COMINCO LTD.

EXPLORATION
NTS: 115 P/16

WESTERN DISTRICT

GEOLOGICAL, GEOCHEMICAL AND DIAMOND DRILLING REPORT ON THE SUN AND GLOW MINERAL CLAIMS

SITUATED AT:

63°47' N. LATITUDE
136°15' W. LONGITUDE

MAYO MINING DISTRICT

PERIOD OF WORK: JUNE 1 TO JULY 15, 1979

JULY 18, 1979

S.B. BUTRENCHUK

090483

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 36,400.00

J a Morin
A/ Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

COMINCO LTD.

EXPLORATION
NTS: 115 P/16

WESTERN DISTRICT
17 JULY 1979

GEOLOGICAL, GEOCHEMICAL AND DIAMOND DRILLING REPORT

ON THE SUN 7-16, 23-32, 39, 40, 42-48, 57-59, 61-64, 71-81, 83-112

AND GLOW 91, 93-124, 127-226 GROUP OF MINERAL CLAIMS SITUATED AT:

63°47'N LATITUDE; 136°15W LONGITUDE

IN THE MAYO MINING DISTRICT, YUKON TERRITORY

Located claims on which assessment credits are requested:

CLAIM NO.	ASSESSMENT CREDIT	RECORD NO.	ASSESSMENT AMOUNT	DATE RECORDED
SUN 7	3 years	YA 30134	$ 300	May 8, 1978
SUN 8		YA 30135		May 8, 1978
SUN 9		YA 30136		May 8, 1978
SUN 10		YA 30137		May 8, 1978
SUN 11		YA 30138		May 8, 1978
SUN 12		YA 30139		May 8, 1978
SUN 13		YA 30140		May 8, 1978
SUN 14		YA 30141		May 8, 1978
SUN 15		YA 30142		May 8, 1978
SUN 16		YA 30143		May 8, 1978
SUN 23		YA 30150		May 8, 1978
SUN 24		YA 30151		May 8, 1978
SUN 25		YA 30152		May 8, 1978
SUN 26		YA 30153		May 8, 1978
SUN 27		YA 30154		May 8, 1978
SUN 28		YA 30155		May 8, 1978
SUN 29		YA 30156		May 8, 1978
SUN 30		YA 30157		May 8, 1978
SUN 31		YA 30158		May 8, 1978
SUN 32		YA 30159		May 8, 1978
SUN 39		YA 30166		May 8, 1978
SUN 40		YA 30167		May 8, 1978
SUN 42		YA 30169		May 8, 1978
SUN 43		YA 30170		May 8, 1978
SUN 44		YA 30171		May 8, 1978
SUN 45		YA 30172		May 8, 1978
SUN 46		YA 30173		May 8, 1978
SUN 47		YA 30174		May 8, 1978
SUN 48		YA 30175		May 8, 1978
SUN 57		YA 30184		May 8, 1978
SUN 58		YA 30185		May 8, 1978
SUN 59		YA 30186		May 8, 1978
SUN 61		YA 30188		May 8, 1978
SUN 62		YA 30189		May 8, 1978
SUN 63		YA 30190		May 8, 1978
SUN 64		YA 30191		May 8, 1978
SUN 71		YA 30198		May 8, 1978
SUN 72		YA 30199		May 8, 1978
SUN 73		YA 30200		May 8, 1978
SUN 74		YA 30201		May 8, 1978
SUN 75		YA 30202		May 8, 1978
SUN 76		YA 30203		May 8, 1978
SUN 77		YA 30204		May 8, 1978
SUN 78		YA 30205		May 8, 1978
SUN 79		YA 30206		May 8, 1978
SUN 80		YA 30207		May 8, 1978
SUN 81		YA 30208		May 8, 1978

CLAIM NO.	ASSESSMENT CREDIT	RECORD NO.	ASSESSMENT AMOUNT	DATE RECORDED
SUN 83	3 years	YA 30210	$ 300	May 8, 1978
SUN 84		YA 30211		May 8, 1978
SUN 85		YA 30212		May 8, 1978
SUN 86		YA 30213		May 8, 1978
SUN 87		YA 30214		May 8, 1978
SUN 88		YA 30215		May 8, 1978
SUN 89		YA 30227		May 15, 1978
SUN 90		YA 30228		May 15, 1978
SUN 91		YA 30229		May 15, 1978
SUN 92		YA 30230		May 15, 1978
SUN 93		YA 30231		May 15, 1978
SUN 94		YA 30232		May 15, 1978
SUN 95		YA 30233		May 15, 1978
SUN 96		YA 30234		May 15, 1978
SUN 97		YA 30216		May 15, 1978
SUN 98		YA 30217		May 15, 1978
SUN 99		YA 30218		May 15, 1978
SUN 100		YA 30219		May 15, 1978
SUN 101		YA 30220		May 15, 1978
SUN 102		YA 30221		May 15, 1978
SUN 103		YA 30222		May 15, 1978
SUN 104		YA 30223		May 15, 1978
SUN 105		YA 30235		May 15, 1978
SUN 106		YA 30236		May 15, 1978
SUN 107		YA 30237		May 15, 1978
SUN 108		YA 30238		May 15, 1978
SUN 109		YA 30239		May 15, 1978
SUN 110		YA 30240		May 15, 1978
SUN 111		YA 30241		May 15, 1978
SUN 112		YA 30242		May 15, 1978
GLOW NO. 91	1 year	YA 37785	$ 100	Aug. 14, 1978
GLOW NO. 93		YA 37787		Aug. 14, 1978
GLOW NO. 94		YA 37799		Aug. 14, 1978
GLOW NO. 95		YA 37789		Aug. 14, 1978
GLOW NO. 96		YA 37790		Aug. 14, 1978
GLOW NO. 97		YA 37791		Aug. 14, 1978
GLOW NO. 98		YA 37792		Aug. 14, 1978
GLOW NO. 99		YA 37793		Aug. 14, 1978
GLOW NO. 100		YA 37794		Aug. 14, 1978
GLOW NO. 101		YA 37795		Aug. 14, 1978
GLOW NO. 102		YA 37796		Aug. 14, 1978
GLOW NO. 103		YA 37797		Aug. 14, 1978
GLOW NO. 104		YA 37798		Aug. 14, 1978
GLOW NO. 105		YA 37799		Aug. 14, 1978
GLOW NO. 106		YA 37800		Aug. 14, 1978
GLOW NO. 107		YA 37801		Aug. 14, 1978
GLOW NO. 108		YA 37802		Aug. 14, 1978
GLOW NO. 109		YA 37803		Aug. 14, 1978
GLOW NO. 110		YA 37804		Aug. 14, 1978
GLOW NO. 111		YA 37805		Aug. 14, 1978
GLOW NO. 112		YA 37806		Aug. 14, 1978
GLOW NO. 113		YA 37807		Aug. 14, 1978
GLOW NO. 114		YA 37808		Aug. 14, 1978
GLOW NO. 115		YA 37809		Aug. 14, 1978
GLOW NO. 116		YA 37810		Aug. 14, 1978
GLOW NO. 117		YA 37811		Aug. 14, 1978
GLOW NO. 118		YA 37812		Aug. 14, 1978
GLOW NO. 119		YA 37813		Aug. 14, 1978
GLOW NO. 120		YA 37814		Aug. 14, 1978
GLOW NO. 121		YA 37815		Aug. 14, 1978
GLOW NO. 122		YA 37816		Aug. 14, 1978
GLOW NO. 123		YA 37817		Aug. 14, 1978
GLOW NO. 124		YA 37818		Aug. 14, 1978
GLOW NO. 127		YA 37820		Aug. 14, 1978
GLOW NO. 128		YA 37821		Aug. 14, 1978
GLOW NO. 129		YA 37822		Aug. 14, 1978
GLOW NO. 130		YA 37823		Aug. 14, 1978

CLAIM NO.	ASSESSMENT CREDIT	RECORD NO.	ASSESSMENT AMOUNT	DATE RECORDED
GLOW NO. 131	1 year	YA 37824	$ 100	Aug. 14, 1978
GLOW NO. 132		YA 37825		Aug. 14, 1978
GLOW NO. 133		YA 37826		Aug. 14, 1978
GLOW NO. 134		YA 37827		Aug. 14, 1978
GLOW NO. 135		YA 37828		Aug. 14. 1978
GLOW NO. 136		YA 37829		Aug. 14, 1978
GLOW NO. 137		YA 37830		Aug. 14, 1978
GLOW NO. 138		YA 37831		Aug. 14, 1978
GLOW NO. 139		YA 37832		Aug. 14, 1978
GLOW NO. 140		YA 37833		Aug. 14, 1978
GLOW NO. 141		YA 37834		Aug. 14, 1978
GLOW NO. 142		YA 37835		Aug. 14, 1978
GLOW NO. 143		YA 37836		Aug. 14, 1978
GLOW NO. 144		YA 37837		Aug. 14, 1978
GLOW NO. 145		YA 37838		Aug. 14, 1978
GLOW NO. 146		YA 37839		Aug. 14, 1978
GLOW NO. 147		YA 37840		Aug. 14, 1978
GLOW NO. 148		YA 37841		Aug. 14, 1978
GLOW NO. 149		YA 37842		Aug. 14, 1978
GLOW NO. 150		YA 37843		Aug. 14, 1978
GLOW NO. 151		YA 37844		Aug. 14, 1978
GLOW NO. 152		YA 37845		Aug. 14, 1978
GLOW NO. 153		YA 37846		Aug. 14, 1978
GLOW NO. 154		YA 37847		Aug. 14, 1978
GLOW NO. 155		YA 37848		Aug. 14, 1978
GLOW NO. 156		YA 37849		Aug. 14, 1978
GLOW NO. 157		YA 37850		Aug. 14, 1978
GLOW NO. 158		YA 37851		Aug. 14, 1978
GLOW NO. 159		YA 37852		Aug. 14, 1978
GLOW NO. 160		YA 37853		Aug. 14, 1978
GLOW NO. 161		YA 37854		Aug. 14, 1978
GLOW NO. 162		YA 37855		Aug. 14, 1978
GLOW NO. 163		YA 37856		Aug. 14, 1978
GLOW NO. 164		YA 37857		Aug. 14, 1978
GLOW NO. 165		YA 37858		Aug. 14, 1978
GLOW NO. 166		YA 37859		Aug. 14, 1978
GLOW NO. 167		YA 37860		Aug. 14, 1978
GLOW NO. 168		YA 37861		Aug. 14, 1978
GLOW NO. 169		YA 37862		Aug. 14, 1978
GLOW NO. 170		YA 37863		Aug. 14, 1978
GLOW NO. 171		YA 37864		Aug. 14, 1978
GLOW NO. 172		YA 37865		Aug. 14, 1978
GLOW NO. 173		YA 37866		Aug. 14, 1978
GLOW NO. 174		YA 37867		Aug. 14, 1978
GLOW NO. 175		YA 37868		Aug. 14, 1978
GLOW NO. 176		YA 37869		Aug. 14, 1978
GLOW NO. 177		YA 37870		Aug. 14, 1978
GLOW NO. 178		YA 37871		Aug. 14, 1978
GLOW NO. 179		YA 37872		Aug. 14, 1978
GLOW NO. 180		YA 37873		Aug. 14, 1978
GLOW NO. 181		YA 37874		Aug. 14, 1978
GLOW NO. 182		YA 37875		Aug. 14, 1978
GLOW NO. 183		YA 37876		Aug. 14, 1978
GLOW NO. 184		YA 37877		Aug. 14, 1978
GLOW NO. 185		YA 37878		Aug. 14, 1978
GLOW NO. 186		YA 37879		Aug. 14, 1978
GLOW NO. 187		YA 37880		Aug. 14, 1978
GLOW NO. 188		YA 37881		Aug. 14, 1978
GLOW NO. 189		YA 37882		Aug. 14, 1978
GLOW NO. 190		YA 37883		Aug. 14, 1978
GLOW NO. 191		YA 37884		Aug. 14, 1978
GLOW NO. 192		YA 37885		Aug. 14, 1978
GLOW NO. 193		YA 37886		Aug. 14, 1978
GLOW NO. 194		YA 37887		Aug. 14, 1978
GLOW NO. 195		YA 37888		Aug. 14, 1978
GLOW NO. 196		YA 37889		Aug. 14, 1978
GLOW NO. 197		YA 37890		Aug. 14, 1978
GLOW NO. 198		YA 37891		Aug. 14, 1978
GLOW NO. 199		YA 37892		Aug. 14, 1978

CLAIM NO.	ASSESSMENT CREDIT	RECORD NO.	ASSESSMENT AMOUNT	DATE RECORDED
GLOW NO. 200	1 year	YA 37893	$100	Aug. 14, 1978
GLOW NO. 201		YA 37894		Aug. 14, 1978
GLOW NO. 202		YA 37895		Aug. 14, 1978
GLOW NO. 203		YA 37896		Aug. 14, 1978
GLOW NO. 204		YA 37897		Aug. 14, 1978
GLOW NO. 205		YA 37898		Aug. 14, 1978
GLOW NO. 206		YA 37899		Aug. 14, 1978
GLOW NO. 207		YA 37900		Aug. 14, 1978
GLOW NO. 208		YA 37901		Aug. 14, 1978
GLOW NO. 209		YA 37902		Aug. 14, 1978
GLOW NO. 210		YA 37903		Aug. 14, 1978
GLOW NO. 211		YA 37904		Aug. 14, 1978
GLOW NO. 212		YA 37905		Aug. 14, 1978
GLOW NO. 213		YA 37906		Aug. 14, 1978
GLOW NO. 214		YA 37907		Aug. 14, 1978
GLOW NO. 215		YA 37908		Aug. 14, 1978
GLOW NO. 216		YA 37909		Aug. 14, 1978
GLOW NO. 217		YA 37910		Aug. 14, 1978
GLOW NO. 218		YA 37911		Aug. 14, 1978
GLOW NO. 219		YA 37912		Aug. 14, 1978
GLOW NO. 220		YA 37913		Aug. 14, 1978
GLOW NO. 221		YA 37914		Aug. 14, 1978
GLOW NO. 222		YA 37915		Aug. 14, 1978
GLOW NO. 223		YA 37916		Aug. 14, 1978
GLOW NO. 224		YA 37917		Aug. 14, 1978
GLOW NO. 225		YA 37918		Aug. 14, 1978
GLOW NO. 226		YA 37919		Aug, 14, 1978
	360 credit years		$36,000	

Work was done on these claims during the period June 1 to July 15, 1979.

Report by: Stephen B. Butrenchuk
Stephen B. Butrenchuk
Geologist

Under the Supervision of D.L. Cooke, P.Eng.

SBB/gk

TABLE OF CONTENTS

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ATTACHMENTS

COMINCO LTD.

EXPLORATION
NTS: 115 P/16

WESTERN DISTRICT
17 JULY 1979

GEOLOGICAL, GEOCHEMICAL AND DIAMOND DRILLING REPORT

SUN AND GLOW MINERAL CLAIMS, MAYO M.D., YUKON TERRITORY

$63^{o}47'$N LATITUDE; $136^{o}15'$W LONGITUDE

INTRODUCTION

The Sun group of 112 mineral claims were optioned in July 1978 and the additional 224 Glow group of mineral claims were staked in August 1978 to protect favourable stratigraphy adjoining the Sun group.

During the period June 1 to July 15, 1979 geological and geochemical surveys were completed in the eastern area of the Sun group. A diamond drill program consisting of a single hole drilled to a depth of 120 metres was completed on claim Sun 7. The results of the geological and geochemical surveys and diamond drilling are described in this report.

Personnel employed on the property during the course of the work are as follows:

S.B. Butrenchuk - Geologist - 21 days	700-409 Granville St., Vancouver
V. Steffler - Summer Assistant -21 days	700-409 Granville St., Vancouver
J. Jyu - Summer Assistant - 21 days	700-409 Granville St., Vancouver
L. Munro - Cat skinner	56 Sunset Drive, Whitehorse, Yukon
Arctic Diamond Drilling (2 drillers, 2 helpers)	Whitehorse, Yukon

The above personnel completed work on the property during the period June 1, 1979 to July 15, 1979.

LOCATION AND ACCESS

The Sun-Glow property is located 30 km northwest of Mayo, Yukon and surrounds Scheelite Dome. The claims are in the Mayo Mining District on NTS sheet 115 P/16.

Access to the property is via helicopter from Mayo. Alternatively, access by 4-wheel drive vehicle is possible along a road which begins at the height of land between Highet and Johnson Creeks.

SUMMARY

Work on the Sun and Glow claims was completed during the period June 1, 1979 to July 15, 1979. Geological mapping at a scale of 1:2000 was completed on a grid located in the eastern region of the claim group. Soil sampling was completed on this same grid with samples collected at approximately 25 metre intervals along lines 100 metres apart. A diamond drill hole, drilled to a depth of 120 metres was completed on claim Sun 7.

Geological mapping completed on the Sun claims during 1979 indicates that the area surveyed is underlain primarily by a unit comprised of quartz muscovite schist and quartzite. Within this unit is a limestone-calc-silicate band that has sufficient dimensions so as to be separated into a mappable unit. The above sequence has been intruded by quartz-monzonite of probable Cretaceous age. Within the area surveyed there is no observable outcropping of mineralization.

Soil samples collected during the geochemical survey were analysed for tungsten, lead and silver. Except for a few local high values, no definitive anomalies were delineated for any of these metals.

The diamond drilling was successful in intersecting two mineralized zones having a combined thickness of 2 metres and which are separated by a 1 metre barren zone. The mineralized intersections have an average of 0.285% W.

GEOLOGY

Regional

Strata underlying the area of the Sun group and surrounding area are believed to be correlatable with the Grit Division (Units 3 and 4) of the Scougale Creek, Mayo Lake, and McQuesten Lake areas, mapped by Green (1971). Rocks assigned to the Grit Unit are believed to be of Precambrian age and are separated from Jurassic and Lower Cretaceous strata by a major thrust fault which has been traced for a distance of over 150 miles in the central and west-central Yukon (Tempelman-Kluit, 1970; Green, 1971).

Property

The Sun property is underlain primarily by a quartzite-quartz-mica schist sequence in which is located carbonate bands of varying thickness. The carbonate bands vary from a siliceous limestone or marble to a very dense siliceous calc-silicate rock.

All rock units observed on the property have been both thermally and regionally metamorphosed within the lower subfacies of the greenschist facies. Rocks have been deformed to varying degrees resulting in a corresponding intensity in the developement of a foliation. In a large part the foliation appears to be parallel to the original bedding. Hornblende and biotite are localized in the contact metamorphic aureoles around the quartz-monzonite plugs present on the property.

In the area of the 1979 mapping the predominant strata present consists of a sequence of quartzite and quartz-muscovite schist. These two rock types grade both laterally and vertically into each other, with the difference in rock types being distinguished by the amount of muscovite present. Yellow flakes of muscovite have developed along the foliation planes and where the muscovite is sufficiently abundant the rock is developed into a schist. Within this sequence biotite and/or chlorite rich sections are present.

In the northeast corner of the east grid a knotted schist is present. This unit is a quartz-biotite schist in which biotite and/or chlorite knots, approximately 0.5 cm in diameter, and comprising up to 25% of the rock, are present. This knotted schist occurs elsewhere on the property but does not appear to have any stratigraphic significance. The biotite knots are probably the result of thermal metamorphism of a chemically favourable rock.

A thin band of limestone-calc-silicate is exposed on the ridge in the northwest sector of the grid and in the creek below the ridge. The exposure in the creek is believed to be the downslope extension of the unit exposed on the ridge. The limestone-calc-silicate is a cream to very pale green, thinly bedded unit. It is very siliceous and the two rock types can only be delineated with the use of dilute hydrochloric acid (the limestone being calcareous) or occasionally by the presence of pale red garnets which are present locally in the limestone.

Intruded into this sequence is a small quartz-monzonite plug.

GEOCHEMISTRY

General

A total of 284 samples was collected at 25 metre intervals along lines spaced at 100 metre intervals. Wherever possible the "B" horizon was sampled. The collected samples were dried and ground to minus 80 mesh and analysed for lead, silver and tungsten. Lead and silver analyses were performed by atomic absorption following a hot nitric acid digestion.

Tungsten analyses were done colourimetrically by dithiol after bi-sulphate fusion.

Interpretation of Results

No distinct anomalies were outlined for any of the three metals (tungsten, lead and silver) evaluated. Local high values were obtained for each of the metals but no distinct geochemical pattern was obtained.

In general the area tested by the soil geochemical survey has virtually no geochemical expression.

DIAMOND DRILLING

The 1979 diamond drill program on the Sun property was designed to test the down-dip extensions of tungsten mineralization observed in surface outcrop and in trenches that were completed in 1978.

Drilling was done using a Longyear 34 drill and NQ drill rods and equipment. Drill hole Sun 79-1 was drilled at -60^{o} to a depth of 120 metres.

Commencing at a depth of 66 metres a 3.34 zone was intersected in which two mineralized zones totalling 2.0 metres in thickness were present. The weighted average of the 3.34 metre thickness is 0.23% WO_3. Values for Au, Ag, Cu and Sn are very low.

CONCLUSIONS AND RECOMMENDATIONS

In the East Grid area neither the geological mapping nor the geochemistry gave any encouragement for locating economic mineralization. The diamond drill results also give little encouragement for locating economic mineralization. No further work is recommended at this time.

Report by: Stephen B. Butrenchuk
Stephen B. Butrenchuk
Geologist

Endorsed by: D.L. Cooke / per SBB
D.L. Cooke
Senior Geologist

Approved for Release by:
G. Harden, Manager
Exploration
Western District

SBB:gk

Distribution:

Mining Recorder (2)
Western District (1)
Administration (1)

REFERENCES

Green, L.H. (1971), Geology of Mayo Lake, Scougale Creek and McQuesten Lake map areas, Yukon Territory, G.S.C. Memoir 357, p. 10.

Tempelman-Kluit, D.J. (1970), Stratigraphy and Structure of the "Keno Hill Quartzite" in Tombstone River - Upper Klondike River map areas, Yukon Territory. Geological Survey of Canada, Bulletin 180.

IN THE MATTER OF THE YUKON QUARTZ MINING ACT AND

IN THE MATTER OF A GEOCHEMICAL, GEOLOGICAL, AND DIAMOND DRILLING SURVEY CARRIED OUT ON MINERAL CLAIMS SUN 7-16, 23-32, 39, 40, 42-48, 57-59, 61-64, 71-81, 83-112 AND GLOW 91, 93-124, 127-226 LOCATED IN THE MAYO MINING DISTRICT OF THE YUKON TERRITORY MORE PARTICULARLY, NTS: 115 P/16

A F F I D A V I T

I, STEPHEN B. BUTRENCUK, of the City of Port Coquitlam, in the Province of British Columbia, geologist, make oath and say:

1. THAT I am employed as a geologist by Cominco Ltd. and, as such, have a personal knowledge of the facts to which I hereinafter depose;

2. THAT annexed hereto and marked as "Exhibit A" to this my affidavit is a true copy of expenditures on a geochemical, geological and diamond drilling survey carried out on mineral claims Sun 7-16, 23-32, 39, 40, 42-48, 57-59, 61-64, 71-81, 83-112 and Glow 91, 93-124, 127-226;

3. THAT the said expenditures were incurred between the 1st day of June 1979 and the 13th day of July 1979, for the purpose of mineral exploration on the above noted claim group.

Sworn Before Me at the City of Vancouver in the Province of British Columbia this 20th day of July 1979

A Notary Public In and For the Province of British Columbia.

Stephen B. Butrenchuk.
STEPHEN B. BUTRENCHUK

E X H I B I T "A"

GEOLOGICAL, GEOCHEMICAL AND DIAMOND DRILLING

REPORT ON THE SUN AND GLOW MINERAL CLAIMS

SITUATED AT: 63°47'N LATITUDE; 136°15'W LONGITUDE

NTS: 115 P/16

SALARIES:		
S.B. Butrenchuk	(21 days)	$ 3,000
V. Steffler	(21 days)	1,952
J. Jyu	(21 days)	1,856
DIAMOND DRILLING:		17,291
MOBILIZATION: (includes cost of D6 Cat)		7,487
HELICOPTER:		1,841
ASSAYS		$ 420 SBB
GEOCHEMISTRY:		
284 samples @ $5.15/sample		1,462
Equipment, Supplies, Camp Costs		2,313
TOTAL:		~~$36,202~~ $ 36,622 SBB.

Signed: Stephen B. Butrenchuk.
STEPHEN B. BUTRENCHUK

This is Exhibit "A" to the Statutory Declaration of Expenditures relating to the Geological, Geochemical and Diamond Drilling Survey declared before me the 20th day of July, 1979 A.D.

Charles A Fox

A Notary Public in and for the Province of British Columbia

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
17 JULY 1979

STATEMENT OF QUALIFICATIONS

I, STEPHEN B. BUTRENCHUK, with business address at 409 Granville Street 7th floor, Vancouver, British Columbia, do hereby certify that I have supervised the field work and have assessed and interpreted the data resulting from this geological, geochemical and diamond drilling survey on the Sun and Glow mineral claims.

I also certify that:

1. I am a graduate of the University of Manitoba, B.Sc. 1966 and M.Sc. 1970.

2. I have engaged in mineral exploration since graduation.

Respectfully Submitted:

Stephen B. Butrenchuk.
STEPHEN B. BUTRENCHUK

Stephen B. Butrenchuk was responsible for supervising the geological, geochemical and diamond drilling survey described herein. Mr. Butrenchuk received his B.Sc. and M.Sc. from the University of Manitoba in the years 1966 and 170 respectively. He has worked for Cominco as a permanent employee since January 23, 1970. I consider him to be a competent geologist.

Signed: _____
C. HARDEN, Manager
Exploration, Western District

Scale .

Colour Plot & Dips

Drill Hole Record

Cominco

Property	SUN OPTION	District	MAYO	Hole No.	Sun 79-1
Commenced	June 20/79	Location	Scheelite Dome	Tests at	Hor. Comp.
Completed	June 29/79	Core Size	NQ	Corr. Dip	Vert. Comp.
Co-ordinates	10050E 4940N			True Brg. 340°	Logged by SBB
Objective	To test for observed surface mineralization at depth.			% Recov. 92.85	Date July 1/79

Claim SUN 7 | T Brg. 340° | Collar Dip -62° | Elev. 5080' | Length 396' | Hole No. SUN 79-1 | Sheet 1

Footage From	Footage To	Description	Sample No.	Length	Analysis Cu	W	Au	Ag	Sn
0	15	Overburden							
15	25.5	Quartz-biotite-chlorite schist: biotite knots up to 50% of rock; knotted schist; dark grey to dark green; moderately foliated; Po: 0-3%; quartz vein (6 inches thick) at 23 feet.							
25.5	34	Quartzite: buff to light brown; in part foliated; contains quartz-biotite-chlorite schist interbeds; tr. pyrite along foliation plane at 26,7 ft.							
34	44	Quartz-biotite-chlorite schist: knotted schist; biotite clots comprise approx. 15% of rock; occasional narrow quartz vein present; foliation is weak to moderately developed.							
44	47.5	Broken rock: brecciation and gouge - fault zone; probably parallel to bedding.							
47.5	48.5	Quartz-mica schist.							
48.5	54.5	Fault gouge; talcose; breciated; fault is probably parallel to bedding.							
54.5	60	Quartz-chlorite-biotite schist: weak to moderate foliation parallel to bedding; biotite clasts (10-20% of rock); knotted schist .							
		Assay sample 57-58 feet tr. WO_3	18607E	1	<.01	<.01	<.002	<.02	<.01

211-9437

Scale

Colour Plot & Dips

0

Drill Hole Record

Cominco

Property	SUN OPTION	District	Hole No.	SUN 79-1	
Commenced		Location	Tests at		Hor. Comp.
Completed		Core Size	Corr. Dip		Vert. Comp.
Co-ordinates			True Brg.		Logged by
Objective			% Recov.		Date

Claim | T Brg. | Collar Dip | Elev. | Length | Hole No. SUN 79-1 | Sheet 2

Footage From	Footage To	Description	Sample No.	Length	Analysis Cu	W	Au	Ag	Sn
60	70	Quartzite: phyllitic due to presence of muscovite; at 63 ft. - 1 ft. section of quartz-chlorite schist in which occurs a 2 in. quartz vein; approx. 5-10% Po along foliation planes. Assay 63-65 feet. tr. WO_3	18608E	2	<.01	<01	<002	<02	<.01
70	72	Muscovite schist: very light grey, soft.							
72	74	Quartz-chlorite-biotite schist: dark green, well foliated; locally the foliation is crenulated; foliation: perpendicular to 65° to core axis.							
74	81	Quartz-muscovite-chlorite schist: light grey, soft, well foliated, occasional rusty weathering fracture and occasional vug.							
81	97.5	Quartz-biotite-chlorite schist: dark green to green, finely laminated, foliation parallel to laminations; quartz veining and vugs comprise approx. 10% of rock 82-84 feet. - vug at 82.5 ft; occasional calcite filled hairline fracture from 87 ft.; 93-97 ft. Po -5%. - at 96.5 ft. - 4 in. thick band of light green calc-silicate (quartz, diopside, trace calcite, trace wollastonite, Po. 5-15%). Assay 96-97 ft. trace WO_3	18609E	1	<.01	<.02	<002	<.03	<.01

211-9437

Scale

Colour Plot & Dips

0

Drill Hole Record

Cominco

Property SUN OPTION	District	Hole No. SUN 79-1	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.	Sheet
					SUN 79-1	3

Footage From	Footage To	Description	Sample No.	Length	Analysis
97.5	124	Quartz-biotite schist: dark grey to black, green layers due to the presence of chlorite, occasional quartz vug.			
		- at 107.5 ft. - 2 in. thick band of calc-silicate.			
		- between 107.5 and 120 ft. - numerous 0.5 to 1.0 in. thick light green to cream coloured calc-silicate beds - no visible tungsten mineralization.			
		- foliation: perpendicular to 75° to core axis.			
		- occasional quartz vug present.			
124	149	Quartz-chlorite-biotite schist: dark green to dark grey, laminated to thin bedded, weak to moderate foliation parallel to bedding.			
		- po up to 5%, scheelite-nil.			
		- at 143.6 ft. - 0.5 ft. thick quartz vein.			
149	159	Quartzite: grey to green, biotite minor constituent, muscovite-10% foliation very weakly developed, occasional quartz bleb present.			
159	164	Quartz-biotite-chlorite schist: laminated to thin bedded, Po content 0-5%, scheelite- nil.			
164	182.5	Quartzite: light grey to light green; massive to laminated, foliation is weak.			
		- at 173 ft. - 1.5 ft. thick section of quartz-chlorite-biotite-schist.			
		- at 179.5 ft. - 1.0 ft. thick section of quartz-chlorite-biotite-schist.			

Scale

Colour Plot & Dips

0

Drill Hole Record

Cominco

Property	SUN OPTION	District		Hole No.	SUN 79-1
Commenced		Location		Tests at	Hor. Comp.
Completed		Core Size		Corr. Dip	Vert. Comp.
Co-ordinates				True Brg.	Logged by
Objective				% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length | Hole No. SUN79-1 | Sheet 4

Footage From	Footage To	Description	Sample No.	Length	Analysis Cu	W	Au	Ag	Sn
		- up to 5% Po is present in the schist.							
182.5	184	Quartz-biotite-chlorite schist							
184	186	Marble - calc-silicate: cream to buff, light green beds present; also wispy lenses present.							
186	187.5	Calc-silicate: light green, thin bedded, siliceous, diopsidic?							
187.5	196	Calc-silicate: buff to light green, laminated to thinly bedded, moderately calcareous throughout, 194-195 ft. garnets present (5%); trace wollastonite, very siliceous.							
196	200	Interbedded quartz-biotite schist and calc-silicate: laminations are contorted, Po-5 to 10% occurring in fractures and as disseminations, quartz vugs and veins common.							
200	214.5	Calc-silicate: cream to light green, occasional 1 to 2 inchs thick skarn or schist bed.							
		- at 204 ft. - 4 in. long fracture mineralized with scheelite, Po and minor Py.							
		Assays: 201-203	18610E	2.0	<.01	<.01	<.002	<.07	<.01
		203-205 Scheelite present	18611E	2.0	<.01	<.02	<.002	.03	<.01
		205-210	18612E	5.0	<.01	<.01	<.002	.02	<.01
		210-214.5	18613E	4.5	<.01	<.01	<.002	<.02	<.01

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property SUN OPTION	District	Hole No. SUN 79-1	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length | Hole No. SUN 79-1 | Sheet 5

Footage From	To	Description	Sample No.	Length	Analysis Cu	W	Au	Ag	Sn
214.5	217	Limestone: buff to cream coloured; thin bedded (0.5 to 1.0 inch thick), light red garnets present (up to 25%); no tungsten mineralization.							
		Assay 214.5-217	18614E	2.5	<.01	<.01	<.002	.04	<.01
217	220	Amphibolite skarn: dark green, contains thin light green calc-silicate beds, scheelite estimated at 1.0% (0.5% WO_3).							
		Assay 217-220	18615E	2.0	<.01	0.25	.006	0.08	<.01
220	224	Limestone: light cream, garnets present in specific beds, bedding perpendicular to core axis. - at 223.7 ft. - garnet-pyroxene skarn, no observed scheelite. - minor calc-silicate present (quartz, diopside, minor chlorite and trace wollasonite.							
		Assay 220-224	18616E	4.0	.01	<.01	<002	.02	<.01
224	228	Amphibolite skarn: dark green, garnet-pyroxene zones present, moderate to abundant scheelite, Po - up to 20% in disseminations and along fractures. - at 224.6 ft. - 4 inch thick garnet-calc-silicate bed.							
		Assay 224-228	18617E	4.0	0.08	0.32	0.036	0.03	0.01
228	230	Calc-silicate: cream to very light green, weakly calcareous, garnets present. No scheelite observed.							
		Assay 228-230	18618E	2.0	.01	.01	.002	.03	<.01

Scale

Colour Plot & Dips

0

Drill Hole Record

Cominco

Property SUN OPTION	District	Hole No. SUN 79-1	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length | Hole No. SUN 79-1 | Sheet 6

Footage From	Footage To	Description	Sample No.	Length	Analysis Cu	W	Ag	Au	Sn	
230	297	Quartz-biotite-schist: dark grey to green, laminated and foliated, highly crenulated with folding at 231, 232 and 233 feet.								
		- interbeds of quartz-chlorite schist present.								
		- thin lenses of Po present parallel to bedding; overall Po content is variable 0-5%.								
		- no visible scheelite; 289.5 to 292 quartzite bed.								
297	313	Calc-silicate: pale green laminated, streaky appearance, buff coloured layers present, chloritic laminae present, quartz veinlets present but not abundant, in places the laminae are severely contorted.								
		- at 303 ft. cpy. pres.; Po 2-3%.								
		- within this unit - quartz-biotite bands present - these bands vary in thickness from 0.5 inches to 12 inches and contain up to 2% disseminated Po.								
		- wollastonite may be present but only in minor amounts.								
		Assays 300-302	18619E	2.0	<0.01	0.01	0.02	0.002	<0.01	
		302-305	18620E	3.0	0.02	0.02	0.02	0.012	<0.01	
		305-308	18621E	3.0	<0.01	0.01	0.02	0.002	<0.01	
313	332	Interbedded sequence of quartz-biotite-chlorite-schist and calc-silicate.								
		- sequence is finely laminated; laminations prependicular to core axis except where crenulations occur.								

Scale

Colour Plot & Dips

0

Drill Hole Record

Cominco

Property	SUN OPTION	District		Hole No.	SUN 79-1
Commenced		Location		Tests at	Hor. Comp.
Completed		Core Size		Corr. Dip	Vert. Comp.
Co-ordinates				True Brg.	Logged by
Objective				% Recov.	Date

Claim	T Brg.	Collar Dip	Elev.	Length	Hole No. SUN 79-1 Sheet 7

Footage From	Footage To	Description	Sample No.	Length	Analysis Cu	W	Au	Ag	Sn
		- Po content variable up to 2%; occurs as disseminations along laminations.							
		- minor scheelite at 332 ft.;							
		Assays 328-331	18622E	3.0	<0.01	0.01	0.02	0.02	<0.01
		331-333 minor scheelite	18623E	2.0	0.01	0.06	0.02	0.005	<0.01
332	335	Calc-silicate: thin band of garnet at 33 feet.							
		Assay 333-336 no visible scheelite	18624E	3.0	0.01	0.02	0.02	0.005	<0.01
335	347	Quartz-biotite-schist: few thin calc-silicate beds present. Po content 0-2% as dis-seminations.							
347	352	Calc-silicate: cream to light green, non-calcareous except along hairline fractures, Po content 0-1% but restricted to individual beds.							
		- finely laminated, streaky appearance.							
352	370	Quartz-biotite-chlorite-schist: moderately foliated, laminated, Po 0-5%; occasional calc-silicate band present.							
370	379	Calc-silicate: light green, laminated, streaky, red garnets at 372 feet, diopsidic, siliceous; occasional quartz-mica schist band present.							
		- locally the laminations are highly contorted.							

Scale

Colour Plot & Dips

Drill Hole Record

Cominco

Property SUN OPTION	District	Hole No. SUN 79-1	
Commenced	Location	Tests at	Hor. Comp.
Completed	Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by
Objective		% Recov.	Date

Claim | T Brg. | Collar Dip | Elev. | Length | Hole No. SUN 79-1 | Sheet 8

Footage From	To	Description	Sample No.	Length	Analysis
379	390	Quartz-biotite-chlorite schist			
		- at 386 ft. - 2 in. thick knotted schist bed.			
390	396	Quartzite: light grey to green, massive, weak to moderate foliation due to presence of muscovite and chlorite.			
		END OF HOLE			

211-9437

To: Comir Ltd.

PAGE No. 1

REPORT NO. A29 - 428

DATE: July 8, 1979

7th Floor 409 Granville Street
Vancouver, B.C.
V6C 1T8

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

Samples Submitted: July 3, 1979
Results Completed: July 8, 1979

PROJECT: SBB-234
Charge No. 111-440-WJ9A

I hereby certify that the following are the results of assays made by us upon the herein described core samples.

MARKED	GOLD		SILVER		Cu	W	Sn					
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
18607 E	<0.002		0.02		<0.01	<0.01	<0.01					
18608 E	<0.002		0.02		<0.01	<0.01	<0.01					
18609 E	<0.002		0.03		<0.01	0.02	<0.01					
18610 E	<0.002		0.07		<0.01	<0.01	<0.01					
18611 E	<0.002		0.03		<0.01	0.02	<0.01					
18612 E	<0.002		0.02		<0.01	<0.01	<0.01					
18613 E	<0.002		<0.02		<0.01	<0.01	<0.01					
18614 E	<0.002		0.04		<0.01	<0.01	<0.01					
18615 E	0.006		0.08		<0.01	0.25	<0.01					
18616 E	<0.002		0.02		0.01	<0.01	<0.01					
18617 E	0.035		0.03		0.08	0.32	<0.01					
18618 E	0.002		0.03		0.01	0.01	<0.01					

cc Mr. S. Butrenchuk

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged.

Registered Assayer, Province of British Columbia

To: Comi Ltd.

PAGE No. 1

709 - 409 Granville Street
Vancouver, B. C. V6C 1T8

REPORT NO.) - 493

DATE: July 17, 1979

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

Samples submitted: July 10, 1979
Results completed: July 17, 1979

PROJECT: 111-440-WJ9A

I hereby certify that the following are the results of assays made by us upon the herein described core samples.

MARKED	GOLD		SILVER		Cu	W	Sn					
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
18619 E	<0.002		<0.02		<0.01	0.01	<0.01					
18620	0.012		0.02		0.02	0.02	<0.01					
18621	<0.002		<0.02		<0.01	0.01	<0.01					
18622	<0.002		<0.02		<0.01	0.01	<0.01					
18623	0.005		0.02		0.01	0.06	<0.01					
18624	<0.002		0.02		0.01	0.02	<0.01					
18625	<0.002		<0.02		0.01	0.02	<0.01					
18626	0.005		0.02		0.01	0.03	<0.01					
18627	0.052		0.03		0.01	0.22	<0.01					
18628	0.031		0.03		0.01	0.32	<0.01					
18629	0.075		0.03		0.02	0.02	<0.01					
18630	0.018		0.02		0.01	0.01	<0.01					
18631	0.002		0.05		<0.01	0.01	<0.01					
18632	0.009		0.07		0.01	0.01	<0.01					
18633	0.016		0.04		0.01	0.01	<0.01					
18634	0.004		0.05		0.02	0.21	<0.01					
18635	0.003		0.04		0.01	0.11	<0.01					
cc Mr. S. Butrenchuk												

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged.

Registered Assayer, Province of British Columbia

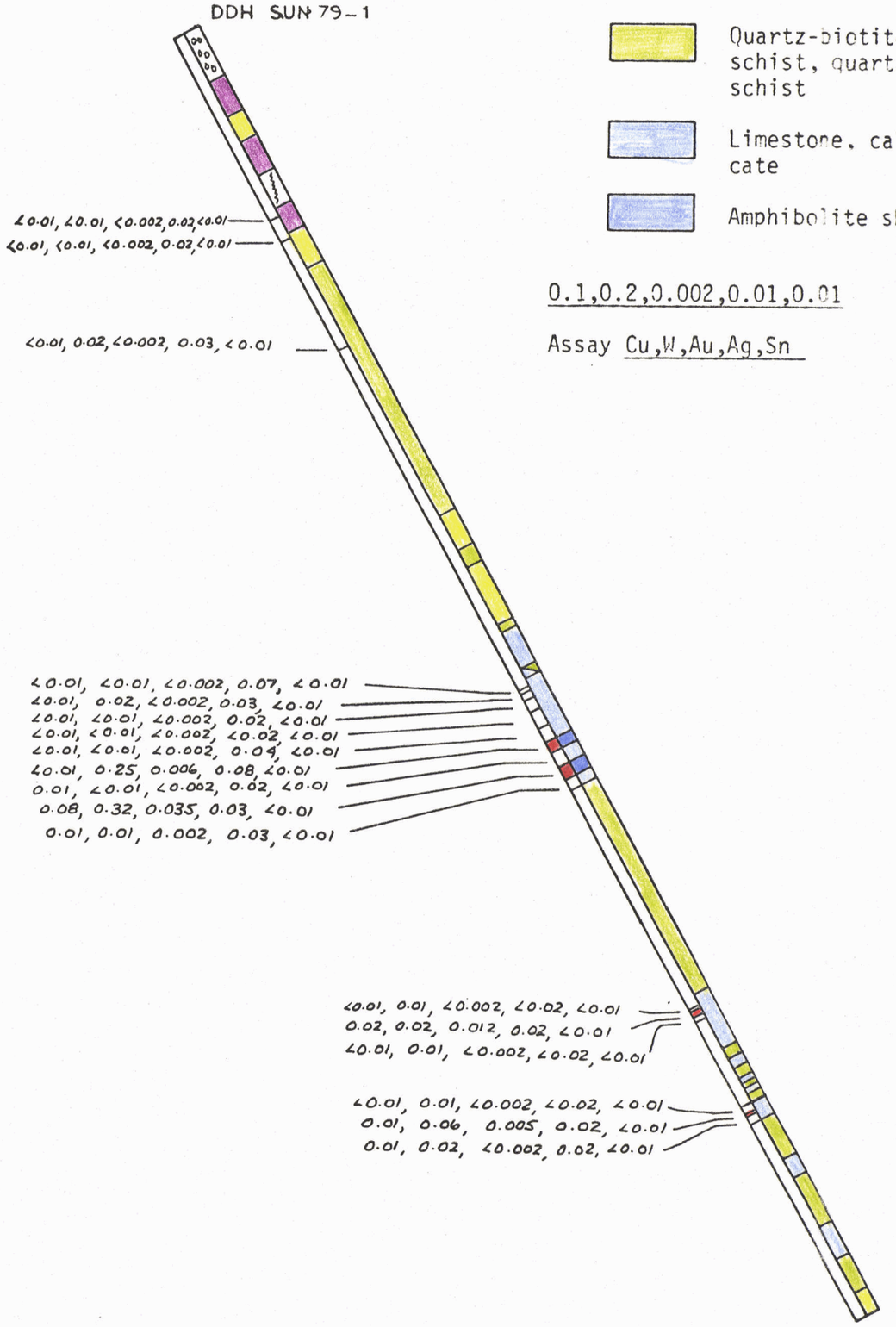
LEGEND

- Knotted schist
- Quartzite, quartz-muscovite schist
- Quartz-biotite-chlorite schist, quartz-chlorite schist
- Limestone, calc-silicate
- Amphibolite skarn

0.1,0.2,0.002,0.01,0.01

Assay Cu,W,Au,Ag,Sn

DDH SUN 79-1



Cominco

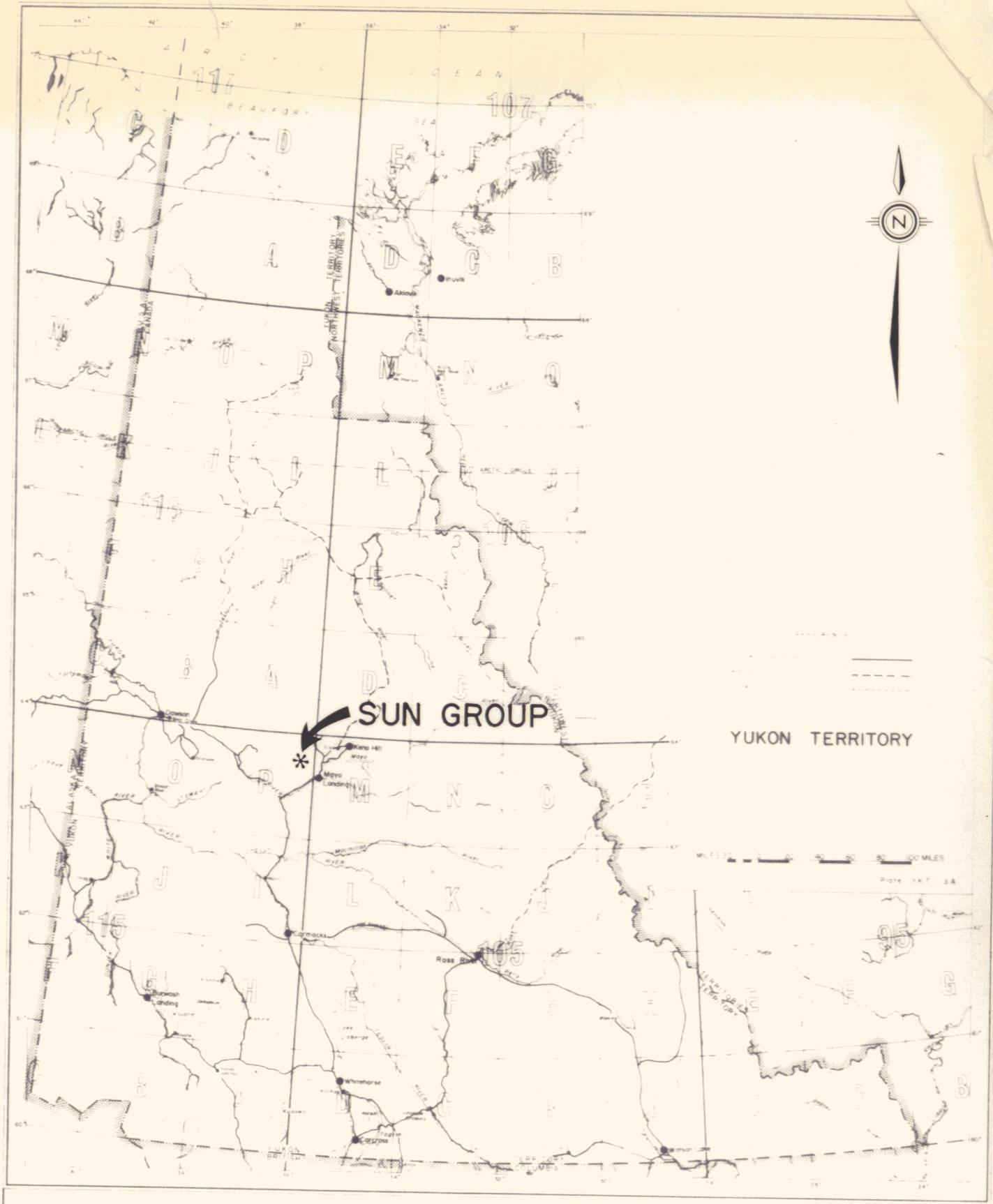
Drawn by: SBB	Traced by:
Revised by / Date	Revised by / Date

DIAMOND DRILL SECTION

SUN 79-1

Scale: 1:500 Date: JUNE, 1979 Plate:

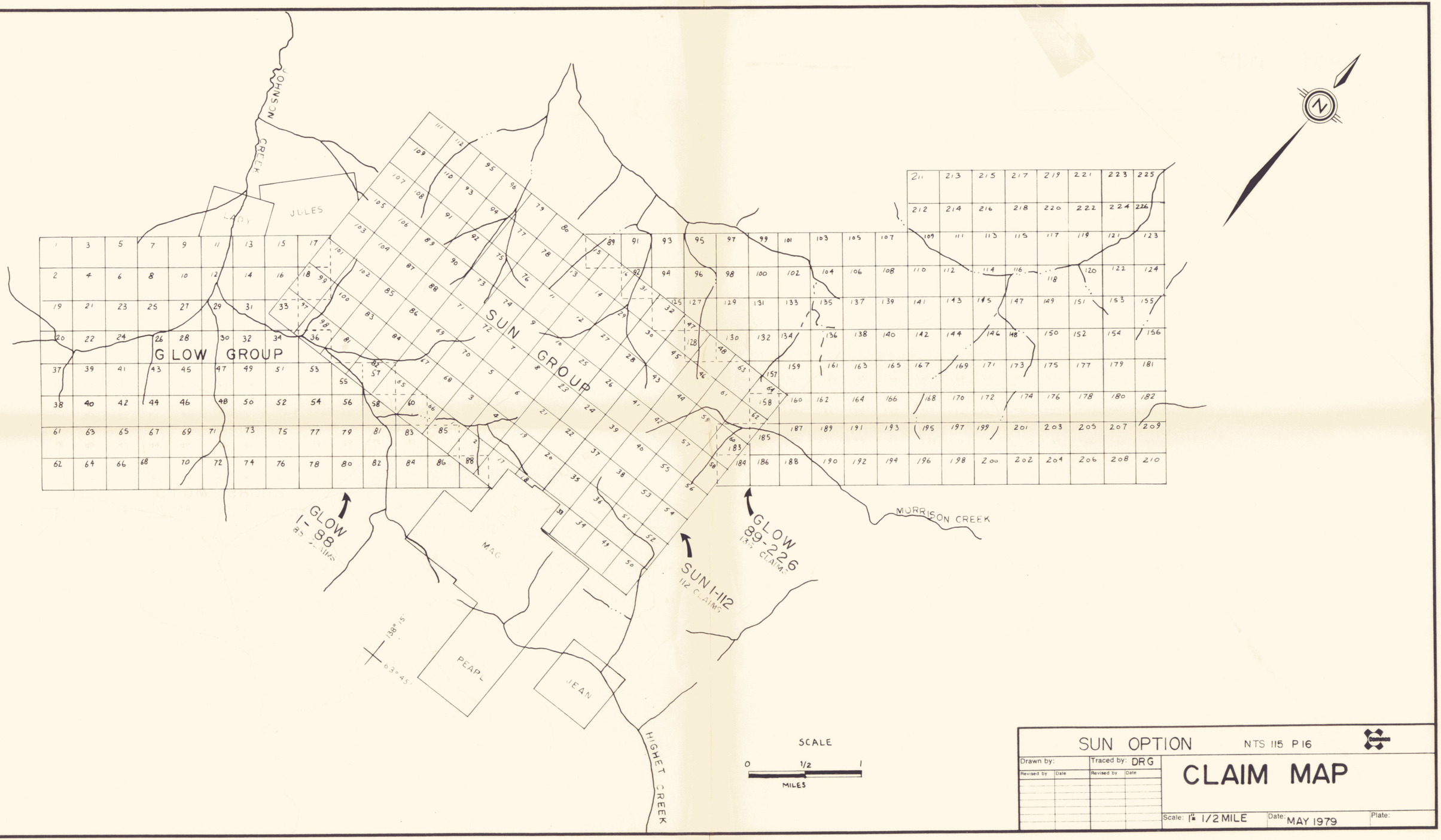
NCI 112A CL



Drawn by: DMC		Traced by:	
Revised by	Date	Revised by	Date

LOCATION MAP
SUN GROUP

Scale: 1" = 85 Mi | Date: APR 1979 | Plate: SUN 78-1

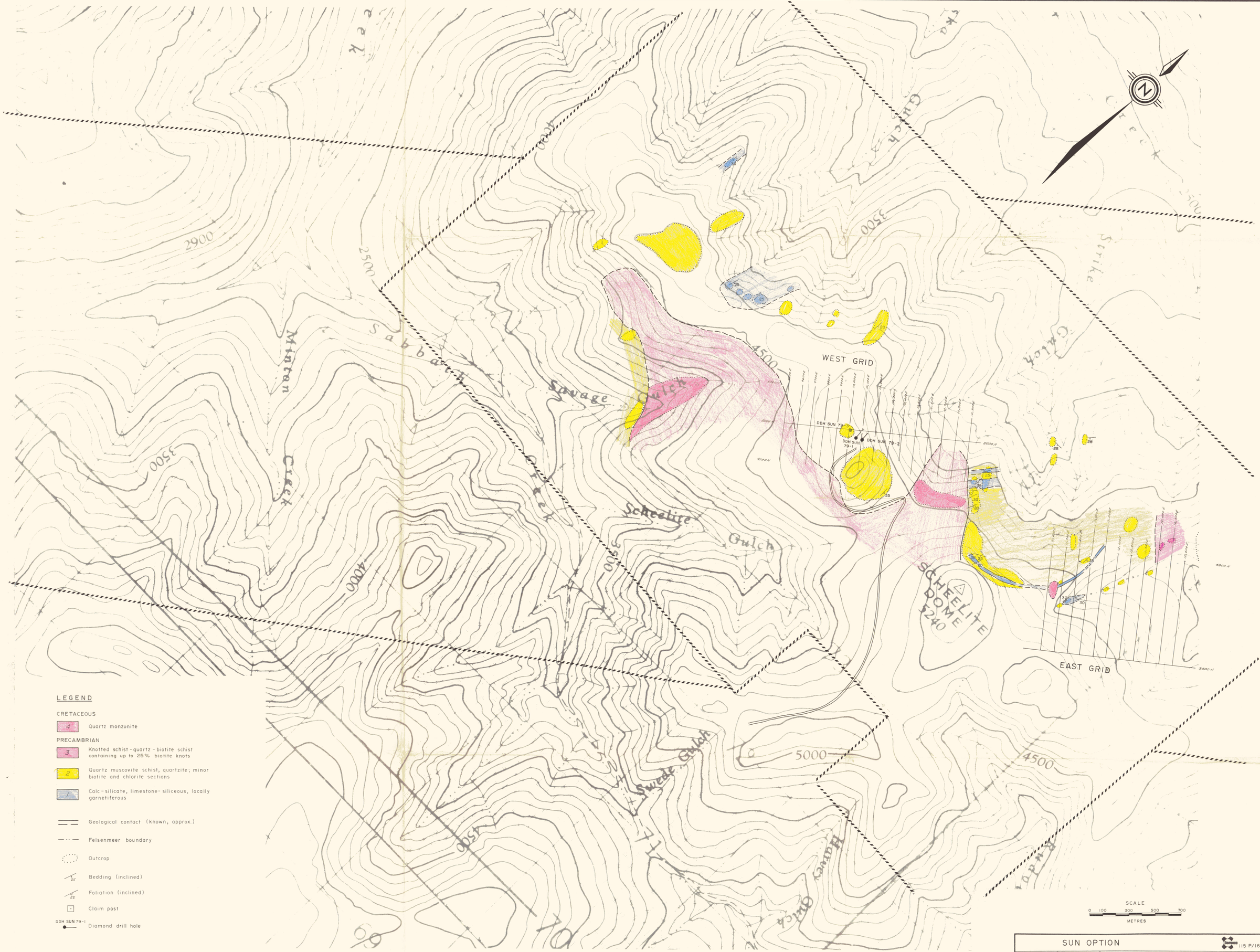


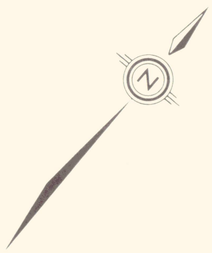
SUN OPTION NTS 115 P16

Drawn by:		Traced by: DRG	
Revised by	Date	Revised by	Date

CLAIM MAP

Scale: 1" = 1/2 MILE Date: MAY 1979 Plate:


WEST GRID
EAST GRID
DDH SUN 79-1
DDH SUN 79-2
SCHEELITE DOME
5240
Savage Creek
Scheelite Gulch
Swede Gulch
Gulch
Creek
Strike
Gulch
Minton
Sabbath
2900
2500
3500
4000
4500
5000
4500
3500
LEGEND
CRETACEOUS
4 Quartz monzonite
PRECAMBRIAN
3 Knotted schist - quartz - biotite schist containing up to 25% biotite knots
2 Quartz muscovite schist, quartzite; minor biotite and chlorite sections
1 Calc - silicate, limestone, siliceous, locally garnetiferous
Geological contact (known, approx.)
Felsenmeer boundary
Outcrop
Bedding (inclined)
Foliation (inclined)
Claim post
DDH SUN 79-1 Diamond drill hole
SCALE
0 100 300 500 700
METRES
SUN OPTION
115 P/16
Drawn by: S.V.
Traced by: PAN
Revised by | Date
GENERAL GEOLOGY
Scale: 1:10,000
Date: JULY, 1979
Plate:
NCI - 119 - C.
FORM 210-0680



LEGEND

CRETACEOUS

4 Quartz monzonite

PRECAMBRIAN

3 Knotted schist - quartz - biotite schist containing up to 25% biotite knots

2 Quartz muscovite schist, quartzite; minor biotite and chlorite sections

1 Calc - silicate, limestone: siliceous, locally garnetiferous

Geological contact (known, approx.)

Felsenmeer boundary

Outcrop

Bedding (inclined)

Foliation (inclined)

Claim post

GLOW 157

GLOW 158

GLOW 159

GLOW 160

4300

4200

CREEK

4100

4200

4300

4400

4500

4300 N

4200 N

4100 N

4000 N

3900 N

3800 N

3700 N

3600 N

3500 N

11600 E 11700 E 11800 E 11900 E 12000 E 12100 E 12200 E 12300 E 12400 E 12500 E 12600 E

SCALE

0 50 100 150 200 METERS

0 100 200 300 400 500 600 FEET

NOTE - Elevations are shown in feet

SUN OPTION

Dominion 115 P/16

Drawn by: V. S.		Traced by:	
Revised by	Date	Revised by	Date

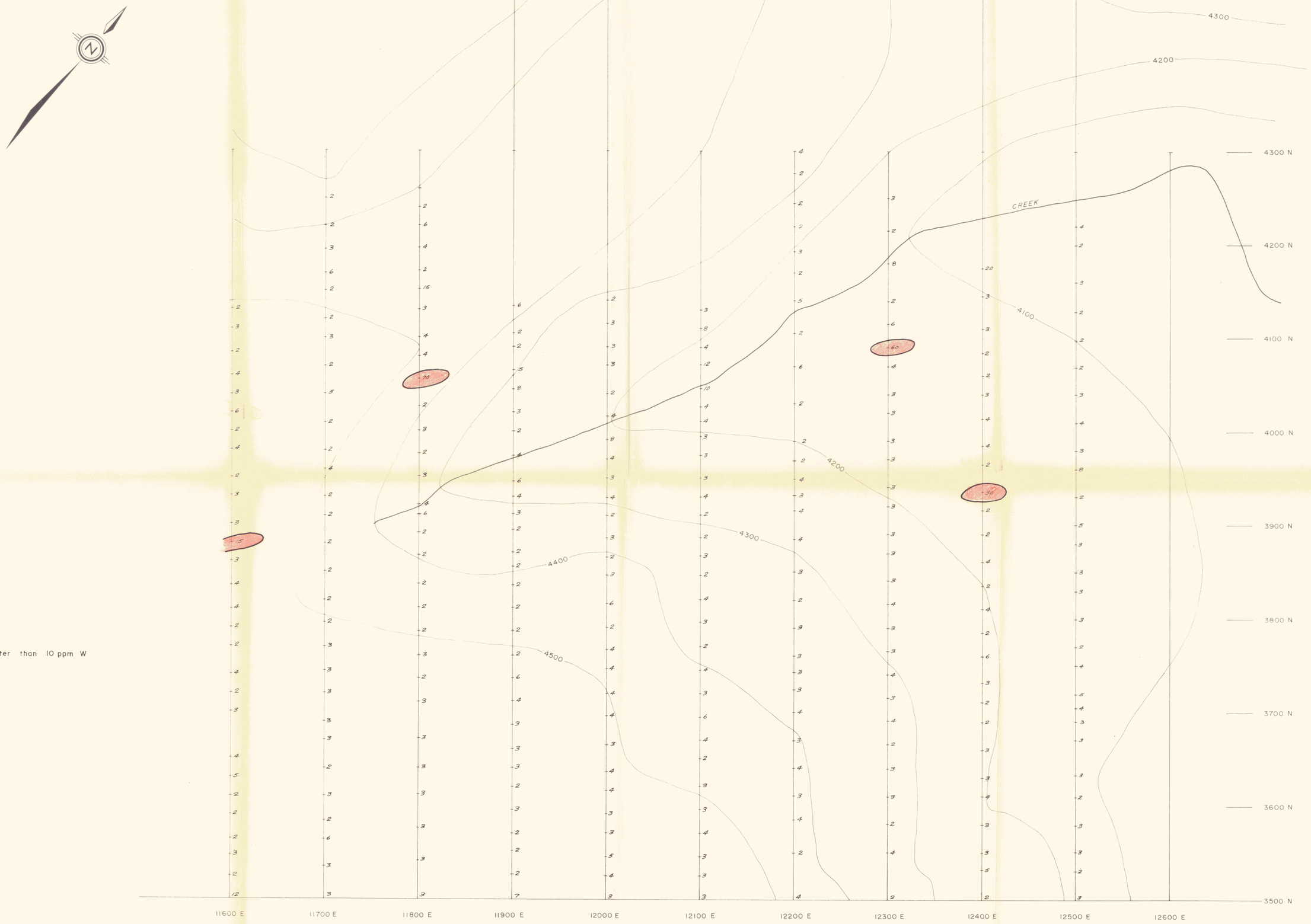
EAST GRID

GEOLOGY

Scale: 1:2,000 Date: JULY, 1979 Plate:

NCI-117-GL

FORM 210 0680



LEGEND

Greater than 10 ppm W

SCALE

0 50 100 150 200 METERS

0 100 200 300 400 500 600 FEET

NOTE - Elevations are shown in feet

SUN OPTION

Commence 115 P/16

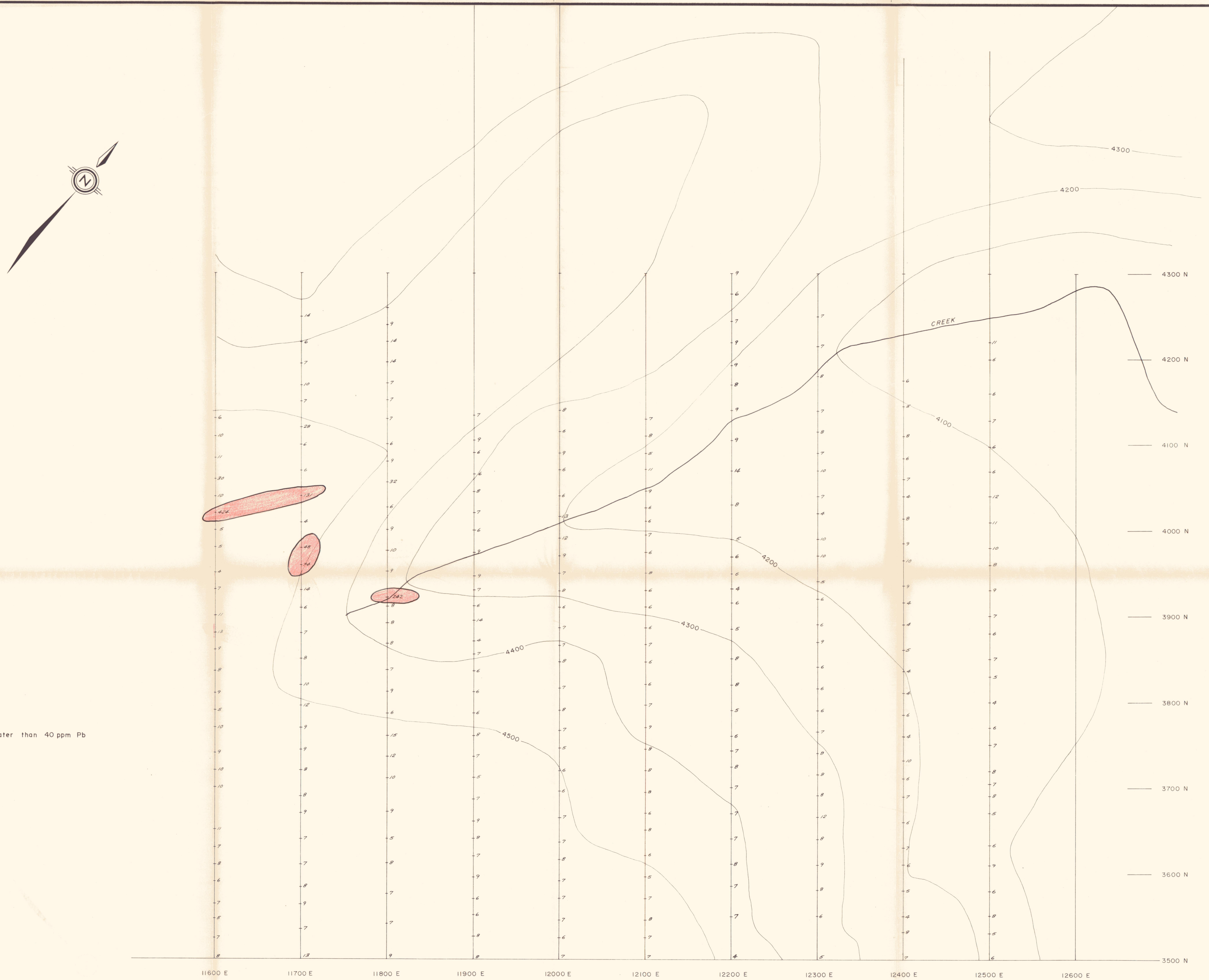
Drawn by: V.S.	Traced by:		
Revised by	Date	Revised by	Date

EAST GRID

GEOCHEMISTRY - ppm W

Scale: 1:2,000 Date: JULY, 1979 Plate:

FORM 210 0660



LEGEND

Greater than 40 ppm Pb

SCALE

0 50 100 150 200 METERS

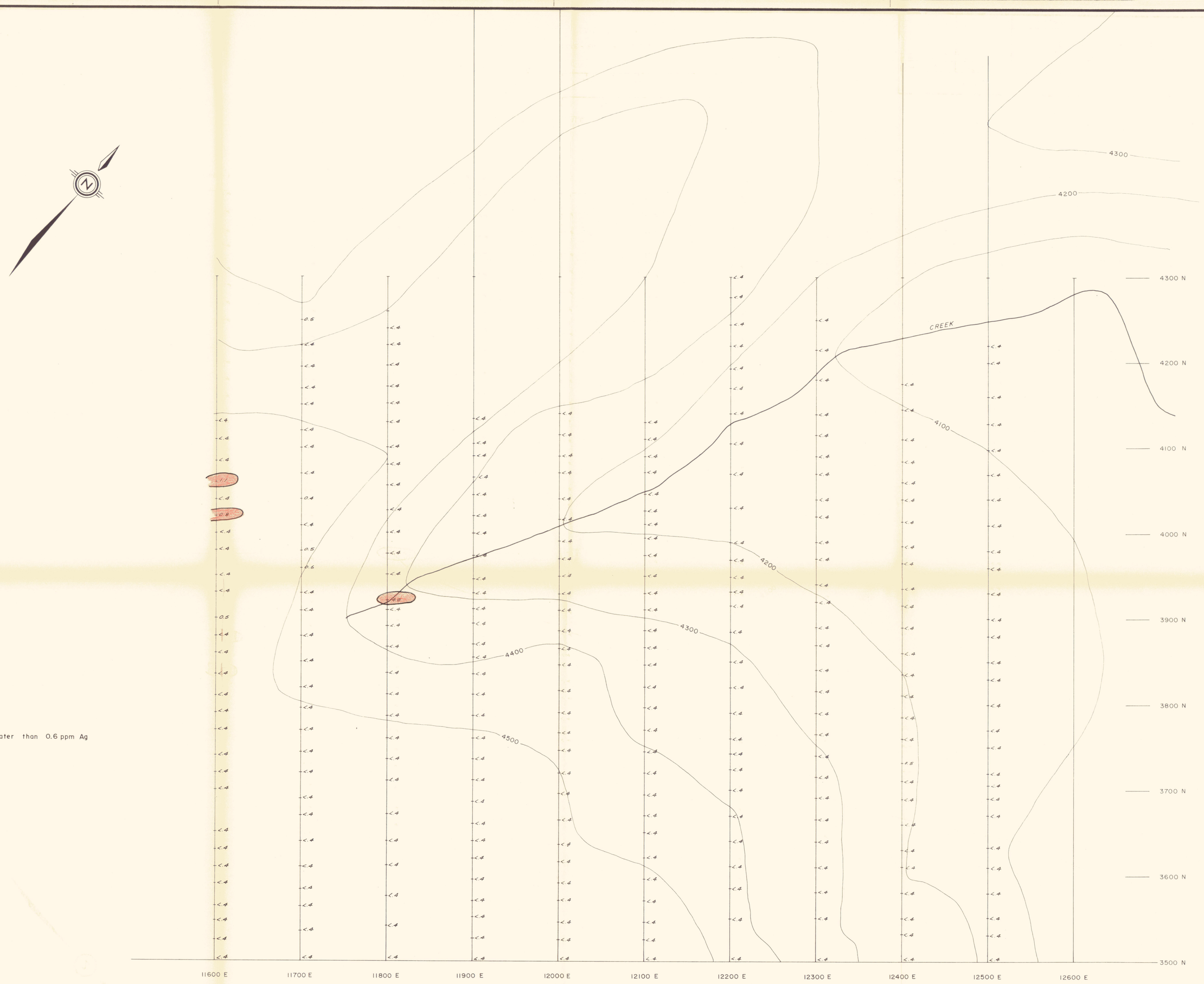
0 100 200 300 400 500 600 FEET

NOTE - Elevations are shown in feet

SUN OPTION				115 P/16
Drawn by: V.S.	Traced by:	EAST GRID		
Revised by / Date	Revised by / Date	GEOCHEMISTRY – ppm Pb		
Scale: 1:2,000		Date: JULY, 1979	Plate:	

NCI - 11T - C.L.

FORM 210 0660



LEGEND

Greater than 0.6 ppm Ag

SCALE

0 50 100 150 200 METERS

0 100 200 300 400 500 600 FEET

NOTE - Elevations are shown in feet

SUN OPTION

115 P/16

Drawn by: V.S.		Traced by:	
Revised by	Date	Revised by	Date

EAST GRID

GEOCHEMISTRY - ppm Ag

Scale 1: 2,000 Date JULY, 1979