GEOLOGICAL, GEOCHEMICAL, REPORT ON

THE ORK 1 - 36 MINERAL CLAIMS

YA46061-084 YA46182-193

MAP SHEET 105 C-9

Latitude 60°38'N; Longitude 132°22'W.

WATSON LAKE MINING DISTRICT
YUKON.

by

J.C. Stephen

W.K. Mysyk

Work done: September 21, 1979
August 1 - 14, 1980

by: J.C. Stephen Explorations Ltd.

Funded by: D.C. Syndicate

090667

September 1980

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 $ 3600.00

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

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

MAP

INTRODUCTION

The ORK 1-36 mineral claims were staked and recorded late in the 1979 prospecting season to cover an area where skarn development, arsenopyrite mineralization, and moderately anomalous stream silts had been located by a prospecting crew in 1976,

Association of tin mineralization with skarn in the Seagull batholith area to the south-east suggested further work should be done in this area.

Claims were staked by McCrory Holdings on contract to the Syndicate. A brief examination of the property was made by the writer in September 1979 and some rock samples were analysed for several elements with generally negative results.

In 1980 K. Mysyk and D. Ferguson carried out soil, talus and rock sampling together with preliminary geological mapping.

TABLE 1

REGISTER OF CLAIMS

Record Number	Claim Names	Recording Date
YA 46061-076	ORK 1 - 16	September 20, 1979
YA 46182-189	ORK 17 - 24	October 3, 1979
YA 46077-084	ORK 25 - 32	September 20, 1979
YA 46190-193	ORK 33 - 36	October 3, 1979

The MINDY 1 - 16 claims staked by Newmont in 1979 predate the ORK group. Further staking has been done to the north-west during 1980.

LOCATION AND ACCESS

The ORK claims are located ten miles west of Fish Lake in Map sheet 105C - 9. This is approximately 34 miles (55 km) north-east of Teslin. (Figure 1)

The claims lie in high, relatively rugged terrain approximately half way between the Nisutlin and Wolf Rivers, the major peak on the property reaches an elevation of 6550 feet (1996 metres). Drainage trends north, east, south and west toward these two major rivers. Much of the property is above treeline with the lowest elevations of about 4000 feet being in the north-west corner of the property.

Indian land claims negotiations may affect access through the Nisutlin valley which is being claimed for its hunting, trapping and travel values.

Work to date has been conducted with helicopter support. Teslin or Johnson's Crossing would be the closest points of access but support has been from Swift River and Pine Lake airstrip because of greater helicopter availability.

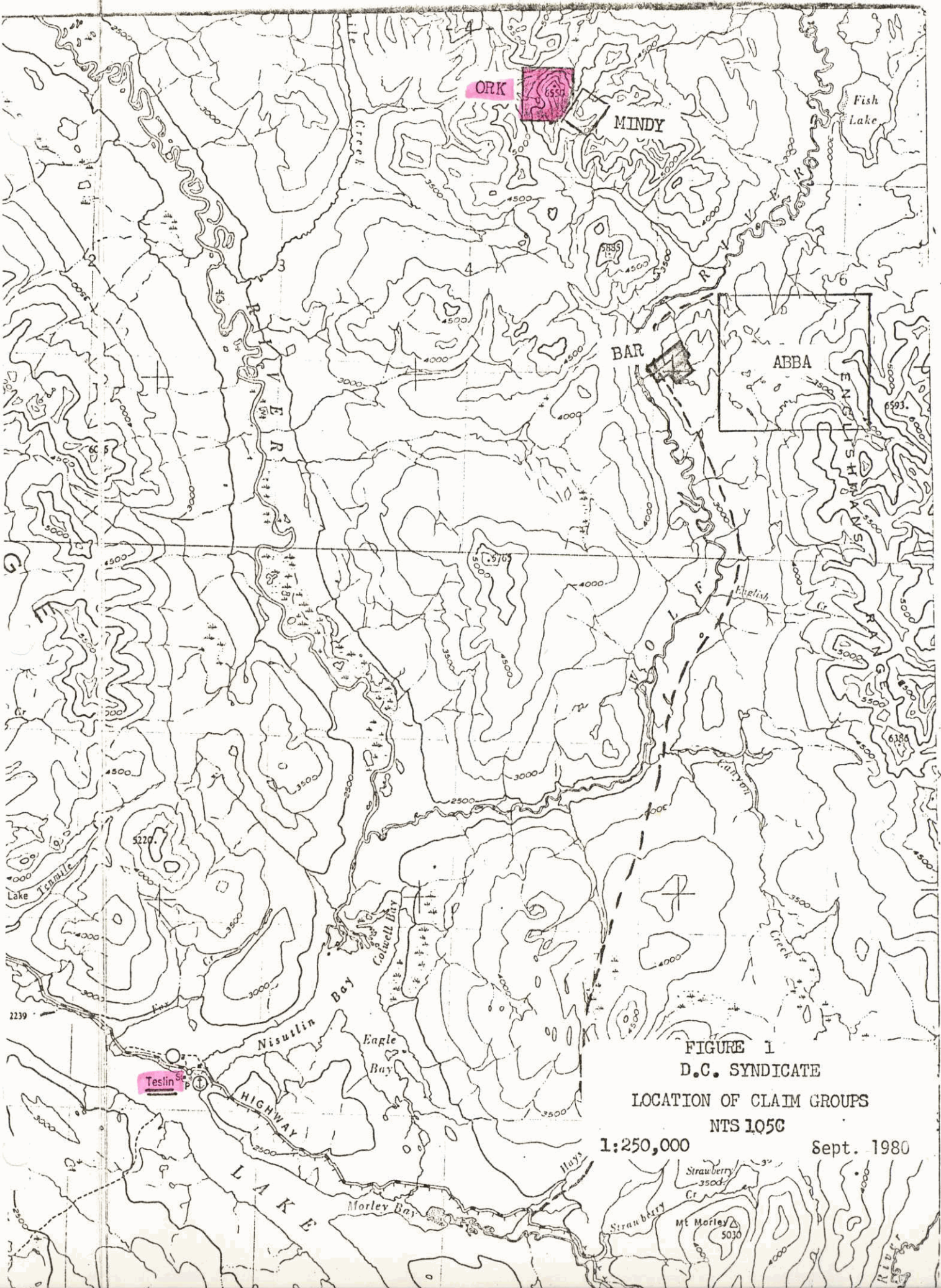

FIGURE 1
D.C. SYNDICATE
LOCATION OF CLAIM GROUPS
NTS 105C
1:250,000 Sept. 1980

GEOLOGY

REGIONAL SETTING

Geology of the Teslin Map Area is described in G.S.C. Memoir 326 by Robert Mulligan. (Figure 2) The ORK claim group is located in a region underlain by Mulligans Unit 3 which extends north westerly along the west side of Englishman's Range through Thirtymile Range to the north edge of the map sheet.

Unit 3 is described (Memoir 326 page 29) as "..... unmetamorphosed, dark weathering sedimentary rocks..."

"The typical rocks are dark argillaceous slates and quartzites, with locally abundant chert...,..Definitely volcanic rocks are in very minor amount,..."

Several small granitic intrusions are mapped north-west of the Hake batholith in Englishman's Range. Mulligan groups these intrusions as "Coast and Cassiar Intrusions (Unit 13)". None occur close to ORK group but several small acid dykes were encountered and fragments of granitic material, probably glacially transported, are not uncommon in the north-east portion of the claim group.

The published aeromagnetic map 1336G Thirtymile Range indicates maximum magnetic variation across the claim group to be in the order of 150 gammas. There is a north-east trend to the contours but the magnetic pattern is of little use in interpretation of the geology.

Figure 2
REGIONAL GEOLOGY

TESLIN MAP SHEET

Memoir 326 1963

Scale 1"- 4 miles Sept. 1980

GEOLOGY

MAP I

Mapping on the property is of a preliminary nature using air photos for control. Results are plotted on Map I which is traced from an enlargement of air photo A 11474 - 8.

The sedimentary formations consist of a thick series of argillitic, to cherty and quartzitic beds with an interbedded horizon of white to grey linestone. Division into the various units shown in the legend is somewhat arbitrary.

Unit 1 - Conglomerate

This appears to be the lowermost horizon observed. The conglomerate is described as a chert pebble and quartz pebble conglomerate. In most outcrops the rock appears highly sheared and altered. Only one outcrop is shown on the map but other occurrences were noted to the north and east of the property. Beds of argillite occur within the conglomerate and in close proximity.

Unit 2 - Greywacke, argillite

These are dark impure rocks grading upward from the argillite interbeds associated with the conglomerate. Pyrite and/or pyrrhotite occur and the weathered surface is frequently rusty as a consequence.

Unit 3 - Limestone

The limestone varies from fine grained clean white limestone to fetid dark grey limestone. Some areas appear to be recrystalized and are somewhat coarser grained. Within this horizon are zones of calc silicate which have not been differentiated. These are hard siliceous thinly banded rocks of white to pale green color.

Sub unit 3a - Limestone Conglomerate

Pebbles and boulders of limestone are cemented by a limey matrix. In part this occurrence at the south-west corner of the property looks like a limestone breccia.

Sub unit 3b - Skarn

Along the limestone horizon and more generally near the upper and lower contacts zones of dark hedenbergite and garnet skarn have developed. At one location in ORK 10 an eight foot lens occurs with heavy arsenopyrite mineralization. Occurrences of arsenopyrite, pyrite and pyrrhotite with minor chalcopyrite were noted at other locations.

Unit 4 - Greywacke, Quartzite

The greywacke varies from predominantly an arkosic to sub feldspathic variety with minor arenaceous layers. Lower portions of this unit frequently exhibit alteration to a gneiss.

Unit 5 - Argillite, Cherty Quartzite

These rocks are variable in hand specimens but rather monotonous overall. They are generally very fine grained, dark brown or grey to black in colour, and often rusty weathering. Some varieties are

siliceous, fine grained, dark hornfels in hand-specimen with sub conchoidal fracture. Some units are relatively thin bedded black fairly soft argillites or shales.

Unit 6 - Aplite, pegmatite

Occurrences of white to grey, fine to medium grained aplitic granite were found in the south central portion of the property. Several narrow dykes of grey pegmatite also occur. These rocks consist largely of smoky grey quartz and white to cream colored feldspar with small amounts of silver white muscovite. Small quantities of purple fluorite occur on fractures and less commonly as interstitial components of the intrusive.

Structure

Little is known of the overall structure in this region. Most dips and strikes recorded indicate a generally northerly to north-easterly trend with moderate dips to the east or south-east. To the north and north-west however westerly dipping beds were observed and it is possible the property lies near a local anticlinal fold crest.

No strong air photo linears are evident although shearing in the conglomerate north of the property and an air photo linear west of the property suggest faults trending about N45° - 60°E.

Mineralization

Disseminated grains to small lenses of pyrite and/or pyrrhotite occur in the argillaceous and quartzitic sediments. Occasional grains of chalcopyrite occur in these beds as well but the mineralization

is of no apparent economic importance. The weathered surfaces generally show a rusty appearance.

Within the skarn lenses and beds occurrences of pyrite, pyrrhotite and chalcopyrite are reported but these are generally not known to be very large. The most spectacular sulphide mineralization is the lens, about 8 feet long, of heavy arsenopyrite mineralization on ORK 10.

Fluorite occurs with th aplites and pegmatites on ORK 13, 14.

GEOCHEMISTRY

Soil-Talus Geochemistry

Four lines of soil and talus samples were taken in the north-east portion of the claim group. One of these lines is actually largely off the property. Samples were collected from the finest rock debris or soil available at sites approximately 300 feet apart. Soil development is generally poor to non existant.

Samples were forwarded to Chemex Labs, North Vancouver for drying, sifting to -35 mesh, pulverizing and analysis for molybdenum, zinc, tungsten and tin. Values were all very low on the 45 samples of this type. It appears from the geological evidence since compiled that the three most westerly lines are stratigraphically too high to test for mineralization in the limestone-skarn horizon.

Rock Geochemistry

Twenty-five rock specimens were analyzed for zinc, tin, molybdenum and tungsten. Results are listed on Table 2.

The majority of the samples were collected during mapping but before any overall picture of the geology had emerged. The greater number are taken from the visually most striking rocks which weather rusty because of pyrrhotite mineralization. A fair number of these are close to the limestone-calc-silicate horizon.

TABLE 2

ROCK GEOCHEM RESULTS 1980

ORK GROUP

Sample No.	Zn	Sn	Mo	W	Map Spec No.	Remarks
77414	300	15	3	1	98	Quartzite with pyrrhotite stringers
77415	144	5	9	1	99	Quartzite with pyrrhotite stringers
77416	325	87	3	1	103	Quartzite with pyrrhotite + magnetite
77417	174	32	17	1	105	Rusty chert pyrrhotite, pyrite
77418	156	9	3	1	107A	Rusty greywacke
77419	68	17	2	1	107B	Rusty greywacke
77420	54	5	2	1	107A	Rusty greywacke
77421	46	3	2	1	108B	Rusty quartzite
77422	74	10	4	1	109	Rusty argillite
77423	66	5	4	1	111A	Rusty argillite
77424	94	3	4	1	113	Rusty argillite, pyrrhotite, pyrite
77425	68	5	6	2	117	Rusty quartzite
77426	44	4	4	1	120	Skarn, arsenopyrite
77427	44	4	12	2	132	Rusty chert
77428	76	3	4	2	134	Rusty chert
77429	2000	12	3	1	138	Skarn -- Newmonts MINDY Group
77430	52	4	3	5	140	Rusty contact greywacke/limestone
77431	56	2	3	10	141	Rusty contact greywacke/limestone
77432)						
77433)---	46	6	2	1	143	Rusty contact greywacke/limestone
77434	76	1	4	1	145	Rusty greywacke
77435	46	7	2	15	147	Rusty greywacke, Pyrrhotite
77436	54	42	1	1	509	Rusty chert
77437	56	70	3	80	517A	Limestone and aplite
77438	68	37	4	15	517B	Limestone and aplite/fluorite
77439	84	12	4	13	520	Fluorite in limestone - float

Examination of the geochemical results shows slightly higher zinc content in the first five samples listed. These are quartzites, chert and greywacke from the east side of the main ridge in the vicinity of the arsenopyrite skarn. Three of these samples gave 15, 32 and 87 ppm tin with some molybdenum but no tungsten. Specimen number 120 from the arsenopyrite skarn gave only 4 ppm tin.

The specimen number 138 from the MINDY skarn which may be the same horizon gave 2000 ppm zinc and 12 ppm tin.

Samples 517A, 517B and 520 from the limestone area cut by aplite and pegmatite with fluorite mineralization gave values of 13 to 80 ppm tungsten and 12 to 70 ppm tin. This area warrants close prospecting and more detailed sampling.

DISCUSSION AND RECOMMENDATIONS

The ORK claim group was staked in 1979 to allow examination of an arsenopyrite bearing skarn found by D.C. Syndicate crews in 1976. The original examination for gold, silver and base metals had been unproductive but exploration for tin in skarns in the Seagull batholith area to the south-east prompted re-examination.

Only very preliminary geological mapping was completed partly due to inclement weather with very strong winds which destroyed the light-aluminum frame of one tent.

Much of the sampling was done in relatively unproductive areas due to a lack of knowledge of the property.

Results of mapping and sampling however indicate a persistant carbonate horizon with skarn development which is potentially favourable for tungsten and/or tin mineralization. In addition geochemically interesting tungsten and tin values have been obtained from an area in the south part of the property where the sediments are intruded by aplitic granite and pegmatite.

These two settings deserve very detailed examination by way of detailed mapping and extensive soil and rock chip sampling. It is recommended that a geologist and two assistants spend two weeks on the property during the 1981 season to carry out this work. If values of interest are located rock trenching should follow.

Respectfully submitted,
J.C. Stephen Explorations Ltd.

J.C. Stephen

JCS/ms

A P P E N D I X I

STATEMENT OF EXPENDITURES

ORK

STATEMENT OF EXPENDITURES

Salaries and Benefits			
W.K. Mysyk	August 1-14, 1980	$1800.00 +15%	$ 935.00
D.J. Ferguson	August 1-14, 1980	1200.00 +15%	623.00
J.C. Stephen	September 21, 1979	@ $100.00	
	September 10, 1980	@ 100.00	200.00
Food and Camp Supplies			
28 man days @ $10.00			$ 280.00
Geochemistry			
1979	6 rocks for Sn, Au, Zn, Cu	@ $6.00	$ 36.00
1980	26 rocks for Zn, Mo, W, Sn	@ 8.00	360.00
	45 soils for Zn, Mo, W, Sn	@ 8.00	208.00
Airphoto Enlargements			
For base map			$ 30.00
Helicopter			
September 21, 1979	not included		
August 1 - Move in camp	1 1/2 hours	@ $420.00	$ 630.00
August 4 - Supply	not included		
August 14- Move out camp	1 1/2 hours	@ 420.00	630.00
		TOTAL	$ 3,932.00
Report Preparation			
Marcie Hett	Drafting	1 day @ $40.00	
J.C. Stephen		1 day @ 100.00	140.00
			4,072.00

A P P E N D I X II

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, W.K. Mysyk, of 217 - 33 Killarney Avenue, Winnipeg, Manitoba, hereby certify that:

(1) I am a graduate of the University of Manitoba, B. Sc. (Hon.) 1974, M. Sc. 1978.

(2) I have personally participated in the field work and have assessed and interpreted all the data resulting from this work.

(3) I have the following geological experience:

1977-79 New Jersey Zinc Exploration (massive sulfide and gold exploration in northern Ontario and Quebec)

1976 Dupont Exploration (silver, uranium and massive sulfide exploration in the Northwest Territories)

1975 Precambrian Mining Services Ltd. (massive sulfide and gold exploration in the Northwest Territories)

1974 Husky Oil (massive sulfide exploration in northern Saskatchewan)

1972&73 Hudson's Bay Oil and Gas (massive sulfide and gold gold exploration, northern Ontario)

1971 Manitoba Mines Branch, Geology Division (geological assistant, northern Manitoba)

W.K. Mysyk

ORK 35 36 ORK 23
33 34 21 22
31 32 19 20
29 30 17 18
27 28 15 16
ORK 25 26 ORK 13 14
ORK 11 12
9 10
7 8
5
ORK 1

chert rubble along top of ridge

Chert Rubble

rusty clastic rock

LEGEND

6 APLITE, PEGMATITE

5 ARGILLITE, CHERTY QUARTZITE

4 GREYWACKE, QUARTZITE

3 LIMESTONE, CALC SILICATE
a LIMESTONE CONGLOMERATE
b SKARN

2 GREYWACKE, ARGILLTE

1 CHERT PEBBLE CONGLOMERATE

O125-ROCK GEOCHEM

S - SULPHIDES REPORTED

4 | 72 / 3 | 2 SOIL SAMPLE Mo | Zn / W | Sn ppm

J C STEPHEN EXPLORATIONS LTD

D C SYNDICATE

ORK CLAIM GROUP

105C/9

GEOLOGY & GEOCHEMISTRY

SCALE 1"-1000' OCTOBER 1980

MAP I