

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3470 MAP.....

REPORT ON THE DEAN GROUP OF CLAIMS

GATHTO CREEK, FORT NELSON AREA

LIARD MINING DIVISION

FOR

GOWGANDA SILVER MINES LTD.

BY

JOHN R. POLONI, B.SC. P.ENG.

OCTOBER 31, 1971

3470

DEAN CLAIMS



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
 NO. **3470** MAP **#1**

GOWGANDA SILVER MINES LTD.
LOCATION MAP
DEAN CLAIMS
 LIARD M.D.

JOHN R. POLONI B.Sc., P.Eng.
 SCALE: 1" = 136 Miles DATE: Oct. 31/1971

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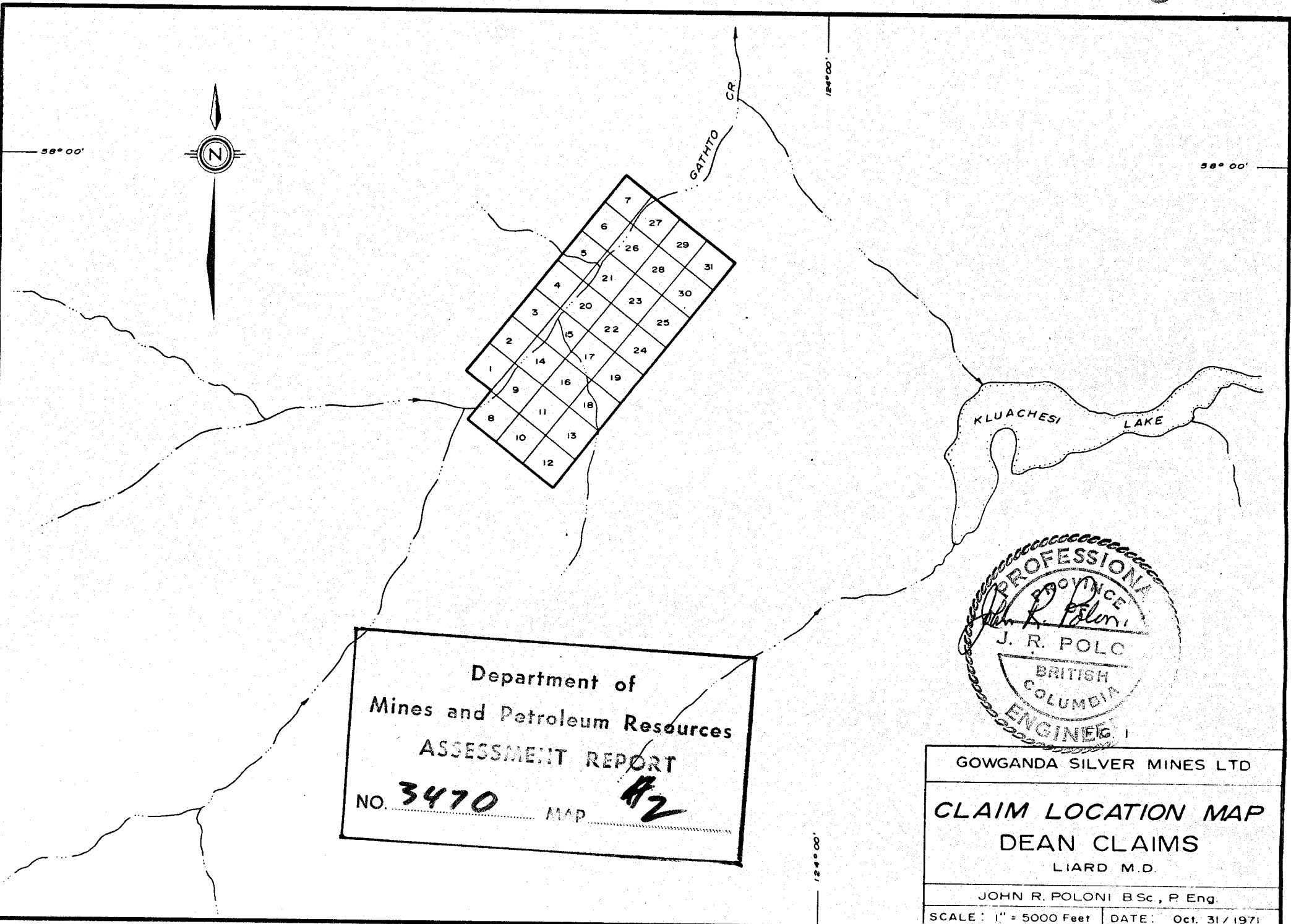
- 1. Location Map
- 2. Claim Location
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- 4. Cross Section

INTRODUCTION

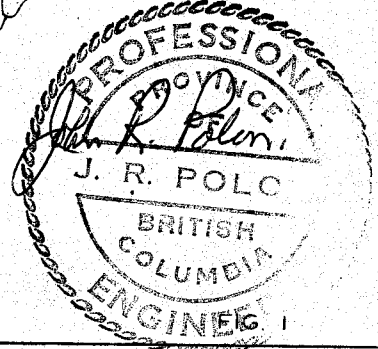
This report was prepared at the request of Mr. P. Headley, President of Gowganda Silver Mines Ltd., as a summary of the work programs undertaken by the author on the Dean Group of Mineral Claims in the Fort Nelson area, Liard Mining Division, British Columbia. It is based on Geological Mapping, Geochemical Soil Sampling and Prospecting conducted during the period September (13-23), 1971.

LOCATION MAP

FIG. #1



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **3470** MAP **A2**



GOWGANDA SILVER MINES LTD
CLAIM LOCATION MAP
DEAN CLAIMS
 LIARD M.D.
 JOHN R. POLONI B.Sc., P. Eng.
 SCALE: 1" = 5000 Feet DATE: Oct. 31/1971

PROPERTY

The property consists of 31 mineral claims called Dean (1-31) inclusive, located 78 air miles south-west of Fort Nelson at Latitude $58^{\circ}00'N$, and Longitude $124^{\circ}00$ West. The claims were staked on January 21, 1971, by G. Proctor as agent for Mr. D. Carlson. Witness post staking was utilized, in part, from a main claim line run at $N35^{\circ}E$, along Gathto Creek.

Claim posts for the Dean (1-31) claims were examined in the field and staking was undertaken in accordance with the requirements of the Mineral Act of British Columbia.

The western boundary of claims Dean 8, 10, and 12, is contiguous with part of the eastern boundary of recent McIntyre-Porcupine staking.

LOCATION AND ACCESS

Located 78 air miles south-west of Fort Nelson and on the southern branch of Gathto Creek, the claims are accessible via fixed-wing aircraft from Fort Nelson to Kluachesi Lake and then by pack trail for 4 miles. A short landing strip exists 5 miles north of the claims on the north branch of Gathto Creek at 3 miles west of its confluence with the southerly arm.

Helicopter access from Fort Nelson is the most convenient, although more costly than fixed wing. It is necessary for mobilization and demobilization of camps.

Fort Nelson is serviced by highway, airlines, and has recently become the head of the P.G.E. Railway. All necessary supplies are available to support an exploration project, or can be obtained by modern conveyance.

TOPOGRAPHY

The topography of the area consists of rugged terrain of high relief, situated on the north east flank of the Rocky Mountains. Regional elevations, moderate rapidly on progressing from Gathto Creek towards Fort Nelson.

Elevations on the claims range from 3580 feet in Gathto Creek at the northern boundary to slightly above 5000 feet above mean sea level along the eastern boundary. All parts of the property are accessible on foot as, generally, no extremely steep scarps are present.

Gathto Creek Valley has the appearance of a typical u-shaped glacial valley. Boulder clay, sand and gravel, varved clays, and silts were deposited with

the retreat of the valley glaciers. Presently, down cutting of these deposits in the valley floor, has left many areas of steep gorges formed in glacial detritus. This is apparent in the panoramic view of the area in Plate 1.

Gathto Creek is a young immature v-shaped stream which, in the vicinity of the Dean claims, has just begun to expose bedrock units. Only on claims Dean 6, 7, 26 and 27 was outcrop found along the creek.

VEGETATION

The greater part of the claims below 4500 feet elevation is forest covered. Moderately dense growths of spruce, fir, poplar and aspen occur, however, the trees appear to be of a non-merchantable size. Wet, marshy ground exists on most of claims Dean (1-3) inclusive.

CLIMATE

During the summer months the climate is generally agreeable. Hot, sunny days and cool evenings are the general trend from early May to September. Winter snowfalls are heavy, depending on elevation. Approximately 4 inches of new snow fell at camp elevation on September 19, but this soon melted, not greatly hampering the geochemical or geological examinations.

HISTORY

Gathto Creek - Kluachesi Lake areas have had very little exploration activity, except in last year.

Windemere Explorations Ltd. of Vancouver have been exploring an area stretching from Tuchodi Lakes, 16 miles to the north of the Dean claims, towards the west to the Churchill Peak area. A base camp is maintained at Tuchodi Lakes for this project.

It is believed that showings acquired by McIntyre Porcupine Mines Ltd. in 1970 on Gathto Creek, have been known for over 20 years. During 1971 an extensive program of geological mapping, geophysical surveys, geochemistry, trenching and diamond drilling was undertaken on eight zones of copper mineralization. The author has had no access to the results of this work.

Numerous claims were staked in the vicinity on the rumoured importance of these showings. Little work was undertaken to evaluate these claims except by Slocan Ottawa, to the south, and Gowganda Silver Mines Ltd. with a contiguous boundary on the immediate east, of the McIntyre Porcupine claims.

GEOLOGY

No mapping by the Geological Survey of Canada covers the area. Paleozoic, and Middle and Lower Triassic Sedimentary rocks are shown to be in contact at a major

fault zone, with a N25°W strike, approximately 2 miles to the east of the claims on G.S.C. Map 932A.

Mapping, undertaken by McIntyre Porcupine Mines Ltd., immediately west of the Dean claims shows gently dipping dolomite as the host rock for the copper mineralization, overlain with successive sequences of quartzite, dolomite, quartzite and limestone. Two northerly trending anticlines are shown where mineralization appears to be concentrated. The uplift of the host dolomite as related to the anticlines and subsequent stream erosion formed windows permitting the exposure of the mineralized zones.

The Dean claims are located entirely east of a major shear zone which may be the regional feature shown on G.S.C. Map 932A. Dolomite, limestone, and a thin shale sequence are the bedrock units mapped. These appear to be younger than the sedimentary members occurring on the McIntyre Porcupine claims. The westerly part of Plate 1 clearly shows the upending of the quartzite (4), limestone (5), and dolomite (6) members. A parallel zone of vertical shearing was observed to exist 6 miles west of the zone mentioned, Plate 2. The writer's interpretation of these structural features is shown in Figure #2.

MINERALIZATION

No mineralized showings of significance were found in the mapping undertaken of the Dean claims. Overburden cover is widespread and it is estimated that less than 10% of the Dean group has exposed bedrock. Quartz and pyrite were seen in poddy concretions in the shale mapped as Unit 8 along the tributary creek on Claim #14.

Minor amounts of float boulder containing pyrite, pyrrhotite, and malachite were observed along Gathto Creek.

The mineralization being explored on the McIntyre Porcupine claims consists of fine grained to massive concentrations of chalcopyrite, bornite, chalcocite and pyrite occurring in a brecciated dolomite sequence, both overlain and underlain with quartzite. These sulfide occurrences may be, in part, analogous with copper mineralization being explored by Bear Creek Mining Company, in the Cosmos Hills area, Alaska.

GEOCHEMICAL SOILS PROGRAM

Soil samples were taken, for geochemical analysis, along chain and flagged control lines, run at N35°E across the claim group. Two hundred and forty three samples were taken at 200 foot intervals.

B-horizon material, consisting of light to dark brown coloured, clay to sandy clay was taken for geochemical analysis for copper. Analysis was done on minus 80 mesh material using:-

Analytical Method -- Atomic Absorption

Digestion Method - $\text{HClO}_4 + \text{HNO}_3$

A copy of the analytical results is included in Appendix A.

An examination of the analytical data for copper gives:-

Mean \bar{x}	= 20 p.p.m.
Threshold	> 40 p.p.m.
Possibly Anomalous	> 60 p.p.m.
Probably Anomalous	> 80 p.p.m.

Four samples are shown to be above threshold in value but no samples are considered to be anomalous.

GEOLOGICAL MAPPING

Geological mapping was undertaken along the control lines and drainage features where outcrops were found. The majority of the ground covered by the claims presents very little outcrop exposure. The rock units, as projected from topographic highs to the immediate north, appear to be younger than those units exposed in the mineralized zones on the McIntyre Porcupine claims.

SUMMARY AND CONCLUSIONS

The Dean (1-31) group of mineral claims is located 78 air miles south-west of Fort Nelson, along a tributary of Gathto Creek and on the eastern boundary of the McIntyre Porcupine claims.

Sedimentary sequences of limestone, dolomite and shale of Palaeozoic and Triassic age underly the area.

A strong regional shear zone, with a general northwesterly strike and near vertical dip, occurs west of the claim group. Uplift, to the west of this fault zone and subsequent stream erosion has exposed a mineralized dolomitic sequence containing copper mineralization. This horizon may exist at depth on the Dean claims.

A preliminary, prospecting, geochemical and geological program undertaken by the author has failed to discover near surface zones of interest requiring further immediate exploration. To explore for a possible faulted extension of the mineralized dolomitic horizon on the Dean Claims would be a high cost, high risk undertaking. No attempt at deep exploration should be considered until detailed knowledge of rock units, and displacements along the major shear zone is obtained.

Regional exploration is definitely warranted both north and south of the McIntyre Porcupine claims. This should, initially, be confined to drainage features at elevations below 5500 feet above mean sea level, between the two major north westerly trending shear zones.

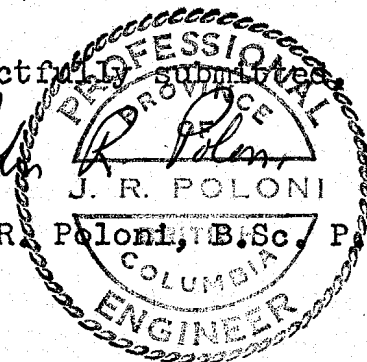
RECOMMENDATIONS

No immediate follow-up program is recommended on the Dean (1-31) mineral claims. A study of the results of the McIntyre Porcupine work, if made available to the public, and a closer examination of the regional stratigraphy and structure is necessary before any deep exploration is planned for the claim group.

A regional examination of drainage features below the 5500 foot elevation is warranted in view of the wide-spread mineral occurrences of economic grades in copper. The areas of interest are shown on Fig. #3.

Respectfully submitted,

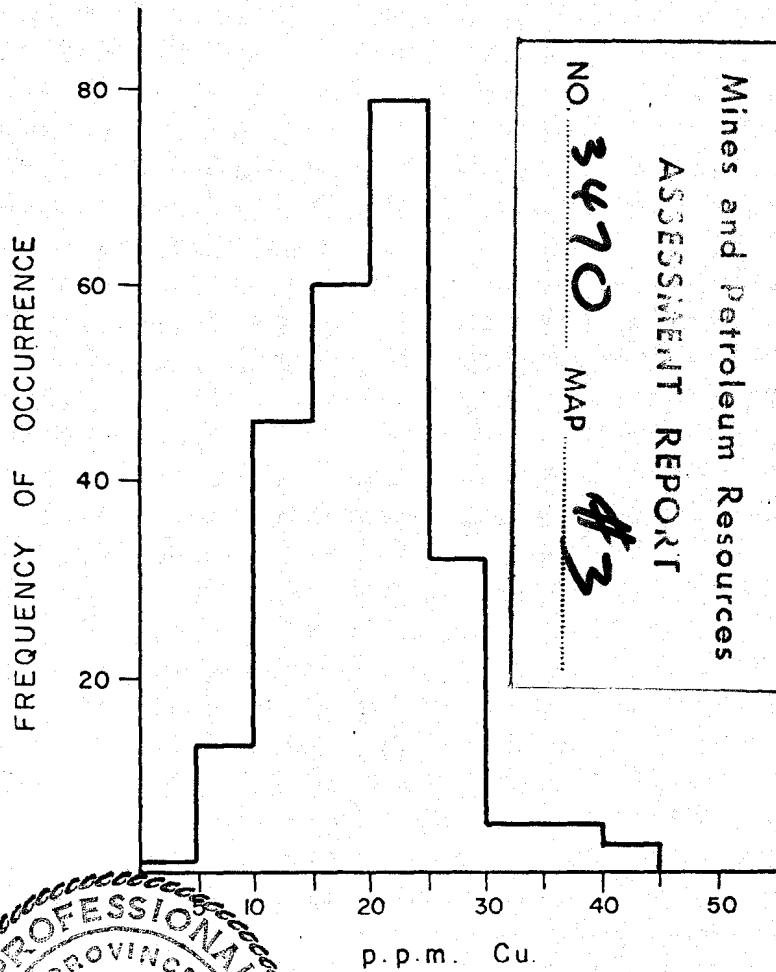
John R. Poloni, B.Sc. P.Eng.



APPENDIX A

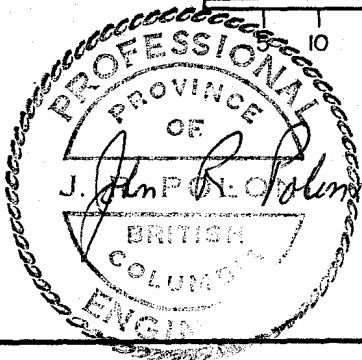
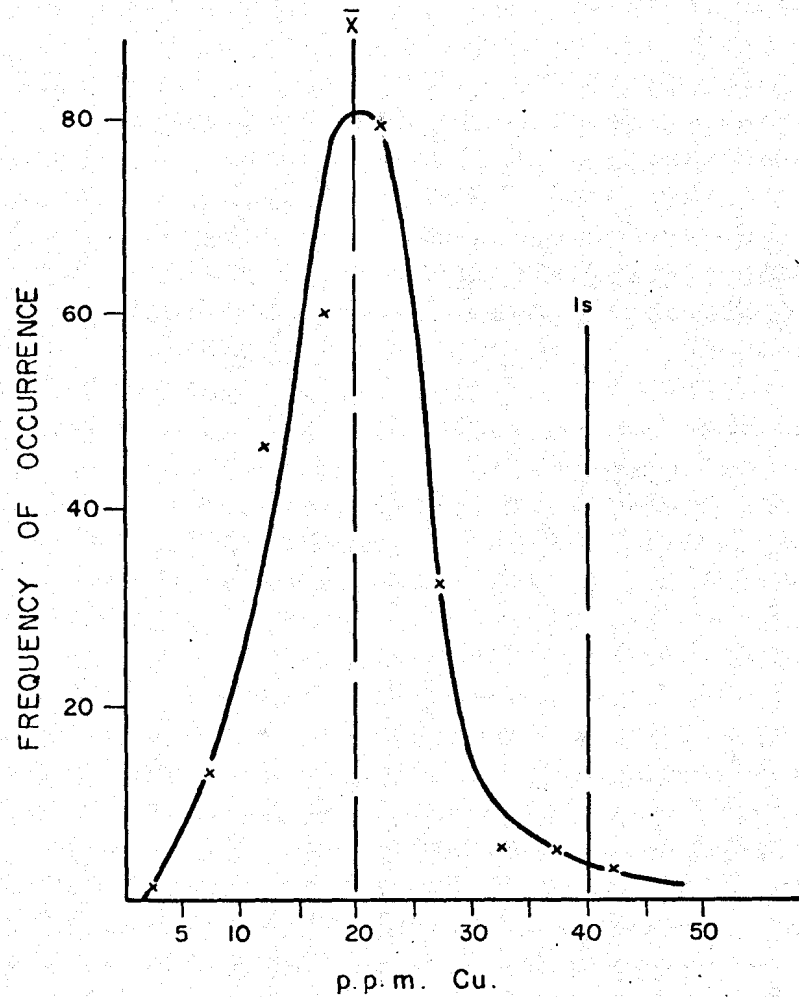
GEOCHEMICAL ASSAY DATA

HISTOGRAM OF COPPER
p.p.m. FREQUENCY



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **3470** MAP **A3**

CURVE FITTED TO % FREQUENCY



CREST LABORATORIES (B.C.) LTD.B.C. REGISTERED ASSAYERS
GEOCHEMISTS*Guayana Ag*1068 HOMER STREET,
VANCOUVER 3, B.C.

Oct. 4, 1971

Mr. J. Poloni,
5502 8B Avenue,
DELTA, B.C.Lab No. 703GGeochemical analysis for copperMesh Size: - 80
Analytical Method: Atomic Absorption
Digestion Method: $\text{HClO}_4 + \text{HNO}_3$

Sample Marked:	Copper ppm	Sample Marked:	Copper ppm	Sample Marked:	Copper ppm
A 1	21	A 24	12	A 48	18
2	15	25	12	49	12
3	14	26	12	50	12
4	14	27	18	51	10
5	16	28	15	52	7
6	24	29	13	53	21
7	20	30	12	B 54	29
8	18	31	12	55	16
9	14	32	14	56	16
10	20	33	10	57	16
11	20	34	36	58	25
12	10	35	8	59	8
13	6	36	9	60	28
14	14	37	13	61	32
15	18	38	12	62	26
16	2	39	8	63	24
17	7	40	8	64	18
18	14	41	8	65	18
19	8	42	10	66	36
20	15	43	10	67	26
21	12	44	9	68	27
22	16	45	16	69	27
23	8	46	12	70	30
		47	15	71	18

Mr. J. Poloni,
 Lab No. 703G
 Oct. 4, 1971
 Page 2 ...

Sample Marked:	Copper ppm	Sample Marked:	Copper ppm	Sample Marked:	Copper ppm
B 72	28	B 109	12	C 146	26
73	22	110	20	147	38
74	23	111	20	148	25
75	20	112	15	149	28
76	23	113	11	150	19
77	25	114	24	151	30
78	23	C 115	24	152	26
79	21	116	21	153	25
80	22	117	36	154	21
81	14	118	16	155	25
82	15	119	18	156	25
83	22	120	42	157	23
84	20	121	23	158	28
85	21	122	23	159	22
86	26	123	31	160	16
87	22	124	18	161	22
88	20	125	28	162	28
89	21	126	30	163	18
90	20	127	22	164	24
91	24	128	32	165	30
92	22	129	41	166	16
93	31	130	24	167	29
94	22	131	21	168	30
95	24	132	15	169	30
96	44	133	16	170	22
97	21	134	22	171	22
98	20	135	27	172	20
99	26	136	22	173	18
100	22	137	23	174	22
101	17	138	30	175	12
102	21	139	19	D 176	17
103	12	140	23	177	18
104	11	141	24	178	12
105	11	142	24	179	18
106	14	143	22	180	15
107	28	144	28	181	15
108	22	145	29	182	40

Mr. J. Poloni,
Lab No. 703G
Oct. 4, 1971
Page 3 ...

Sample Marked:	Copper ppm	Sample Marked:	Copper ppm
D 183	21	D 220	15
184	21	221	20
185	23	222	17
186	25	223	20
187	26	224	22
188	33	225	21
189	23	226	26
190	18	228	24
191	21	229	15
192	22	230	19
193	20	231	16
194	20	232	18
195	14	233	18
196	21	234	24
197	23	235	18
198	25	236	16
199	14	# 300	21
200	14	301	20
201	22	302	24
202	23	303	24
203	20	304	19
204	8	305	16
205	22	306	16
206	24	307	18
207	24		
208	18'		
209	23		
210	28		
211	22		
212	22		
213	26		
214	20		
215	25		
216	25		
217	19		
218	26		
219	28		

Yours truly,

CREST LABORATORIES (B.C.) LTD.,



F.C. Burgess
Chief Assayer

APPENDIX B

Plate 1 - Panoramic View
looking North

Plate 2 - Geology - Dean
Claims

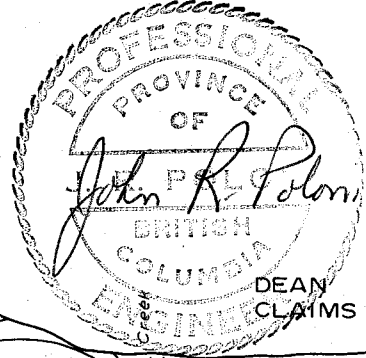
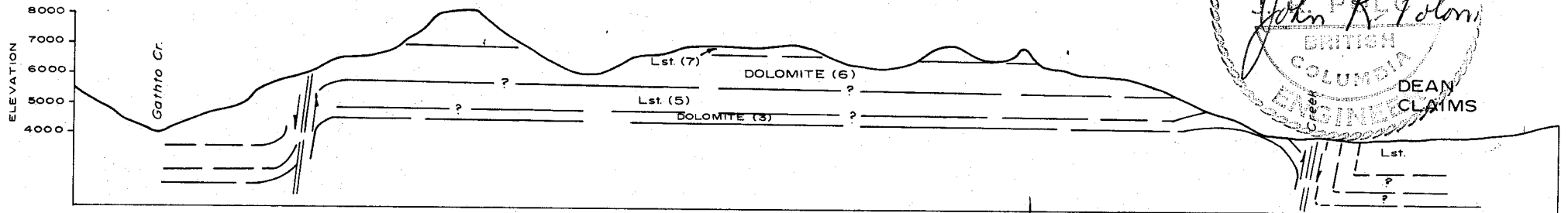
Plate 3 - Major Shear Zone
West Arm, Gathto
Creek

Figure 2 - Schematic Geolog-
ical Cross Section

Major Shear Zone
West Arm - Gathto Creek

Plate 3

SCHEMATIC GEOLOGICAL CROSS SECTION



A

A'

HOR. SCALE: 1" = 5000'

PLAN

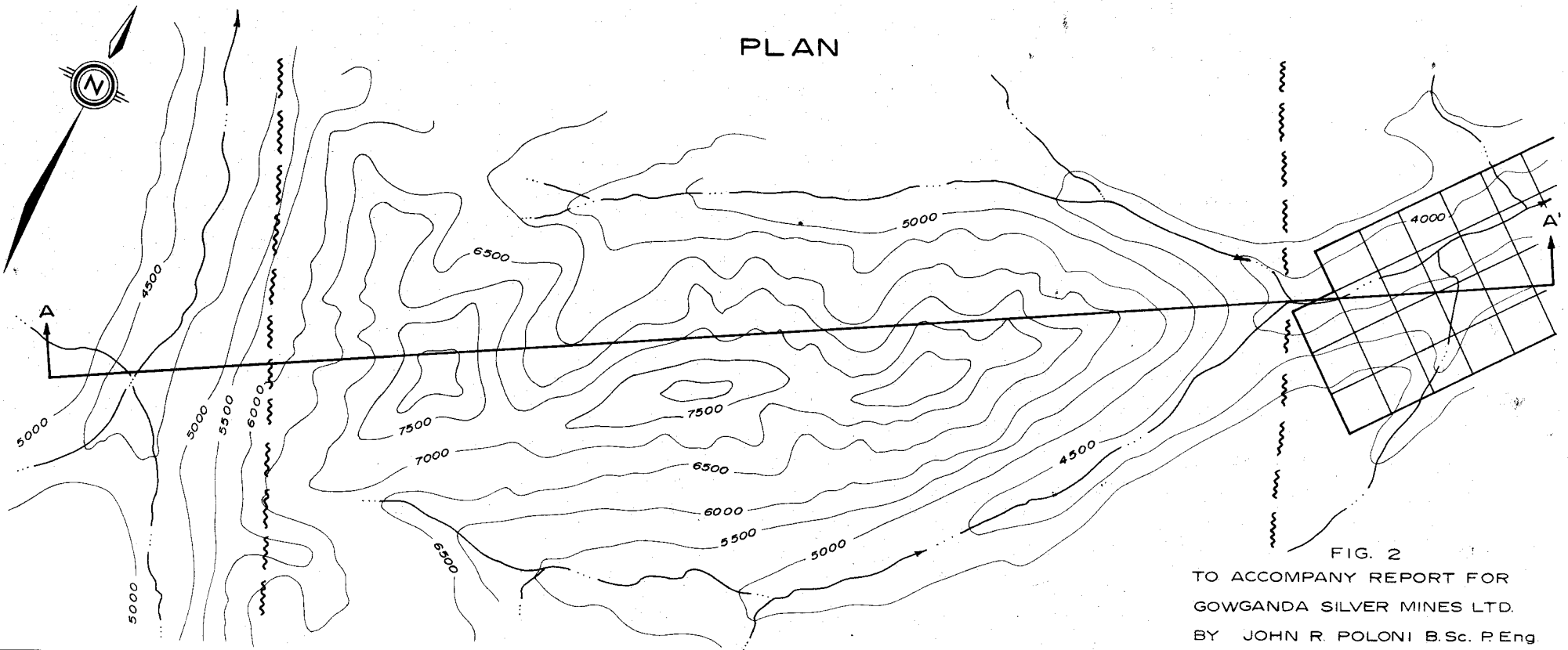


FIG. 2
TO ACCOMPANY REPORT FOR
GOWGANDA SILVER MINES LTD.
BY JOHN R. POLONI B.Sc. P.Eng

APPENDIX C

REFERENCES

REFERENCES

- 1) Honsberger, J.C. July 30, 1971
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Gowganda Silver Mines Ltd.

- 2) Fritts, C.E. September, 1970
Geology and Geochemistry of the Cosmos
Hills, Ambler River and Shungnak Quad-
rangles Alaska. Division of Mines and
Geology:-Geological Report No. 39.

- 3) McLearn, F.H. and Kindle, E.D. 1950
G.S.C. Memoir 259.
Geology of Northeastern British
Columbia.

APPENDIX D

WRITER'S CERTIFICATE

WRITER'S CERTIFICATE

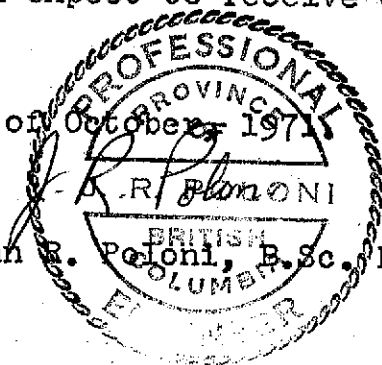
I, John R. Poloni, of 5502 - 8B Avenue, in Delta, in the Province of British Columbia,

DO HEREBY CERTIFY THAT:

- 1) I am a Consulting Geologist.
- 2) I am a graduate of McGill University in Montreal, Quebec, where I obtained a B.Sc. degree in Geology in 1964.
- 3) I am a registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia.
- 4) I have practiced my profession since 1964.
- 5) I am a fellow of the Geological Association of Canada, and a member of the Canadian Institute of Mining and Metallurgy.
- 6) I have personally visited the Dean claims and have examined several claim locations and have found them located in accordance with the British Columbia Mineral Act.
- 7) I have no direct or indirect interest in any of the property or securities of Gowganda Silver Mines Ltd., nor do I expect to receive or acquire any.

Dated this 31st day of October 1971

John R. Poloni, B.Sc. P.Eng.

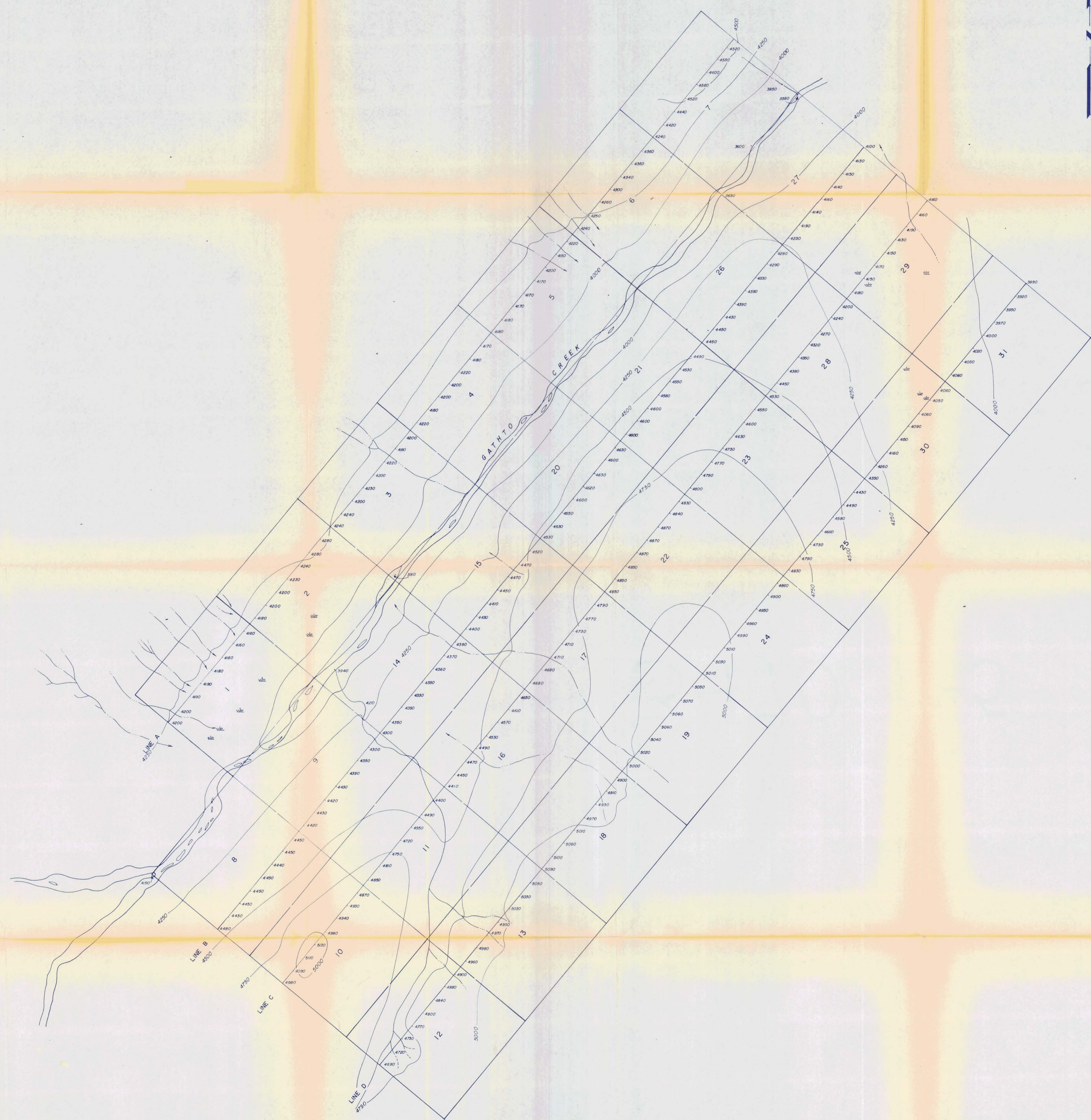


APPENDIX E

Topographical Map

Geochemical Map

Geological Map

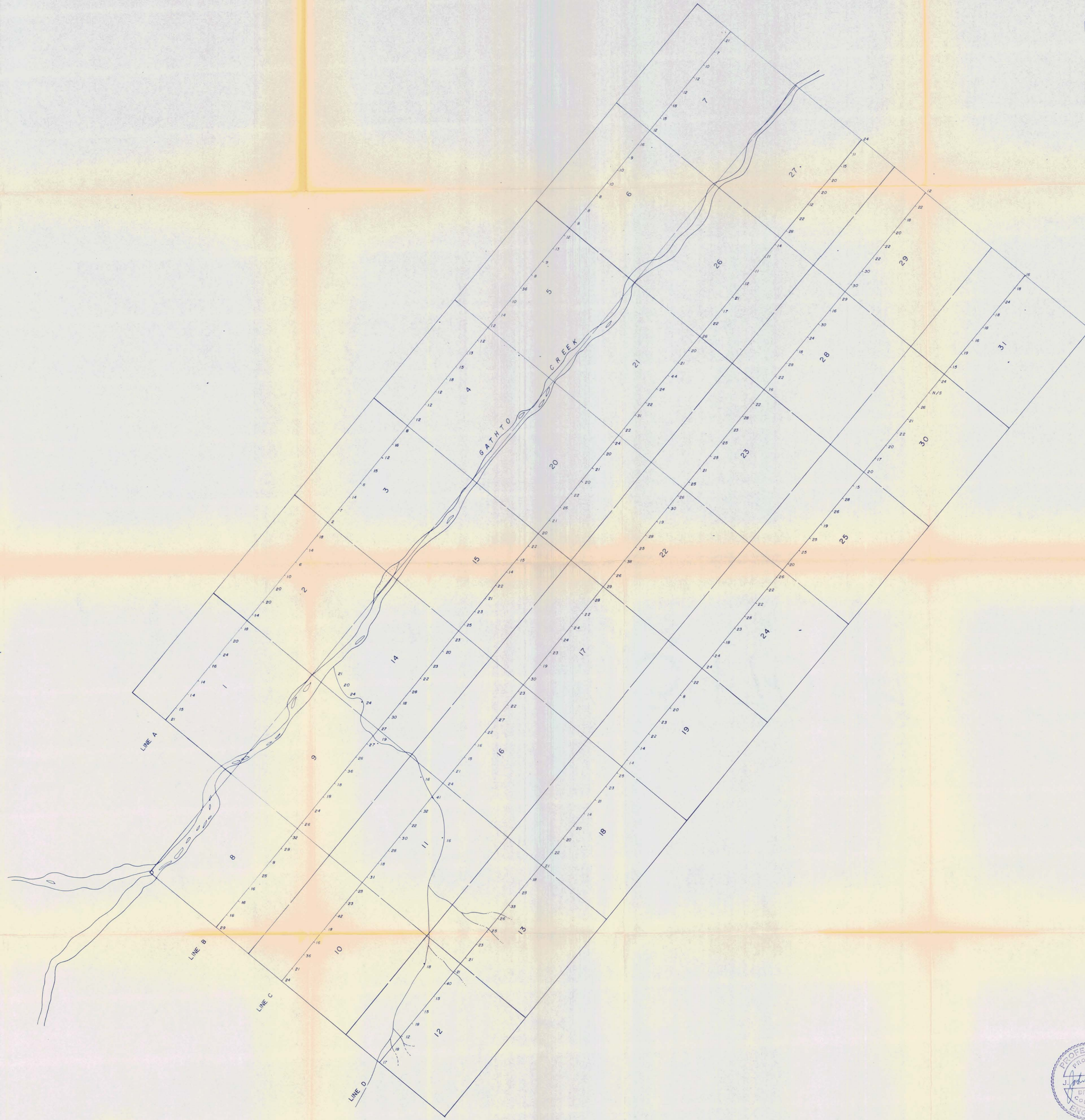


3470 M-5

GOWGANDA SILVER MINES LTD.

DEAN CLAIMS
LIARD M. D.
TOPOGRAPHIC MAP

JOHN R. POLONI B.Sc. P. ENG.
SCALE 1" = 500' DATE OCT 5, 1971



3470 M-6

GOWGANDA SILVER MINES LTD.	
DEAN CLAIMS LIARD M. D.	
GEOCHEMISTRY PPM Cu	
JOHN R. POLONI B.Sc. P. ENG.	
SCALE 1" = 500'	DATE OCT. 5, 1971



LEGEND

- 8 SHALE THIN BEDDED 50'+
- 7 LIMESTONE 1500' + UPPER MEMBER
- 6 DOLOMITE 1500' + UPPER MEMBER
- 5 LIMESTONE 1000 +
- 4 QUARTZITE CROSS BEDDED ≈ 200'
- 3 DOLOMITE MINOR QUARTZITE ≈ 400'
- 2 QUARTZITE CROSS BEDDED AND RIPPLE MARKED
- 1 DOLOMITE
- FORMATION CONTACT
- - - O/C BOUNDARY
- 75° BEDDING ATTITUDE
- Cu, Py, Pyr - COPPER, PYRITE, PYRRHOTITE MINERALIZATION
- LINE A Etc - GEOCHEMICAL SURVEY CONTROL LINES



3470 M-7

GOWGANDA SILVER MINES LTD.
DEAN CLAIMS
LIARD M. D.
GEOLOGICAL PLAN

JOHN R. POLONI B.Sc. P. ENG.
SCALE: 1" = 500' DATE: OCT. 5, 1971