDGE LIMITED

PROPERTY: WINDY - CRAGGY

LOCATION: St. Elias Mtn. B.C. Lat. 59°44' Long. 137°45'

TYPE OF MAP: Section M - M' D.D.H. No.12 Geology

WORKING PLACE:

BASED ON:

DATE OF WORK: Aug. 1982	MAP REF. NO.:	FIG. NO.:
DRAWN BY: G.T.		052-82-12
DATE: Aug. 1982	N.T.S. NO.: 114-P-12	

MAP REF. NO.:
N.T.S.:

25 0 25 50 75m
SCALE: 1:2500

FALCONBRIDGE LIMITED		
PROPERTY: WINDY - CRAGGY		
LOCATION: St. Elias Mtn., B.C. Lat. 59°44' Long. 137°45'		
TYPE OF MAP: Section M - M' D.D.H. No. 12 Assay Histogram % Cu & Co		
WORKING PLACE:		
BASED ON:		
DATE OF WORK: Aug. 1982	MAP REF. NO.:	FIG. NO.:
DRAWN BY: G.T.		
DATE: Aug. 1982	N.T.S. NO.: 114-P-12	052-82-13

Surface & Drill inferred Geology: Fig. 5, 15 (in pocket)

General:

Relatively little geological mapping has been carried out over the property in general and the deposit area in particular. Fig. 15 shows the results of a compilation of the available surface geology of the deposit area and additional drill obtained information. The subsurface information has been simplified and projected up the assumed dip to surface. 1982 mapping was carried out primarily in the NW ridges and the western portion of the main Windy Craggy ridge. This mapping was carried out by means of stadia-shot survey points for control purposes. In doing so it became evident that the original 1:2500 topo base map required corrections to the elevation contours in the mapped areas and this has been effected on the present base map. Most of the surface geology south and east of Hole 11-82 (Section I-I') was derived from J. J. McDougall's earlier mapping of 1965.

Lithologies:

The following summary is necessarily based on field distinctions and classifications. There is a lack of petrographic backup to the geological mapping which will hopefully be rectified over the winter of 1982/83.

a) Unit 2:

Dominantly dark grey to black calcareous to non-calcareous carbonaceous argillites, siltstones, minor sandstones and lighter coloured grey to buff impure limestones, usually bearing variable amounts of f.g. clastic material. These rocks are generally strongly foliated and fissile with a pronounced slaty cleavage except for limestone members which are more commonly massive in character. Many of these rocks, both on surface and in drill core, bear disseminated and stringer sulphides dominated by pyrrhotite. Pyrite

occurs more often as distinct laminar beds sometimes producing apparent sedimentary load structures. The sediments display a wide range of deformation features from essentially thin bedded with negligible foliation to strongly slick'n'sided and folded with boudinage of more competent siltstone or limestone layers. Most of the minor fold structures mapped on surface were developed in the argillite/siltstone beds. Prominent foliation strikes at 140° to 175° usually dipping 75 - 80° to the NE. Photo 8-82 shows a well developed minor synclinal fold in argillites with interbedded volcanics (tuffs). The axial plane cleavage is well developed in the sediments and the fold axis plungs 34° at 325°, roughly parallel with the strike of the mineralized zone and enclosing host rocks.

b) Unit 3:

Contains a heterogeneous sequence of relatively unaltered volcanics including both tuffs and flows. Bedding thickness ranges from less than 25 cm. to 20 or 30 metres. Individual beds or flows are continuous over observed strike length of from 100 to 400 metres but have been observed to abruptly pinch and swell or lens out altogether. Recognizable flows often bear vesicles or calcite filled amygdules and may be porphyritic. Massive tuffaceous varieties are f.g. to m.g. and extremely massive with little or no recognizable fabric other than a faintly developed cleavage sub parallel to the prominent foliation developed in the metasediments. Joint surfaces are well exposed but insufficient measurements were made to aid the structural analysis. However, numerous tension-type joints were observed with infillings of qtz and or calcite often displaying crystal growth normal to the joint planes. These joints were most often oriented at right angles to the prominent cleavage direction and could

possibly represent A-C type joints perpendicular to an axial plane cleavage of a major fold. The volcanic rocks in general have been tentatively identified as andesitic to dacitic in composition.

c) Unit 4:

A "mixed bag" suite of altered rocks, dominantly composed of strongly foliated, chloritic volcanics ± minor epidote. The assemblage also includes cherty tuffs, silicified and chloritized metasediments and minor sideritic or ferroan dolomite host rocks to sulphides. The rocks of this unit often contain variable amounts of sulphide from disseminated to stringer veins to semi-massive bands and pods. They also occur as intercalated lenses or seams within the massive sulphide body per se. For this reason surface exposures, mainly along the ridge on the southern margin of the sulphides and on the north western "Craggy" ridges, are rusty stained and occasionally gossanous in appearance. The major structural fabric is a pronounced foliation striking between 145 and 180° and sometimes wavy or crenulated attesting to a probable secondary, presumably weaker, deformation phase. Minor pillow-like structures have been observed on occasion in some of the altered volcanics but tend to be vague in outline and difficult to separate from the deformation overprint.

d) Unit 7:

Semi-massive to massive sulphides. The sulphide mineralogy includes pyrrhotite, pyrite, chalcopyrite and to-date, rare sphalerite. Pyrrhotite is the dominant sulphide in the SE portion of the sulphide body including all of the 1981 drill holes and Hole 9-82. Between Hole 9-82 and Hole 11-82 a major sulphide phase change occurs whereby pyrite

becomes the dominant sulphide in hole 11-82 and in hole 12-82 with minor sections of banded py and po and pyrrhotite rich layers. Sphalerite was also first noted to a minor degree near the bottom part of the mineralized intersection in hole 11-82 and it is much more abundant in Hole 12-82 with zinc running at an average 1.63% over 42 m. in the lower portion of the first sulphide intersection of Hole 12. Silver values, while low, appear to correlate with sphalerite bearing intersections with assays up to 0.88 oz/ton. This compares with a more usual value of .02 to .08 oz/ton in the non-zinc bearing sulphide zones.

The sulphides in general are usually f.g. and massive though sections of coarser grained recrystallized ? pyrite have been observed. Observations of apparent fine sulphide banding in portions of the zone may indicate an original stratiform layering now disrupted and distorted by intense deformation and shearing. Slick'n'sided surface are not uncommon within the sulphides and cleavage or foliation is often outlined by stilpnomelane and/or chlorite on cleavage faces. Gypsum has been observed lining open fractures.

e) Unit 8:

This is not a lithological type but rather serves to outline areas of pronounced stringer type sulphide mineralization irrespective of rocktype. It is however, most often apparent in rocks of Unit 4.

Structures:

The various units south of the mineralized zone display strikes ranging from 100 to 140° and dip towards the NE at inclinations of 50 to 80°. Attitudes from surface outcrops on the NW "Craggy" ridges are less readily obtained

but appear to have the same general strike with dips usually vertical. As mentioned in the description of the lithologies there is a well developed foliation observed in most of the rocks striking at 145° to 180° with dips variable but always steep. Evidence from minor fold structures suggest that this foliation may be partly due to an axial plane cleavage developed in a major fold structure, probably synclinal from indications from tops determinations in Hole 11-82. Some of the variation in foliation plane attitudes could be due to widespread faulting and shear induced foliation. While not readily obvious from the limited surface mapping, evidence from drill core suggests extensive shearing and faulting, such that the compilation map is probably guilty of gross simplification of the overall structure.

At present the writer's interpretation leans towards the view that the sulphide body at Windy Craggy may occupy the axis of a major fold, presumably synclinal, which plunges moderately towards the NW. The overall symmetry of the sulphides within the enclosing lithologies as shown on Fig. 5 and 15 is not incompatible with such a structure. The fact that "footwall-type" stringer mineralization tends to occur in altered rocks on both sides of the main sulphide zone is also compatible with the fold hypothesis: the gross sulphide phase change from pyrrhotite dominant to pyrite dominant towards the NW with coincident increases in sphalerite and minor amounts of precious metals reflect the general scheme of progression up a layered massive sulphide body and is also compatible with a synclinal structure plunging to the NW. Nevertheless the still scanty available information and vast step-outs in drill hole spacing in the NW strike extension make for easy but potentially hazardous arm-waving.

Conclusions and Recommendations

1) The 1982 drill programme has extended the inferred probable strike length of the Windy Craggy sulphide deposit a further 700 metres to the Northwest and demonstrated that the mineralized zone is maintaining a width greater than 100 metres.

2) With the exception of hole 9-82 the 1982 programme has confirmed the suspected trend towards better copper grades and widths in the NW extension of the sulphide zone. In addition the drilling discovered the existence of an extensive py rich section within the deposit with associated copper values and indications of sphalerite bearing horizons. The presence of sulphide mineral zonation may prove critical in evaluating the direction of further exploration in terms of delineating higher grade zones with potential precious metal values.

3) With reference to the reduced compilation plan Fig. 5 it is essential to obtain further information in the gap between Holes 11 and 12, both to assure that the mineralization at least maintains the expected widths and grade and to clarify the degree of complication in the attitude of the zone. In particular the possibility that the sulphides occupy the axis of a synclinal fold structure plunging to the NW may allow speculation of a higher grade shoot plunging parallel to the keel of the fold north west beneath the Craggy ridges. Information on sulphide mineralization from 3 or 4 drill holes in this area would be invaluable in assessing the structural complications and the depth/width continuity of the deposit. A series of holes could be drilled from the present drill sites as per the following suggestions:

a) Hole 13-83: A steeper cut beneath Hole 11 on section I-I'. Depth 800 - 900 m.

b) Hole 14-83: From the site of Hole 11-82 -60° on 025° to assess the "gap" between Hole 11 and 12. Depth 1000 m.

c) Hole 15-83: From the site of Hole 12-82 -60° on 090°. Depth 500 m. to assess the altered and gossanous host rocks east of Hole 12 and along the strike extent of the 1981 Dighem anomaly.

d) Hole 16-83: From the site of Hole 12-82 a deeper cut beneath Hole 15-83 dependant on results or alternatively a steeper cut beneath Hole 12-82 on Section M-M'. Depth 500 - 600 m.

Proposed Drilling requirements: 4 holes, 2600 to 2800 m. All-in cost approximately 1.2 million.

4) The Dighem Survey should be extended to cover the NW and SE strike extensions of the mineralized zones with consideration to a more extensive survey of the claim area and surroundings, paying particular attention to anomalies near the contact of the metasediments and the volcanic complex.

5) The structural complexity of the deposit area in particular and the claim area in general requires a programme of reconnaissance geological mapping tied in to detailed mapping and structural analysis, if possible, in the vicinity of the Windy Craggy deposit. This should include petrographic studies of the rock assemblages and lithogeochemical analysis of the host and footwall rocks from previous drilling.

Tats Showing

Introduction

This report summarizes results of geological mapping, lithogeochemical sampling and a limited magnetometer survey on a portion of the Alsek and WC-14 Mineral Claims. The intent of the surveys was to cover a known showing of copper and cobalt mineralization in basic volcanic rocks of presumed Cambro-Ordovician age and test for extensions of such mineralization under glacial debris. The prospect investigated has been informally named the "Tats Showing".

The work discussed herein was carried out by Falconbridge personnel on various dates in July and August 1982. The survey results indicate that any extensions of known mineralization are most likely located to the south and west, off the boundaries of the programme area.

Fig. 4 locates the survey area in relation to the existing mineral claims. The "Tats Showing" area is located approximately 2 km north of the project base camp at Tats Lake, on a south facing slope at elevations ranging from 1100 to 1500 m.

Geological Mapping

1. Introduction

Mapping of the Tats showing was carried out at 1:2,500 scale during five days in July, 1982, by T. Heah, a graduate geologist from U.B.C.

The purpose of the mapping was to study the lithology, metamorphism, structure and mineralization in the showing area.

Six units, one intrusive and five basic volcanic units, were delineated during the course of mapping (Fig. 28).

2. Field Methods

60 stadia stations were surveyed and used as mapping control (Fig. 27).

Steep topography made the tracing of contacts difficult, and in many cases impossible.

3. Results of Mapping

a) Lithologies

Five metamorphosed basic vaolcanic units and one intrusive unit were found during mapping.

Unit 1 Tuff

Tuff is rusty or grey-green weathering. On fresh surfaces, it is green, aphanitic to fine grained, siliceous, and somethimes bedded, with beds ranging from 2mm to 4cm in thickness. It is intermixed with basic flows and volcanic breccia in parts. Pyrrhotite and pyrite are sometimes present as fine disseminations and veins.

Unit 2 Interbedded Flows

This unit comprises, in order of abundance, basalt, basaltic andesite and pillow basalt.

Basalt is both dark grey-green and rusty weathering. It is dark green, fine to medium grained, usually massive but in places faintly foliated. In parts, a porphyritic texture is poorly developed. Pyrite, chalcopyrite and pyrrhotite are present in parts.

Basaltic andesite is green and/or rusty weathering on fresh surfaces, it is green, medium grained, somtimes vesicular and amygdaloidal with chlorite-filled amygdules ranging from one to four millimetres in diameter. Phenocrysts of feldspar are sometimes chlorite-replaced.

Pillow basalt consists of ovoid to elongate amygdaloidal pillows set in a green matrix of fine grained, bedded, siliceous tuff. The tuff seems to ooze around the pillow rims, giving a convolute appearance to the tuffaceous beds. The pillow margins are aphanitic to fine grained, indicating chilling on extrusion of the pillows. Amygdules are chlorite and calcite filled. Pyrite cubes are sometimes present in pillow centres and rims. Epidote and chlorite partially or wholly replace pillows.

Pyrrhotite, pyrite, chalcopyrite and magnetite are present, with pyrrhotite being most widespread.

Unit 3 Volcanic Breccia

Volcanic Breccia is dark green or grey weathering and massive. It contains angular, green, siliceous tuff and feldspar porphyry dacite clasts up to 5 cm across set in a dark green, very fine grained, chloritized basalt matrix. Several clasts are wholly or partially epidote-replaced. Finely disseminated pyrite is present in the clasts of tuff and dacite. This unit is usually intermixed with tuff and various basic volcanic flows.

Chalcopyrite and pyrrhotite are present locally.

Unit 4 Interbedded Flows and Pyroclastics

This unit consists of basalt, volcanic breccia and tuff, as described above.

Pyrrhotite is present as fine grained disseminations and veins.

Unit 5 Foliated Volcanics

Unit 5 comprises of phyllite and phyllitic schist, and are probably greenschist-metamorphosed equivalents of basic volcanic rocks.

The phyllite is green, fine to medium grained, has a well developed parting, and a phyllitic sheen, due probably to fine grained chlorite and sericite. It has rusty fractures in parts. Pyrite veins and disseminations are sometimes present, and preferentially developed between phyllitic partings.

The phyllitic schist is rusty and green-grey weathering and has a poorly developed parting. It is green, medium grained, and contains incipient fine grained chlorite and minor biotite. Pyrite and pyrrhotite are common as fine to coarse grained disseminations.

Unit 6 Hornblende Gabbro

This rock is intrusive into the above volcanic units, and is grey weathering, massive, medium grained and unfoliated.

b) Metamorphism

The metamorphic mineral assemblage of chlorite, epidote and actinolite is characteristic of greenschists and metamorphism, possibly up to actinolite grade.

Chlorite is pervasive in all volcanic rocks studied, and gives a green colour to the volcanics. It is found filling amygdules and replacing phenocrysts.

Epidote, together with chlorite, wholly or partially replaces clasts and pillows.

Actinolite is found as laths perpendicular to vein walls and as felted masses in several of the volcanic rocks studied in hand specimen.

In addition, quartz and calcite veining and silicification may have been synchronous with the metamorphism of the area.

Quartz and calcite veins sometimes cause brecciation of the country rock. Silicification is most evident in the more porous tuffs, though some silicification is suspected of the other volcanic rocks as well.

c) Structure

Structure appears simple. Steep (greater than forty degree) dips to the northwest and southeast are observed.

Faulting is inferred to control mineralization, which is concentrated along and in the western of the two northwesterly trending creeks.

A detailed structural analysis was not possible due to the lack of sufficient data.

d) Mineralization

As mentioned earlier (in structure), mineralization is probably fault-controlled, and is concentrated along and in the western of the two creeks in the area.

Mineralization consists of chalcopyrite, pyrrhotite, pyrite and magnetite.

Chalcopyrite is found as coarse grained veins and pods in the western of the two creeks.

Pyrite is found as disseminated cubes and veins along and bordering the mineralized creek.

Pyrrhotite is present as stringers and fine disseminations away from the creek.

Magnetite, associated with pyrite, is found in pods and veins in the western most creek.

4. Conclusions and Recommendations

Mineralization seems to be fault or fracture controlled, but more mapping, especially along the creek to the south, is needed to accurately determine the extent of mineralization and its control.

Geochemistry

A total of 30 rock chip samples were collected over the area of detailed mapping and were submitted to Bondar - Clegg Ltd. in Whitehorse for lithogeochemical analyses for major oxides and elemental Cu, Ag, Zn and Co. The major oxides were determined by X-ray fluorescence methods in the Vancouver lab of Bondar - Clegg. The Cu, Ag, Zn and Co analyses were done by normal geological analysis methods at the Whitehorse lab office.

Samples were collected from surface outcrops in the field as a series of chip samples over approximately 2 metres of radius at each site. Attempts were made to collect fresh rock samples where possible but some weathered material was inevitably included.

1. Map Plots

a) Interpretation

Figures 31 through 34 show the analytical results at each sample location. Inspection of these map plots infers several trends:

i) Tendency to elevated Cu, Co, Tot. Fe% and S towards the south and west extending off the boundaries of the survey area. Contour plots for these elements are shown on Fig. 16, 17, 18 and 19.

ii) Complementary trends in relative depletion of CaO, Na_2O and tendency to lower SiO_2 content towards the south and west. Contour plots for these major oxides are shown on Fig. 20, 21 and 22.

The above inferred trends suggest that there is an increase in disseminated sulphides towards the south and west as evidenced by trend(a). Secondly the sampling in this

area may have covered the margins of an alteration zone associated with such mineralization characterized by relative calcium and sodium depletion in the host rocks.

2. Computer Analysis

The sample data was run through the Q'Gas computer programme to calculate correlation coefficients and statistical data. Before doing so it was necessary to remove 1 sample (TC-8) from the calculations due to its obvious anomalous nature, most likely resulting from inclusion of enriched gossanous material and sulphides.

Table 3 lists the sample data. Table 4 lists the calculated Pearson Correlation coefficients. Care must be exercised with some of these correlations as they may prove to be spurious on closer examination. For example Cu and Ag show strong positive correlation, but this is due to a cluster of samples with near detection limit Ag (.1 ppm) being correlated with a single spot high value (Ag = 0.4 ppm). The following variable pairs were found to exhibit significant correlations:

Positive Coefficients:	Negative Coefficients:
1) Co, S	5) Co, CaO
2) Co, Total Fe	6) CaO, Total Fe
3) Total Fe, S	7) SiO_2, FeO
4) Na_2O, TiO_2	

Computer correlation plots of variable pairs 1,3,4 and 6 are shown on Figs. 23, 24, 25 and 26. Less significant coefficients include positive correlations of Cu and Total Fe and negative correlation of Cu and CaO.

a) Interpretation

The above statistical calculations correspond well with the trends inferred from inspection of the map plots of the analyses. The strong association of cobalt with

iron and sulphur suggests that the cobalt is contained within the pyrite and pyrrhotite sulphides observed during field mapping and allows the speculation of increasing concentrations of these sulphides to the south and west.

3. Conclusions

The major conclusion derived from the rock geochemical sampling is that the surveyed area does not appear to contain economic sulphide mineralization. However, the survey coverage should be extended to the south and west in order to assess the extent and significance of the inferred anomalous trends in cobalt and copper values.

Geophysical Survey

The extent of geophysical survey coverage was restricted to 4 lines of magnetometer surveying over a restricted portion of the study area. The instrument used was a Barringer proton precession magnetometer. No diurnal drift corrections were applied due to the small coverage and rapidity of the field survey which was carried out in under two hours.

The survey coverage was restricted by steep topography to the glacial debris covered zone below the toe of a small hanging glacier located to the NE and off the study area. It was designed to investigate the possible extension of any mineralized zone beneath the debris-covered area.

Results are shown on Fig. 29 and display only a weak magnetic gradient increasing to the SE. Contour line trends appear to be compatible with the N NW strike of the mapped lithologies. The relatively higher intensity readings on the southernmost line most likely reflects the increasing proximity to bedrock at the margins of the glacial debris cover. No significant anomalies were detected.

TABLE 3 ANALYTICAL DATA - TATS SHOWING

SAMPLE NO.	SIO2	FEO	AL2O3	CAO	MGO	NA2O	K2O	MNO	TIO2	P2O5	S	LOI	CU	ZN	AG	CO
78614 GT-1	51.000	11.000	14.100	11.300	7.400	2.800	0.100	0.170	0.500	0.210	0.060	1.430	144.000	5.000	0.100	8.000
78615 2	52.500	15.400	13.600	6.500	5.500	4.300	0.100	0.000	0.800	0.110	0.060	1.250	86.000	10.000	0.100	10.000
78616 3	51.000	12.700	15.000	8.300	6.200	4.100	0.200	0.170	0.650	0.270	0.220	1.590	130.000	10.000	0.100	14.000
78617 4	51.500	12.300	13.300	9.700	7.000	3.400	0.200	0.190	0.650	0.160	0.100	1.080	104.000	5.000	0.100	14.000
78618 5	48.000	14.900	15.000	7.700	7.150	3.600	0.100	0.180	0.650	0.130	0.070	2.260	142.000	20.000	0.100	20.000
78619 6	48.000	18.300	14.400	5.100	7.000	4.000	0.100	0.170	0.800	0.090	0.250	2.530	146.000	15.000	0.100	12.000
78620 7	44.500	22.900	14.400	2.200	7.600	3.300	0.100	0.080	0.700	0.160	0.400	4.560	510.000	20.000	0.100	42.000
78621 8	50.000	15.900	15.500	3.050	6.500	4.200	0.300	0.090	0.650	0.250	0.270	3.070	960.000	10.000	0.100	22.000
78622 9	45.500	21.400	13.300	3.700	7.800	3.000	0.100	0.080	0.800	0.200	0.080	4.680	520.000	20.000	0.100	24.000
78623 10	47.000	20.300	13.000	4.000	7.000	3.700	0.100	0.070	0.700	0.120	0.200	4.310	2020.000	20.000	0.400	26.000
78624 11	50.500	14.000	13.800	8.900	7.200	4.100	0.100	0.190	0.700	0.140	0.060	0.840	160.000	10.000	0.100	10.000
78625 12	50.500	12.900	14.200	6.600	7.950	4.200	0.100	0.170	0.650	0.190	0.050	1.760	260.000	30.000	0.100	20.000
78626 13	50.000	14.000	13.500	9.500	7.200	3.000	0.100	0.210	0.600	0.090	0.040	1.220	116.000	10.000	0.100	10.000
78627 14	50.500	17.400	13.300	3.900	5.600	4.700	0.100	0.080	0.950	0.180	0.060	3.330	192.000	5.000	0.100	14.000
78628 15	45.500	22.400	14.200	1.100	5.700	3.900	0.100	0.080	0.650	0.080	0.920	6.210	430.000	20.000	0.100	76.000
78629 16	45.500	26.300	11.800	1.850	5.100	3.600	0.400	0.080	0.700	0.170	1.550	3.730	345.000	10.000	0.100	92.000
78630 17	49.000	17.900	13.500	4.800	7.500	4.100	0.100	0.130	0.850	0.090	0.260	2.560	162.000	20.000	0.100	38.000
78631 18	56.500	11.400	14.000	5.900	4.150	5.800	0.100	0.100	0.900	0.430	0.060	0.750	68.000	5.000	0.100	16.000
78632 19	48.000	16.400	14.100	5.800	7.750	4.000	0.100	0.170	0.700	0.110	0.040	2.370	196.000	30.000	0.100	28.000
78633 20	51.000	15.900	13.500	7.300	5.900	4.300	0.100	0.180	0.950	0.160	0.090	1.110	174.000	5.000	0.100	18.000
78634 21	50.500	8.400	14.800	6.800	5.450	5.400	0.100	0.100	1.050	0.980	0.020	5.840	20.000	30.000	0.100	18.000
78635 TC-1	44.500	21.200	14.500	3.850	7.600	3.300	0.100	0.100	0.700	0.130	0.370	4.060	160.000	15.000	0.100	34.000
78636 2	47.000	10.400	17.800	11.500	5.800	2.700	0.700	0.110	0.500	0.350	0.040	2.700	52.000	10.000	0.100	18.000
78637 3	50.000	13.000	14.400	8.600	7.000	3.800	0.100	0.150	0.600	0.140	0.020	1.840	40.000	10.000	0.100	14.000
78638 4	48.000	11.900	14.800	10.700	9.000	2.100	0.100	0.150	0.600	0.120	0.020	2.160	40.000	5.000	0.100	16.000
78639 5	48.500	16.200	10.900	12.100	5.400	2.700	0.100	0.180	0.450	1.550	0.360	1.130	116.000	5.000	0.100	20.000
78640 6	48.500	15.700	14.000	4.650	7.200	3.000	0.100	0.130	0.500	0.180	0.040	3.630	120.000	20.000	0.100	60.000
78641 7	49.000	14.700	13.100	7.600	7.250	3.500	0.100	0.210	0.800	0.250	0.130	15.080	38.000	15.000	0.100	18.000
78642 8	25.000	45.500	1.700	8.700	2.350	0.300	0.100	0.190	0.150	0.170	8.130	13.110	1320.000	25.000	0.100	740.000
78643 9	44.000	15.900	15.000	8.400	8.050	2.900	0.100	0.150	0.750	0.120	0.130	3.930	118.000	30.000	0.100	30.000

TABLE 4 PEARSON CORRELATION COEFFICIENTS

TATS DEPOSIT LITHOGEOCHEM 055/084 1982

CORRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	SIO2	FEO	AL203	CAO	MGO	NA2O	K2O	MNO	TIO2	P2O5	S	LOI	CU	ZN	AG
SIO2	1.000	-0.652	-0.074	0.321	-0.422	0.581	-0.136	0.139	0.233	0.152	-0.437	-0.346	-0.252	-0.441	-0.128
FEO	-0.652	1.000	-0.415	-0.757	0.025	-0.137	-0.054	-0.420	0.055	-0.257	0.722	0.230	0.429	0.154	0.203
AL203	-0.074	-0.415	1.000	0.146	0.161	-0.018	0.434	-0.027	-0.092	-0.290	-0.353	-0.067	-0.125	0.188	-0.164
CAO	0.321	-0.757	0.146	1.000	0.115	-0.363	0.110	0.619	-0.389	0.337	-0.525	-0.308	-0.447	-0.348	-0.166
MGO	-0.422	0.025	0.161	0.115	1.000	-0.579	-0.292	0.341	-0.280	-0.431	-0.315	0.104	0.054	0.362	0.043
NA2O	0.581	-0.137	-0.018	-0.363	-0.579	1.000	-0.186	-0.244	0.728	0.061	-0.044	-0.048	0.013	0.101	-0.002
K2O	-0.136	-0.054	0.434	0.110	-0.292	-0.186	1.000	-0.171	-0.290	0.033	0.274	-0.040	0.008	-0.212	-0.068
MNO	0.139	-0.420	-0.027	0.619	0.341	-0.244	-0.171	1.000	-0.265	0.061	-0.306	-0.061	-0.385	-0.074	-0.237
TIO2	0.233	0.055	-0.092	-0.389	-0.280	0.728	-0.290	-0.265	1.000	-0.061	-0.073	0.223	-0.028	0.181	-0.009
P2O5	0.152	-0.257	-0.290	0.337	-0.431	0.061	0.033	0.061	-0.061	1.000	-0.012	-0.009	-0.145	-0.087	-0.081
S	-0.437	0.722	-0.353	-0.525	-0.315	-0.044	0.274	-0.306	-0.073	-0.012	1.000	0.176	0.178	-0.030	-0.004
LOI	-0.346	0.230	-0.067	-0.308	0.104	-0.048	-0.040	-0.061	0.223	-0.009	0.176	1.000	0.104	0.320	0.082
CU	-0.252	0.429	-0.125	-0.447	0.054	0.013	0.008	-0.385	-0.028	-0.145	0.178	0.104	1.000	0.158	0.866
ZN	-0.441	0.154	0.188	-0.348	0.362	0.101	-0.212	-0.074	0.181	-0.087	-0.030	0.320	0.158	1.000	0.127
AG	-0.128	0.203	-0.164	-0.166	0.043	-0.002	-0.068	-0.237	-0.009	-0.081	-0.004	0.082	0.866	0.127	1.000
CO	-0.545	0.700	-0.215	-0.639	-0.138	-0.103	0.176	-0.353	-0.107	-0.130	0.831	0.255	0.168	0.268	0.004

N.B Sample T.C-8 removed prior to calculation due to extreme anomalous influence

FIG. 055-82-16 TATS SHOWING

Contour Plot Cu in ppm
Contour Interval 100 ppm
Scale 1:2500

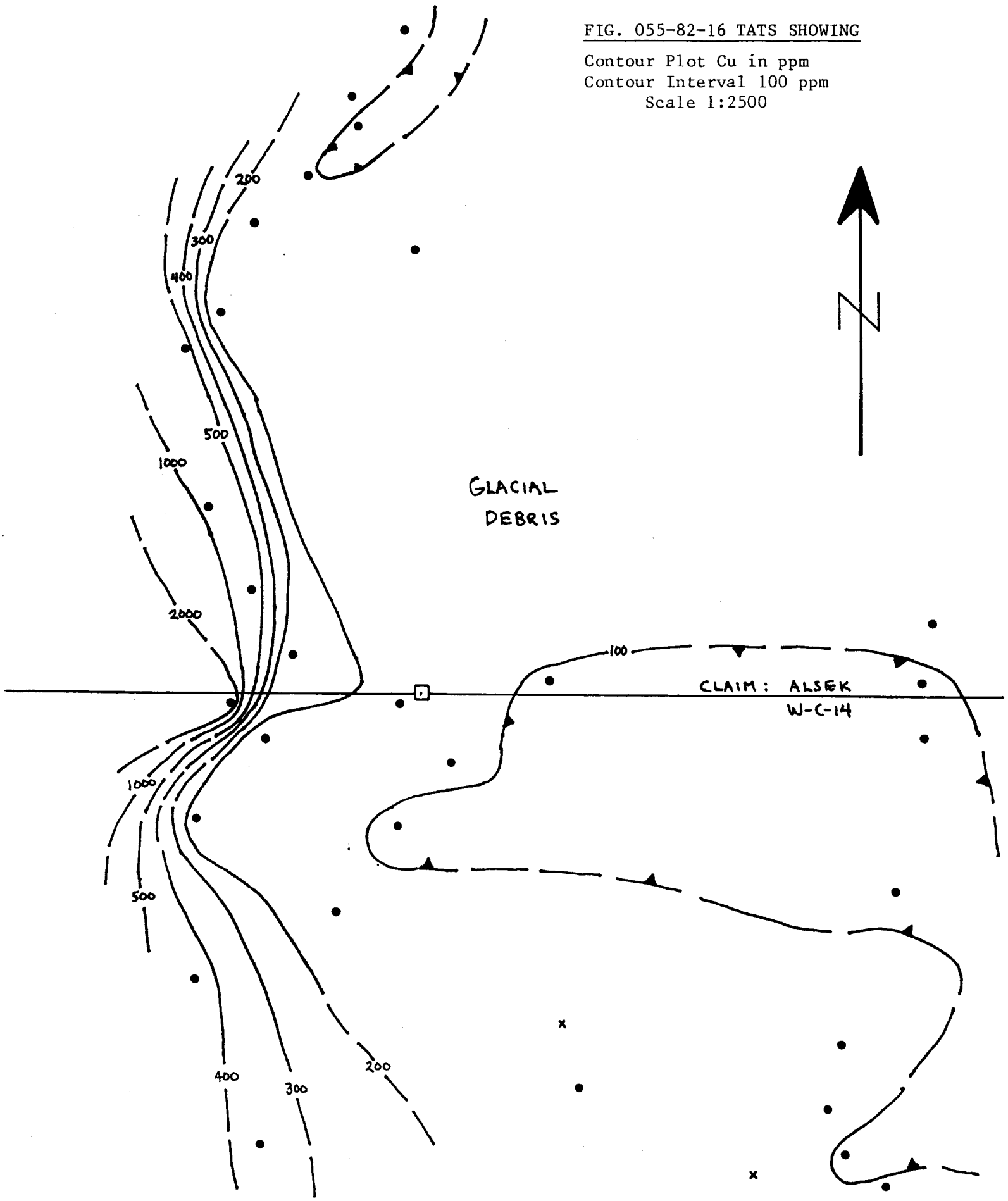


FIG. 055-82-17 TATS SHOWING

Contour Plot Co in ppm
Contour Interval 10 ppm
Scale 1:2500

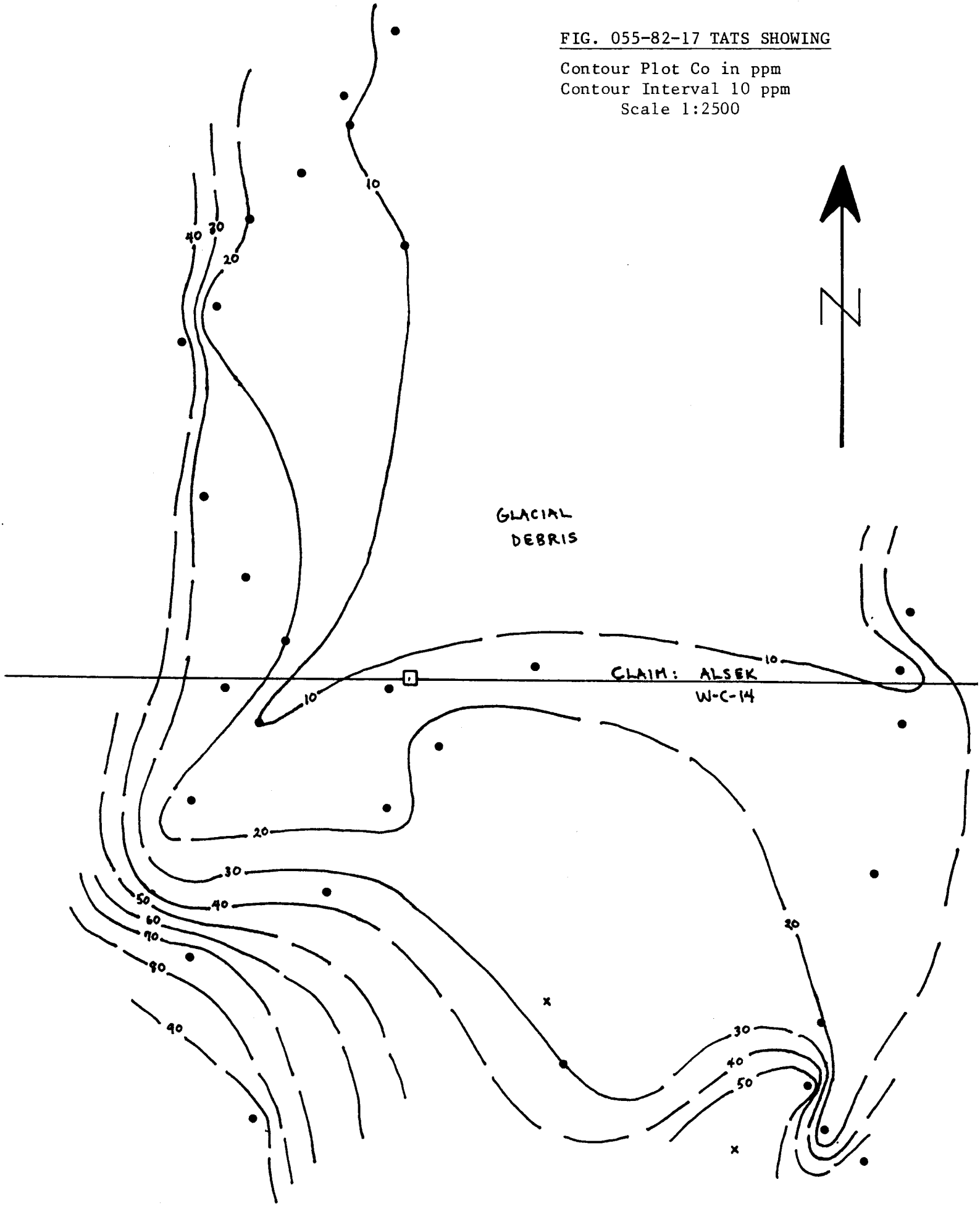


FIG. 055-82-18 TATS SHOWING

Contour Plot Total Fe%
Contour Interval 2%
Scale 1:2500

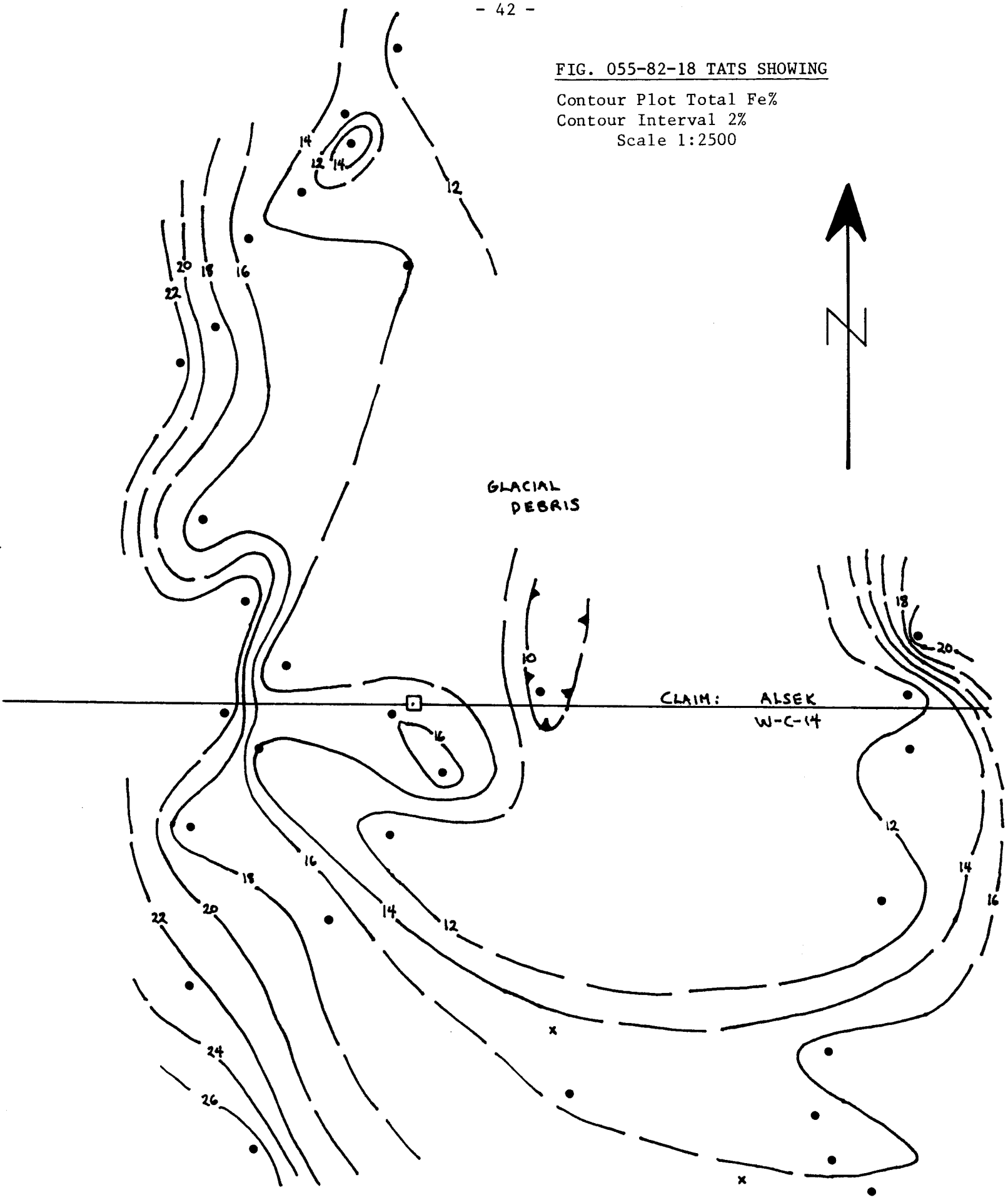


FIG. 055-82-19 TATS SHOWING

Contour Plot S in%
Contour Interval .10%
Scale 1:2500

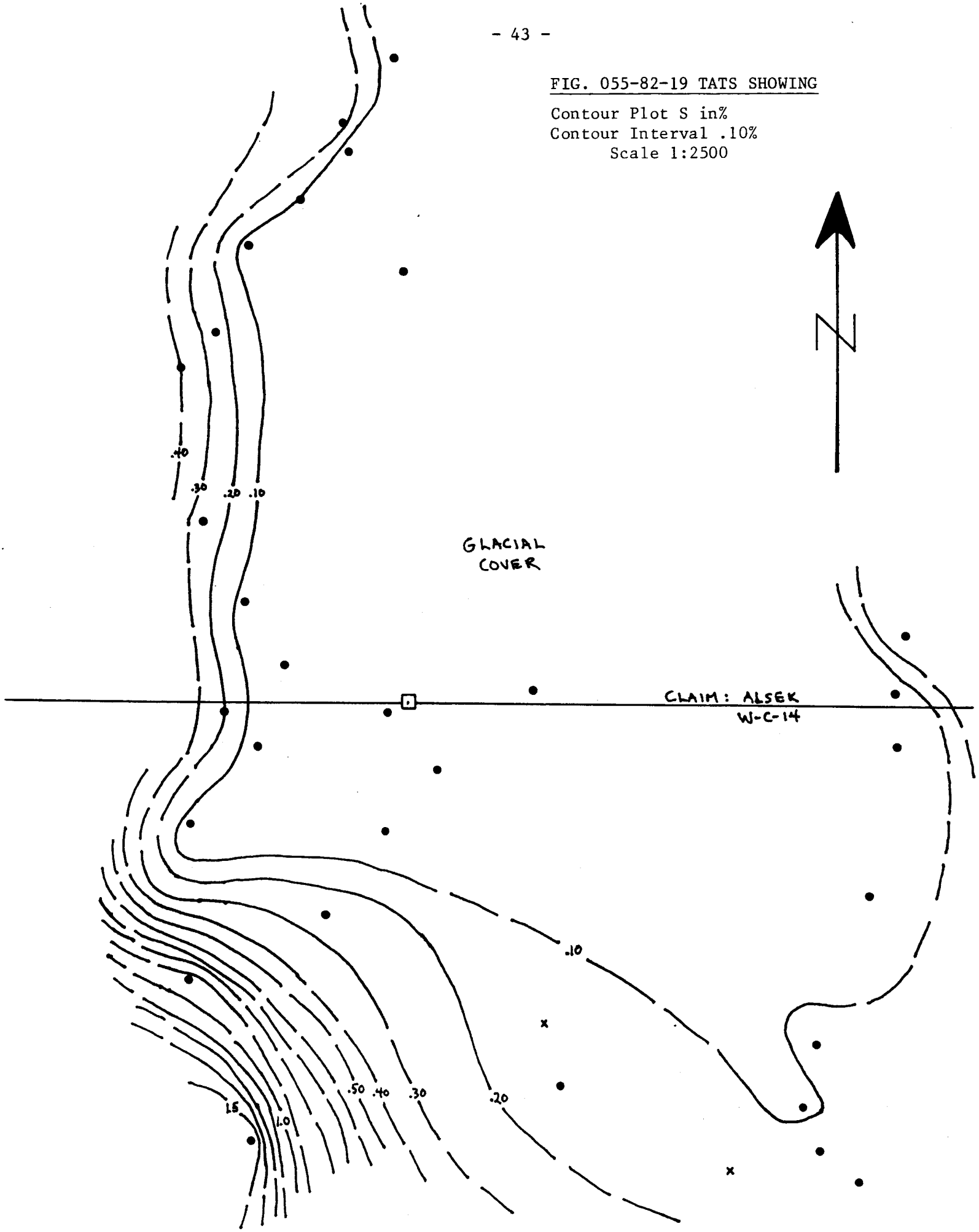


FIG. 055-82-20 TATS SHOWING

Contour Plot CaO%
Contour Interval 2%
Scale 1:2500

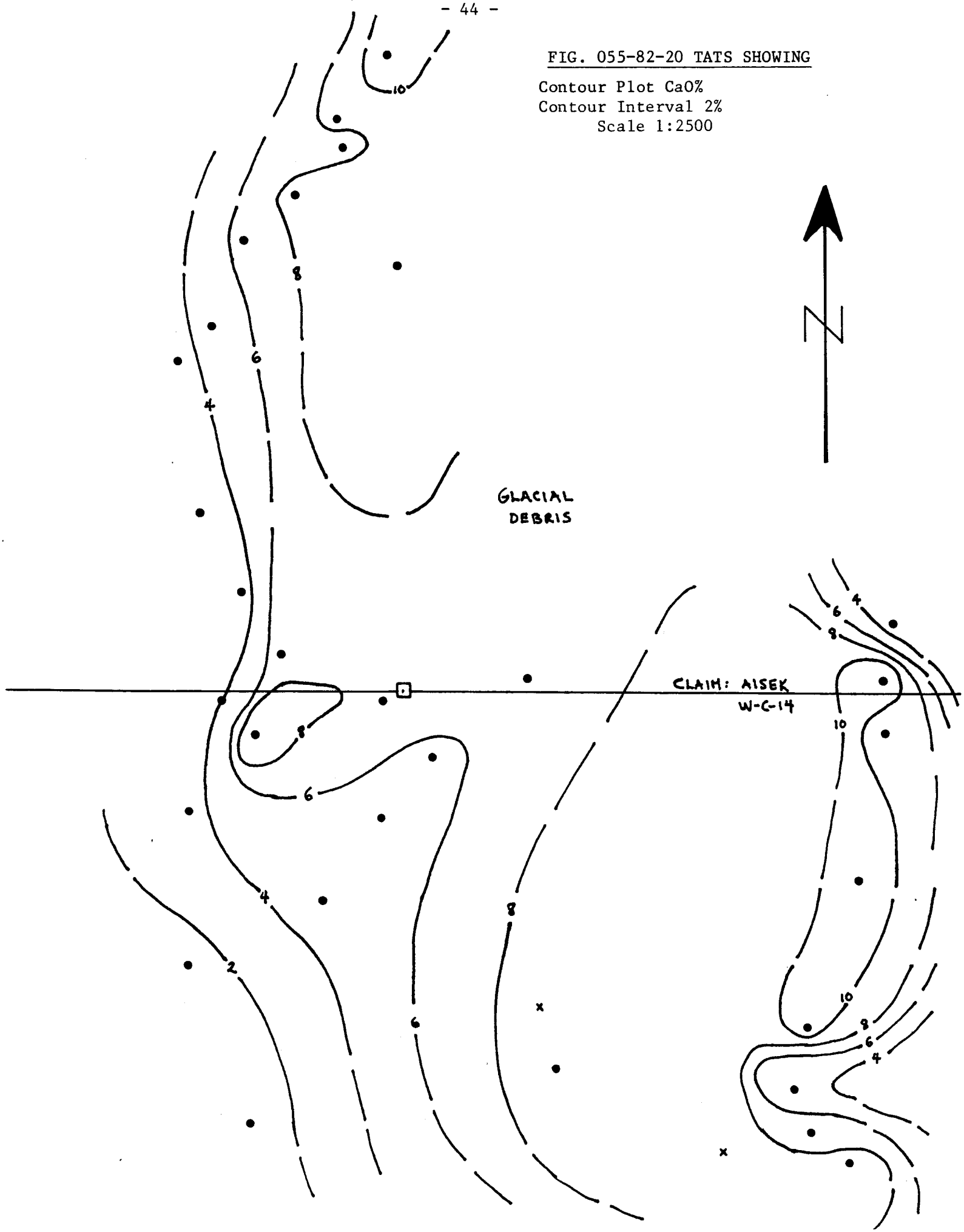


FIG. 055-82-21 TATS SHOWING

Contour Plot $Na_2O\%$
Contour Interval 0.5%
Scale 1:2500

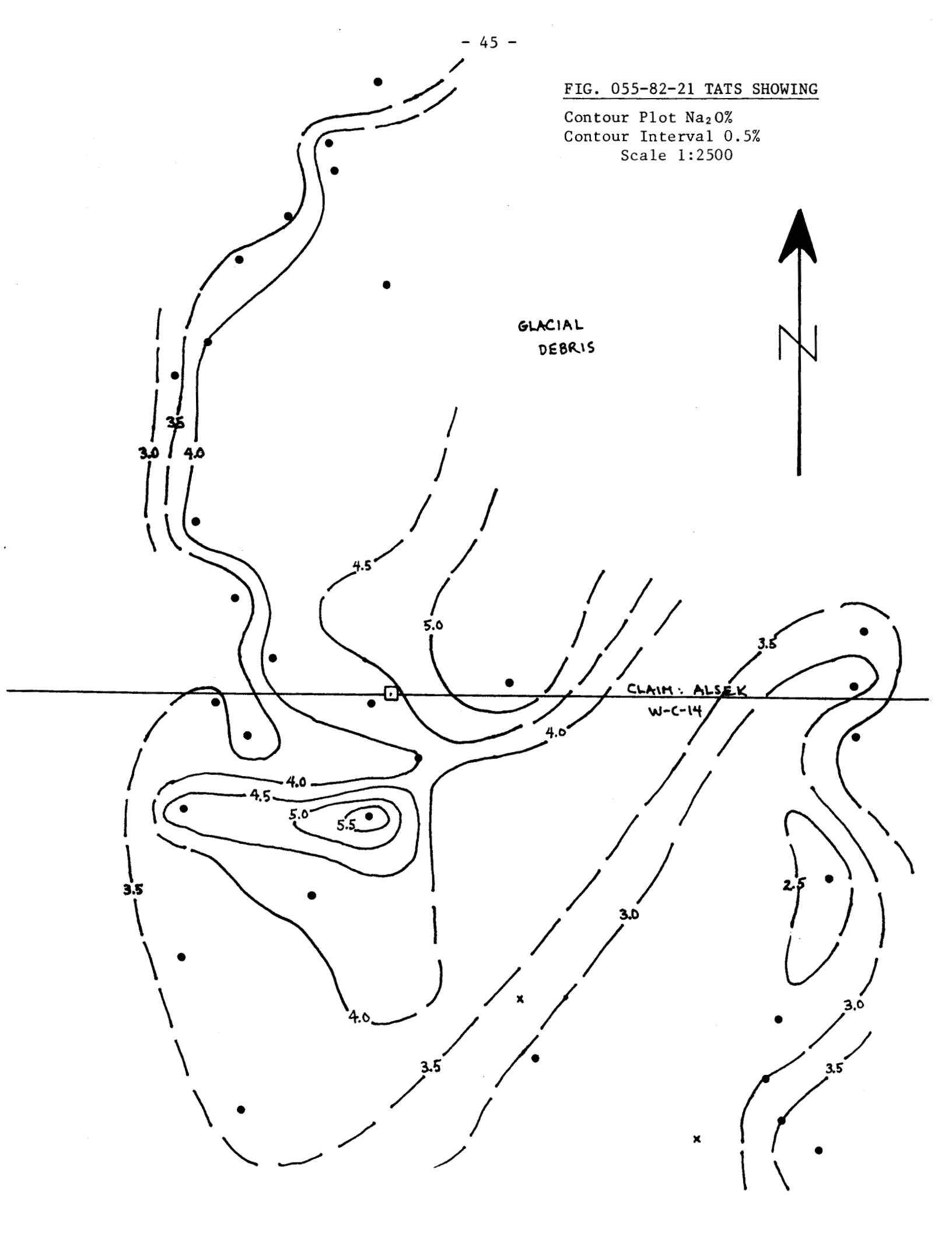


FIG. 055-82-22 TATS SHOWING

Contour Plot SiO_2%
Contour Interval 2%
Scale 1:2500

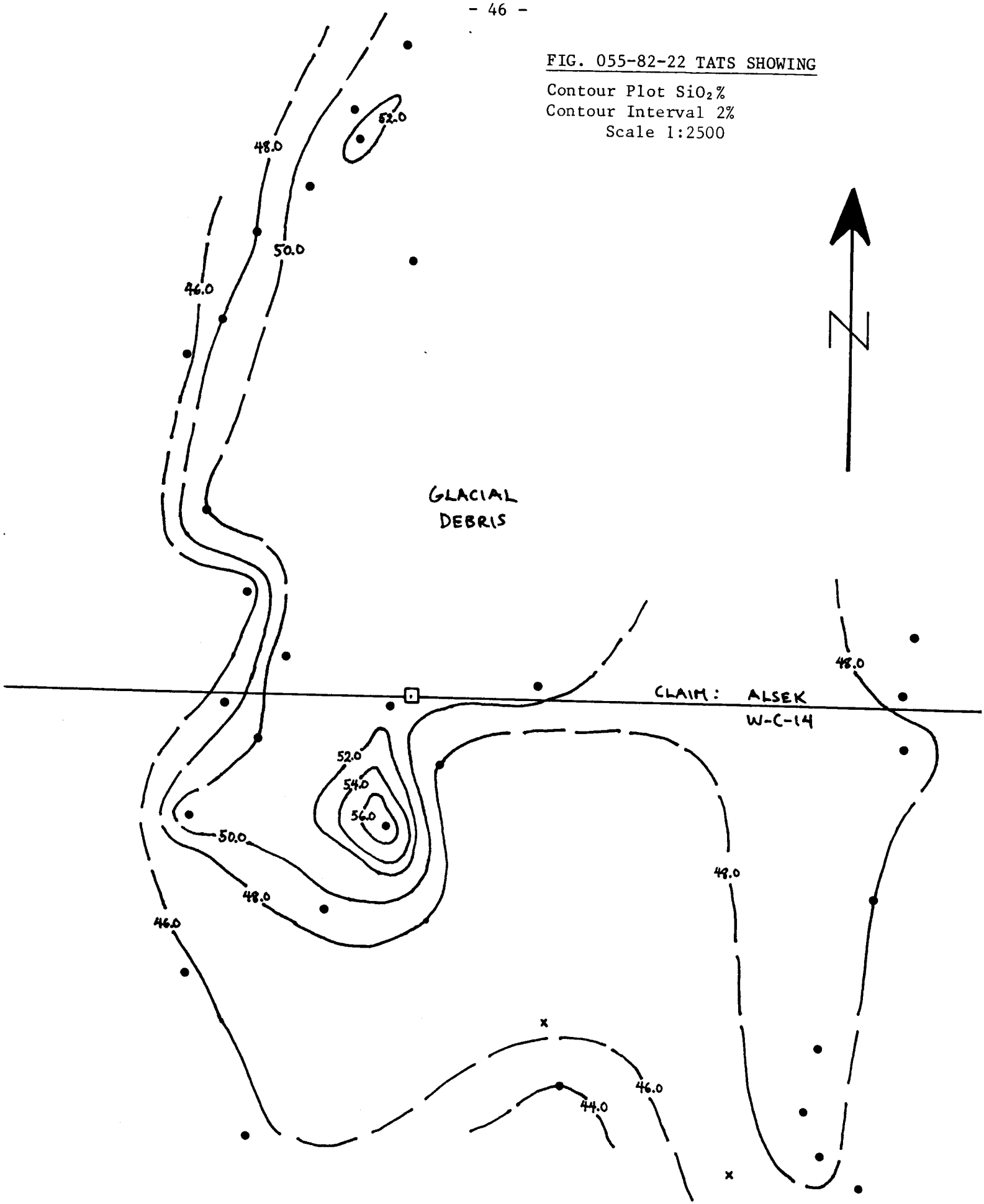
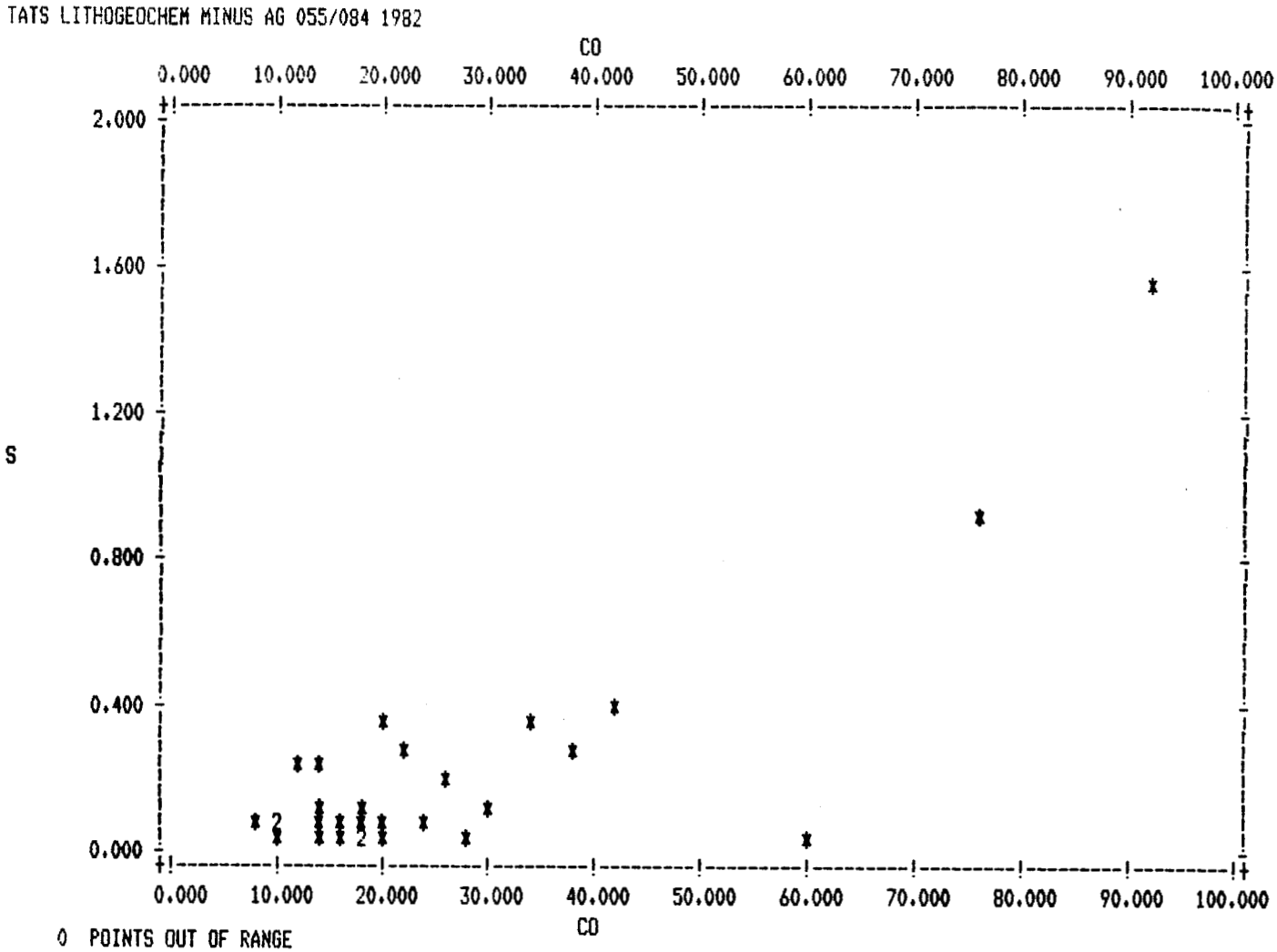
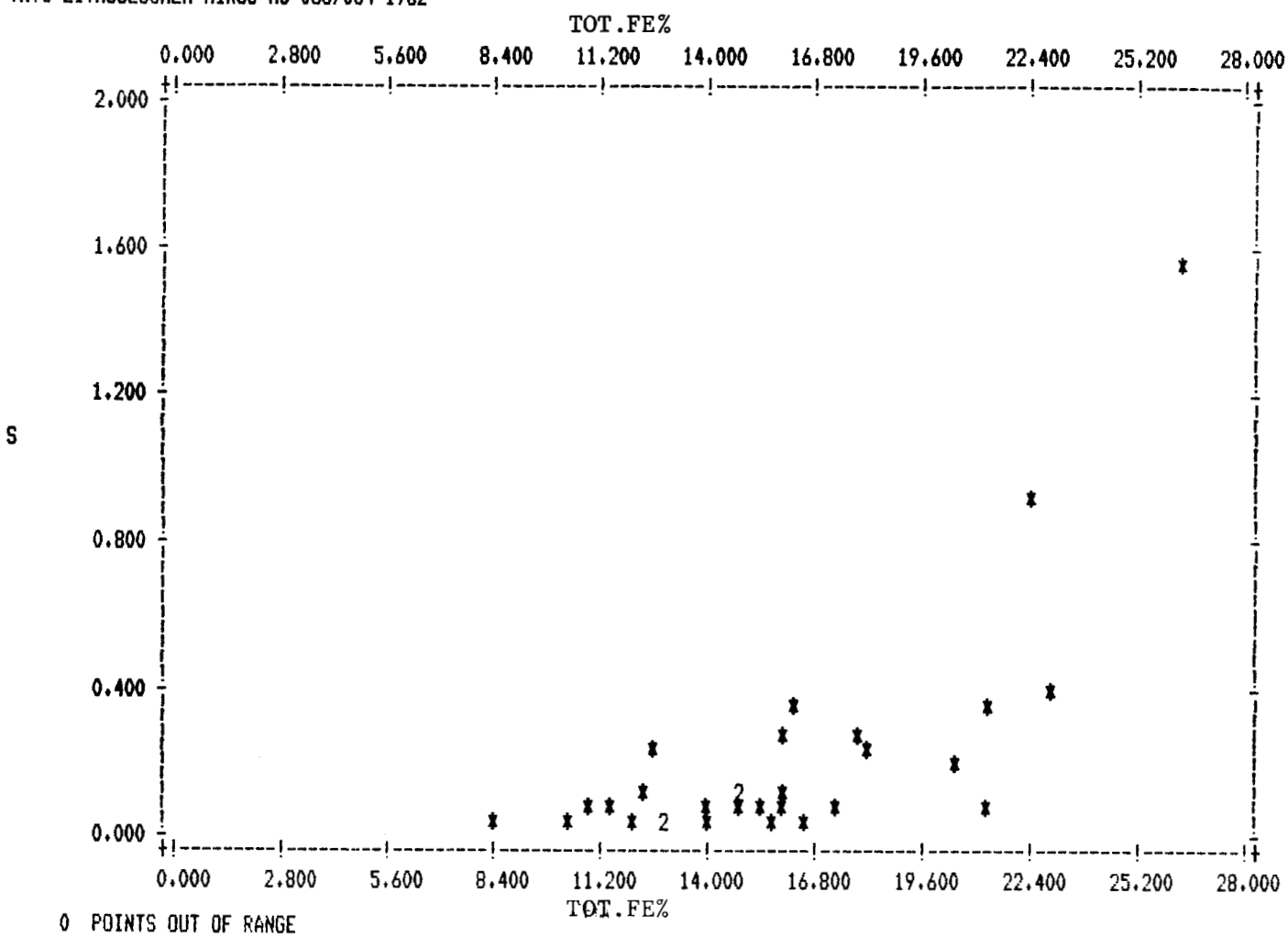


FIG. 055-82-23 CORRELATION PLOT COppm vs. S%



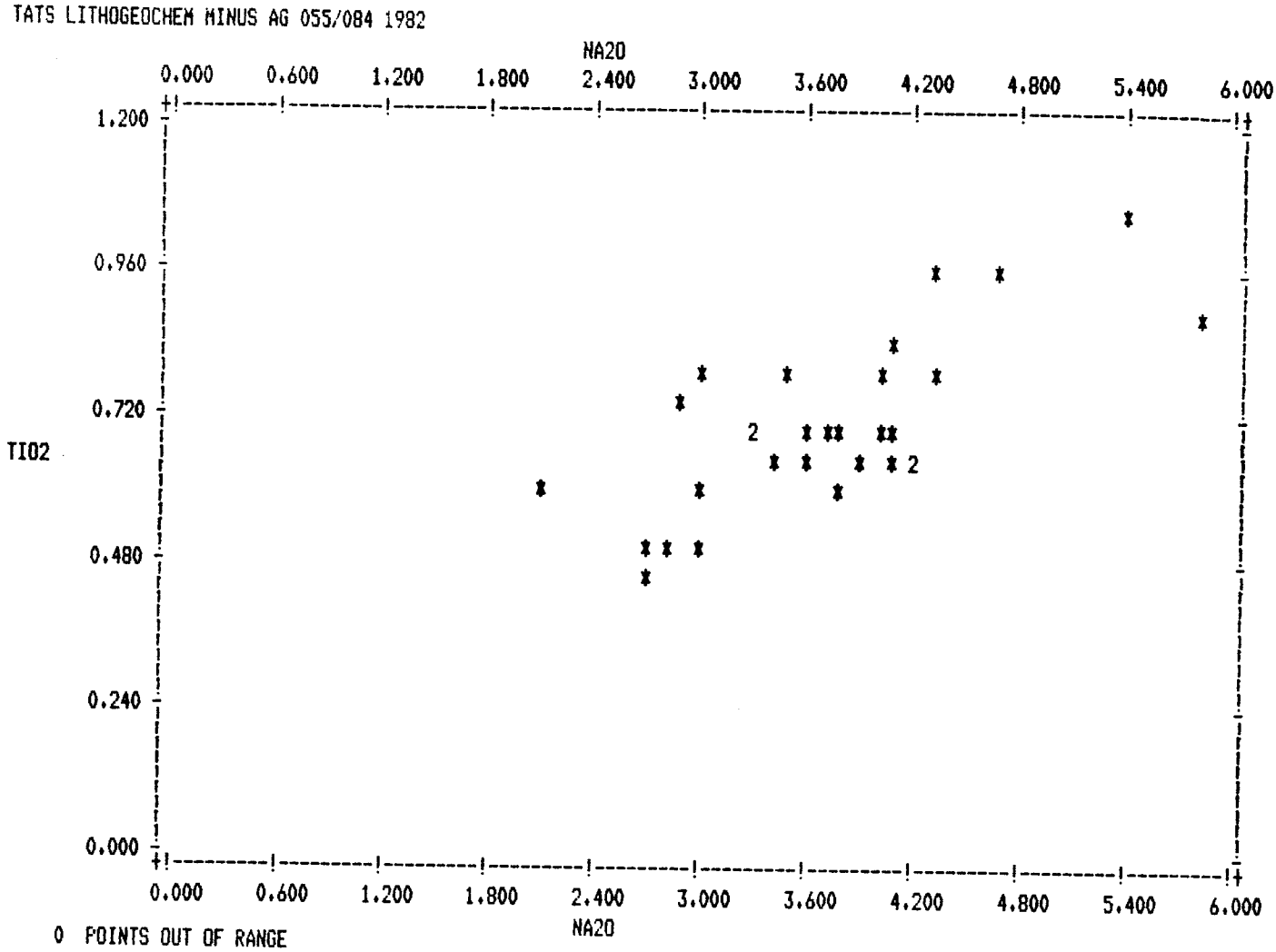
STATISTICS FOR VARIABLES:	CO	S
NUMBER OF OBSERVATIONS:	29	29
MINIMUM:	8.00	0.02
MAXIMUM:	92.00	1.55
MEAN:	25.59	0.21
STANDARD ERROR OF MEAN:	3.67	0.06
STANDARD DEVIATION:	19.77	0.32
COEFFICIENT OF VARIATION:	77.25	154.41
SKEWNESS:	1.96	2.95
KURTOSIS:	3.29	8.95
CORRELATION COEFFICIENT:	0.8306	

FIG. 055-82-24 CORRELATION PLOT TOT.FE% vs. S%



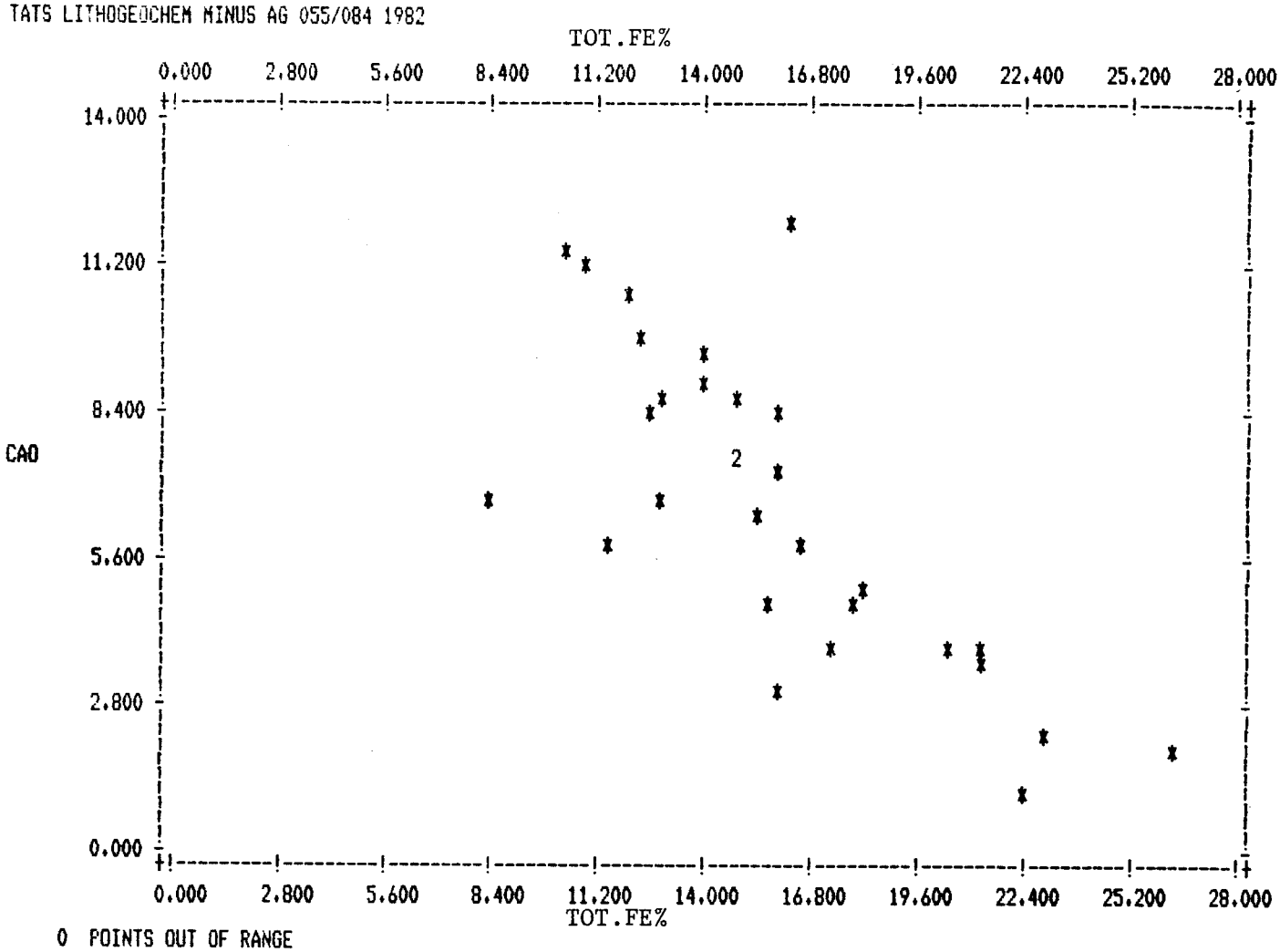
STATISTICS FOR VARIABLES:	TOT.FE%	S
NUMBER OF OBSERVATIONS:	30	30
MINIMUM:	8.40	0.02
MAXIMUM:	26.30	1.55
MEAN:	15.86	0.20
STANDARD ERROR OF MEAN:	0.75	0.06
STANDARD DEVIATION:	4.10	0.31
COEFFICIENT OF VARIATION:	25.87	154.05
SKEWNESS:	0.59	3.02
KURTOSIS:	-0.18	9.44
CORRELATION COEFFICIENT:	0.7224	

FIG. 055-82-25 CORRELATION PLOT NA20% vs. T102%



STATISTICS FOR VARIABLES:	NA2O	TIO2
NUMBER OF OBSERVATIONS:	30	30
MINIMUM:	2.10	0.45
MAXIMUM:	5.80	1.05
MEAN:	3.71	0.71
STANDARD ERROR OF MEAN:	0.14	0.03
STANDARD DEVIATION:	0.79	0.14
COEFFICIENT OF VARIATION:	21.35	19.99
SKEWNESS:	0.47	0.41
KURTOSIS:	0.34	-0.21
CORRELATION COEFFICIENT:	0.7284	

FIG. 055-82-26 CORRELATION PLOT TOT.FE% vs. CAO%



0 POINTS OUT OF RANGE

STATISTICS FOR VARIABLES:	TOT.FE%	CAO
NUMBER OF OBSERVATIONS:	30	30
MINIMUM:	8.40	1.10
MAXIMUM:	26.30	12.10
MEAN:	15.86	6.67
STANDARD ERROR OF MEAN:	0.75	0.55
STANDARD DEVIATION:	4.10	2.99
COEFFICIENT OF VARIATION:	25.87	44.80
SKEWNESS:	0.59	-0.01
KURTOSIS:	-0.18	-1.03
CORRELATION COEFFICIENT:	-0.7571	

APPENDIX A

Detailed Drill Logs and Assay Records
DDH 9-82, 11-82, 12-82

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar	-58° 45'	148° 24'
91.4M (300')	-52°	
152.4M (500')	-52°	
243.8M (800')	-47°	
304.8M (1000')	-53°	
365.8M (1200')	-53°	
443.8M (1456)	-48°	
467.7M (1600')	-47°	

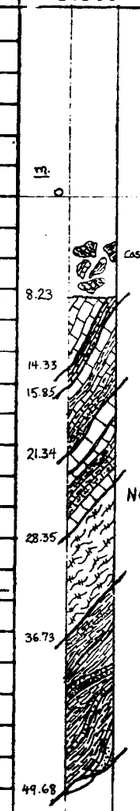
PROPERTY WINDY CRAGGY
Location Section G-G'
Elevation 1812.0m
Coordinates 10,466.70 N
9,656.01 E

Length 507.5m (1665ft)
Hor. Comp. / Vert. Comp.
Bearing
Began July 10 1982 / Completed July 26 '82
Core size NQ/BQ / Recovery 89 %

HOLE No: 9/82 Page # 1 of 8
Sheet 1 of 8
Logged by T. Chandler
Sampled by T. Chandler, T. Heah
Driller Fly 38 Rig #2

DEPTH - metres (ft) FROM	TO	RECOV'Y ROD	Core	DESCRIPTION	INTERSECTION ANGLE
				NOTE:	
				Hole drilled to 574ft in 1981, suspended due to freezing water supply and broken BQ core barrel in hole. Re-entered July 11, 1982 and continued to completion depth of 507.5m (1665ft).	
				0-574ft (174.9m) RELOGGED	
0	28.35	-	48%	Limestone and interbedded argillite, siltstone	
0	8.23	-	20%	Casing. No core. Minor mud and argillite, limestone fragments	
(0	27)				
8.23	14.33	-	60%	Light to dark gray limestone. Core is shattered, extremely broken. Massive	
(27	47)			limestone sections show blocky fracture. Qtz, calcite fill fractures with occasional iron oxide crusts & films. Rare py as dissem. small blebs in lime-	Bedding 10°
				stone & suggestion of weakly developed foliation. Occ. laminae of more siliceous clastics at 10° to core axis.	
14.33	15.85	-	60%	Dark gray limestone and shale/argillite. Shattered broken core with nmrs.	
(47	52)			quartz-calcite veins and crusts, films and vuggy linings of iron oxides.	
15.85	21.34	-	60%	Crushed pebbly zone of mixed limestone and shale as above but limestone is	
(52	70)			more massive & is recovered as short core lengths amidst fragmented shale	
				debris. Nmrs calcite veinlets and fracture fillings ± quartz.	
21.34	28.35	-	60%	Light gray limestone similar to above but less massive, more broken generally	Bedding 35°-40°
(70	93)			with occ. rusty coatings on fractures. Minor argillite and siltstone occur as bedded bands 3mm to 5mm thick at 35°-40° to core axis. Hairfine calcite veinlets.	
28.35	36.73	-	80%	Pale Felsic Dyke or Flow	
(93	120.5)			Gray-green massive felsic dyke (?) or flow. Strongly fractured with occ.rusty iron oxide crusts on joint planes. Faint schistosity developed with muscovite/sericite flakes. Composed primarily of qtz, plagioclase and micas.	
36.73	68.58	16%	54%	Mixed argillite and calcareous argillite with interbedded limestones, silt-	
				stones and f.g. tuffs.	
36.73	49.68	33%	50%	Dark gray to black calcareous argillite and f.g. argillaceous limestone.	
(120.5	163)			Light gray bands of purer limestone occur sporadically with some limey silt-	Bedding 25°-30° occ ± 10°
				stone layers. The argillites bear much py as subhedral blebs and aggregates, crosscutting veinlets and f.g. layers or laminae parallel to bedding. Some	
				py laminae are discontinuous and lensoid, others are offset by the numerous shears and fractures. Bedding is parallel to foliation at 25-30° to core	
				axis but occasionally the bedding core angle drops to c. 10°.	
				36.73 - 42.37 (120.5 - 139ft) Very broken with much iron oxides in crusts on open fractures.	

GRAPHIC 1:500



SAMPLES

No.	From	To	Ft

ASSAYS COMPOSITES

GRAPHIC LOG LEGEND

- Limestone
- Argillaceous Limestone
- Silty Limestone
- Siltstone
- Argillite / Silty argillite
- Intermediate volcanic flow/tuff
- " , porphyritic
- " , cherty or silicified
- Chert, cherty tuff or breccia
- Sulphides

ABBREVIATIONS and SYMBOLS

po	pyrrhotite
py	pyrite
cp	chalcopyrite
occ.	occasional
nmrs.	numerous
qtz.	quartz
dissem.	disseminated
RQD	Rock Quality Description
NQ, BQ	Core size
F	Fault or Shear Zone.

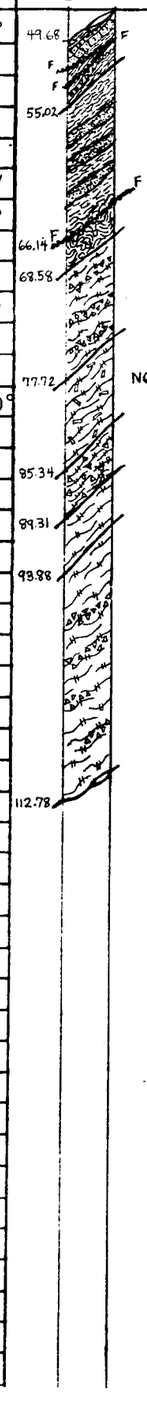
DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing	PROPERTY	Length	HOLE No: 9/82	Page# 2 of 8
Collar			Location	Hor. Comp. / Vert. Comp.	Sheet of	
			Elevation	Bearing	Logged by	
			Coordinates N	Begun /Completed	Sampled by	
			E	Core size /Recovery %	Driller	

DEPTH - metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
49.68	55.02	0%	55%	Calcareous argillite, argillite, limy siltstones similar to previous unit but	Bedding 30°
(163	180.5)			strongly sheared and/or foliated with numerous cross-cutting qtz-calcite veins	
				and lenses - some with c.g. blebby py. Several cherty (tuffaceous?) bands	
				present with much disseminated py.	
				Strong Fault gouge at 51.82 (170ft) and at 53.04m (174ft).	
55.02	66.14	6%	60%	Dark gray to black mottled, sheared, silicified argillite/siltstone. Strongly	Foliation//
(180.5	217)			deformed lensy banding possibly shear induced? Slick 'n' sided surfaces	bedding 35°
				common. Strongly sheared // foliation and bedding at 35° to core axis. Py	
				occurs as elongated lenticular grains along foliation. Fault gouge at end.	
66.14	68.58	0	42%	Dark green to gray mixture of deformed, sheared argillite?, siltstone and	Bedding @35°
(217	225)			minor tuff beds. Strongly sheared & brecciated probably due to fault zone	
				at end of last unit.	
68.58	89.31	29%	70%	Interbedded cherty dacitic? tuffs and andesitic flows.	Foliation 30°
(225	293)				
68.58	77.72	12%	58%	Light green to gray f.g. massive, non-porphyritic rock. Foliated with develop-	
(225	255)			ment of sericite and minor chlorite. Aphanitic irregular chert bands occur	
				sporadically. Po occurs as small elongated blebs paralleling foliation at 30°	
				Blebs are 1-2mm long axis .3-.5mm short axis. Strongly fractured with iron	
				oxides + minor po in fractures and in tension-like gashes. Slick 'n' sided	
				shear planes are common. Grades into following rock.	
77.72	85.34	36%	92%	Green, f-m.g. massive volcanic-probably andesite. Patchy porphyritic zones of	
(255	280)			dark green chlorite phenocrysts probably after pyroxene. Very minor chlorite	
				development otherwise. Poorly developed foliation. Calcite occurs as	
				infillings in 2-3mm amygdules. Sparsely disseminated po with one or two py-	
				rich veinlets. General tendency towards increasing fracture density and iron-	
				oxides in fractures with depth.	
85.34	89.31	54%	100%	Pale green cherty tuff(?), strongly foliated with disseminated po elongated	
(280	293)			parallel to foliation. Strongly deformed & brecciated with patches of f.g.	
				dark green chlorite (altered volcanics?). Po with minor py, cp appears in	
				crosscutting veinlets as irregular blebs or stringers Po and cp occur inter-	
				grown often with calcite in interstices. Some Large c.g. blebs of po occur	
				in later chalcedonic quartz veins. At 85.65m (281ft) spheroidal cp+po occur	
				in a breccia zone. The gangue adjacent to these spheroidal blebs appears	
				bleached. Numerous coatings & films of iron oxides. Generally similar to	
				previous zone 68.58 - 77.72m.	
89.31	206.35	41%	91%	Thick sequence of massive volcanic flows, tuffs. Minor chloritization	
(293	677)			increasing with depth.	
89.31	93.88	56%	94%	Light gray-green massive f.g.-m.g. volcanic - possibly andesitic flow or	
(293	308)			tuff. No visible bedding. Rare disseminated py. Calcite occurs in amygdules	
				and irregular Qtz-calcite veins.	
93.88	112.78	33%	91%	Dark green-gray, massive f.g. andesitic tuff, variably chloritized & frac-	
				tured. Py occurs as seams on shear planes (slick 'n' sided) & in irregular	
				Qtz veinlets.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS	COMPOSITES

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

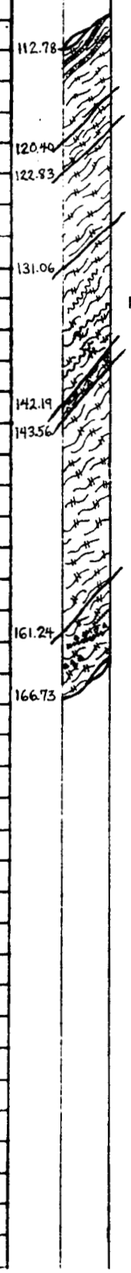
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 9/82 Page # 3 of 8
Sheet of
Logged by
Sampled by
Driller

DEPTH m. (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
93.88	112.78			(contd) 99.36 - 107.44 (326' - 352'): Section of strongly fractured broken core with numerous deformed, disrupted cherty bands & associated po ± minor py. Isolated cherty breccias occur at 99.36m, 99.67m, 101.20-102.11m, 103.63, 104.24m and 107.29m.	
112.78	120.40	58%	95%	Light gray-brown, massive, equigranular volcanic (flow?). Mostly plag with	Bedding(?)
(370	395)			minor quartz. Very faint foliation developed with minor sericite & chlorite.	angle 22°
				Traces of dissem. py. Calcite and/or quartz fillings in fractures (<3mm)	
				114.3 - 114.60 Light brown massive, v.f.g. band. Cherty in appearance but very soft with scattered quartz ± chlorite fragments. Probably ash tuff.	
				116.0 10cm band as above. Core intersection angle = 22°	
120.40	122.83	49%	97%	Green-gray f.g. volcanic tuff/flow. Similar to previous zone except for	
(395	403)			increased chlorite content and darker colour. Chlorite appears to be associated with alteration around invading pyritic quartz veins. Pyrite forms haloes around veins also. Strong py concentrations occur at 120.55 & 122.38 with coincident chloritic alteration and shearing. Unit grades by decreasing chlorite content into following rock.	
122.83	131.06	77%	99%	Green-gray/brown massive f.g.-m.g. volcanic flow/tuff. Identical to unit	
(403	430)			112.78 - 120.40m.	
131.06	142.19	37%	97%	Mixed gradational sequence of above volcanic with variably more chloritic	
(430	466.5)			volcanics. Chlorite development is gradational and most intense adjacent to py-rich Qtz(±calcite) veins c.f. at 133.2m (437ft). Shearing is prevalent in the chloritized volcanics. Massive unaltered volcanics predominate.	
142.19	143.56	0%	81%	Chloritized volcanic flow/tuff. Probable alteration of previous massive vol-	
(466.5	471)			canics. Pyritic veining common ± Qtz-calcite veins at 142.19-142.64 & at	
				142.95m (Qtz vein with subhedral py crystals and cp). Sheared, fractured.	
143.56	161.24	60%	98%	Dominantly unaltered f.g.-m.g. gray-brown massive volcanics with scattered	
(471	529)			patches of increased chlorite. Chloritization most pronounced around sulphide veinlets.	
				150.57m(494'): 10cm calcite vein,minor qtz no sulphides,32° to core axis	
				153.47 & 153.77m: 2 py veinlets (c.g. py crystals) & associated strong chloritization, veins are at right angle to each other @ 35° core & 55° to core (opposite sense).	
				160.48m (526.5) 8cm Calcite-qtz vein + minor fragments partially altered volcanics, no sulphides. 45° to core axis	
				160.71m: 8cm calcite vein, no alteration 40° to core axis	
				161.09m (528.5) 3cm calcite vein @ 30° to core crosscutting and obliterating earlier py vein.	
161.24	166.73	44%	91%	Mixed assemblage (subequal) of light gray-brown unaltered massive volcanics	
(529	547)			& altered chloritic volcanics (sheared). Abundant Qtz ± py ± calcite veins.	
				General trend to increased chlorite with depth. Some patches of c.g. volcanics in section (differentiated thick flows?)	
				162.46 - 162.92 (533-534.5_ Qtz rich zone with fragments of altered	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft

ASSAYS

COMPOSITES

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

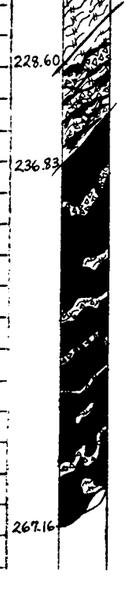
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 9/82 Page # 4 of 8
Sheet of
Logged by
Sampled by
Driller

FOOTAGE FROM	FOOTAGE TO	RECOV'Y RQD	RECOV'Y Core	DESCRIPTION	INTERSECTION ANGLE
161.24	166.73			volcanics.	
CONTD.				Nmrs. irregular veinlets of py with po and rare cp.	
				165.66m (543.5'): Large Qtz-calcite vein with coarse 2cm blebs of po.	
166.73	206.35	32%	84%	Mildly chloritic, moderately altered foliated volcanics with occasional	
(547	677)			slick 'n' sided shears. Nmrs irregularly oriented veinlets of sulphides at	
				15-30cm intervals. Veins average .5 to 1cm in thickness. At 166.73 a large	
				bleb of po occurs rimmed by cp. F.g. py appears alone in f.g. seams & rarely	
				with po. Cp is usually associated with po as f.g. intergrowths, rims & inter-	
				stitial grains.	
				179.53(589')"Silicified volcanics with abundant po and subordinate cp	
				in Qtz ± calcite veins.	
				180.9 - 181.36m: Clay development, blocky fracturing: Fault? with moder-	
				ate cp and po at end.	
				190.8(626'): 30cm zone of strong fracturing, shears, chlorite ± clay	
				alteration. Possible fault.	
				199.34 - 200.86: Fault zone	
				201.47: Fault	
				203.61 - 205.13: Fault. Intensely fractured, extremely chloritized,	
				sheared and gouged. Minor Qtz-calcite-po-py-cp veins	
206.35	236.83	58%	95%	Silicified volcanics, cherts, altered chloritized volcanics and stringer	
				sulphides	
206.35	220.37	52%	91%	Light green to green volcanics with cherty layers & silicified zones. Vol-	
(677	723)			canics are moderately chloritized and foliated. Banded & stringer sulphides	Foliation 35°
				occur throughout the rock and comprise approx. 20-25%, mostly po with minor	
				py & cp. Sulphides are most abundant below 213.36 (700'). Some irregular	
				Qtz-calcite veins occur. Foliation angle is approx. 35°.	
220.37	228.6	57%	98%	M.g. dark to light green, massive, chloritized volcanics (flows)?, probably	
(723	750)			andesitic. Generally low in sulphides. Minor dissem. po blebs & rare po-py	
				veins. Traces of cp with po. Approximately 5% po overall.	
228.6	236.83	66%	99%	Variably chloritized altered volcanics with numerous cherty bands (silici-	
(750	777)			fied volcanics or cherty tuffs?). Veins, stringers and patchy segregations	
				of po-rich sulphides. Very subordinate py and cp. Sulphides approximately	
				35-40% overall. Sulphide mineralogy: 80%po 15%py 5%cp. Irregular Qtz ±	
				calcite veins	
236.83	267.16	84%	100%	Massive Sulphides	
(777	876.5)			Massive to semi-massive sulphides (75% overall) in variably silicified and	Sulphide
				chloritized volcanics with cherty breccia fragments. Po dominates over py	banding
				& cp. Sulphide mineralogy approx:85%po, 10%py & 5%cp overall but short sec-	35-40°
				tions of py-rich sulphides are observed. Numerous calcite and Qtz veins	
				crosscut the core. Cg. sphalerite occurs in Qtz/calcite vein in py-rich	
				sulphides at 251.76m (826'). Deformed remnant banding in po occurs at 35°-	
				40° to core axis.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	COMPOSITES
78340	700	710	10'	0.41	0.034	
41	710	720	10'	0.19	0.022	
42	720	723	3'	0.20	0.012	
78343	750	760	10'	0.55	0.072	
44	760	770	10'	0.47	0.056	
45	770	780	10'	0.51	0.076	
46	780	790	10'	0.84	0.11	
47	790	800	10'	0.72	0.084	
48	800	810	10'	1.44	0.086	
49	810	820	10'	1.10	0.11	
50	820	830	10'	0.47	0.090	
51	830	840	10'	0.58	0.074	
52	840	850	10'	0.22	0.042	
53	850	860	10'	0.57	0.062	
54	860	870	10'	0.30	0.090	
55	870	880	10'	0.28	0.066	

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

PROPERTY
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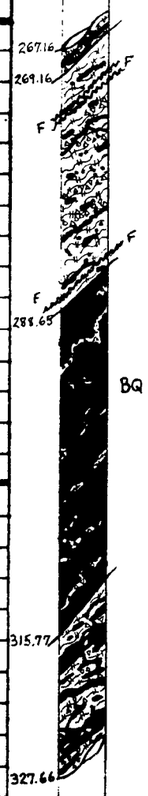
Bearing
Begun / Completed
Core size / Recovery %

HOLE No: 9/82 Page # 5 of 8
Sheet of
Logged by
Sampled by
Driller

FOOTAGE FROM	FOOTAGE TO	RECOV'Y RQD	RECOV'Y Core	DESCRIPTION	INTERSECTION ANGLE
267.16	288.65	35%	93%	Dominantly altered and cherty volcanics with stringer sulphides and veinlets.	
(876.5	947)				
267.16	269.16	84%	100%	Mixed chert (cherty tuffs?) & chloritized volcanics, Sulphides (dominantly	
				po) as stringers & short semi-massive to massive lenses comprise 40-50% of	
				zone. Transitional to following rocks.	
269.16	288.65	29%	92%	Dominantly green chloritized foliated volcanics with irregular and sporadic	
(884.5	947)			cherty bands & brecciated fragments (occasionally sideritic) with associated	
				blebby cp. Infrequent semi-massive lenses and veinlets of massive po occur	
				with very subordinate py & cp. Below 284.68m(934') cherty rocks & chloritic	
				volcanics are subequal in amount. Sulphides compose 15-20% of the unit.	
				272.19 - 272.8: Fault zone, intense fracturing, shearing, clay/gouge developed.	
				288.0: Fault/shear zone	
				288.65: cp is rimmed by po, po rimmed by quartz.	
288.65	449.88	56%	99%	Massive to semi-massive sulphides with interbedded stringer & breccia	
(947	1476)			sulphides in altered and/or silicified volcanics.	
288.65	315.77	58%	99%	Massive sulphides (+90%) with 5-10% fragments of remnant host rocks.Sulphides	
(947	1036)			are 80% po, 12-15% py and 3-10% cp. Angular breccia fragments of chloritic	
				volcanics occur within the massive sulphides as well as contorted layers &	
				breccia fragments of chert-siderite. These layers are composed of f.g.	
				intergrown qtz (chert) & light tan-brown mineral - possible siderite - with	
				occasionally preserved fine banding & layers of a dark black mineral of	
				micaceous habit, dark, vitreous & brittle - possibly stilpnomelane. Some of	Sulphide/
				the siderate exhibits rounded grains with suggestive colloform textures -	chert-sider-
				oolitic? The chert-siderite layers occur both as convoluted folded bands &	ite layering
				as pull-apart fragments suspended inmassive sulphide. Py often forms an	approx. 30°
				irregular halo around the fragments grading outward into massive po. Cp	
				seems to occur preferentially within fractures and low-pressure shadow areas	
				at the margins of the chert-siderite-stilpnomelane. However cp also occurs	
				as f.g. aggregates within massive po & in qtz ± calcite veinlets. Some py	
				occurs as distinct but contorted layers within massive po. The sulphides	
				appear to have been layered or banded originally & later reacted by plastic	
				or ductile flow under severe deformation producing the apparent brecciation	
				and contortion of gangue layers in the zone.	
315.77	327.66	59%	100%	Semi-massive sulphides within mostly dark green, soft, altered chloritized	
				volcanics. Numerous narrow cherty bands & tan sideritic layers occur-often	
				brecciated, fragmented or contorted. The sulphides are similar in mineral-	
				ogy to the previous massive zone with slightly increased pyrite. Sulphides	
				occur as irregular patchy blebs and networks within the volcanics grading	
				into lenses of nearly massive sulphides. Pyrite & po occur primarily as	
				distinct layers or facies & are rarely intergrown. Cp occurs as fracture	
				fillings & c.g. blebs in & around gangue fragments. Slick 'n' sided shear	
				planes are observed within the sulphides. Suggestive sulphide banding	
				(original?) is disrupted by strong shearing & deformation.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	COMPOSITES
78356	880	890	10'	0.26	0.064		
57	890	900	10'	0.55	0.050		
58	900	910	10'	0.50	0.052		
59	910	920	10'	0.32	0.088		
60	920	930	10'	0.28	0.10		
61	930	940	10'	0.43	0.15		
62	940	950	10'	0.42	0.13		
63	950	960	10'	0.38	0.18		
64	960	970	10'	0.44	0.15		
65	970	980	10'	0.62	0.16		
66	980	990	10'	0.59	0.13		
67	990	1000	10'	0.63	0.12		
68	1000	1010	10'	0.65	0.12		
69	1010	1020	10'	0.44	0.13		
70	1020	1030	10'	0.50	0.17		
71	1030	1040	10'	0.35	0.13		
72	1040	1050	10'	0.30	0.12		
73	1050	1060	10'	0.26	0.11		
74	1060	1070	10'	0.70	0.15	0.03	
75	1070	1080	10'	0.71	0.11	0.05	

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

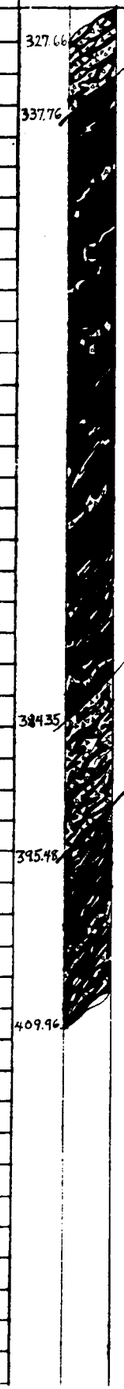
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 9/82 Page # 6 of 8
Sheet of
Logged by
Sampled by
Driller

FOOTAGE FROM	FOOTAGE TO	RECOV'Y RQD	RECOV'Y Core	DESCRIPTION	INTERSECTION ANGLE
327.66	337.76	63%	100%	Semi-massive sulphides, mineralogy as previous (po>>py>cp), associated with	
(1075	1095)			fragments, remnant layers & breccia of chert-siderite with qtz veins. Po is	
				most abundant but py dominates around & between chert-siderite layers. Cp	
				occurs as fine grained blebs interstitial to py & as coarse blebs at the mar-	
				gins of fragments; also in croscutting qtz veins. In some places cp + minor	
				py occurs as a selvage between sideritic gangue & the po-rich massive sulph-	
				ide. Py sometimes occurs as f.g. laminae parallel to bedding laminae in the	
				chert-siderite & also as 1-2mm rounded, colloform banded oolitic grains with-	
				in same. Some of the siderite also appears to be oolitic in habit. Brown-	
				black sphalerite noted in Quartz ± calcite veins and/or lenses within sider-	
				itic gangue at 327.96m (1076'), 331.01m (1086') & 332.23 (1090').	
333.76	384.35	53%	98%	Massive Sulphides: Approx 85% sulphides & 15% rock fragments, Qtz-carbonate	
(1095	1261)			veins & magnetite. Sulphides are mostly po & py (approx 65%po, 30%py +3-6%cp)	
				As previous cp is associated in & around gangue fragments, only minor blebs	
				& dissemination in po and/or py. Gangue occurs as brecciated fragments, dis-	
				torted thin bands, & boudinaged layers of chert-siderite and magnetite. In	
				many instances magnetite & siderite appear to coexist as conformable layers	
				in broken clasts, (e.g. 348.08m (1142'). Magnetite also occurs in distorted	
				wavy laminae and individual aggregates within massive sulphide. Py & po	
				appear to be distinct facies, very rarely intergrown with contacts suggest-	
				ive of original layering now deformed by shearing/folding. Rare sphalerite	
				occurs within some of the sideritic breccia fragments. Below 359.66m (1180')	
				chloritic seams are common often with stilpnomelane as anastomosing vein	
				fillings and fracture fillings. Py also occurs as individual c.g. blebs	
				disseminated through massive po with f.g. py remaining as discrete layers	
				and bands. Magnetite also tends to be more disseminated with depth.	
				351.59m (1153.3') Gypsum infilling a fracture	
				361.19 - 371.86m (1185 - 1220') Cp more abundant-up to 6-10%	
				371.86 - 379.48m (1220 - 1245') Sulphides strongly sheared fractured & sometimes brecciated. c.f. 379.48m. Cp 5-7%	
384.35	395.48	51%	99%	Stringer to semi-massive sulphides in a mottled light to dark green host	
(1261	1297.5)			rock of cherts & silicified, chloritized volcanics, partially brecciated.	
				Sulphides form 40-50% of the zone, mostly as po with very subordinate py, cp.	
				Magnetite in deformed f.g. streaks & disseminations in po - very strongly	
				magnetic. Zone is very deformed but more competent than the sheared massive	
				sulphides immediately preceding. Minor gypsum in fractures.	
395.48	409.96	29%	100%	Massive sulphides (80%). Dominantly po (po 85%, py10-12%, cp 3-5%). Numerous	
(1297.5	1345)			thin bands & laminae (discontinuous) of f.g. magnetite producing abnormally	
				strong magnetism for apparently massive po. Gangue rocks are mostly	Foliation
				deformed layers & scattered brecciated fragments of chert, chert-siderite±	35-40°
				magnetite, & very minor shards of soft, chloritized volcanics. The sulph-	
				ides are brittle, strongly fractured. Chlorite & stilpnomelane appear in	
				foliations & hairline cracks. Foliation core angle 35-40°	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	COMPOSITES
78380	1080	1090	10	0.75	0.066	0.29	
81	1090	1100	10	0.63	0.079	0.04	
82	1100	1110	10	0.40	0.15	<.01	
83	1110	1120	10	0.42	0.15	0.03	
84	1120	1130	10	0.42	0.21	0.03	
BQ 85	1130	1140	10	0.60	0.20		
86	1140	1150	10	0.44	0.22		
87	1150	1160	10	0.43	0.18		
88	1160	1170	10	0.60	0.18		
89	1170	1180	10	0.42	0.18		
90	1180	1190	10	0.41	0.16		
91	1190	1200	10	1.01	0.14		
92	1200	1210	10	1.69	0.12		
93	1210	1220	10	1.04	0.16		
94	1220	1230	10	0.74	0.15		
95	1230	1240	10	0.78	0.16		
96	1240	1250	10	1.06	0.11		
97	1250	1260	10	0.95	0.10		
98	1260	1270	10	0.34	0.095		
99	1270	1280	10	0.25	0.095		
78400	1280	1290	10	0.17	0.075		
401	1290	1300	10	0.24	0.10		
402	1300	1310	10	0.53	0.18		
403	1310	1320	10	0.42	0.16		
404	1320	1330	10	0.42	0.19		
405	1330	1340	10	0.51	0.22		
406	1340	1350	10	0.19	0.13		

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

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Collar		

PROPERTY
Location
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Coordinates N
E

Length
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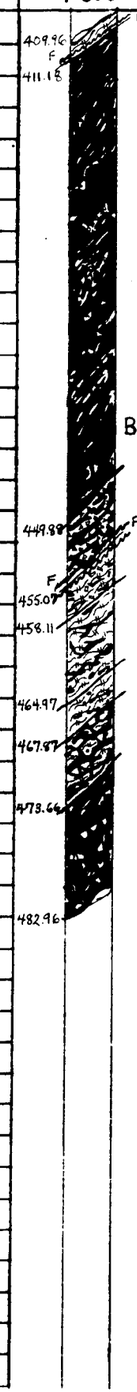
Core size /Recovery %

HOLE No: 9/82 Page # 7 of 8
Sheet of
Logged by
Sampled by
Driller

FOOTAGE FROM	FOOTAGE TO	RECOV'Y RQD	RECOV'Y Core	DESCRIPTION	INTERSECTION ANGLE
409.96	411.18	13%	96%	Light green f.g.-m.g. strongly foliated chloritized volcanic cut by several	
(1345	1349)			Qtz & calcite veins. Very weakly disseminated po. Strong fault gouge at	
				410.87m (1348').	
411.18	449.88	69%	99%	Massive sulphides: 80% sulphides 20% magnetite & gangue as breccia fragments,	
(1349	1476)			bands, contorted layers: (siderite, chert, chlorite, stilpnomelane, qtz ±	
				calcite). Sulphides are 90% po 10% py & cp. Py & cp appear as thin discontin-	
				uous layers in the po & within & around gangue fragments. Cp is often inti-	
				mately associated with magnetite. Remnant layering & foliation are subpara-	
				llel at 40° to core axis. Magnetite is both segregated & dispersed within	
				the po, often occurring as f.g. discontinuous bands or disseminations. Much	
				also occurs in the sideritic gangue.	
				413.92 (1358'): Trace sphalerite in chert-siderite band.	
				Bottom of section is very fractured and sheared, extremely broken core.	
				Chlorite and stilpnomelane are observed on shear planes.	
449.88	487.98	44%	93%	Stringer and semi-massive sulphides in altered, chloritized, occ silicified	
(1476	1601)			volcanics & some cherty breccias. One section of massive sulphides.	
449.88	455.07	28%	85%	Stringer, semi-massive & banded sulphides within a brecciated light green	
(1476	1493)			to light gray cherty host rock-possibly silicified chloritic volcanics.	
				Sulphides form 50% of the zone & are composed of mostly po with very sub-	
				ordinate py. Cp occurs most often adjacent to gangue fragments as pressure	
				shadows. Minor magnetite as f.g. disseminations in po.	
				454m (1489.5'): Enters an abrupt fault zone with severe gouging &	
				brecciation of sulphides & chert.	
455.07	458.11	46%	98%	Dark green, strongly chloritized, f.g.-m.g. volcanic with some remnant	
(1493	1503)			textures (phenocrysts) - probably a flow. Generally massive but fractured.	
				Po with rare cp, py occur as disseminated grains, narrow veinlets & scat-	
				tered blebby patches. Sulphides form 10-15% of the rock. Beginning 60cm of	
				unit is strongly sheared, chloritized & broken up due to preceding fault.	
458.11	464.97	28%	94%	Host rock as above but bearing about 35% sulphides in stringers, patchy	
				c.g. blebby zones & semi-massive bands. Po predominates with minor con-	
				tained f.g. magnetite. Cp occurs in irregular f.g. streaky blebs, very	
				sparse. Core is very fractured & sheared.	
464.97	467.87	24%	98%	F.g. dark green, chloritized volcanics with sporadic po-rich veins &	
(1525.5	1535)			stringers, also disseminations. Total sulphides 15%. Very fractured,	
				occasionally sheared.	
467.87	473.66	43%	89%	Host rock as above but somewhat brecciated. Sulphides more abundant 50-55%	
(1535	1554)			as stringers & semi-massive pods. Mostly po, minor py some cp as sporadic	
				patchy blebs.	
473.66	482.96	66%	99%	Massive sulphides: 80% sulphide, mostly po with brecciated fragments of	
(1554	1584.5)			green, f.g. chloritic volcanics & light gray chert (below 477.62m (1567')	
				Cp to 5-6% as irregular c.g. blebs in po & as smaller irregular blebs	
				around gangue. Magnetite very minor.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	COMPOSITES
78407	1350	1360	10	0.49	0.16	
08	1360	1370	10	0.42	0.18	
09	1370	1380	10	0.46	0.19	
10	1380	1390	10	0.54	0.19	
11	1390	1400	10	0.38	0.23	
12	1400	1410	10	0.46	0.24	
13	1410	1420	10	0.42	0.25	
14	1420	1430	10	0.50	0.22	
15	1430	1440	10	0.48	0.21	
16	1440	1450	10	0.35	0.20	
17	1450	1460	10	0.49	0.16	
18	1460	1470	10	0.32	0.13	
19	1470	1480	10	0.52	0.12	
20	1480	1490	10	0.45	0.11	
21	1490	1500	10	0.21	0.055	
22	1500	1510	10	0.48	0.092	
23	1510	1520	10	0.28	0.071	
24	1520	1530	10	0.18	0.055	
25	1530	1540	10	0.23	0.11	
26	1540	1550	10	0.30	0.096	
27	1550	1560	10	0.42	0.17	
28	1560	1570	10	0.66	0.15	
29	1570	1580	10	0.34	0.15	
30	1580	1590	10	0.32	0.11	

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

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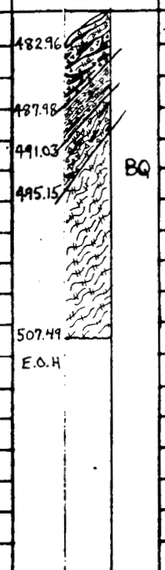
HOLE No: 9/82 Page # 8 of 8
Sheet of
Logged by
Sampled by
Driller

FOOTAGE FROM	FOOTAGE TO	RECOV'Y RQD	RECOV'Y Core	DESCRIPTION
482.96	487.98	46%	96%	Mixed brecciated green chloritic volcanics & light green to gray chert(chert
(1584.5	1601)			dominates). Some of the chert may be bleached & silicified altered volcanics.
				Sulphides total 35% as stringers & semi-massive concentrations. Po dominates
				but cp is fairly abundant as fracture fillings & at the margins of cherty
				breccia fragments. Cp 8-12%.
487.98	507.49	40%	94%	Mostly chloritized foliated volcanics with minor silicified sections or
(1601	1665)			cherts plus possible argillite.
487.98	491.03	22%	89%	Dark gray to black, sheared, silicified argillite(?) Strongly fractured &
(1601	1611)			broken. Disseminated blebs & scattered veinlets of po,py,cp (15% overall).
				Cp 5-6% as c.g. blebs.
491.03	495.15	10%	93%	Light green to gray cherts & silicified chloritic volcanics cut by stringers
(1611	1624.5)			pods & disseminations of po + cp. Chloritic shear planes are
				abundant. Fractured & blocky core. Sulphides total 10-15%.
495.15	507.49	55%	96%	Massive but foliated, f.g. highly chloritized light green volcanics(?) Very
1624.5	1665)			minor sulphides except for sporadic quartz veins with disseminated po. Some
				very minor disseminated po grains through the rock. Less than 2-5% sulphides
				overall.

E.O.H. 507.49m (1665')

INTERSECTION ANGLE

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	COMPOSITES
7843	1590	1600	10	1.40	0.054	
32	1600	1610	10	2.72	0.016	
33	1610	1620	10	2.48	0.016	
34	1620	1630	10	0.11	0.088	

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing
	-45°	229°
45.72m.	-45°	
106.68 m.	-45°	
154.53 m.	-45°	
224.03 m.	-43°	
324.61 m.	-37°	
365.76 m.	-35°	
414.53 m.	-32°	

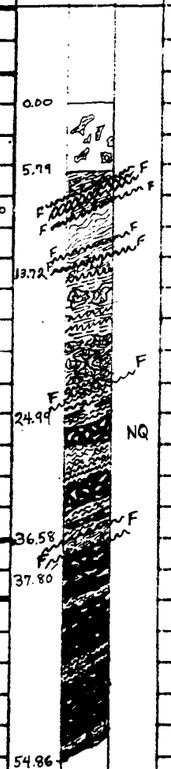
PROPERTY WINDY CRAGGY
Location Section M-M'
Elevation 1836m
Coordinates 11,051.00m N
9,435.64m E

Length 415.14m (1362ft.)
Hor. Comp. / Vert. Comp.
Bearing S49°W (229°)
Began Aug.1/1982 / Completed Aug 10/82
Core size NQ/BQ/ Recovery 86 %

HOLE No: 12-82 Page # 1 of
Sheet of
Logged by T. Heah
Sampled by T. Heah/P. Andexer
Driller Longyear Fly 38 (rig #2)

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
0.00	13.72	0%	38%	Interbedded black argillite & calcareous siltstone. In places silicified,also	
(0	45)			sheared & faulted.	
0.00	5.79	0%	29%	Casing: Poor recovery. Fragments of black weathered argillite.	
(0	19)				
5.79	13.72	0%	45%	V.f.g. black argillite with thinly interbedded grey calcareous siltstone.	Bedding =50°
(19	45)			Beds are boudinaged in places with some shearing & silicification. Well	
				fractured overall with several zones of intense fracturing. Rusty coatings	
				common on fracture planes.	
				7.47 - 7.62m: Boudinaged, sheared, silicified argillite.	
				7.62 - 9.14m: Fault zone	
				9.14 - 9.60m: Sheared silicified,boudinaged black calcareous argillite.	
				9.60 - 9.91m: Fault zone	
				12.65m: Fault zone	
				13.72m: Fault zone	
13.72	24.99	0%	28%	Fault zone in dominantly altered pyritic, chloritic volcanics.	
(45	82)				
13.72	24.99	0%	28%	Grey-green m.g. altered volcanic. Chlorite aggregates replacing phenocrysts.	
(45	82)			Pyritic veins & boxworks are common. Rusty coatings occur in the extensive	
				fractures & clay development is widespread often forming a soft sticky	
				groundmass in which remnant volcanics are found. The entire section may be	
				considered part of a large weathered fault zone.	
24.99	54.86	2%	25%	Fault zone: extensive clay formation, angular quartz, volcanic & argillite	
(82	180)			clasts cemented by f.g.? secondary pyrite. Strong secondary? pyrite with depth.	
24.99	36.58	0%	22%	Soft sticky clays (yellow to brown) interspersed with massive f.g. granular	
(82	120)			& occ friable secondary pyrite. In places angular lithic fragments & qtz	
				"pebbles" are cemented by f.g. vuggy pyrite, sometimes black in colour,	
				giving appearance of a "collapse breccia" re-cemented by sulphides. Fault	
				zone.	
36.58	37.80	0%	48%	Massive yellow-green soft clays & fibrous soft mineral: Radiating silky	
(120	124)			fibres.Hardness: less than 2 probably serpentine.Probable Fault zone.	
37.80	54.86	3%	25%	Mostly massive py with hematitic siliceous "pebbles" re-cemented by py.	
(124	180)			Pyrite tends to be very f.g. granular & friable,often rapidly decomposing	
				to pyrite sand after recovery. Minor po noted in more massive portions as	
				irregular stringers with cp in veins e.g. 40.84-43.59m (134-143ft). Even	
				massive sections of core are somewhat friable, strongly fractured with	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	Cu%	Co%	Zn%	Ag oz/ton	Au oz/ton
78504	80	90	10	3.33	0.053	0.56	4.32	0.025
505	90	97	7	1.85	0.11	0.08	0.05	0.020
576	97	108	11	2.06	0.072	1.48	2.04	0.020
506	108	118	10	0.21	0.03	0.08	2.28	0.075
507	118	121	3	0.60	0.038	0.16	1.88	0.080
577	121	126	5	0.07	<0.005	0.04	<0.05	0.002
578	126	136	10	1.87	0.044	0.09	0.09	0.015
579	136	148	12	1.30	0.070	0.04	0.13	0.010
508	148	158	10	0.23	0.080	0.04	6.03	0.040
509	158	168	10	0.48	0.11	0.02	0.09	0.010
510	168	178	10	0.77	0.079	0.12	0.09	0.010

GRAPHIC LOG LEGEND

- Limestone
- Argillaceous Limestone
- Silty Limestone
- Siltstone
- Argillite
- Calcareous Argillite
- Intermediate volcanic flow/tuff
- " , porphyritic
- " , cherty or silicified
- Chert, silicified breccia
- Gossan
- Sulphides

ABBREVIATIONS and SYMBOLS

po	
py	pyrite
cp	chalcopyrite
occ.	occasional
nmrs.	numerous
qtz.	quartz
dissem.	disseminated
RQD	Rock Quality Description
F~~~F	Fault or Shear Zone

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar	-54°	N58°E
	Borehole surveys listed at end of Log	

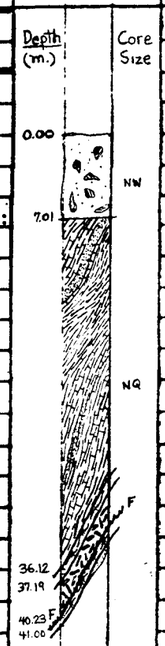
PROPERTY Windy Craggy
Location Section I-I
Elevation 1866m
Coordinates 10,572.02m N
9,451.56 E

Length 616m (2021ft)
Hor. Comp. / **Vert. Comp.**
Bearing N 58° E
Begun July 10/82 / **Completed** Aug.6/82
Core size NQ/BQ / **Recovery** 88 %

HOLE No: 11-82 Page #1 of 12
Sheet of
Logged by T. Heah
Sampled by T. Heah/P. Andexer/T. Chandler
Driller Longyear 44 Rig #1

DEPTH metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
0	139.60	53%	88%	Argillites, siltstones, calcareous argillites and argillaceous limestones	
(0	458')			with occ. sections of interbedded volcanic flows/tuffs.	
0	7.01			Casing (NW). Fragmented core - mostly black argillite with calcite stringers	
(0	23')			and veins.	
7.01	36.12	76%	93%	Black calcareous argillite with thinly interbedded grey calcareous siltstone	Schistosity:
(23	118.5)			and argillaceous limestone. The black calcareous argillite dominates as a	5-10°
				v.f.g. to aphanitic schistose rock with thin (1mm to 1cm) laminae/beds	Veins: :
				of grey calcareous siltstone and argillaceous limestone, occurring both in	5-10° &
				continuous beds and as elongated lensoids. Py occurs throughout but is most	45-50°
				abundant within the thin bedded siltstones and limestones. The py occurs as	Fractures:
				disseminated f-m.g. elongate blebs (up to 3mm long axis) paralleling schis-	10°,20°,30°
				tosity (which parallels bedding). Minor py occurs as spheroids. Total pyrite	75°
				content is 10%. Calcite ± py veins are common both parallel and crosscutting	
				the schistosity, widths 0.5-3mm. Minor slip planes and fractures are	Bedding:
				observed throughout with highly variable attitudes. Most fracture/joint	20m = 5°
				planes are coated with iron oxides.	32m = 10°
				Below 9.75m po is observed both disseminated & in cross-cutting veinlets	
				up to 10% in places. Most abundant in calcareous siltstones which	
				increase in bedding frequency & thickness. Po is slightly coarser	
				grained than the py but is also elongated // foliation.	
				10.1-10.4m Possible truncated cross beds & channel fillings in finely	
				interbedded argillite and siltstone	
				Below 15.24m: calcite-filled tension gashes common.	
				15.85-16.46m: Graded bedding, truncated cross-bedding & channel fillings	
				Below 26.52m: Calcite veins & stringers more abundant as well as fibrous	
				gypsum in hair-fine veinlets & stringers, fibers ⊥ vein walls. Blocky	
				fracturing, jointing & iron oxide coatings more abundant.	
36.12	37.19	0%	62%	Dark green, m.g. tuff. Strongly fractured with limonitic coatings on frac-	
(118.5	122)			ture planes. Chlorite aggregates pseudomorphous after pyroxene(?) through-	
				out. Calcite veins common at irregular attitudes (to 2mm wide). Apparent	
				silicification with green chert/chalcedony bands & veins up to 2cm thick.	
				Py present as fine disseminated grains to 5%.	
37.19	40.23	11%	66%	Hornblendite (gabbro?) dyke. Dark green to black, m.g. unfoliated but frac-	
(122	132)			tured. Probably originally hornblende & plagioclase. Now altered to calcite,	
				epidote chlorite ± clays with remnant altered hornblendes. Soft & friable.	
40.23	41.00	7%	63%	Dark green, chloritized tuffs(?) as previous: 36.12-37.19. First 30cm is	
(132	134.5)			extremely sheared and broken - probable fault or shear zone.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft

ASSAYS COMPOSITES

GRAPHIC LOG LEGEND

- Limestone
- Argillaceous Limestone
- Silty Limestone
- Siltstone
- Argillite
- Calcareous Argillite
- Intermediate volcanic flow/tuff
- " , porphyritic
- " , cherty or silicified
- Chert, silicified breccia
- Gossan
- Sulphides

ABBREVIATIONS and SYMBOLS

po	
py	pyrite
cp	chalcopyrite
occ.	occasional
nmrs.	numerous
qtz.	quartz
dissem.	disseminated
RQD	Rock Quality Description
F~~~F	Fault or Shear Zone

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

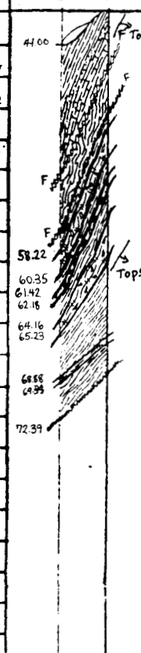
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No:
Page # 2 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
41.00	58.22	72%	94%	V.f.g. black calcareous argillite with thinly interbedded (1mm to 2cm) grey	
(134.5	191			f.g. calcareous siltstones. Slaty schistosity is well-developed sub parallel	Schistosity
				to bedding. Py occurs both as disseminated lenticular blebs // foliation &	or cleavage
				as py-rich silty beds. Py totals 5-10%. The rocks are cut by numerous irreg.	20°
				calcite-qtz & py-calcite veins cut in turn by later gypsum-filled veinlets.	Bedding:15°
				41.76-42.06m: Intense calcite veining, fractures, calcite-filled tension gashes.	
				49.68m: Graded bedding, crossbedding: indicates tops in down-hole direction.	
				51.51-52.27m: Shear/fault zone. Brecciated argillite, calcite, clays. Iron oxides.	
				Below 52.27m: Strong deformation, minor faults, folds some brecciation	
				56.39-56.69m: Shear zone. Fault gouge.	
58.22	72.39	68%	96%	Section of interbedded variable volcanics (flows, tuffs) with calcareous	
(191	237.5)			argillites & argillaceous limestones similar to previous rocks. Contacts	
				between volcanics & sediments may be sharp but tend to be brecciated with	
				strong calcite veining indicating some bedding plane movement or slippage.	
				The calcareous argillites are generally uniform, black, v.f.g. rocks with	
				laminae of limestones or siltstones. Well developed schistosity parallels	
				bedding. Disseminated py occurs throughout the argillites to minor degree.	
				58.22-60.35m: Green-gray, m.g. massive porphyritic flow. Ghosty pheno-	
				crysts, filled with chlorite & calcite. Po(5%)+py(2%)	
				finely disseminated. Contact zone at 60.20-60.56 contains	Contact at
				calcite & angular argillite fragments.	61.42m = 45°
				61.42-62.18m: Porphyritic flow as 58.22-60.35m. Angular argillite frag-	
				ments at 61.42m in flow.	
				62.18-64.16m: Calcareous argillite as previous. Dissem. py <1%.	Contact at
					64.16m = 23°
				64.16-65.23m: Green-gray? crystal tuff. Up to 30% shardy crystals re-	
				placed by calcite in f.g. gray calcite-rich matrix. 5%	
				dissem. po. Chlorite in cavities & more chloritized at	
				end. Upper & lower contacts are slightly brecciated,	Contact at
				calcite lined. Some gypsum veins at lower contact.	65.23m = 20°
				65.23-68.88m: Calcareous argillite. 1.0mm to 1.5cm thick beds of lime-	
				stone & siltstone. Abundant py blebs elongated // schis-	
				tosity. Calcite veins. Graded bedding at 65.50m indicates	
				tops towards bottom of hole.	
				68.88-69.34m: Grey-green f.g. tuff-calcareous, chloritized, fractured.	
				V. minor py, po. Lower & upper contacts with argillite	Contact at
				are slightly brecciated, calcite filled.	69.34m = 40°
				69.34-72.24m: Calcareous argillite as previous. Dissem. py to 5%. Nmrs	
				calcite & occ. gypsum veinlets. Sporadic sections of de-	
				formed & brecciated calcite - py veining.	
				72.24-72.39m: Fault/Shear zone in blocky m.g. green-gray tuff.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft

ASSAYS

COMPOSITES

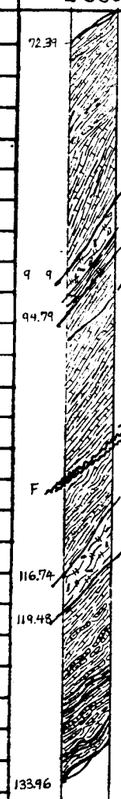
DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing			
Collar			PROPERTY	Length	HOLE No: 11-82 Page# 3 of 12
			Location	Hor. Comp. / Vert. Comp.	Sheet of
			Elevation	Bearing	Logged by
			Coordinates N	Begun /Completed	Sampled by
			E	Core size /Recovery %	Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
72.39 (237.5	91.29 299.5)	53%	95%	Dominantly calcarous argillite, black v.f.g. schistose with some interbedded calcareous siltstone especially in first metre. Numerous lensoid light grey calcareous "boudins" occur in the black argillite giving a conglomeratic appearance. These boudins are elongated parallel to schistosity & bedding. Elongate py blebs also parallel schistosity. Patchy zones of intense calcite (±py) veining, fracturing & brecciation are observed. 76.20-78.03m: Blocky fracturing. Some minor folds with axial plane cleavage subparallel to bedding.	
91.29 (299.5	94.79 311)	25%	82%	Mixed volcanic flows & black calcareous argillite. Volcanic/sediment contacts are sheared and/or brecciated with much calcite veining & angular fragments of both volcanics & argillite. Volcanics are altered, chloritized. 91.49-93.27m: Porphyritic(?) flow: green-gray, f.g., chloritized and silicified in patches. Calcite-replaced phenocrysts or amygdules& numerous calcite veins. Finely disseminated py. 92.66-92.96m: Coarse calcite in shear. 93.27-94.03m: Black, aphanitic calcareous argillite. Upper & lower contacts sheared brecciated & calcite-veined. Some po in calcite at lower contact. 94.03-94.79m: Green-gray f.g. chloritized flow? Calcite-filled amygdules in green aphanitic matrix. Disseminated subhedral py to 5%.	
94.79 (311	116.74 383)	46%	88%	Interbedded black v.f.g. calcareous argillite with lesser grey calcareous siltstone & minor grey f.g. argillaceous limestone. Well bedded, good slaty cleavage in places parallel to schistosity defined by elongate disseminated py blebs & calcite. Bedding thickness ranges from 1mm to 15cm or more. Calcite ± py veins or stringers are common. Conformable py laminae/beds (1cm thick) at 96.77 to 97.08m. 99.06-99.36m: Graded beds in argillite-siltstone indicate tops in down-hole direction. Cyclic bedding, py-rich at base. 108.20-108.51m: Graded bedding indicates tops in down-hole direction. 108.51-109.12m: Shear zone?	Bedding= 20°
116.74 (383	119.48 392)	36%	90%	Grey green massive f.g. flows, chloritized. Calcite blebs-possibly amygdular infillings or replacing phenocrysts? Some patchy chlorite aggregates. One interbedded section of calcareous argillite 117.96-118.26m. Volcanic/argillite contacts are lined with calcite. Flows bear 3% dissem. po.	Volcanic-contact=45°
119.48 (392	133.96 439.5)	34%	87%	Interbedded black v.f.g. to aphanitic calcareous argillite & grey f.g. argillaceous limestone. Well developed schistosity outlined by stretched py blebs, calcite blebs & boudined limestone. Argillaceous limestone increases in relative abundance down-hole & tends to form discontinuous beds-stretched & warped sometimes boudinaged. Boudins display wispy or feathered ends, paralleling foliation. Py occurs as disseminated elongate	Bedding at 122m = 25° Bedding at 127m = 30°

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS	COMPOSITES

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

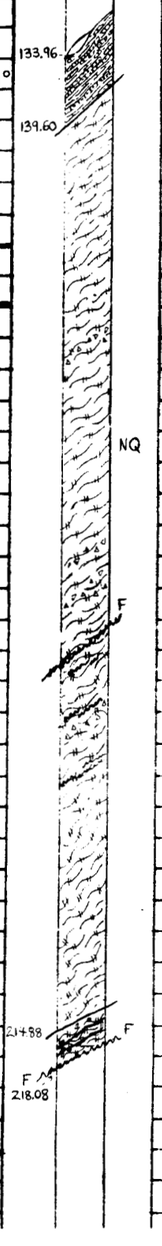
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 11-82 Page # 4 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
119.48	133.96			CONTINUED FROM PAGE 3	
				blebs & occ. euhedral crystals up to 4mm. From 126.64 to 128.63m py forms	
				conformable laminae & beds up to 5cm in thickness.Some soft sediment loading	
				of py into calcareous argillite. Deformed py layers up to 1cm thick also	Bedding at
				occur between 131.37 & 132.28m. Minor spheroidal py blebs observed.	131.50m=20°
133.96	139.60	50%	95%	Grey f.g. argillaceous limestone beds & rounded to ovoid "boudinaged" lenses	
(439.5	458)			suspended in v.f.g. black calcareous argillite. Minor thin beds of calcareous	Bedding=40°
				siltstone. Py occurs as cross cutting veinlets, linear seams of spheroidal	
				blebs parallel to bedding & as conformable thin beds (135.33-135.94). The	
				lensy character of the limestone becomes less pronounced, more uniformly	
				bedded with depth.	
139.60	218.08	66%	98%	Massive grey-green tuffs grading into more altered chloritized tuffs & flows	
(458	715.5)			bearing stringer sulphides.	
139.60	214.88	67%	98%	Sequence of massive, f.g.- m.g. grey-green volcanic tuffs & possible flows.	
(458	705)			Slightly chloritized with tendency to increasing chlorite content with depth.	
				Mottled texture resulting from patchy chlorite & calcite-replacement altera-	
				tion. Suggestions of original crystals and/or rock fragments in f.g. matrix	
				now replaced by calcite ± chlorite. Contact with preceding sediments is	
				sharp & bears a thin band of massive po. Py occurs as <1% finely dissemin-	
				ated v.f.g. blebs in tuff & within py-chalcedony or py-calcite veinlets.	
				Marked chloritization is observed around such veinlets with py often form-	
				ing a vein selvage & a f.g. disseminated envelope in the chlorite alteration	
				envelope. cf. 176.78-176.94m, 177.39-177.70m, 178.31-178.46m, 180.54-180.75m.	
				Below 180.75m chloritization around calc-qtz-py veining becomes increasingly	
				common. Some silicification of volcanics in areas of more intense veining.	
				Minor dissem. po & rare cp associated with some veins. Strong fracture zones	
				occur at 184.1-184.71 (fault zone?), 185.17-185.62m, 189.28-189.59m and	
				193.85-194.46.	
214.88	218.08	41%	93%	Dark green, v.f.g. chloritized & occasionally silicified andesitic flows(?).	
(705	715.5)			Vesicular patches filled with chlorite possibly after pyroxene. Rusty coated	
				fractures & numerous Qtz ± calcite veins up to 2.5cm width-some with qtz.	
				crytallizing perpendicular to vein walls (extensional). Sulphides are dom-	Sulphide
				inantly po with lesser py & cp to 15-20% total as veins bands & blebby	banding at
				patches. Cp occurs only with c.g. po. Py generally occurs in cross cutting	50-55°
				qtz ± calcite veinlets. Schistosity defined by elongate py, po blebs.	
				217.93-218.08: Fault gouge + breccia including fragments of underlying	
				sediments.	
218.08	273.10	73%	99%	Interbedded grey, f.g., calcareous siltstones & black v.f.g., calcareous	
(715.5	896)			argillites.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft

ASSAYS

COMPOSITES

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

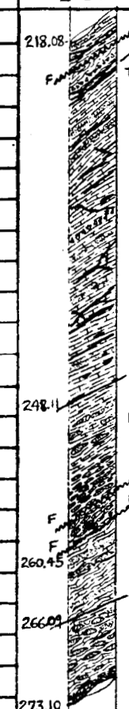
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 11-82 Page # 5 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
218.08	248.11	77%	99%	Thinly interbedded (1mm to 2cm) calcareous siltstones & calcareous argillites	
(715.5	814)			with well developed slaty cleavage in argillites & foliation defined by	Bedding at
				stretched py & po blebs. Nmrs calcite and/or quartz veins in places producing	220m=40°
				brecciated appearance. Po & py are disseminated throughout.Py & po + v.minor	
				cp occur as semi-massive stringers, patches & massive bands from 218.85 -	
				219.46m, 222.20-223.11 (po rip-up clasts(?) & load structures indicate tops	
				in down-hole direction). Below 227.08m po dominates as numerous stringers &	Bedding at
				massive bands as well as disseminated blebs. Py occurs as disseminated blebs	230m = 65°
				and cp occurs sporadically within the po bands. Some graded bedding in po	
				bands. Some graded bedding in po bands also indicates tops in down-hole	
				direction. Sulphides compose 25-30% overall with po most abundant.	
				220.37-220.52m: Fault gouge	
				221.89-221.97 & 234.7-234.85m: f.g. light green, aphanitic siliceous tuffs.	
248.11	260.45	73%	100%	Conglomeratic f.g.-m.g. grey siltstones (calcareous in parts) within a	
(814	854.5)			matrix of calcareous to non-calcareous v.f.g. black argillite.The siltstone	
				forms sub rounded "clasts" or nodules in the argillite. Clasts are elongated	
				parallel to crudely developed foliation as outlined by elongate po blebs.	
				Po also forms stringers & appears in cross cutting Qtz-calcite veins.Traces	
				cp in po veinlets, occasionally rimmed by po. Minor dissem. py. Sulphides	
				5-10% max.	
				249.33-254.51m: Siltstone clasts up to 5-6cm across. Length to width	Bedding=40°
				ratios from 1.5:1 to 2:1.	
				254.51-259.69m: Clasts are calcareous much more abundant than argillite	
				matrix.Edges of clasts are feathery-resembling pull-apart	
				structures.	
				258.01-258.17m: Graphitic Fault zone in enveloping strong fracture zone.	
				260.30-260.45m: Fracture zone.	
260.45	266.09	66%	99%	Dominantly v.f.g. black, schistose calcareous argillite with minor inter-	
(854.5	873)			bedded grey calcareous siltstone, only minor nodular forms. Py & po occur	
				mostly in fine stringers & minor fg dissem. blebs. Nmrs. Qtz-calcite veins.	Bedding=60°
				Below 263.65m sulphides are mostly po in stringers & blebs ≦10%. Foliation	
				is parallel to bedding.	
				263.96-264.26m: Intense veining-po qtz-calcite veins.	
266.09	273.10	59%	98%	Conglomeratic f.g.-m.g. calcareous siltstone in black v.f.g. calcareous	
(873	896)			argillite as previous (248.11-260.45m) Sulphide veinlets & dissem. blebs	
				≦10% po, <1% cp, 1% py. Nmrs Qtz-calcite veins. Final 60cm is cherty,	
				silicified argillite interbedded with dark green cherts with po veins &	
				stringers.	
273.10	291.85	43%	60%	Massive sulphides with minor interbedded silicified argillite & cherty	
(896	957.5)			tuffs. Some open cavities.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS	COMPOSITES

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

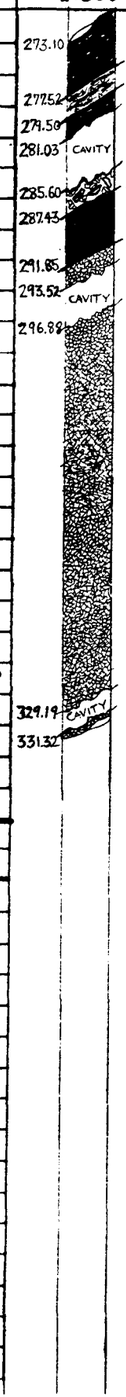
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 11-82
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
273.10	277.52	59%	81%	Massive sulphides, >90% in <10% pale green cherty matrix. Sulphide mineralogy	
(896	910.5)			is 65% py, 25-30% po & 5-10% cp. Some relict bedding preserved in sulphides.	
				Cp occurs in stringer-type blebs in po-rich bands & as f.g. disseminations	
				in py. Cp also tends to concentrate near gangue fragments. Nmrs qtz±calcite	
				veins & some rusty, occ slick 'n' sided fractures.	
277.52	279.50	73%	92%	Silicified, sheared, cherty black argillites with some cherty green sections	
(910.5	917)			possibly tuffs. 30% sulphides as bands, stringers & patchy blebs of po, v.	
				minor py & 1%cp.Po is smeared out on slick 'n' sided shear planes.	
279.50	281.03	73%	92%	Massive sulphides as previous (273.10 - 277.52m)	
(917	922)				
281.03	285.60	0%	0%	Open Cavity. No core.	
(922	937)				
285.60	287.43	8%	8%	Poor recovery. Only 15cm recovered of altered cherty volcanics.	
(937	943)				
287.43	291.85	64%	98%	Massive sulphides. Similar to previous: >90% sulphide in cherty green matrix	
(943	957.5)			with minor bands of chloritic material-probably chloritized volcanics.	Sulphide
				Sulphides are dominantly f.g.-m.g. pyrite with numerous bands of po. Po	bands=45-50°
				averages 30-35% over the zone, pyrite 50%, cp 8-10%. Cp occurs as c.g. blebs	
				along margins of po-rich bands, in & around siliceous gangue fragments & as	
				f.g. disseminations in the py.	
291.85	331.32	5%	24%	Gossan: siliceous iron-oxide boxwork & open cavities.	
(957.5	1087)				
291.85	293.52	0%	45%	Gossan. Vuggy, crumbly iron oxides & iron oxide stained siliceous boxwork	
(957.5	963)			Very poor recovery.	
293.52	296.88	0%	0%	Open Cavity. No core.	
(963	974)				
296.88	329.19	6%	26%	Gossan as previous. Very poor recovery.	
(974	1080)				
329.19	331.01	0%	0%	Open Cavity. No core.	
(1080	1086)				
331.01	331.32	0%	42%	Gossan. As previous.	
(1086	1087)				

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%
78330	896	906	10	2.41	0.050
331	906	917	10	3.16	0.084
332	917	922	5	1.50	0.040
333	937	943	6	0.09	0.010
334	943	947	4	2.64	0.064
335	947	957	10	2.64	0.084
336	957	977	10	1.12	0.038
337	977	997	20	0.15	<0.005
338	997	1017	10	0.12	<0.005
339	1017	1031	14	0.11	<0.005
78370	1031	1051	20	0.09	0.008
371	1051	1071	20	0.11	<0.005
372	1071	0180	9	0.11	0.008

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

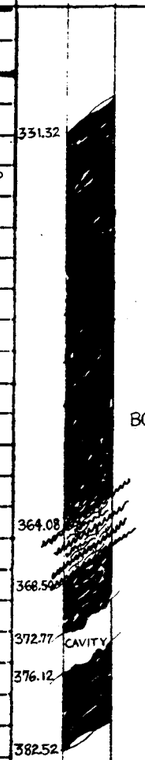
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 11-82
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres. (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
331.32	376.12	50%	84%	Massive Sulphides: py dominant with po rich bands. Accessory stilpnomelane &	
(1087	1234)			magnetite. Minor shear zones with chloritized volcanics. One open cavity.	
331.32	364.08	58%	96%	Massive sulphides: Generally pyritic sulphides with numerous bands & layers	Sulphide
(1087	1194.5)			of po. Cp occurs as f.g. disseminations in py, as c.g. blebs in & as selvage	banding
				to po bands, also as discrete veinlets & concentrations in & around, siliceous	335m=30-35°
				gangue. Some massive pyrrhotite bands bear disseminated c.g. pyrite often as	
				rounded aggregates. Below 334.98m magnetite occurs as anastamosing veins,	Sulphide
				bands & patchy segregations, often intimately associated with c.g. cp. Sili-	bands at
				ceous cherty bands, veins & pods are common as well as vein-like fillings of	352m = 45°
				dark green to black vitreous, brittle, platy material -probably stilpnomelane.	Sulphide
				Massive po bands at 331.93, 333.30, 340.00, 343.81-345.49, 349.15, 352.35	bands at
				352.65 + nmrs veins & laminae.	363m =
				333.15m: Cp in qtz filled tension gashes.	35-40°
				Abundant chlorite & chloritic fragments near end of section.	
364.08	368.5	14%	34%	Fault zone: in sheared chloritic volcanics, brecciated, gouged, with clay	
(1194.5	1209)			development & quartz veining	
368.5	372.77	30%	49%	Massive sulphides: 80% sulphides 20% Qtz veins, matrix, stilpnomelane. Trace	
(1209	1223)			magnetite. Sulphides are predominantly pyrite: 60-70% py, 20-25% po & 5-10%	
				cp. Po occurs intermixed with py & as discrete bands bearing spheroidal py	
				& euhedral py + irregular wavy cp blebs. Stilpnomelane occurs with & without	
				chlorite as sheared patches, vein-like fillings & fracture-fillings. Some cp	
				is associated with stilpnomelane as well as qtz veins. Py tends to be	
				coarser grained than the po.	
372.77	376.12	0%	0%	Open Cavity. No core.	
(1223	1234)				
376.12	391.97	42%	88%	Massive pyrrhotite-rich sulphides with interbedded layer of volcanic flows.	
(1234	1286)				
376.12	382.52	33%	80%	Massive sulphides, dominantly pyrrhotite. Composition overall is 60% po,	
(1234	1255)			20% py, 5-10% cp + 5-10% magnetite, stilpnomelane, siliceous gangue in	
				variable proportion through the section. Py rich bands occur throughout.	Sulphide
				Some vuggy sections occur e.g. 376.12-376.28m, 379.78-380.09m. Parts of the bands	
				zone display crude banding, possibly original textures. Py occurs as dissem	380m = 35°
				cubes in massive po. Cp occurs as irregular, m.g.-c.g. wispy blebs in po, as	
				selvages to Qtz veins at contacts between py &po bands & in siliceous gangue	
				patches.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz./ton	Au
78373	1086	1094	8	1.63	0.13			
78435	1094	1104	10	1.39	0.13			
436	1104	1114	10	1.20	0.11			
437	1114	1124	10	1.50	0.11			
438	1124	1134	10	1.50	0.11	<0.01	0.09	0.002
439	1134	1144	10	1.58	0.097		0.09	
440	1144	1154	10	1.66	0.092	0.01	0.05	0.002
441	1154	1164	10	1.89	0.091		0.05	
442	1164	1174	10	1.50	0.075	<0.01	0.05	0.002
443	1174	1184	10	1.58	0.083		0.05	
444	1184	1194	10	1.89	0.081	0.01	0.05	0.002
445	1194	1204	10	0.75	0.013		<0.05	
446	1204	1214	10	0.02	0.007		<0.05	
447	1214	1224	10	2.45	0.062	0.01	0.05	0.002
448	1234	1244	10	2.00	0.087		<0.05	
449	1244	1254	10	2.87	0.12	0.03	0.05	0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

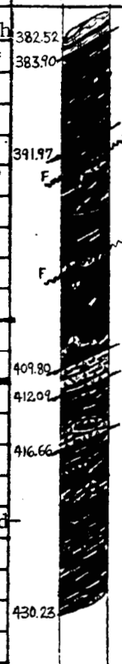
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 11-82 Page # 8 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
382.50	383.90	37%	93%	Dark green, f.g.-m.g. massive chloritized flows. Chlorite-filled amygdules.	Contact with
(1255	1259.5)			Bears a 30cm layer of massive banded sulphides, po & py subequal.	Sulphides =
					45°
383.90	391.97	50%	93%	Massive Sulphides. Dominantly po. Very similar to previous section 376.12-	
(1259.5	1286)			382.52m. More magnetite as veins & stringer-like bands especially towards	Sulphide
				bottom of zone. Py in discrete massive bands but usually as spheroidal &	banding 48°
				cubic grains in massive po. Stilpnomelane occurs in both veinlike form & as	Foliation
				matrix to c.g. py. Cp 5-10% blebs in po & conc. blebs in siliceous gangue	= 50°
				& Qtz veins.	
391.97	409.80	70%	100%	Massive py-rich sulphides. Some po rich bands.	
(1286	1344.5)				
391.97	409.80	70%	100%	Massive sulphides: py dominant, f.g. to c.g. with occ.po-rich bands bearing	Sulphide
(1286	1344.5)			disseminated py blebs. Siliceous cherty matrix to sulphides in places. Some	banding at
				chert siderite bands and/or veins. Scattered magnetite pods & stilpnomelane	400m=45°
				forming veins & matrix to py. Cp disseminated in py as m.g. blebs in po &	Sulphide band
				in coarse blebs in siliceous gangue.	in at 405m
				393.65m: Fault gouge	40°
				402.03m: Shear zone with clay development.	
409.80	430.23	46%	85%	Semi-massive to massive pyritic sulphides in green cherts or cherty tuffs.	
(1344.5	1411.5)			Includes vuggy partially oxidized zone with supergene chalcocite.	
409.80	412.09	87%	100%	Stringer to semi-massive sulphides in green cherty f.g. tuffs.Sulphides are	
(1344.5	1352)			mostly py with subordinate po occurring in semi-massive bands, veins &	
				stringers. Probably 40% sulphides overall. Minor dissem. py cubes in the	
				tuff & minor cp veinlets.	
412.09	416.66	58%	89%	Massive to semi-massive sulphides in siliceous green cherty host-possibly	
(1352	1367)			tuff. Mostly massive py with minor stringer po f.g. dissem. cp down to	
				414.83. Lower section is semi-massive pyritic sulphides with occ. po-rich	
				bands in cherty host rock.Some narrow vuggy sections.	
416.66	430.23	35%	82%	Partially oxidized & supergene enriched vuggy semi-massive to massive	
(1367	1411.5)			sulphides in cherty(tuff?) host rock. Visible hypogene sulphides are mostly	
				py with much cp as cg patches & dissemination. Only very minor pyrrhotite	
				is observed in irregular bands & stringers. Vuggy zones are numerous,partly	
				connected, with only minor iron oxide coatings. Some vugs are fringed by	
				py, others are partially filled by a soft black powdery mineral or occ.	
				vein-like blue-black metallic mineral - undoubtedly chalcocite. Some dark	
				brown metallic patches may be mixtures of intergrown hematite & chalcocite.	
				Chalcocite most abundant from 417m to 427.35m. Minor magnetite in places.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz/ton	Au
450	1254	1264	10	1.34	0.12		<0.05	
451	1264	1274	10	2.31	0.12	0.03	0.05	0.002
452	1274	1284	10	1.88	0.10		<0.05	
453	1284	1294	10	2.83	0.10	0.02	0.05	0.002
454	1294	1304	10	1.33	0.084		0.05	
455	1304	1314	10	1.03	0.067	0.02	0.05	0.002
459	1314	1324	10	1.62	0.071		0.05	
457	1324	1334	10	1.75	0.050	0.02	0.05	0.002
458	1334	1344	10	2.16	0.058		0.05	
78460	1344	1354	10	1.26	0.038	0.02	<0.05	0.005
461	1354	1364	10	1.12	0.063		<0.05	
462	1364	1374	10	2.47	0.22	0.20	<0.05	0.002
463	1374	1384	10	11.6	0.23		<0.05	
464	1384	1394	10	14.2	0.21	0.10	0.05	0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

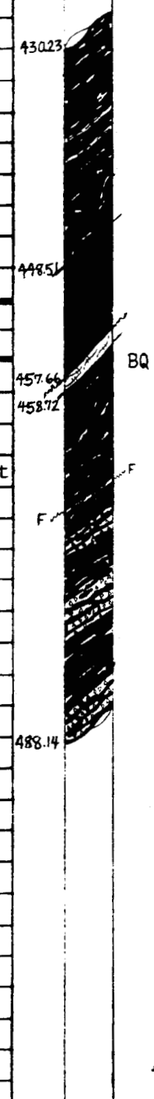
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 11-82 Page #9 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
416.66	430.23			CONTINUED FROM PREVIOUS PAGE	
				Cp averages 10-15% over the section with scattered patches up to 35% e.g.	
				417-417.88m. The section from 419.1m to 423.2m (1375' to 1388.5') runs close	
				to 20% cp. Lower part of the zone is much less vuggy & oxidized (below	
				427.35m (1402 ft)) but has a 15cm pod of semi-massive cp at end of the zone.	
430.23	448.51	66%	100%	Massive Sulphides: Po dominates overall with occ. py-rich zones. Cherty host	
(1411.5	1471.5)			rock with occasional chloritic sheared partings (remnant volcanics?).	
430.23	448.51	66%	100%	Massive sulphide in cherty, green to gray host rock. Sulphides dominantly	
(1411.5	1471.5)			po. Overall sulphide composition is 55-60% po, py 25%, cp 12-15%. Occ py-	
				rich seams & bands. Po forms dissem. blebs in py bands & vice-versa. Cp	Sulphide
				dissem throughout, in Qtz-chalcedony veins, in & around siliceous gangue &	bands at
				as discrete bands or stringers. Magnetite occurs as patchy disseminations &	439m = 45°
				occ. veins. Massive py bands occur from 434.95-437.54 & at 439.52m. Minor	
				stilpnomelane is observed in parts. Dark green chloritic volcanics form	
				thin partings (15-20cm width) at 438m & at 439.60m.	
448.51	495.76	80%	100%	Massive to semi-massive pyritic sulphides in cherty tuffs or siliceous vol-	
(1471.5	1626.5)			canics. Minor po-rich bands. Traces of sphalerite at depth.	
448.51	457.66	80%	100%	Massive pyritic sulphide with thin bands of po. Cp in stringers, qtz veins	Sulphide
(1471.5	1501.5)			& f.g. disseminations in py. Some well banded sections. Portions of the	bands at
				pyritic bands are c.g. subhedral aggregates due to recrystallization? Over-	451.5m=45°at
				all py 75%, po 15%, cp 5-10%.	456m = 38°
547.66	458.72	83%	100%	Dark green chloritized volcanics (flows?). Intensely veined by coarsely	Contact at
(1501.5	1505)			crystalline qtz-calcite veins with calcite forming margins of veins & show-	457.66m=48°
				ing crystal growth perpendicular to vein walls.Upper contact is very	
				sheared, chloritic.	
458.72	488.14	79%	100%	Massive pyritic sulphides with some semi-massive sections. Occ. narrow	Contact=40°
(1505	1601.5)			partings of chloritic sheared volcanics. Contact with above volcanics con-	Sulphide
				sists of coarser grained cubic py (to 2mm) grading downwards into finer	banding at
				grained py. Po rich bands are common occurring irregularly within the sec-	461.5m=50°
				tion. Cp also occurs in discrete bands in places but more often occurs as	@464m = 50°
				f.g. disseminations in pyrite or as c.g. blebs in siliceous veins, in po	@468m = 40°
				bands or around siliceous gangue fragments. Pyrite bands occ. display	@473m = 50°
				alternating f.g.-m.g. banding e.g. 466.35-468.93m. Siliceous veining is	@484m - 47°
				common in the sulphides, often with siderite ± magnetite or stilpnomelane	
				469m: 15-20cm zone of sheared, chloritic rock, poss original	
				volcanics. Shear zone?	
				Semi-massive sections are composed primarily of banded massive pyrite ±cp	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Pb%	Ag oz./ton	Au
465	1394	1404	10	7.56	0.17			<0.05	
466	1404	1414	10	1.64	0.12			0.05	0.002
467	1414	1424	10	1.80	0.064			0.05	
468	1424	1434	10	2.72	0.059			0.09	0.002
469	1434	1444	10	2.32	0.067			0.09	
470	1444	1454	10	2.55	0.090			0.09	0.002
471	1454	1464	10	3.05	0.080			0.09	
472	1464	1474	10	3.16	0.069			0.09	0.020
473	1474	1484	10	1.87	0.071			0.05	
474	1484	1494	10	2.84	0.086			0.13	0.002
475	1494	1504	10	2.16	0.051			0.09	
476	1504	1514	10	1.56	0.055	0.02		0.09	0.002
477	1514	1524	10	1.77	0.078			0.05	
478	1524	1534	10	2.75	0.067	0.01		0.13	0.002
479	1534	1544	10	1.43	0.046	0.01		0.05	
480	1544	1554	10	1.84	0.050	0.05	<0.01	0.13	0.035
481	1554	1564	10	2.35	0.060	0.03		0.13	
482	1564	1574	10	1.63	0.057	0.02	0.02	0.09	0.015
483	1574	1584	10	2.46	0.064	0.16		0.09	0.010
484	1584	1594	10	2.62	0.064	0.11		0.15	0.020

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing	PROPERTY	Length	HOLE NO.	Page # 10 of 12
Collar			Location	Hor. Comp. / Vert. Comp.	Sheet of	
			Elevation	Bearing	Logged by	
			Coordinates N	Begun /Completed	Sampled by	
			E	Core size /Recovery %	Driller	

DEPTH in metres FROM (ft)	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
458.72	488.14			CONTINUED FROM PREVIOUS PAGE	
				lesser po bands with intervening layers of green cherty (tuff?) rock.	
				Sulphides comprise > 50% of these zone, e.g. 471-37 - 473.35m, 476.55 -	
				479.76m & 485.85 - 488.14m.	
				Sphalerite is observed as isolated stringer-like blebs associated with qtz	
				and/or sideritic veins or bands. Sphalerite often appears to rim py & cp	
				blebs. Sphalerite noted at 473.35m (1553') & 482.65-482.80m (1583.5-1584')	
488.14	490.73	81%	100%	Pyrite stringer zone in dark green, silicified, v.f.g. cherty tuff(?). Minor	
(1601.5	1610)			siderite & magnetite veining. Pyrite bands & stringers abound + minor dis-	
				seminated py cubes.Approx. 40% py overall. Minor cp in pyritic veins(≅ 5%	
				total). Traces stilpnomelane.	
490.73	495.76	82%	100%	Stringer, semi-massive to massive pyritic sulphides in dark green to black	
(1610	1626.5)			cherty host rock in part silicified argillite. Numerous magnetite bands,pods	
				& veinlets. Subordinate Qtz-siderite veins. Traces stilpnomelane. Stringer	
				& dissem. f.g. cp in py & around siliceous gangue. Stringer zone of py +	
				minor po occurs in silicified black argillite from 493.93-494.69m(1620.5 -	
				1623').	
495.76	533.40	64%	97%	Stringer & semi-massive to massive py-rich sulphides in interbedded sequence	
(1626.5	1750)			of argillites siltstones, chloritic volcanics & cherty tuffs. Sulphides pri-	
				marily in cherty host rocks.	
495.76	504.14	73%	100%	Disseminated & stringer sulphides in cherty argillites,siltstones & minor	
(1626.5	1654)			chloritic volcanics. Beds range from <1mm to 3cm thick. Silicified sediments	Bedding @
				& volcanics compose 60% of zone, py 20%, po 15%, 2-3%cp, 2-3% Qtz-calcite	497m=53°
				± stilpnomelane. Py & po occur both as dissem. blebs & as massive bands con-	501m=35°
				formable to bedding or cross cutting stringers. Chloritized green volcanics	
				occur from 496.82m-497.65m & from 499.57m to 500.79m. Shear zone at 503.38m.	
504.14	513.59	60%	100%	Semi-massive sulphides (mostly py) with some massive zones in cherty argil-	
(1654	1685)			lites, minor siltstones, some cherty tuffs. Much stilpnomelane & qtz-chal-	Bedding=55°
				cedony veins. f.g to stringer type sphalerite in patchy irregular veinlets	
				esp. in zone. 507.5m-513.59m (1665-1685'). Sporadic cp blebs. Py 50%,	
				cherty argillites etc.:35-40%, cp,+ sphalerite 2-5%. Qtz, stilpnomelane, mag-	
				netite 5-10%.	
513.59	533.40	62%	95%	Massive to semi-massive pyritic sulphides with some minor interlayered	
(1685	1750)			cherty gray to black argillites. Approximately 75% py, 2-5% cp, 10% po &	
				10-13% gangue in overall composition. Numerous cross cutting quartz veins	
				Minor sphalerite also occurs from 1-4% as irregular stringer-like blebs	
				associated with qtz and/or calcite veins e.g. at 514.65m(1688.5'), 515.57-	
				516.64m(1691.5-1695'), 519.07m(1703ft), 520.60m(1708'), 523.34-523.95m (1717-1719ft)	

GRAPHIC 1:500

SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Pb%	Ag oz./ton	Au
485	1594	1604	10	1.06	0.044	0.01		0.19	
488	1604	1614	10	0.72	0.028	0.02		0.05	0.002
489	1614	1624	10	0.71	0.020	0.01		0.05	0.015
490	1624	1634	10	0.75	0.012	0.01		0.13	0.020
491	1634	1644	10	0.20	0.008	0.01		0.05	0.005
492	1644	1654	10	0.68	0.012	0.06		0.13	0.002
493	1654	1664	10	0.74	0.020	0.18		0.05	0.002
494	1664	1674	10	0.98	0.020	0.71		0.05	0.002
495	1674	1684	10	1.32	0.032	1.17		0.05	0.002
78496	1684	1694	10	0.70	0.028	0.33		0.15	0.025
497	1694	1704	10	1.03	0.032	0.27		0.15	0.015
498	1704	1714	10	0.94	0.020	0.36		0.15	0.020
499	1714	1724	10	1.29	0.020	0.48		0.23	0.030
500	1724	1734	10	2.73	0.012	0.08		0.19	0.010
501	1734	1744	10	1.02	0.008	0.03		0.19	0.005
502	1744	1749	5	1.02	0.008	0.04		0.19	0.002
503	1749	1754	5	0.11	0.004	0.20		<0.05	0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

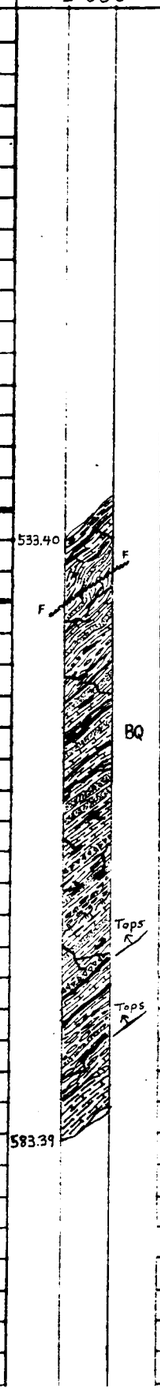
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 11-82
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
513.59	533.40			CONTINUED FROM PREVIOUS PAGE	
				Pyrrhotite occurs in distinct veins & bands scattered through the section, usually 1cm-3cm wide. Cp occurs as previous both in f.g. intergrowths with py, coarser stringer blebs in po & in Qtz veins & siliceous patches. Magnetite is locally abundant in pods & patchy stringers up to 20%. e.g. 525.48-526.24m (1724-1726.5') & 526.69-530.96m (1728 to 1742'). Some py occurs disseminated in massive magnetite (also cp & Qtz siderite veins & bands usually accompany the magnetite concentrations.	
				526.69-527.61m: (1728-1731'): Po increases to almost 50% & c.g. cp is abundant (to 10%) in stringer-like veins. Magnetite 10-15%	
				Below 530.96m (1742') becomes semi-massive & pyrrhotite rich with sulphides forming semi-massive bands & cross cutting stringers in a silicified black cherty host rock - probably siltstone or argillite originally. Some dark green, cherty tuff? at end of section.	
533.40 (1750	616.00 2021)	45%	98%	Interbedded black calcareous argillites, calcareous siltstones & limestones. Occ thin bedded volcanics (tuffs, flows). Stringer sulphides up to 30%. Mode: 15-20%	
533.40 (1750	583.39 1914)	51%	98%	Black v.f.g. calcareous argillite interbedded with thin grey calcareous siltstones & very occ thin bedded volcanics. Sulphides occur as stringers, veins blebby patches & occ conformable layers & trains of disseminated blebs. Po & py occur subequally with very minor cp. Sulphides are erratic in distribution with some narrow but massive lenses & some sections of only sparsely dissem blebs. Sulphides form perhaps 25-30% of the section overall. Some sections display small scale folding in sediments with boudinage of siltstone layers into clast-like elongate lenses. Occ Calcite-filled tension gashes.	Bedding at 534m=55° 535.5m=10° 536.5m=15° Banding of po+calcite at 540m = 43°
				533.40-534.0m: Boudinaged siltstone, wavy & stretched bedding. Conformable py bands.	Bedding at 546.8m=20°
				534.62-535.84m: Folded po bands // bedding.	553.2m=40°
				538.89m: Minor fault, py-lined.	560.0m=60°
				545.59-545.89m: "Clasts" of calc. siltstone 1mm to 1cm diameter.	570.7m=50°
				546.81m: Massive py vein/layer // bedding.	573.63m=50°
				549.86-550.77m: Massive py bands conformable to bedding. Py in tension gashes.	
				553.06-553.36m: As above.	
				561.14-561.31m: Lt green welded(?) tuff, subrounded qtz clasts to 30%	
				564.49-566.01m: Calc siltstone boudins to 2mm in length.	
				566.01-566.16m: Porphyritic mg green andesitic flow with qtz phenocrysts.	
				571.20-571.35m: Lt. green fg welded tuff with qtz clasts.	
				571.50m: Py band with load structures indicating tops towards top of hole.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft

ASSAYS

COMPOSITES

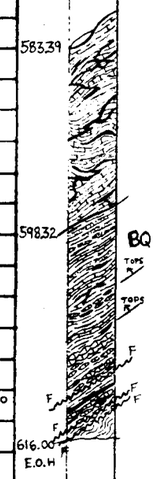
DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing			
Collar			PROPERTY	Length	HOLE No: 11-82 Page # 12 of 12
			Location	Hor. Comp. / Vert. Comp.	Sheet of
			Elevation	Bearing	Logged by
			Coordinates N	Begun /Completed	Sampled by
			E	Core size /Recovery %	Driller

DEPTH in metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
533.40	583.39			CONTINUED FROM PREVIOUS PAGE	
				573.63m: Py bands depressing bedding in argillite.	Bedding at
				575.0-580.03m: Boudinaged limestone beds present with calc. siltstone in	573.6m=50°
				argillite sequence. Cross cutting po veins + dissem py	576m = 33°
				blebs // bedding .	
				578m: Truncation of beds due to soft sediment load structures	
				indicates tops in up-hole direction.Some convolute bedding.	
583.39	598.32	30%	95%	Transitional section from above to following zone. Interbedded thinly layered	
(1914	1963)			mixture of grey calcareous siltstone as previous with some grey limestones	
				in black calcareous argillite. Convolute beds, warping & boudinaged beds in	
				places. Intense po and/or py veining: veins often folded or sheared. Abun-	
				dant calcite veins, minor shears & slick 'n' sided fracture planes.	
598.32	616.00	41%	99%	Vf.g calcareous to non-calcareous black argillite interbedded with minor	
(1963	2021)			grey f.g. calcareous siltstone & limestone. Limestone increases in abundance	
				relative to siltstone with depth. Several sections of boudinaged conglomer-	Bedding at
				atic siltstone/lst in argillite. Minor intercalated volcanic. Py & po vein-	599m=53°
				ing ± conformable layers are present but generally less abundant & form	599.8m=60°
				<10% of rock. Bedding thickness of sediments range from 4mm to 1cm. Schis-	601.68m=75°
				tosity in argillites parallels bedding often defined by v.f.g. elongate po/	
				py lenticular blebs.	
				600.15-600.46m: Calcareous siltstone boudins, rounded & stretched with	
				feathery ends. 2mm to 2cm in length.	
				605.5m: Graded bedding indicates tops in up-hole direction.	
				605.64-606.25m: "Conglomeratic" breccia of clast-like siltstones & lime-	
				stones in black argillite. Likely due to deformation &	
				boudinage. Conglomerates occur in bed-like zones separated	
				by argillite. Po & py occur in matrix to clasts.	
				606.86m: Qtz vein bearing fragments of green chloritized volcanic.	
				607.77m: Graded py in siltstone indicating tops in up-hole direc-	
				tion.	
				608.69-612.34m: Boudinaged limestone clasts & pinch & swell limestone	Bedding at
				beds in black argillite. Limestone "clasts" to 1cm -very	610m=75°
				abundant - produces appearance of framework-supported	614m=75°
				cglm.	
				612.34-612.65m: Strong fracture zone(fault?) in graphitic argillite.	
				613.56m: Semi-massive po band & veins with 3% stringer cp.	
				613.71-614.48m: Boudinaged limestone "clasts"+Qtz-siderite veins with po	
				& cp.	
				615.09-616.00m: Intensely veined by Qtz-calcite-producing brecciated	
				appearance. Strongly fractured with shears at 615.09-	
				615.40m & 615.85-616.00m.	
				E.O.H. 616.00m (2021 ft)	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS	COMPOSITES

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No. 11-82 Page#
Sheet of
Logged by
Sampled by
Driller

FOOTAGE From	FOOTAGE To	RECOV'Y Run	RECOV'Y Core	DESCRIPTION	INTERSECTION ANGLE	GRAPHIC	SAMPLES No.	SAMPLES From	SAMPLES To	SAMPLES Ft	ASSAYS	COMPOSITES
				PAJARI INSTRUMENT BOREHOLE SURVEY RESULTS								
				DEPTH — INCLINATION								
				Collar (0) — -54°								
				4.6m (15ft) — -52°								
				30.5m (100ft) — -46°								
				61.0m (200ft) — -46°								
				91.4m (300ft) — -42°								
				122.0m (400ft) — -41°								
				182.9m (600ft) — -42°								
				243.8m (800ft) — -40°								
				304.8m (1000ft) — -40°								
				335.3m (1100ft) — -42°								
				365.8 (1200ft) — -40°								
				423.7m (1390ft) — -39°								
				493.8m (1620ft) — -37°								
				554.7m (1820ft) — -36°								
				616.0m (2021ft) — -31°								

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

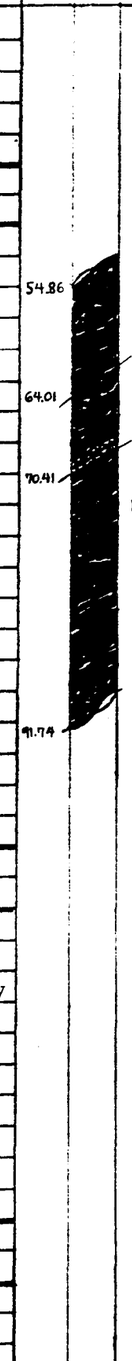
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun / Completed
Core size / Recovery %

HOLE No: 12-82 Page # 2 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
37.80	54.86			CONTINUED FROM PREVIOUS PAGE	
				interstitial clay minerals & minor seams of clay minerals. Some of zone may	
				remnant massive sulphide in weathering zone adjacent to fault. A large pro-	
				portion is probably re-cemented secondary pyrite.	
54.86	70.41	42%	82%	Massive sulphides, mostly pyrite. Some secondary minerals in upper portion.	
(180	231)				
54.86	64.01	20%	77%	Massive pyrite, appears to be slightly weathered form of original massive	
(180	210)			sulphides. Still friable but more indurated than previous. Strongly fractured	
				occasionally brecciated with turquoise to blue chalcanthite infilling many	
				fractures. Some rusty coatings on fractures & cherty-limonitic bands in	
				places. Chalcanthite infillings especially prevalent from 56.69-61.26m	
				(186-201ft).	
64.01	70.41	74%	90%	Massive pyrite, minor semi-massive lengths developed in dark green cherty	
(210	231)			host-rock. Core is well indurated, competent, relatively unweathered. Pyrite	
				is f.g. with brassy tinge due to f.g. interstitial cp. Some cp stringers &	
				c.g. blebs. Up to 15% cp. Occ blue specks & tarnish noted - possibly chal-	
				canthite (traces only). Po is sparsely disseminated in places & also occurs	
				as minor bands. Some po occurs with qtz & calcite in veins. Some c.g. py	
				occurs in irregular bands & patches. Rusty films are observed on fracture	
				planes.	
				68.88m: 10cm band of massive po with cp veins.	
				Below 69.5m: (228ft) Py occurs up to 45% as stringers & semi-massive pods	
				in a dark green aphanitic cherty host rock (silicified tuff?)	
70.41	91.74	81%	99%	Massive sulphides, dominantly pyrrhotite (po) with cp stringers & dissemin-	
(231	301)			ated blebs. Minor py.	
70.41	91.74	81%	99%	Massive pyrrhotitic sulphides with much cp in bands stringers & f.g. dissem-	
(231	301)			inations (up to 20% in places). Overall po averages 60% cp 10-12% py 8-15%	Schistosity
				& gangue 15-20%. Gangue is mostly a dark green cherty rock with Qtz, calc &	at 77m=35°
				sideritic veins & bands. Below 82.5m sulphides tend to be more banded (thin	
				pyritic bands). Chalcopyrite concentrations occur at 75.59-76.05m (248 -	Banding at
				249.5ft), 78.49m (257.5ft), 79.86-80.16m (262-263ft), 90.07m(295.5ft)	83m = 30°
				90.53-91.14m (297-299ft) & 91.59-91.74m (300.5-301ft).	91m = 35°
				87m(286.5ft): Greyish soapy mineral in 1cm wide vein(pyrophyllite or talc?)	
91.74	142.04	77%	97%	Massive to semi-massive pyritic sulphides, minor sections with banded po.	
(301	466)			Host rocks are cherty volcanics. Magnetite in scattered veins & pods.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz/ton	Au oz/ton
511	178	188	10	6.68	0.068	0.85	1.65	0.060
512	188	198	10	3.95	0.14	0.07	0.13	0.005
513	198	207	9	0.49	0.22	<0.01	0.19	0.010
514	207	217	10	2.45	0.11	0.05	0.09	0.010
515	217	227	10	4.44	0.13	0.10	0.05	0.015
516	227	231	4	2.18	0.098	0.04	0.05	0.015
517	231	241	10	0.48	0.15	<0.01	<0.05	0.005
518	241	251	10	3.49	0.092	0.05	0.15	0.010
519	251	261	10	3.91	0.11	0.14	0.09	0.002
520	261	271	10	2.44	0.13	0.01	<0.05	<0.002
521	271	281	10	3.62	0.13	0.02	<0.05	0.002
522	281	291	10	5.04	0.12	0.03	<0.05	<0.002
523	291	301	10	3.36	0.12	0.02	<0.05	0.005
524	301	311	10	3.46	0.11	0.03	0.09	0.002
525	311	321	10	2.80	0.09	0.04	0.05	0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 12-82 Page# 3 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
91.74	142.04	77%	97%	Massive pyritic sulphides in parts semi-massive, in green cherty volcanic?	
(301	466)			Cut by numerous qtz-siderite veins throughout. Irregular bands & patchy con-	
				centrations of magnetite. Minor po in bands, veins & disseminations. Cp as	
				f.g. interstitial disseminations in pyrite & in streaky blebs,stringers &	
				veins. Some stilpnomelane in fractures & vein-like stringers. Overall 60% py	
				5-10% cp, 10-15% po, 15% cherty host rock, 5% qtz-siderite + calcite, magne-	
				tite stilpnomelane. Traces sphalerite.	
				102.41: magnetite pod.	
				102.41-103.48m: cp stringers abundant + stilpnomelane, minor po veins.	
				105.92-113.39m:(347.5-372ft) Semi-massive py, much magnetite as irregular	Sulphide
				pods & veins. Dissem py in magnetite, Qtz with cp in	banding at:
				magnetite.	107m = 55°
				111.25-112.78m: (365-370ft) Numerous qtz-siderite veins.	@118.88m=38°
				120.40-121.92m:(395-400ft) Semi-massive py bands in grey cherty host rock.	@129.5m=16°
				122.83-124.21m:(403-407.5ft) As above	@132m = 42°
				130.15-131.06m:(427-430ft) Semi-massive po with py bands.Traces sphalerite	
				131.52-132.89m:(431-436ft) Subequal banded po, py.	@135m = 40°
				133.35-133.50m:(437.5-438ft) Massive po band, also at 134.11(440 ft).	
				134.42-135.03m & 136.09-136.55m (441-443 & 446.5-448ft) Banded semi-	
				massive po & py,cp in siliceous bands. Qtz-siderite bands	
				abundant, +2-3% Sphalerite.	
				139.00-139.29m(456-457ft) Subangular py clasts in sandy siliceous matrix-	
				reworked?	
				140.21-140.51m:(460-461ft) Angular & elongate pyritiferous siltstone	
				clasts in massive py.	
				140.51-140.97m:(461-462.5ft) Semi-massive po in cherty green host-rock.	
				Numerous cp stringers & several magnetite pods.	
142.04	146.61	50%	99%	Massive sulphides, pyrrhotitic with banded py & stringer cp in grey black	
(466	481)			cherty host. Sphalerite common.	
142.04	146.61	50%	99%	Massive sulphides, mostly pyrrhotite with stringers,bands & disseminated py-	
(466	481)			rite. Cp occurs in stringer-like veins, in blebs associated with cherty	
				gangue & as f.g. disseminations. Gangue is cherty gray black rock occurring	
				in brecciated fragments & as matrix to sulphide(10-15% overall). Numerous	
				qtz siderite ± calcite bands & veins. Stilpnomelane occurs in fracture fil-	
				lings & anastamosing veinlets. Minor gypsum on some fracture planes. Sphal-	
				erite occurs from 2-5% as veinlets or stringer blebs irregularly distributed	
				through section.	
146.61	169.77	53%	96%	Massive Sulphides, pyrite dominates with some po rich zones. Minor inter-	
(466	557)			bedded cherty tuffs/volcanics. Minor sphalerite throughout.	

GRAPHIC 1:500

91.74
BQ
142.04
146.61

SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz/ton	Au
526	321	331	10	1.84	0.13	0.03	<0.05	0.002
527	331	341	10	1.70	0.13	0.04	0.09	0.010
528	341	351	10	2.47	0.11	0.12	0.09	0.002
529	351	361	10	1.85	0.10	0.06	0.05	0.002
530	361	371	10	0.67	0.10	0.04	0.05	0.015
531	371	381	10	1.49	0.086	0.05	0.09	0.015
532	381	391	10	1.88	0.058	0.02	0.13	0.002
533	391	402	11	0.82	0.063	0.04	0.13	0.020
534	402	407	5	0.89	0.077	0.02	0.09	0.015
535	407	417	10	0.90	0.077	0.32	0.13	0.025
536	417	427	10	0.77	0.082	1.76	0.13	0.010
537	427	437	10	1.00	0.14	0.58	0.13	0.005
538	437	447	10	1.29	0.10	0.53	0.09	0.002
539	447	457	10	2.16	0.098	0.40	0.15	0.002
540	457	467	10	0.96	0.095	0.90	0.13	0.002
541	467	477	10	1.24	0.078	0.80	0.19	0.010
542	477	484	7	1.72	0.060	1.07	0.33	0.015

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

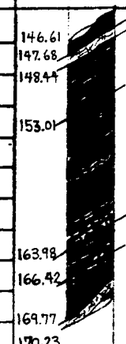
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 12-82 Page # 4 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
146.61	147.68	64%	74%	Massive pyrite with some po bands. Veins & "stockwork" of stilpnomelane. Minor	
(481	484.5)			gypsum veins. Weak sphalerite 1-2% as scattered blebs & stringers.	
147.68	148.44	0%	67%	Dark green, f.g. strongly fractured, chloritized foliated tuffs with 1%	
(484.5	487)			disseminated py.	
148.44	153.01	43%	96%	Massive sulphides; consisting of well banded pyrrhotite (35%) & pyrite (50%)	
(487	502)			with minor stringers & blebs of cp (3-5%) in a cherty grey green host rock.	
				Gangue includes siderite & Qtz veins + very minor stilpnomelane comprising	
				8-10% of zone. Sphalerite occurs as wispy irregular veins & scattered blebs	
				2-3%.	
153.01	163.98	52%	98%	Massive to semi-massive pyritic sulphides in cherty grey host rock with num-	
(502	538)			erous sideritic bands & pods. Accessory minerals include fracture fillings	
				of gypsum, Stilpnomelane & patchy to vein-like concentrations of magnetite.	
				Composition varies over zone but overall is 65% py, 10% po, 5% cp, 15% gangue	
				& 2-5% sphalerite as wispy irregular blebs & veinlets.	
				157.58-158.34m: (517-519.5ft) Abundant siderite bands & veins with dissem-	
				inated & vein-like sphalerite.	
				161.70-162.15m: (530.5-582ft) Abundant deformed Qtz-siderite bands & dis-	
				seminated sphalerite.	
				162.46-162.76m: (533-534ft) Abundant magnetite stringers.	
				162.61-163.98m: (533.5-538ft) Semi-massive py with numerous qtz-siderite	
				veins, occ. brecciated. Black cherty fragments in pyrite	
				& numerous magnetite bands. Sphalerite common as irregu-	
				larly distributed wispy blebs. Observed po rimmed by cp	
				rimmed in turn by sphalerite. Minor gypsum.	
163.98	166.42	60%	100%	Massive pyrrhotitic sulphides. Some minor py bands & veins. Cherty, dark grey	
(538	546)			host rock & numerous siderite bands/layers. Some stringer cp, perhaps 4-5%	
				overall.	
166.42	169.77	70%	100%	Massive pyritic sulphides. Brecciated at beginning by abundant calcite ±	Sulphide
(546	557)			qtz-siderite bands & veins. Dark grey cherty host rock-probably volcanic	banding at
				tuff originally. Cp to 6% as disseminated stringer-like blebs. Sphalerite	169.5m = 42°
				to 5%. Probable disseminated magnetite in parts judging by magnetic proper-	
				ties of the pyritic core. Occ gypsum & stilpnomelane veins or fracture fillings.	
169.77	187.45	84%	100%	Massive to semi-massive sulphides within altered brecciated volcanics &	
(557	615)			cherty host rocks. Minor intercalated schistose tuffs.	
169.77	170.23	72%	100%	Light gray, v.f.g. schistose tuff. Schistosity well defined by porphyro-	Contact=20°
(557	558.5)			blastic(?) muscovite (to 2mm) in aphanitic matrix.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz/ton	Au
78580	484	487	3	0.03	0.006	0.12	<0.05	0.002
78543	487	497	10	0.66	0.035	1.82	0.29	0.002
544	497	507	10	1.14	0.040	1.43	0.42	0.002
545	507	517	10	0.60	0.040	1.98	0.38	0.020
546	517	527	10	0.69	0.029	1.77	0.05	0.002
547	527	537	10	0.40	0.016	2.24	0.29	0.002
548	537	547	10	1.46	0.040	3.00	0.82	0.010
549	547	557	10	1.65	0.058	2.12	0.88	0.020
78581	557	558	1	0.24	0.012	0.96	0.05	<0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

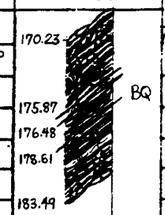
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 12-82 Page #5 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
170.23	175.87	88%	100%	Semi-massive sulphides in sideritic matrix. Some massive py bands & layers	Contact at
(558.5	577)			& minor po bands + numerous pyritic stringers veins & pods. Numerous sider-	175.87m=35°
				itic veins in sulphides also. Cp disseminated in py & as occ stringer blebs	
				in siderite. Disseminated wispy sphalerite blebs.	
				173.13-174.35m:(568-572ft) Abundant vein-like sphalerite blebs up to 3mm	
				wide.	
175.87	176.48	67%	100%	Stringer sulphides in dark green f.g. schistose chloritized volcanic(tuff?).	
(577	579)			F.g. dissem. po blebs are elongated parallel to foliation. Minor clay alter-	
				ation of clasts(?) in matrix. Sulphides are pyrite for most part with subor-	
				dinate po, minor cp. Intensity of stringer mineralization increases with	
				depth to almost semi-massive (40-50%) bands. Grades into following zone.	
				Numerous sideritic veins & disseminated wavy sphalerite blebs.	
176.48	178.61	88%	100%	Semi-massive to massive sulphides (55-80%) in chloritized volcanics as above	
(579	586)			& cherty rocks (silicified sections?). Numerous sideritic bands & veins in	
				places brecciating sulphides. Py & po are subequal in amount with py dominant.	
				Sphalerite distributed irregularly throughout as wavy blebs. Sphalerite occurs	
				in siderite at 178.31m (585ft).	
178.61	183.49	81%	100%	Stringer to semi-massive bands of sulphides in variable host volcanics. Dom-	
(586	602)			inant host rock is a dark green, v.f.g. weakly schistose chloritized volcanic	
				or tuff. Some intercalated layers & clasts of more felsic cherty tuffs or	Sulphide
				dacite tuffs giving appearance of volcanic breccia in places. Some	banding
				bands of massive pyrite and/or pyrrhotite occur but most sulphide appears in	180m = 32°
				irregular stringers & veins. Siderite veins & dissem. sphalerite are common	
				179.0m: 15cm thick massive po band with minor stringer cp.	
				179.07-179.83m:(587.5-590ft) Stretched, sub parallel "clasts" of cherty	Contact at
				tuffs & soft chloritized tuffs cut by stringer po + minor	180.14m=32°
				cp, sphalerite py. Rotated layered cherty tuffs also	
				observed: volcanic breccia?	
				179.83-180.14m:(590-591ft) Massive pyrite, irregularly banded by po, cp	Contact at
				stringers, nmrs sphalerite veinlets-some as selvages to	180.59=32°
				sideritic veins.	
				180.14-180.29m:Sheared brecciated, dark green, v.f.g. schistose chloritic	
				tuff(?) with dissem. stretched po blebs // foliation.	
				Some gypsum in shears.	
				180.29-180.59m:Grey brown, m.g. massive to faintly schistose dacitic tuff.	
				180.59-183.49m:(592.5-602ft) 45% pyritic sulphides as stringers & narrow	
				massive bands in volcanic breccia host rock (as 179.07-	
				179.83m). Numerous siderite veins.5%cp in stringers.	
				5% sphalerite.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz/ton	Au oz/ton
78550	558	568	10	0.61	0.022	1.31	0.29	0.025
551	568	578	10	1.28	0.022	1.29	0.57	0.025
552	578	589	11	1.91	0.035	1.61	0.68	0.030
78583	589	594	5	0.52	0.029	1.23	0.15	0.005
553	594	604	10	1.54	0.026	1.22	0.53	0.010

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

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Begun /Completed
Core size /Recovery %

HOLE No: 12-82
Sheet of
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Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
183.49	187.45	85%	100%	Semi-massive pyritic sulphides in dark green chloritized volcanic & minor vol-	
(602	615)			canic breccia as previous. Sulphides to 50%. Overall composition is 40% py,	Sulphide
				10% po, 5% cp, 5% sphalerite, 25% chloritic volcanic, 15% siderite ± Qtz/cal-	banding at
				cite. Accessory magnetite in parts. Intensive sulphide & siderite veining	187.30=55°
				throughout section. Some of massive sulphide bands are brecciated by later	
				veins. Volcanic breccia of cherty, gray aphanitic tuffs in chloritic volcan-	
				ics occurs at 186.23-186.84m (611-613ft) & 187.15-187.45m (614-615ft). Abun-	
				dant sphalerite & siderite veining from 187-187.15m. Some po bands with cp-	
				veined pyrite clasts occur at end of the zone.	
187.45	264.57	37%	86%	Sequence of variable volcanic flows, tuffs, breccias + minor cherty argillite.	
(615	868)			Sulphides erratic as disseminated blebs, stringers & occ bands, generally	
				less than 10% overall.	
187.45	199.49	43%	82%	Heterogeneous section of interbedded cherty gray aphanitic tuffs, dark green	
(615	654.5)			chloritized, f.g. tuffs & some volcanic breccia. Sulphides are erratic in	Bedding at
				distribution mostly as py &po stringers with trace cp. Minor sphalerite	193m = 35°
				associated with qtz-siderite bands/veins.	
				187.45-187.60m: Dark green chloritic volcanics.	
				187.60-188.98m:(615.5-620ft) Cherty grey-green volcanics with siderite &	
				po veins with sphalerite in places.	
				189.59-191.41m:(622-628ft) As above. Some gypsum veins & graphite in frac-	
				tures.	
				191.41-192.02m:(628-630ft) F.g. grey tuff, calcite veins & stringer po.	
				Some po as rods to walls of stilpnomelane veins.	
				192.02-194.01m:(630-636.5ft) Well bedded (2mm-2cm thick) black aphanitic	
				tuff? foliated parallel to bedding. Several clasts occur	
				of sub angular cherty grey-green volcanics. Qtz-siderite	
				veins & convolute bands are common as well as conformable	
				po bands, & sub parallel veins. Minor gypsum on fractures.	
				Minor sphalerite veins.	
				194.01-194.92m:(636.5-639.5ft) Dark green f.g. chloritized volcanic (cry-	
				stal tuff/). Gypsum at upper contact & in fractures.	
				194.92-195.22m:(639.5-640.5ft) F.g. green-brown, mildly foliated tuff.	
				195.22-199.49m:(640.5-654.5ft) Mostly volcanic breccia of cherty,angular	
				grey tuff clasts in matrix of siderite with dissem. po &	
				py. Many tuff clasts are silicified & chloritized. Some	
				py ± po clasts observed. Po also occurs as stringer-like	Foliation at
				veins. Up to 30% sulphide as 15% po, 5% cp & 10% py.	198m = 30°
				Interbedded volcanics (f.g. green chloritic tuffs) occur	
				from 195.83-197.21m (642.5-647ft) & 197.97-198.27m	
				(649.5-650.5ft).	

GRAPHIC 1:500

SAMPLES No.	From	To	Ft
78554	604	614	10

ASSAYS oz/ton

Cu%	Co%	Zn%	Ag	Au
1.72	0.028	1.56	0.67	0.020

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

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HOLE No: 12-82
Sheet of
Logged by
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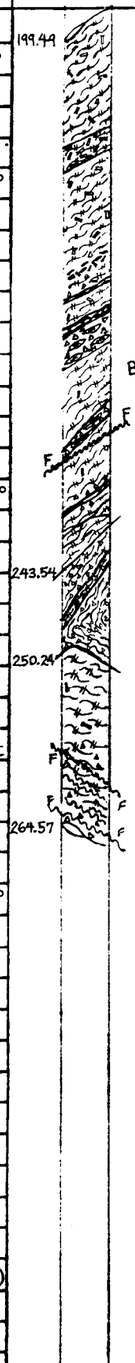
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
199.49	243.54	48%	99%	Dominantly dark green f.g.-m.g. chloritized crystal(?) tuff. Prob originally	Contact at
(654.5	799)			basaltic in composition. Some clasts are replaced by calcite. Clasts are white	199.50m=42°
				up to 1.5mm in length, irregularly shaped & suspended in v.f.g. chloritic	
				matrix. Minor sulphide veins & disseminations (5%) with a few narrow sections	Internal
				well banded with po & subordinate py. Fractures often slick "n" sided &	contact at
				chlorite-lined.	201.31m=55°
				208.18-210.31m:(683-690ft) More crystal rich with larger white crystals.	
				219.30m: Concentrated white(feldspar?) crystals gradually diminishing down	Sulphide
				hole.	banding at
				221.89-222.20m:(728-729ft) Semi-massive banded po, bands parallel frac-	222m = 42°
				tures, minor cp in calcite veins, very minor py veins.	
				223.42-223.88m: As above with clasts of chloritic volcanics.	Bedding at
				223.88-226.77m:(734.5-744ft) M.g. sandy grey tuff with elongate chloritic	225m = 43°
				volcanic clasts. Po, py stringers.	
				233.32-234.09m:(765.5-768ft) As above no sulphides. Gypsum at contact.	Contact at
				234.39m: Fault gouge: pebbly.	233.32m=20°
				235.15-238.20m:(771.5-781.5ft) Interbedded cherty chloritic tuffs with	Bedding at
				darker more chloritic tuffs. Po + minor py veins. Some qtz	236m = 35°
				veins.	
				238.35m:(782ft) Semi-massive po as numerous veins in cherty volcanics.	
				trace cp.	
243.54	250.24	18%	88%	Black, v.f.g. cherty tuff or argillite with interbedded tuffs & flows. Minor	
(799	821)			dissem. py, po & stringers of same occur up to 15%. Numerous Qtz-calcite	Foliation at
				veins. Tuffs are schistose in places.	244m = 35°
				245.52-246.74m: Coarser grained tuffs(?) with white crystals & clasts.	
				Slightly more dissem po in matrix.	
				247.65-248.26m:(812.5-814.5ft) Gray porphyritic & amygdaloidal basalt in	Bedding at
				cherty grey to black argillites. Dissem py & po form	249.0m = 15°
				layers // bedding. Several po veins crosscut beds occ	@249.5m=40°
				with cp. Argillite beds are up to 5mm thick. Bedding	in opposite
				angle of argillites is sub parallel to core axis till	sense
				249.98m when it steepens in the opposite sense. Probable	
				minor fold structure.	
250.24	264.57	6%	48%	Dark green chloritized v.f.g.-f.g. volcanic tuffs. Strongly fractured with	Bedding at
(821	868)			slick 'n' sides. Minor dissem po (<5%). Occ bears white feldspar crystals.	257m - 23°
				Below 255.12 is silicified & cherty with increased sulphides as stringers.	Foliation =
				Moderately schistose.	35°
				254.81-254.97m:(836-836.5ft) Light gray green m.g. tuff. Not as chlori-	(subnormal
				tized as surrounding rock.	to bedding <)
				258.47-263.96m: Fault zone, poor recovery.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft

ASSAYS

COMPOSITES

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

PROPERTY
Location
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E

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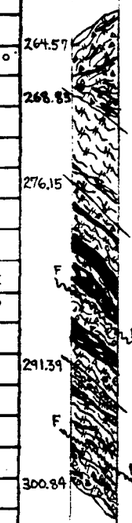
Core size /Recovery %

HOLE No: 12-82 Page # 8 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
264.57	300.84	55%	96%	Stringer sulphides in mixed volcanics: cherty tuffs to chloritic volcanics.	
(868	987)				
264.57	268.83	48%	100%	Stringer po, minor py, cp in cherty green-gray f.g. tuffs. Accessory magne-	Contact at
(868	882)			tite in irregular patchy pods & veins. Some po bands occur parallel to bed-	264.57m= 36°
				ding. Py in veins, also disseminated as f.g. cubes. Up to 2% cp in po veins	
				& Qtz ± calcite veins. Siderite bands occur but are not abundant.	
				267.31-267.61m:(877-878ft) Abundant po with associated chloritization of	
				tuffs. Minor cp in veins.	
				268.22-268.68m:(880-881.5ft) Numerous pods, veins of po + cp stringers.	
268.83	276.15	63%	100%	Dark green, chloritic, volcanic tuff similar to previous section from 250.24-	Contact at
(882	906)			264.57m. Only minor dissem py, po & po stringers to ≅ 10%. Chalcedonic veins	268.83m=35°
				(± cp,po) numerous.	
				271.58m:(891ft) Qtz-siderite veins with bleached envelopes. Some po & cp	
				blebs, stringers.	
				274.93m:(902ft) Abundant po, minor cp in chalcedony veins.Cp usually in	
				selvage of veins.	
276.12	291.39	61%	98%	Dominantly cherty aphanitic grey tuffs. Contact (upper) has interbedded	Bedding at
(906	956)			cherty grey tuffs & dark green chloritic tuffs of upper unit. Some clasts	276.50m=40°
				of grey tuffs are caught up in chloritic tuff beds.Zone is abundantly veined	285m = 35°
				by po both crosscutting & parallel to bedding. Some po in thin massive bands.	
				Disseminated siderite (replacing py?). Cp in stringers + patchy blebs.	
				277.83-278.43m:(911.5-913.5ft) Massive po with stringer cp. Stilpnomelane	
				in fractures.	
				280.42-281.94m:(920-925ft) Massive po, stringer cp,patchy py aggregates.	
				282.85-284.38m:(928-933ft) As above, py more abundant, some chloritized	
				fragments in sulphides.	
				284.38-284.53m:(933-933.5ft)Dark green chloritic tuff with stringer po,py.	
				285.14-285.29m:(935.5-936ft) Pebbly chloritic shear? zone.	
				285.60-288.65m:(937-947ft) Cherty grey tuffs with warped bedding, irreg.	
				deformation axes.	
				288.65-289.56m:(947-950ft) Massive po in chloritic volcanics.	
291.39	300.84	46%	95%	Stringer sulphides with semi-massive section in heterogeneous zone of mixed	Contact at
(956	987)			volcanics-mostly dark green chloritic flows & tuffs with less abundant layers	291.39m=42°
				& brecciated fragments of cherty grey tuffs & concentrically banded structures	
				- possibly representing pillows. Sulphides mostly po, minor cp, py.	
				291.69-292.46m:(957-959.5ft) Patchy cp. Concentric shaped cherty struc-	Contact at
				tures enclosed by tuff-breccia clasts. Some of the struc-	293.22m= 15°
				tures have amygdaloidal centres. (Edges of pillows)?	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz/ton	Au oz/ton
78555	876	883	7	0.79	0.008	0.06	<0.05	0.002
588	883	893	10	0.84	0.010	<0.01	<0.05	<0.002
589	893	905	12	0.15	<0.005	<0.01	<0.05	<0.002
556	905	915	10	1.34	0.026	0.04	<0.05	0.002
557	915	925	10	0.58	0.042	0.02	<0.05	0.002
558	925	935	20	0.52	0.058	<0.01	<0.05	0.010
559	935	945	10	0.44	0.038	0.01	<0.05	<0.002
560	945	956	11	0.48	0.044	0.01	<0.05	0.002
561	956	966	10	0.62	0.063	0.01	<0.05	0.002
78585	966	979	13	0.15	0.046	0.01	<0.05	<0.002
78562	979	989	10	0.65	0.098	0.03	<0.05	0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

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DEPTH in metres (ft) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE	GRAPHIC 1:500	SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag oz/ton	Au
291.39	300.84			CONTINUED FROM PREVIOUS PAGE											
				293.22-293.98m:(962-964.5ft) Cherty green tuffs with semi-massive po ± cp.											
				294.59-298.25m:(966.5-978.5ft) Dark green m.g. amygdaloidal chloritic andesite. Po veins & patches & cp veins, po sometimes rims and is in turn enclosed by quartz. Fault zone at 297.50m (30cm wide).											
				298.25-300.84m:(978.5-987ft) Cherty, dark green tuffs with massive po bands & veins + stringer cp.											
300.84 (987	390.14 1280)	?59%	?95%	Stringer to semi-massive to massive pyrrhotitic sulphides in heterogeneous mixture of chloritic volcanics, cherty tuffs & minor cherty argillite.											
300.84 (987	315.16 1034)	58%	100%	Semi-massive to massive pyrrhotite with minor py & cp stringers in a cherty dark green, chloritic, f.g.-m.g. andesite tuff or tuff breccia. Sulphides comprise 60-65% overall but content varies widely from massive sections to patchy blebs & stringers in host rock. Cherty "clasts" are observed in the volcanics. Slick 'n' sided fractures & shears are nmrs.		300.84	563 564 78586 78565 566 567	989 999 1003 1004 1014 1024	999 1003 1004 1014 1024 1034	10 4 1 10 10 10	0.66 0.98 0.88 0.60 0.60 1.44	0.093 0.086 0.034 0.086 0.11 0.082	0.02 0.02 0.02 <0.01 <0.01 <0.01	<0.05 0.05 <0.05 <0.05 <0.05 <0.05	0.002 0.002 0.002 0.010 0.005 0.010
				305.71-306.17m:(1003-1004.5ft) Cherty dark grey volcanic tuff abundant qtz veins ± cp in stringers.		315.16									
				309.07-309.37m:(1014-1015ft) Po rods in massive po.											
				309.98-310.29m:(1017-1018ft) Po rods & radiating textures. Chalcedony veins. Cp tension gashes.											
				310.44-311.51m:(1018.5-1022ft) Po angular "clasts" sometimes elongated up to 1cm long axis, 0.5cm short axis.Abundant cp,py veins.		329.18									
				312.57-314.10m:(1025.55-1030.5ft) Abundant stringer cp, patchy blebs with po veins & clasts.											
315.16 (1034	329.18 1080)	43%	96%	Disseminated & stringer sulphides (30%) in dominantly dark green m.g. chlor- itized tuff interbedded with thin layers of dark green, v.f.g. tuffs & flows. Sulphides are mostly in stringer veins with minor dissem po in elongate blebs Overall po is 15-20%, py 10%, cp ≦5%.	Bedding at 320m = 32°		78587 78568 78590 591 78569	1034 1050 1055 1065 1073	1050 1055 1065 1073 1080	16 5 10 8 7	0.82 1.20 0.12 0.31 0.52	0.014 0.043 0.010 0.016 0.024	<0.01 0.01 <0.01 <0.01 0.01	<0.05 <0.05 <0.05 <0.05 <0.05	0.002 0.002 <0.002 <0.002 0.002
				316.38-317.30m: Strongly fractured, clays developed.											
				319.58-320.04m:(1048.5-1050ft)Dark green amygdaloidal basalt,3% dissem po.											
				321.56-322.33m:(Pebbly tuff, blocky fractures, clay - Fault zone?											
				324.00-324.31m:(1063-1064ft) Mostly dark green v.f.g. chloritic tuff with elongate sub rounded c.g. tuff clasts. Dissem elongate po blebs parallel foliation.											
				326.75-327.20m: Strongly fractured m.g. tuff.											
				327.20-327.51m:(1073.5-1074.5ft) F.g. tuff or flow with m.g. tuff clasts py, po ± cp veins.											

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

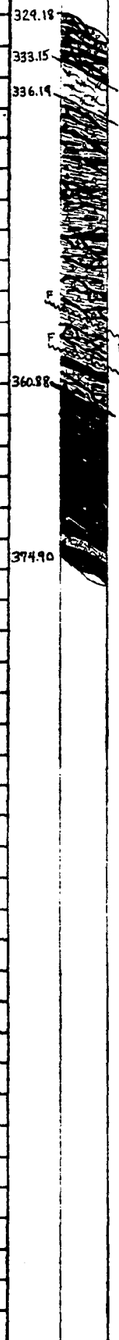
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 12-82 Page # 10 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
329.18	333.15	66%	100%	Massive to semi-massive sulphides, mostly pyrrhotite, approximately 60-65%	
(1080	1093)			sulphides overall in bedded green f.g. cherty tuff or argillite. Nmrs qtz-	Bedding 30°
				calcite veins. Po is 45-50%, py 10-15%, cp ≅5%. Massive po section sometimes	
				bear clast-like sub rounded po bodies. Not all po is conformable to host rock	
				bedding. Some concentrically banded/bedded structures in the host rocks with	
				sub-conformable po layers - possible pillow structures?	
333.15	336.19	63%	100%	Grey-green m.g. andesite (tuff?) with 2% disseminated py cubes. Cut by nmrs	Contact at
(1093	1103)			qtz & calcite veins, tension gashes. Dark grey to black cherts/cherty argil-	333.15m=40°
				lites occur in contact zone at beginning of unit. A light green layer of m.g.	
				tuff occurs from 333.15-333.30m(1093-1093.5ft).	
336.19	360.88	?64%	?95%	Stringer to semi-massive pyrrhotite with minor py & cp in cherty f.g.-m.g.	Contact at
(1103	1184)			dark grey to black argillite(?). Sulphides form 35-55% of zone, erratically	336.19m=40°
				distributed from minor stringers to massive sections. Some po blebs are	Bedding at
				stretched parallel to bedding. Numerous scattered qtz veins,minor gypsum.	340m = 50°
				Magnetite veins, bands pods are common below 342.90m(1125 ft).	
				342.60-342.90m:(1124-1125ft) Warped bedding at shallow angle to core-	
				possibly due to sedimentary load structures.	
				354.18m:(1162ft) Fault gouge. Enveloped by fracture zone down to 354.79	
				(1164 ft).	
				354.79-358.14m:(1164-1175ft) Sulphides as minor stringers & bands, much	
				less abundant, only 20% overall.	
				357.53-357.84m:(1173-1174ft) pebbly core - shear zone?	
				358.14-358.75m:(1175-1177ft) Massive pyrrhotite.	
				358.75-360.88m:(1177-1184ft) Stringer sulphides (30%) in green, f.g.-m.g.	
				tuff. Cherty in places especially adjacent to sulphide	
				veins - also chloritized. Approx.20% po,2-3% cp,7-8% py.	
360.88	374.90	?63%	?93%	Massive Sulphides. >90% sulphides with 5-10% cherty green m.g. tuff & minor	
(1184	1230)			magnetite veins, pods. Po forms about 80% of zone with 5% py & 5-10% cp. Cp	
				in veinlike stringers & often forming selvages to qtz. veins.	
				364.69m:(1196.5ft) Abundant stilpnomelane with py.	
				366.06m & 367.28m:(1201 ft & 1205 ft) Abundant cp in po stringers + qtz.	
				368.66m:(1209.5ft) Massive py vein.	
				368.96m:(1210.5ft) " " + abundant cp in stringers.	
				372.92-373.84m:(1223.5-1226.5ft) Cherty light grey-green aphanitic tuff.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	Cu%	Co%	Zn%	Ag oz/ton	Au oz/ton
570	1080	1090	10	1.35	0.057	<0.01	<0.05	0.002
78592	1090	1103	13	0.12	0.018	<0.01	<0.05	<0.002
78571	1103	1113	10	0.78	0.056	<0.01	<0.05	<0.002
572	1113	1123	10	1.61	0.058	<0.01	<0.05	0.002
573	1123	1133	10	2.58	0.071	0.01	<0.05	0.002
574	1133	1143	10	1.02	0.082	<0.01	<0.05	0.002
575	1143	1153	10	0.12	0.065	<0.01	<0.05	<0.002
78593	1153	1163	10	1.44	0.048	0.03	<0.05	0.002
594	1163	1173	10	1.49	0.042	0.01	<0.05	0.002
595	1173	1183	10	0.68	0.044	<0.01	0.05	0.002
596	1183	1196	13	0.18	0.049	<0.01	<0.05	0.002
597	1196	1206	10	2.11	0.072	<0.01	<0.05	<0.002
598	1206	1216	10	2.33	0.080	<0.01	<0.05	0.002
599	1216	1226	10	1.82	0.057	<0.01	<0.05	0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

Collar	Inclination	Bearing

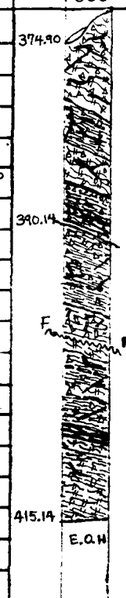
PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 12-82 Page # 11 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE
374.90	390.14	60%	90%	Stringer sulphides with occ semi-massive sections in mixed cherty tuffs,	
(1230	1280)			chloritic tuffs & cherty argillite. Sulphides erratically distributed in	
				stringers, veins & massive bands. Mostly po with subordinate py, cp.	
				374.90-379.48m:(1230-1245ft)Cherty green aphanitic tuff with po,py stringers.	
				379.48-383.13m:(1245-1257ft) Cherty dark green to black argillite or tuff.	Contact at
				Po,py in stringers.Cp veins from 379.48-379.78(1245-1246	386.64m=40°
				ft) & 380.09-380.39m(1247-1248ft).	
				383.13-386.49m:(1257-1268ft) As 374.90-379.48m with minor magnetite veins	
				386.49-386.64m:(1268-1268.5ft) Massive po, f.g. cp, some cherty black	
				argillite nodules or concretions(concentric laminae).	
				386.64-387.10m:(1268.5-1270ft) grey-green m.g. crystal? tuff with sider-	
				ite veins.	
				387.10-388.32m:(1270-1274ft) Cherty aphanitic argillite with stringer po	
				+ cp.	
				388.32-390.14m:(1274-1280ft) Semi-massive po with massive bands in cherty	
				tuff, some portions less cherty-more chloritic. Cp vein-	
				lets observed. Also magnetite, qtz & siderite veins. Some	
				f.g. dissem cp in po.	
390.14	415.14	41%	95%	Grey to black argillites with silicified cherty sections. Stringer & dissem.	
(1280	1362)			sulphides scattered irregularly throughout. Mostly po with minor py & very	Banding at
				irreg. scattered stringers & blebs of cp. Argillites are well bedded moder-	392.89m=60°
				ately schistose in parts. Colour varies from gray (silicified zones) to	Bedding=57°
				black.	Foliation =
				390.14-391.67m:(1280-1285ft) Very light gray silicified cherty zone be-	56° in oppo-
				coming less cherty & darker with depth.	site sense
				396.85:(1302ft) 5cm wide po band.	to bedding.
				396.85-399.75m:(1302-1311.5ft) Sheared, strongly fractured black cherty	Foliation at
				argillite with abundant white crystals closely packed.	45° to bed-
				Numerous magnetite veins & pods, also siderite,qtz & occ	ding @396.24m
				gypsum veins. Po as dissem. elongate blebs both parallel	Bedding at
				& crosscutting foliation. Chloritic slick 'n' sided shear	401.42m=40°
				planes. Fault zone or major shear at end.	402.34m=35°
				399.75-400.65m:Chloritic black soft argillite or volcanic tuff. Much po	406m = 40°
				in veins.	
				402.18m:(1319.5ft) Stretched, boudinaged grey f.g. beds (siltstone?)	408m = 58°
				405.38-406.91m:(1330-1335ft) Interbedded cherty argillite & chloritized	Foliation at
				tuffs(?).Wavy bedding due to minor warping.Foliation cuts	408m = 60°
				across bedding planes. Numerous cp veins stringers.	in opposite
				406.91-407.82m:(1335-1338ft) Semi massive (50%) po + minor cp(3-5%)	sense to
				Cherty & chloritized host rock,some qtz-siderite veins.	bedding.
				Gypsum in fractures.	

GRAPHIC 1:500



SAMPLES No.	From	To	Ft	ASSAYS Cu%	Co%	Zn%	Ag	Au oz/ton
600	1226	1236	10	2.53	0.046	<0.01	<0.05	0.015
601	1236	1246	10	0.90	0.025	<0.01	<0.05	0.002
602	1246	1256	10	0.52	0.022	<0.01	<0.05	<0.002
603	1256	1266	10	0.54	0.016	<0.01	<0.05	0.002
604	1266	1276	10	1.56	0.024	<0.01	<0.05	0.002
605	1276	1286	10	1.24	0.020	<0.01	<0.05	0.002
606	1286	1296	10	0.27	<0.005	<0.01	<0.05	0.002
607	1296	1306	10	0.21	<0.005	<0.01	<0.05	0.002
608	1306	1316	10	0.22	0.014	<0.01	<0.05	0.002
609	1316	1326	10	0.12	0.008	<0.01	<0.05	0.002
610	1326	1336	10	0.15	0.008	0.02	<0.05	0.002
611	1336	1346	10	3.40	0.008	0.02	<0.05	0.002
612	1346	1356	10	0.10	<0.005	<0.01	<0.05	0.010
613	1356	1362	6	0.16	0.006	0.02	<0.05	0.002

DRILL HOLE RECORD

FALCONBRIDGE LIMITED

	Inclination	Bearing
Collar		

PROPERTY
Location
Elevation
Coordinates N
E

Length
Hor. Comp. / Vert. Comp.
Bearing
Begun /Completed
Core size /Recovery %

HOLE No: 12-82 Page # 12 of 12
Sheet of
Logged by
Sampled by
Driller

DEPTH in metres (ft.) FROM	TO	RECOV'Y RQD	Core	DESCRIPTION	INTERSECTION ANGLE	GRAPHIC 1:500	SAMPLES No.	From	To	Ft	ASSAYS
390.14	415.14			CONTINUED FROM PREVIOUS PAGE							
				407.82-408.89m:(1338-1341ft) Chloritized bedded tuffs. Elongate po blebs // foliation. Cp stringers to 5%. Foliation cuts across bedding.							
				Below 408.89m(1341ft) Sulphide content drops markedly to less than 15%.							
				411.78-412.09m(1351-1352ft) Chloritized dark green tuff.							
				E.O.H. 1362ft = 415.14m							

APPENDIX B

Photos

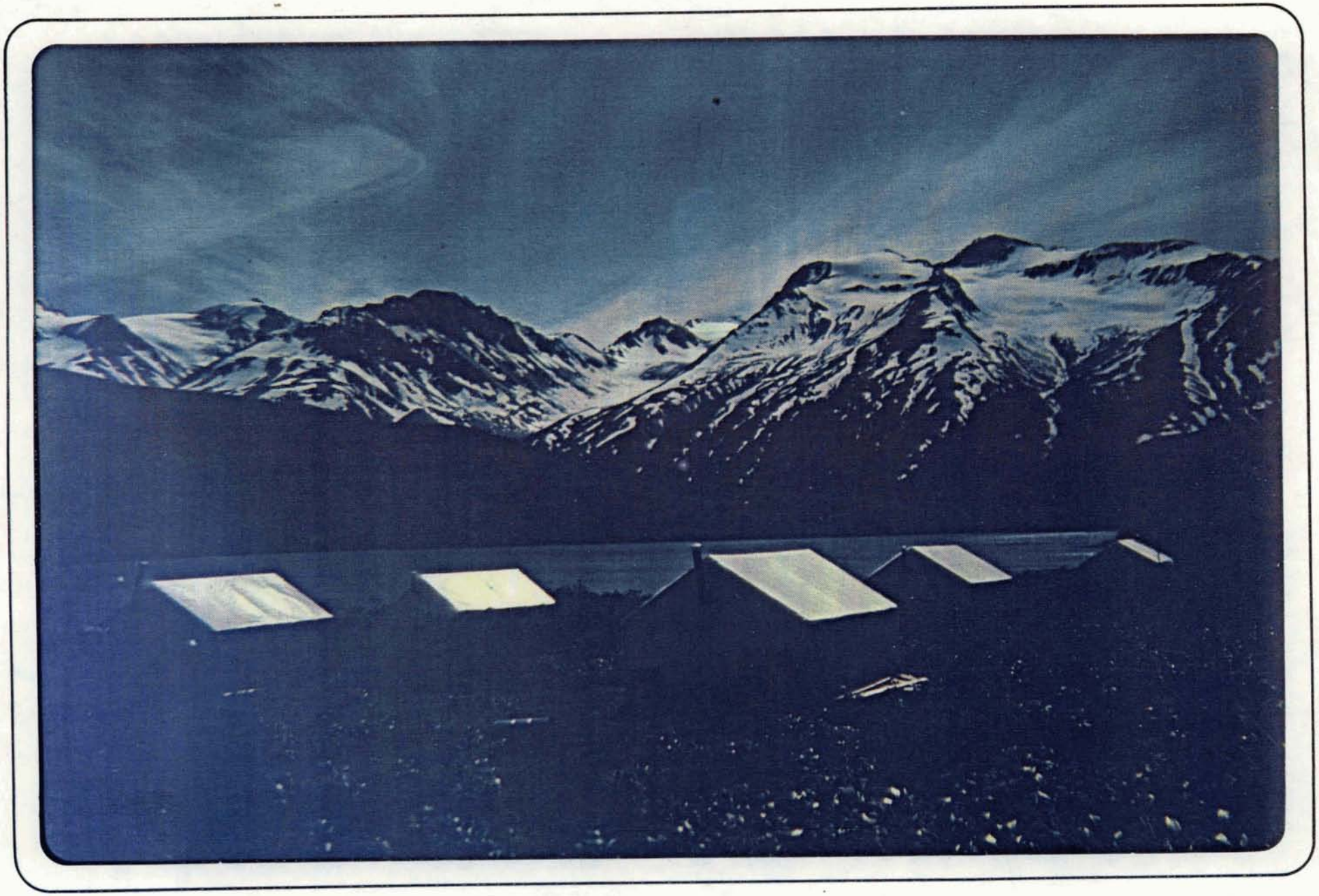


Photo 1-82 Base Camp - Tats Lake

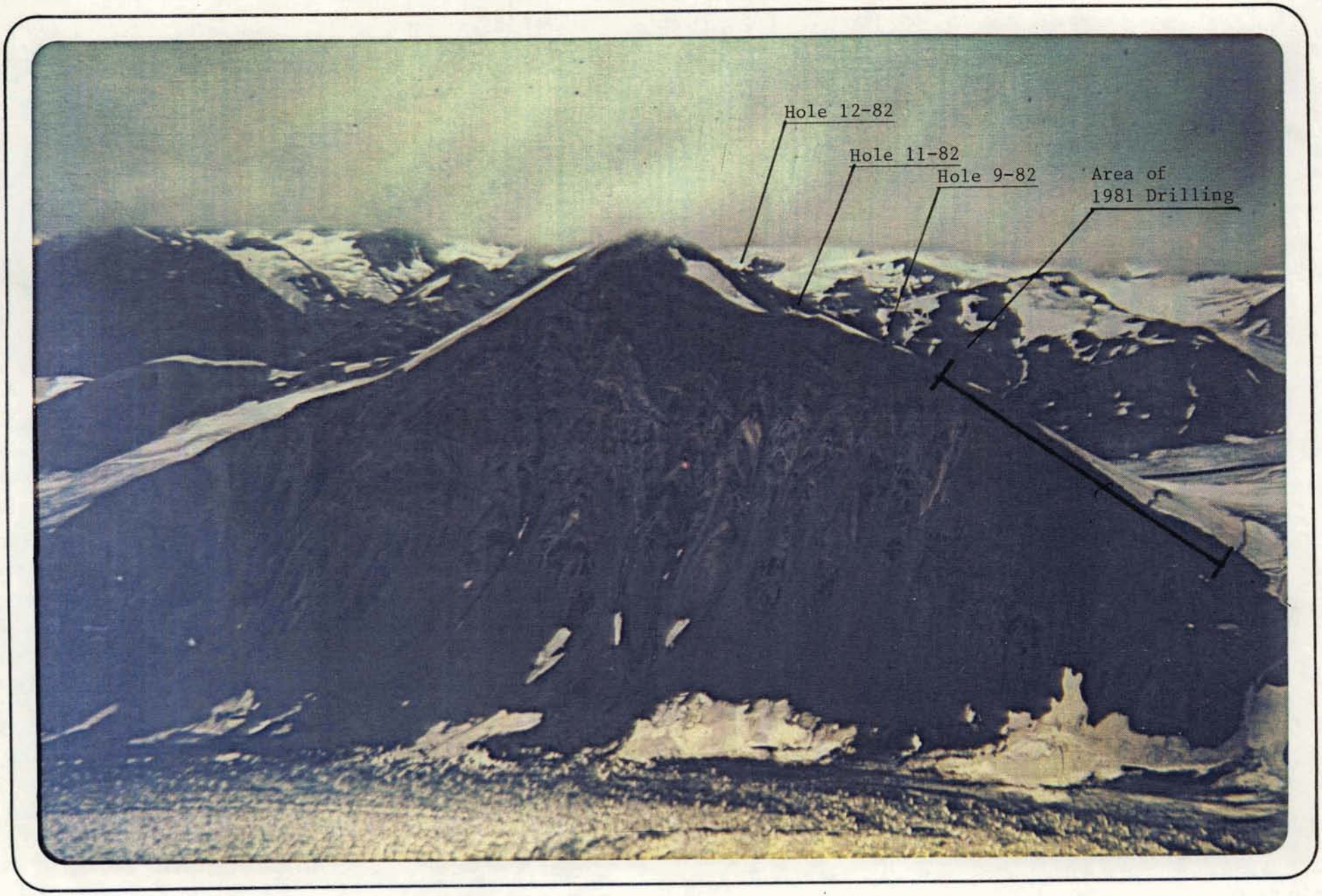


Photo 2-82 View of Windy-Craggy Mountain looking North. Tats Glacier in foreground.

Photo 3-82 Close up view of South face of Windy Craggy Mountain showing Holes 9-82, 11-82 and footwall stratigraphy.

Photo 4-82 Setting up Longyear 44 at site of DDH 11-82, Section I'I', July, 1982
(view towards east)

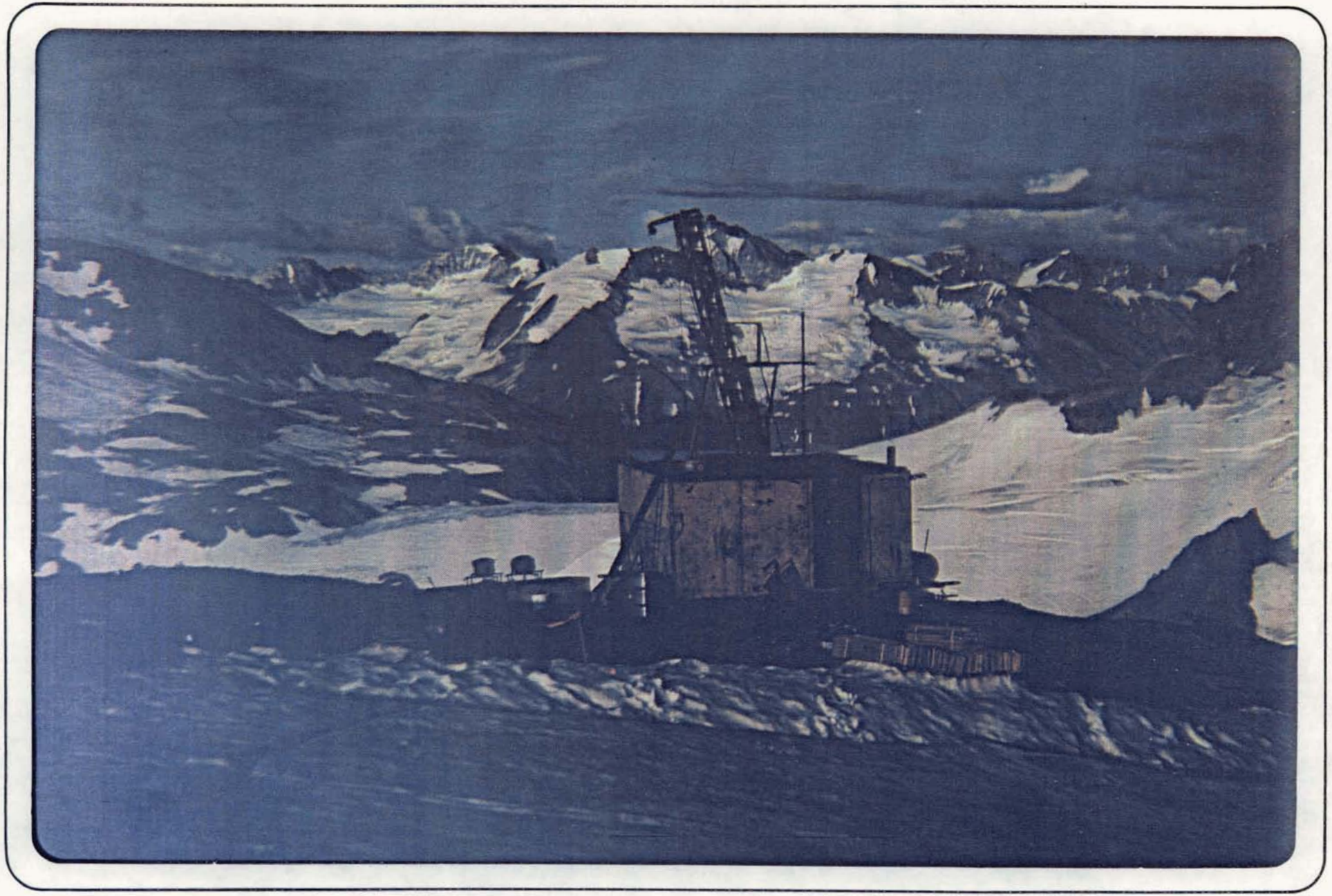


Photo 5-82 View to NNE showing drill site and Fly-38 rig DDH 12-82. Section M-M'.

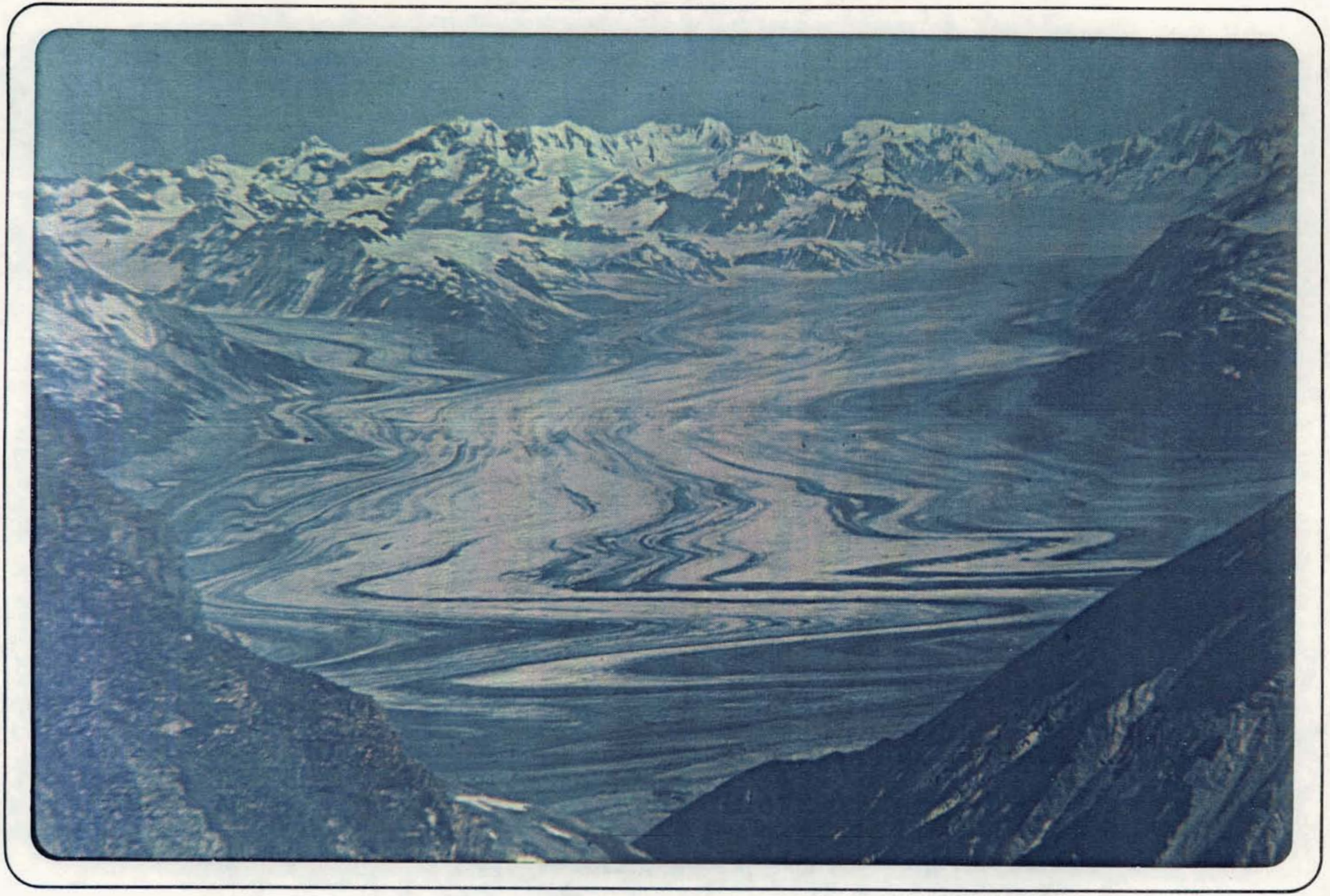


Photo 6-82 Telephoto view of Tweedsmuir Glacier, looking west from DDH 12-82.

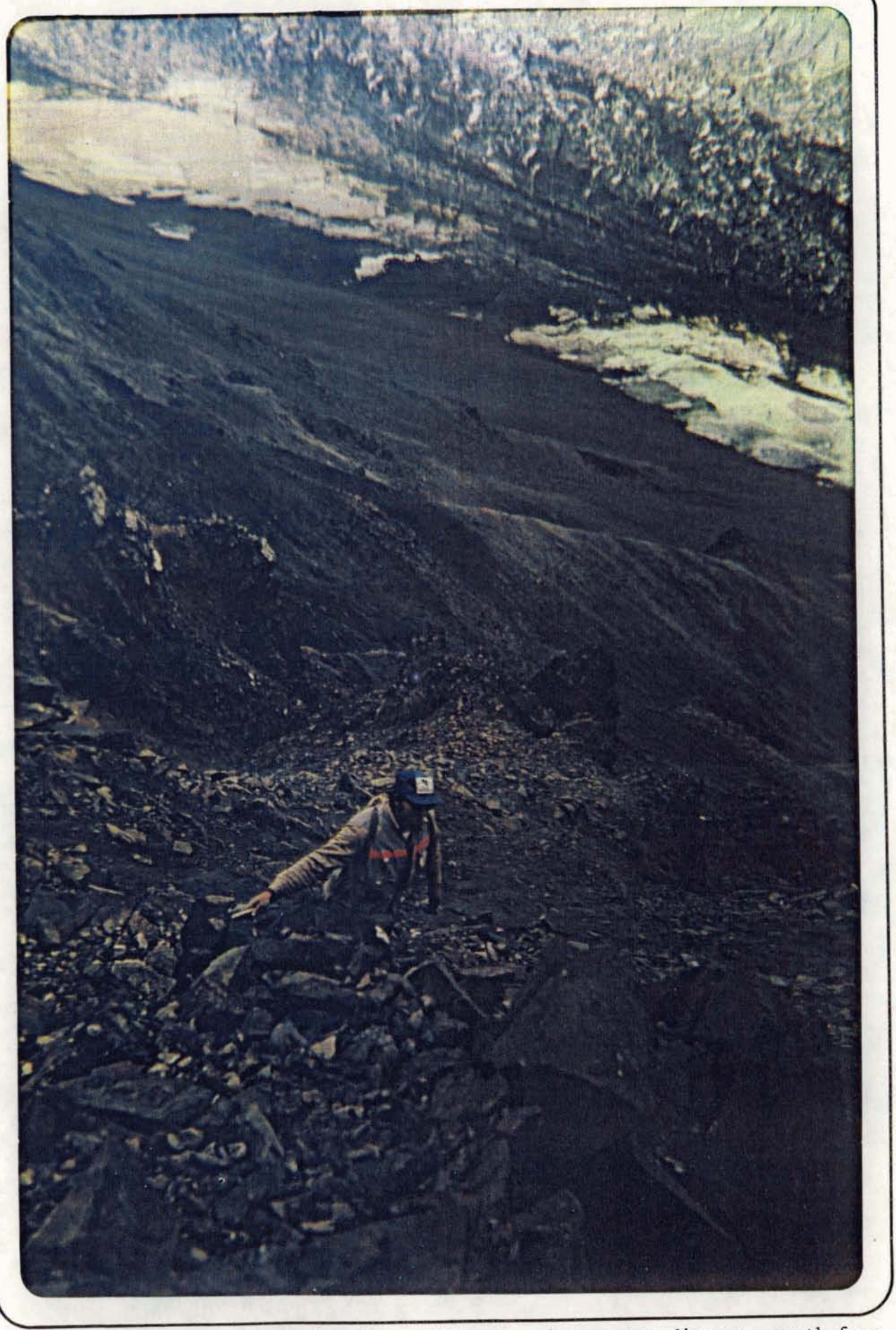


Photo 7-82 Mapping "footwall" volcanics, metasediments, south face of Windy Craggy ridge. Tats Glacier in background.

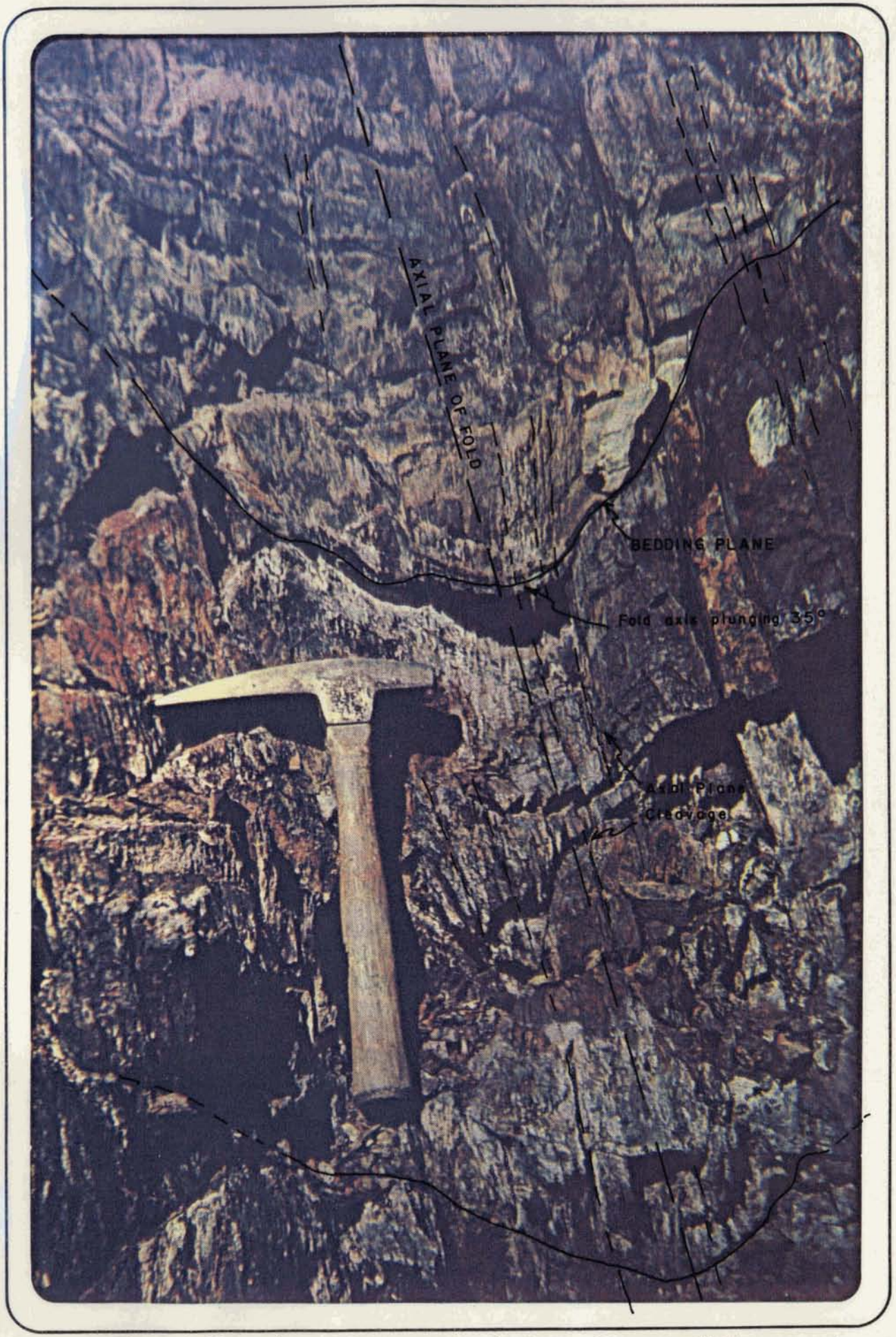


Photo 8-82 Minor fold structure in footwall metasediments, south face of Windy Craggy ridge.

APPENDIX C

1982 Programme Cost Analysis, PN 052

1982 PROGRAMME COST ANALYSIS - PN 052

70501 Diamond Drilling

001 Salaries

Month	Personnel	Time Distribution	Activities	Total
Jan.	J. McDougall	85%	1981 Programme Report, Assessment Report	
	I. King	30%	Typing for above	
	P. Seale	50%	Typing for above	
	G. Thomassen	90%	Drafting for above	$8,710.25*
Feb.	No charges			nil
Mar.	T. Chandler	20%	Windy Craggy Summary Report	
	J. Gammon	12.5%	Windy Craggy Summary Report	
	J. McDougall	20%	Tats, Kowall Option Reports	
	G. Thomassen	15%	Drafting for above Reports	see below
Apr.	T. Chandler	10%	Windy Craggy Summary Report	
	J. Gammon	7.5%	Windy Craggy Summary Report	
	G. Thomassen	2.5%	Drafting for above	see below
May	T. Chandler	5%	Windy Craggy Report; Claim status, Assess. Report	
	G. Thomassen	15%	Drafting for above	
	P. Andexer	45%	Drafting, field supply organization	
	P. Seale	10%	Typing	
	- Combined total March, April, May			7,342.30*
June	T. Chandler	90%	Drill/Helicopter contract tenders and negotiations. Windy Craggy. Claim status research, WC Assessment report. Field Preparations.	
	J. Gammon	15%		
	G. Thomassen	35%	Drafting,Field Preparations.	
	P. Andexer	40%	Drafting,Field Preparations.	
	P. Seale	25%	Typing.	6,965.35

001 Salaries cont.

Month	Personnel	Time Distribution	Activities	Total
July	T. Chandler	85%	Project supervision, Field work	
	P. Andexer	57%	Field work	
	G. Thomassen	57%	Field work	
	T. Heah	40%	Field work	
	J. Gammon	20%	Field visits, project management	
	J. McDougall	20%	Field visits	
	P. Seale	20%	Typing progress reports, Drill logs	
				8,825.16
Aug.	T. Chandler	87%	Project supervision, Field work	
	G. Thomassen	82%	Field work	
	P. Andexer	84%	Field work	
	T. Heah	82%	Field work	
	J. McDougall	25%	Field visits, Project supervision	
	J. Gammon	15%	Field visits, Project management	
	J. Hugi	20%	Transport of core to Delta	
	J. Wilson	5%	Assessing snow/ice conditions for water line and safety path for Hole 12-82	
	J. Oliver	5%		
	P. Seale	35%	Drill Log, progress report typing. Drafting preliminary drill sections	
				15,134.63
Sept.	T. Chandler	85%	Collation of field data, Map and section drafts, Drill logs, Assessment Report	
	G. Thomassen	100%	Drafting	
	P. Andexer	40%	Storage and organization of drill core, Delta	
	T. Heah	15%	Data collation, storage and organization of drill core	
	P. Seale	10%	Typing	
				7,807.37

001 Salaries cont.

Month	Personnel	Time Distribution	Activities	Total
Oct.	T. Chandler	70%	Assessment report, map drafts, core sampling for cobalt studies, visitors	
	G. Thomassen	50%	Drafting, copying	
	P. Andexer	60%	Drafting, copying, colouring, report compiling	
	T. Heah	45%	Core sample selection cobalt & thin section studies	
	P. Seale	15%	Typing	
				6,340.52
TOTAL SALARIES JANUARY TO OCTOBER 1982				$61,125.58

120 Travelling and Expenses

A)	Air Travel - To and From Project Personnel: C. Niles, T. Heah , G. Thomassen, P. Andexer, T. Chandler, J. Gammon, J. McDougall	3,420.21
B)	Hotels, Field Expenses: Mobilization and Demobilization. Includes fuel costs for Local transport.	3,833.71
TOTAL TRAVELLING AND EXPENSES JANUARY TO OCTOBER/82		$7,253.92

600 Contract Payments

Period	Contractor	Services	
Feb,March,Apr	G. A. Noel	D. Hoy-reports on 1981 Programme	6,903.05*
March	Alaska-Yukon Trading	Bulldozing strip, Dezadeash Lake for March Fuel Haul	1,200.00
July,August	Longyear	Diamond Drilling	215,825.88
August	Underhill and Underhill	Legal Claim Post Survey	1,857.28
TOTAL CONTRACT PAYMENTS JANUARY TO OCTOBER 1982			$225,786.21

604 Field Expenses

Period	Supply/Service Description	Remarks	Total
Jan.-July	JD450 Tractor rental	Incurred expense - 1981 Programme	12,000.00*
January	Core Racks		1,126.51
January	Propane	1981 cylinder return credit	(303.20)*
January	J. Hugi, field expenses	1981 Camp close-up	137.57*
Jan.-Mar.	Office supplies, reproduction services	J. J. McDougall/ D Hoy reports on 1981 Programme	1,087.73*
Mar.-June	Office supplies, reproduction services	J.B.Gammon/T.Chandler summary report on Windy Craggy.	449.96*
Mar.-Apr.	Fuel supplies, Transport Fuels	Fuel Haul to Tats Lake	56,911.50
		Adjustments for 1981 charges	12,356.43*
May-June	Field equipment, drafting/office supplies, safety gear	'82 field season supplies	757.74
May	Overhaul of Survey Transit	Field season preparation	494.39
May	Radio Licences		120.00
June	2040 ft. of 2" pipe-line and couplings	Drill Water-line extensions	2,901.01
July	Fuel costs	Adjustment on 1981 invoices	239.00*
July	Drill Mud, Soda Ash, Kwik Seal	Drill supplies	3,344.52
June-July	Vehicle Rentals	Mobilization/ Assessment Filing	1,095.48
July	E.R.A. 212 Helicopter	Mobilization 37.1 hours	54,646.62
July-Aug.	Air North Float Plane Charters	Personnel/supply flights(parts,drill supplies,groceries)	9,937.11
June-Aug.	Transwest/Pacific Helicopters Hughes 500D	194.9 hrs. Drill moves, provisioning, crew changes,visits,communi-cations. 99.8 hrs Mobilization,supply/ parts flights. 32.4 hrs. Demobilization of drill personnel and gear,empty fuel drums, camp demob and Ferry flight. 19.1 hrs Demob. drill core. 14.6 hrs. Survey of Legal Corner Posts	
		Total 360.8 hrs.	136,439.56

604 Field Expenses cont.

Period	Supply/Service Description	Remarks	Total
July-Aug.	Supplementary Fuel Supply White Pass/ Diemert Dist.	E.R.A. Helicopter Fuel for mobilization & demobilization fuel	15,540.10
August	Local Vehicle Rentals	Supply trips/fuel hauls & return of empty duel drums to Whitehorse	2,623.10
August	Fuel Credits	Return of empty drums	(20,908.00)
July-Aug.	Bags of mud, soda ash, poly drill, Expediting Services	Drilling supplies	9,428.03
July-Sept.	Communications	Radio telephone charges, misc. telex courier charges	422.51
July-Aug.	Vehicle Rentals	Demobilization and transport of core to Delta office	5,820.60
June-Sept.	Vehicle Fuel Bills	Mob, demob, local supply trips, core transport, fuel hauls etc.	2,043.62
July-Aug.	Field Equipment	Ropes, climbing gear, ice axes, clamps misc for securing Hole 12 waterline & safety path.	772.66
Aug.-Oct.	Office Supplies, Reproduction Costs	Assessment Reports, Field Maps/sections	488.41
July-Sept.	Field Expenses	Hotels, meals, misc supplies	822.13
September	Transport Charges	Return of JD450 Cat to Vancouver	1,971.92*
TOTAL FIELD EXPENSES JANUARY TO OCTOBER 1982			$312,767,01

608 Assays

January	General Credit from 1981 Accrual	(5,000.00)*
Feb.-Mar.	Min-Fn - Acme Charges (JJM check assay report, 1981 Assays)	2,045.72*
July-Oct.	Bondar - Clegg - assay charges 1982 drill core samples	7,065.00
TOTAL ASSAYS JANUARY TO OCTOBER 1982		$4,110.72

71001 Camp Operation

001 Salaries

June	J. Hugi	55%	Camp set-up, mobilization of field supplies to camp.	
	J. Hugi jr.	55%	Camp set-up, mobilization of field supplies to camp.	2,482.17
July	J. Hugi	50%	Camp Maintenance & operation	
	J. Hugi jr.	95%	Camp Mainten. & operation	2,555.13
TOTAL SALARIES JANUARY TO OCTOBER 1982				$5,037.30

616 Camp Supplies

Period	Item/Supply Category	Remarks	Total
February	Air North Charter flight	1981 Bill out-standing	349.12*
Mar.-Apr.	Stove oil	Spring Fuel haul	2,780.16
June-Sept	Camp Equipment	Cots,tools,bags, building materials Electrical supplies First aid supplies	2,247.20
June-Sept	Propane, naptha gasoline	Camp operation fuel	1,738.06
June-Sept	Misc. Supplies, vehicle fuel, food		766.02
June-Sept	Communications	Radio licences, radio telephone charges, Radio Rental	1,626.70
	(incl. 736.00 incurred 1981 for radio relay links)*		
June-Sept	Air North Charter flights	Groceries, camp supplies	1,978.00
June-Sept	Equipment Rental Charges	FL camp equipment	7,290.00
June-Sept	Longyear Board Charges	$18.00/man-day	4,428.00
June-Sept	Cook's wages, grocery charges		2,248.61
TOTAL CAMP SUPPLIES JANUARY TO OCTOBER 1982			$25,451.87

620 Hotels & Meals

June/July	Dezadeash Lodge & minor misc. expenses	$4,193.93

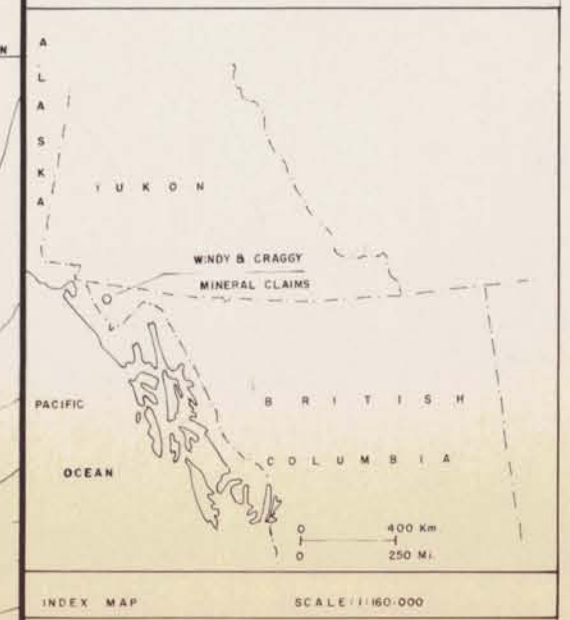
TOTAL PN 052 CHARGES JANUARY TO OCTOBER 1982 (Excluding Property Maintenance)	$645,726.54

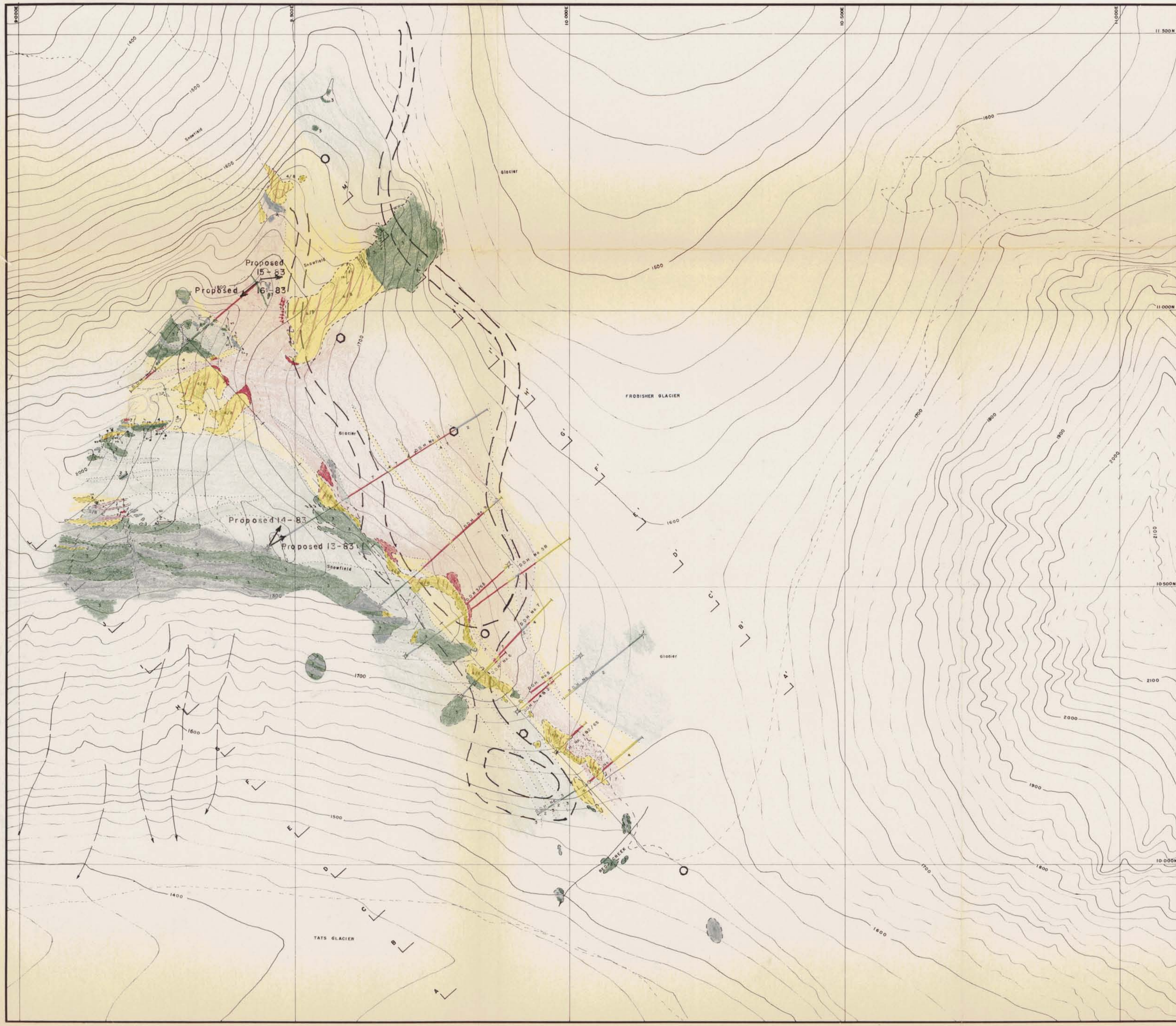
* 1981 Programme outstanding bills, expenses, accruals etc. Total $49,025.85 including cost of reports on 1981 programme. Does not include proportionate cost of helicopter demobilization of FLY 38 rig & JD450 tractor from site.

EXPEND. PRIOR YEARS - $
FORECAST CURRENT YEAR - $
GEOGRAPHIC LOCATION
001 001

EXPLORATION PROJECT STATEMENT - 1982 TO DATE
PROJECT NUMBER 052 -01
NAME ALSEK/GEODES RESOURCES LTD

		JULY 31 $	AUG. 31 $	SEPT 30 $	OCT. 31 $	NOV. 30 $	DEC. 31 $
701	GENERAL & GEOLOGY						
- 001	SALARIES	1,367.78					
- 120	TRAVELLING & EXPENSES			1,357.28			
- 500	CONTRACT PAYMENTS						
- 504	FIELD EXPENSES	495.89	495.89	1.50	1.50		
- 508	ASSAYS	120.00	120.00	120.00	120.00		
	TOTAL	2,003.67	615.89	1,978.78	121.50		
702	GEOPHYSICS						
- 001	SALARIES						
- 120	TRAVELLING & EXPENSES						
- 500	CONTRACT PAYMENTS						
- 504	FIELD EXPENSES						
	TOTAL						
703	GEOCHEMISTRY						
- 001	SALARIES						
- 120	TRAVELLING & EXPENSES						
- 500	CONTRACT PAYMENTS						
- 504	FIELD EXPENSES						
- 508	ASSAYS						
	TOTAL						
705	DIAMOND DRILLING						
- 001	SALARIES	31,843.06	46,977.69	54,785.05	61,125.58		
- 120	TRAVELLING & EXPENSES	549.23	3,795.47	5,220.41	7,007.17		
- 500	CONTRACT PAYMENTS	120,390.90	227,485.73	223,493.33	225,350.61		
- 504	FIELD EXPENSES	212,130.52	267,560.44	313,489.03	314,521.47	S/B. 312,549.55	
- 508	ASSAYS	(1,354.28)	(1,287.78)	4,044.72	4,110.72		
	TOTAL	363,559.43	544,531.55	602,032.55	612,115.55		
710	CAMP OPERATION						
- 001	SALARIES	5,037.30	5,037.30	5,037.30	5,037.30		
- 616	CAMP SUPPLIES	11,589.35	16,445.82	24,207.63	26,505.70	S/B 25,352.77	
- 620	HOTELS & MEALS	14.00	4,193.93	4,193.93	4,193.93		
	TOTAL	16,640.65	25,677.05	33,438.86	35,736.93		
720	METALLURGY & MINERALOGY						
725	FEASIBILITY STUDIES						
730	OPTION PAYMENTS & PARTIC						
740	PROPERTY MAINTENANCE	1,041.30	7,481.30	4,981.30	4,891.30		
750	DRAUGHTING						
755	REGIONAL OFFICE EXPENSES						
760	OTHER EXPENSES						
790	PARTICIPANTS SHARE						
795	PARTICIPANTS SHARE	(383,245.05)	(573,405.77)	(642,331.49)	(652,859.28)	S/B. 649,730.43	
	PROJECT TOTAL						
	CUMUL. FORECAST OF EXPENDITURE						
	VARIANCE						





DIGHEM

O O Electromagnetics Anomaly

Resistivity

LEGEND

- 2 Calcareous to non-calcareous argillites, siltstones. Minor argillaceous limestone
- 3 Andesitic and dacitic flows and tuffs. Relatively massive, unaltered
- 4 Chlorite-epidote altered foliated volcanics. Includes silicified cherty tuffs
- 7 Sulphides including gossanous surface outcrops
- 8 Stringer to semi-massive sulphides or partly gossan zones

- Fault
- Foliation/clevage attitude
- Bedding attitude
- Minor fold structure and attitude, plunge direction
- Joint
- Horizontal projection of drill hole

GEOLOGICAL CONTACT

- Observed
- Inferred
- Extrapolated from drill hole data

50 0 50 100 150 m

SCALE: 1:2500

FALCONBRIDGE LIMITED		
PROPERTY: WINDY & CRAGGY COPPER-COBALT		PROJECT NO.:
LOCATION: St. Elias Mtn. B.C. Lat. 59°44' Long. W. 137°45'		
TYPE OF MAP: Geology		
WORKING PLACE:		
BASED ON: Geology by T.C. & T.H. and Stadia Survey by G.T.		
DATE OF WORK: Aug. 1982	MAP REF. NO.:	FIG. NO.:
DRAWN BY: G.T.		
DATE: Nov. 1982	N.T.S. NO.: 114-P-12	052-82-5