INTRODUCTION

This report describes grass roots prospecting on a Hobo Creek Trib, Big Creek Trib, and Josephine Creek

Location and Access

The area is approximately 75 km by helicopter from May, or an 80km four wheel drive road off the Klondike highway, access road; turn at the Barlow Dome road.

The road was roughed in from Clear Creek (left fork) to Hobo and Gem Creeks in the Seventies - early Eighties. The road has had some work done to it. Being a Placer Operation working on Arizona a tributary of Hobo Creek.

The main pass over to Josephine from Clear Creek is quite steep; 4x4 only, down Josephine approximately 6km. To access the road over to Big Creek, then down stream to Hobo. Access should be in summer at low water.

Climate

Winters are long with extreme temperatures (-30 to -50 degrees below zero) The summers are short (four months). There is little rain, and it is very hot.

Exploration Program

The exploration program included panning along ____

Programs started at Josephine Creek

Lat 63 55' Long 137 01'

NTS 115 p 14

At the head of Josephine Creek, bedrock is exposed for one mile. Result from panning were small, but a few micro colors were seen. Five kilometers down stream of Creek is approximately ten feet of over burden (gravels) to a very compact iron manganese stained gravels 1 1/2 to 2 ft thick and approximately two feet of (iron stained) red gravels under it.

ż

Red gravels were panned with non positive results (colors). Samples were smashed up cemented gravels (black, channel). Still no colors observed.

Big Creek (Trib) or Little South Klondike River

The second area prospected was Big Creek.

At the mouth of pap, there is a 150 meter wide valley. (easy walk). There is also an old cat trail for travel. Heavy Boulders on surface are from one half a ton to a ton in weight. Boulders under red (iron) stained gravels to a small three inch and smaller directly under boulders.

A very minimal number of fly specks or micros of gold were seen in pans. Trend D.Ts were dug to a depth of 2 1/2 feet range, where permafrost on average generally occurred.

HOBO CREEK (pup)

Lat 63 58' Long 136 53' nts 115 p 15

The third area prospected was Hobo Creek. IT is a very narrow V shaped valley which is heavily scrubbed brush and black spruce. Pup runs approximately 1 1/2 miles up, to a flat, wide bench with a serviceable road over to Gem Creek. The material of bench consists of shale which drains into the pup.

The pup drains at a very steep gradient. Test holes dug on the pup every 100 meters contained one foot in depth. Pan results were hematite, small grained magnetite, shelite - barite - small amounts. The pup fork is one mile up then runs 1/2 mile each fork. Down near the bottom of the pup, less fine grained material, but huge blocks and boulders and chunks of quart. Hematite were up to approximately 100lbs. Pounding weights approximately country rock of area consists of sand or silt stone.

In all of the test holes (1st) 2 micros of gold were found.

At the mouth of the pup upstream ten meters of Hobo is 20 ft wall of gravels and organics. Five feet of organic 107+ of red gravel. Then one foot band of manganese stained gravels not packed. Red gravels under it. Pans produced no gold.

One mile upstream of Hobo left limit, another pup runs up approximately one mile. A flat wide valley, light scrub and easily traveled on foot. Lots of gravels in valley floor and benches. Few trees: poplar and spruce. Two test holes dug, and no colors were observed.

RECOMMENDATIONS AND CONCLUSIONS

JOSEPHINE CREEK

nts 115 p 14

Further exploration should be spent on this creek. The cemented black gravels are an indication of no glacial activity in the recent past. This creek drains off of some interesting hard rock, called the packed man sweet (plug) where Ug is found in the quartz. The lower end of where creek shows could have potential for a productive placer show and could be further explored with a track how (215-225-235) or the equivalent to reach bedrock should be drilled to get accurate depth.

BIG CREEK - Little South Klondike

nts 115 p 15 Lat 63 54' Long 136 54'

This creek and its pups draining into it could be further explored, but due to water regulations as a fish bearing stream, could make accessibility very expensive (roads, bridges, etc..) Not worth the effort and water use and rights on obtainable any ways. But pups could be shafted due to the perma frost and possibly shallow ground. Approximately 12 to 20 feet deep. A drill would confirm that.

HOBO CREEK

nts 115 p 15

Mag have been mined out already, due to the nature of shallow ground. There is also signs of old cabins and some workings in the area. Turn of the Century to now. The work I've done on pup lat 63 58', Long 136 53' wasn't very exciting as well as results on other pups.

The hard rock on surface seems very fractured faulted. Mostly shales, sand stone the odd quartz mixed up nothing too exciting within a 3km survey of my own. I would not recommend the area to anyone else as placer is concerned.

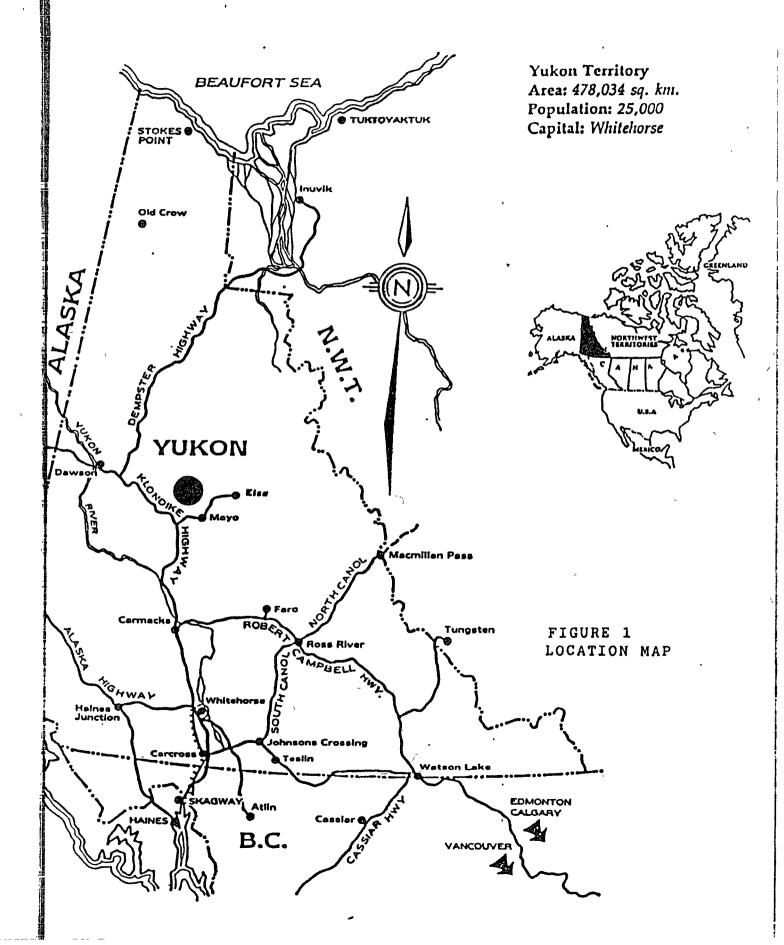
I would like to thank the Economic Development Branch for its funding towards grass roots prospecting.

Also Karen Pelletier for her door was always open. Her willingness to help and answer any questions was greatly appreciated.

Many thanks,

Douglas Jackson.

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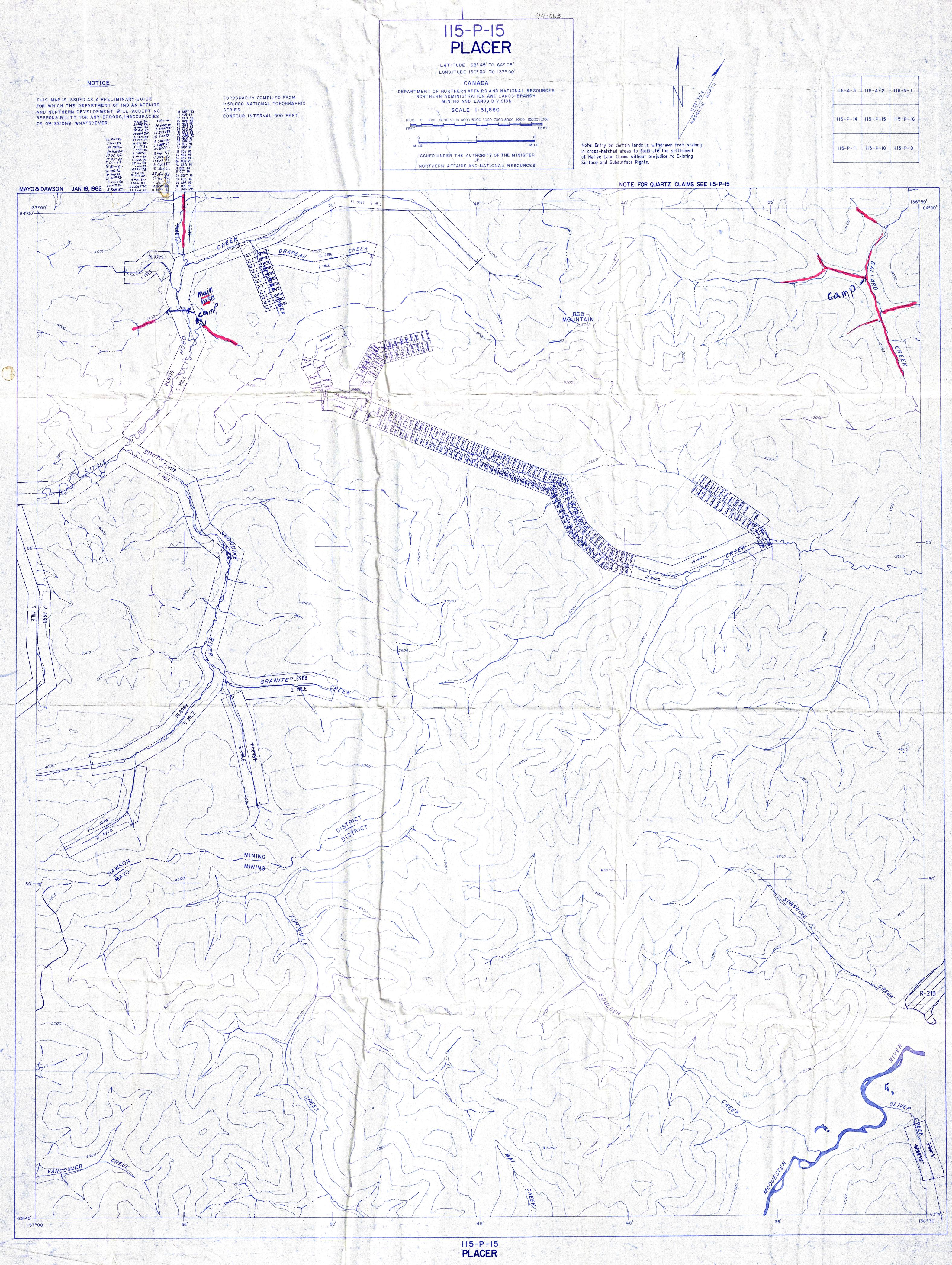
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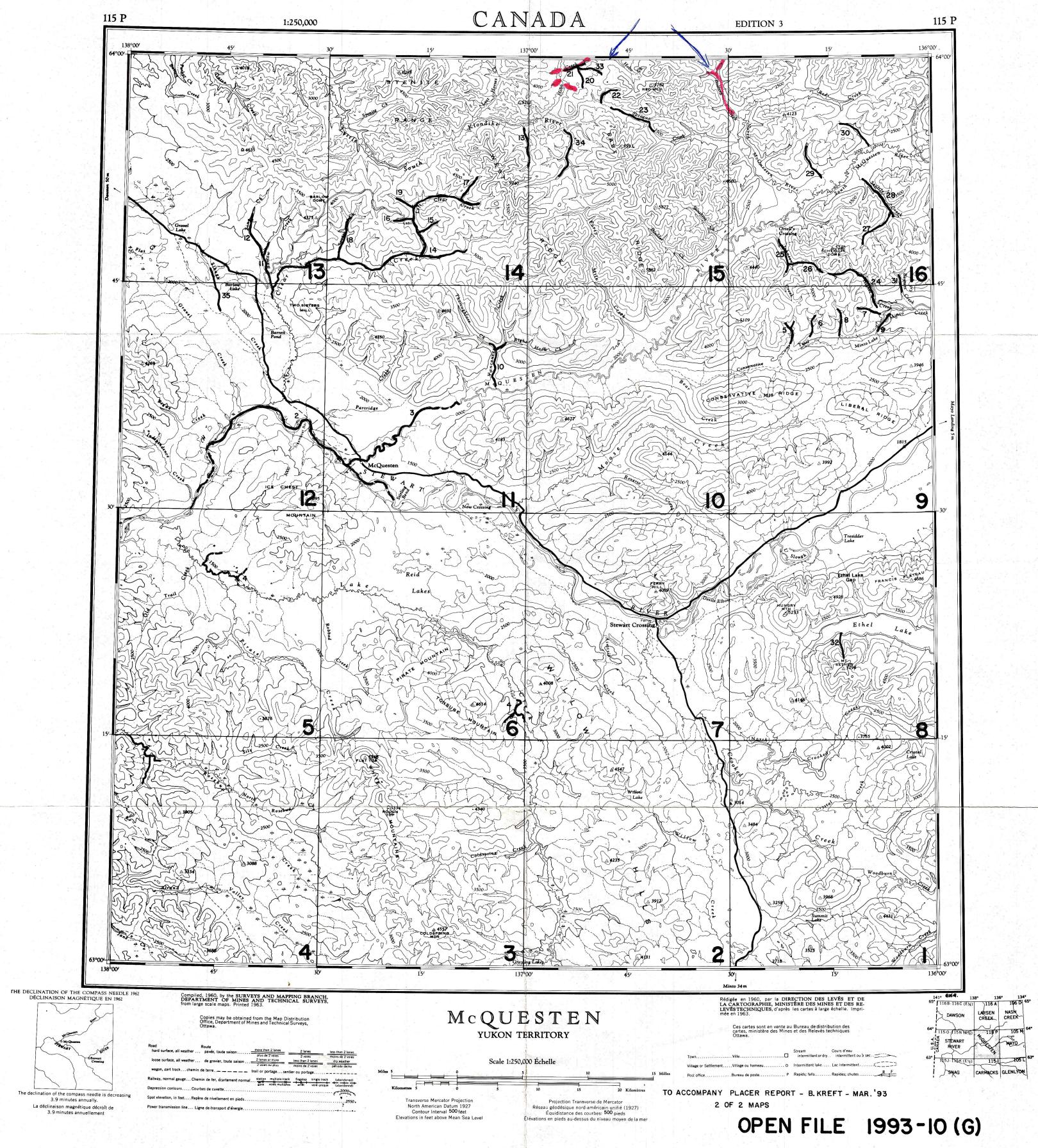
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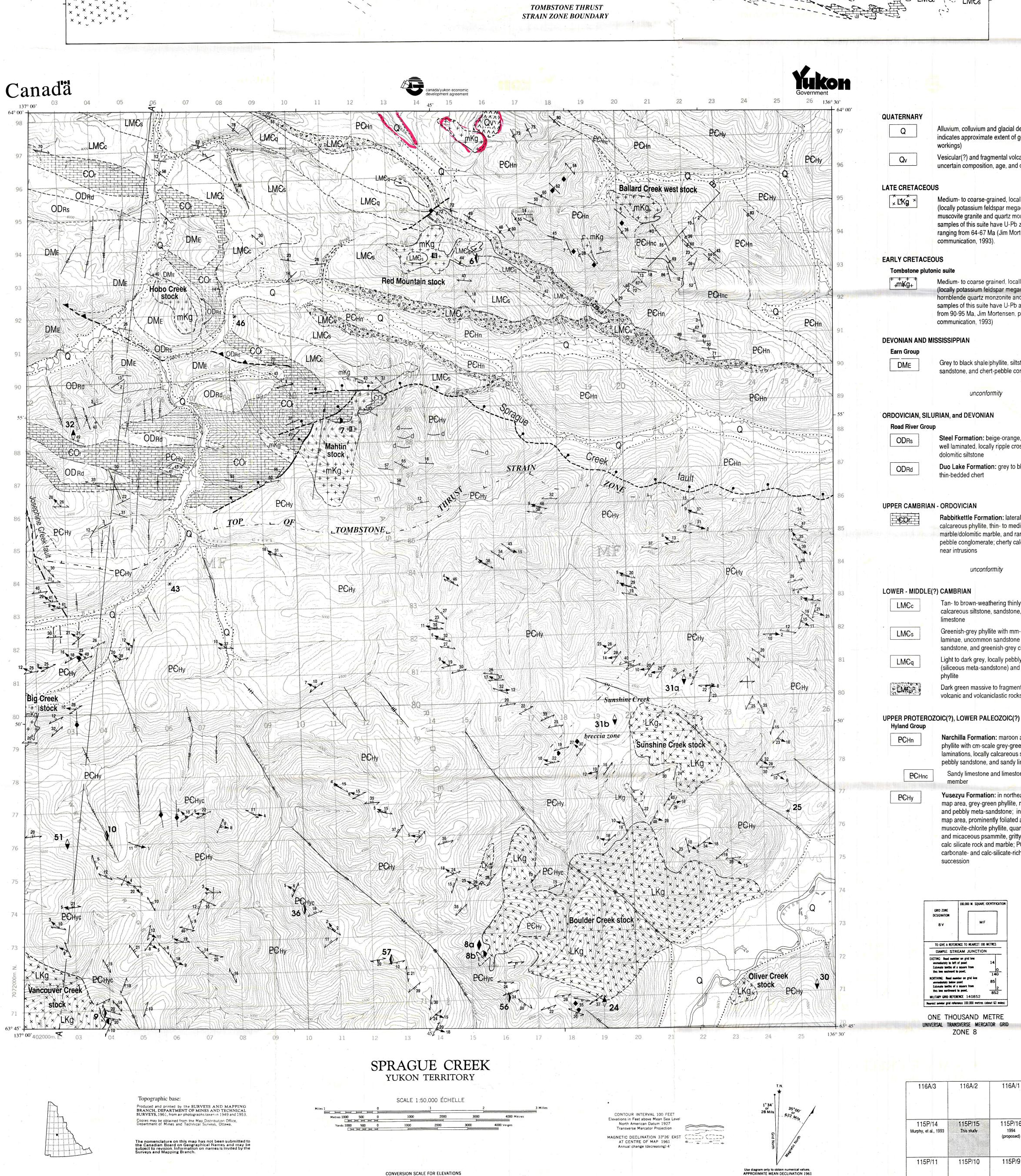
								
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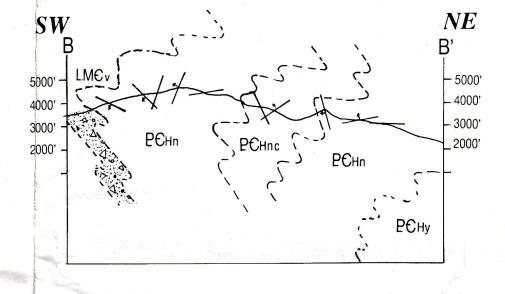
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LEGEND

Summer road

Alluvium, colluvium and glacial deposits (stipple

indicates approximate extent of gold placer

Vesicular(?) and fragmental volcanic rocks of

Medium- to coarse-grained, locally porphyritic

(locally potassium feldspar megacrystic) biotite-

Medium- to coarse grained, locally porphyritic (locally potassium feldspar megacrystic) biotitehornblende quartz monzonite and quartz diorite; samples of this suite have U-Pb ages ranging

from 90-95 Ma, Jim Mortensen, personal

Grey to black shale/phyllite, siltstone,

unconformity

sandstone, and chert-pebble conglomerate

Steel Formation: beige-orange, massive to

well laminated, locally ripple cross-laminated

Duo Lake Formation: grey to black shale and

Rabbitkettle Formation: laterally persistent calcareous phyllite, thin- to medium-bedded

unconformity

Tan- to brown-weathering thinly-bedded

calcareous siltstone, sandstone, shale and

Greenish-grey phyllite with mm-scale siltstone

laminae, uncommon sandstone and pebbly

Light to dark grey, locally pebbly quartzite

(siliceous meta-sandstone) and dark grey

Dark green massive to fragmental mafic meta-

Narchilla Formation: maroon and green

phyllite with cm-scale grey-green siltstone

pebbly sandstone, and sandy limestone

laminations, locally calcareous sandstone and

Sandy limestone and limestone-breccia-rich

Yusezyu Formation: in northeast corner of

map area, prominently foliated and lineated

muscovite-chlorite phyllite, quartzofeldspathic

and micaceous psammite, gritty psammite, rare

calc silicate rock and marble; PCHyc: indicates

carbonate- and calc-silicate-rich part of

100,000 M. SQUARE IDENTIFICATIO

TO GIVE A REFERENCE TO NEAREST 100 METRES

EXAMPLE: STREAM JUNCTION

EASTING: Read number on grid line

immediately to left of point Estimate tenths of a square from this line eastward to point.

NORTHING: Read number on grid line immediately below point Estimate tenths of a square from

MILITARY GRID REFERENCE 140852

Hearest similar grid reference 100,000 metres (about 63 miles)

ONE THOUSAND METRE

UNIVERSAL TRANSVERSE MERCATOR GRID ZONE 8

this line northward to point.

map area, grey-green phyllite, meta-sandstone and pebbly meta-sandstone; in southern half of

sandstone, and greenish-grey chert

volcanic and volcaniclastic rocks

marble/dolomitic marble, and rare limestonepebble conglomerate; cherty calculicate rock

muscovite granite and quartz monzonite; samples of this suite have U-Pb zircon ages ranging from 64-67 Ma (Jim Mortensen, personal

communication, 1993).

communication, 1993)

dolomitic siltstone

thin-bedded chert

near intrusions

limestone

member

succession

GRID ZONE DESIGNATION

uncertain composition, age, and origin

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Earn Group

DME

Road River Group

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EMGA

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PCHn

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Tombstone plutonic suite

SYMBOLS	*
Geological contact (defined, approximate, assumed)	
ault (defined, approximate, assumed, assumed under cover)	
imit of outcrop	
irphoto lineament	
edding (upright, overturned, facing unknown)	21 37 24
oliation and mineral or clast-elongation lineation (amount and irection of plunge indicated; one tick mark indicates earliest hase of deformation; two or more tick marks indicate second hase of deformation)	

Mineral occurrence as enumerated in Yukon Minfile

Line of cross-section Breccia zones

> MINERAL OCCURRENCES (I.N.A.C., 1992)

Intrusion-hosted:	×	
115P 006	HOBO (RED MOUNTAIN)	Cu, Mo, Au
■ 115P 007	SPRAGUE (MAHTIN)	Cu, Au, Sn
Skarn:		
115P 007		Sn, Au, W
115P 008		Sn, Au, Zn, Cu
	b EAST RIDGE (SNARK)	Au, W, Sn, Cu, Zn
115P 009		W, Zn
115P 030	OLIVER	Sn, Ag
Vein, breccia:		
115P 006	HOBO (RED MOUNTAIN)	Cu, Mo, Au
115P 008	•	Au, Ag, Pb, An, Sn, C
115P 009		Ag, Pb
115P 010	RIDGE (STERLING)	Ag, Pb, Zn, Sn
115P 025		Cu
115P 030 115P 030	OLIVER	Sn, Ag
→ 115P 031	a BIX (SUNSHINE CR. E.)	Sn, Ag
↑115P 031		Sn, Ag
√ 115P 032		Mo, Zn, Ag, Cu
115P 036		Ag, Pb
♦ 115P 051		Sn, Ag
115P 056		Ag, Pb, Zn
115P 057	QUEST	Ag, Pb, Zn, Au
Work targets:		
* 115P 025	TOTH	unknown

RELATED REFERENCES BOSTOCK, H.S., 1964. Geology, McQuesten River, Yukon Territory. Geological Survey of Canada, Map 1143A. EMOND, D.S., 1992. Petrology and geochemistry of tin and tungsten mineralized plutons, McQuesten River region, Central Yukon. In: Yukon Geology Vol. 3; Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p.167-195. EMOND, D. and LYNCH, T., 1992. Geology, mineralogy, and geochemistry of tin

CORTIN

WEIZ

* 115P **043**

*115P **046**

unknown

unknown

and tungsten veins, breccias and skarns, McQuesten River region (115P (north) and 105M/13), Yukon. In: Yukon Geology, Vol. 3; Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 133-159. GORDEY, S.P. and ANDERSON, R.G., 1993. Evolution of the northern Cordilleran miogeocline, Nahanni map area (105l), Yukon and Northwest Territories. Geological Survey of Canada, Memoir 428. I.N.A.C., 1992. Yukon Minfile. Exploration and Geological Services, Yukon, Indian and Northern Affairs Canada.

MURPHY, D.C. and HÉON, D., 1994. Geology and mineral occurrences of Sprague Creek map area (NTS 115P/15), western Selwyn Basin); ln: Yukon Exploration and Geology 1993, Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada. MURPHY, D.C., HÉON, D., and HUNT, J., 1993a. Geological overview of Clear Creek map area, western Selwyn Basin. In: Yukon Exploration and Geology 1992; Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 61-69. MURPHY, D.C., HÉON, D., and HUNT, J., 1993b. Geology of Clear Creek map

area, Yukon (NTS 115P/14). Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open-File 1993-1, scale 1:50 000.

ACKNOWLEDGEMENTS

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Recommended citation: MURPHY, D.C. and HÉON, D., 1994. Geological map of Sprague Creek map area (NTS 115P/15), western Selwyn Basin, Yukon; Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open-File 1994-3 (G), 1:50 000-scale.

This paper accompanies the following report: MURPHY, D.C. and HÉON, D., 1994. Geology and mineral occurrences of Sprague Creek map area (NTS 115P/15), western Selwyn Basin); In: Yukon Exploration and Geology 1993, Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada.

> Indian and Northern Affairs Canada Exploration and Geological Services Division Yukon Region

> > Open File 1994-3 (G)

GEOLOGICAL MAP OF SPRAGUE CREEK MAP AREA (NTS 115P/15), WESTERN SELWYN BASIN, YUKON

> Donald C. Murphy and Danièle Héon Canada/Yukon Mineral Development Agreement Geoscience Office

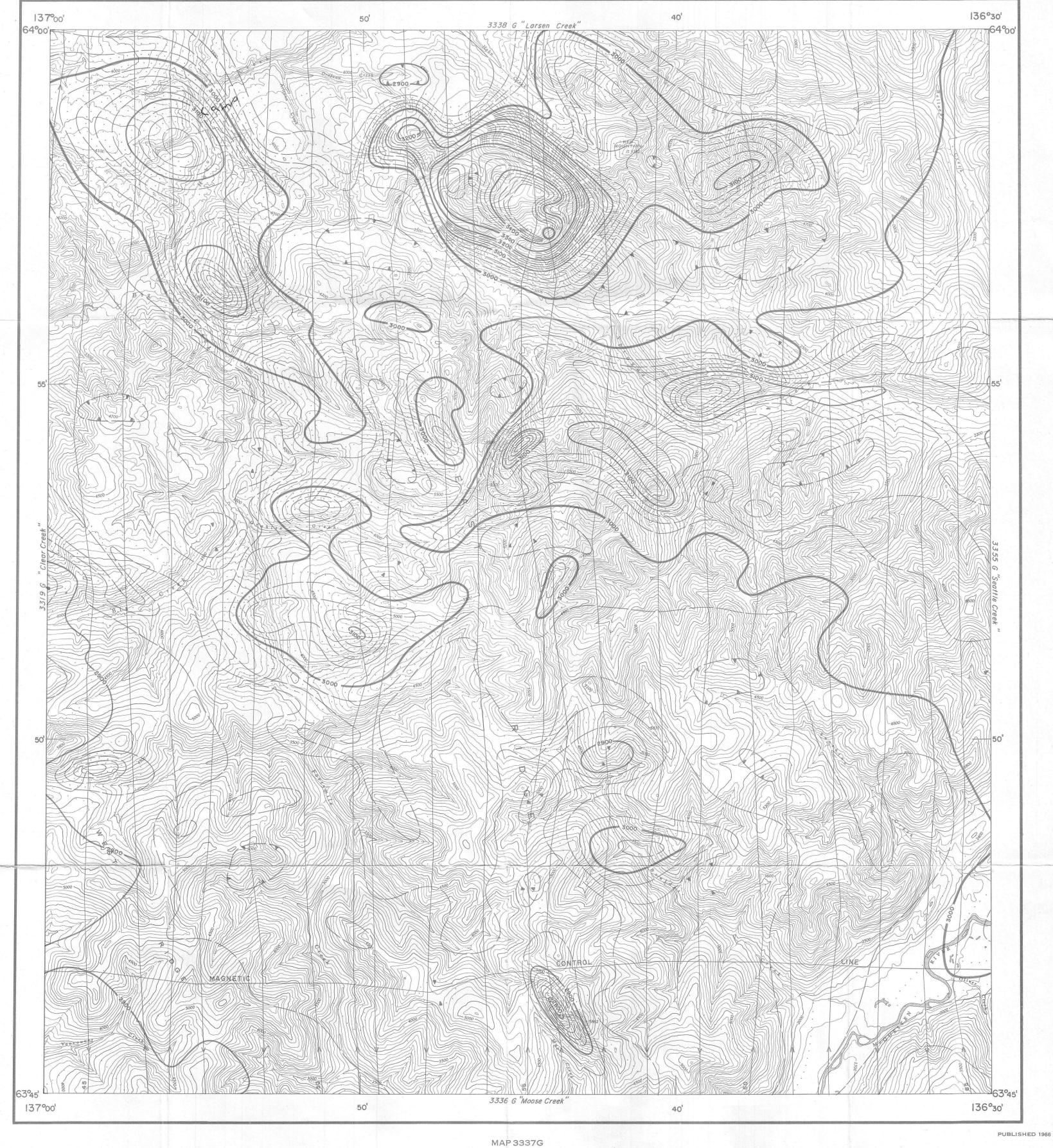
Copies of this map, the accompanying report (in Yukon Exploration and Geology 1993), and Yukon Minfile may be obtained from Canada Map Office, Exploration and Geological Services Division, Indian and Northern Affairs Canada, 200 Range Road, Whitehorse. Yukon Y1A 3V1 (403-667-3204; FAX 403-668-2176).

•		1°34′ or 35°, 28 Mils	on: /	

- LOST HORSES SYNCLINE

116A/2 116A/1 115P/16 115P/15 115P/14 Murphy, et al., 1993 This study (proposed) 115P/9 115P/10 115P/11 Use diagram only to obtain numerical values. APPROXIMATE MEAN DECLINATION 1961 Annual change decreasing 4.0'





144°
140°
136°
132°
128°
124°
120°
68°
River
Riv

INDEX MAP

ISOMAGNETIC LINES (total field):

SPRAGUE CREEK

YUKON TERRITORY

Scale: One Inch to One Mile = $\frac{1}{63,360}$ Miles

1 $\frac{1}{2}$ 0 1 2

Air photographs covering this map area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario.

Copies of this map may be obtained from the Director, Geological Survey of Canada, Ottawa.

Airborne Magnetic Survey, June 1964 to February 1966, by Canadian Aero Service Limited, Ottawa.

No correction has been made for regional variation

The planimetry for this map was obtained from topographical map sheets published by the Department of Mines and Technical Surveys.

The magnetic data on this map were compiled from information recorded along the flight lines shown. The anomalies expressed by the magnetic contours are dependent on the variable magnetic intensities of the underlying rocks, and may be due to conditions near, or at unknown depths below the surface. High magnetic anomalies normally indicate the presence of basic rocks, such as diabase, gabbro, or serpentine, which have a relatively high iron content, but in special instances may be due, or partly due, to concentrations of magnetic ore minerals. By means of the magnetic anomalies, various rock bodies or structural features, such as faults or folds, may be traced into, or across, areas of few or no outcrops. In many instances, however, no interpretation of particular anomalies may be possible without further geological information.

GEOPHYSICS PAPER 3337

SPRAGUE CREEK
YUKON TERRITORY

SHEET 115 P