

2852

GEOCHEMICAL REPORT

ON THE

X GROUP OF CLAIMS

ATLIN MINING DIVISION, BRITISH COLUMBIA

for

CANADIAN JOHNS-MANVILLE COMPANY, LIMITED

Exploration Department

P.O. Box 1500 - Asbestos, Quebec

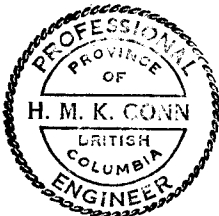
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2852 MAP

Covering : X Claims No. 1-8, 13-18
AT Claims No. 7-8, 10-18
HOBO Claims No. 91, 93-96

Located : 1) $59^{\circ}42'N, 133^{\circ}26'W$
2) N.T.S. Map 104N - Atlin
3) On Boulder Creek, 12 miles northeast of Atlin, B.C.

Submitted: Chong-Pin Lin, M.A.
by and
H.K. Conn, P.Eng.

Date : February 1971



Expiry Date: Jan. 28, 1972



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LIST OF MAPS:

	<u>Scale</u>
*1 Boulder Creek Claims - Index Map and Location Map - Atlin, B.C.	1" = 1,000'
*2 Boulder Creek - Geochemical Survey - Pb Distribution	1" = 200'
#3 " - " - Cu "	"
#4 " - " - Ag "	"
5 " - " - Mo "	"
6 " - " - W "	"
7 " - " - Sn "	"

SUMMARY AND RECOMMENDATIONS:

A geochemical survey was carried out over the X group of claims as a follow-up of previous reconnaissance investigation. A total of 189 samples were collected and assayed for molybdenum, copper, lead, silver, tin and tungsten.

Only the results of lead and copper show significant anomalous patterns that seem to have been derived from mineralization up slope to the west of the present sampling area. The results of other elements are generally low apart from a few erratic highs.

Therefore, it is recommended that further geochemical surveying, geological mapping, and prospecting be applied to the area that lies up-slope and west to the present grid area in an attempt to locate the source of this mineralization.

INTRODUCTION:

During the period July 11 to August 15, 1970 a geochemical survey was carried out over the X group of claims owned by Canadian Johns-Manville Company, Limited. The work was done by geologist N.C. Aspinall and his assistant P. Nicholson; both were employed by the above said company. This survey consists of follow-up geochemical sampling on a 200-foot grid pattern over weak anomalies outlined by an earlier reconnaissance survey.

LOCATION AND ACCESS:

These claims are located in the Boulder Creek area of Atlin Mining Division, B.C., about twelve miles northeast of Atlin and three miles upstream from Surprise Lake. The property can be reached by a secondary road to Surprise Lake and a rough road up the west side of Boulder Creek. Geographical location is 39°42'N and 133°26'W, on the Atlin map sheet 104N.

PHYSIOGRAPHY AND VEGETATION:

Elevation of the claim group ranges from 4,500 feet at the south end to 5,600 feet at the northeast corner with a local relief of about 1,100 feet. Boulder Creek valley strikes north-south and slopes gradually up to Mount Leonard and the peaks along the Ruby Creek - Boulder Creek divide. The southern slopes of those peaks are generally steep but rounded in nature.

The valley floor and slopes are covered with a semi-continuous layer of glacial till, with a carpet of alpine vegetation up to approximately the 4,700 foot contour where outcrop and talus screes commence.

The development of soil under these conditions is very slow with some organic A-horizon and negligible B-horizon, followed by an intermixture of grey glacial till and broken bedrock forming the C-horizon.

GENERAL GEOLOGY:

The main part of the claim group is underlain by the Ruby Creek alaskite which forms a small outlier of the Surprise Lake batholith of Cretaceous age.

The southwest portion of the claim group is underlain by sediments of the Cache Creek group and some small ultrabasic bodies; both of Permian age.

The Surprise Lake batholith is composed of alaskite which is characterized by inequigranular texture and abundant smoky quartz. The Cache Creek group sediments in the vicinity of the claims are argillaceous quartzite, quartzite, and re-crystallized limestone. The peridotite bodies are part of the Atlin intrusions in the Cache Creek sediments.

GEOCHEMISTRY SURVEY:

In July 1970 a grid system of sample stations was established along the central fork of Boulder Creek over the following claims:

GEOCHEMISTRY SURVEY: (Cont'd)

HOB0 89, 91, 93-96
AT 7 & 8, 10-12, 18
X 14, 16

A total of 189 geochemical samples was collected from the grid by Geologist C. Aspinall and his assistant P. Nicholson.

A. Grid Control:

A north-south baseline, 5,000 feet long, was surveyed along the central fork of Boulder Creek. East-west offset lines were established at 400 foot intervals which extended 1,000 feet on either side of the baseline. The survey was done with a Brunton compass and 100-foot chain. Stations on each line were marked by pickets and flagging.

B. Sampling Methods:

All sample numbers were headed by "X" to denote the X claim group. Other letters in the sample numbers indicate the types of sample material collected and their environment, e.g.

XS - Soil
XSP - Seep
XR - Rill
XCR - Creek

The pattern of sampling basically followed the grid lines at intervals of 200 feet. Additional samples were collected from any creeks, rills and seeps encountered within the grid. B-horizon material was sought where possible but A zone material was collected where the B-horizon was not available.

C. Analytical Techniques:

The geochemical samples were analyzed in the Vancouver laboratories of Bondar-Clegg & Company, Limited. Tests for copper, lead, molybdenum, silver, tungsten and tin were run on the complete batch of 189 samples.

C. Analytical Techniques: (Cont'd)

The samples were dried at 40⁰ to 50⁰C in infra-red ovens and sieved to -80 mesh in Tyler sieves. In order to extract the metals, an aliquot of -80 mesh fraction was digested in hot aqua regia, amonium iodide and potassium carbonate. The metal content of each sample was determined by atomic absorption and colorimetric means at various detection limits of 2, 1, and 0.2 ppm. A description of the method used is presented below:

<u>Element</u>	<u>Extraction Method</u>	<u>Determination Method</u>	<u>Detection Limit</u>
Cu	Hot Aqua Regia	Atomic Absorption	1 ppm
Pb	"	"	1 ppm
Mo	"	"	1 ppm
Ag	"	"	0.2 ppm
Sn	Amonium Iodide	Colorimetric	2 ppm
W	Potassium Carbonate	"	2 ppm

D. Classification of Data:

The sample data are classified into five categories for each element as follows:

Negative	:	$0 - (\bar{x})$
Possibly anomalous	:	$(\bar{x}+1) - (\bar{x}+s)$
Probably anomalous	:	$(\bar{x}+s+1) - (\bar{x}+2s)$
Anomalous	:	$(\bar{x}+2s+1) - (\bar{x}+3s)$
Highly anomalous	:	$(\bar{x}+3s+1)$

" \bar{x} " is the arithmetical mean; "s" is the standard deviation.

The 189 samples were treated as one population. Although they were collected from different environments and should be dealt with separately, their amount is too limited to allow such subdivision.

E. Data Presentation:

Detailed sample locations are shown on a 200 foot scale map. Analytical results in parts per million are plotted at the sample stations on individual map sheets showing values of each element.

E. Data Presentation: (Cont'd)

Stations of anomalous values are indicated by symbols as described in the legends of the geochemical survey maps.

DISCUSSION OF DATA:

A study of all the elements by superimposing their distributions shows that no significant concentric rings of anomaly are present in the grid area. However, two zones of moderately anomalous values are noticed. One centers at stations x - 54 and x-56 in the northwest portion of the grid; the other stretches along x-86, x-91 and x-123 in the central portion of the grid.

A few other weak, coincident anomalies are scattered sporadically along the creek.

Pb:

An obvious zone of anomaly is found on the central portion of the grid, west of the creek. The values seem to increase up slope towards the western margin of the grid to a peak of 270 ppm - xs 78. This suggests that the source of this lead mineralization occurs up slope to the west of the present grid area.

The remaining scattered anomalous values occurring outside the mentioned zone are disregarded as erratics.

Cu:

One anomalous zone at the northwest margin of the grid is open up slope to the west, with a tendency for the values also to increase up slope. This suggests a source of possible copper mineralization up slope to the west of Line 32-44. Slightly anomalous values are also distributed along the main creek as well as in some of the rills at the northern end. No significant patterns are formed by these stations.

DISCUSSION OF DATA: (Cont'd)

Ag:

Scattered anomalous values are found inside the vegetation zone at the southern portion of the grid. The widespread, erratic pattern probably reflects a different environment rather than a source of significant mineralization. Other erratic high values occur along rills and are of no significance.

Mo:

No values of any significance are revealed in the Mo results. There is a slight tendency for higher values to occur along the creek or associated with some of the rills but, in comparison with the highly anomalous geochem results in the adjoining Ruby Creek headwaters to the northeast, the area is of no significance.

W:

Results are low in general. Slightly anomalous values are found on the east side of the creek. They were probably derived from the tungsten mineralization which occurs in association with veins of quartz previously found to the east of the present claim area.

Sn:

Generally, values are low. Most of the anomalous stations are loosely distributed in the northern portion of the grid west of the creek.

COST ANALYSIS

1. <u>LABOR COSTS:</u> (July 11 to August 15)		
Geologist - C. Aspinall		
20 days at \$40.77 per day	\$	815.40
Assistant - P. Nicholson		
20 days at \$17.36 per day		<u>347.20</u>
		\$ 1,163.00
2. <u>CAMP COSTS - ROOM & BOARD:</u>		
40 man days at \$10.00 per man day		400.00
3. <u>ANALYTICAL COSTS:</u>		
Sample analysis for Cu, Pb, Mo, Ag, W and Sn		
189 samples at \$6.60 per sample	\$	1,247.40
Shipping charges		<u>23.56</u>
		1,271.00
4. <u>REPORT PREPARATION COSTS:</u>		
Technican - A. Therrien		
3 days at \$32.30 per day	\$	97.00
Geologist - C.P. Lin		
10 days at \$28.00 per day		280.00
Office supplies		<u>50.00</u>
		427.00
5. <u>TRAVEL FARE:</u>		
<u>Air tickets from Whitehorse to Vancouver:</u>		
C. Aspinall	\$	113.00
P. Nicholson		<u>113.00</u>
		<u>226.00</u>
TOTAL		\$ 3,487.00

GEOCHEMICAL SOIL SURVEY DATA

STATEMENT OF QUALIFICATIONS

I, Chong-Pin Lin, of the city of Asbestos in the Province of Quebec, hereby certifies that:

1. I am a mining exploration geologist, with three years of experience.

2. I am a graduate of the following universities:

National Taiwan University B.A. (Geology) 1965
(Republic of China)

Bowling Green State University M.A. (Geology) 1969
(Ohio, U.S.A.)

3. I am employed by Canadian Johns-Manville Company, Limited, P.O. Box 1500, Asbestos, Quebec, as a geologist.

4. The costs of the survey discussed in this report and analyzed in Appendix A are, to the best of my knowledge, correct.

5. This report is based on published and unpublished information.

February 1971

Chong-Pin Lin

A handwritten signature in cursive script, appearing to read 'Chong-Pin Lin', written in black ink.

STATEMENT OF QUALIFICATIONS

I, Herbert Keith Conn, of the town of Asbestos, do hereby declare that:

1. I am a mining geological engineer employed as Exploration Manager for Canadian Johns-Manville Company, Limited, P.O. Box 1500, Asbestos, Quebec.

2. I have practised in the geological profession for 22 years and specialized in economic geology and exploration procedures for the past 21 years.

3. I am a graduate of the University of Toronto, Toronto, Ontario, with a degree of B.A.Sc. (Mining Geology), 1948.

4. I am a member of the following professional associations:

- (a) Corporation of Engineers of Quebec
- (b) Non-resident member of the Association of Professional Engineers of the Province of British Columbia
- (c) Fellow of the Geological Association of Canada
- (d) Fellow of the Society of Economic Geologists
- (e) Member of the Canadian Institute of Mining and Metallurgy
- (f) Member of the American Institute of Mining Engineers

5. This report is based on published and unpublished information.

February 1971



H.K. Conn

CANADIAN JOHNS-MANVILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

 COLLECTOR: P. NICHOLSON

 AREA: BOWLDER CREEK, ATLIN M.D., B.C.

 DATE: JULY 21, 1970

PROJECT: _____

 LOCATION REF.: MOUNTAINOUS

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
X _s -1	48+00N 2+00 W E	→	MOUNTAIN SIDE	G.T.	B HORIZON HOLE 6"	BROWN	FINE- COARSE	SAMPLE FROM CREEK BANK. ALASKITE PEBBLES, NO BLACK SOIL ON SURFACE. ORGANIC WAS SLIGHT.					
X _s -3	48+00N 4+00 W E	←	MOUNTAIN SIDE	G.T.	B HORIZON HOLE 6"	BROWN	FINE- COARSE	SANDY SOIL. 2-3" BLACK SOIL. AREA FLAT. ORGANIC WAS VERY SLIGHT.					
X _s -4	48+00N 6+00 W E	↙	MOUNTAIN SIDE	G.T.	B HORIZON HOLE 5"	BROWN	FINE- COARSE	ABOUT 3" OF BLACK SOIL. SOIL IS FULL OF PEBBLES. ORGANIC WAS SLIGHT.					
X _s -5	48+00N 8+00 W E	↙	MOUNTAIN SIDE	G.T.	A-B HORIZON HOLE 5"	BLACK- BROWN	FINE- COARSE	ABOUT 5" OF BLACK SOIL. SAMPLE FROM SLIGHT DIP. NOT A DRY CREEK. ORGANIC WAS VERY SLIGHT.					
X _s -6	48+00N 10+00 W E	↙	MOUNTAIN SIDE	G.T.	HOLE 8-9"	BLACK	FINE- COARSE	BLACK ROCKY SOIL. ORGANIC WAS SLIGHT.					
X _{sp} -7	48+00N 10+00E	↙	MOUNTAIN SIDE	G.T.		BUCKSKIN- BLACK	FINE	SEEP SAMPLE. SOIL WAS CLAYEY. LIGHT COLOR ON TOP. ORGANIC WAS VERY SLIGHT.					
X _{sp} -8	44+00N 10+00E	↙	MOUNTAIN SIDE	G.T.		TAN	FINE- MEDIUM.	SEEP SAMPLE. TAKEN MAINLY NEAR TO SURFACE. ORGANIC WAS VERY SLIGHT.					
X _s -9	44+00N 10+00 W E	←	MOUNTAIN SIDE	G.T.	HOLE 11"	DARK BROWN	FINE- COARSE	ROCKY SOIL. SOIL STILL DARK COLOR AT 12". ORGANIC WAS SLIGHT.					
X _s -10	44+00N 8+00 W E	↙	MOUNTAIN SIDE	G.T.	B HORIZON HOLE 8"	DARK BROWN	FINE- COARSE	NO DISTINCTIVE BLACK SOIL LAYER. ORGANIC WAS SLIGHT.					
X _{sp} -11	44+00N 6+00E	↙	MOUNTAIN SIDE	G.T.		TAN	FINE- COARSE	SEEP SAMPLE. ORGANIC WAS VERY SLIGHT.					
X _s -12	44+00N 6+00 W E	↙	MOUNTAIN SIDE	G.T.	HOLE 5"	BROWN- BLACK	FINE- COARSE	VERY THIN LAYER OF BLACK SOIL ON TOP. 3" OF BROWN SOIL THEN BLACK AGAIN. COULD BE AN OLD SEEP.					
X _s -13	44+00N 4+00 W E	←	MOUNTAIN SIDE	G.T.	HOLE 5"	BROWN	FINE- COARSE	ON 'FLATS' BESIDE CREEK. ORGANIC WAS SLIGHT.					
X _s -15	44+00N 2+00 W E	→	MOUNTAIN SIDE	G.T.	B HORIZON HOLE 7"	BROWN	FINE- COARSE	VERY THIN BLACK SOIL. ROCK UNDERNEATH. ORGANIC WAS SLIGHT.					
X _s -16	44+00N 2+00 W	→	MOUNTAIN SIDE	G.T.	B HORIZON	BROWN	FINE- COARSE	1" LAYER OF BLACK SOIL. ORGANIC WAS SLIGHT.					
X _s -17	44+00N 4+00 W	→	MOUNTAIN SIDE	G.T.		VERY LIGHT TAN.	FINE- MEDIUM.	SAMPLE FROM PILE OF VERY LIGHT TAN SOIL (3' x 2'). ORGANIC WAS VERY SLIGHT.					

G.T. = GLACIAL TILL

CANADIAN JOHNS-MANVILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

 COLLECTOR: P. NICHOLSON

 AREA: BOULDER CREEK, ATLIN M.D., B.C.

 DATE: JULY 21, 1970

PROJECT: _____

LOCATION REF.: _____

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
X _S -18	44+00N 6+00W	→	MOUNTAINSIDE	G.T.	B HORIZON HOLE 7"	DARK BROWN	FINE- MEDIUM	THIN LAYER OF BLACK SOIL. ORGANIC WAS SLIGHT.					
X _S -19	44+00N 8+00W	→	MOUNTAINSIDE	G.T.	B HORIZON HOLE 12"	BROWN	MEDIUM- COARSE.	SOIL CONSISTS OF GRAVEL. ORGANIC WAS SLIGHT.					
X _S -20	44+00N 10+00W	→	MOUNTAINSIDE	G.T.	B HORIZON HOLE 7"	BROWN	FINE- COARSE	2-3" BLACK SOIL. ORGANIC WAS SLIGHT.					
X _G -21	48+00N 10+00W	→	MOUNTAINSIDE	G.T.	HOLE 5"	BROWN	FINE- MEDIUM	BALD SPOT. LOOKS AS IF SOIL HAS SEEPED OUT OF MOUNTAIN. ORGANIC WAS VERY SLIGHT.					
X _R -22	48+00N 8+00W	→	MOUNTAINSIDE	G.T.	HOLE 6"	BROWN	FINE- COARSE	AT TOP OF DRY CREEK WHERE WATER MUST HAVE SEEPED OUT. ORGANIC WAS SLIGHT.					
X _S -23	48+00N 8+00W	→	MOUNTAINSIDE	TALUS	HOLE 4"	BROWN	FINE- COARSE	ALL AREA IS QUITE BARE. SOIL IS FULL OF PEBBLES. ORGANIC WAS VERY SLIGHT.					
X _S -24	48+00N 6+00W	"	"	"	"	"	"	"					
X _S -25	48+00N 4+00W	→	MOUNTAINSIDE	TALUS <i>RILL</i>	HOLE 5"	BROWN	FINE- COARSE	VERY SANDY SOIL. SITUATED AT BASE OF SNOW PATCH, SOME SEEPAGE. ORGANIC WAS SLIGHT.					
X _R -26	48+00N 2+00W	→	MOUNTAINSIDE	G.T.	HOLE 7"	BROWN	FINE- COARSE	SAMPLE FROM RILL. MANY ALASKITE FRAGMENTS. ORGANIC WAS VERY SLIGHT.					
X _S -27	48+00N 2+00W	→	MOUNTAINSIDE	G.T.	HOLE 7"	BROWN	FINE- COARSE	SAMPLE JUST OFF TO SIDE OF RILL. ORGANIC WAS SLIGHT.					
X _S -28	40+00N 2+00E	→	MOUNTAINSIDE	G.T.	B HORIZON HOLE 6"	BROWN	FINE- MEDIUM	2-3" BLACK SOIL. ORGANIC WAS SLIGHT.					
X _{SP} -29	39+00N 3+00E	→	MOUNTAINSIDE	G.T.		BROWN	FINE- COARSE	ALASKITE PEBBLES IN SOIL. ORGANIC WAS SLIGHT.					
X _S -30	40+00N 4+00E	→	MOUNTAINSIDE	G.T.	B HORIZON HOLE 6"	BROWN	FINE- COARSE	ALASKITE PEBBLES IN SOIL. 2-3" BLACK SOIL. ORGANIC WAS SLIGHT.					
X _S -31	40+00N 6+00E	←	MOUNTAINSIDE	G.T.	B HORIZON HOLE 5"	BROWN	FINE- COARSE	QUITE A BIT OF ORGANIC. 1-2" BLACK SOIL.					
X _{SP} -32	38+00N 7+00E	←	MOUNTAINSIDE	G.T.	HOLE 6-7"	BROWN	FINE- COARSE	2-3" MOSS AND BLACK SOIL. ORGANIC WAS SLIGHT.					

CANADIAN JOHNS-M'NVILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

 COLLECTOR: P. NICHOLSON

 AREA: BOULDER CREEK, ATLIN M.D., B.C.

 DATE: JULY 23, 1970.

PROJECT: _____

LOCATION REF.: _____

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
X _S -33	40+00N 8+00E	↙	MOUNTAINSIDE	G.T.	B HORIZON HOLE 7"	BROWN	FINE-MEDIUM	2-3" BLACK SOIL. ORGANIC WAS VERY SLIGHT.					
X _S -34	40+00N 10+00E	↙	MOUNTAINSIDE	G.T.	B HORIZON	DARK BROWN	FINE-MEDIUM	NO BLACK SOIL, JUST DARK BROWN. ORGANIC WAS MODERATE.					
X _R -35	40+00N 10+00E	↙	MOUNTAINSIDE	G.T.	HOLE 8-9"	BROWN	FINE-COARSE	VERY COARSE SOIL. ORGANIC WAS SLIGHT.					
X _S -36	36+00N 10+00E	↙	MOUNTAINSIDE	G.T.	HOLE 7"	DARK GREY	FINE-COARSE	2" BLACK SOIL, 1" BROWN, THEN GREY SOIL. ORGANIC WAS SLIGHT-MODERATE					
X _{SP} -37	37+00N 10+00E	←	MOUNTAINSIDE	G.T.	HOLE 6"	GREY-BROWN	FINE-COARSE	FROM HEAD OF SEEP, 2" MOSS AND BLACK EARTH. ORGANIC WAS SLIGHT.					
X _S -38	36+00N 8+00E	↙	MOUNTAINSIDE	G.T.	HOLE 6"	DARK GREY	FINE-MEDIUM	3" BLACK SOIL, 2-3" DARK GREY THEN PEBBLES. LOOKS LIKE OLD SEEP. ORGANIC WAS SLIGHT.					
X _{SP} -39	36+00N 8+00E	↙	MOUNTAINSIDE	G.T.	HOLE 6"	BROWN	FINE-COARSE	FROM HEAD OF SEEP. 1" BLACK SOIL. ORGANIC WAS SLIGHT.					
X _S -40	36+00N 6+00E	→	"	G.T.	HOLE 4"	BROWN	FINE-MEDIUM	VERY LITTLE BLACK SOIL. ORGANIC WAS VERY SLIGHT.					
X _{SP} -41	38+00N 5+00E	→	"	G.T.	HOLE 4"	BROWN	FINE-COARSE	WASH FROM LARGE SEEP. ORGANIC WAS VERY SLIGHT.					
X _S -42	36+00N 4+00E	→	"	G.T.		BROWN	FINE-MEDIUM	FROM PILE OUT OF GOPHER HOLE. ORGANIC WAS VERY SLIGHT.					
X _{SP} -43	36+00N 3+00E	→	"	G.T.		GREY	FINE	SAMPLE OF VERY FINE SEDIMENT FROM STREAM OF SEEP. ORGANIC WAS VERY SLIGHT.					
X _S -44	36+00N 2+00E	→	"	G.T.	HOLE 7"	BROWN	FINE-COARSE	SAMPLE FROM AREA AMONGST SEEPS. AREA IS DRY BUT COULD PROBABLY BE CONSIDERED A SEEP.					
X _{SP} -45	36+00N 1+00W	→	"	G.T.	HOLE 6"	BROWN	FINE-COARSE	FROM HEAD OF SMALL SEEP. ORGANIC WAS SLIGHT.					
X _S -46	36+00N 2+00W	→	"	G.T.	HOLE 4"	BROWN	FINE-MEDIUM	VERY LITTLE BLACK SOIL. ORGANIC WAS SLIGHT.					
X _{SP} -47	37+00N 2+00W	→	"	G.T.	HOLE 5"	BROWN	FINE-COARSE	AT HEAD OF FAST FLOWING SEEP. ORGANIC WAS VERY SLIGHT.					

CANADIAN JOHNS-M'NVILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

 COLLECTOR: MR. P. NICHOLSON

 AREA: BOWDER CREEK, ATLIN M.D., B.C.

 DATE: JULY 23, 1970

PROJECT: _____

LOCATION REF.: _____

AMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
X _s -48	36+00N 4+00W	→	MOUNTAINSIDE	G.T.	HOLE 8"	BROWN	FINE-COARSE	DARK BROWN SOIL WITH PEBBLES. ORGANIC WAS SLIGHT.					
X _s -49	36+00N 6+00W	→	"	G.T.	HOLE 8"	DARK BROWN	FINE-COARSE	4-5" OF BLACK SOIL THEN SANDIER SOIL ORGANIC WAS SLIGHT.					
X _s -50	36+00N 8+00W	→	"	G.T.	B HORIZON HOLE 7"	BROWN	FINE-MEDIUM	3" OF BLACK SOIL. ORGANIC WAS SLIGHT.					
X _s -51	36+00N 10+00W	→	"	G.T.	B HORIZON HOLE 7-8"	BROWN	FINE-MEDIUM	3-4" OF BLACK SOIL. ORGANIC WAS SLIGHT.					
X _s -52	40+00N 2+00W	→	"	G.T.	HOLE 7"	BROWN	FINE-COARSE	BROWN PEBBLEY SOIL. ORGANIC WAS SLIGHT.					
X _s -53	40+00N 4+00W	→	"	G.T.	HOLE 4"	RED BROWN	FINE-MEDIUM	SAMPLES FROM 3 PILES OF BARE SOIL. ORGANIC WAS SLIGHT.					
X _{sp} -54	40+00N 6+00W	→	"	G.T.	HOLE 5"	BROWN	FINE-MEDIUM	FROM HEAD OF SEEP. ORGANIC WAS VERY SLIGHT.					
X _s -55	40+00N 6+00W	→	"	G.T.	HOLE 7"	BROWN	FINE-COARSE	ORGANIC WAS SLIGHT.					
X _{sp} -56	38+00N 7+00W	→	"	G.T.	HOLE 6"	BROWN	FINE-COARSE	SAMPLE FROM HEAD OF SEEP. ORGANIC WAS SLIGHT.					
X _s -57	40+00N 8+00W	→	"	G.T.	B HORIZON HOLE 5"	BROWN	FINE-COARSE	2" OF BLACK SOIL. ORGANIC WAS SLIGHT.					
X _s -58	40+00N 10+00W	→	"	G.T.	B HORIZON HOLE 12"	BROWN	FINE-COARSE	2-4" BLACK SOIL. HOLE 12" AS SOIL WAS ROCKY. ORGANIC WAS SLIGHT					
X _s -59	32+00N 10+00W	→	"	G.T.	HOLE 4"	BLACK-BROWN.	FINE-MEDIUM	1" BLACK SOIL, 2" BROWN THEN BLACK BROWN. ORGANIC WAS SLIGHT.					
X _s -60	32+00N 10+00W	→	"	G.T.	HOLE 10"	BROWN	FINE-COARSE	FROM RILL. ORGANIC WAS SLIGHT.					
X _s -61	32+00N 8+00W	→	"	G.T.	B HORIZON HOLE 7"	BROWN	FINE-MEDIUM	3" BLACK SOIL. ORGANIC WAS SLIGHT					
X _s -62	32+00N 6+00W	→	"	G.T.	B HORIZON HOLE 6"	BROWN	FINE-MEDIUM	1" BLACK SOIL. ORGANIC WAS SLIGHT.					

CANADIAN JOHNS-M'INVILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

 COLLECTOR: MR. P. NICHOLSON

 AREA: Boulder Creek, Atlin M.D., B.C.

 DATE: JULY 27, 1970

PROJECT: _____

LOCATION REF.: _____

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
X _s -63	32+00N 4+00W	→	MOUNTAIN SIDE	G.T.	B HORIZON HOLE 7"	BROWN	FINE-MEDIUM	3-4" BLACK SOIL. NO B.B. IN AREA, ONLY ALPINE GRASS. ORGANIC WAS SLIGHT.					
X _s -64	32+00N 2+00W	→	"	G.T.	B HORIZON HOLE 6"	BROWN	FINE-MEDIUM	2" BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
X _{sp} -65	34+00N 2+00W	→	"	G.T.		BROWN-BUCKSKIN	FINE-MEDIUM	FROM HEAD OF SEEP. ORGANIC WAS VERY SLIGHT.					
X _s -66	32+00N 2+00E	→	"	G.T.	B HORIZON HOLE 6"	BROWN	FINE-MEDIUM	3-4" BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
X _s -67	32+00N 4+00E	→	"	G.T.	B HORIZON HOLE 5"	BROWN	FINE-MEDIUM	1" BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
X _s -68	32+00N 6+00E	/	"	G.T.	HOLE 7"	BROWN	FINE-MEDIUM	NO BLACK SOIL. ORGANIC WAS SLIGHT.					
X _{sp} -69	31+00N 6+00E	↘	"	G.T.		BROWN	FINE-COARSE	FROM HEAD OF SEEP. ORGANIC WAS SLIGHT.					
X _s -71	32+00N 8+00E	←	"	G.T.		BROWN	FINE-MEDIUM	FLAT AREA NEXT TO SEEP. COULD BE AN OLD SEEP. ORGANIC WAS SLIGHT.					
X _s -72	32+00N 10+00E	←	"	G.T.	B HORIZON HOLE 7"	DARK BROWN	FINE-MEDIUM	2-3" BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
X _s -73	28+00N 10+00E	←	"	G.T.	B HORIZON HOLE 7"	BROWN	FINE-MEDIUM	VERY THIN LAYER OF BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
X _s -74	28+00N 8+00E	←	"	G.T.	B HORIZON HOLE 7"	BROWN	FINE-MEDIUM	2-3" BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					

CANADIAN JOHNS-M'VILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

COLLECTOR: CLIVE ASPINALL

AREA: BOULDER CREEK, ATLIN, M.D.

DATE: 23-7-70

PROJECT: 60

LOCATION REF.: SURPRISE LAKE 104N/111W/2

AMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
S-76	24+00N 8+00W	↘	MOUNTAINOUS	TALUS FINES AND GLACIAL TILL	A+B 4"-6"	BROWN	MAINLY FINE, SOME COARSE	SOIL SHOWS NO DISTINCTIVE HORIZONS. ALASKITE FRAGMENTS IN TALUS.					
S-77	24+00N 10+00W	↘	" "	" "	" "	" "	" "	" "					
S-78	20+00N 10+00W	↘	" "	" "	" "	" "	" "	ALASKITE BOULDERS AND OUTCROPS NEAR SAMPLE SITE. Fe+Mn STAINING.					
S-79	20+00N 8+00W	↘	" "	" "	" "	" "	" "	NO DISTINCTIVE HORIZONS IN SOIL. ALASKITE FRAG IN TALUS					
S-80	20+00N 6+00W	↘	" "	" "	" "	" "	" "	" "					
S-81	24+00N 6+00W	↘	" "	" "	" "	" "	" "	TALUS MIXED IN SOIL, MORE CONC. BELOW 6". SOME ORG. MATERIAL.					
IR-82	SAMPLE TAKEN NEAR ABOVE SITE.	↘	" "	Rill SAMPLE	SURFACE	LIGHT TAN	" "	SAMPLE TAKEN FROM DRY RILL.					
S-83	24+00N 4+00W	↘	" "	TALUS FINEST GLACIAL TILL	A-B 4"-6"	BROWN	" "	SOIL HORIZON EXHIBITS DISTINCTIVE HUMUS HORIZ - 2" THICK.					
S-84	24+00N 2+00W	↘	" "	" "	" "	" "	" "	" "					
S-85	BASELINE 24+00N	↘	" "	MAINLY GLACIAL TILL.	" "	BROWN	FINE	SOIL CONTAINS VERY LITTLE TALUS FRAG. SOME ORG. MATERIAL.					
S-86	BASELINE 22+00N	↘	" "	" "	" "	" "	" "	SOIL HORIZON NOT DISTINCTIVE. SOME TALUS ALASKITE MIXED IN SOIL.					
S-87	BASELINE 20+00N	↘	" "	GLACIAL FILL AND TALUS.	" "	" "	FINE - COARSE	A HORIZON SHOWS A DISTINCTIVE HUMUS ZONE 3" THICK.					
S-88	20+00N 2+00W	↘	" "	" "	" "	" "	" "	DISTINCTIVE HUMUS ZONE 3" THICK. TALUS MIXED WITH SOIL.					
S-89	20+00N 2+00W	↘	" "	" "	" "	" "	" "	NO DISTINCTIVE HORIZONS. SOME ORG. IN SAMPLE.					
S-90	20+00N 2+00E	↘	" "	" "	" "	" "	" "	SAMPLE TAKEN ON SMALL TERRACE. BOULDERS AND ROCKS BELOW 6" DEPTH.					

CANADIAN JOHNS-M'VILLE Co. Ltd.

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GEOCHEMICAL SOIL SURVEY DATA

COLLECTOR: CLIVE ASPINALL

AREA: Boulder Creek, ATLIN M.D.

DATE: 23-7-70, 27-7-70

PROJECT: 60

LOCATION REF.: SURPRISE LAKE 104N/11W/2

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
s-91	18+00N 2+00E	↘	MOUNTAINOUS	SEEP SAMPLE	SURFACE	LIGHT TAN-BROWN	FINE-COARSE	SAMPLE TAKEN FROM ACTIVE SPRING SEEP.					
s-92	20+00N 4+00E	→	" "	GLACIAL TILL WITH TALUS	?	BROWN	FINE	SAMPLE TAKEN FROM GOPHER HOLE FILL.					
s-94	20+00N 6+00E	←	" "	GLACIAL GOOD DEAL TALUS.	A-B 4"-6"	BROWN LIGHT TAN	FINE-COARSE	SAMPLE TAKEN FROM DRAINAGE COURSE BUT NOT DISTINGUISHABLE FILL					
s-95	20+00N 8+00E	←	" "	GLACIAL TILL WITH TALUS.	A-B 4"-6"	BROWN	" "	SAMPLE WITH TALUS. TALUS CONSISTS OF ALASKITE FRAGMENTS					
s-96	20+00N 10+00E	←	" "	" "	" "	" "	" "	A HORIZ HAS DISTINGUISHABLE HOMOZ ZONE 1" THICK.					
s-97	24+00N 10+00E	←	" "	" "	" ? "	" "	" "	SAMPLE TAKEN FROM GOPHER HOLE FILL, AND NOT SURE WHAT HORIZ.					
s-98	24+00N 7+00E	←	" "	" "	A-B 4"-6"	" "	" "	NO DEFINITE HORIZ					
s-100	24+00N 6+00E	↘	" "	" "	" "	" "	" "	" " " "					
s-101	24+00N 4+00E	↘	" "	" "	" "	" "	" "	" " " "					
s-102	24+00N 2+00E	↘	" "	" "	" "	" "	" "	" " " "					
s-103	16+00N	↘	" "	" "	" "	" "	" "	" " " "					
s-104	18+00N	↘	" "	" "	" "	" "	" "	NO DEFINITE HORIZ: BELOW 6" BOULDERS & FRAGMENTS.					
s-105	16+00N 2+00W	↘	" "	" "	" "	" "	" "	NO DEFINITE SOIL HORIZ:					
s-106	16+00N 4+00W	↘	" "	" "	" "	" "	" "	NO DEFINITE SOIL HORIZ: SCATTERED FRAGMENTS OF ALASKITE.					
s-107	16+00N 6+00W	↘	" "	" "	" "	" "	" "	NO SOIL HORIZONS. SAMPLE TAKEN BETWEEN 3 BOULDERS OF ALASKITE.					

CANADIAN JOHNS-ANVILLE Co. Ltd.

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GEOCHEMICAL SOIL SURVEY DATA

COLLECTOR: CLIVE ASPINALL

AREA: BOULDER CREEK, ATLIN M.D.

DATE: 27-7-70

PROJECT: 60

LOCATION REF.: SURPRISE LAKE 104N/11W 1/2.

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
Xs-108	16+00N 7+90W	↘	MOUNTAINOUS	GLACIAL TILL AND TALUS.	?	BROWN	FINE - COARSE	SAMPLE TAKEN FROM SMALL TERRACE + GOPHERHOLE FILL.					
Xs-109	16+00N 10+20W	↘	"	"	A-B 5"-6"	"	"	SLOPE OF HILL = 23° NO DISTINCTIVE SOIL HORIZ.					
Xs-110	12+00N 10+00W	↘	"	"	"	BROWN.	"	SOME ORG. MATTER. NO DEFINITE SOIL HORIZ.					
Xs-111	12+00N 8+00W	↘	"	"	"	"	"	"					
Xs-112	12+00N 6+20W	↘	"	"	?	BROWN	"	"					
XSP-113	12+00N 5+90W	↘	"	SEEP	SURFACE	"	"	SEEP SAMPLE. ACTIVE RUSTED TALUS FRAG. ORG. MATTER					
Xs-114	12+00N 4+00W	↘	"	GLACIAL TILL	A-B 4"-6"	CHOCOLATE BROWN	FINE- COARSE	NO DEFINITE SOIL HORIZ.					
Xs-115	12+00N 2+00W	↘	"	"	"	"	"	"					
Xs-116	12+00N	↘	"	"	"	RUSTED BROWN TO CHOCOLATE BROWN	"	1° TWO HORIZ: DISTINCTIVE CHOC: BROWN RUSTED BROWN					
Xs-117	14+00N	↘	"	GLACIAL TILL AND TALUS	"	"	"	NO DEFINITE SOIL HORIZ: SOIL COLOURS MIXED. SOME ORG. MATTER					
Xs-118	16+00N 2+00E	↘	"	"	"	"	"	"					
Xs-120	16+00N 5+20E	↙	"	"	"	CHOC: BROWN LIGHT BROWN	"	CHOC: BROWN LIGHT BROWN } 6"					
Xs-121	16+00N 6+00E	↙	"	"	"	PARKER LIGHT BR	"	TWO DISTINCTIVE SOIL COLOURS.					
Xs-122	16+00N 8+00E	↙	"	"	"	"	"	PARKER WITH ORG. MATTER LIGHT BR WITH TALUS } 6"					
Xs-123	16+00N 10+00E	↙	"	"	"	"	"	"					

CANADIAN JOHNS-MANVILLE Co. Ltd.

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GEOCHEMICAL SOIL SURVEY DATA

COLLECTOR: Clive Aspinall

AREA: Boulder Creek, ATLIN M.D.

DATE: 27-7-70, 28-7-70

PROJECT: 60

LOCATION REF.: SURPRISE LAKE 104N/11W 1/2

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS					
Xs-124	12+00 N 10+00 E	←	MOUNTAINOUS	GLACIAL TILL + TALUS	A-B 4"-6"	LIGHT BROWN SOIL	FINE	ALPINE GRASS MAT LIGHT BROWN SOIL WITH TALUS	} 6"					
Xs-125	12+00 N 18+00 E	←	"	"	A-B 6"-8"	DARK BRO WN SOIL	FINE, SOME PEBBLES	ALPINE GRASS MAT DARK BROWN SOIL ROCKS + BOULDER		} 8"				
Xs-126	12+00 N 6+00 E	←	"	"	A-B 4"-6"	BROWN SOIL LIGHT BROWN SOIL	FINE	SAMPLE CONSISTED OF LIGHT BROWN SOIL						
Xs-127	12+00 N 4+40 E	←	"	"	A-B 4"-6"	LIGHT CHOC. BROWN COLORED SOIL	FINE	NO DISTINGUISHABLE A-B- C- HORIZON.						
Xs-129	12+00 N 2+00 E	↘	"	"	"	DARK BROWN S.T. WITH LIGHT TAN TALUS	FINE	NO DISTINGUISHABLE A+B HORIZON.						
Xs-130	10+00 N	↘	"	"	"	"	"	NOT MUCH TALUS FRAG. IN SAMPLE.						
Xs-131	8+00 N	↘	"	GLACIAL FILL	"	BROWN	"	VEGETATION MAT ROOTS OF SOIL BROWN SOIL	} 4"					
Xs-132	8+00 N 2+00 W	↘	"	"	"	"	"	BELOW 4" BOULDER ARE CONC. NOT POSSIBLE TO TAKE SAMPLE.						
Xs-133	8+00 N 4+00 W	↘	"	"	A-B 6"	"	"	BELOW 6" BOULDER ARE CONC.						
Xs-134	8+00 N 6+00 W	↘	"	"	A-B 6"	"	"	VEG. MAT BROWN SOIL LIGHT BROWN SOIL	} 6"					
Xs-135	8+00 N 8+00 W	↘	"	LIGHT BROWN GLACIAL TILL WITH ALASKITE FRAG.	A-B 6"	"	FINE- COARSE	NO DISTINCTIVE SOIL HORIZ						
Xs-136	8+00 N 10+00 W	↘	"	GLACIAL TILL + TALUS	A-B 6"	"	"	"						
Xs-137	4+00 N 10+00 W	↘	"	"	"	CHOCOLATE BROWN	"	"						
Xs-138	4+00 N 8+00 W	↘	"	"	"	Brown	"	"						
Xs-139	4+00 N 6+00 W	↘	"	"	"	"	"	MUCH ORG. MATERIAL IN SAMPLE						

CANADIAN JOHNS-MANVILLE Co. Ltd.

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GEOCHEMICAL SOIL SURVEY DATA

COLLECTOR: Clive Aspinall

AREA: Boulder Creek, ATLIN M.T.

DATE: 27-7-70, 28-7-70

PROJECT: 60

LOCATION REF.: SURPRISE LAKE 104N/11W/2

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
Xs-140	4+00N 400W	↘	MOUNTAINOUS	GLACIAL TILL + TALUS	A-B 6"	BROWN	FINE COARSE	VEG. MAT BE: SOIL + ROOTS BROWN SOIL } 6"					
Xs-141	4+00N 2+00W	↘	" "	" "	" "	" "	" "	SAMPLE TAKEN IN THICK WILLOW AREA.					
Xs-142	4+00N 1400W	→	" "	SAND (SEEP)	SURFACE	LIGHT BROWN	Fine	FINE GRAINED TO MED GRAINED SAND + ALASKITE FRAG.					
Xs-143	4+00N	↘	" "	glacial Till	A-B 6"	Brown	Fine	NO definite soil Horiz: TAKEN NEAR SEEP					
Xs-144	6+00N	↘	" "	" "	B. Horiz	LIGHT BROWN	FINE - COARSE	SAMPLE TAKEN FROM 'B' HORIZ: BELOW DARK BROWN ZONE					
Xs-146	8+00N 4+00E	↘	" "	Mainly Talus	A-B 4-6"	TAN Light GREY	COARSE	COARSE GRAINED ALASKITE TALUS					
Xs-147	8+00N 6+00E	↙	" "	GLACIAL TILL + TALUS	A-B 4-6"	BROWN	FINE - COARSE	NO Distinguishing FEATURES BETWEEN A+B HORIZ					
Xs-148	8+00N 8+00E	↙	" "	" "	" "	" "	" "	" "					
Xs-149	8+00N 10+00E	↙	" "	" "	" "	" "	" "	NO VEGETATION MAT ON SURFACE.					
Xs-150	4+00N 10+00E	↙	" "	" "	" "	" "	VERY COARSE	Mainly BROWN TALUS MIXED WITH SOME SOIL					
Xs-151	4+00N 8+00E	↙	" "	" "	" "	BROWN	FINE.	SAMPLE TAKEN FROM LIGHT BROWN SOIL UNDER DARK BROWN SOIL					
Xs-152	4+00N 6+00E	↙	" "	" "	" "	" "	FINE COARSE	NO DEFINITE HORIZONS					
Xs-153	4+00N 4+00E	↙	" "	" "	" "	" "	" "	" "					
Xs-154	4+00N 2+00E	↙	" "	" "	" "	" "	" "	" "					
Xs-155	2+00N	↘	" "	" "	" "	" "	" "	" "					

CANADIAN JOHNS-MANVILLE Co. Ltd.

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GEOCHEMICAL SOIL SURVEY DATA

COLLECTOR: Clive Aspinall

AREA: Boulder Creek, ATLIN M. 17.

DATE: 29-7-70

PROJECT: 60

LOCATION REF.: SURPRISE LAKE 104N/11W/2

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
Xs-156	0+00 10+00E	←	MOUNTAINOUS	GLACIAL TILL WITH TALUS	A-B 6"	LIGHT BROWN	FINE COARSE	SAMPLE TAKEN FROM LIGHT BROWN SOIL					
Xs-157	0+00 8+00E	←	" "	" "	" "	" "	" "	" "					
Xs-158	0+00 6+00E	←	" "	" "	" "	" "	" "	" "					
Xs-159	0+00 4+00E	←	" "	" "	" "	" "	" "	" "					
Xs-160	0+00 2+00E	←	" "	" "	" "	" "	" "	" "					
Xs-162	0+00	↘	" "	GLACIAL TILL + TALUS	?	" "	" "	SAMPLE TAKEN FROM Gopher hole fill fill					
Xs-163	0+00 2+00W	↘	" "	" "	A-B 6"	" "	" "	NO DISTINCTIVE SOIL HORIZ					
Xs-164	0+00 4+00W	←	" "	" "	" "	" "	" "	" "					
Xs-165	0+00 6+00W	↓	" "	" "	" "	" "	" "	" "					
Xs-166	0+00 7+00W	←	" "	" "	" "	" "	" "	" "					
Xs-167	0+00 8+00W	←	" "	" "	" "	" "	" "	" "					
Xs-168	0+00 10+00W	←	" "	" "	" "	" "	" "	" "					

CANADIAN JOHNS-M'VILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

 COLLECTOR: MR. P. NICHOLSON

 AREA: BOULDER CREEK, ATLIN M.D., B.C.

 DATE: JULY 28, 1970

PROJECT: _____

LOCATION REF.: _____

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
CS-171	28+00N 6+00E	→	MOUNTAINSIDE	G.T.	HOLE 8"	BROWN	FINE-MEDIUM	NO BLACK SOIL. ORGANIC QUITE CONSIDERABLE.					
CS-172	28+00N 4+00E	→	"	G.T.	HOLE 7"	BROWN	FINE-MEDIUM	NO BLACK SOIL. NO B.B. JUST ALPINE GRASS. ORGANIC WAS SLIGHT.					
CS-173	28+00N 2+00E	→	"	G.T.	HOLE 6"	BROWN	FINE-MEDIUM	NO BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
CS-174	28+00N 2+00W	→	"	G.T.	HOLE 7"	BLACK-BROWN	FINE-MEDIUM	2" BLACKISH BROWN SOIL, THEN 2" BROWN, THEN SOFT BLACK ORGANIC WAS SLIGHT.					
CS-175	28+00N 4+00W	↘	"	G.T.	HOLE 5"	BROWN	FINE-MEDIUM	VERY THIN LAYER OF BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
CS-176	28+00N 6+00W	↘	"	G.T.	HOLE 5-6"	BROWN	FINE-MEDIUM	VERY THIN LAYER OF BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
CS-177	28+00N 8+00W	↘	"	G.T.	HOLE 7-8"	BROWN	FINE-MEDIUM	NO BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
CS-178	28+00N 10+00W	→	"	G.T.	HOLE 6"	BROWN	FINE-MEDIUM	1" BLACK SOIL. NO B.B. ORGANIC WAS SLIGHT.					
XR-179	30+00N 9+00W	↘	"	G.T.	HOLE 6"	BROWN	FINE-COARSE	FROM RILL. ORGANIC WAS SLIGHT.					
CS-180	50+00N ⊕	↘	"	G.T.	HOLE 6"	DARK BROWN	FINE-MEDIUM	NO BLACK SOIL. ORGANIC WAS SLIGHT.					
CS-181	48+00N ⊕	→	"	G.T.	HOLE 6"	BROWN	FINE-MEDIUM	VERY THIN LAYER OF BLACK SOIL. ORGANIC WAS SLIGHT.					
CS-182	46+00N ⊕	→	"	G.T.	HOLE 6"	BROWN	FINE-COARSE	VERY THIN LAYER OF BLACK SOIL. ORGANIC WAS SLIGHT.					
CS-183	44+00N ⊕	→	"	G.T.	HOLE 7"	BROWN	FINE-MEDIUM	VERY THIN LAYER OF BLACK SOIL. ORGANIC WAS SLIGHT.					
CS-184	42+00N ⊕	→	"	G.T.	HOLE 6"	GREY-BUCKSKIN	FINE-MEDIUM	2-3" BLACK SOIL THEN GREY-BUCKSKIN. PROBABLY OLD SERP. ORGANIC WAS SLIGHT.					
CS-185	40+00N ⊕	↘	"	G.T.	HOLE 6"	BROWN	FINE-MEDIUM	NO BLACK SOIL. ORGANIC WAS SLIGHT.					

CANADIAN JOHNS-M'INVILLE Co. Ltd.

GEOCHEMICAL SOIL SURVEY DATA

COLLECTOR: MR. P. NICHOLSON

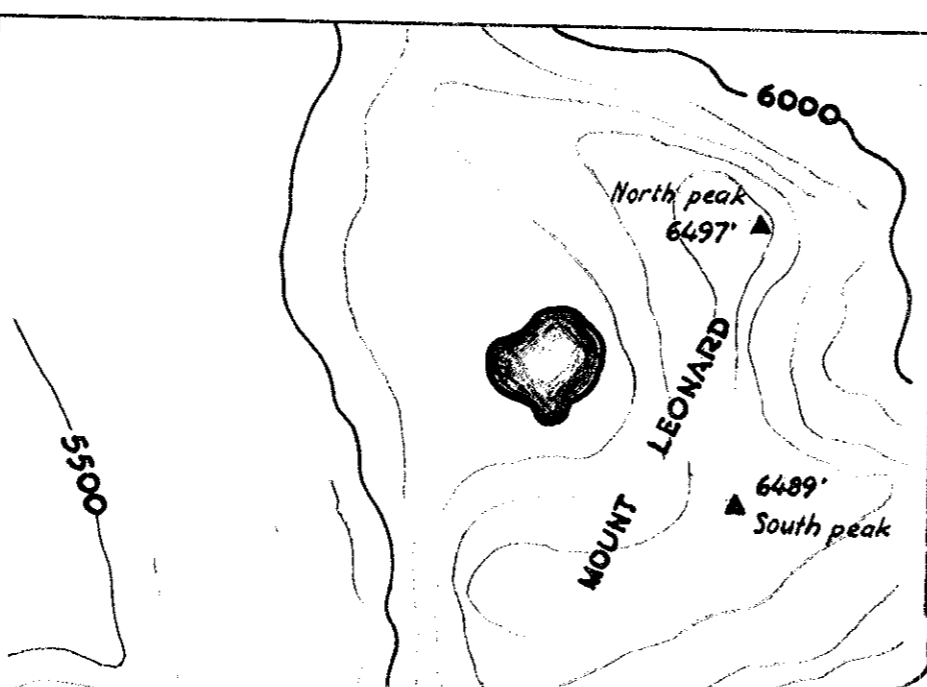
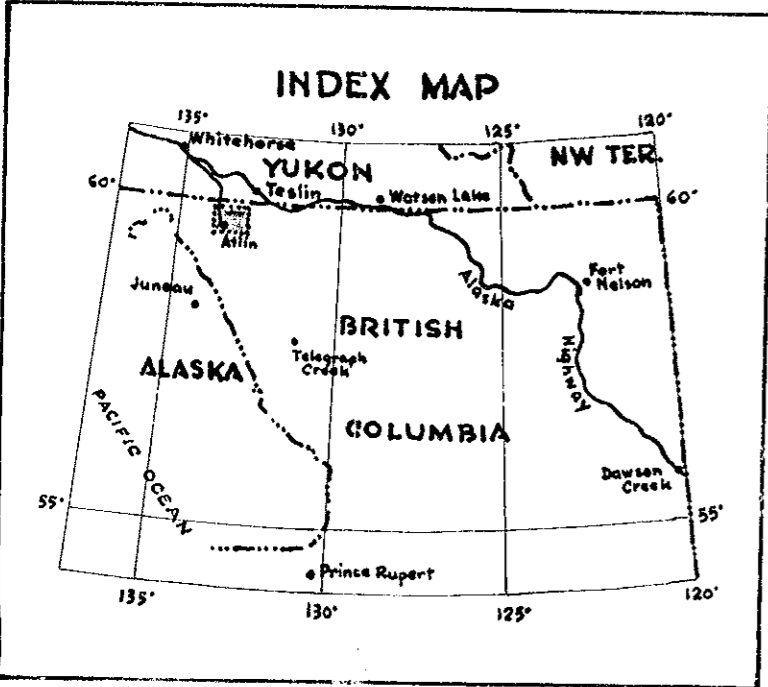
AREA: BOWLER CREEK, ATLIN M.D., B.C.

DATE: JULY 28, 1970

PROJECT: _____

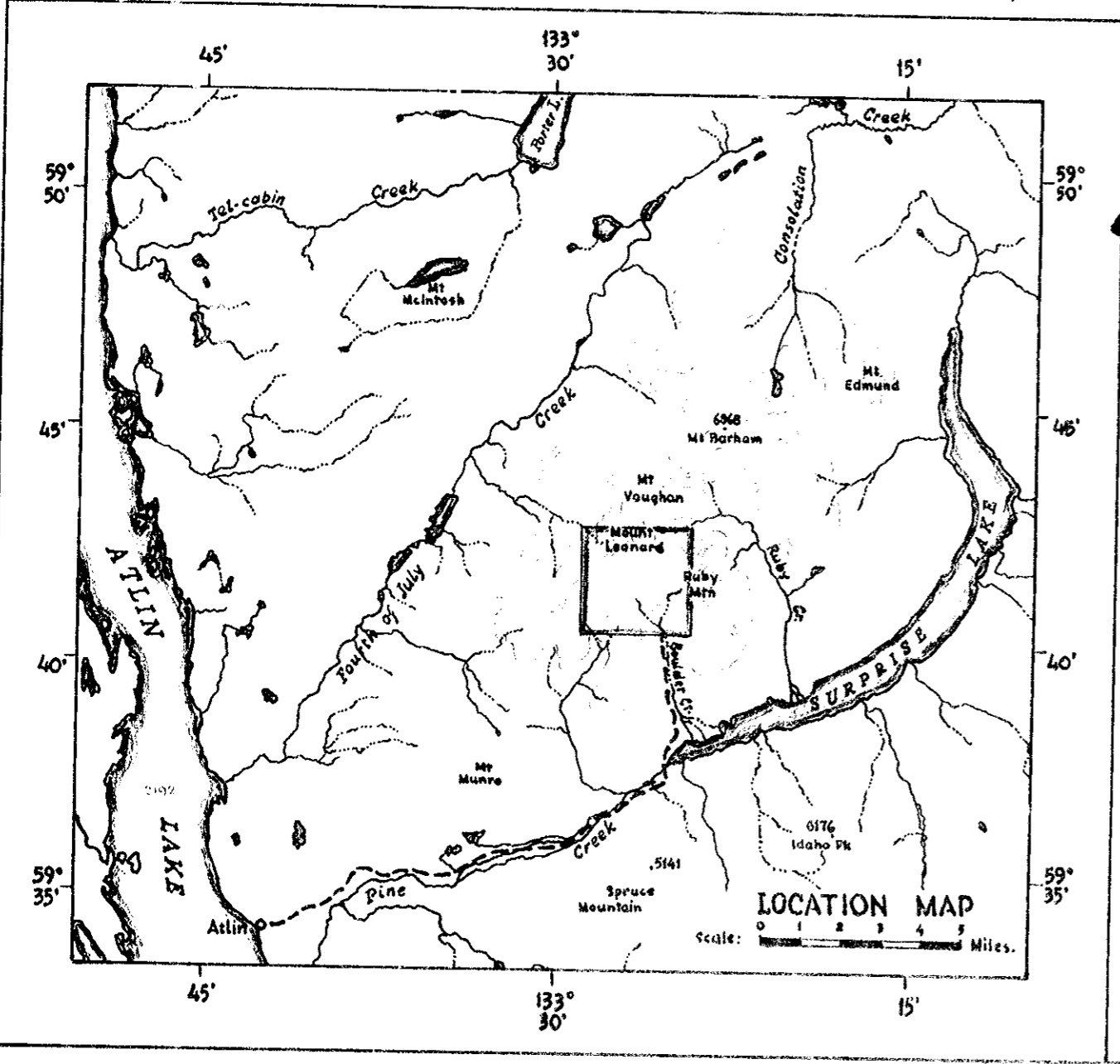
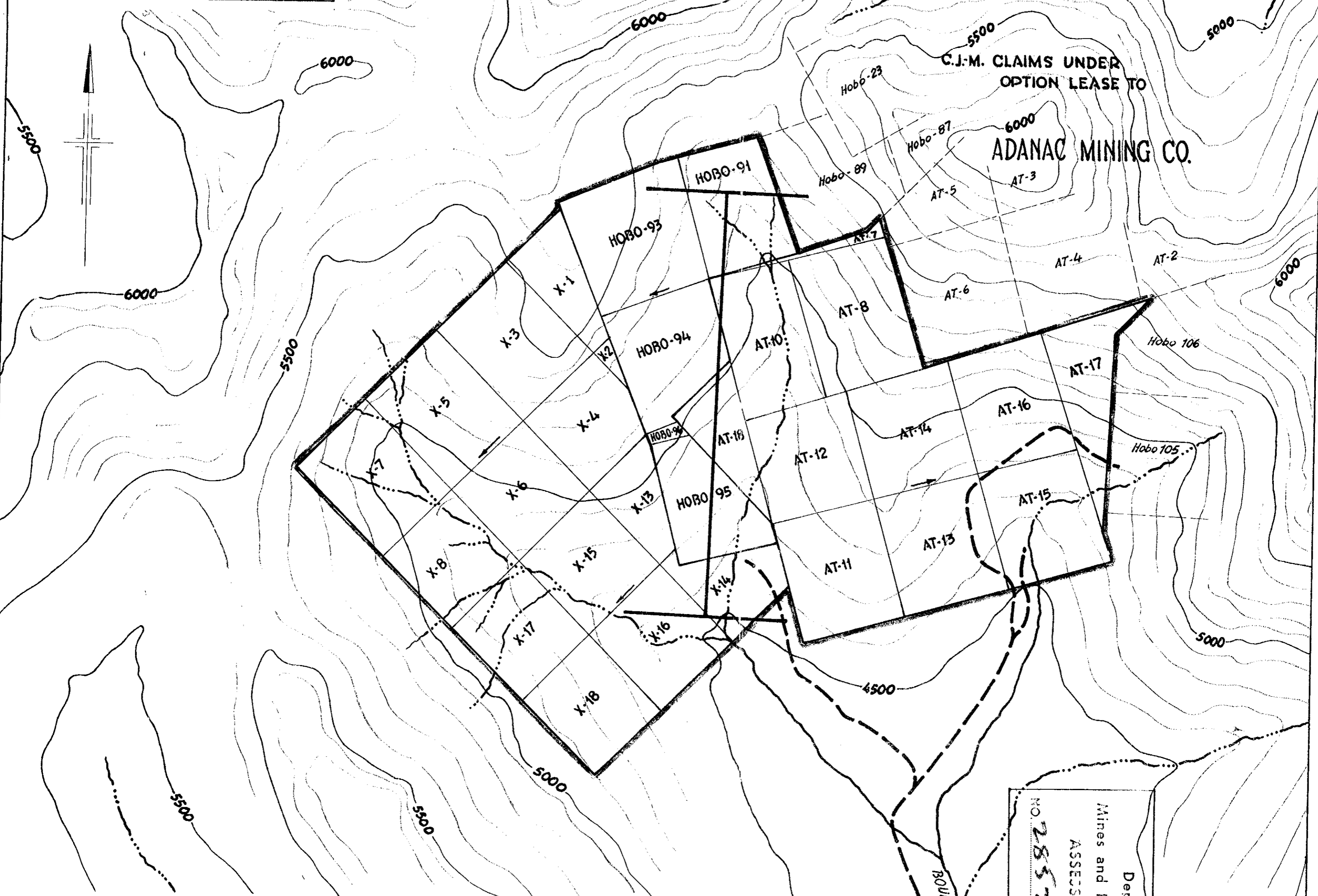
LOCATION REF.: _____

SAMPLE NO.	LOCATION	DRAINAGE SLOPE	PHYSIOGRAPHY	SOIL TYPE	HORIZON & DEPTH	COLOUR	TEXTURE	REMARKS	ANALYTICAL RESULTS				
X _s -186	38+00N E	→	MOUNTAIN SIDE	G.T.	HOLE 67"	BROWN	FINE-COARSE	NO BLACK SOIL. COARSE ALASKITE CHIPS IN SOIL. ORGANIC WAS SLIGHT.					
X _s -187	36+00N E	→	"	G.T.	HOLE 6"	BROWN	FINE-COARSE	VERY THIN BLACK SOIL. NO. BB. ORGANIC WAS SLIGHT.					
X _s -188	34+00N E	→	"	G.T.	HOLE 4"	BROWN	FINE-MEDIUM	BAUD SPOT. ORGANIC WAS VERY SLIGHT.					
X _s -189	32+00N E	→	"	G.T.	HOLE 56"	BROWN	FINE-COARSE	NO BLACK SOIL. ORGANIC WAS SLIGHT.					
X _s -190	30+00N E	→	"	G.T.	HOLE 67"	BROWN	FINE-COARSE	NO BLACK SOIL. ORGANIC WAS SLIGHT.					
X _s -191	28+00N E	→	"	G.T.	HOLE 56"	BROWN	FINE-MEDIUM	NO BLACK SOIL. ORGANIC WAS SLIGHT.					
X _s -192	26+00N E.	→	"	G.T.	HOLE 6"	BROWN	FINE-MEDIUM	NO BLACK SOIL. ORGANIC WAS SLIGHT.					



LEGEND

- Claim boundary.
- Staking direction.
- Elevation contour.
- Creek & dry creek.
- Access road.
- Base line of geochemical survey.



2852

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2852 MAP 41

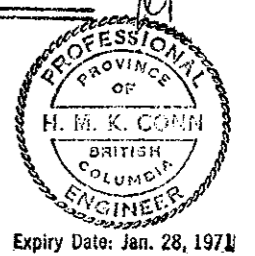
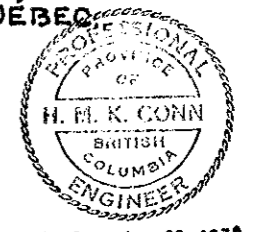
M-1

CANADIAN JOHNS-MANVILLE CO., LTD.
EXPLORATION DEPT. ASBESTOS, QUÉBEC

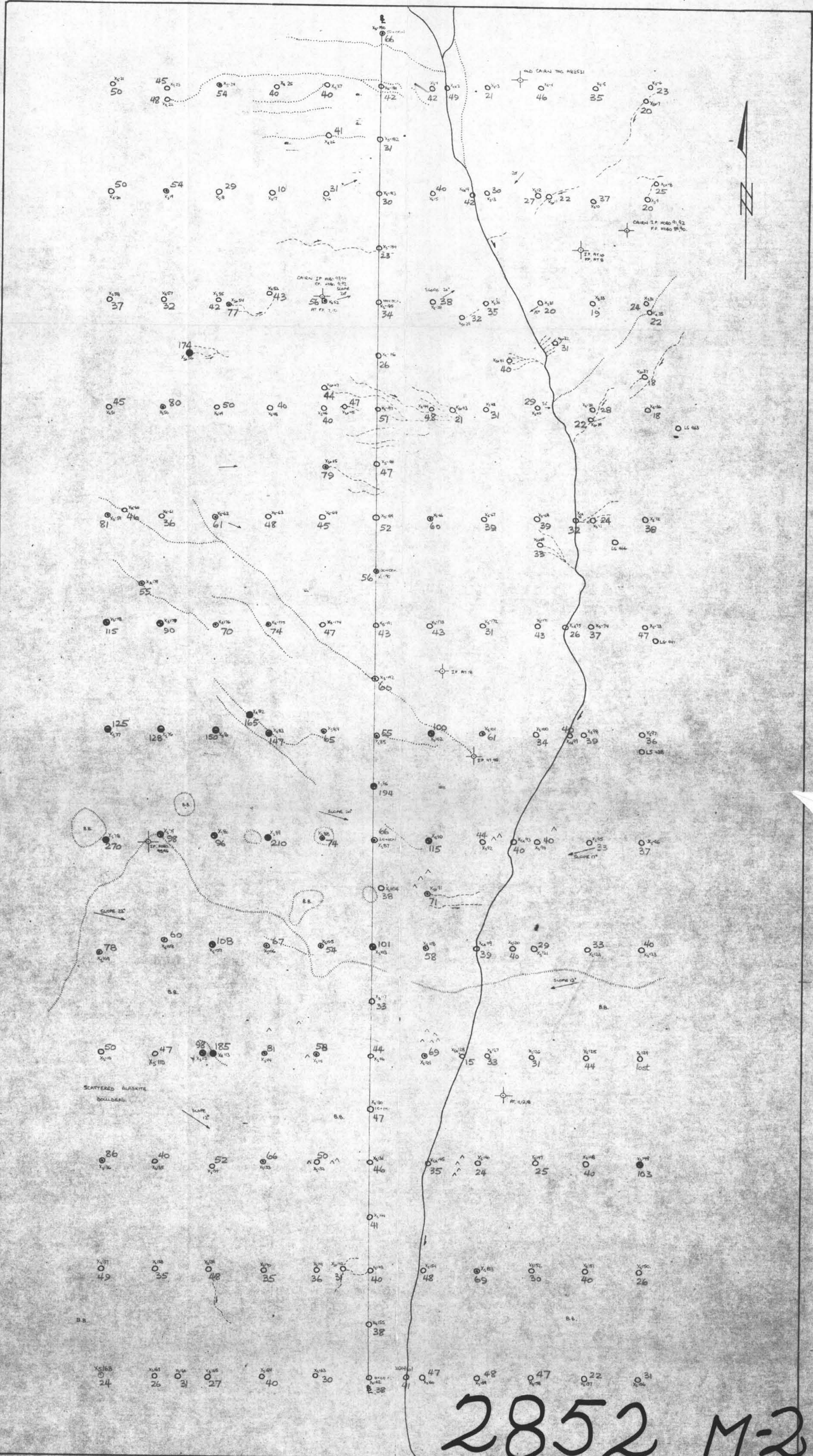
PROPERTY PLAN
BOULDER CREEK CLAIMS
PROJECT 60

ATLIN MINING DIVISION — B. C.

To accompany Geochemical Report by H.K. Conn,
& C.P. Lin on Mineral Claims: Hobo 91, 93-96, AT 7, 8,
10-18, X 1-8, 13-18, for Assessment Work on Property.



SCALE: 1"=1000' C.P. Lin & A. Therrien. DATE: JAN. 1971.



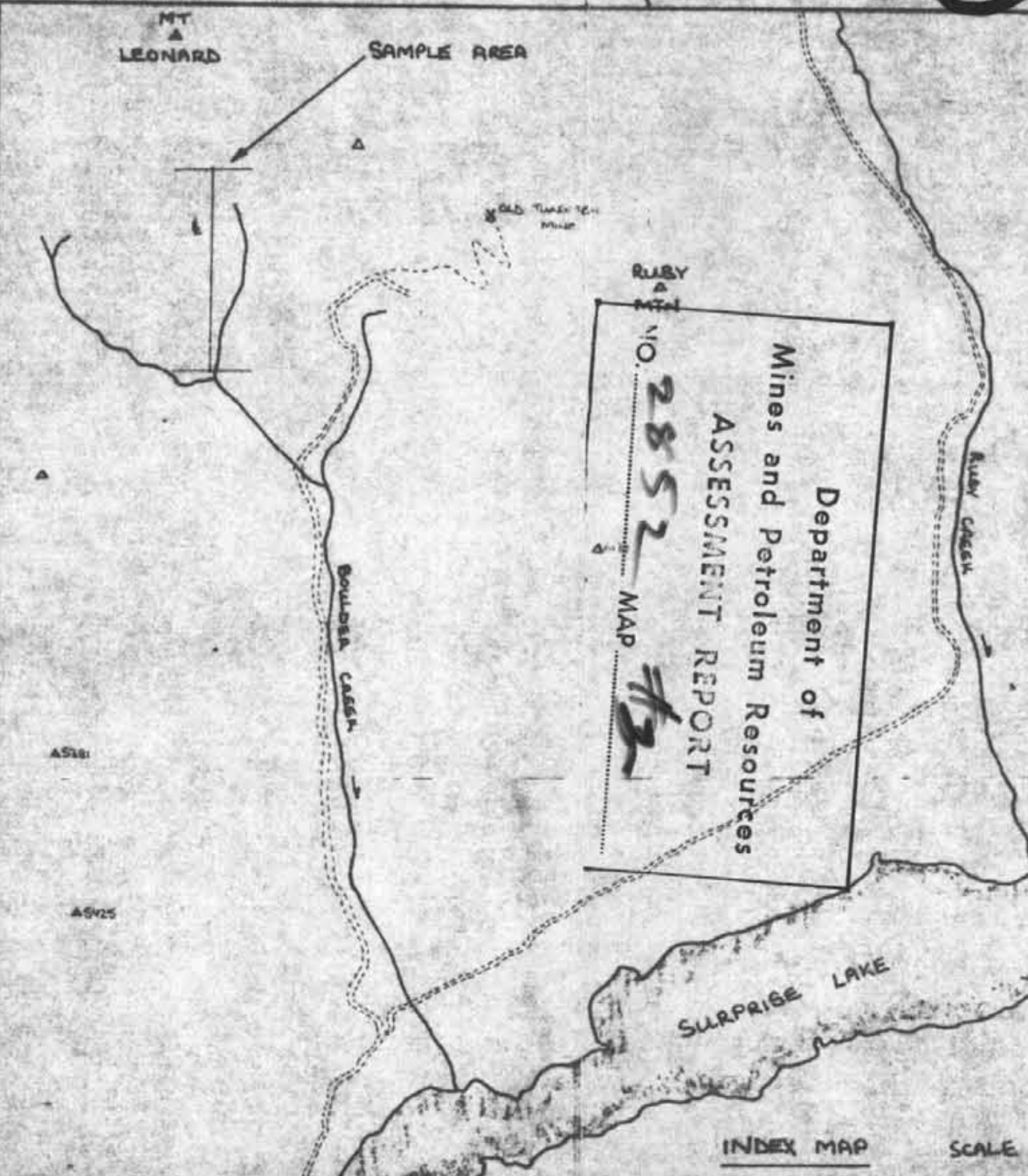
2852 M-2

SYMBOLS:

- CLAIMPOSTS
- SOIL SAMPLE LOCATIONS (AND NUMBERS)
- STREAM
- SEEP
- RILL
- BUCKBRUSH
- BUCKBRUSH BOUNDARY
- CONIFEROUS TREES

$\bar{x} = 52.1$
 $s = 36.3$

○ Negative	0 - 52
⊙ Poss. Anom.	53 - 88
⊕ Prob. Anom.	89 - 124
● Anomalous	125 - 160
● Highly Anom.	161+



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
2852 MAP 72

PROVINCE OF
H. M. K. CONN
BRITISH COLUMBIA
ENGINEER

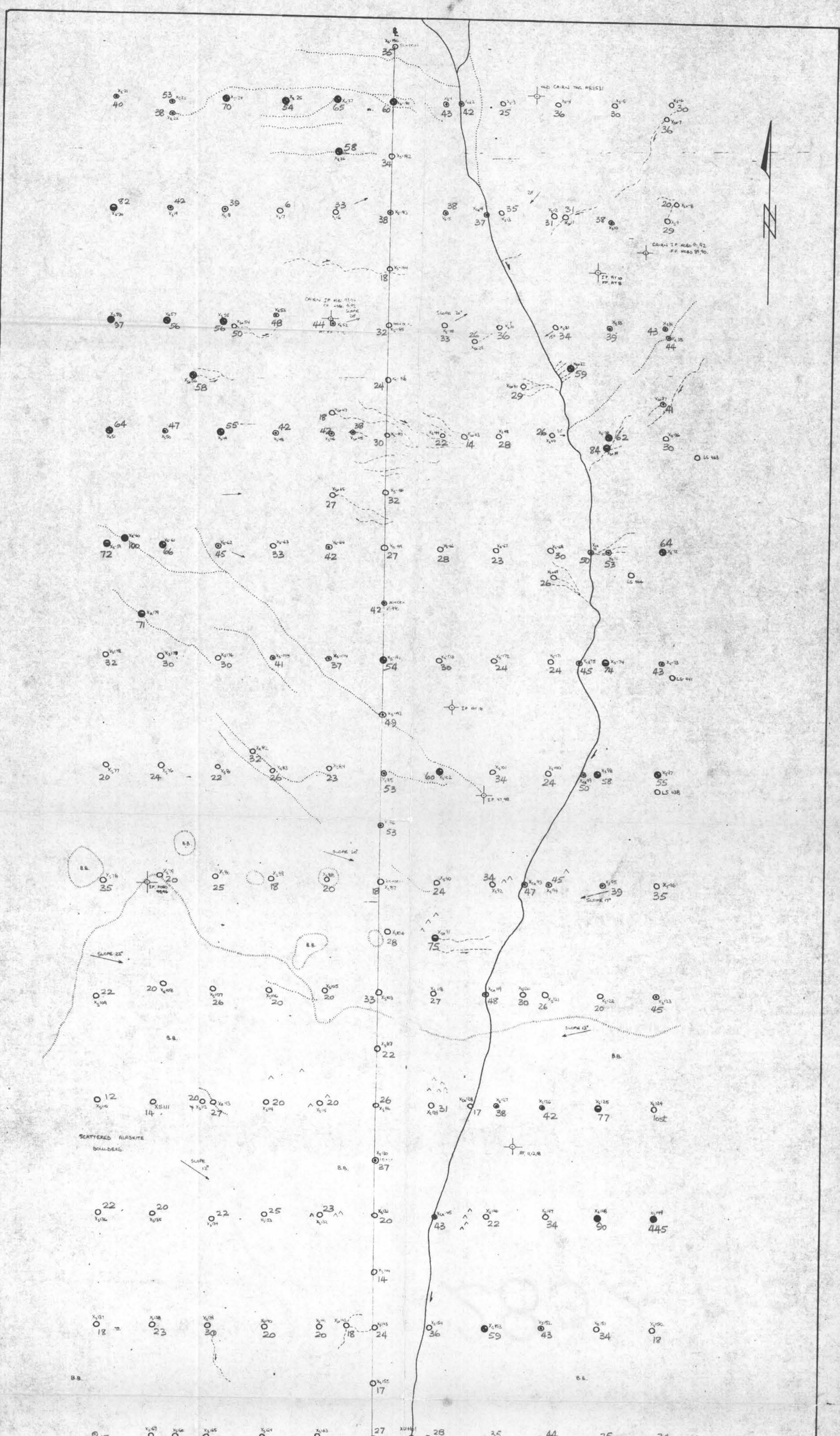
PROF. H. M. K. CONN
BRITISH COLUMBIA
ENGINEER

20-450
Expiry Date: Jan. 28, 1972
Expiry Date: Jan. 28, 1972

CANADIAN JOHNS-MANVILLE Co. LTD.
ATLIN M.D., BRITISH COLUMBIA.

BOULDER CREEK 1970 SAMPLING PROGRAM.
ATLIN M.D., B.C.

SCALE 1" = 200' PLOT: 60 DATE: 6/6/74 DRAWN: P.M.



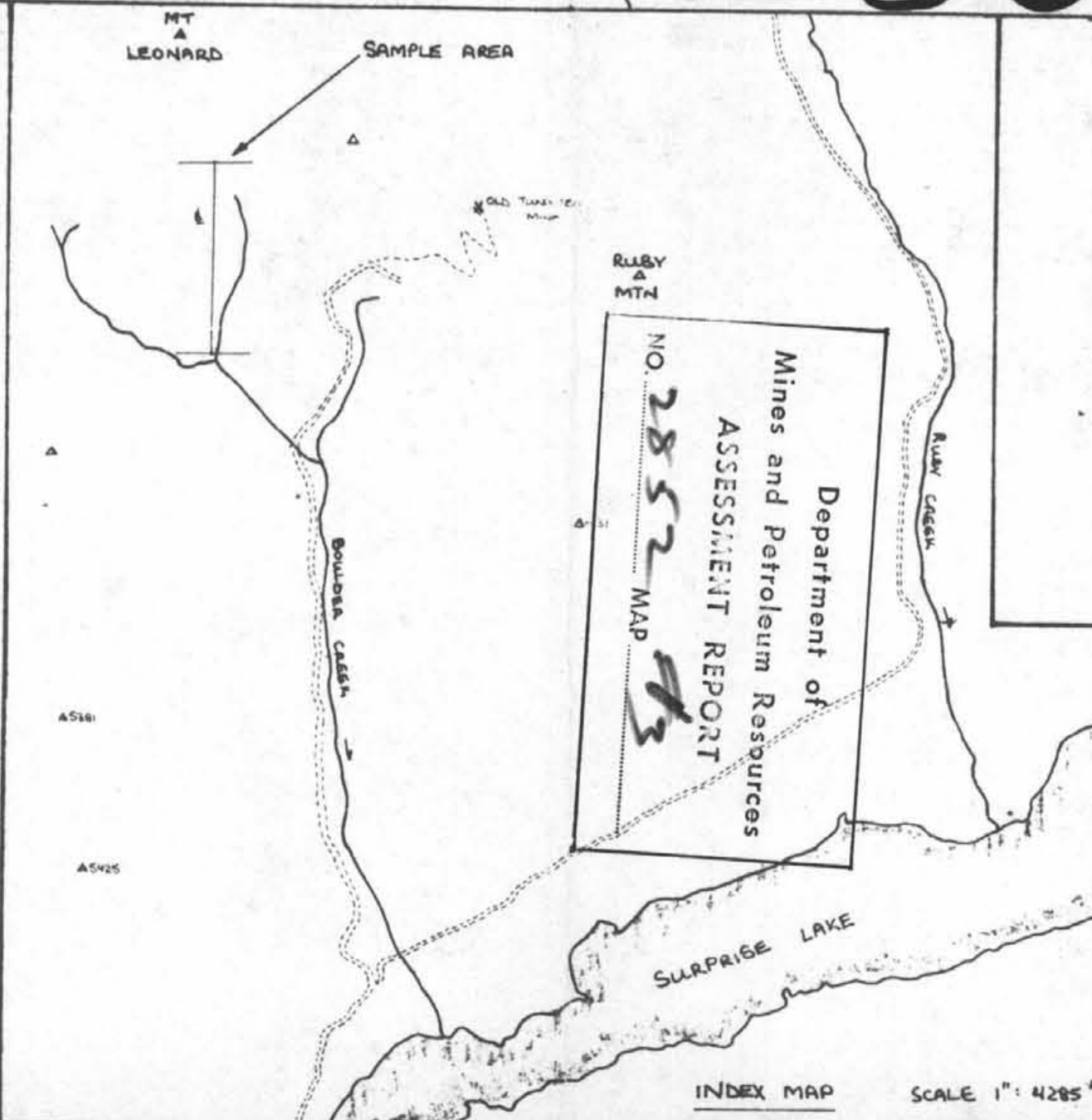
2852 M-3

SYMBOLS:

- CLAIMPOSTS
- SOIL SAMPLE LOCATIONS (AND NUMBERS)
- STREAM
- SEEP
- RILL
- BUCKBRAUSH
- BUCKBRAUSH BOUNDARY
- CONIFEROUS TREES

$\bar{x} = 36.4$
 $s = 17.0$

○ Negative	0 - 36
⊙ Poss. Anom.	37 - 53
⊗ Prob. Anom.	54 - 70
⊖ Anomalous	71 - 87
● Highly Anom.	88+



PROFESSIONAL ENGINEER
H. M. K. GONN
BRITISH COLUMBIA
EXPIRY DATE: JAN. 28, 1978

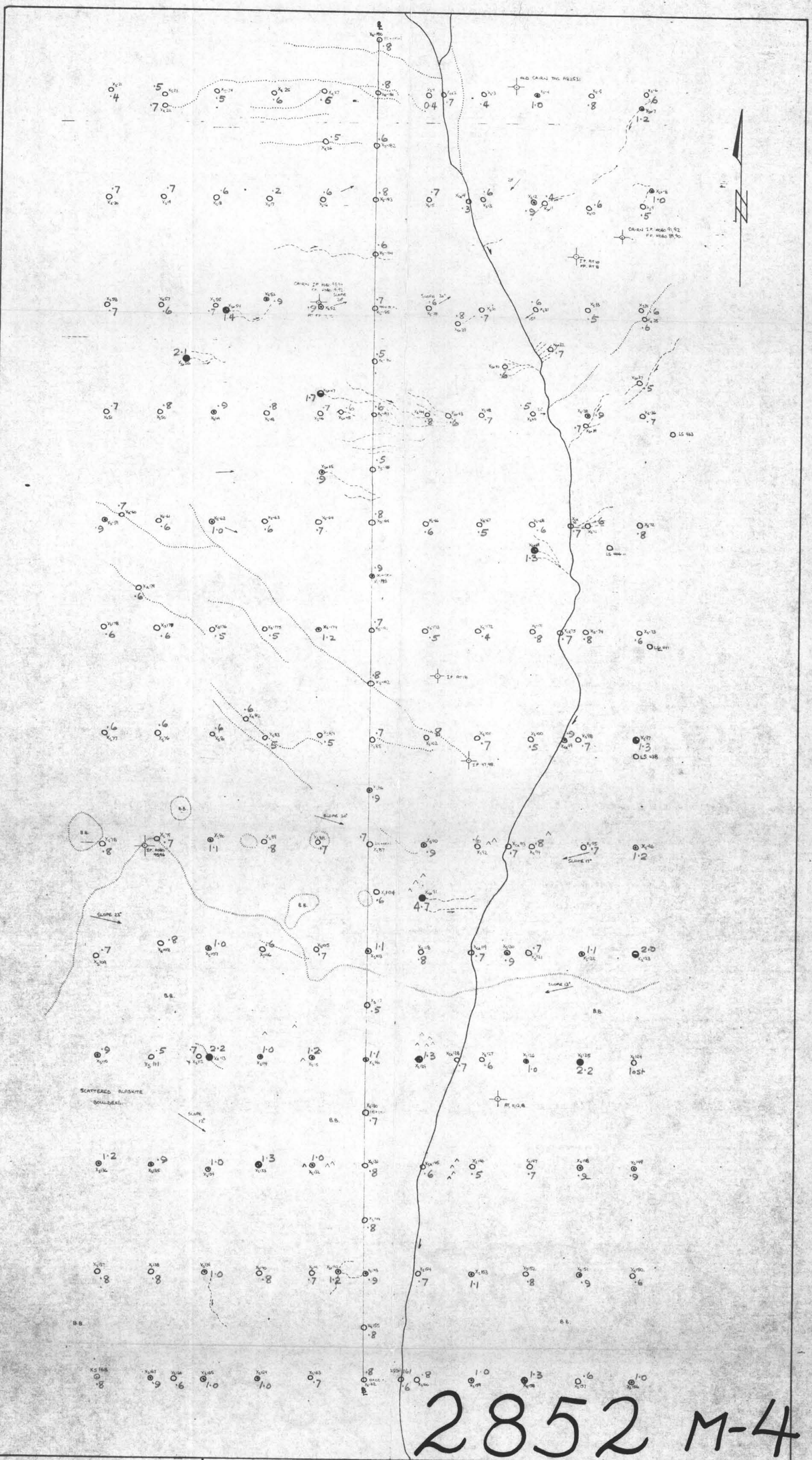
Cu
20-450
2001

PROFESSIONAL ENGINEER
M. K. GONN
BRITISH COLUMBIA
EXPIRY DATE: JAN. 28, 1978

CANADIAN JOHNS-MANVILLE Co. LTD.
ATLIN M.D., BRITISH COLUMBIA.
BOULDER CREEK 1970 SAMPLING PROGRAM.
ATLIN M.D., B.C.

SCALE 1" = 200' PMS: 60 DATE: 6/8/76 DRAWN: P.N.

SOIL SAMPLES X1-167, X171-192 COLLECTED BY C. ASPINALL AND P. NICHOLSON



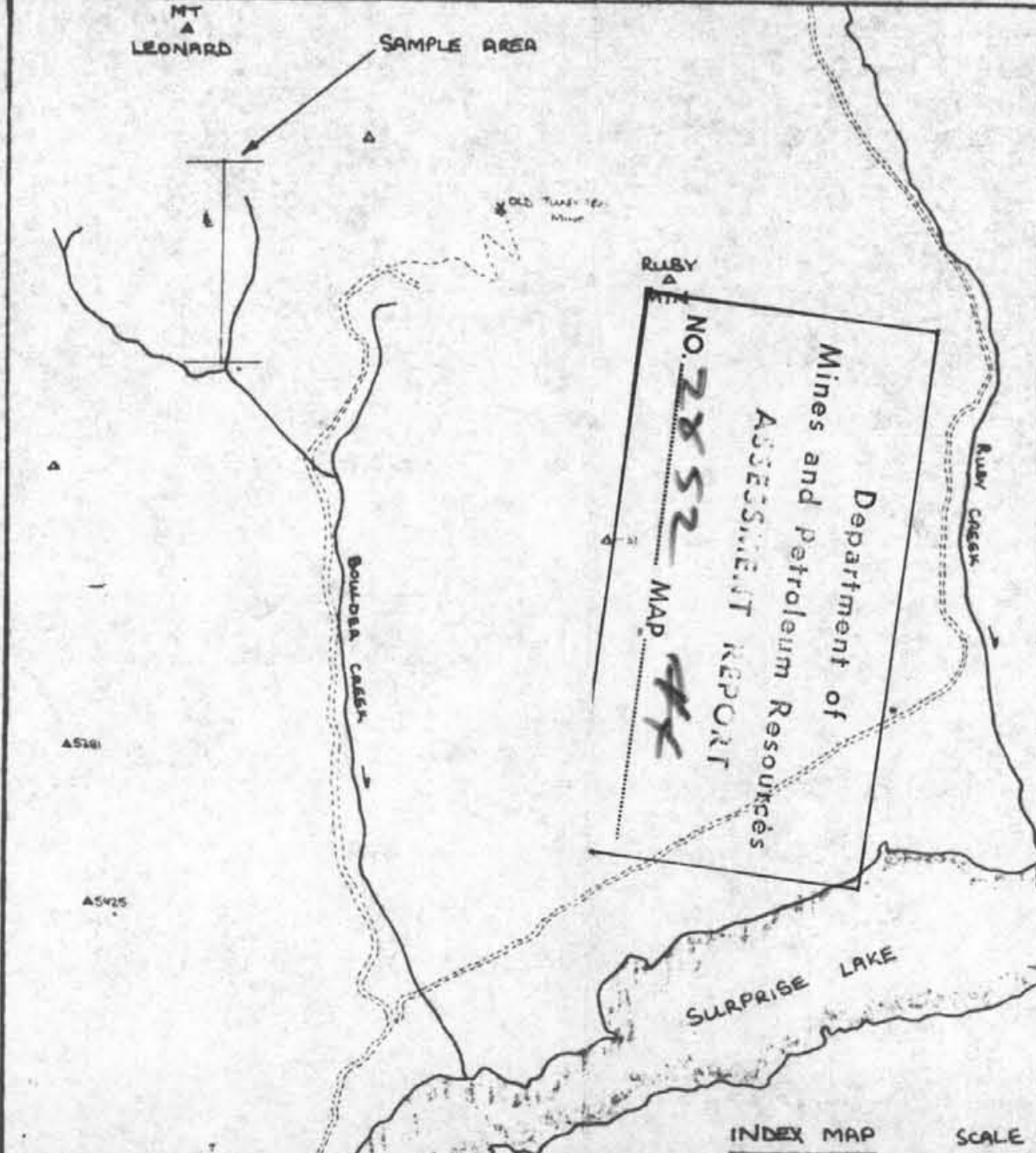
2852 M-4

SYMBOLS:

- CLAIMPOSTS
- SOIL SAMPLE LOCATIONS (AND NUMBERS)
- STREAM
- SEEP
- RILL
- BUCKBRUSH
- BUCKBRUSH BOUNDARY
- CONIFEROUS TREES

$\bar{x} = 0.8$
 $s = 0.4$

○ Negative	0 - 0.8
⊙ Poss. Anom.	0.9 - 1.2
⊖ Prob. Anom.	1.3 - 1.6
⊕ Anomalous	1.7 - 2.0
● Highly Anom.	2.1+



REGIONAL PROVINCE OF BRITISH COLUMBIA

PROFESSIONAL ENGINEER
 H. M. J. JONES
 BRITISH COLUMBIA
 Expiry Date: Jan. 28, 1978

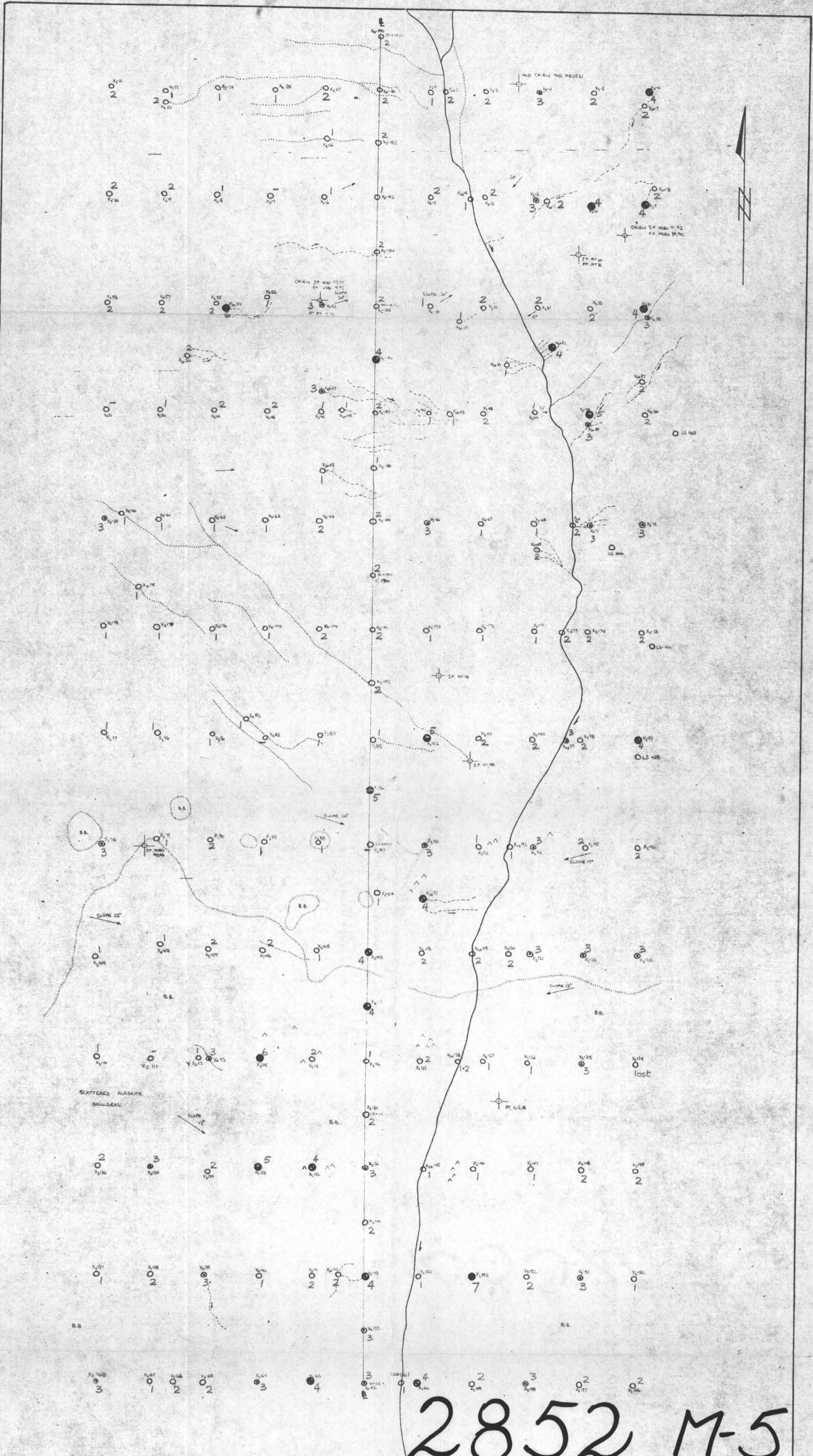
Ag
 20-450
 1978

CANADIAN JOHNS-MANVILLE Co. LTD.
 ATLIN M.D., BRITISH COLUMBIA.

BOULDER CREEK 1970 SAMPLING PROGRAM.
 ATLIN M.D., B.C.

SCALE 1" = 200' PLOT: 60 DATE: 6/8/70 DRAWN: P.N.

SOIL SAMPLES X1-167, X171-192 COLLECTED BY C. ASPINALL AND P. NIEMOLSON



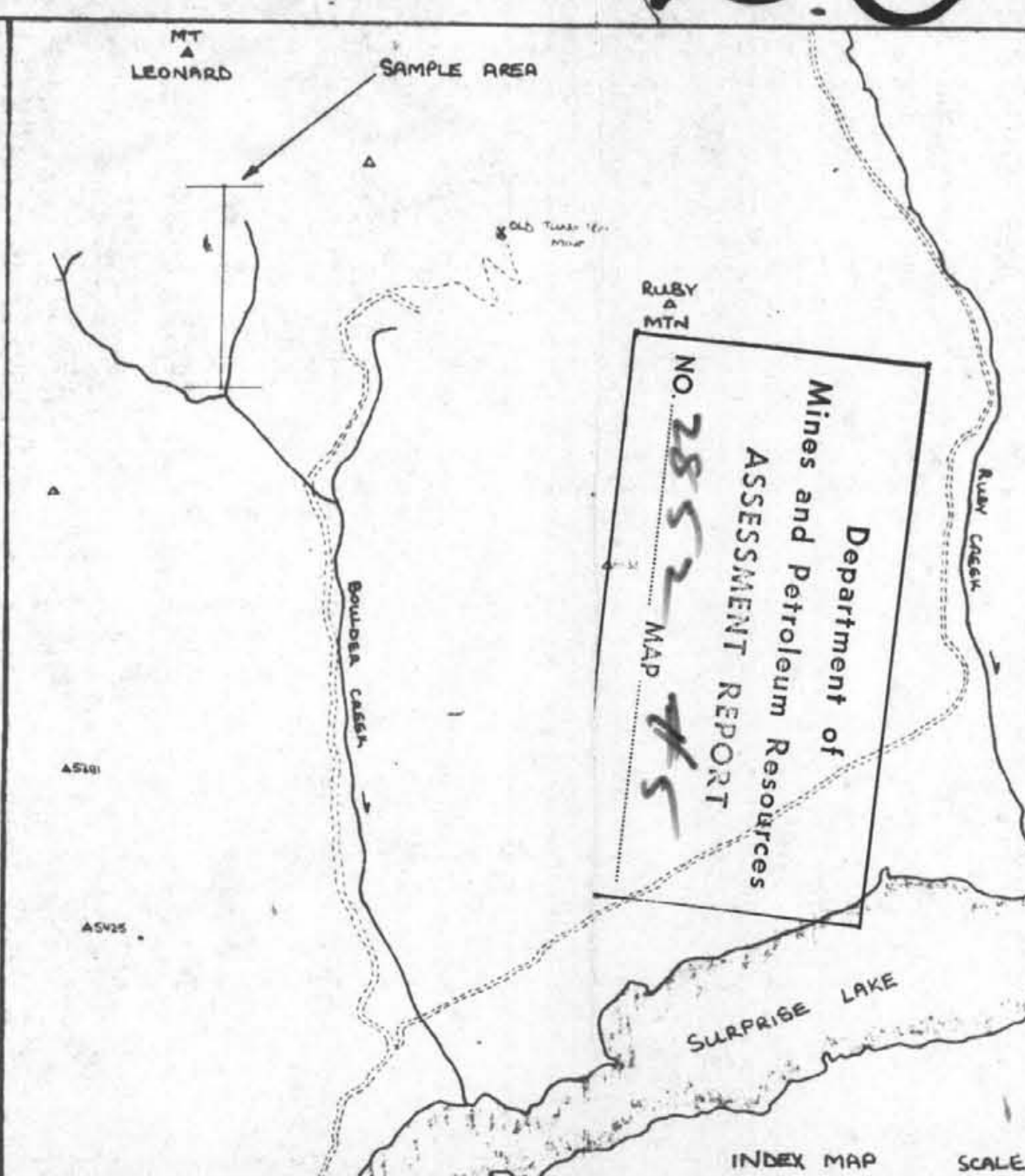
2852 M-5

SYMBOLS:

- CLAIMPOSTS
- SOIL SAMPLE LOCATIONS (AND NUMBERS)
- STREAM
- SEEP
- RILL
- BUCKRAUSH
- BUCKRAUSH BOUNDARY
- CONIFEROUS TREES

$\bar{x} = 2.0$
 $s = 1.2$

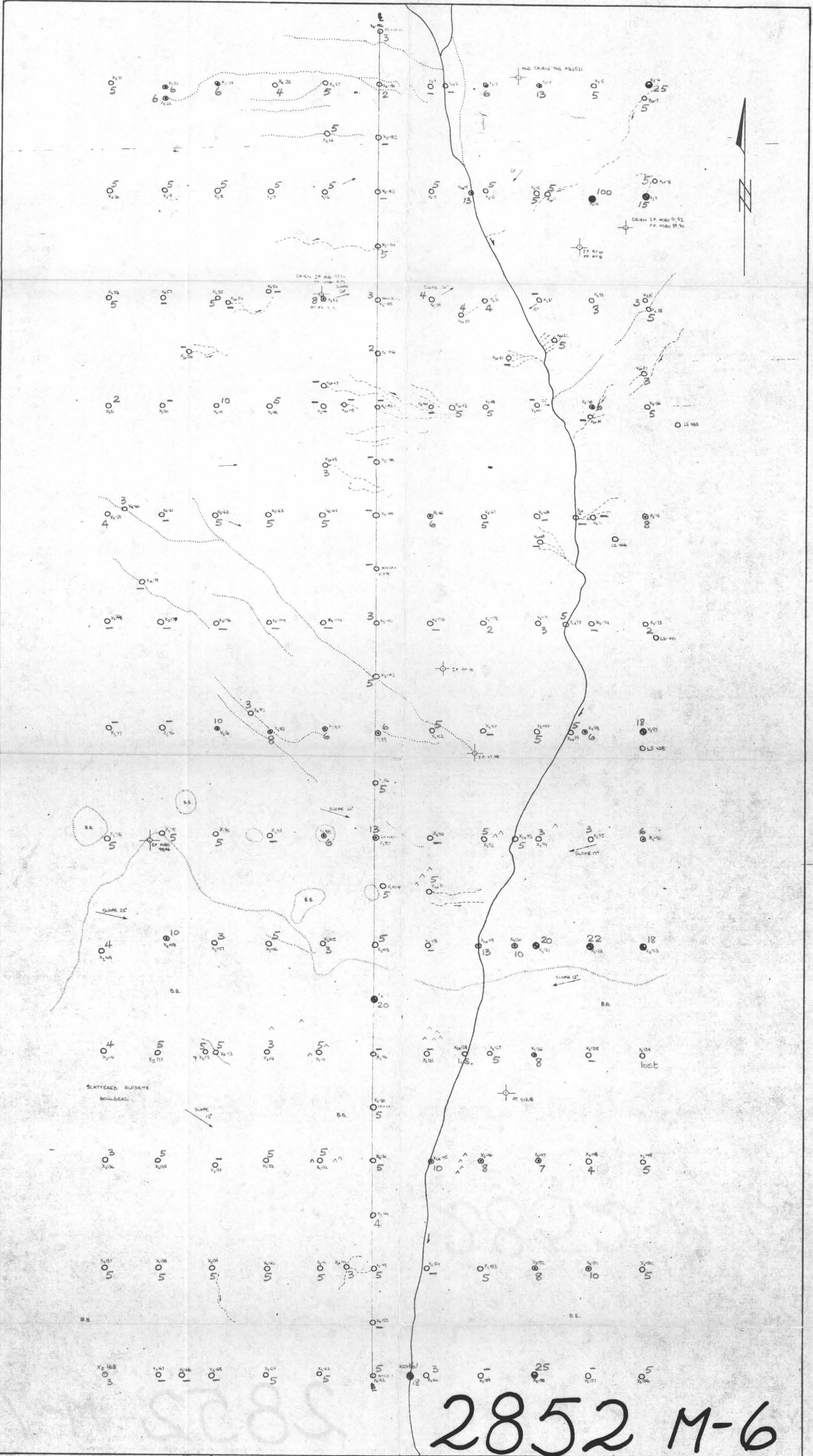
- Negative 0 - 2
- ⊙ Poss. Anom. 3 - 3
- ⊕ Prob. Anom. 4 - 4
- ⊗ Anomalous 5 - 5
- Highly Anom. 6 +



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 H. M. K. GANN
 BRITISH COLUMBIA
 Expire Date: Jan. 28, 1978

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 BOULDER CREEK 1970 SAMPLING PROGRAM.
 ATLIN M.D., B.C.

SOIL SAMPLES X1-167, X171-192 COLLECTED BY C. RSPINALL AND P. NICHOLSON



2852 M-6

SYMBOLS:

CLAIMPOSTS

SOIL SAMPLE LOCATIONS (AND NUMBERS)

STREAM

SEEP

RILL

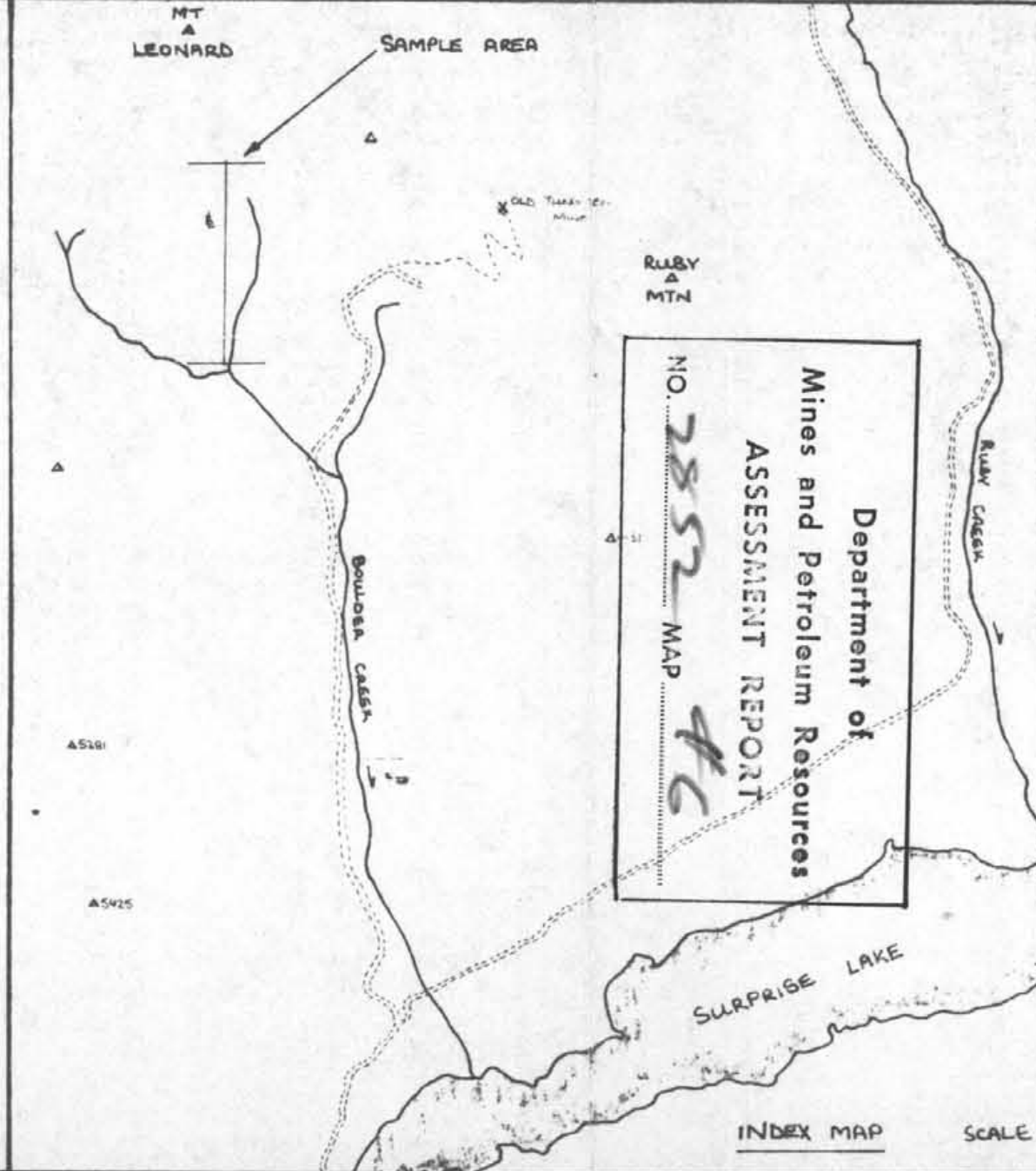
BUCKBRUSH

BUCKBRUSH BOUNDARY

CONIFEROUS TREES

$T = S.1$
 $S = B.3$

○ Negative	0 - 5
⊙ Poss. Anom.	6 - 13
⊕ Prob. Anom.	14 - 22
⊗ Anomalous	23 - 30
● Highly Anom.	31 +

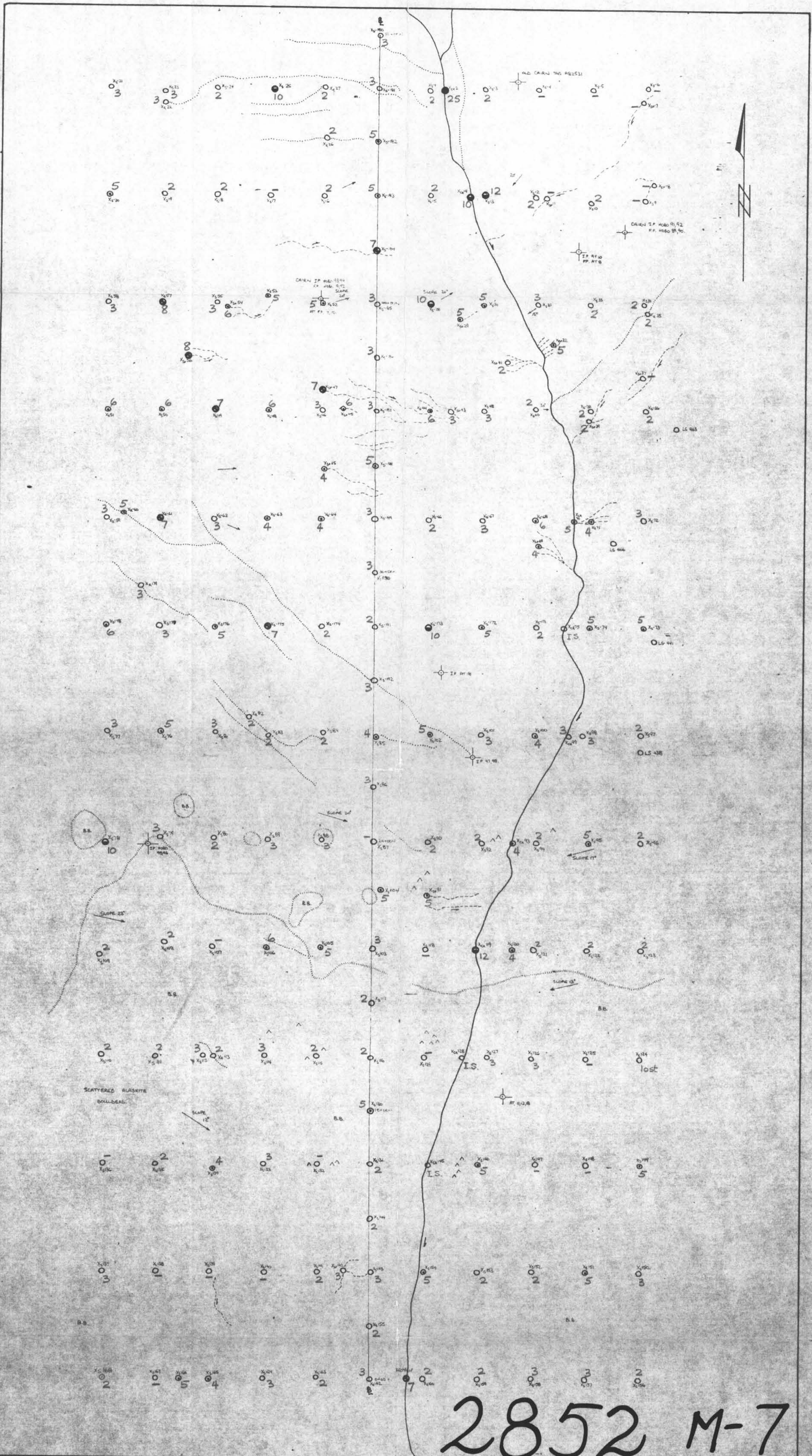


Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2852 MAP 4C

CANADIAN JOHNS-MANVILLE Co. LTD.
ATLIN M.D., BRITISH COLUMBIA.

BOULDER CREEK 1970 SAMPLING PROGRAM.
ATLIN M.D., B.C.

SCALE 1" = 200'	PROJ: 60	DATE: 6/8/70
DRAWN: P.N.		



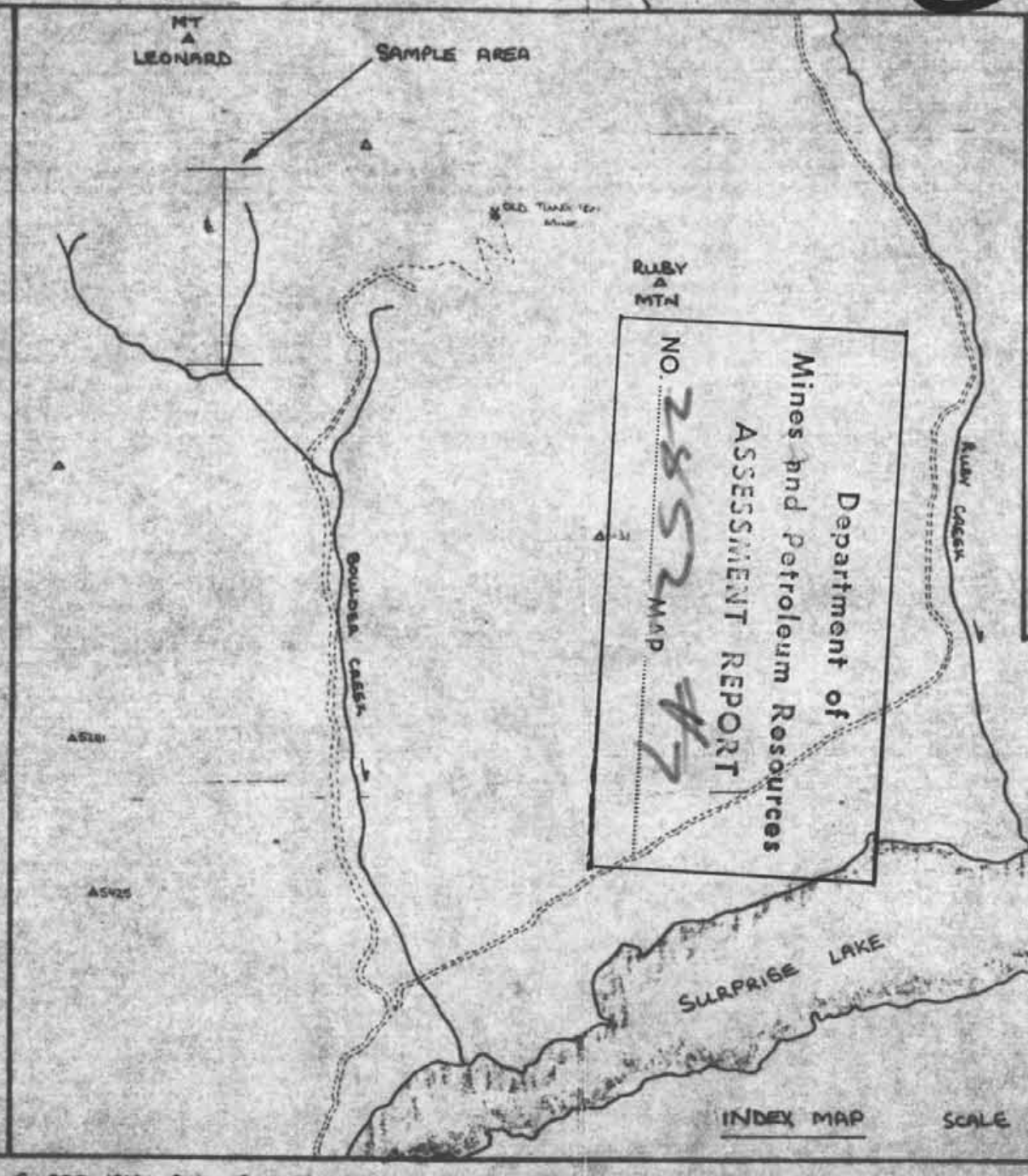
2852 M-7

SYMBOLS:

- CLAIMPOSTS
- SOIL SAMPLE LOCATIONS (AND NUMBERS)
- STREAM
- SEEP
- RILL
- BUCKBRUSH
- BUCKBRUSH BOUNDARY
- CONIFEROUS TREES

$\bar{v} = 3.4$
 $S = 2.8$

○ Negative	0-3
⊙ Poss. Anom.	4-6
⊗ Prob. Anom.	7-9
⊕ Anomalous	10-12
● Highly Anom.	13+



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 2852 M-7

PROFESSIONAL
 ENGINEER
 H. M. K. CONN
 BRITISH COLUMBIA
 Expiry Date: Jan. 28, 1972

Sn
 20-450

CANADIAN JOHNS-MANVILLE Co. LTD.
 ATLIN M.B., BRITISH COLUMBIA.
 BOULDER CREEK 1970 SAMPLING PROGRAM.
 ATLIN M.B., B.C.

SCALE 1"=200' PLOT: 60 DATE: 6/8/70 DRAWN: P.N.