#4692

862386

TARGET PROJECT

117

THIRD QUARTER REPORT

July - September 1980

J.C. Stephen Explorations Ltd.
1458 Rupert Street,
North Vancovuer, B.C.

October 31, 1980

J.C. STEPHEN EXPLORATIONS LTD.
1458 Rupert Street, North Vancouver, British Columbia V7J 1G1 (604) 988-1545

WB

WB LBH DRS EAP
PROJECT 117
FILE NOV 6 1980
☐ PROPERTY ☐ DRILLING
☐ CUTTING ☐ LEGAL
☑ TECHNICAL ☐ MISC.
☐ OTHER

October 31, 1980

Mr. G.S.W. Bruce,
Dome Exploration (Canada) Ltd.
1 First Canadian Place,
Toronto, Ontario. M5X 1H1

RE: Target Project #117

Dear Mr. Bruce,

Enclosed are the Third Quarter Report and the Financial Report to September 30 for Target Project.

Costs of staking the 16 unit BRAN group south of Borel Lake during October and wages being paid presently to complete compilation of geochemical results will deplete the bank balance before the end of the calendar year. We hope to carry out a review of the projects regional geochemical maps before that time in search of possible target areas for 1981.

Yours very truly,
J.C. Stephen Explorations Ltd.

Flame and Bran sound interesting WB.

J.C. Stephen

J.C. Stephen

JCS/ms

TARGET PROJECT #117

FINANCIAL REPORT

July 1 - September 30, 1980

Item	July-Sept.	Year to date
ADVANCES-EXPENSES	$ 1,151.58 Cr	$ 348.42
MACHINERY & EQUIPMENT		419.02
FOOD	2,580.79	3,567.54
MAPS, PHOTOS, PUBLICATIONS, ETC.	10.00	387.39
ASSESSMENT RECORDING	575.00	1,075 00
ASSAYS	30.60	30.60
GEOCHEM	7,543.62	16,627.76
SUB-CONTRACTS	3,200.00	10,861.17
CASUAL LABOUR	118.99	118.99
SALARIES & BENEFITS	4,188.82	14,658.35
WORKERS' COMPENSATION	136.50	477.77
TOOLS AND SUPPLIES	322.05	3,013.55
BLUEPRINTING, DRAFTING AND SUPPLIES	80.60	851.42
EQUIPMENT RENTAL AND REPAIRS	-	408.00
AIRCRAFT RENTAL	4,783.00	6,449.00
TRUCK RENTAL	2,231.07	5,096.59
VEHICLE OPERATING	1,266.63	2,053.20
PUBLIC RELATIONS AND SYMPOSIUMS	-	6.65
TRAVEL	1,067.90	3,808.44
TELEPHONE	427.50	890.76
EXPRESS, CARTAGE	293.75	426.90
INSURANCE	-	155.00
J.C. STEPHEN SERVICES	68.75	4,195.82
OVERHEAD	633.00	2,240.57
LICENSE FEES		5.00
INTEREST AND BANK CHARGES	14.75	76.77 Cr
TOTAL	$ 28,421.74	$ 78,096.14
CONTRIBUTIONS		82,300.00
BALANCE PER BANK December 30, 1979		502.17
BALANCE PER BANK September 30, 1980		$ 4,706.03

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TARGET PROJECT #117

THIRD QUARTER REPORT

July - September 1980

SUMMARY

Mapping and soil sampling on GREER claim group had been completed late in June. Work was compiled and an assessment report filed in July. Results were generally negative and no further work is planned.

A geologist and assistant were moved to the Chuchi Lake area early in July but very little work was accomplished and the crew was taken off the project July 15. Review of notes, rock specimens and geochemistry has still to be done for this area.

Bryan Fraser and assistant conducted prospecting in the Binta-Borel-Anzus Lakes region. (Index Map I) A high silver assay, 252 ounces per ton, was obtained from a single piece of float south of Borel Lake. Several other anomalous rock samples were obtained in the same area and the 16 unit BRAN group was staked in September to cover the area.

INDEX MAP I

SCALE 1:1,267,200

Prospecting in the BINTA area failed to locate any showings or anomalies of interest.

This same crew conducted profile soil sampling, prospecting and an extensive magnetometer survey on the HALO group about five miles south-east of BURN. (Index Map II) The HALO group had been staked early in 1980 to cover copper-molybdenum soil anomalies in a setting similar to the BURN. Exploration during the summer failed to locate mineralization in place. A brief report by Fraser is included with this report.

Rock sampling, mapping of trenches and some prospecting were done on the FLAME group. Fraser has prepared a preliminary report which is included herein. Low gold values are evident. Copper assays have not yet been obtained but may reach 1% in some areas. The property appears to warrant further examination although assay values are low.


LAWYERS & CHAPPELLE PROPERTIES
FLAME PROPERTY
BURN PROPERTY
HALO PROPERTY
MT McNAMARA 8278
MT CUSHING 8100
BRONLUND PK 8511
WARNER PK 7820
MT McCOOK 6429
6648 SPECTRE PK.
8300 LOMBARD PK.
WANTHINLI MTN 8100
MT. YUEN 7300
MT REDFERN 9500
MT. WI HROW 7310
MT. McCUSKER 8393
TRUNCATE MTN 6276
DESERTERS PK. 7430
GIEGERICH PK.
MT MELVIN 7184
FLEET PK. WREDE 7630
CHASE MTN 7177
MT FERGUSON 6523
MT HENRI 7689
Fort Grahame
MT. LAURIER 7711
BREWSTER MTN 7005
MT. BURDEN 7625
Finlay Forks
MT. CRYSDALE 7950
SHELAGYOTE PK 8090
IKTLAKI PK 6040
Bulkley House
Germansen Ldg.
Manson Creek
CENTRE PK 6495
MT HORETZKY 5330
West Landing
Babine
Morrison Lake
OLD FORT MTN 5165
Old Fort
Natowite L.
MT. NATION 6155
Tchentlo Lake
MT ALEXANDER 5411
Tochcha L.
Middle River
TREMBLEUR LAKE
Grand Rapids
Tezzeron L.
Thutade Lake
Ingenika
Finlay Rapids
INDEX MAP II
SCALE 1:1,267,200

PRELIMINARY REPORT ON BOREL LAKE RECONNAISSANCE

INTRODUCTION

The Borel Lake area is 10 km south of the east end of Francois Lake. It comprises part of N.T.S. map sheet 93F/14E. Initially described as AREA 1 in Target First Quarter Report for 1980, it was picked as a target for prospecting due to regional anomalous arsenic and gold in silt samples. Of particular interest were north trending silver-lead-zinc fracture systems reported at the Cabin Lake Property of Nithex Exploration, located in the south-east corner of the sheet.

It was felt that where these fracture systems encountered overlying volcanics there would be potential for low grade silver-gold mineralization in silicified breccia zones.

From June 16 to June 26, B. Fraser and D. Guglielmin engaged in regional prospecting of this area. Subsequently a soil traverse of an anomalous region was made on July 16th.

GEOLOGY MAP III

Regional geology of this area is covered by MEMOIR 324 - NECHAKO RIVER MAP AREA by H.W. Tipper.

In general the main rock type consists of basic volcanics which Tipper has broken down into Upper Triassic - Lower Jurassic Takla Group north of Cabin Lake and Upper Cretaceous - Paleocene Ootsa Lake Group elsewhere. The major intrusive plug at Cabin Lake has been mapped as Lower Jurassic Topley granodiorite.

No attempt was made to classify the volcanics during this work and simple rock descriptions are placed on the accompanying preliminary map sheet. Our work confirmed Tipper's with the following exceptions

1) the granodiorite unit is more extensive than previously mapped.

2) the andesite unit containing the mineralized fracture zone southwest of Borel Lake appears to be in probably older volcanics than exposed elsewhere.

A visit to the Cabin Lake Silver-Lead-Zinc property altered our view regarding favourable fracture systems. Instead of north trending the mineralized zones in the granodiorite trend north-west. It is very likely that the zone found this summer is related to the zone at Cabin Lake. This makes the intervening ground attractive for more prospecting.

MINERALIZATION

The important fracture zone mentioned previously lies 2.2 km south-west of Borel Lake. It forms a 1000 metre canyon in moderately pyritized,calcite veined andesite. Angular cobble float of a calcite vein at least 15 cm. wide was found in the creek. (# 73456). It contained minor sphalerite and trace galena and chalcopyrite. Initial rock geochem returned +20 ppm silver and 120 ppb gold. One hundred meters downstream the andesite unit is overlain by pyritic grey tuff. A sample of this tuff at the contact (# 73457) returned +20 ppm silver and 20 ppb gold. These results compare favourably with grab samples from the Cabin Lake Property where strong sphalerite-moderate galena - trace chalcopyrite mineralization in fractures in granodiorite (#80847) returned +20 ppm silver and 3100 ppb gold. Pyritic acid scoria (#80844) returned +20 ppm silver and 120 ppb gold. Assaying of the above samples gave the following results:-

Area	Sample No.	Ag. Oz/Ton	Au Oz/Ton
new zone	73456	252.60	
new zone	73457	0.32	
Cabin Lake	80844	1.28	
Cabin Lake	80847	5.90	.25

Although the source for the silver-rich float was not determined it is believed to be nearby for the following reasons:-

1) the creek is following a major fracture zone.

2) the cobble float was angular calcite which sould not have been transported far from source.

3) smaller calcite fractures containing trace galena and sphalerite were noted upstream in the vicinity of samples 73451 - 55.

CONCLUSIONS

Assays of 252 oz. silver can not be overlooked even in float, especially when there is reason to believe the source is nearby. a 16 unit claim block, the BRAN claim, was staked in September to cover this area.

REPORT ON RECONNAISSANCE WORK ON HALO 1 MINERAL CLAIM

INTRODUCTION

The HALO 1 Mineral Claim is situated in the Omineca Mining District and is covered by N.T.S. 1:50,000 map sheet 93N/6E. It is located near the headwaters of Halobia Creek, approximately 10 km east of Indata Lake. (see Index Map II)

Although sub-alpine, the claim has moderate relief with valleys at 1350 - 1500 m. and the main rounded hill which makes up the east half of the property reaching 1657 metres.

From July 24 to August 11, 1980, B. Fraser and D. Guglielmin conducted an MF 1 magnetometer survey of the claim and regionally prospected the claim and surrounding area. Two days were spent staking claim lines which were chopper-staked in March 1980.

PREVIOUS WORK

Originally staked as the NOBLE claim group, the soil geochemical survey done by UMEX in 1971 (see Assessment Report 3611) indicated large areas of high molybdenum and copper geochem. Subsequently 6.8 line miles of I.P. and 12.5 line miles of magnetometer were done on NOBLE 2 - 4, 11 - 16, 21 - 23, 25, 26, 46 - 48; and surface diamond drilling, (five holes totalling 1139 feet on NOBLE 2, 12, 13, 14,) was performed in 1972. The results of the 1972 work were not made public.

GEOLOGY MAP IV

The HALO 1 Mineral Claim is centrally located in the northwest trending Hogem batholith, a composite pluton of lower Jurassic to Lower Cretaceous age. Regional geology at a scale of 1:125,000 is well covered in Department of Mines Bulletin 70. In this work, J.A. Garnett breaks the batholith into three main phases:

Phase I a Lower Jurassic to Upper Triassic phase of basic composition.

Phase II a Middle Jurassic to Lower Jurassic to Lower Jurassic syenite phase.

Phase III a Lower Cretaceous phase of generally granitic composition.

In this area, two of the above phases occur. Numerous rocks of monzonite composition have been mapped as part of the Hogem Basic Suite of Lower Jurassic Age. Generally foliated these rocks vary from medium grained hornblende to biotite monzonite. In addition small outcrops were observed of foliated hornblendite. This extremely basic rock is believed to be responsible for the highest magnetometer anomalies obtained on the property.

It is interesting to note that Garnett states in reference to the Duckling Creek Syenite Complex - "Biotite pyroxenites occur as irregular pods and lenses within the basic rocks. There is no similar occurence of pyroxenite known elsewhere within the southorn Hogem Batholith" - Page 43, Bulletin 70. The hornblendite noted on HALO within foliated basic rocks therefore may mean a unique similarity with the basic phase at Duckling Creek. Although our focus was on molybdenum, this makes the copper potential worth reconsidering.

The second main rock unit is mapped as Phase III intrusions. It has been subdivided into:

1) an extensive coarse grained phase of granitic composition which can be commonly K-spar porphyritic.

2) a narrow band of fine to medium grained granitic rock.

Note, in the field these rocks were mapped as quartz monzonites but in deference to Garnett's extensive chemical and section work they are better named granites.

PROCEDURE

A comparison of regional 1:125,000 scale geology (see Bulletin 70 - Geology and Mineral Occurrences of the Southern Hogem Batholith - J.A. Garnett, 1978) with regional aeromagnetic maps for the area indicated a strong contrast in the different phases of the Hogem Batholith. It was felt a ground magnetometer survey would help in mapping the geology.

Lines were run east-west with a separation of 100 meters and reading interval of 100 meters over the entire claim. The legal corner post was set as 00N - 00E and north-south claim lines were used as base lines. Control was by hip-chain and compass. An MF 1 magnetometer was used with correction for variation applied only once per day.

In total 52.5 km of readings were taken from July 27 to August 3. These results are plotted as Map V.

Subsequently work focussed on the soil anomalies indicated by UMEX 1971 work. Detailed bedrock prospecting was conducted. Further, profile holes were dug to bedrock where possible or at least to the C horizon. The results are shown as Figures 1 to 3. To some extent reconnaissance geology and prospecting was done on the surrounding area. A summary of the above is on Map IV.

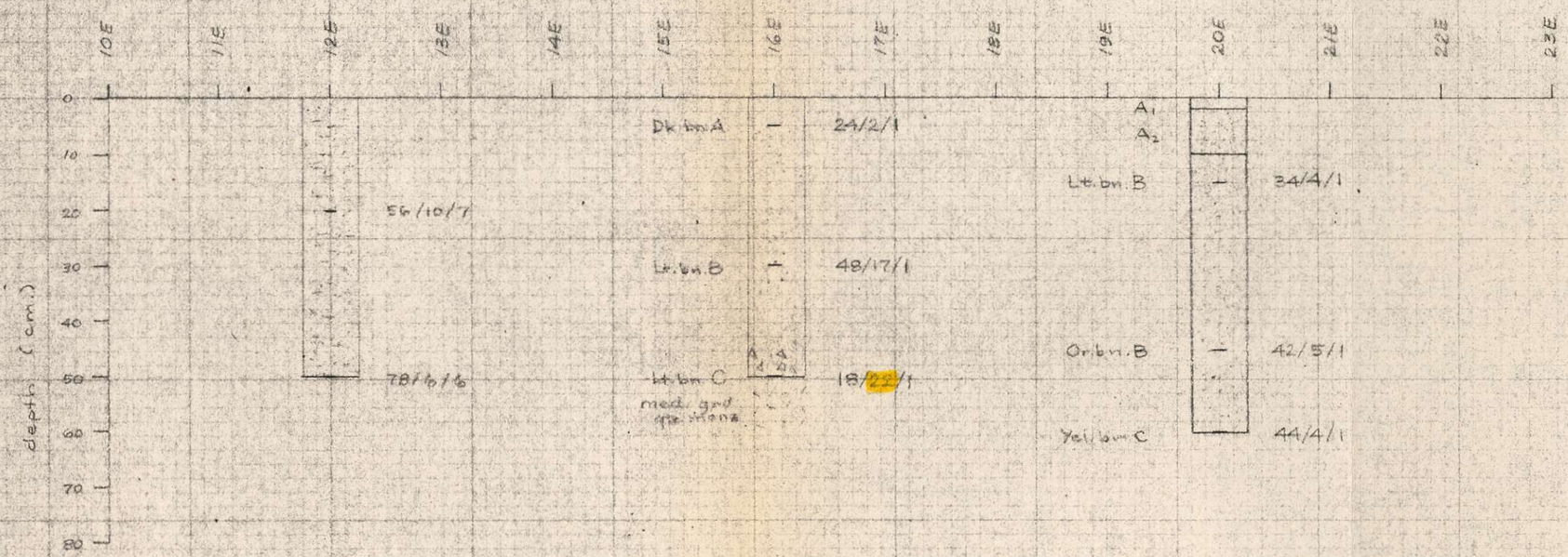
RESULTS MAP V

Magnetometer results have only been contoured for 1000, 2000 and 3000 gammos. Several low zones can be picked out. Of particular interest is a sharp low situated at 8E from 11N to 16N. It appears to be coincident with a major 40 ppm molybdenite soil anomaly.

Detailed prospecting of UMEX anomalies failed to turn up significant mineralization. Trace molybdenite was found at three locations: samples 73801, 73802 and 80790 (boulder float). Pervasive biotite alteration was noted in unit 4a which may be related to porphyry type intrusions.

Soil profiles of anomalous areas showed significant increase in molybdenum at 20S - 16E, 20S - 13E (Figure 3); 4S - 16W, (Figure 2); and at 16N - 16E, (Figure 1). In all cases except 16N - 16E increase of molybdenum concentration with depth coincided with increase in copper concentration. However, where holes reached bedrock no important mineral was found. In fact only trace chalcopyrite was noted in hornblende monzonite.

LINE 16N (J.C.S. GRID)



Cu/Mo/W

sample cu/mo/w

sand

clay

angular rock frags

gravel

J.C. STEPHEN EXPLORATIONS LTD
TARGET PROJECT

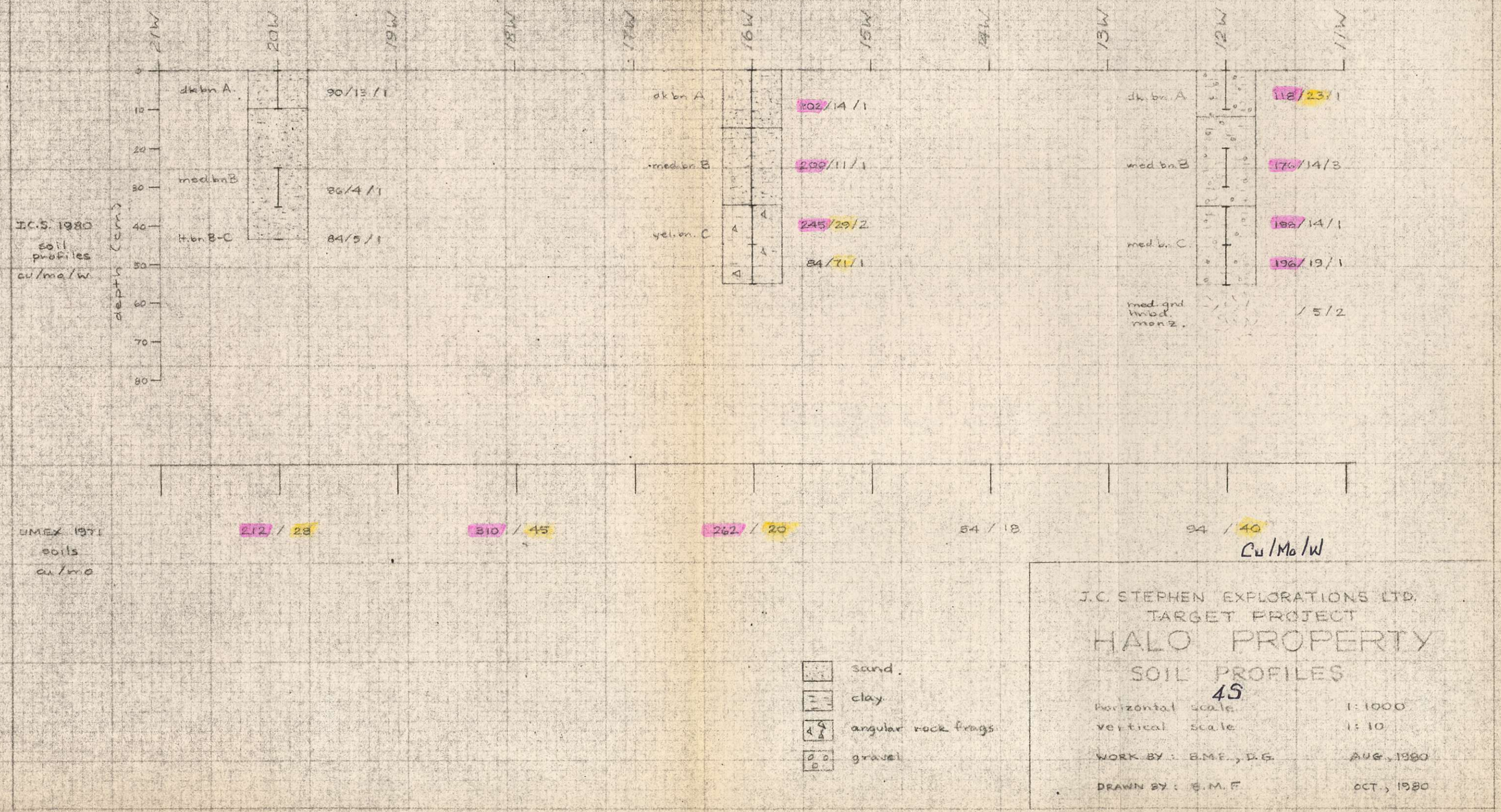
HALO PROPERTY

SOIL PROFILES

16 N

horizontal scale	1:5000
vertical scale	1:10
WORK BY: D.G.	AUG., 1980
DRAWN BY: B.M.P.	OCT., 1980

FIGURE 1



J.C. STEPHEN EXPLORATIONS LTD.
TARGET PROJECT
HALO PROPERTY
SOIL PROFILES
4S

Horizontal scale	1:1000
vertical scale	1:10
WORK BY: B.M.F., D.G.	AUG., 1980
DRAWN BY: B.M.F.	OCT., 1980

FIGURE 2

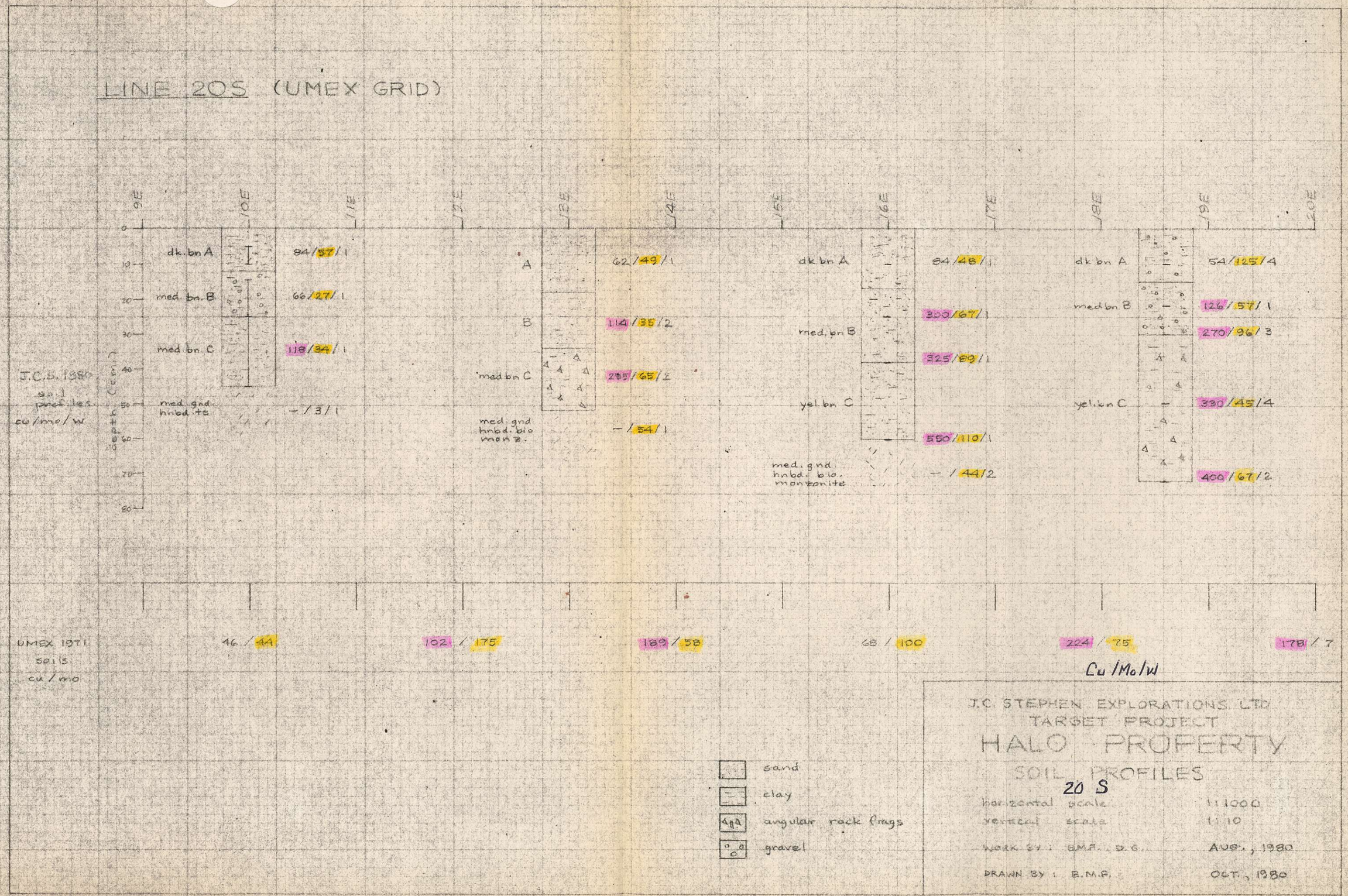

LINE 20S (UMEX GRID)
9E
10E
11E
12E
13E
14E
15E
16E
17E
18E
19E
20E
0
10
20
30
40
50
60
70
80
depth (cm)
dk. bn A
84/57/1
med. bn. B
66/27/1
med. bn. C
118/34/1
J.C.S. 1980
soil profiles
co/mo/w
med. gnd hnbd. ite
-/3/1
A
62/49/1
B
114/35/2
med bn C
255/65/2
med. gnd hnbd. bio monz.
-/54/1
dk bn A
84/48/1
med. bn B
300/67/1
325/89/1
yel. bn C
550/110/1
med. gnd. hnbd. bio. monzonite
-/44/2
dk bn A
54/125/4
med bn B
126/57/1
270/96/3
yel. bn C
330/45/4
400/67/2
UMEX 1971
soils
cu/mo
46/44
102/175
189/58
68/100
224/75
178/7
Cu/Mo/W
sand
clay
angular rock frags
gravel
J.C. STEPHEN EXPLORATIONS LTD.
TARGET PROJECT
HALO PROPERTY
SOIL PROFILES
20 S
horizontal scale 1:1000
vertical scale 1:10
WORK BY: B.M.F., D.G. AUG., 1980
DRAWN BY: B.M.F. OCT., 1980

FIGURE 3

CONCLUSIONS

1) Only weak mineralization was found. Disseminated molybdenite in fine grained alaskite (samples 73801, 73802) ran 50 - 60 ppm and boulder float of biotite rich quartz monzonite (sample 80790) ran greater than 250 ppm (.025%). Copper mineralization was only seen as trace chalcopyrite in hornblende monzonite. However outcrop is not good in anomalous areas so this work may not be conclusive.

2) Soil profiles of anomalous areas indicate a bedrock source for copper and molybdenum geochemistry.

3) A strong magnetometer low at 8E from 11N to 16N is coincident with a 40 ppm molybdenum and copper anomaly on the old UMEX grid at 00N from 16W to 22W.

4) Only 2 of the 5 UMEX diamond drill holes were located on the ground although old cut lines for I.P. are in excellent condition. If possible, the results from this work should be obtained.

PRELIMINARY REPORT ON ROCK AND SOIL GEOCHEMICAL SURVEYS ON THE FLAME MINERAL CLAIM

INTRODUCTION

The Flame Mineral Claim of J.C. Stephen Explorations Ltd. is located in the Omineca Mining Division. It is 30 kilometers north of Takla Lake and consists of 20 units lying immediately east of Lion Creek. Relief is gentle with overall elevation change probably less than 300 feet. (Map II Page 4)

Access to the property during this program was via helicopter stationed at the Northern Mountain Helicopter base at Lovell Cove on Takla Lake. However, a 4-wheel drive road does lead from Bulkley House through the property and beyond to Kaza Lake.

There is no 1:50,000 scale map for this area - N.T.S. 93M/16W. However, 1:5000 scale enlargements of 1 inch to 1/4 mile air photos were obtained from the Department of Environment, Victoria and these gave excellent control. In particular, the claim is well covered by B.C. 7166 - 162.

PREVIOUS WORK

Originally the area was staked by R. Tait in 1968 as the Fire Group to cover copper showings in hornblendite. Subsequently, 10,000 lineal feet of trenching and 2164 feet of diamond drilling in 11 holes were used to explore the main zones. Dynasty optioned the property and conducted a reconnaissance geology and soil geochem program in 1973.

Research in early 1980 revealed mention by Dynasty of gold values up to .4 oz per ton over 13 feet in hornblendite. It was felt little attention had been paid to the gold potential of the area. In March 1980, B. Fraser and J Clarke located the Flame Mineral Claim to cover the main showings area.

Subsequently, in May the Northern Miner announced substantial gold occurrences in very similar rocks on Chappelle Property i.e. augite basalt intruded by monzonite dykes.

Claim maps indicate two FIRE claims are still held in the name of R. Tait. These are shown in the south-west corner of FLAME (Figure 4) in the location indicated by the claim maps. A concentrated effort was made to locate the posts on the ground but this detailed search failed to find any trace of these particular claim posts.

PROCEDURE

From August 14 to August 30, B. Fraser and D. Guglielmin performed detailed mapping and rock geochem, on the main showings area and prospecting of the immediate area surrounding the Flame Mineral Claim from one camp situated near Lion Creek. Time was roughly divided between the two jobs. Rock exposure for detailed work was excellent with extensive trenching having been done by Tait et al for North Star Copper. Rock samples of generally 13 - 15 kg. were taken mainly as chips across widths of mineral zones. Where exposures were poor, grab samples were taken. All samples were run for Au, As, Ag as rock geochem by Chemex Laboratories, 212 Brooksbank Avenue, North Vancouver, B.C. Figures 4 through 11 cover this work.

GEOLOGY

The property is underlain mainly by the Savage Mountain Formation, a sub-division of the Takla Group Volcanics of Upper Triassic Age. Major rock types of this unit observed in the field were augite basalt, augite-feldspar basalt and feldspar basalt. Minor occurrences of coarse (up to 2 cm.) bladed feldspar basalt appear to be restricted to dykes intruding the other basalts. There is one occurrence of marble on the Flame property (see Figure 6). It appeared to be a fault sliver but has been grouped with Savage Mountain Formation.

A distinctive dyke rock probably correlative with the Savage Mountain Formation contains most of the higher grade copper mineralization. Composed almost entirely of hornblende, it occurs in close proximity to felsite dykes. It is probable this rock represents alteration by hydrothermal solutions of earlier more basic (more pyroxene, more olivine) dykes.

It is worth noting that in chemical analyses done by Monger in the McConnell Creek area, the Savage Mountain Formation stands out as being very anomalous in copper and silver relative to all other rock units in the Takla and Hazelton Groups. (Appendix)

Cross-cutting the older volcanics in a north to northwest swarm are intermediate dykes varying in texture from aphanitic felsite to k-spar porphyry to quartz porphyry. Individual dykes assume up to 10 m in width and appear to be related to copper mineralization - not as a mineral source but as a heat source. Regionally the dykes are similar to the Kastburg Intrusions of Early Tertiary Age.

GEOCHEMISTRY

A small soil grid (see Figure 12)was run at the southern edge of the property to check southern extension of mineral zones into overburden covered area.

Regional prospecting relied mainly on soils with a few rock samples of more interesting zones. We had been interested in the possibility of the source rock for gold values being a rhyolite plug mentioned by Dean (Dynasty) south-west across Lion Creek. We also focussed on a prominent north set of fractures which cross-cut the main north-west trending set at the north end of the trenched area. (See Figure 15).

It is important to emphasize two things in considering the geochemical analyses:-

1) many of the exposures were of oxidized material which may give a positive or negative bias to results.

2) analysis was by rock geochem not assay which may have led to substantially lower Au values.

RESULTS

In total 100 soil samples were run for Au/As/Ag and 111 rock samples were run for Au/As/Ag. Soils were dead with the highest gold values two spot value of 40 and 60 ppb. Statistics for the rock values are listed below.

Au (values in ppb)

Range	No.	Mean	S.
<500	98	60.5	±84.9
>500	13	1536.2	±1507.2

Ag (values in ppm)

Range	No.	Mean	S.
<6	95	.87	±1.32
6-20	14	11.39	±4.54
>20	1	-	-

As (values in ppm)

Range	No.	Mean	S.
< 80	91	13.1	±16.5
80-500	13	141.5	±73.5
> 500	7	-	-

DISCUSSION

The rock geochem backs up our original feeling that there is potential for Au mineralization in this area. The strongest zone (see Figure 5) extends for at least 80 m. and appears related to a north west fracture.set. The following composite assays can be made up from the data.

(1)

Sample No.	Au	Width	Value x Width
73563	680	1.2 m	816
73564	6250	1.1 m	6875
73565	1300	1.3 m	1690
73566	1680	.4 m	672
	9910	4 m	10,053

The weighted mean is 2933 ppb Au over 5 m.
i.e. .094 oz/ton over 16.4 feet.

(2)

Sample No.	Au	Width	Value x Width
73572	1040	1 m	1040
73573	180	1 m	180
73573	180	1.1 m	198
73575	1500	.9 m	1350
73576	2200	.9 m	1980
73577	600	1 m	600
	5700	5.9 m	5348

The weighted mean is 891 Au over 5.9 m.
i.e. .028 oz/ton over 19.4 feet.

(3)

Sample No.	Au	Width
73561	1600	1.6 m

This is equal to .051 oz/ton over 5.2. feet.

The second strongest zone has unknown length (see Figure 8) but the following intersection:

(1)

Sample No.	Au	Width
73580	1300	1 m
73581	580	1 m
73582	540	1 m
	2420	3 m

The weighted mean in 806.7 ppb Au over 3 m.
i.e. .026 oz/ton over 9.8 feet.

(2)

Sample No.	Au	Width
73590	700	1 m

This is equal to .022 oz/ton over 3.3 feet.

Other zones have Au values less than 1000 ppb (i.e. .03 oz/ton).

The samples most anomalous for gold were sent for assay with the following comparative results.

Sample No.	Geochem ppb		Assay oz./ton		Figure
73561	1600		0.066		5
73563	680	1.2 m	0.042)		5
73564	6250	1.1 m	0.190)	0.085 oz. / 5.0 metres	5
73565	1300	1.3 m	0.096)		5
73566	1680	1.4 m	0.030)		5
73572	1040		0.050		5
73575	1500		0.030		5
73576	2200		0.062		5
73577	600		0.012		5
73580	1300		0.096		8
73581	580		0.010		8
73582	540		0.026		8
73591	700		0.003		8
73604	50		<0.003		6
73627	300		0.024		7
73632	300		0.005		7

CONCLUSIONS

There is significant encouragement to find Au mineralization on the Flame/M.C. Two main areas were determined during this program but true widths and lengths need to be better defined.

LEGEND FOR FIGURES

ROCK TYPES

1. SAVAGE MOUNTAIN FORMATION

aphanitic basalt	b.
augite porphyry basaly	ab.
feldspar prophyry basalt	fb.
coarse feldspar porphyry basalt	cfb.
bladed feldspar prophyry basalt	bfb.
hornblendite	hb.
marble (skarn etc.)	m.

2. KASTBERG INTRUSIONS

quartz porphyry	qp
k-spar porphyry	kp
felsite	fel

ALTERATION, MINERALIZATION

calcite veinlets	cv.	quartz veinlets	q.v
ankerite	ank.	chalcopyrite	cpy.
pyrite	py.	bornite	bo.
tetrahedrite	tet.	strong	str.
moderate	mod.	weak	wk.
trace	tr.		

GEOCHEM

sample no. / width / Au ppb / As ppm / Ag ppm / description

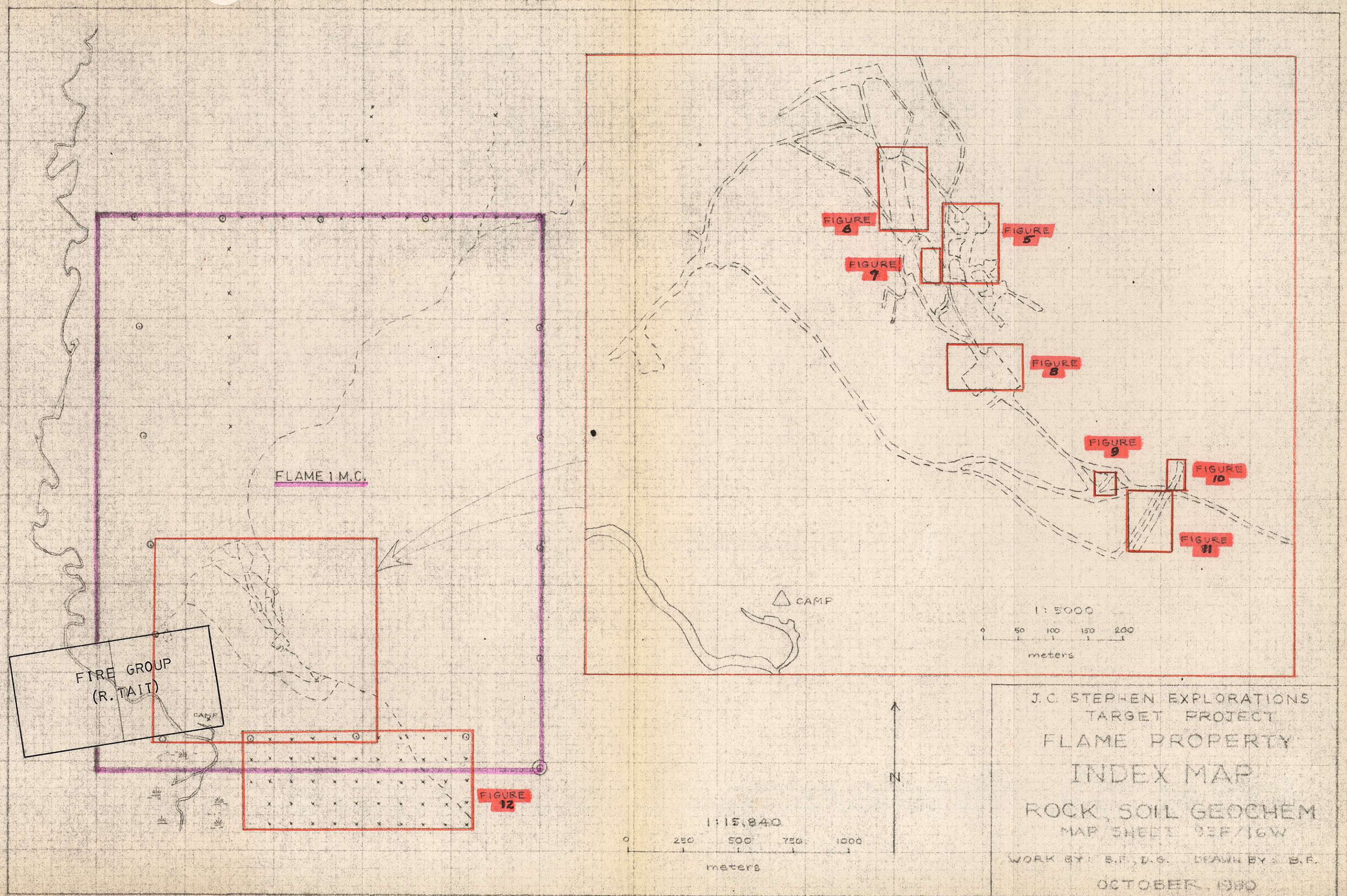


FIGURE 4

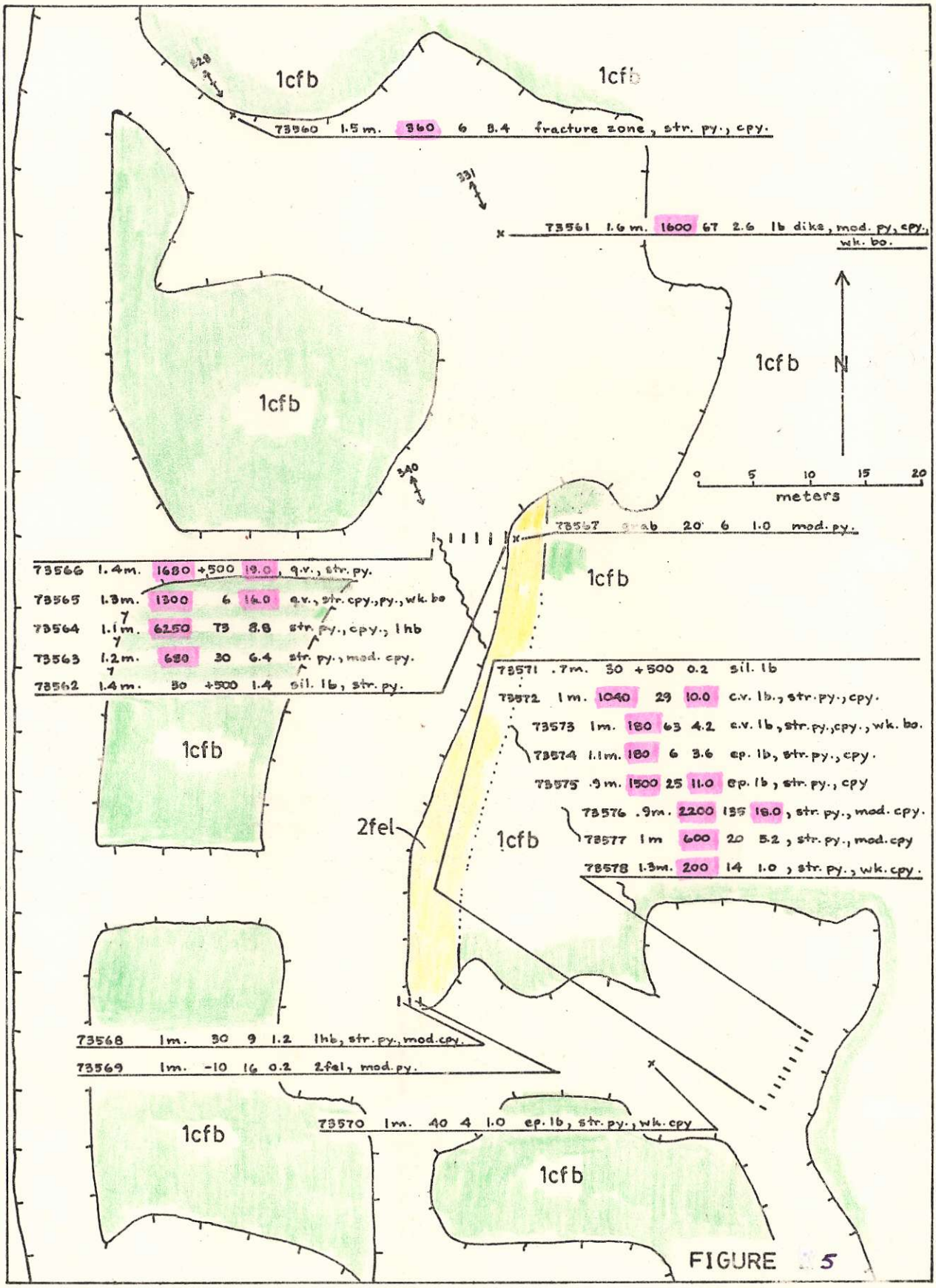

1cfb
1cfb
73560 1.5 m. 360 6 8.4 fracture zone, str. py., cpy.
73561 1.6 m. 1600 67 2.6 lb dike, mod. py, cpy., wk. bo.
1cfb
1cfb
N
0 5 10 15 20
meters
73567 grab 20 6 1.0 mod. py.
1cfb
73566 1.4m. 1680 +500 19.0, q.v., str. py.
73565 1.3m. 1300 6 16.0 q.v., str. cpy., py., wk. bo
73564 1.1m. 6250 73 8.8 str. py., cpy., lhb
73563 1.2m. 680 30 6.4 str. py., mod. cpy.
73562 1.4m. 30 +500 1.4 sil. lb, str. py.
1cfb
73571 .7m. 30 +500 0.2 sil. lb
73572 1m. 1040 29 10.0 c.v. lb., str. py., cpy.
73573 1m. 180 63 4.2 c.v. lb, str. py., cpy., wk. bo.
73574 1.1m. 180 6 3.6 ep. lb, str. py., cpy.
73575 .9m. 1500 25 11.0 ep. lb, str. py., cpy
73576 .9m. 2200 135 18.0, str. py., mod. cpy.
73577 1m 600 20 5.2, str. py., mod. cpy
73578 1.3m. 200 14 1.0, str. py., wk. cpy.
2fel
1cfb
73568 1m. 30 9 1.2 lhb, str. py., mod. cpy.
73569 1m. -10 16 0.2 2fel, mod. py.
1cfb
73570 1m. 40 4 1.0 ep. lb, str. py., wk. cpy
1cfb

FIGURE 5

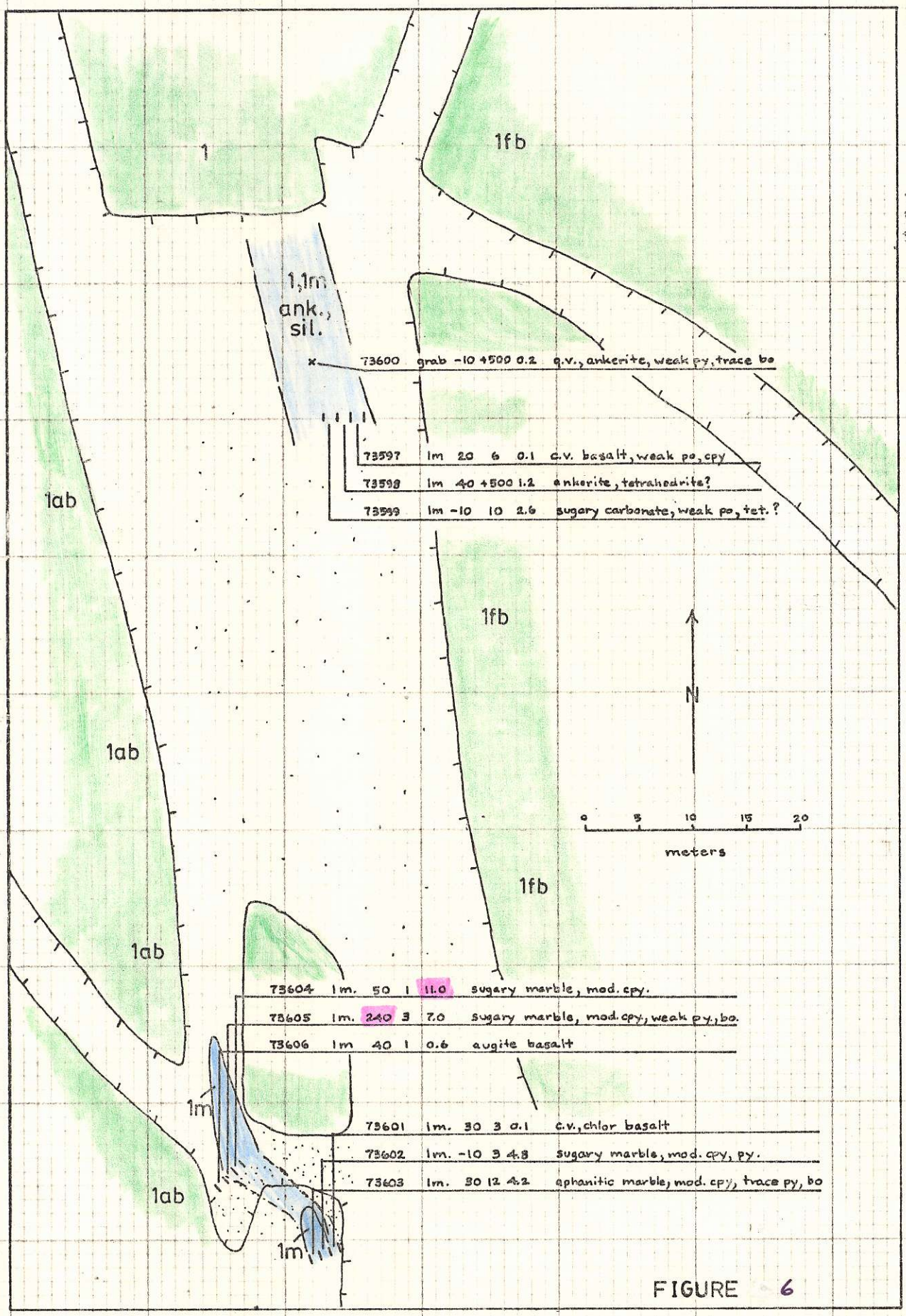
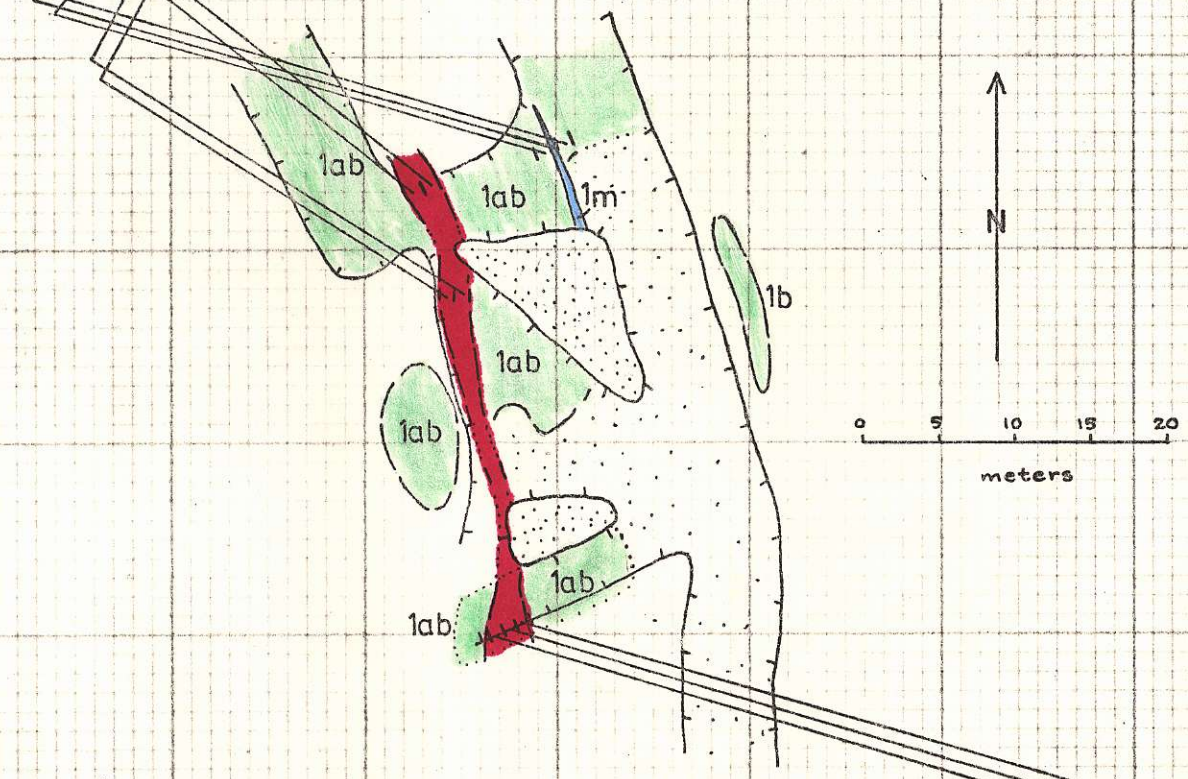


FIGURE 6

73627	1m.	300	220	+20.0	calc. vd. basalt, strong py., mod cpy., tr. bo
73628	1m.	10	120	0.1	calc. vd. basalt, weak py, weak cpy.
73629	1m.	40	4	0.1	sil., epid., basalt, weak py, weak cpy.
73630	.5m	20	10	0.1	highly calc. vd. basalt, mod. py.
73631	1m	80	180	0.1	sil. basalt, weak py.
73632	1m.	300	+500	10.0	strongly sil. basalt, very strong py.
73633	1m.	400	+500	4.8	mod. sil. basalt, mod. py., weak cpy.



73634	1m.	40	73	0.6	fine gnd. hnbdite, very strong py.
73635	1m	50	110	1.0	fine gnd. hnbdite, very strong py.
73636	grab	50	19	0.1	fine gnd. hnbdite, very strong py.

FIGURE 7

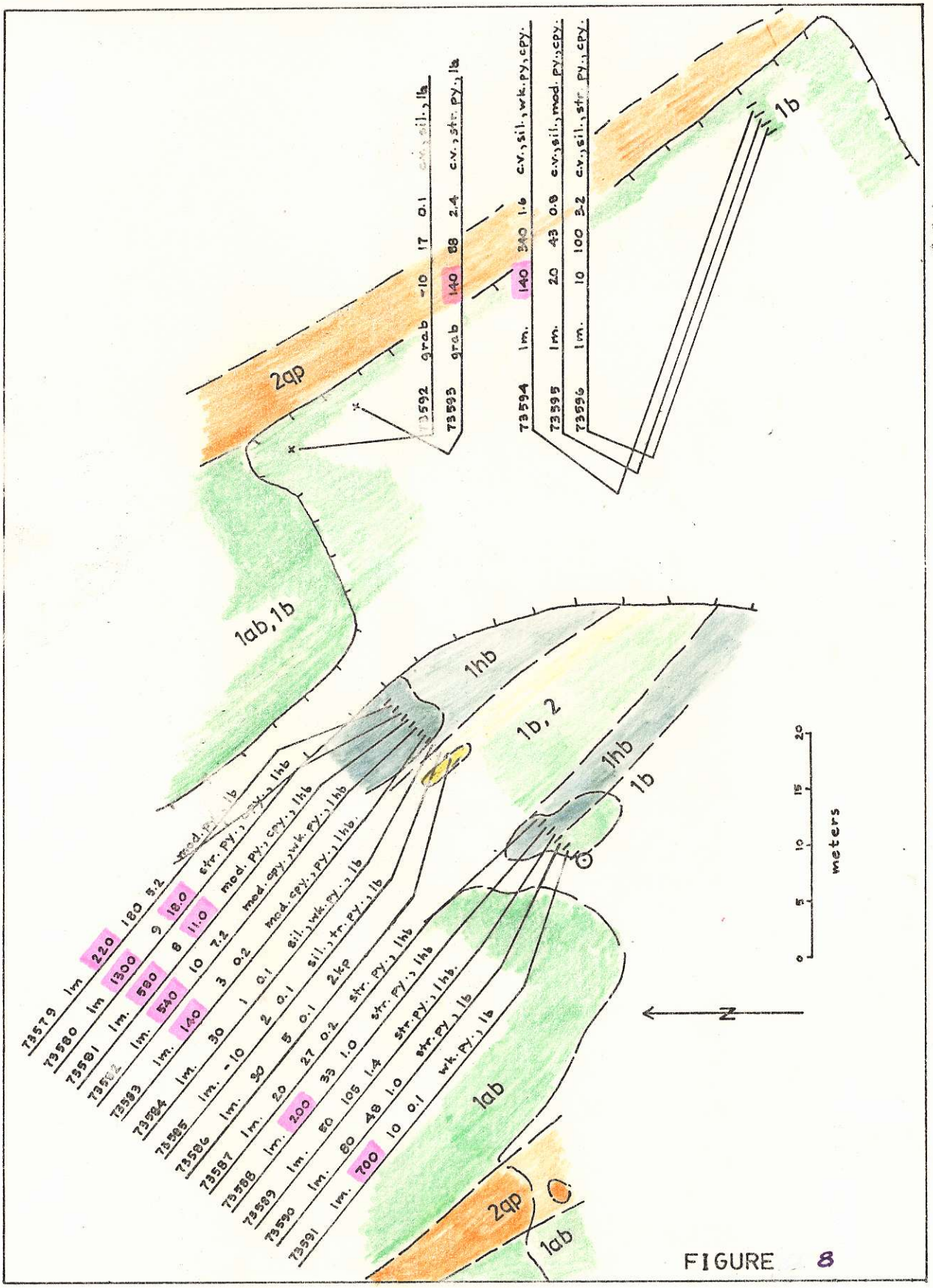

73579 lm 220 180 5.2 mod. py.; cpy.; lhb
73580 lm 1300 9 18.0 str. py.; lhb
73581 lm. 590 8 11.0 mod. py.; cpy.; lhb
73582 lm. 540 10 7.4 mod. cpy.; wk. py.; lhb.
73583 lm. 140 3 0.2 mod. cpy.; py.; lhb.
73584 lm. 30 1 0.1 sil.; wk. py.; lb
73585 lm. -10 2 0.1 sil.; str. py.; lb
73586 lm. 30 5 0.1 2kp
73587 lm. 20 27 0.4 str. py.; lhb
73588 lm. 200 33 1.0 str. py.; lhb.
73589 lm. 80 105 1.4 str. py.; lhb.
73590 lm. 80 48 1.0 str. py.; lb
73591 lm. 700 10 0.1 wk. py.; lb
73592 grab -10 17 0.1 sil.; lb
73593 grab 140 88 2.4 c.v.; str. py.; lb
73594 lm. 140 340 1.6 c.v.; sil.; wk. py.; cpy.
73595 lm. 20 43 0.8 c.v.; sil.; mod. py.; cpy.
73596 lm. 10 100 3.2 c.v.; sil.; str. py.; cpy.
2qp
1ab, 1b
1hb
1b, 2
1hb
1b
1ab
2qp
1ab
1b
N
0 5 10 15 20
meters

FIGURE 8

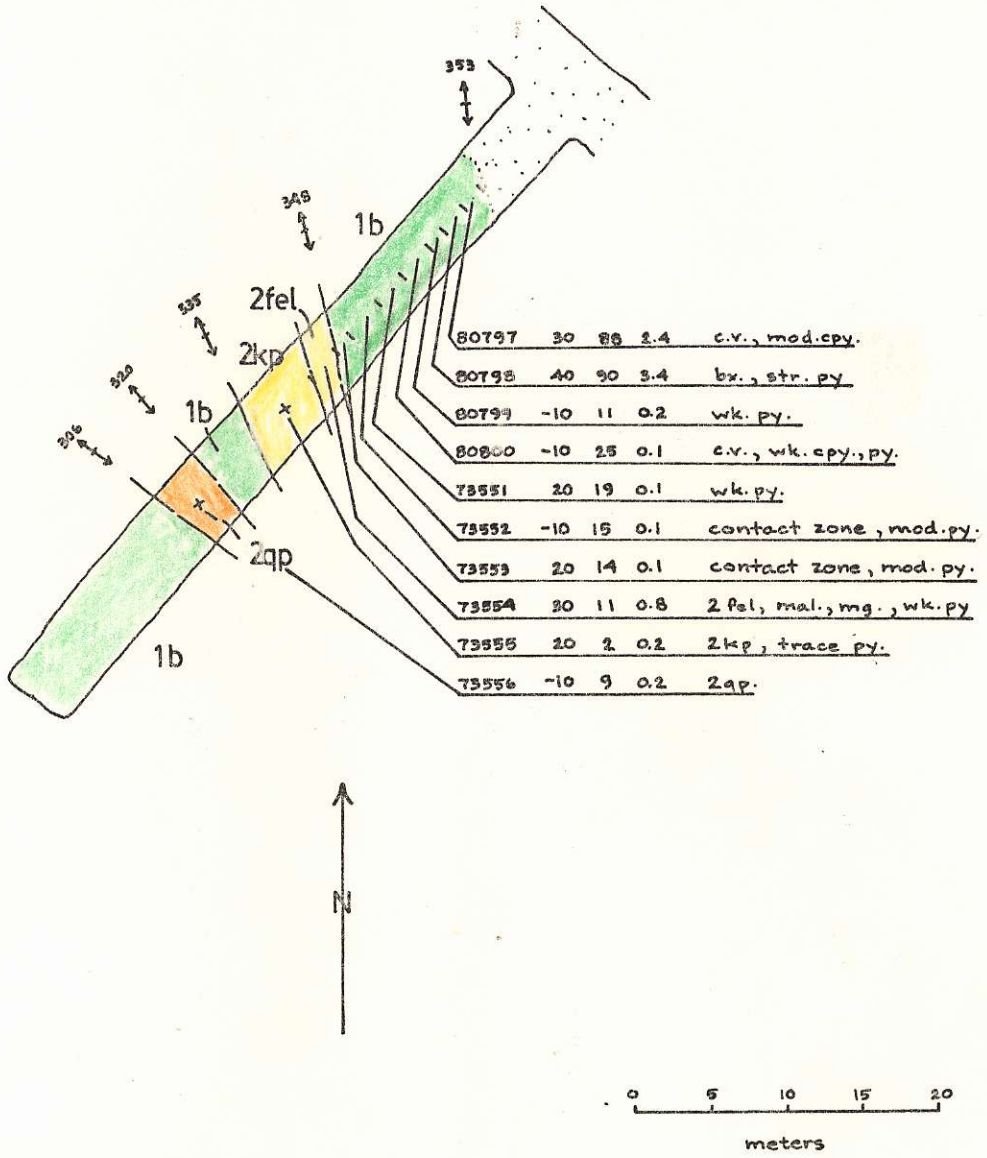
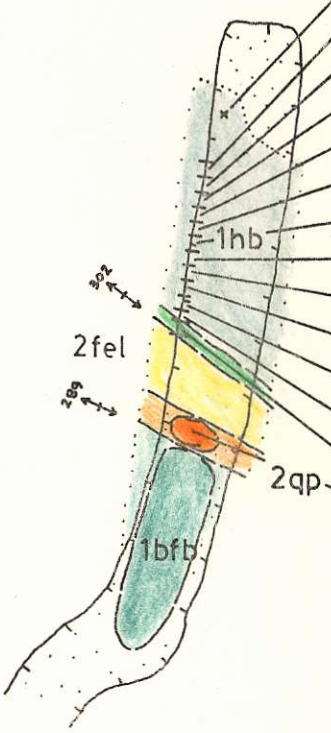

353
348
1b
335
2fel
2kp
320
1b
306
2qp
1b
80797 30 88 2.4 c.v., mod.cpy.
80798 40 90 3.4 bx., str. py
80799 -10 11 0.2 wk. py.
80800 -10 25 0.1 c.v., wk. cpy., py.
73551 20 19 0.1 wk. py.
73552 -10 15 0.1 contact zone, mod. py.
73553 20 14 0.1 contact zone, mod. py.
73554 20 11 0.8 2 fel, mal., mg., wk. py
73555 20 2 0.2 2kp, trace py.
73556 -10 9 0.2 2qp.
N
0 5 10 15 20
meters

FIGURE 9



73620	grab	60	2	0.8	str. py.
73607	1m.	20	3	0.4	str. py.
73608	1m.	~10	4	0.1	str. py.
73609	1m.	20	3	0.2	str. py.
73610	1m.	60	3	1.0	str. py.
73611	1m.	300	11	0.6	str. py., mod. cpy., tr. bo.
73612	1m.	10	7	0.1	str. py., wk. cpy.
73613	1m.	40	3	0.1	str. py., wk. cpy.
73614	1m.	10	2	0.1	mod. py.
73615	1m.	220	3	0.6	str. py., wk. cpy.
73616	1m.	100	3	0.8	str. py., mod. cpy.
73617	1m.	50	5	0.1	str. py., wk. cpy.
73618	1m.	140	4	0.1	contact zone, sil.
73619	1.4m.	~10	3	0.1	mod. py., wk. cpy.

FIGURE 10

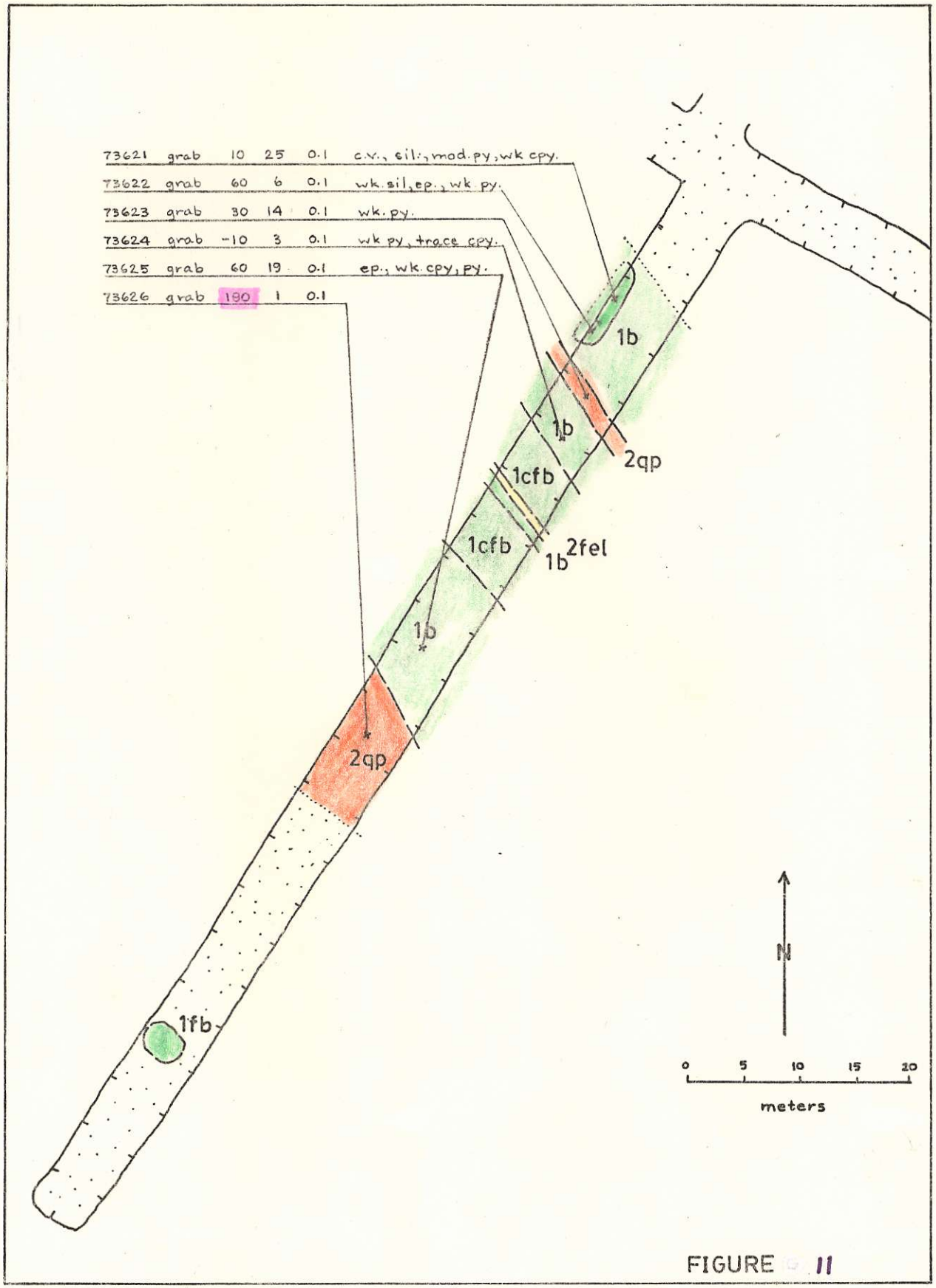

73621 grab 10 25 0.1 c.v., sil., mod. py, wk cpy.
73622 grab 60 6 0.1 wk. sil, ep., wk. py.
73623 grab 30 14 0.1 wk. py.
73624 grab -10 3 0.1 wk py, trace cpy.
73625 grab 60 19 0.1 ep., wk. cpy, py.
73626 grab 190 1 0.1
1b
1b
2qp
1cfb
1cfb
1b
2fel
1b
2qp
1fb
N
0 5 10 15 20
meters

FIGURE 11

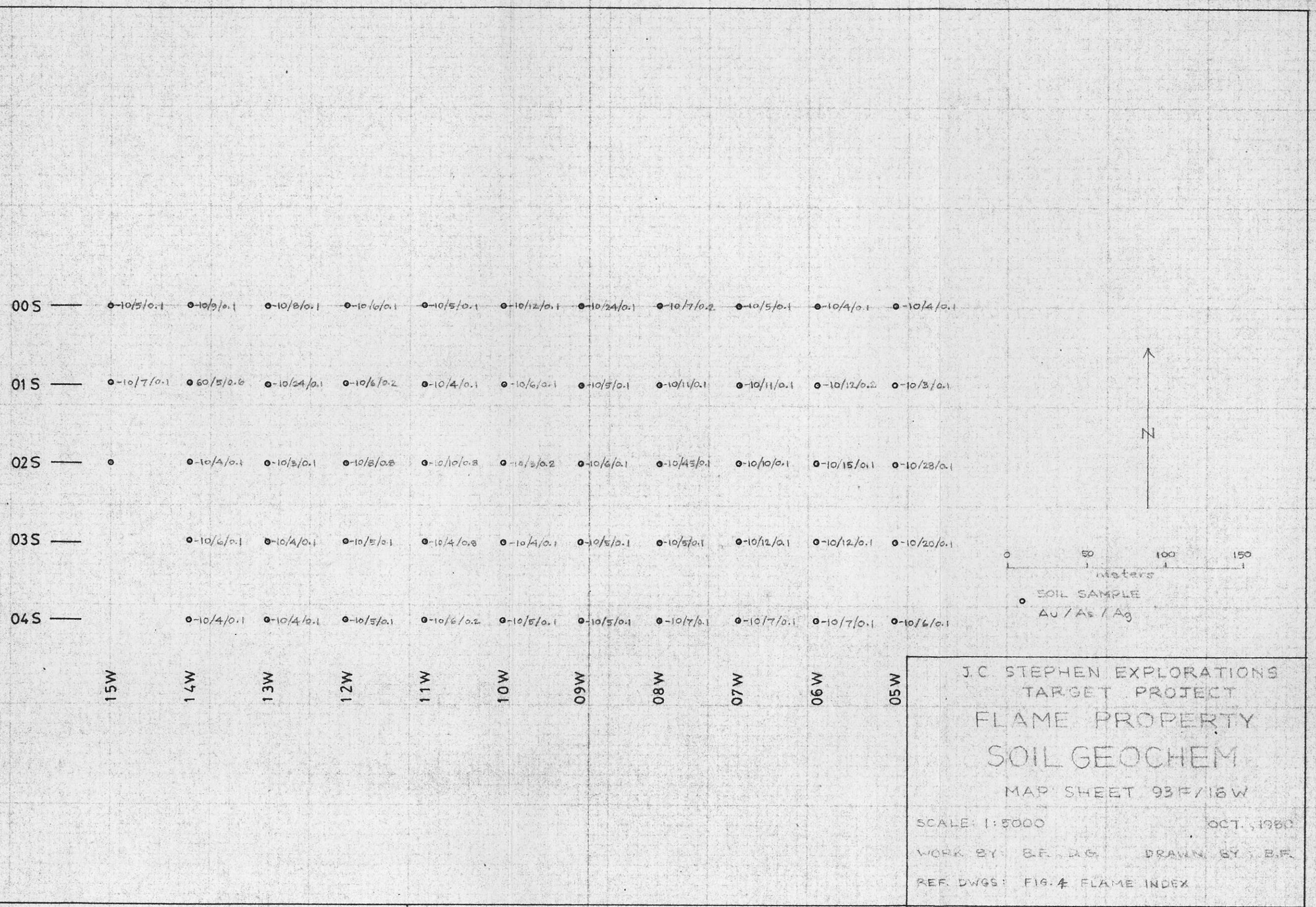

00 S
-10/5/0.1
-10/9/0.1
-10/8/0.1
-10/6/0.1
-10/5/0.1
-10/12/0.1
-10/24/0.1
-10/7/0.2
-10/5/0.1
-10/4/0.1
-10/4/0.1
01 S
-10/7/0.1
60/5/0.6
-10/24/0.1
-10/6/0.2
-10/4/0.1
-10/6/0.1
-10/5/0.1
-10/11/0.1
-10/11/0.1
-10/12/0.2
-10/3/0.1
02 S
-10/4/0.1
-10/3/0.1
-10/8/0.8
-10/10/0.8
-10/3/0.2
-10/6/0.1
-10/45/0.1
-10/10/0.1
-10/15/0.1
-10/28/0.1
03 S
-10/6/0.1
-10/4/0.1
-10/5/0.1
-10/4/0.8
-10/4/0.1
-10/5/0.1
-10/5/0.1
-10/12/0.1
-10/12/0.1
-10/20/0.1
04 S
-10/4/0.1
-10/4/0.1
-10/5/0.1
-10/6/0.2
-10/5/0.1
-10/5/0.1
-10/7/0.1
-10/7/0.1
-10/7/0.1
-10/6/0.1
15W
14W
13W
12W
11W
10W
09W
08W
07W
06W
05W
N
0
50
100
150
meters
SOIL SAMPLE
AU / AS / AG
J.C. STEPHEN EXPLORATIONS
TARGET PROJECT
FLAME PROPERTY
SOIL GEOCHEM
MAP SHEET 93F/16W
SCALE: 1:5000
OCT., 1980
WORK BY: B.F. D.G.
DRAWN BY: B.F.
REF. DWGS: FIG. 4 FLAME INDEX

FIGURE 12

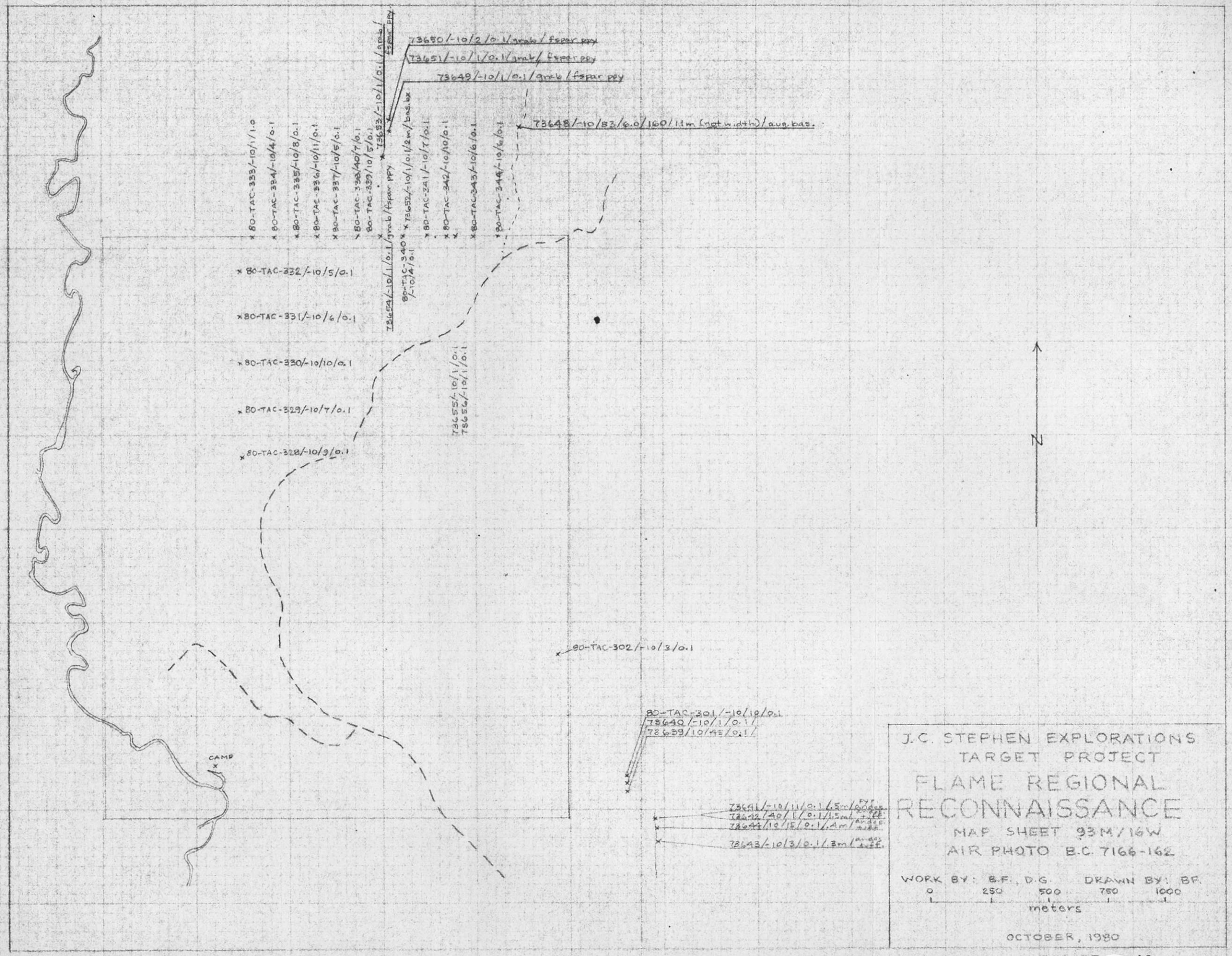
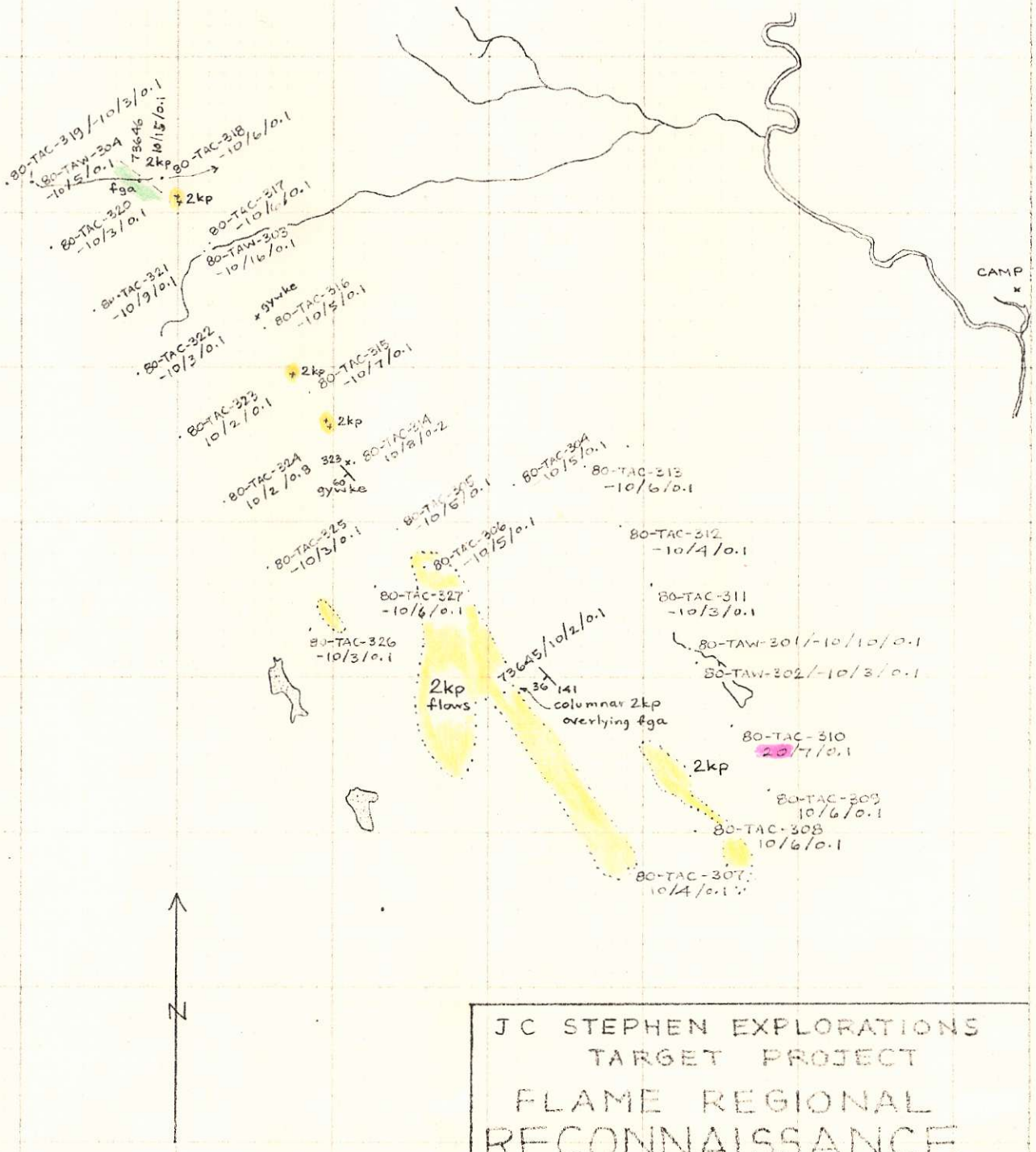

73650/-10/2/0.1/grab/fspar ppy
73651/-10/1/0.1/grab/fspar ppy
73649/-10/1/0.1/grab/fspar ppy
73652/-10/1/0.1/grab/fspar ppy
73648/-10/83/6.0/160/11m (not width)/avg. bas.
80-TAC-333/-10/1/1.0
80-TAC-334/-10/4/0.1
80-TAC-335/-10/8/0.1
80-TAC-336/-10/11/0.1
80-TAC-337/-10/5/0.1
80-TAC-338/40/7/0.1
80-TAC-339/10/5/0.1
73654/-10/1/0.1/grab/fspar ppy
80-TAC-340/-10/4/0.1
73652/-10/1/0.1/2m/bas.bx
80-TAC-341/-10/7/0.1
80-TAC-342/-10/10/0.1
80-TAC-343/-10/6/0.1
80-TAC-344/-10/6/0.1
80-TAC-332/-10/5/0.1
80-TAC-331/-10/6/0.1
80-TAC-330/-10/10/0.1
80-TAC-329/-10/7/0.1
80-TAC-328/-10/9/0.1
73655/-10/1/0.1
73656/-10/1/0.1
N
80-TAC-302/-10/3/0.1
CAMP
80-TAC-301/-10/10/0.1
73640/-10/1/0.1/
73639/10/45/0.1/
73641/-10/11/0.1/.5m/
73642/40/1/0.1/1.5m/
73644/10/15/0.1/.4m/
73643/-10/3/0.1/.3m/
J.C. STEPHEN EXPLORATIONS
TARGET PROJECT
FLAME REGIONAL
RECONNAISSANCE
MAP SHEET 93M/16W
AIR PHOTO B.C. 7166-162
WORK BY: B.F., D.G. DRAWN BY: BF.
0 250 500 750 1000
meters
OCTOBER, 1980

FIGURE 13



JC STEPHEN EXPLORATIONS
TARGET PROJECT

FLAME REGIONAL
RECONNAISSANCE

MAP SHEET 93M/16W
AIR PHOTO BC 7166-103

WORK BY: B.F., D.G. DRAWN BY: B.F.

0 250 500 750 1000
meters

REF. DWGS.: FIG. 1, FLAME INDEX. OCT., 1980

FIGURE 14

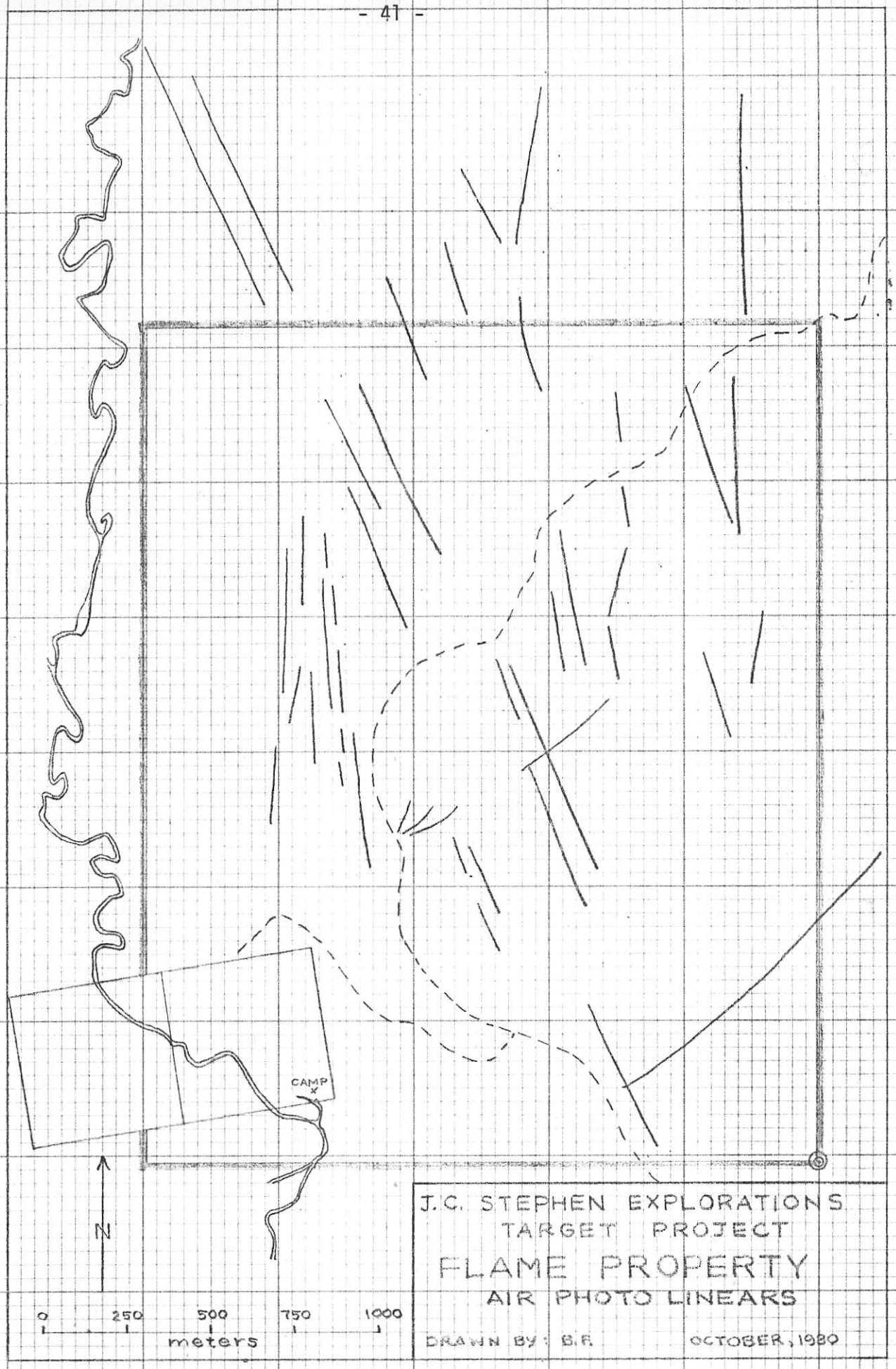

CAMP
N
0
250
500
750
1000
meters
J.C. STEPHEN EXPLORATIONS
TARGET PROJECT
FLAME PROPERTY
AIR PHOTO LINEARS
DRAWN BY: B.F.
OCTOBER, 1980

FIGURE 15

GENERAL

The 1980 program did not succeed in examining the proposed massive sulphide targets in the Chuchi Lake area or the copper-molybdenum and air mag anomalies south of Tchentlo Lake in the region of the JEAN copper-molybdenum property. Proposed prospecting in the vicinity of placer workings north-west of Kwanika Creek (Silver Creek Area) and Mount Bodine (nearer Takla Post) was not carried out. These target areas are to be reassessed this winter during review of geochemical data.

Due to shortage of competent personnel at the end of the prospecting season no attempt was made to go back to SWAB group. We had intended running three or four widely spaced IP lines over the north-east corner of the property where pyrite was noted in intrusive rock in the vicinity of molybdenum anomalies.

The new BRAN property south of Borel Lake will require close prospecting in search of the source of float which ran 252 ounces silver. Assessment work will be filed on HALO and FLAME. Assaying for copper on FLAME samples should be done this winter. I would like to carefully review results and rock specimens in these two properties before recommending a course of action. I feel that further sampling is probably warranted on FLAME but it may be necessary to trench or drill to provide fresh exposures.

Respectfully submitted
J.C. Stephen Explorations Ltd.

J.C. Stephen

JCS/ms

A P P E N D I X

Copper, lead, zinc and silver content of specimens

Note: – Appendix B in pocket

APPENDIX

Copper, lead, zinc and silver content of specimens in Appendix B

TAKLA GROUP: Symbols correspond to those in Appendix B

	Field no.	Cu (%)	Pb (ppm)	Zn (ppm)	Ag (ppm)	
1	MV73-129b	0.0037	5.0	72	<0.050	
2	MV73-149	0.0044	<0.50	40	<0.050	
3	MV75-22A	0.0016	<0.50	34		
4	MV75-96b(1)	0.0091	<0.50	93		
5	MV75-96b(2)	0.0045	0.59	52		
6	MV75-97	0.0028	6.2	87		
7	MV75-98b	0.0037	0.84	55		
8	MV75-98d	0.0016	0.90	35		
9	MV75-101a(1)	0.0040	1.0	64		
10	MV75-101b	0.0020	2.3	73		
11	MV75-209c	0.0046	1.4	47	<0.050	
12	MV75-120	0.0069	1.8	69	<0.050	
1	MV73-147a	0.029	0.61	76	.11	Savage Mtn. Fm.
2	MV75-131	0.040	1.1	58		Savage Mtn. Fm.
1	MV75-83a	0.0030	0.60	61		
2	MV75-141c	0.0014	0.73	43	<0.050	
1	MV75-14a	0.012	<0.50	49		
2	MV75-14c	0.13	<0.50	70		
1	MV73-124d	0.014	<0.50	70	<0.050	
2	MV73-144a	0.012	<0.50	78	<0.050	
3	MV73-148	0.0061	<0.50	98	<0.050	
4	75WV-126(2)	0.0099	<0.50	53		
5	10B-RML75	0.014	<0.50	54	<0.050	
6	11B-RML75	0.013	0.97	69	<0.050	
1	MV73-148	0.0047	<0.50	81	<0.050	
2	MV75-82	0.014	0.55	73		
3	MV75-1310	0.0097	0.50	68		
4	MV75-132a	0.0084	1.3	67		
5	75W-127(1)	0.018	<0.50	58		

Borel Lake

Nithi R

CAMP

BRAN PROPERTY

CABIN LAKE PROPERTY

WEST SHOWING

80845 1/0.1/-10
80846 50/4.8/-10
80847 1/+20/$100

80844/20/+20/120 acid scoria

80848/1/6.0/10
80849/4/0.8/-10
mauve, green, brick red, cherty volc. bx.

red to brick red cherty volc bx.

creamy rhyolite flow

bleached zone in andesitic tuff

-73481/92/0.1/-10
5m. zone of bleached rock in andesitic tuff

3200 3500 3700 4000 4300 4000 3700 3500

GEOLOGY

andesitic flows, tuff, breccia

rhyolitic flows, tuff, rhyodacite

intermediate lapilli tuff

Topley granodiorite

monzonite

GEOCHEMISTRY

O	80-TAC-	SOIL	As/Ag/Au
O	80-TAW-	SILT	As/Ag/Au
X	80768	ROCK	As/Ag/Au

J.C. STEPHEN EXPLORATIONS LTD.
TARGET PROJECT

BOREL LAKE RECONNAISSANCE

MAP SHEET 93F/14E

SCALE 1:10,000 — JUNE, 1980

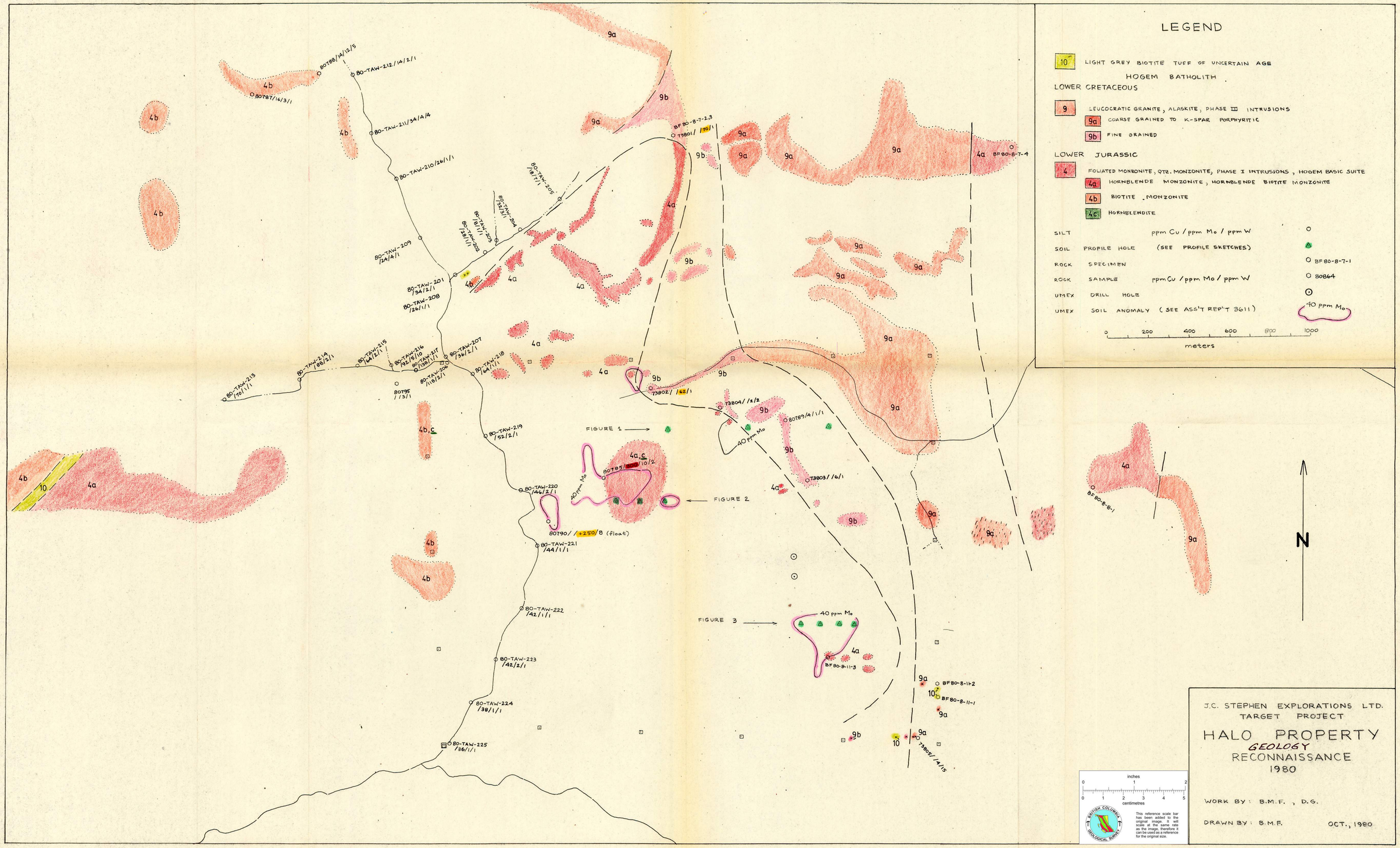
WORK BY - D.G., B.F. — DRAWN BY - B.F.

REFERENCE DWGS -

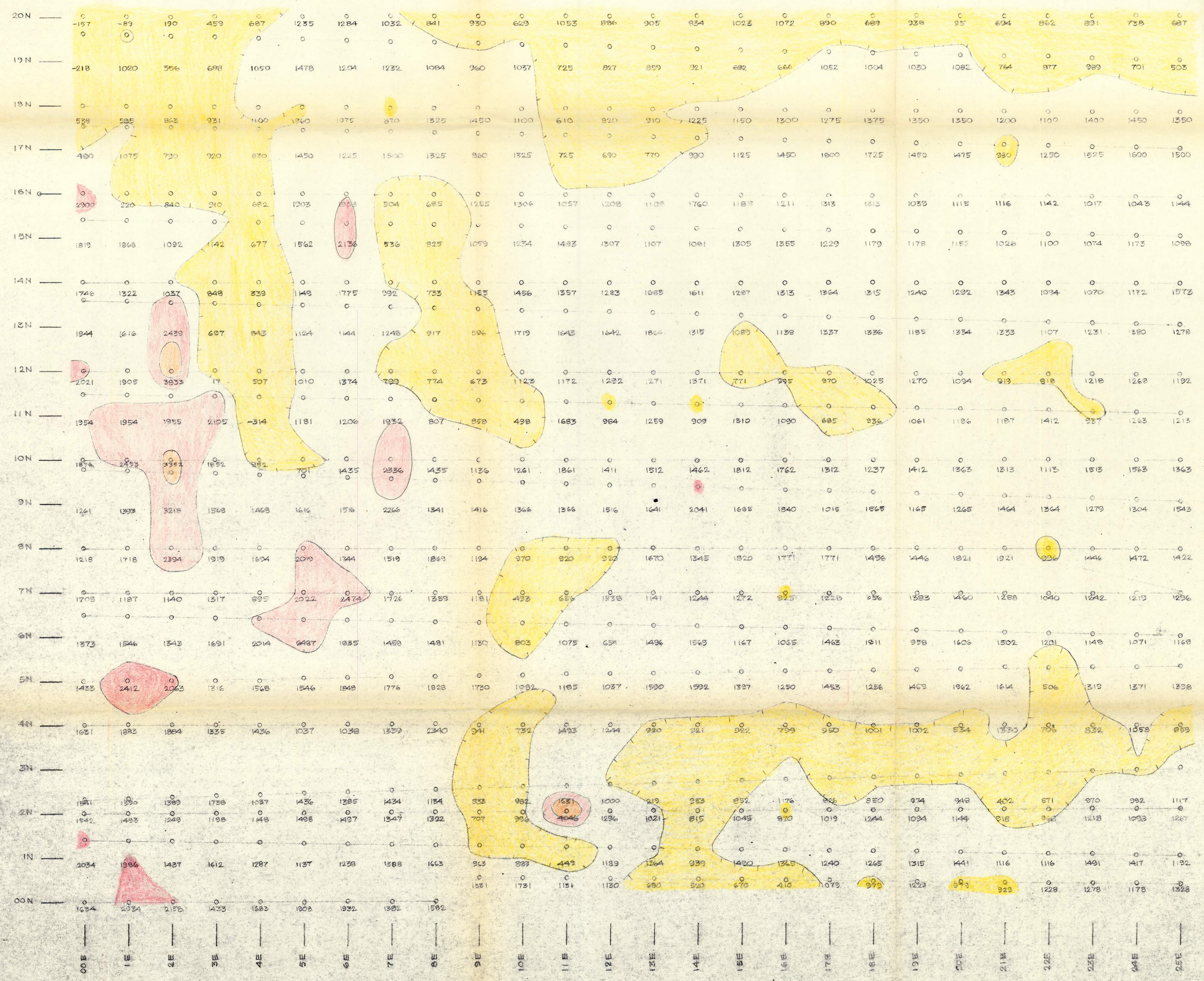
MAP NO. III

1:10,000 BLOW-UP
CABIN LAKE AREA
NTS 93 F 14

#4692


LEGEND
10 LIGHT GREY BIOTITE TUFF OF UNCERTAIN AGE
HOGEM BATHOLITH
LOWER CRETACEOUS
9 LEUCOCRATIC GRANITE, ALASKITE, PHASE III INTRUSIONS
9a COARSE GRAINED TO K-SPAR PORPHYRITIC
9b FINE GRAINED
LOWER JURASSIC
4 FOLIATED MONZONITE, QTZ. MONZONITE, PHASE I INTRUSIONS, HOGEM BASIC SUITE
4a HORNBLENDE MONZONITE, HORNBLENDE BIOTITE MONZONITE
4b BIOTITE MONZONITE
4c HORNBLENDITE
SILT ppm Cu / ppm Mo / ppm W
SOIL PROFILE HOLE (SEE PROFILE SKETCHES)
ROCK SPECIMEN
ROCK SAMPLE ppm Cu / ppm Mo / ppm W
UMEX DRILL HOLE
UMEX SOIL ANOMALY (SEE ASS'T REP'T 3611)
BF80-8-7-1
80864
40 ppm Mo
0 200 400 600 800 1000
meters
N
FIGURE 1
FIGURE 2
FIGURE 3
40 ppm Mo
80-TAW-212/14/2/1
80-TAW-211/34/4/4
80-TAW-210/26/1/1
80-TAW-209/24/4/1
80-TAW-201/34/2/1
80-TAW-208/26/1/1
80-TAW-213/70/1/1
80-TAW-214/68/2/1
80-TAW-215/64/2/1
80-TAW-216/92/5/10
80-TAW-217/138/1/1
80-TAW-206/16/2/1
80-TAW-207/36/2/1
80-TAW-218/64/1/1
80-TAW-219/52/2/1
80-TAW-220/46/2/1
80-TAW-221/44/1/1
80-TAW-222/42/1/1
80-TAW-223/42/2/1
80-TAW-224/38/1/1
80-TAW-225/36/1/1
80-TAW-205/18/7/1
80-TAW-204/32/5/1
80-TAW-203/18/1/1
80-TAW-202/26/1/1
BF80-8-7-2,3
BF80-8-7-4
BF80-8-8-1
BF80-8-11-1
BF80-8-11-2
BF80-8-11-3
80795/13/1
80790/+250/8 (Float)
80789/4/1/1
73802/42/1
73804/12/2
73803/16/1
73805/4/15
J.C. STEPHEN EXPLORATIONS LTD.
TARGET PROJECT
HALO PROPERTY
GEOLOGY
RECONNAISSANCE
1980
WORK BY: B.M.F., D.G.
DRAWN BY: B.M.F.
OCT., 1980
inches
centimetres
BRITISH COLUMBIA GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

MAP IV #4692



J.C. STEPHEN EXPLORATIONS LTD.
TARGET PROJECT

HALO PROPERTY
MF 1 SURVEY

MAGNETOMETER SURVEY
MAP SHEET 93F/14E

SCALE 1:5000 AUGUST, 1980

WORK BY: B.F., D.G. DRAWN BY: B.F.

REF. DWGS:

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

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MAP V