

REPORT on
THE LUCKY SIX IRON PROSPECT
BAMFIELD, VANCOUVER ISLAND
BRITISH COLUMBIA
for
MITSUI & CO. LTD.

920/15

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by: R.W. Phendler, B.Sc., P.Eng.

March 21, 1970.

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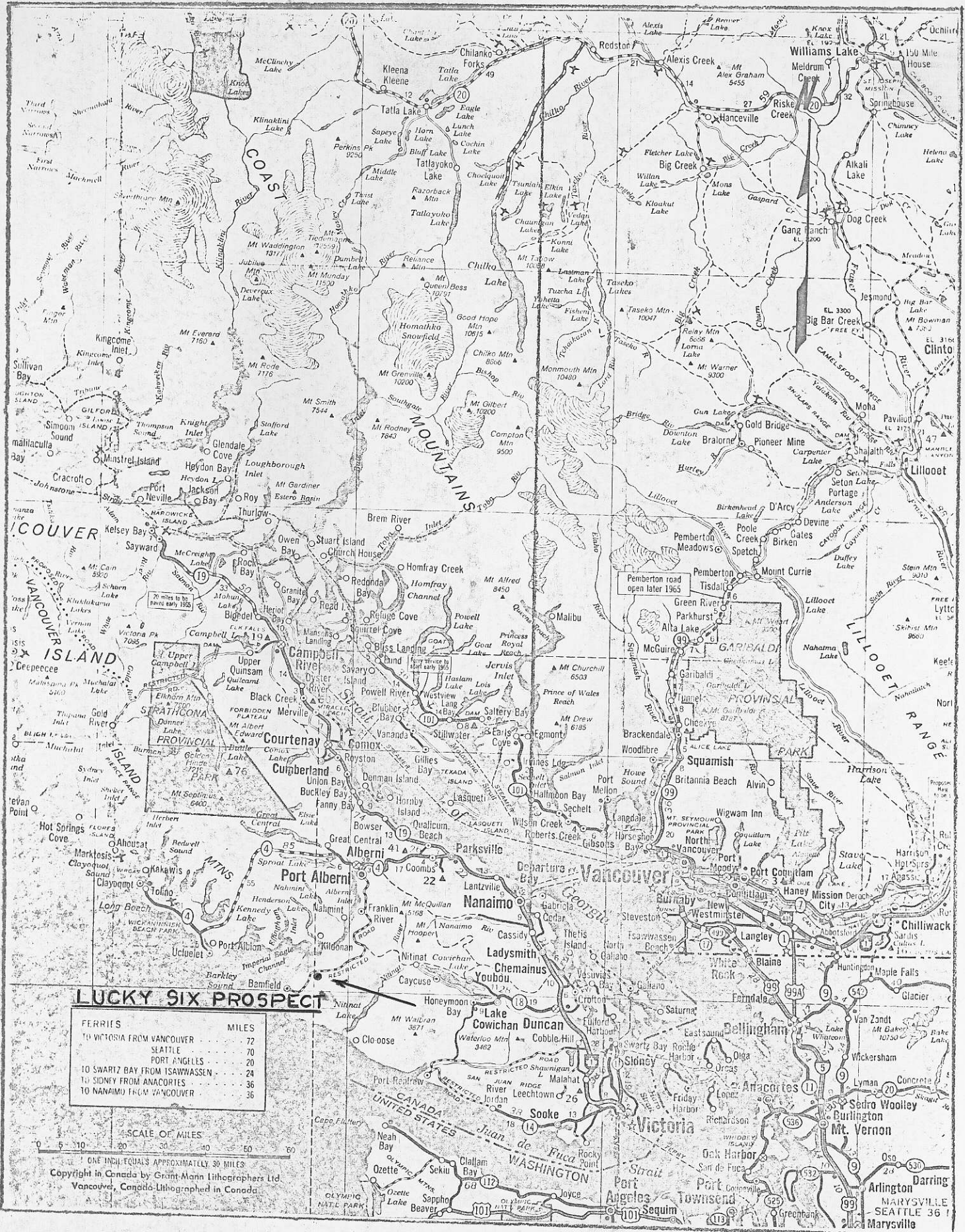
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LIST OF ILLUSTRATIONS

Fig. 1 - Location Map - 1" = 30 miles	Frontispiece
Fig. 2 - Map of Lucky Six Iron Prospect - 1" = 100'	At back of report



LUCKY SIX PROSPECT

FERRIES	MILES
TO VICTORIA FROM VANCOUVER	72
SEATTLE	70
PORT ANGELES	20
TO SWARTZ BAY FROM ISAWWASSEN	24
TO SIDNEY FROM ANACORTES	36
TO NANAIMO FROM VANCOUVER	36

SCALE OF MILES
 0 5 10 20 30 40 50 60
 ONE INCH EQUALS APPROXIMATELY 30 MILES
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SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Lucky Six iron prospect is on southwestern Vancouver Island in an area well known for magnetite-skarn deposits. It is found in a geological setting that is known to be favourable, i.e. near a limestone-quartz diorite contact.

Magnetite has been observed on the Lucky Six prospect along a strike length of about 900'. The greatest observed width on surface is 30'. Underground exploration at the west end of the zone showed a width of about 50'.

Continuity of the magnetite deposit over the entire length of 900' is doubtful as a dip needle survey conducted by the writer gave erratic results. Tonnage potential appears to be about 750,000 tons.

Although apparently not known to the vendor of the claims, this magnetite deposit has long been known as the Sarita River deposit. It is fully described in the Geological Survey of Canada Economic Geology Series Bulletin No. 3 of 1926 entitled "The Iron Ores of Canada - Volume 1" by G.A. Young and W.L. Uglow. The opinion at that time was that the deposit occurs on or adjoining land of the Indian Reserve. A 1963 investigation by Dr. W.R. Bacon indicated that it was on Indian Reserve land and that development would have to be with the approval of the Department of Indian Affairs, Ottawa.

Samples taken at that time (circa 1926) or slightly prior to it gave very favourable results (\pm 60% Fe, 3.6% insoluble material, 4-6% silica, 0.5% S, 0.005 P, 0.44 Mn, 0.01 Ti).

Because of the discovery, subsequent to the examination, that the deposit is on an Indian Reserve, it is recommended that an approach be made to the Department of Indian Affairs in order to determine under what circumstances the deposit might be developed.

SCOPE

On March 17th, 18th and 19th, 1970, the writer visited the Lucky Six iron prospect accompanied by Mr. S. Seki of Mitsui & Co. Ltd. and Mr. N. Basaraba, vendor of the claims. During this time, a base line and cross lines at 100 foot intervals were established, a dip needle survey was conducted, geological mapping and sampling was carried out and the underground workings were examined.

LOCATION AND ACCESS

The property is located on southwestern Vancouver Island, about 28 miles southwest of Alberni. It is at an elevation of 150' half a mile from tidewater on the south shore of Barkley Sound.

Access is by McMillan-Bloedel Limited's logging road from Alberni through Franklin River to Bamfield. Branch road 103, about 16 miles east of Bamfield, leads to the claim group.

PROPERTY AND OWNERSHIP

The claim group consists of six mineral claims held by N. Basaraba. They were staked in February 1970. After discussion with Dr. W.R. Bacon, upon the writer's return to Vancouver, it is our considered opinion that these claims are on Indian Reservation No. 1.

HISTORY

From the amount of development and exploration done on the Lucky Six prospect, it is obviously a well known deposit. From a study of the Annual Report of the Minister of Mines for British Columbia for 1916, it appeared highly likely that it is the Sarita River deposit described fully on pages 283-285. The adit is accurately described as are the trenches. Samples taken from the adit assayed as follows:

Iron	-	63.8%
Sulphur	-	0.55%
Phosphorus	-	Trace
Silica	-	4.2%

A later examination in 1926 described on pages 191-198 of Bulletin No. 3 (Economic Geology Series) of the Geological Survey of Canada - 1926 - "The Iron Ores of Canada - Volume 1" - leaves no doubt that this is the well-known Sarita River deposit. Sketches of surface and underground workings make this positive.

This deposit was under consideration by Highland Bell Mines Ltd. in 1963 and representations by Dr. W.R. Bacon were made to

the Department of Indian Affairs, Ottawa, with the aim of continuing exploration. It was established then that the deposit was on the Indian Reservation.

The deposit was staked prior to 1900 and most of the exploration work, including the tunnel, was done prior to 1903. In 1922, ten tons of ore from old dumps was shipped to the Vancouver Engineering Works to be mixed with scrap iron in their electric furnace operations.

GEOLOGY AND MINERALIZATION

Magnetite deposits on Vancouver Island are invariably associated with skarn. Skarn is the name usually applied to an aggregate of one or more silicate minerals such as garnet, amphibole and pyroxene formed by the replacement of limestone or greenstone.

The deposit under discussion has two distinct zones of mineralization. The most important is the magnetite which is intermittently distributed for a length of about 900 feet. The largest amount is at the west end of the area explored and appears to be continuous for about 400' along strike. Width is about 120 feet and underground development has shown that magnetite mineralization projects to at least 125' below the showings in Trench No. 3 (See Fig. 2). Pyrite is present within the magnetite but does not appear to be abundant.

Discrete pockets of magnetite occur in the east part of the zone. They have been uncovered in Trenches No. 1 and No. 2 and do not appear to be continuous.

Skarn with abundant pyrrhotite and pyrite and minor magnetite and chalcopyrite outcrops in the northeast corner of the area under consideration.

The geological setting of the Lucky Six deposit appears to be the contact between marbled limestone on the north and quartz diorite on the south. Outcrops of the quartz diorite are few but about forty feet of the underground workings are within this rock type.

During the present examination, the following samples were taken:

<u>Sample No.</u>	<u>% Fe</u>	<u>% S</u>	<u>Width</u>	<u>Description</u>
36851			-	Soil sample, near skarn zone
36852	25.5		10'	Skarn zone, anomaly "D"
36853	22.5	0.41	10'	"
36854	56.5	0.03	30'	Trench #1, anomaly "C"
36855	56.5	0.009	8'	Line 2+00W, anomaly "D"
36856	46.0	0.20	7'	Underground, chip sample, anomaly "A"
36857	56.5	0.05	6'	"
36858	46.0	0.09	6'	"
36859	53.0	0.21	10'	"
36860	60.0	0.05	10'	"
36861	56.5	0.50	10'	"
36862	46.5	0.22	10'	"
36863	60.0	0.02	10'	Trench #3, anomaly "A"
Average		0.17		
36854-36863	53.8			

GEOPHYSICAL

Because of the limited width of the magnetite zone, it was decided, during the present examination, to take dip needle readings at 20' centres along cross lines spaced 100' apart. Results of this survey are shown on Fig. 2 and indicate the lack of continuity of the mineral along strike.

The anomalies in the northeast corner of the map are due to the presence of pyrrhotite. Little magnetite is present in the skarn zone here.

Background is considered to be below 10 units on the dip needle whereas anomalous zones are above 20 units. Magnetometer readings were taken at spot locations throughout the map area and on lines 100E and 200E. The conversion factor is one degree on the dip needle to 100 gammas on the magnetometer. Areas of magnetic lows can be interpreted as being underlain by magnetic material and merit further investigation.

The presence of four anomalous zones was disclosed during the survey:

Zone A This zone measures 400' long by 120' wide and is located in an area where significant amounts of magnetite were observed. It appears to terminate on the east and continue to the west under a swamp. A reconnaissance traverse west of the swamp disclosed the presence of barren limestone and dip-needle readings of low intensity.

Zone B This zone is made up of two isolated pods of magnetite, each about 50' across and of limited strike length.

Zone C Magnetite has been observed in place at the west end of this anomaly. The area of low magnetic intensity to the east is possibly an indication of magnetite in depth.

Zone D Outcrops of skarn with visible pyrrhotite indicate that this anomaly is of little interest. The skarn is bordered by limestone on the north where magnetic intensity remains high.

ORE RESERVES AND POSSIBILITIES

Zone A has a potential tonnage of continuous magnetite as follows:

Length	-	400'
Width	-	120'
Depth to adit level	-	125'
Tonnage factor	-	8 cu. feet per ton

$$\frac{400 \times 120 \times 125}{8} = \underline{750,000 \text{ tons}}$$

Zone B has a total length (anomalous readings) of 100', width 50' and depth potential = 20'. Using a tonnage factor of 8, potential is as follows:

$$\frac{100 \times 50 \times 20}{8} = \underline{12,500 \text{ tons}}$$

Zone C has a potential length of 150', width of 40' and depth possibilities of 20'. Tonnage estimate is as follows:

$$\frac{150 \times 40 \times 20}{8} = \underline{\underline{15,000 \text{ tons}}}$$

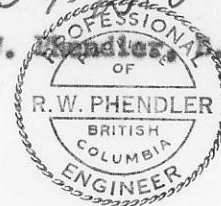
Total Potential Tonnage 777,500 tons

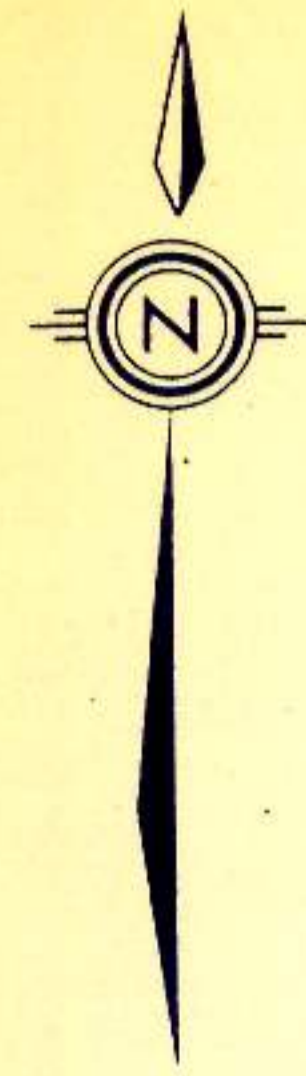
Respectfully submitted,

BACON & CROWHURST LTD.

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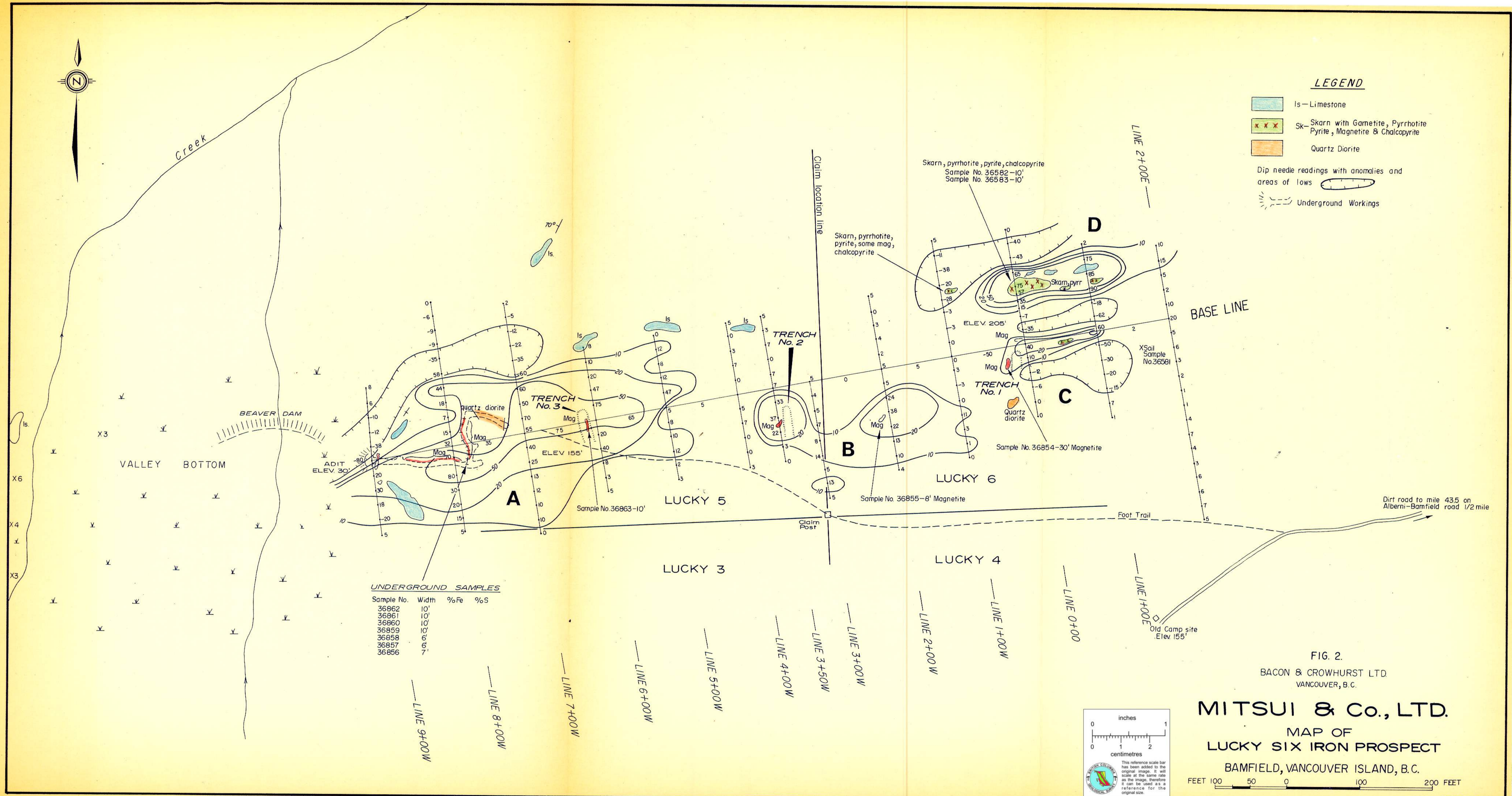


LEGEND

- Ls—Limestone
- Sk—Skarn with Garnetite, Pyrrhotite
Pyrite, Magnetite & Chalcopyrite
- Quartz Diorite

Dip needle readings with anomalies and areas of lows

Underground Workings



UNDERGROUND SAMPLES

Sample No.	Width	%Fe	%S
36862	10'		
36861	10'		
36860	10'		
36859	10'		
36858	9'		
36857	7'		
36856	7'		

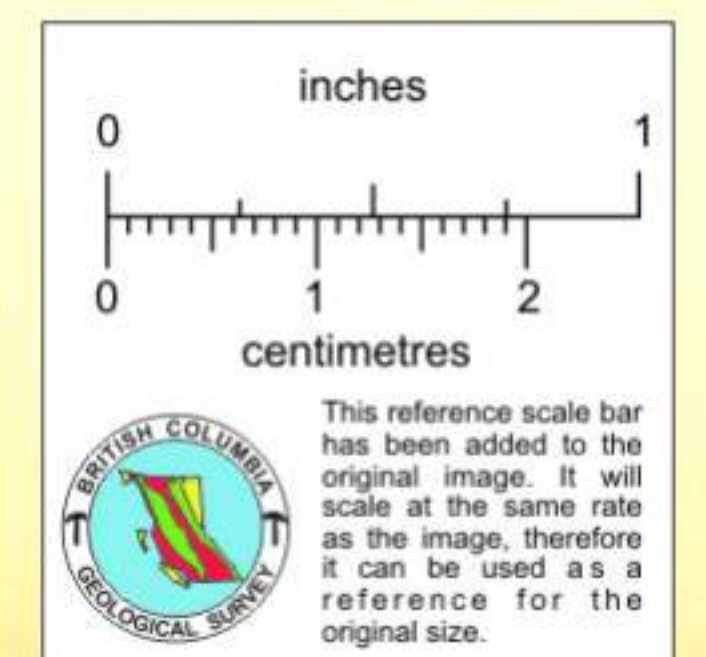


FIG. 2.
 BACON & CROWHURST LTD
 VANCOUVER, B.C.

MITSUI & Co., LTD.

MAP OF
LUCKY SIX IRON PROSPECT
 BAMFIELD, VANCOUVER ISLAND, B.C.

FEET 100 50 0 100 200 FEET