LUC SYNDICATE

EXPLORATION REPORT

1973

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by

J.C. STEPHEN

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#### 1973 EXPLORATION REPORT

## INTRODUCTION

Figure I is an index map showing the location of areas that received attention during 1973.

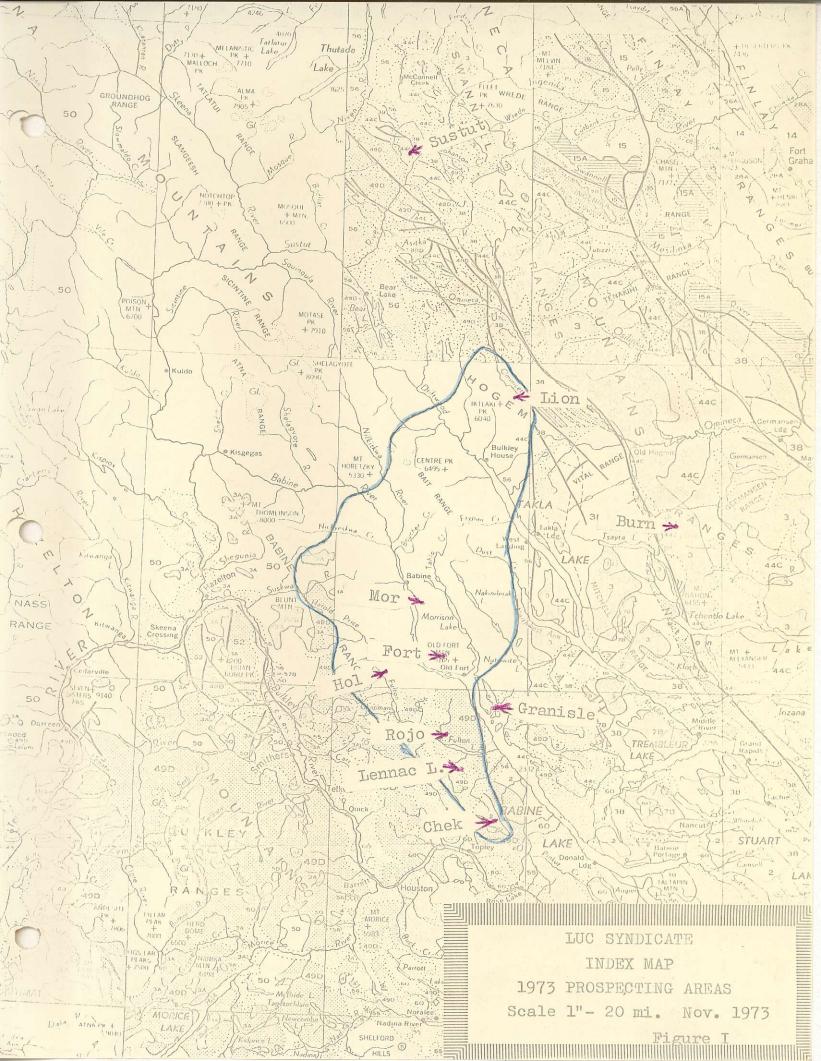
Exploration was confined to the Babine-Takla Lakes area in search of both porphyry copper type deposits and strata bound deposits.

One new discovery was made during the season which warrants further investigation.

Exploration was conducted on four claim groups staked in 1972 and further work is proposed on one of these.

A G3B-1 helicopter on contract from Northern Mountain Helicopters was used throughout the season.

Results of the general exploration program is summarized in this report. Detailed descriptions of the HOL, LION and FORT claim groups accompany this report.



## TOPLEY AREA Maps 93L/9E

#### CHEK CLAIM GROUP

A program of detailed silt sampling was commenced northeast of Topley in the vicinity of the TAC claims staked in 1972. Geological mapping was to have been conducted with this program but limited outcrop and personnel problems combined to require termination of the work.

Plate · I shows silt sample results at a scale of 1" - 660°. Three anomalous areas are indicated.

#### A Zone

This zone exhibits values up to 660 ppm Cu, 4000 ppm Zn, 1050 ppm Pb and 3.0 ppm Ag, in an area approximately 5000\* by 2000\*.

The zone appears to terminate at the volcanic contact to the east. Scattered outcrops show northeast and northwest trending porphyritic dykes containing pink feldspar and hornblende phenocrysts. These dykes cut coarse grained Topley granite which appears unaltered and unmineralized.

No mineralized zones were found.

#### B Zone

A single creek is anomalous for zinc, silver and lead for a distance of about 3,000 feet. The zone lies along the assumed Topley granite - volcanic contact but no outcrops are known.

## C Zone

Silt samples along two creeks are anomalous for zinc in an area about 3,000° by 1,000°. Limited outcrops reveal unaltered Topley granite. No mineralization was observed.

Limited soil sampling has been conducted over the southern portion of the CHEK claims with relatively poor results. Soils are generally dry, sandy and gravelly glacial till and it is doubtful that significant anomalies could be outlined.

In the region 4 miles to the west several old gold silver prospects occur as veins in volcanic formations. These are typified by the Topley Richfield property where values in gold, silver, lead, zinc and copper occur. It is presumed the anomalies on the CHEK group are caused by similar structures.

## FULTON LAKE AREA

Maps 93L/9W; 16W

#### LENNAC LAKE

The LUC Syndicate participated in a drilling program on this property. Results are covered in a separate report prepared by Mr. Dave Silversides of Amax.

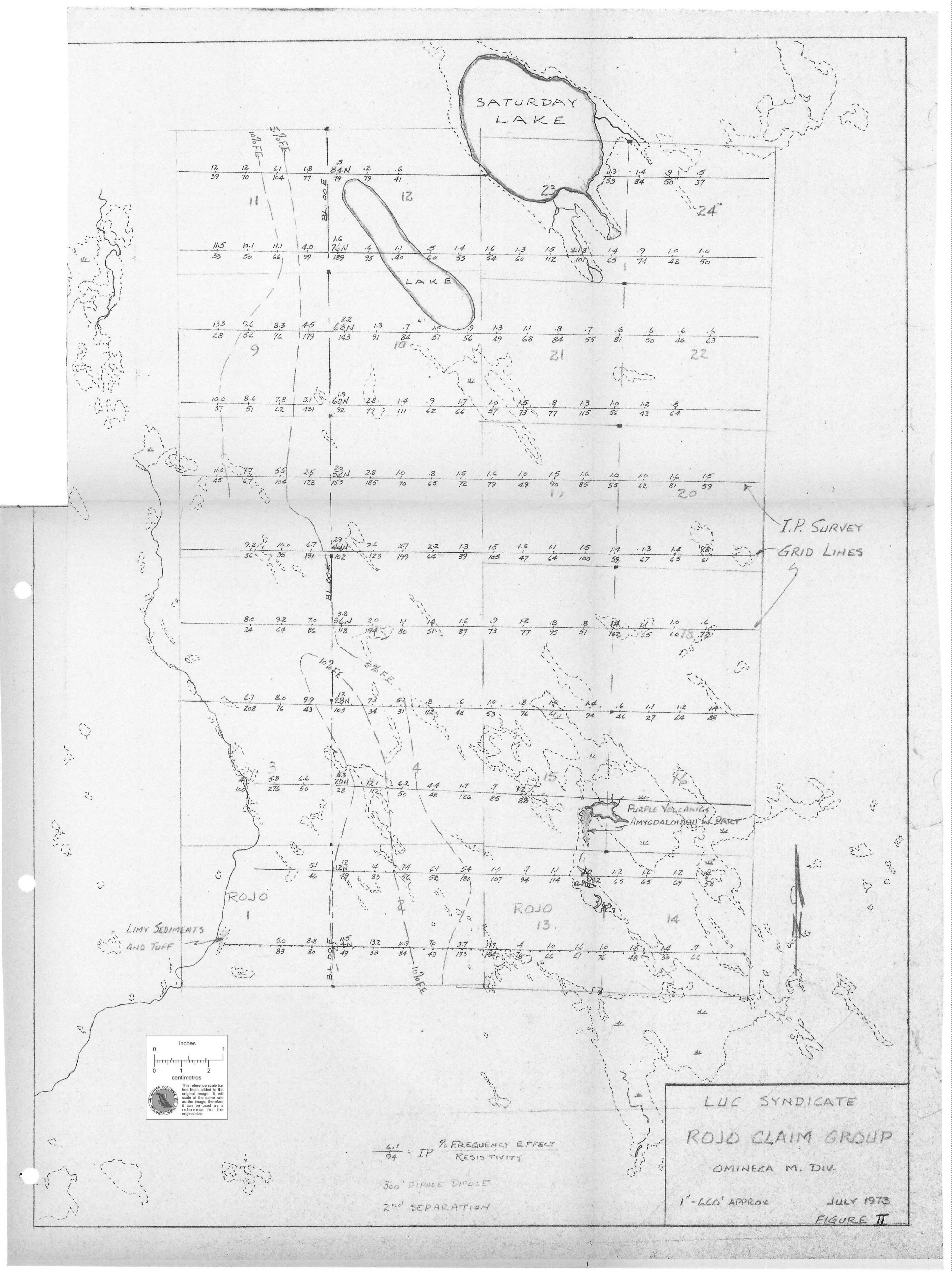
#### ROJO GROUP

Isolated silt samples anomalous for copper or molybdenum, together with the presence of an aeromagnetic anomaly led to staking the ROJO Group in 1972.

Drilling by Amoco in the area north of ROJO encountered altered volcanics cut by biotite feldspar porphyry sills. Considerable pyrite and minor copper mineralization was found in the volcanics and in one case in the B.F.P.

A line cutting, IP program was conducted on the ROJO
Group. Figure II indicates location of the IP anomalies encountered.
These anomalies are interpreted to be caused by graphitic sediments similar to outcrops on the Amoco ground to the north and drilled by Cities Service on strike some miles to the south.

The IP work was filed as assessment work pending developments in the area. Since that time Amoco has done more drilling



and we understand they have had negative results.

No further work is recommended.

## TURKEY MOUNTAIN AREA Maps 93L/16W; M1/W

## BREE GROUP

Prospecting was conducted on the north and east flanks of Turkey Mountain which consists mainly of extrusive flows thought to be related to the Granisle type biotite feldspar porphyry.

Minor chalcopyrite was found in fractures in argillitic sediments close to biotite feldspar dykes. This area was staked as the BREE Group.

Soil sampling was conducted along claim lines, all streams were silt sampled and the geology was mapped on a reconnaissance basis. No further mineralization was found and other results were negative.

No work is planned.

## CHAPMAN LAKE AREA Maps 93L/15E; M/2E

General silt sampling and prospecting was conducted early in the season along roads and logging areas between Chapman Lake and Smithers Landing.

A small amount of chalcopyrite mineralization occurs in volcanics in the southeast portion of map 93M/2E.

Nothing of significance was located.

## HOLLAND LAKE AREA Maps 93M/2E & W

#### HOL GROUP

The exploration program on the HOL group is described in the accompanying report:

"Geological, Geochemical and Geophysical Report on the HOL Group"

In addition to the work on the HOL group, general prospecting was conducted around the perimeter of the quartz monzonite intrusive to the immediate north. Rechecking was done on and around the TOR group staked in 1972 (now lapsed). To the west of HOL, an apparently barren monzonite intrusive was mapped and prospected.

Considerable staking, linecutting and IP work was done by Evergreen Exploration in the flat area west of HOL group.

## NETALZUL MOUNTAIN AREA 93M/2W: 7W

Detailed prospecting was conducted to the southeast and east of Netalzul Mtn. where several intrusive bodies were located.

Quartz feldspar porphyry intrusives in the north part of 93M/2W have some weak copper mineralization and, on the south side of the ridge, sufficient pyrite to produce interesting gossan areas. Some chalcopyrite was also found in sediments.

Results of this work were generally poor with weak geochemical response and meagre scattered showings.

To the north on 93M/7W, prospecting around a small monzonitic intrusive produced no encouragement.

The area around Netalzul Mountain was covered in a reconnaissance manner. Considerable prospecting has been done by a number of companies over many years. Small gold and silver showings are known, associated with quartz veins, and some chalcopyrite, molybdenite and pyrite mineralization was seen in the main 'granodiorite' intrusive.

Topography is extremely rugged with extensive outcrop and no mineral, alteration or gossan zone was seen of sufficient size to warrant detail work.

## MT. THOEN AREA 93M/6E

Reconnaissance prospecting was done over part of Mt.

Thoen which is extremely rugged with extensive outcrop.

Some of the copper showings previously staked by Mastodon-Highland Bell were looked at. Several rusty zones, mainly along contact areas, were examined. Nothing was found to warrant detailed work.

In the vicinity of the peak of Mt. Thoen, some claims are presently in good standing. Cobra Exploration drilled two or three short holes on the spine of a steep ridge. Copper and molybdenum mineralization occur on fractures in a biotite feldspar quartz porphyry. Extent of the favourable rock is unknown. Topography is precipitous at the showing - a helicopter being able to land only after tent and drill were torn down.

#### FRENCH PEAK AREA 93M/7W

Showings of copper, silver, lead and hematite occur on French Peak. An attempt was made to map and prospect the area in general and investigate some of the extensive gossan areas in particular. Work was hampered by the poor air photos available.

Geology is complex and the work generally very discouraging.

Several of the gossans are due primarily to pyrite but no gold, silver or copper mineralization was found in association. The two most interesting areas are held by Canadian Superior and Silver Standard.

## OLD FORT AREA 93M/1W, 2E, 7E

## FORT GROUP

The exploration program conducted on this claim group is described in separate reports accompanying this report:

- (1) "Geological and Geochemical Report on the FORT 1 and 2 Claim Groups"
- (2) "Geophysical Report on the FORT 1 and 2 Claim Groups"

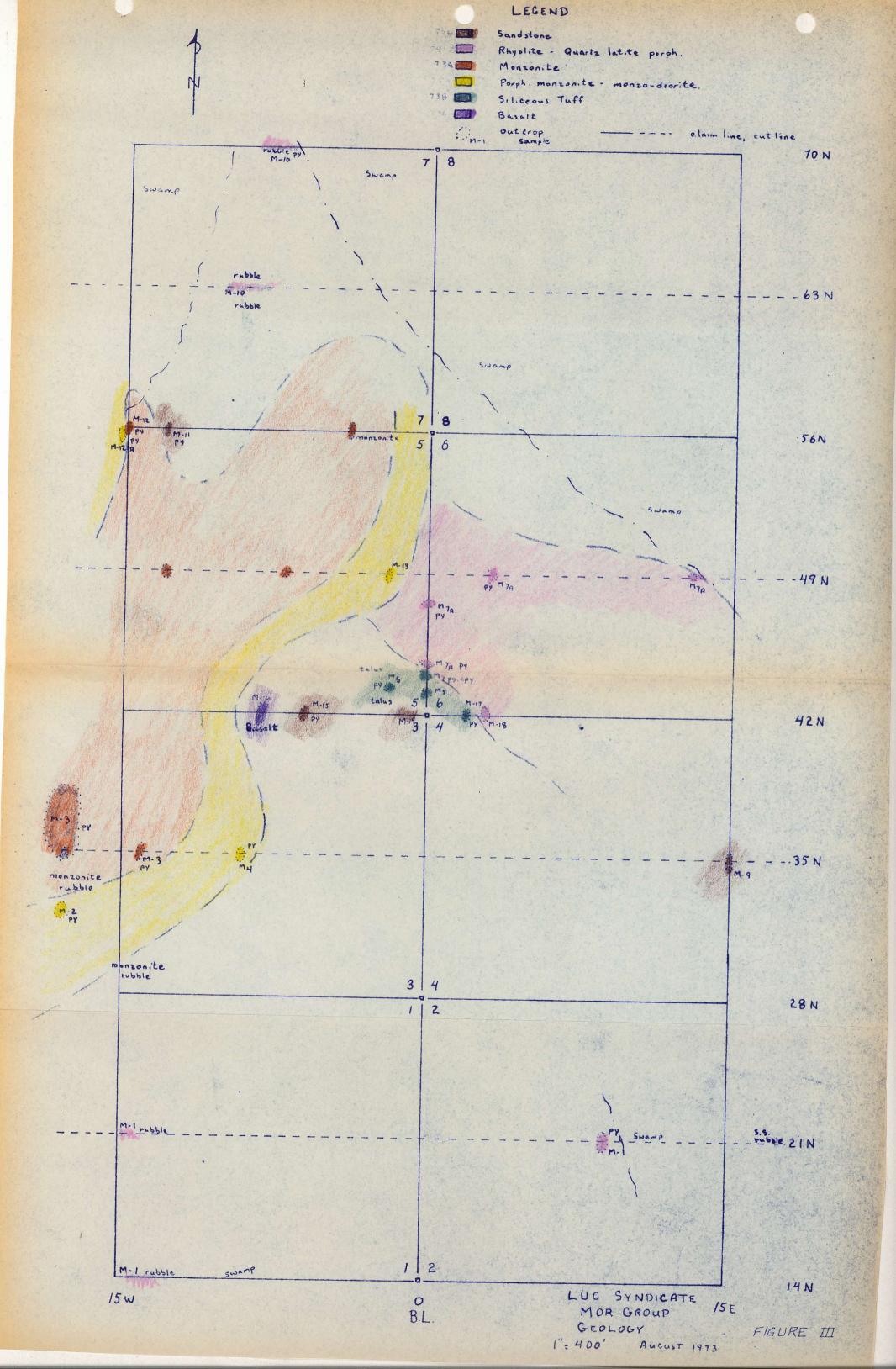
Prospecting was conducted north of Old Fort Mountain to

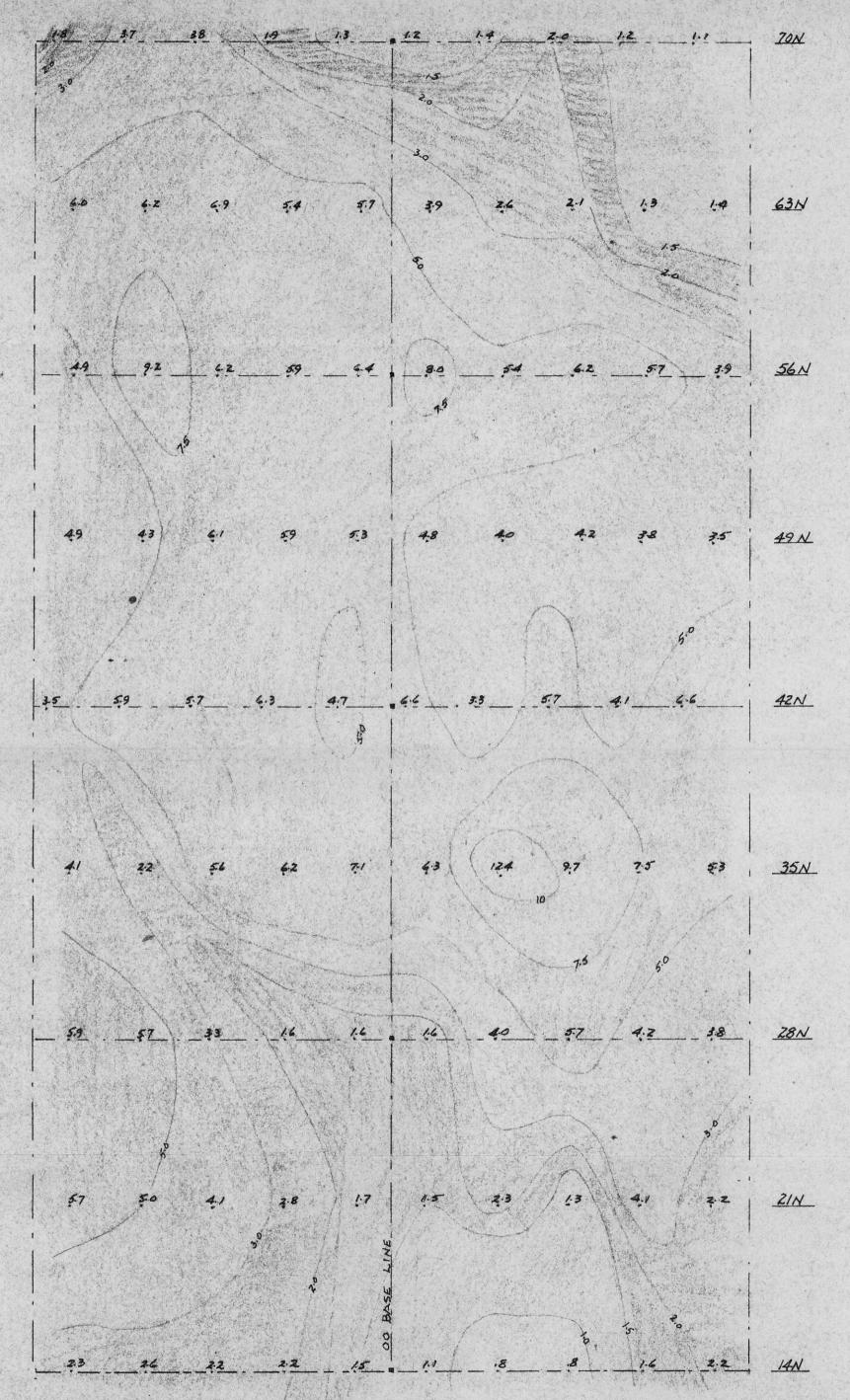
- (1) examine the west portion of a quartz diorite intrusive west of Morrison Lake,
- (2) recheck scattered geochemical results located in 1972.

None of these three phases produced results of interest.

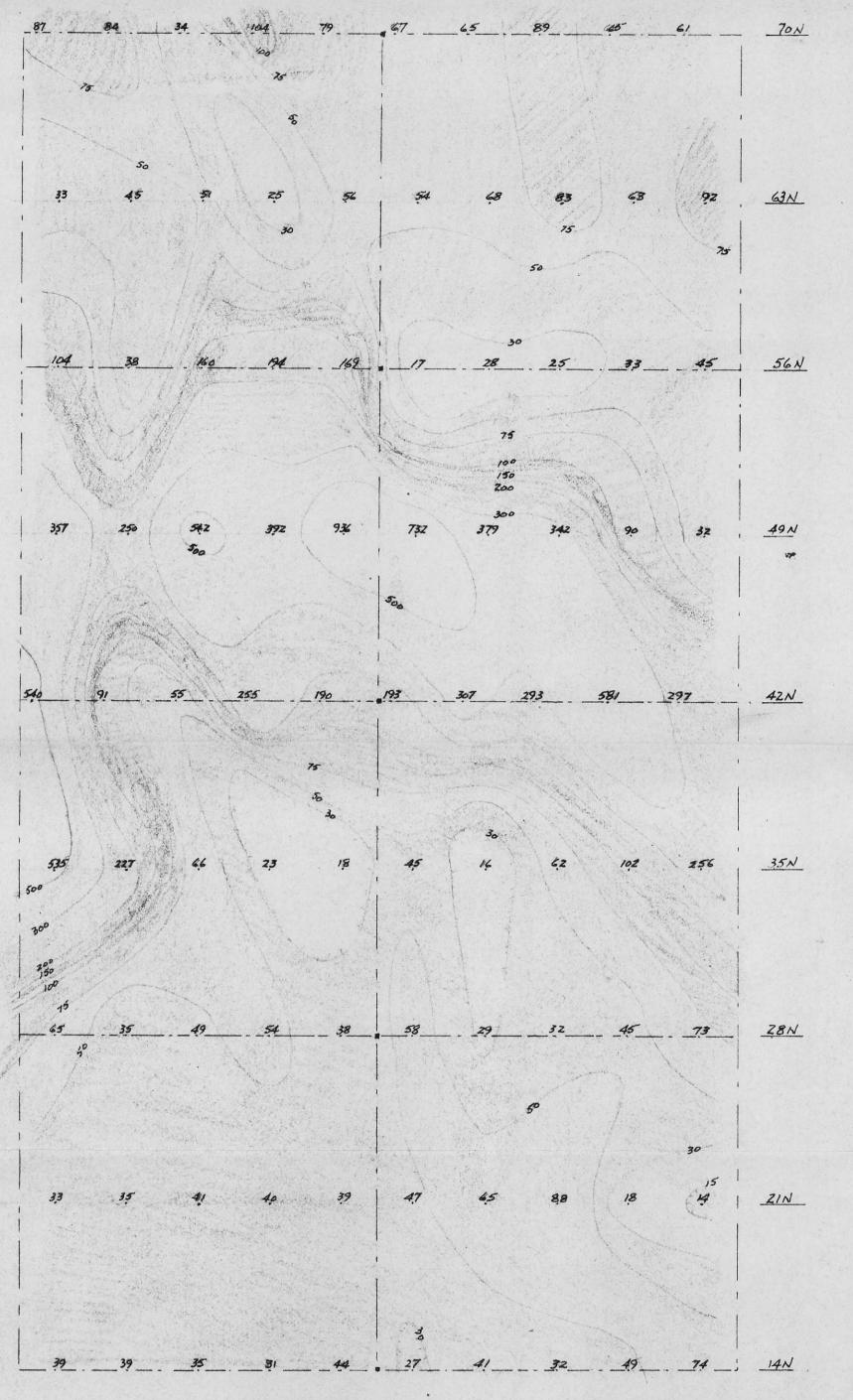
MOR GROUP Figures III, IV, V.

A program of linecutting, mapping and IP was carried out on the MOR group to fully investigate the claims which had been staked during 1972. Previous indications had not been particularly favourable





LUC SYNDICATE
MOR GROUP
I.P. SURVEY
FIRST SEPARATION
FREQUENCY EFFECT
I"-400' AUGUST 1973



LUC SYNDICATE
MOR GROUP

1.P. SURVEY \*\*
FIRST SEPARATION
RESISTIVITY

1"-400' AUGUST 1973

FIGURE V

but the claim group had subsequently been surrounded by Cities Service claims.

Results of the 1973 program were not encouraging and the claims have been allowed to lapse. Results on the Cities Service ground appear to be similar.

## HAUTETE CREEK AREA 93M/1E, 8E

Three prospecting camps were occupied in this general area to explore:

- (1) dioritic intrusions,
- (2) reports of float in Hautete valley.
- (3) the vicinity of DA-NAK and DOROTHY copper deposits.

The area is difficult to explore. Several varieties of intrusive were found but no mineralization was present.

Alteration, fracturing and pyrite mineralization were found north of the DOROTHY deposit. This area was staked as the KITI group but preliminary investigation was not encouraging and no further work is planned. The alteration is assumed to be peripheral to the DOROTHY and DA-NAK zones.

#### TRAIL PEAK AREA 93M/8W. 9W

Preliminary helicopter reconnaissance northwest of Trail

Peak disclosed two areas of porphyritic intrusives. A camp was established in the plateau area generally heavily covered with overburden.

Prospecting discovered an area of altered sediments and pyrite mineralization but silt and soil sampling showed no significant trace of copper or molybdenum mineralization.

## BABINE RIVER AREA 93M/7W, 10W

Prospecting disclosed one monzonitic intrusive intruding a volcanic complex in an area of interesting aeromagnetic anomalies.

Relatively flat-lying Cretaceous sediments occupy the flat, low surrounding area.

No significant indications of mineralization were found.

## ANKWILL CREEK AREA 93M/9W, 10E

Two types of deposit were targets in this general area.

(1) To the west of the headwaters of Ankwill Creek, an extensive outcrop area of biotite feldspar porphyry exhibits a rather spectacular gossan. This gossan is caused by pyrite mineralization and fairly intense hydrothermal alteration. No economic mineralization was found.

Variations in the composition and grain size of this porphyry suggest it may be a rather large sill-like structure.

(2) The biotite feldspar porphyry area appears to be truncated to the northeast by a major fault separating it from a region of Jurassic volcanics which contain numerous small spotty copper occurrences.

These volcanics consist mainly of tuffs, agglomerates and thin flows of intermediate composition. North of Ankwill Creek, bedding is well defined and some beds consist largely of epidote.

South of Ankwill Creek, bedding is perhaps less well developed and it was in this area most of the copper occurrences were found.

Mineralization consists of chalcocite, bornite and chalcopyrite in flow tops or in fracture zones with considerable epidote and minor quartz. None of the zones were of economic size.

The type of mineralization and host rocks are very similar to those in the Sustut Peak area.

To the northeast of the volcanics is a sequence of siltstones which may be separated from the volcanics by a fault.

A single dioritic intrusive was located cutting these sediments. No indications of mineralization were found.

#### MT. BATES AREA 93M/16E

Very limited prospecting in this area in 1971 located minor copper mineralization in siltstones, conglomerates and epidoterich fracture zones.

A prospecting program this season covered most of this map sheet in some detail. Copper mineralization was found as numerous very small occurrences of chalcocite and bornite in conglomerate and siltstone.

Copper and pyrite mineralization in fractured volcanics over rather extensive areas was staked as the LION group. This claim group is described in a separate report, "Geological, Geochemical and Geophysical Report on the LION I and II Claim Groups".

#### GENERAL

The results of prospecting and mapping in the Babine-Takla Lakes area are shown on 1" = 1 mile map sheets, Flates II, III and IV.

The biotite feldspar porphyries of about 50-55 m.y.

age, which host the GRANISLE, BELL COPPER, MORRISON, DA-NAK and DOROTHY

mineral deposits, appear to be confined to a region trending north
west from the Granisle-Fulton Lake area as indicated on Figure VI.

Within this region, a sequence of intrusives includes diorite, monzonite, hornblende-feldspar porphyry, biotite feldspar porphyry and rhyolite.

Partially surrounding the BFP region, there appears to be a belt of quartz biotite feldspar porphyry of which the Lennac Lake and French Peak intrusives are examples.

Lennac Lake porphyry has been dated at 77 m.y. (K-Ar).

This quartz-rich older belt is represented on the northeast mainly by an intrusive northwest of Trail Pk. It may be that the zone is less well developed or it may be truncated by major faulting.

Limits of the quartz-rich belt to the southwest are strongly influenced simply by the limits of our own prospecting; the belt may be wider and is probably much more extensive to the northwest.

Economic copper mineralization has been proven only in the BFP. The QBFP at Lennac Lake, and on the Cobra prospect, so far exhibit the best copper mineralization known in that rock type.

Mineralized zones in the BFP exhibit fairly extensive halos of pyrite but are not generally exposed topographically so as to be obvious.

Pyrite zones in the QBFP are apparently much more extensive but, in some cases, apparently do not carry significant copper or molybdenum mineralization.

The HOL group is located on the borders of the BFP region. It covers a quartz-monzonite intrusive which has a phase very similar to the host BFP at Granisle. It is cut by dykes of dark BFP very similar to dykes on the Fort Group, and it is in contact with a quartz feldspar porphyry on the west side which is probably part of the QBFP belt. Based on our knowledge thus far, the location is unique in having a strong IP anomaly, a geochemical anomaly and minor occurrences of molybdenum and chalcopyrite with what is, for this area, relatively scarce pyrite mineralization.

As a matter of interest, the distance between Granisle and Bell Copper is about five miles. The Morrison, DA-NAK and Dorothy deposits are within a diameter of eight miles. The major deposits in the Highland Valley all fall within a diameter of six miles.

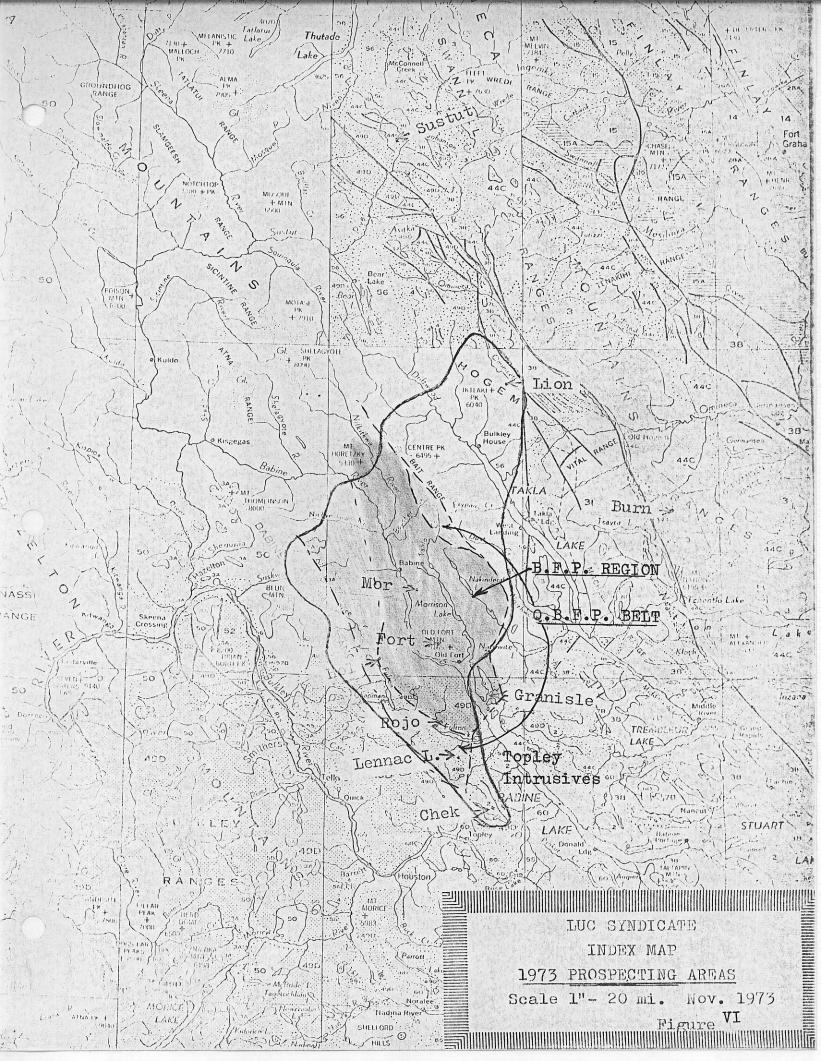
Northeast of the region of feldspar porphyries, copper mineralization is related mainly to fracture zones in volcanics. Minor mineralization has been found in beds of conglomerate, siltstone and tuff.

The most interesting mineralization has been found in formations apparently ranging from Triassic to Middle Jurassic age.

The Syndicate has not found significant mineralization associated with any of the extensive Cretaceous formations.

Several small dioritic intrusives are known in the region but little or no mineralization has been found in them.

Respectfully submitted,



## APPENDIX A

# REGISTER OF CLAIMS

Group	Clair	m Name	Record Numbers	Record Date		Expiry Date	
COL	COL	1-9	101240-248	July	12/71	July	12/75
		11-13	101250-252		11		11
		15-21 19	101254-260		32	July	12/74
		51-56 625	101272-277		11		11
BURN #1	BURN	1-6	102002-007	Aug.	11/71	Aug.	11/85-
		14	102015		11		11 -
		16	102017		<b>#</b> #		15 ===
		31	102032		H		11 -
		32	102033		11	Aug.	11/75
		43-46	102976-979	Sep.	2/71	Sep.	2/85 -
		48	102981		11		11 4
		5057	102983,02990		##		112/75
		58-66	102990-999		11		NE/85 -
		67	103000		11	Sep.	2/75-
		68	103001		11	Sep.	2/85-
		69, 70	103002,=003		10	Sep.	2/75
		71-80	104725-734	Sep.	30/71		30/75 -
					5-772		20112
BURN #2	BURN	7-13	102008-014	Aug.	11/71	Aug.	11/85
		15	102016	63	11	69	11 -
		17, 18	102018,-019		11	Aug.	11/75-
		19-26	102020-027		10		11/85-
		27-30	102028-031		11	79.00	11/75 -
		33-36	102034-037		11	79625	11/75
		37	102038		11	700	11/85-
		38	102039		17		11/75-
		39-42 80	102040-043		11		11/85
		47	102980	Sep.	2/71	1000	
		49	102982	seb.	11	Sep.	2/85
		51-54			11	Sep.	2/85
			102984-987		11	67	
		55	102988		20	Sep.	2/75-
		56	102989		**	Sep.	2/85
RODE	RODE	1-14, 16, 28 25-32, 34, 36	106591-604,-606 106615-622,-624,	Feb.	7/72	Feb.	7/74
			~626	Feb.	7/72		10
		38, 40, 41	106628,-630,-631		H		11
LIN	LIN	1-6	112285-290	June	9/72	June	9/75-
		1 Fr., 3 Fr.	112360-362		23/72		23/74-
		40	113048	July	7/72	July	7/74-
		EO. 53	111623-626	June	5/72	June	5/747
		60	111631	- 100 t 0 10	11	~ CAR 613	11
		62-66	111633-637		11		n .
		72	111643		11		

15

Group		Clair	n Name		Record Numbers	Record Date	Expiry D	<u>ate</u>
HOL		HOL	1-8		112560-567	June 30/72	June 30/	76-
			9-16		114590-597	Aug. 17/72	Aug. 17/	74-
			17-24		114598-605	11	Aug. 17/	76 -
			25-32		125872-879	June 12/73	June 12/	76-
			33-38	38	126112-117	June 29/73	June 29/	74
ROJO		ROJO	1-12		115376-387	Aug. 29/72	Aug. 29/	74 -
			13-24	24	115667-678	Sep. 6/72	Sep. 6/	74-
FORT	1	FORT	1-6		115563-568	Aug. 29/72		1
			7-26		115601-620	Sep. 6/72		400
FORT	2	FORT	27-44	44	115621-638	11		
CHEK		CHEK	1-32		126208-222	July 13/73	July 13/	74 7
					126222A			
					126223-238			1
			34-36	35	127775-777	Aug. 29/73	Aug. 29/	73-
LION		LION	1-14		126515-528	July 23/73		1
			15-74		127110-169	July 31/73		-
			75-84	84	127100-109	Aug. 29/73		-
KITI		KITI	1-18	18	127255-272	July 6/73	July 6/	74 -
BREE		BREE	1-24	24	125884-907	June 27/73	June 27/	74
				_				- 7
				267				

26/

