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ASSESSMENT REPORT
GEOLOGICAL MAPPING, GEOCHEMICAL SAMPLING AND TRENCHING
ICE CLAIMS

(ICE 1-20, YA41024-YA41043,
ICE 21-67, YA42443-YA42489,
ICE 68-143, YA 43232-YA43307)

MAYO MINING DISTRICT

NTS 105 O/11

LATITUDE 63° 36' N

LONGITUDE 131° 17' W

OCTOBER 1980 AND JUNE 11 - AUGUST 14, 1981

By: R. C. R. Robertson
R. A. Doherty
T. Garagan

090866

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

$ 61,023.58

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Ruth Debicki Oct 11/81
for Commissioner of Yukon Territory

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APPENDICES

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FIGURES

1. INTRODUCTION

1.1 General Statement

This report describes work carried out by AGIP Canada Ltd. on the ICE claims (ICE 1-20, YA41024-YA41043, ICE 21-67 YA42443-YA42489 and ICE 68-143, YA43232-YA43307) in October 1980 and from June 11 until August 14, 1981. This work program included preparation of a contoured orthophoto map at 1:10,000 scale, geological mapping, prospecting, geochemical sampling, blasting and trenching. Field work was carried out from a camp at Emerald Lake with a crew of up to 15 people (only part of this crew was involved in work on the ICE claims at any one time and costs have been pro-rated accordingly).

Two professional climbers, contracted from Bema Industries Ltd., Langley, B.C. were employed from July 18 to August 14, 1981 to guide AGIP Canada personnel while mapping or sampling on steep ridges or faces, to assist in providing safe access to trench sites and to carry out a program of systematic chip sampling on steep cliffs by descending on ropes. A crew of three blasters, contracted from Bema Industries Ltd., Langley, B.C., was employed from July 25, to August 11, 1981 to prepare trenches at 4 sites within the Emerald Lake claim group. Trench 1 was within the FIRE claims and Trenches 2, 3, 4 were within the ICE claims.

A Hughes 500D helicopter, contracted from Liftair International, Calgary, was based at the camp for much of the program and used to set out crews (and often to move crews several times per day, because of the extremely difficult topography) and to provide logistical support for the climbing and blasting crews. Communications between field crews, helicopter and base camp were facilitated by the use of HF and "walkie-talkie" radios.

1.2 Location and Access

The ICE claims are located in the Mayo Mining District (claim sheet 105 0/11), latitude 63° 36' N and longitude 131° 21' W. (Figure 1). The location of the claims with respect to local topographic features is shown both in Figure 1 (topography from claim map 105 0/11, scale ½ mile to 1 inch and in Figures 3 and 4 (topography from contoured orthophoto map, scale 1:10,000); it should be noted that there are some differences between these topographic base maps, in part because of the difference in scale. The claim group is situated in the central part of the Roque Range (Hess Mountains).

Access to the Emerald Lake area is by float-equipped aircraft from Ross River (370 Km to the southwest) or by helicopter from the MacMillan Pass airstrip (65 Km to the southeast). During the summer months, supplies can be trucked from Ross River to MacMillan Pass via the North Canol Road and regularly scheduled aircraft service the Whitehorse-Ross River-MacMillan Pass route.

1.3 Physiography

The Emerald Lake camp, at an altitude of 1050 m, is the lowest point near the claim group. To the northwest, relief increases greatly, particularly within the area of the Emerald Lake syenite intrusion. The highest peak in the main massif reaches 2400 meters elevation; ridges and valleys lead off this peak in all directions. Ridges are sharp, with many pinnacles and towers, and separate a series of cirques with high cliffs and, often, small alpine-type galciers. Valleys are typically broad, U-shaped, glacial features with steep walls. At lower elevations there are extensive areas of coarse active talus, and lateral and terminal moraines; snowfields are common on north-facing slopes. Vegetation is present only at lower elevations in the main valleys of the eastern part of the claim group below about 1500 m.

2. GEOLOGY

2.1 Introduction

The ICE claims were staked to cover the western portion of the Emerald Lake intrusion and its contact aureole. The intrusion is an elongate, east-west trending body, approximately 12 Km long and 1½-2 Km wide, predominantly syenitic in composition and presumed to be of Cretaceous age. This body has intruded and metamorphosed a strongly folded sequence of Lower Paleozoic clastic sedimentary rocks of the Selwyn Basin sequence.

Minor amounts of chalcopyrite, molybdenite, scheelite mineralisation occur with a gangue of quartz, K-feldspar, tourmaline and minor carbonate as veins and joint-face coatings within the syenite. Chalcopyrite and scheelite also occur with occasional veins of massive pyrrhotite within the intrusion. Marginal phases of the intrusion locally contain in excess of 2% disseminated pyrrhotite and minor chalcopyrite. One part of the intrusion contains a number of very large vugs consisting of large crystals of smoky quartz in a matrix of highly weathered and altered feldspar and mica with minor amounts of arsenopyrite and unidentified minerals believed to be Au-Ag tellurides. Hornfelsed sediments around the margins of the syenite host appreciable amounts of disseminated pyrrhotite and/or pyrite with occasional minor chalcopyrite and trace values in gold.

2.2 Igneous Rocks

The Emerald Lake intrusion is a composite, differentiated body of syenitic composition; the intrusion is presumed to be of Cretaceous age by analogy with the other large felsic plutons in the region although the others are apparently all of quartz monzonite to granodiorite. Free quartz rarely exceeds 10% in rocks of the Emerald Lake intrusion and rock compositions range from syenite to quartz syenite, monzonite and potassic diorite (in approximate order of decreasing abundance) with very minor amounts of more alkaline rock types present ("leucite phonolite"as dykes near the southwestern margins of the intrusion. Late-stage differentiates (widespread thin aplite dykes and veins, and quartz veins) are silica-rich unlike the main phases of the intrusion.

Within the ICE claims the syenite occurs as either a trachytic-textured phase or a coarse-grained, equigranular to porphyritic phase. Quartz syenite, monzonite and granodiorite occur as minor phases towards the centre of the intrusion. On the southwestern margin, cupolas of megacrystic syenite occur; in general, these contain 1-2% disseminated pyrrhotite and weather a dark, rusty brown colour.

Trachytic-textured syenite consists of 60-70% potassium feldspar as acicular to prismatic laths (0.2 x 2.5 cm) with the remaining 30% consisting of hornblende, plagioclase, clinopyroxene and minor amounts of biotite and quartz. Accessory phases include apatite, sphene, Fe and Ti oxides and zircon. Pyrrhotite and pyrite range up to 2% in some localities.

The tracytic-textured phase seems best developed at the margins of the intrusion; K-feldspar phenocrysts show a strong flow alignment which dips steeply, parallel to the contact of the syenite. Xenoliths of coarse-grained, equigranular syenite occur rarely within the trachytic phase. More commonly, rusty-weathering sedimentary xenoliths are seen; occasionally these seem to have been partially assimilated to a biotite-quartz syenite composition.

The coarse-grained, equigranular to porphyritic phase has similar m^dal mineralogy, but with a higher percentage of hornblende and quartz. In places, biotite is the dominant mafic mineral, replacing amphibole; these areas typically contain minor amounts of disseminated pyrrhotite and pyrite.

Contacts between the trachytic and equigranular/ porphyritic phases seem gradational, although the evidence is not unequivocal.

2.3 Sedimentary Rocks

Sedimentary rocks within the ICE claims form part of a Lower Palaeozoic slope and basin, clastic and chert facies of the Selwyn Basin sequence. Cherts, cherty mudstones and siltstones with minor amounts of graptolitic shale are the commonest lithologies. Minor amounts of gritty sandstone, silty dolomite and chert-pebble conglomerate, presumed to originate as debris-flows, occur locally. Well-developed Bouma cycles can be distinguished in silty and sandly horizons. The overall sequence is extremely thick and monotonous with few good marker horizons and a pronounced alternation of resistant and recessive horizons, enhanced by folding.

The recessive units have received little attention as it is rare to find good outcrops in accessible places. Among the resistant units, there appear to be two distinct types whose relations suggest cyclic changes in conditions of sedimentation; since pronounced repetition of units has also been produced by folding, it is important to separate the two processes. The first type consists of well-laminated to locally massive grey to black chert with laminated, often well-bedded dark cherty mudstones. Thin seams of pyrite are common. Within this unit are thin beds of graptolitic shale carrying Monograptus, Diplograptus and Cyclograptus, indicating an Upper Ordovician to Silvrian age. These units vary from 5-30 m in thickness. The second type has been seen both underlying and overlying the first type, and ranges in thickness from 5-20 m. This is a thin to thick-bedded sequence of grey to light brown siltstones and minor sandstones. Flute casts are common at the base of the unit.

These units are believed to be part of the Road River Formation. The sequence youngs from east to west.

2.4 Structure and Metamorphism

The Emerald Lake intrusion is undeformed, although minor tilting about an east-west axis may have occurred. Close to the margins of the intrusion, the sedimentary units have been non-systematically folded. Farther out from the syenite (more than 100-200 m) the sediments are repeated many times by regional tight, near-isoclinal folds, with occasional faulting along axial planes, striking 020^0-040^0 and dipping 40^0-70^o west.

Contact metamorphic effects extend several hundred metres away from the intrusion. Within sandstone, siltstone and chert units, recrystallisation of quartz and widespread development of fine-grained biotite (producing a purplish-brown to pink colour in the rocks) are the most obvious effects. Carbonaceous shales have developed large numbers of tiny, poorly-formed porphyroblasts (andalusite?) in a highly graphitic matrix. Dark calcareous shales have been metamorphosed to a graphite-"tremolite" assemblage. Originally calcareous lenses or nodules now show an assemblage of actinolite-biotite-muscovite. Occasional sulphide-rich areas close to the intrusive contact may represent introduction of igneous material into the sediments. Felty green amphibole, biotite, quartz and altered greenish feldspar are accompanied by abundant pyrrhotite and minor amounts of chalcopyrite and tourmaline.

3. WORK PROGRAM

3.1 Summary of Previous Work

Initial interest in the Emerald Lake intrusion was a result of a regional airborne radiometric survey which indicated moderately anomalous readings relative to other plutons in the area. As a result, the ICE 1-20 claims were staked in 1979. During the 1980 field season, reconnaissance-scale silt sampling in areas adjacent to the ICE 1-20 claim group gave a number of interesting values in copper, molybdenum, tungsten and gold. Brief prospecting in the drainage basins revealed extensive mineralised float and additional staking was carried out, including the ICE 21-143 claims.

An assessment report describing preliminary work on the ICE 1-20 claims was submitted in August 1980.

3.2 Orthophoto Map (Figure 2)

Because of the rugged topography of the Emerald Lake area a suitable topographic base map was needed to assist in logistical planning and to plot and interpret the results of geological and geochemical work.

Initial office preparation by AGIP Canada Ltd. personnel was carried out in October 1980 and a contoured orthophoto map was prepared by Kenting Earth Sciences in Ottawa in early 1981. The map is at a scale of 1:10,000 with contours plotted at 10 m interval, except in steeper areas where a wider interval had to be used.

The map does not cover all of the FIRE, ICE and SUN claims; coverage is as follows:
all of FIRE 1, 3, 9-28, SUN 1-139, ICE 1-20, 21-35, 38-51, 53, 55, 57, 59, 61, 63, 68-102, 123-130 and parts of ICE 36, 37, 52, 54, 56, 58, 60, 62, 103, 104, 105, 107, 109, 113, 115 and 131, equivalent to a total of approximately 267 full claims.

3.3 Mapping and Prospecting; Mineralisation

Although there is considerable exposure of rock on the cliffs and ridges of the ICE claims, access to these areas is generally difficult. Two professional climbers were contracted from Bema Industries, Langley, B.C. to assist AGIP Canada personnel in mapping and to carry out a sampling program on several cliffs of apparently mineralised rock. In general, much of the mapping was limited to the easier ridges and along the base of cliffs. Results of mapping are discussed in Section 2 of this report and shown on Figure 3. A number of samples of intrusive rock were slabbed on a rock saw (at camp) and stained to facilitate recognition of distinct phases of the intrusion.

Prospecting formed a major part of the program in an attempt to identify the main types of mineralised rock responsible for the original stream sediment anomalies. Considerable emphasis was placed on tracing material carrying molybdenum, tungsten or gold values. Copper, as chalcopyrite, is widespread but seems to be of minor importance as it occurs almost entirely in thin veins, with no sign of important amounts of disseminated mineralisation or of characteristic "porphyry-style" alteration. Molybdenite commonly occurs in minor amounts in narrow veins. All tungsten values seem related to scheelite grains occurring sparsely in veins with molybdenite and chalcopyrite. Scheelite identification was by ultra-violet lamp.

Most molybdenite and scheelite mineralisation occurs in veins, related to joint patterns within the syenite, and associated with quartz, tourmaline and muscovite.

The commonest vein/joint attitudes in the ICE claims are 095° strike, vertical dip and, 030°-050°, dipping 20°-30° east. Vein widths are generally only 2-10 cm, but veins of this set locally occur in clusters with a series of veins being present within a 10 m width (vein spacing 0.5-1.0 m) and a strike-length of 50-100 m. In the same area, a less prominent joint set strikes 180°, with vertical dip, but only rarely carries mineralisation. Other common vein assemblages are K feldspar,-biotite - quartz - pyrrhotite - chalcopyrite and K feldspar - biotite - molybdenite; again, these seem restricted to the 095° and 030°-050° vein systems. These systems also carry a quartz-K Feldspar - molybdenite - arsenopyrite - Au-Ag telluride(?) assemblage, believed to carry most of the gold and silver values found to date. Aplitic dykes are common (widths from a few centimetres to several tens of centimetres on 075° strike, vertical dip; these are generally unmineralised.

Within the syenite are several extensive areas of patchy, disseminated pyrrhotite and chalcopyrite; these rusty-weathering areas usually contain fine-grained quartz and biotite in addition to hornblende (whereas unmineralised areas of syenite lack biotite and quartz). Other features indicative of late-stage fluids within the intrusion are the large miarolitic cavities, common in several areas of the ICE 1-20 claims. The cavities range from "incipient vugs" of 10-20 cm. diameter (of rusty, altered syenite surrounding coarse tourmaline) to true miarolitic cavities of up to 1.5 m diameter (but reaching 4 m or more in length where they occur as "swells" on a vein) containing smoky quartz crystals to 1 m in length in a soft and weathered sandy and clayey matrix of altered feldspar (very coarse-grained), tourmaline and mica. Minor amounts of arsenopyrite and several unidentified minerals, one of which is probably a gold-silver telluride occur in at least some of the cavities. In several areas, well-defined vein systems (seen on cliffs) end abruptly and are replaced by a zone of cavities, presumably representing changes in fluid pressure relative to lithostatic pressure.

3.4 Geochemical Sampling

Geochemical sampling reported here is the initial stage of a program to locate a bedrock source for anomalous gold values in stream sediment samples (1980 field program) collected from the stream flowing east through the east-central part of the ICE claims before turning south to drain into the north end of Emerald Lake, and to test the potential of the rest of the claims.

Stream sediment and heavy mineral concentrate samples (panned concentrates) were collected at approximately 200 m intervals from all creeks within the claims and others draining the claim group, although some sample sites are beyond the claim boundaries. Soil samples (mostly talus fines) were collected at varying intervals (mostly 50 m or 20 m apart) below areas of rusty-weathering syenite and hornfelsed sediments. Chip samples were collected across areas of visible mineralisation (mostly veins or cavities); much of the systematic chip sampling program was carried out by professional climbers.

Most analytical results received to date are incomplete and for many samples no results are available yet, hence the following discussion is limited in scope. A supplementary report, with the complete analyses and a full interpretation, will be filed later.

Streams draining ICE claims 69 and 84 and the east-central part of the ICE claims contain anomalous tungsten values. These high values are caused by extensive areas of syenite with thin, widely-spaced joints with trace amounts of scheelite. This mineralisation has no economic potential.

Soil samples collected at 15-20 m intervals below rusty sediments in ICE 71,73, 75 locally contain anomalous amounts of copper and arsenic. Chalcopyrite is common in this area in very minor amounts; arsenopyrite is only rarely seen. Gold values here are slightly anomalous whereas tungsten and silver are well within background ranges.

Chip samples (6051-6056) were collected across a zone of hornblende syenite carrying up to 5% disseminated pyrrhotite. No anomalous values were found (gold results have not yet been received). In ICE claims 40 and 41 several continuous chip samples (across 2-5m intervals) were taken across a zone of quartz- K feldspar - pyrrhotite - chalcopyrite - scheelite veining (the zone varies from 0.5 to 10 m wide). Many results have yet to be received. Of the results available, several samples show strongly anomalous silver, copper and tungsten values. The correlation between silver and copper contents is good. The zone is too limited to be of interest for either copper or tungsten mineralisation;

evaluation of the precious-metal potential must await the outstanding analyses.

A potentially important zone of veins and vugs carrying quartz - K feldspar - tourmaline - molybdenite and quartz - K feldspar - arsenopyrite - Au telluride (?) mineralisation has been outlined in ICE claims 11, 12, 13 and 27 (and extends into the FIRE claims). Many chip samples were collected (by climbers) on vertical lines down the cliffs (approximately 20 m apart with samples taken on 2-5 m intervals). Only a few partial analyses have been received. High tungsten and molybdenum values are caused by occasional minor amounts of scheelite and molybdenite. No disseminated mineralisation has been seen and the veins are too narrow and too far apart to be significant. Extremely high gold and silver values were found in some samples (6070-6074) collected from an elongate cavity (later sampled in more representative fashion as Trench 3). Individual values in these zones are likely to be high but the nature of the mineralisation (as a minor constituent of some of the cavities) makes it difficult to sample systematically or to define an economic grade and tonnage.

Sample locations are shown on Figure 4 and analytical results and methods are listed in Appendix B.

3.5 Blasting and Trenching

Four trenches were excavated within the Emerald Lake claims. Trench 1 is in the FIRE claims and will be discussed in a subsequent report. Trenches 2, 3 and 4 are all within the ICE 1-20 claims (see Figures 4, 5a and 6).

Trench 2 (ICE 3, Figures 5a, 5b) was laid out across a small uranium - molybdenite showing in moderately hornfelsed siltstones intruded by feldspar porphyry dykes and quartz - K feldspar - tourmaline - molybdenite - (uraninite ?) veins. Radioactivity adjacent to the veins ranges from 7,000 to 10,000 c.p.s. (URTEC UG 130 scintillometer). The trench is approximately 9.5 m long, with a mean width of 1.97 m and a mean depth of 0.8 m; the trench volume is thus 14.97 cu. m (19.43 cu. yds).

Trenches 3 and 4 (ICE 13, Figures 6, 7, 8) were blasted across elongate cavities containing quartz - feldspar - mica - apatite - pyrite - arsenopyrite - Au telluride (?). Because of the nature of the site (on steep cliffs just below a narrow ridge) the initial work consisted of levelling the top of one of the pinnacles on the ridge to permit helicopter access to the site for personnel and equipment. Subsequently a large volume of big loose blocks, which overhung the Trench 3 site, had to be removed before actual trending could be commenced. Approximately 10 cu.m (12.97 cu. yds) had to be removed to construct a small helicopter pad (rock removed was 2 m wide, 2 m thick and 2.5 m long). Trench 3 volume (including overhanging rocks removed by blasting) is 13.5 cu. m (17.66 cu. yds), estimated as half the volume of a cube with 3 m sides. Trench 4 is a 4.75 m long, 1 m wide, 0.85 m deep excavation; the trench volume is thus 4.04 cu. m (5.26 cu. yds).

Trenches 3 and 4 expose parts of 2 separate "vein/ cavity" systems. The margins of the cavities consist of altered, yellow-weathering, hornblende syenite (with abundant quartz, K feldspar biotite,and muscovite). Two samples of fresh syenite were collected near Trench 3 to determine background geochemical values in this area. The cavity fillings consist of a weathered and clayey feldspar and mica sand containing large prismatic quartz crystals. Pyrite, arsenopyrite and Au-telluride mineral/s (?) occur mainly in spaces between the silicate minerals. Away from the trench sites, the cavities pinch out into veins (1-10 cm thick) of similar mineralogy. Chip samples collected in these trenches are of available rock fragments within a 1 sq. m grid. Soil samples were collected over the same areas as the rock samples; these represent the cavity matrix material.

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APPENDIX A

ICE 1-20

ICE	TAG NO.
1	YA41024
2	YA41025
3	YA41026
4	YA41027
5	YA41028
6	YA41029
7	YA41030
8	YA41031
9	YA41032
10	YA41033
11	YA41034
12	YA41035
13	YA41036
14	YA41037
15	YA41038
16	YA41039
17	YA41040
18	YA41041
19	YA41042
20	YA41043

ICE 21-67

ICE	TAG NO.
21	YA42443
22	YA42444
23	YA42445
24	YA42446
25	YA42447
26	YA42448
27	YA42449
28	YA42450
29	YA42451
30	YA42452
31	YA42453
32	YA42454
33	YA42455
34	YA42456
35	YA42457
36	YA42458
37	YA42459
38	YA42460
39	YA42461
40	YA42462
41	YA42463
42	YA42464
43	YA42465
44	YA42466
45	YA42467
46	YA42468
47	YA42469

ICE	TAG NO
48	YA42470
49	YA42471
50	YA42472
51	YA42473
52	YA42474
53	YA42475
54	YA42476
55	YA42477
56	YA42478
57	YA42479
58	YA42480
59	YA42481
60	YA42482
61	YA42483
62	YA42484
63	YA42485
64	YA42486
65	YA42487
66	YA42488
67	YA42489

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ICE 68-143

ICE	TAG NO.	ICE	TAG NO.
68	YA43232	101	YA43265
69	YA43233	102	YA43266
70	YA43234	103	YA43267
71	YA43235	104	YA43268
72	YA43236	105	YA43269
73	YA43237	106	YA43270
74	YA43238	107	YA43271
75	YA43239	108	YA43272
76	YA43240	109	YA43273
77	YA43241	110	YA43274
78	YA43242	111	YA43275
79	YA43243	112	YA43276
80	YA43244	113	YA43277
81	YA43245	114	YA43278
82	YA43246	115	YA43279
83	YA43247	116	YA43280
84	YA43248	117	YA43281
85	YA43249	118	YA43282
86	YA43250	119	YA43283
87	YA43251	120	YA43284
88	YA43252	121	YA43285
89	YA43253	122	YA43286
90	YA43254	123	YA43287
91	YA43255	124	YA43288
92	YA43256	125	YA43289
93	YA43257	126	YA43290
94	YA43258	127	YA43291
95	YA43259	128	YA43292
96	YA43260	129	YA43293
97	YA43261	130	YA43294
98	YA43262	131	YA43295
99	YA43263	132	YA43296
100	YA43264	133	YA43297

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ICE	TAG NO.
134	YA43298
135	YA43299
136	YA43300
137	YA43301
138	YA43302
139	YA43303
140	YA43304
141	YA43305
142	YA43306
143	YA43307

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APPENDIX B

Analytical Results and Methods

As results have not yet been received for many of the samples collected, a supplementary report will be prepared and submitted at a later date listing the complete results and providing a geological and geochemical interpretation.

Analytical Results

ICE 1-20

No results have been received for the undernoted samples; 6994 - 7002 (soils), 6157-6171, 6174-6181, 6190-6195, 6214-6280 (rock chips), 6450-6455 (rock chips, Trench 2), 6456-6461 (rock chips, Trench 3), 7400-7403 (soils, Trench 3), 6462-6466 (rock chips, Trench 4) and 7404-7408 (soils, Trench 4).

Heavy Mineral Concentrates

	Au	W	Ag	As	Cu
5932		70	0.1		34
5933		140	0.1		92

Rock Chips

	Au	W	Ag	Cu	Mo
6121		G2000	0.4	94	2200
6122		900	0.4	455	3200
6123		300	0.2	83	24

	Au	Ag	As	Te	Sb
6070	1085	14.5			
6071	4765	9.0			
6072	G15,000	23.0			
6073	G15,000	G50			
6074	2650	4.5			

Assays: 6072, 0.98 oz/t Au, 0.56 oz/t Ag.
6073, 7.38 oz/t Au, 4.60 oz/t Ag.

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ICE 21-67

No results have been received for the undernoted samples; 6945-6970, 7003-7039, 7050-7063, 7069-7089 (all soil samples) 6140-6156 (rock chips) and 5970-5972, 5974 (heavy mineral concentrates).

Soil Samples

	Au	As	W	Ag	Cu	Mo	U
6802			4	0.3	135	4	3.9
6803			650	0.9	820	27	27.0

Rock Chips

	Au	W	Ag	Cu	Mo
6055		L2	0.2	60	8
6056		L2	0.3	48	6
6058		L2	0.7	68	14

	Au	As	W	Ag	Cu	Mo
6059			10	0.1	140	11

	Au	W	Ag	Cu	Pb
6090		120	14.0	4400	42
6091		160	18.0	5200	16
6092		8	5.8	330	12
6093		600	12.5	600	16
6094		8	1.1	190	18
6095		10	0.3	71	12
6096		L2	0.4	74	12
6097		6	0.8	140	32
6098		12	2.0	140	26
6099		10	2.7	120	80
6100		60	0.8	135	20
6101		8	14.0	180	110
6102		G2000	13.0	120	120
6103		90	2.4	140	82
6104		G2000	G50	G20000	130

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	Au	W	Ag	Cu	Pb
6105		400	14.0	3300	20
6106		1700	24.0	7000	200
6107		400	43.0	1240	1100
6108		50	18.0	1080	430
6109		4	1.2	280	32
6110		24	10.5	1500	92
6111		10	5.0	200	32
6112		40	1.1	195	26
6113		100	7.4	325	240
6114		50	1.7	780	72
6115		4	2.3	1520	28
6116		70	3.0	840	78
6117		20	2.5	725	78
6118		L2	1.3	76	14
6119		4	2.8	100	115
6135		L2	0.2	49	20
6136		L2	0.2	40	18
6137		L2	0.2	24	18
6138		L2	0.3	58	22
6139		6	0.4	110	30

ICE 68-143

No results have been received for the undernoted samples: 5947-5950, 5952, 5953, 5973, 5975 (heavy mineral concentrates), 5180-5195 (stream sediments) 6971-6993, 7064-7068, 7090-7092, 7200-7219 (soils).

Rock Chips

	Au	W	Ag	Cu	Mo	Pb
6051		L2	0.4	13	4	-
6052		L2	0.2	16	6	-
6053		L2	0.7	41	40	-
6054		L2	0.4	36	4	-
6130		6	0.7	49	-	14
6131		L2	0.6	225	-	26
6132		L2	0.6	37	-	16

AGIP CANADA LTD.

Heavy Mineral Concentrates

	Au	W	Ag	As	Cu
5930		1800	0.3		115
5931		70	0.2		105
5934		G2000	0.1		96
5935		560	0.2		62
5936		90	0.2		32
5937		70	0.1		61
5938		G2000	0.2		44
5939		70	0.1		37
5940		10	L0.1		40
5941		12	L0.1		45
5942		50	0.1		44
5943		90	L0.1		65
5944		10	L0.1		30

	Au	W	Ag	As	Cu	Mo	U
5969		60	0.6		115	12	3.0

	Au	Ag	As	Pb	U
5977		1.2		12	0.8
5978		1.2		10	1.4

Stream Sediments

	Au	W	Ag	Cu	Mo	Pb	U
5005	36	L2	0.3	150	10	63	2.4
5006	45	L2	0.3	165	9	64	2.4
5007	15	12	0.4	150	7	66	2.4

	Au	As	W	Ag	Cu	Pb	U
5107			L2	0.1	64	12	5.2
5108			L2	2.1	140	20	3.8
5109			L2	1.9	140	16	3.2

AGIP CANADA LTD.

	Au	As	W	Ag	Cu	Mo	U
5130			20	1.3	395	8	27.0
5131			50	1.0	300	11	17.0
5132			32	1.2	390	10	19.0
5133			20	2.1	610	12	36.4
5134			16	2.8	260	13	11.0
5135			16	2.6	300	11	7.6
5136			12	2.3	270	11	9.2
5137			12	2.2	290	10	7.8
5161			14	0.2	28	2	6.7
5162			20	0.3	42	4	23.0
5163			20	0.2	39	3	12.9
5164			L2	0.2	54	3	7.0
5165			L2	0.3	54	4	10.6
5166			10	1.1	140	22	1.7
5167			L2	0.2	56	4	4.5

Soil Samples

	Au	As	W	Ag	Cu
5083	30	105	10	1.0	181
5084	20	63	L2	0.7	105
5085	10	65	L2	0.5	104
5086	20	140	6	0.6	148
5087	20	205	6	0.7	166
5088	15	235	4	1.3	290
5089	35	440	10	1.0	516
5090	35	126	10	1.1	690
5091	35	120	10	1.0	630
5092	30	105	10	0.8	580
5093	75	84	10	1.2	630
5094	60	89	10	1.0	540
5095	45	76	10	1.1	360
5096	20	64	8	0.7	710
5097	20	56	10	0.7	280

AGIP CANADA LTD.

	Au	As	W	Ag	Cu
5098	20	51	10	0.5	430
5099	30	93	8	0.6	300
5100	25	95	6	0.7	460
5101	30	80	10	0.5	380
5102	35	80	14	0.7	350
5103	20	226	12	1.2	212
5104	20	237	8	2.2	204
5105	25	269	14	1.1	380
5106	40	431	12	1.4	232

	Au	As	W	Ag	Cu	Pb	U
6804			2	0.8	185	125	3.4
6805			10	1.2	380	148	2.2
6806			L2	1.5	290	148	3.8
6807			L2	1.7	270	220	3.8
6808			10	2.6	300	320	15.0
6809			L2	4.2	980	880	13.0
6810			L2	2.6	145	195	13.5
6811			L2	3.3	155	330	1.8
6812			20	2.2	175	280	3.6
6813			32	2.0	235	220	4.8
6814			20	1.8	220	155	4.0
6815			L2	1.7	240	230	0.8
6816			L2	1.5	225	150	0.4
6817			L2	0.8	380	330	0.6

	Au	As	W	Ag	Cu	Mo	U
6818			L2	1.0	120	4	L0.2
6819			L2	0.5	330	6	L0.2
6800			L2	0.6	125	8	11.2
6801			L2	0.8	135	18	25.0

<u>NOTE:</u> All values in p.p.m, except Au in p.p.b.
L = Less than
G = Greater than

Analytical Methods

Soils and stream sediment samples are dried and sieved to minus 80 mesh. Rock chip and heavy mineral concentrate samples are pulverised and a split of the minus 200 mesh fraction is analysed.

Copper, Molybdenum, Lead and Silver analyses: the sample is dissolved in hot aqua regia and analysed by atomic absorption spectrophotometry. Lead and Silver analyses require a correction for background.

Tungsten analyses are by basic oxidising fusion followed by a colorimetric determination.

Arsenic analyses are by perchloric-nitric acid digestion and colorimetric determination.

Uranium analyses are by hot nitric acid digestion and fluorometric determination.

Gold analyses are by fire assay techniques, but after preparation of the bead, the bead is dissolved in acid and the gold content determined by atomic absorption spectrophotometry.

APPENDIX C

AGIP PERSONNEL

D. G. Bailey, Ph.D	Chief Geologist	Program Supervision
R. C. R. Robertson	Area Geologist	Program supervision, mapping, report writing.
R. A. Doherty	Project Geologist	Project supervision, mapping, prospecting, geochemical sampling, map and report preparation.
T. Garagan	Project Geologist	Project supervision, mapping, prospecting, geochemical sampling, map and report preparation.
R. Hulstein	Senior Assistant	Mapping, sampling.
D. Charron	Senior Assistant	Mapping, sampling.
L. Lalonde	Intermediate Assistant	Sampling, prospecting
S. Seto	Intermediate Assistant	Sampling, prospecting
C. Malboeuf	Junior Assistant	Sampling, prospecting
J. Pollock	Junior Assistant	Sampling, prospecting
S. Wood	Cook	

APPENDIX D

STATEMENT OF COSTS

1. Surface Work

Preparation of contoured orthophoto map (1:10,000 scale)

by Kenting Earth Sciences Ltd., Ottawa.

Total Cost $7,216.00

Area covered is approximately 267 full clains (see text for listing) including all of ICE 1-20, (hence 20/267 x 7216 = $540.52 is allocated to ICE 1-20), 39 claims of ICE 21-67 (hence $1054.02 is allocated to ICE 21-67, and 47 claims of ICE 68-143 (hence $1,270.23 is allocated to ICE 68-143).

TOTAL COST -	ICE 1-20	$540.52
	ICE 21-67	$1,054.02
	ICE 68-143	1,270.23
		$2,864.77

Analytical Costs

Analyses by Bondar-Clegg and Co. Ltd., Whitehorse

ICE 1-20

9 soil samples @	$15.00	=	$135.00
64 rock chip samples	@$17.65	=	1,129.60
15 rock chip samples	@$18.80	=	282.00
17 rock chip samples	@$16.90	=	287.30
3 rock chip samples	@$14.75	=	44.25
5 rock chip samples	@$20.90	=	104.50
2 assays @ $11.00		=	22.00
			$2,004.65

ICE 21-67

2 soil samples @	$18.65	=	37.30
98 soil samples @	$15.00	=	1,470.00
17 rock chip samples	@$ 9.50	=	161.50
1 rock chip sample @	$17.65	=	17.65
38 rock chip samples@	$14.75	=	560.50
4 heavy mineral concentrate samples @	$18.55	=	74.20
			$2,321.15

ICE 68-143

23 soil samples @	$15.75	=	$362.25
18 soil samples @	$18.65	=	335.70
52 soil samples @	$15.00	=	780.00
7 rock chip samples @	$14.75	=	103.25
18 stream sediment samples @	$18.65	=	335.70
3 stream sediment samples @	$19.40	=	58.20
16 stream sediment samples @	$15.75	=	252.00
1 heavy mineral concentrate sample @	$19.30	=	19.30
2 heavy mineral concentrate samples @	$14.80	=	29.60
3 heavy mineral concentrate samples @	$18.55	=	55.65
19 heavy mineral concentrate samples @	$15.65	=	297.35
			$2,629.00

Total Analytical Costs

ICE 1-20	$2,004.65
ICE 21-67	2,321.15
ICE 68-143	2,629.00
TOTAL	$6,954.80

Helicopter Costs

1. 11th June to 3rd July - Hughes 500D on contract from Liftair International, Calgary

ICE, general	-	2.1 hours
ICE 1-20	-	0.0 hours
ICE 21-67	-	2.5 hours
ICE 68-143	-	1.5 hours
TOTAL		6.1 hours at $379 per hour

= $2,311.90

Plus fuel at 25 gal per hour and $1.98 per gal. = 301.95

2. 4th July to 17th July - Bell 206 on casual charter from Northern Mountain Helicopters, MacMillan Pass.

ICE, general	-	0.4 hours
ICE 1-20	-	0.4 hours
ICE 21-67	-	5.5 hours
ICE 68-143	-	5.8 hours
TOTAL		12.1 hours at $480 per hour

= $5,808.00

plus, 5.0 hours fuel at 23 gal/hr, $1.98 per gal. = 277.70
and, 7.1 hours fuel at 23 gal/hr, $3.50 per gal. = 571.55

3. 18th July to 14th August - Hughes 500D on contract from Liftair International, Calgary.

ICE, general	-	3.7 hours
ICE 1-20	-	11.8 hours
ICE 21-67	-	4.7 hours
ICE 68-143	-	2.3 hours
TOTAL		22.5 hours @ $379 per hour
		= 8,527.50

plus, fuel at 25 gal per hour and $1.98 per gal. = 564.48

Total Helicopter Costs	-	helicopter	$16,647.40
		fuel	1,665.68
		Total	$18,313.08

LABOUR COSTS

October 1980 - D. Beauchamp, T. GAragan, preparatory work for orthophoto map, 1 day each. $240.00

11 June to 14 August, 1981

ICE - general (Not allocated to individual claim blocks)

D. Bailey,	2 days	@	$160/day	$320.00
R. Robertson,	4½ days	@	$140/day	630.00
A. Doherty,	6 days	@	$110/day	660.00
T. Garagan,	4 days	@	$ 90/day	360.00
R. Hulstein,	1 day	@	$ 80/day	80.00
D. Charron,	1 day	@	$ 80/day	80.00
S. Seto,	1 day	@	$ 68/day	68.00
L. Lalonde,	1 day	@	$ 68/day	68.00
C. Malboeuf,	5 day	@	$ 55/day	275.00
J. Pollock,	4 days	@	$ 55/day	220.00
S. Wood,	25 days	@	$ 80/day	2,000.00
				$4,761.00

ICE 1-20

R. Robertson,	½ day	@	$140/day	70.00
A. Doherty,	1½ day	@	$110/day	165.00
T. Garagan,	5 days	@	$ 90/day	450.00
R. Hulstein,	6 days	@	$ 80/day	480.00
L. Lalonde,	½ day	@	$ 68/day	34.00
C. Malboeuf,	1½ days	@	$ 55/day	82.50
J. Pollock,	1 day	@	$ 55/day	55.00

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Contract personnel, climbing supervisor, 16 days @ $200/day	3,200.00
Climber, 16 days @ $175/day	2,800.00
	$7,336.00

ICE 21-67

R. Robertson,	1 day	@	$140/day	$ 140.00
A. Doherty,	5 days	@	$110/day	550.00
T. Garagan,	2 days	@	$ 90/day	180.00
R. Hulstein,	3½ days	@	$ 80/day	280.00
D. Charron,	1 day	@	$ 80/day	80.00
L. Lalonde,	1 day	@	$ 68/day	68.00
S. Seto,	2 days	@	$ 68/day	136.00
C. Malboeuf,	5 days	@	$ 55/day	275.00
J. Pollock,	6 days	@	$ 55/day	330.00

Contract Personnel - climbing supervisor, 5 days @ $200/day	1,000.00
climber, 4½ days @ $175/day	787.50
	$3,826.50

ICE 68-143

A.Doherty,	4½ days	@	$110/day	495.00
T. Garagan,	2 days	@	$ 90/day	180.00
R. Hulstein,	2 days	@	$ 80/day	160.00
D. Charron,	1½ days	@	$ 80/day	120.00
S. Seto,	1½ days	@	$ 68/day	102.00
L. Lalonde,	3 days	@	$ 68/day	204.00
C. Malboeuf,	6 days	@	$ 55/day	330.00
J. Pollock,	6½ days	@	$ 55/day	357.50

Contract Personnel - climbing supervisor, 2 days @ $200/day	400.00
Climber, 4 days @ $175/day	700.00
	$3,048.50

TOTAL LABOUR COSTS	$18,972.00

Camp and Field Costs

1. Fuel Cache

Twin Otter, Nahanni Air Services, Ross River, February 1981. Total cost = $17,640, of which 50% relates to work within Emerald Lake claim block ($8,820). 143/304 x 8820 is allocated to ICE claims ($4,148.88), and all is allocated to the work period covered in this report. $4,148.88

2. Camp Mobilization

From Ross River, using Twin Otter and Pilatus Porter aircraft of Nahanni Air Services.
Total cost = $9,906.80, of which 50% relates to work within Emerald Lake claim block ($4,953.40). 143/304 x 4953.40 is allocated to ICE claims. Demobilization costs are not estimated here, but will be filed with any supplementary assessment report. $2,330.05

3. Food Costs

Estimated at $20 per man day.

ICE - unallocated	40 man days	$ 800.00
ICE 1-20	64 man days	1,280.00
ICE 21-67	51 man days	1,020.00
ICE 68-143	28 man days	560.00
		$3,660.00

Cook's salary included in labour costs.

4. Camp and Field Equipment and Supplies

Share of rental equipment (generator, radios, etc.) estimated at $40.00 per day, for 50 days. $2,000.00
Climbing equipment, (contract, Bema Industries, Langley, B.C.) charged at $20 per day, for 23 days. 460.00

Cost of camp and field supplies, estimated at $10 per day for 50 days. 500.00

$2,960.00

Total Camp and Field Costs $13,098.93

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Drafting and Secretarial Costs (report preparation)

Map preparation, estimated at	$ 700.00
Secretarial costs, estimated at	120.00
	$ 820.00

Total costs of surface work for assessment purposes:	$2,864.77
	6,954.80
	18,313.08
	18,972.00
	13,098.93
	820.00
	$61,023.58
	=========

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2. Trenching

Four areas were blasted and/or trenched by a crew contracted from Bema Industries Ltd., Langley, B.C. Trench 1 is located within the FIRE claim group and will be the subject of a later report.

Trench 2 (ICE 3)

Labour Costs

1) Contract blasting crew - (1 supervisor @ $200/day, 2 blasters @ 175/day). Share of labour costs during mobilisation, demobilisation (25 July, 11 August) - $275.00

Labour costs while blasting (31 July, 1 August) - 1,100.00

2) AGIP Personnel

R. Robertson, ¼ day (1 August), supervisor	-	35.00
T. Garagan, 1½ days (7-8 August), sampling, mapping	-	135.00
L. Lalonde, 1 day (8 August), sampling.	-	68.00
R. R. and T. G., report and map preparation, ½ day each	-	115.00
Total Labour Cost		$1,728.00

Equipment Rental

Blasting equipment (Bema Industries) @ $50/day, 2½ days (incl. travel)	-	$125.00
Camp equipment (Bema Industries) @ $20/day, 2½ days (incl. travel)	-	50.00
Total Equipment Cost		$175.00

Explosives

Total cost $1,251.86, pro-rated by days on Trench 2, (2/16) is - $156.48

Helicopter

Hughes 500D helicopter, on contract from Liftair International, Calgary.

2.7 hours @ $379 per hour. $1,023.30

Fuel at 25 gal/hour, $1.98/gal. 133.65

Total Helicopter Cost $1,156.95

Fixed-Wing

Mobilisation of blasters, equipment and explosives from Whitehorse to Emerald Lake on 25th July, by Pilatus Porter (Nahannai Air) and Cessna 185 (Alkan Air) float planes, estimated cost $1,200.00 (no invoices received), of which 25% allocated to Trench 2 - $300.00

Demobilisation to Whitehorse (August 11) by Pilatus Porter (Nahanni Air), estimated cost $800.00 of which 25% allocated to Trench 2 - 200.00

Total Fixed-Wing Cost $500.00

Analytical Costs

6 chip samples @ $14.00 - $84.00

Food Costs

11¼ man days estimated at $20 per man day - $225.00

TOTAL COSTS $4,025.43

Trenches 3, 4 (ICE 13)

Labour Costs

1) Contract blasting crew - (1 supervisor @ $200/day, 2 blasters @ $175/day). Share of labour costs during mobilisation, demobilisation (25 July, 11 August).	-	$550.00
Labour costs while blasting (2-10 August)	-	4,950.00
2) Climbing Supervisor (@ $200/day), access to work sites, safety, assisting with layout of trenches and helipad, 3 days (30 July - 1 August)	-	600.00
3) AGIP Personnel		
R. Robertson, 1 day (parts of 1 and 12 August), layout, sampling, supervision	-	140.00
T. Garagan, 1 day (12 August) mapping, sampling.	-	90.00
L. Lalonde, 1 day (30 July) assist with access preparation	-	68.00
R.R. and T.G. - 1 day each, report and map preparation	-	230.00
Total Labour Cost		$6,583.00

Equipment Rental

Blasting equipment (Bema Industries) @ $50/day, 10 days (incl. travel)	-	$500.00
Camp equipment (Bema Industries) @ $20/day, 10 days (incl. travel)	-	200.00
Total Equipment Cost		$700.00

Explosives

Total cost $1,25I.86, pro-rated by days on Trenches 3, 4 (9/16) is - $704.17

Helicopter

Hughes 500D helicopter on contract from Liftair International, Calgary.

8.1 hours @ $379/hour	-	$3,069.90
Fuel at 25 gal/hour, $1.98/gal.	-	400.95
Total Helicopter Cost		$3,470.85

Fixed-Wing

Mobilisation of blasters, equipment and explosives from Whitehorse to Emerald Lake on 25th July, by Pilatus Porter (Nahanni Air) and Cessna 185 (Alkan Air) float planes, estimated cost $1,200.00, (no invoices received), of which 50% allocated to Trenches 3, 4 - $600.00

Demobilisation to Whitehorse (August 11) by Pilatus Porter (Nahanni Air), estimated cost $800.00, of which 50% allocated to Trenches 3, 4. - $400.00

Total Fixed-Wing $1,000.00

Analytical Costs

11 chip samples @ $16.05 each	-	$176.55
9 soil samples @ $10.50 each	-	94.50
Total Analytical Costs		$271.05

Food Costs

38 man days, estimated at $20 per man day - $760.00

TOTAL COSTS $13,489.07

APPENDIX

STATEMENT OF QUALIFICATIONS

I, RONALD CHARLES RAMSAY ROBERTSON, of the City of Calgary, in the Province of Alberta, hereby certify:

That I am a geologist employed by AGIP Canada Ltd. and that I caused to be performed and supervised, the work described in this report.

That I obtained a Bachelor of Science degree with First Class Honours in Geology from the University of Aberdeen, Scotland in 1970 and subsequently carried out graduate studies at McMaster University Hamilton, Ontario, and at Queen's University, Kingston, Ontario.

That I have been engaged in mineral exploration on a full-time and part-time basis for twelve years of which four have been on mineral exploration programs in the Yukon Territory and Alaska.

That I am a member of the Canadian Institute of Mining and Metallurgy, the Society of Mining Engineers of A.I.M.E. and the Prospectors and Developers Association.

Signed at Calgary, Alberta, this 26th day of August, A.D. 1981.

Ronald C R Robertson

RONALD C. R. ROBERTSON

AGIP CANADA LTD.

STATEMENT OF QUALIFICATIONS

I, RICHARD ALLAN DOHERTY, of the City of Calgary in the Province of Alberta, hereby certify:

That I am a geologist employed by AGIP CANADA LTD. and that I caused to be performed the work described in this report.

That I obtained a Bachelor of Science degree with Honours in Geology from the University of New Brunswick at Fredericton in 1977 and carried out graduate studies at Memorial University, St. John's, Newfoundland.

That I have been engaged in mineral exploration on a full-time and part-time basis for seven years of which four have been on mineral exploration programs in the Yukon Territory, Northwest Territories and British Columbia.

That I am a member of the Geological Association of Canada and of the Canadian Institute of Mining and Metallurgy.

Signed at Whitehorse, in the Yukon Territory, this 25th day of August, A.D. 1981.

R. Allan Doherty

R. ALLAN DOHERTY

AGIP CANADA LTD.

STATEMENT OF QUALIFICATIONS

I, THOMAS GARAGAN, of the City of Calgary, in the Province of Alberta, hereby certify:

That I am a geologist employed by AGIP Canada Ltd. and that I caused to be performed, the work described in this report.

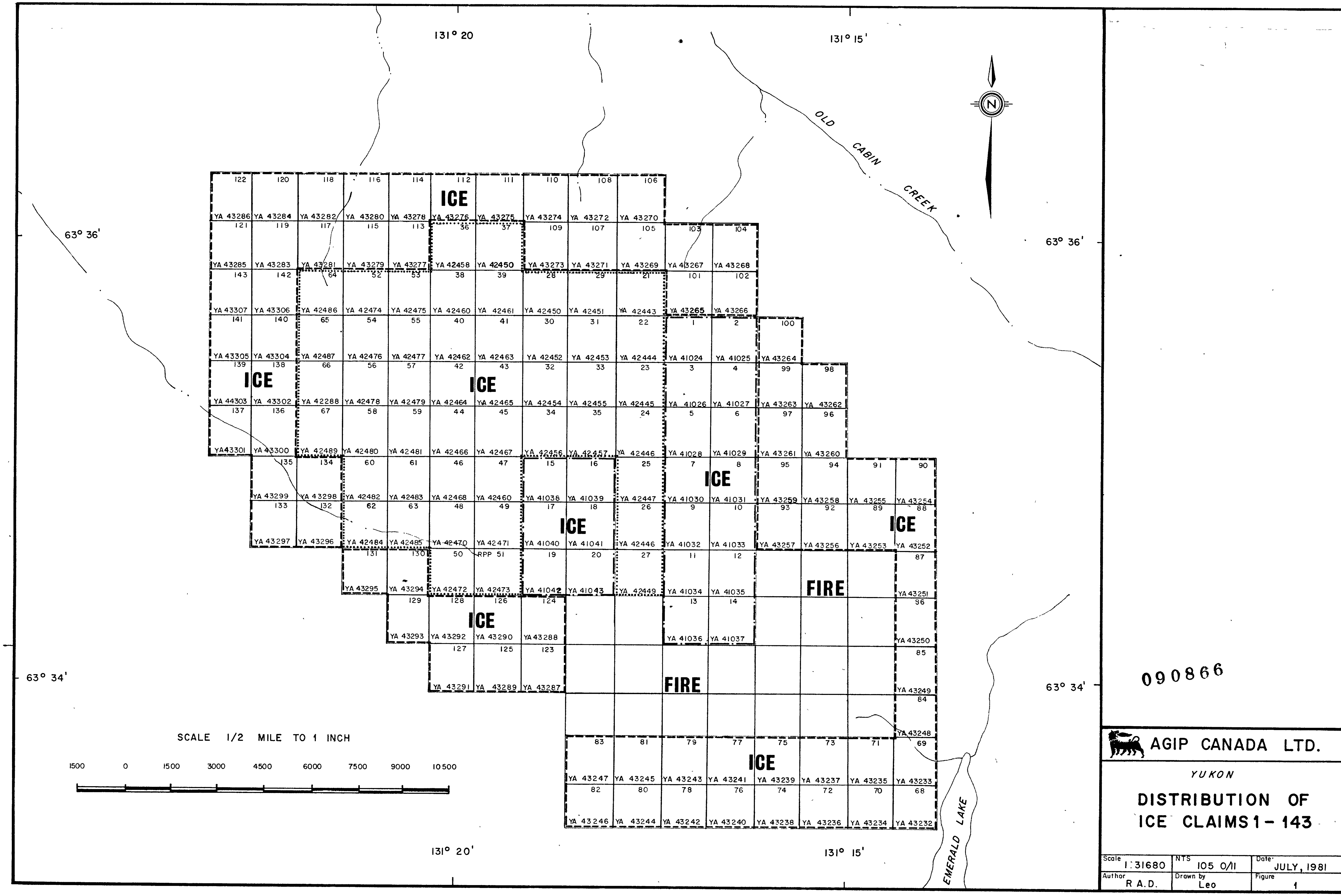
That I obtained a Bachelor of Science degree with Honours in Geology from the University of Ottawa, Ontario in 1980.

That I have been engaged in mineral exploration and geological survey mapping on a full and part-time basis for five years of which two have been on mineral exploration programs in the Yukon Territory.

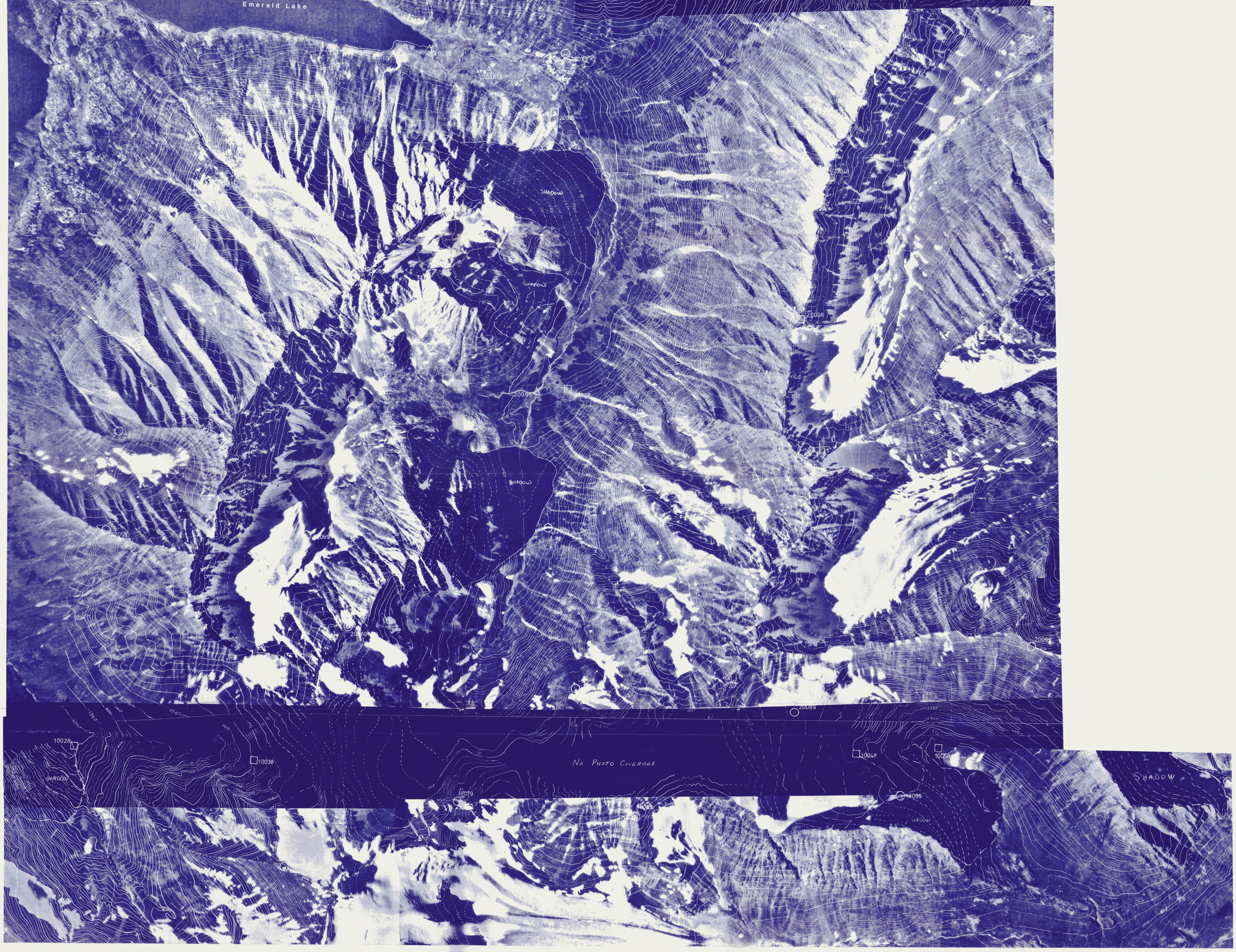
That I am an associate member of the Geological Association of Canada and the Mineralogical Association of Canada.

Signed at Calgary Alberta, this 26th day of August A.D. 1981.

THOMAS GARAGAN


131° 20
131° 15'
OLD CABIN CREEK
63° 36'
63° 34'
ICE
FIRE
SCALE 1/2 MILE TO 1 INCH
1500 0 1500 3000 4500 6000 7500 9000 10500
131° 20'
131° 15'
EMERALD LAKE
090866
AGIP CANADA LTD.
YUKON
DISTRIBUTION OF
ICE CLAIMS 1 - 143
Scale 1:31680
NTS 105 O/11
Date JULY, 1981
Author R.A.D.
Drawn by Leo
Figure 1


Emerald Lake
26059
20081
20018
26079
SHADOW
26059


Emerald Lake
SHADOW
SHADOW
SHADOW
No Photo Coverage
SHADOW
10028
10038
10048
10058

998060

PRODUCED BY
KENTING EARTH SCIENCES LIMITED
CALGARY

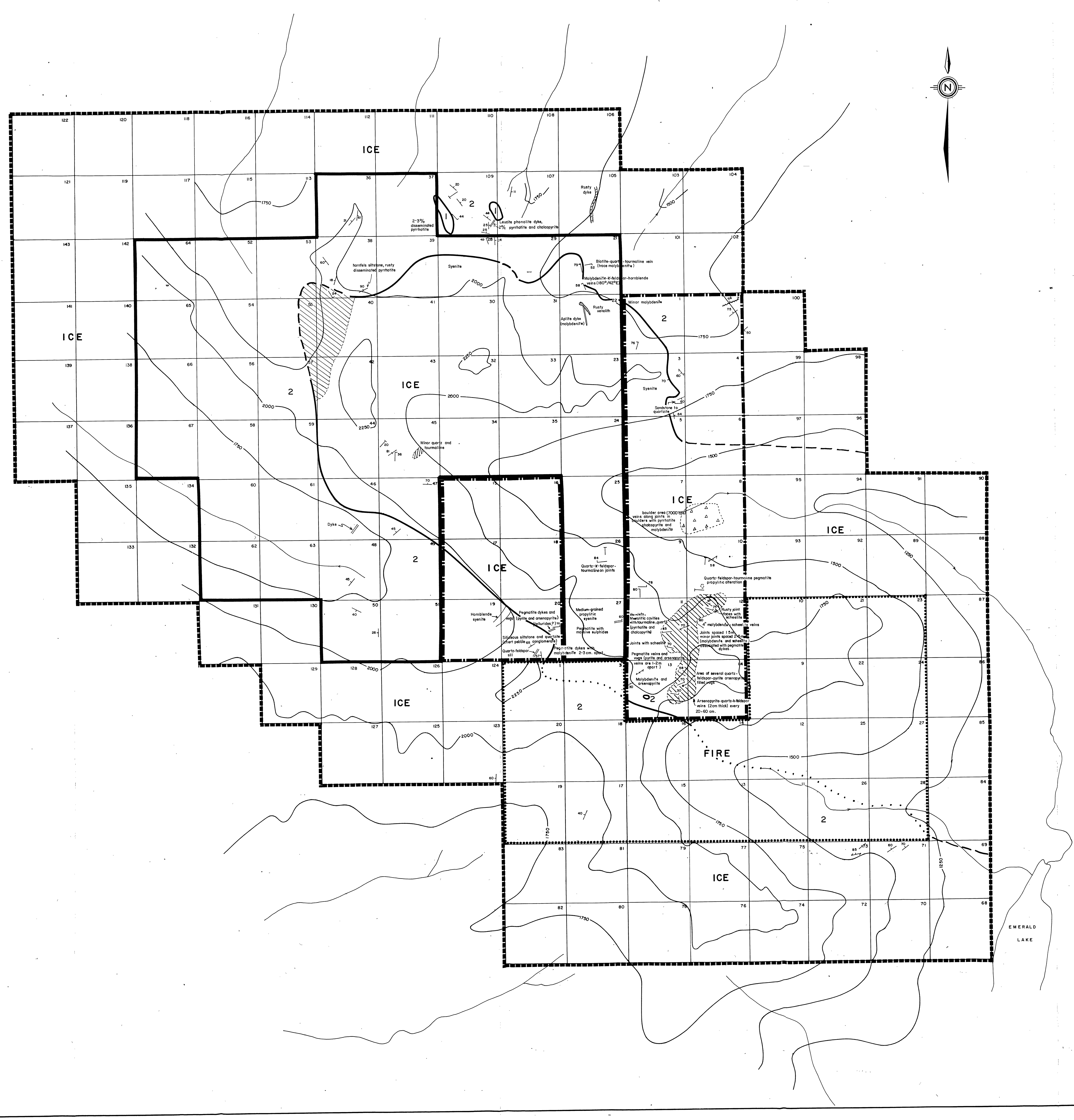
EMERALD LAKE INTRUSION

contour interval 10 METERS

SCALE 1:10,000

Metres 200 100 0 200 400 600 800 1000 1200 1400 1600 1800 2000

Feet 1000 500 0 1000 2000 3000 4000 5000 Feet



LEGEND

Cretaceous

| 1 | Emerald Lake Intrusive: trachytic syenite, medium to coarse-grained hornblende syenite |

Upper Ordovician-Silurian

| 2 | Siltstone, cherty mudstone, graptolitic shale, chert, minor sandstone |

SYMBOLS

Geological contact (defined, approximate, assumed)
Dykes
Bedding (inclined, vertical)
Foliation
Jointing (inclined, vertical)
Fault, with dip
Boulder field
Rusty zone
Topographic contour
Streams

CLAIM GROUP BOUNDARY

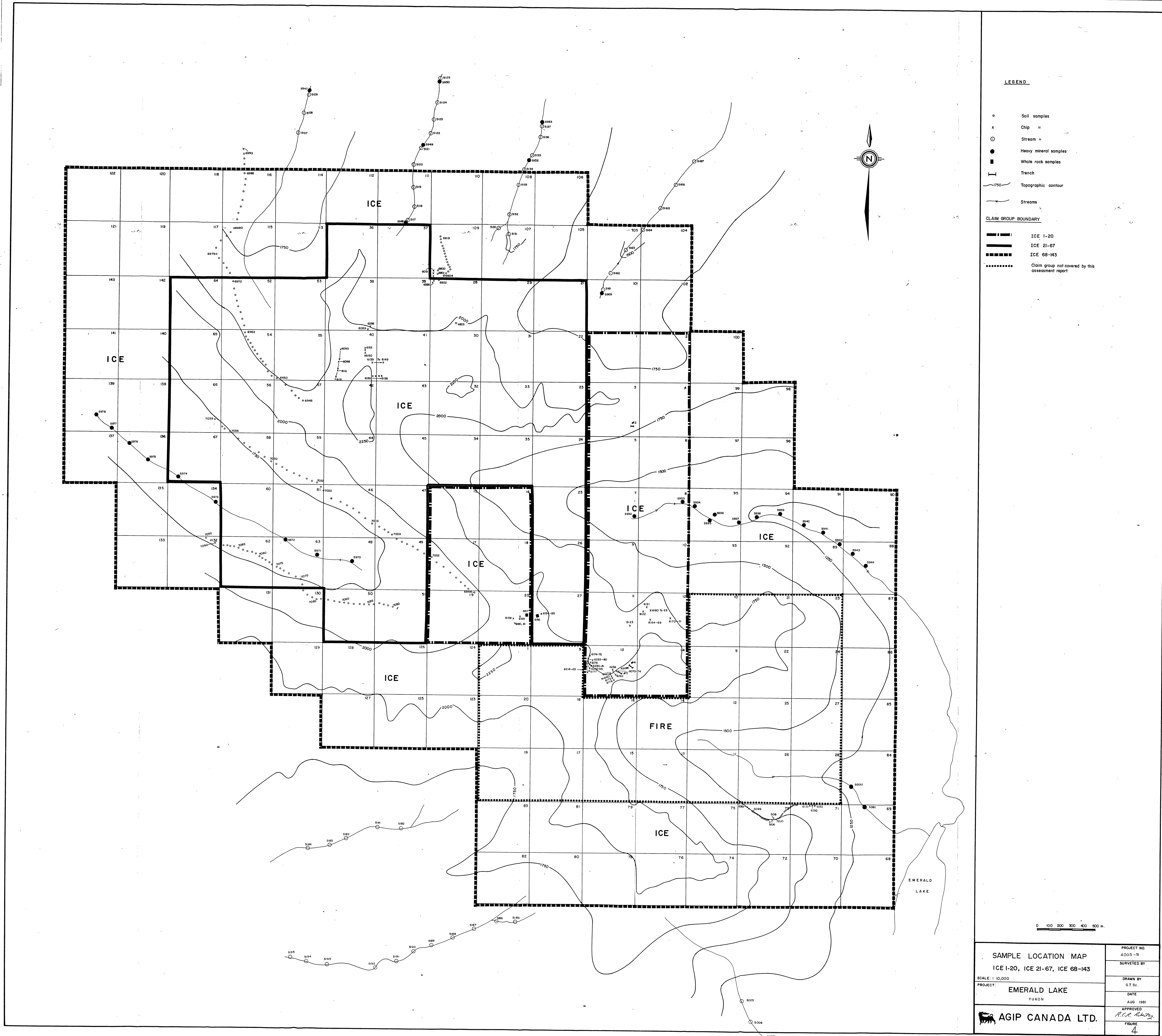
ICE 1-20
ICE 21-67
ICE 68-143
Claim group not covered by this assessment report

0 100 200 300 400 500 m.

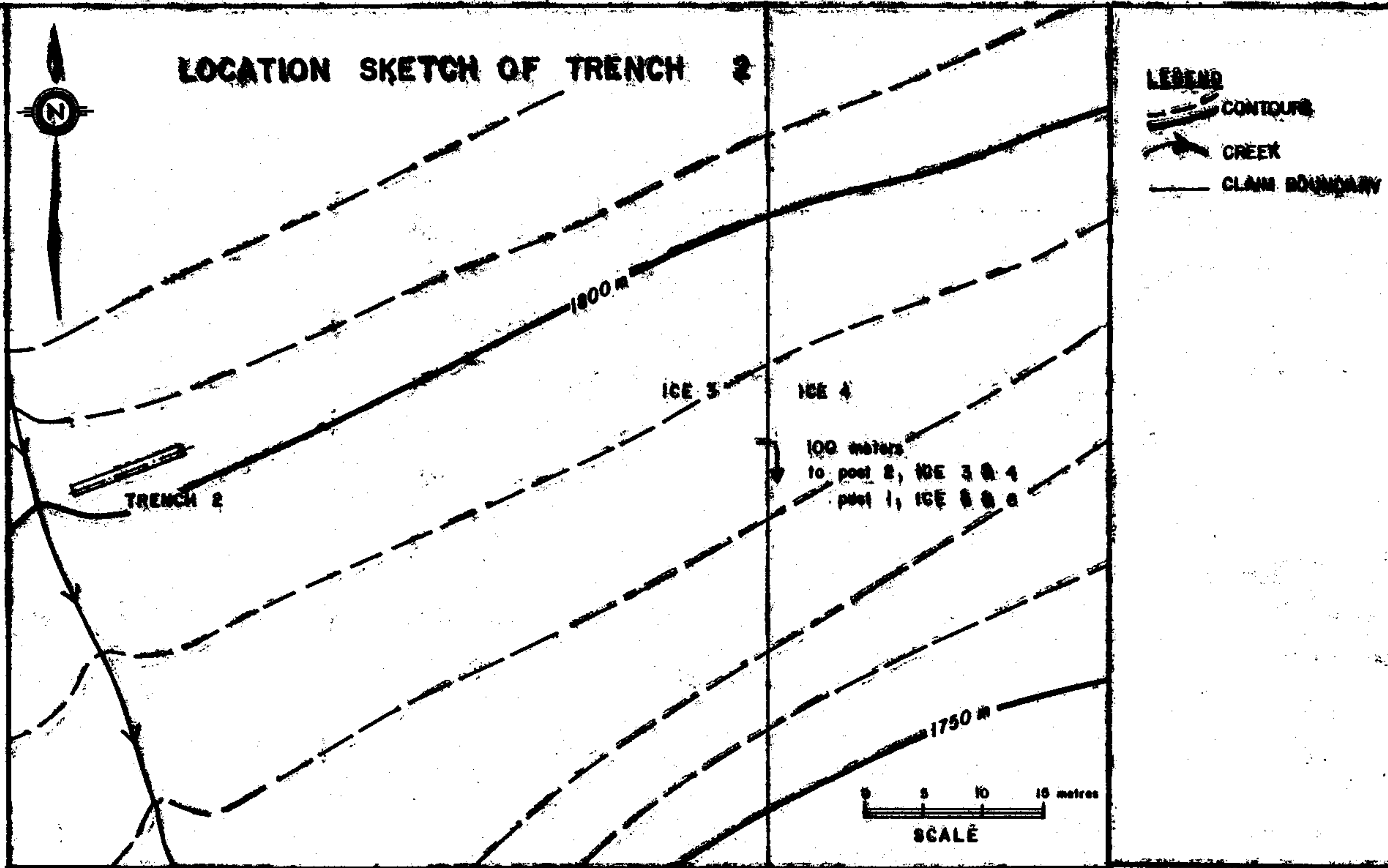
GEOLOGY MAP ICE 1-20, ICE 21-67, ICE 68-143 SCALE: 1 10,000	PROJECT NO. 4003-B SURVEYED BY R.A.D., T.G. DRAWN BY G.T. Sz.
PROJECT: EMERALD LAKE YUKON	DATE AUG. 1981
AGIP CANADA LTD.	APPROVED R. C. R. Robertson FIGURE 3

090866

090866



LEGEND
Soil samples
Chip "
Stream "
Heavy mineral samples
Whole rock samples
Trench
Topographic contour
Streams
CLAIM GROUP BOUNDARY
ICE 1-20
ICE 21-67
ICE 68-143
Claim group not covered by this assessment report
ICE
FIRE
EMERALD LAKE
0 100 200 300 400 500 m.
SAMPLE LOCATION MAP
ICE 1-20, ICE 21-67, ICE 68-143
SCALE: 1 10,000
PROJECT:
EMERALD LAKE
YUKON
AGIP CANADA LTD.
PROJECT NO.
4003-B
SURVEYED BY
DRAWN BY
G.T. Sz.
DATE
AUG 1981
APPROVED
FIGURE
4



CONTOUR INTERVAL: 10m.

090866

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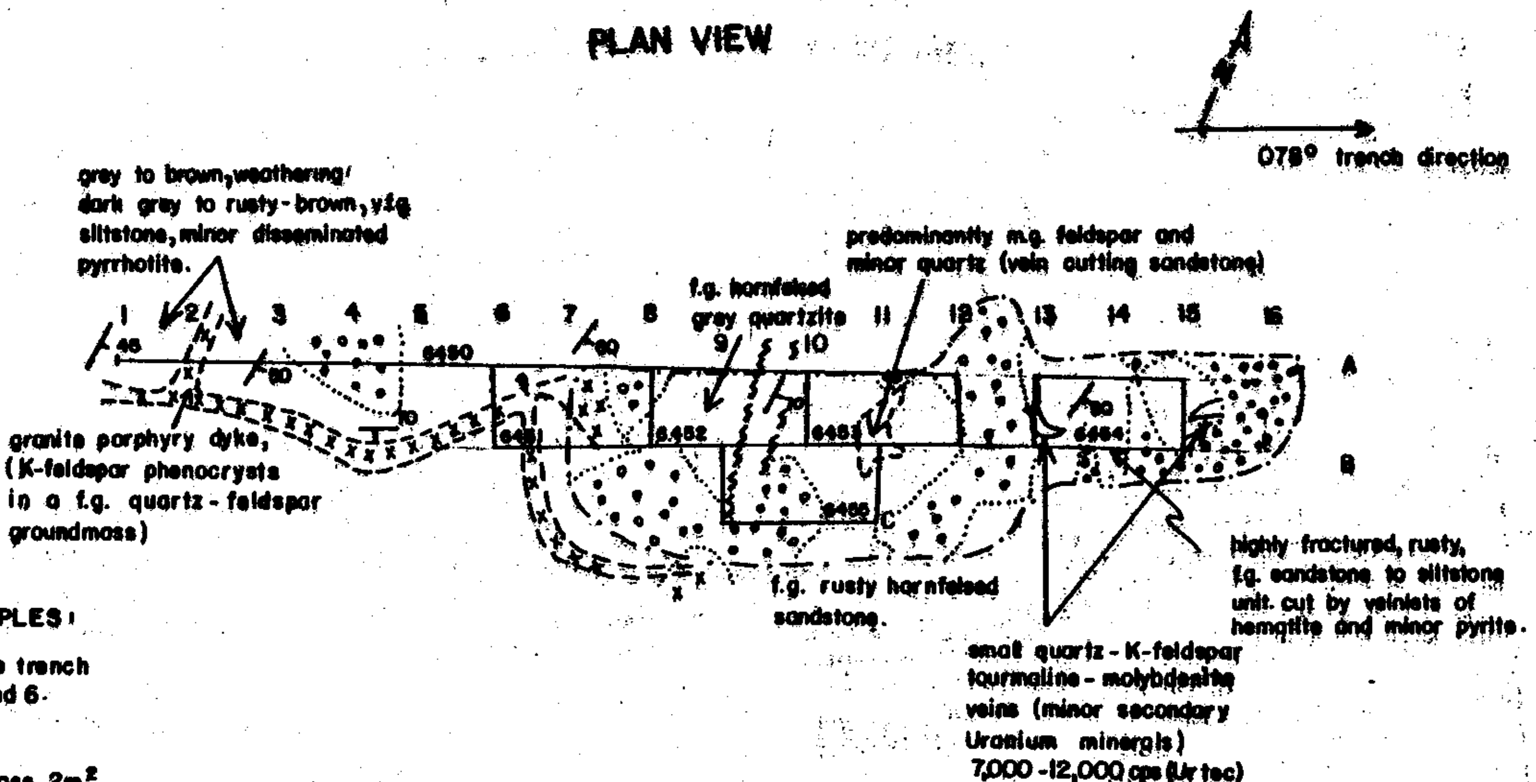
LOCATION SKETCH
TRENCH 2

EMERALD LAKE, YUKON

Scale: 1:500	NTS: 105 O/11	Date: Sept. '91
Author: T.G.	Drawn by: Lao	Figure: 5a

PLAN VIEW

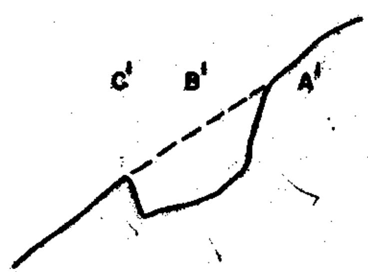


CONTINUOUS CHIP SAMPLES:

6450 - across 5 m. outside trench between points 1 and 6.

6451-55 - continuous across 2m² of trench.

CROSS-SECTION A-B-C



LEGEND

f.g.	fine-grained
m.g.	medium-grained
	geologic contact
	bedding, with dip
	fault
	talus cover
	trench margin
	dyke rock

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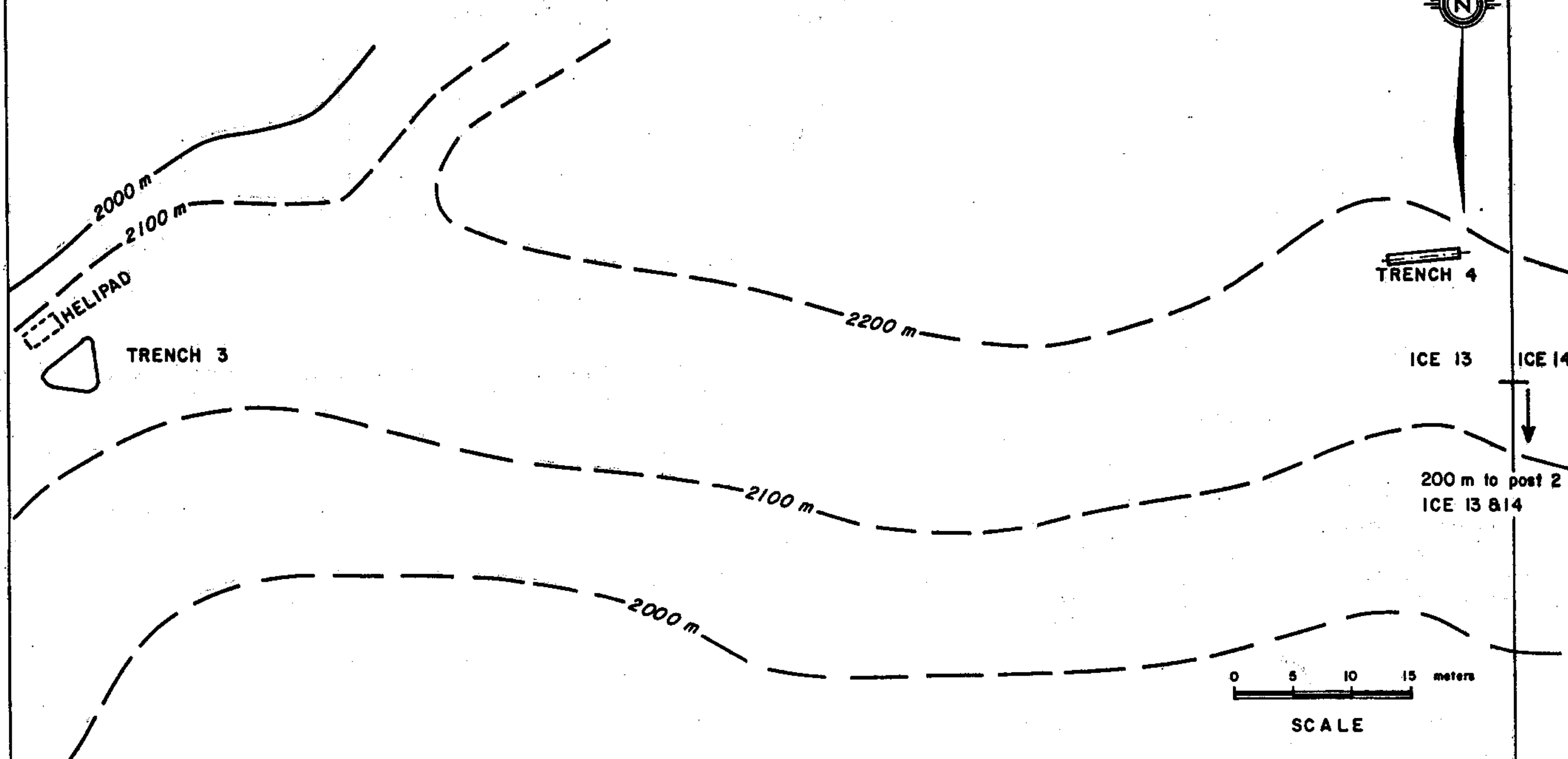
GEOLOGY AND SAMPLE LOCATIONS TRENCH 2		
EMERALD LAKE, YUKON		
Scale: 1:100	NTS: 105 O/11	Date: SEPT. '81
Author: T.G.	Drawn by: S.L.G.	Figure: 5b

LOCATION SKETCH OF TRENCH 3 & 4



Contour Interval 100m.

LEGEND

Contours (defined, approximate)

Claim boundary

AGIP CANADA LTD.		
LOCATION SKETCH TRENCH 3 AND 4 EMERALD LAKE, YUKON TERR.		
Scale: 1-500	NTS: 105/O/11	Date: Sept. 81
Author: T.G.	Drawn by: Leo	Figure: 6

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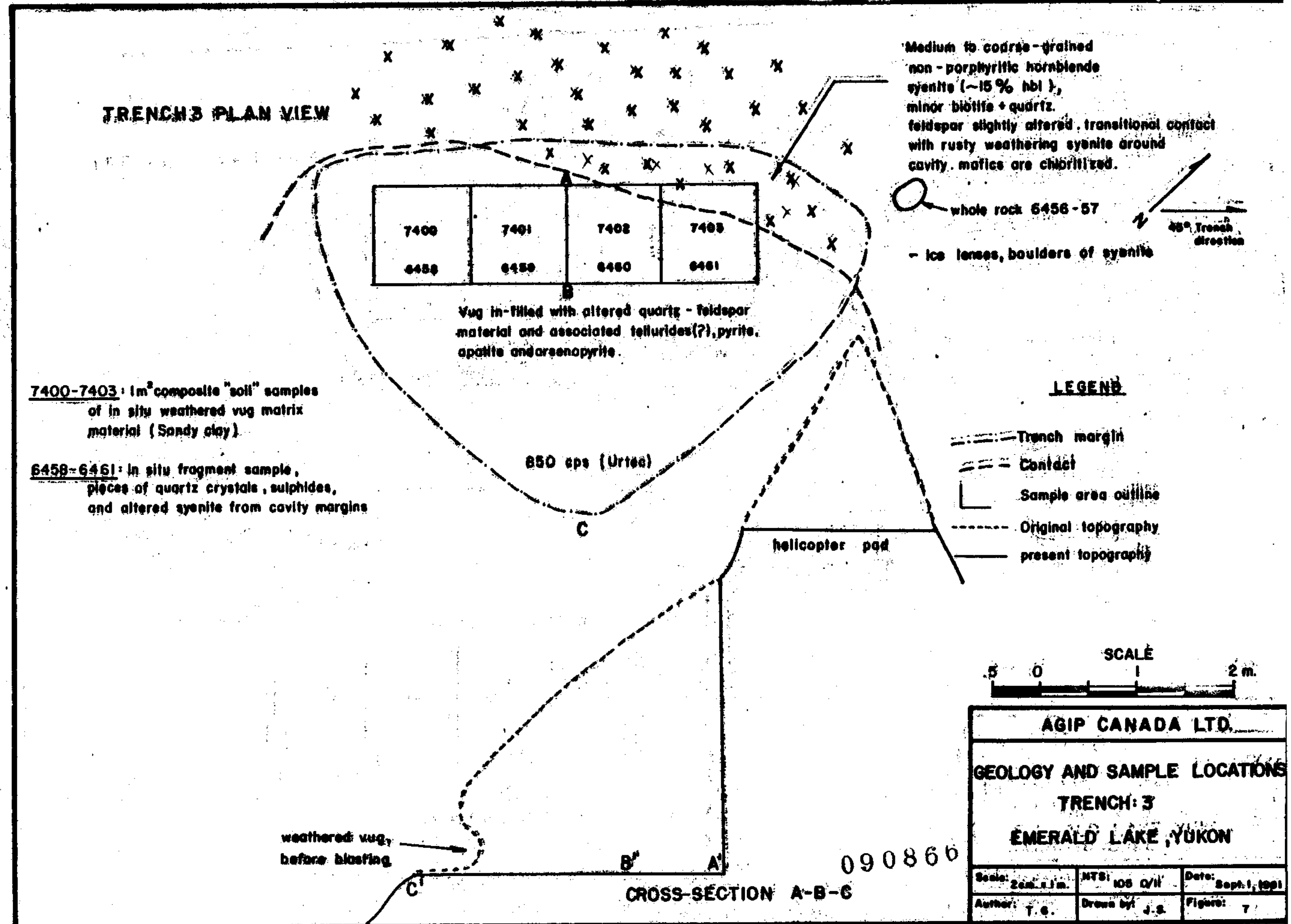
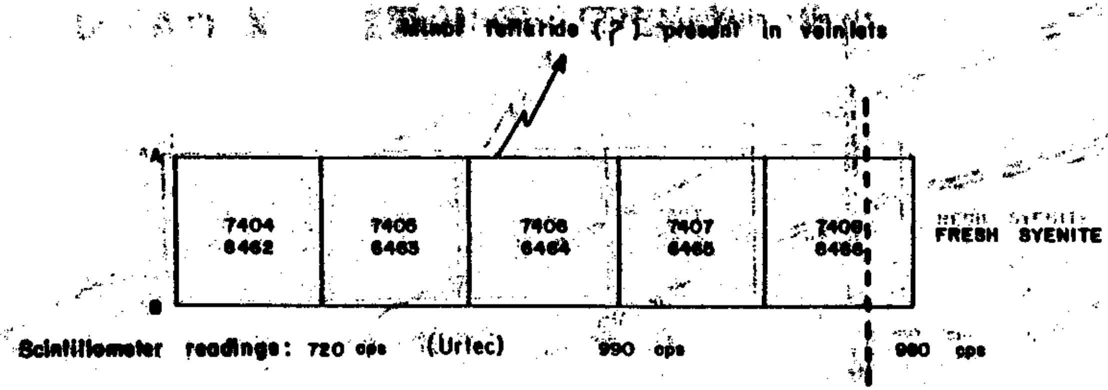

TRENCH 3 PLAN VIEW
Medium to coarse-grained non-porphyritic hornblende syenite (~15% hbl), minor biotite + quartz. feldspar slightly altered, transitional contact with rusty weathering syenite around cavity. mafics are chloritized.
whole rock 6456-57
N
45° Trench direction
- ice lenses, boulders of syenite
A
B
7400
7401
7402
7403
6458
6459
6460
6461
Vug in-filled with altered quartz - feldspar material and associated tellurides(?), pyrite, apatite and arsenopyrite.
7400-7403: 1m² composite "soil" samples of in situ weathered vug matrix material (Sandy clay)
6458-6461: In situ fragment sample, pieces of quartz crystals, sulphides, and altered syenite from cavity margins
850 cps (Urtec)
C
LEGEND
Trench margin
Contact
Sample area outline
Original topography
present topography
helicopter pad
weathered vug, before blasting
B'
A'
C'
CROSS-SECTION A-B-C
SCALE
.5
0
1
2 m.
090866
AGIP CANADA LTD.
GEOLOGY AND SAMPLE LOCATIONS
TRENCH: 3
EMERALD LAKE, YUKON
Scale: 2cm = 1m.
NTS: 105 O/11
Date: Sept. 1, 1981
Author: T. G.
Drawn by: J. S.
Figure: 7

TRENCH 4 : PLAN VIEW



6462 – 6466 : Rock chips and fragments from ≈ 1 m² area

7404 – 7408 : Composite "soil" samples from ≈ 1 m² area

Trench trends 085° and covers cavity in-filled with altered sandy clay matrix material and fragments of quartz, K-feldspar, pyrite, and telluride(?). Rock fragments are coarse-grained.

Transitional contact between fresh, and altered yellow weathering syenite.

CROSS-SECTION

SCALE

0 1 2 meters

AGIP CANADA LTD.

GEOLOGY AND SAMPLE LOCATION.

TRENCH 4

EMERALD LAKE

Scale: 1:50	NTS: 105/O [illegible]	Date: SEP 81
Author: T.G.	Drawn by: L.V.	Figure: [illegible]

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