MAP NO.: 105 M 13

ASSESSMENT REPORT X

PROSPECTUS

CONFIDENTIAL X

OPEN FILE

DOCUMENT NO: 093051

MINING DISTRICT: Mayo

TYPE OF WORK: Prospecting, Geological Mapping.

REPORT FILED UNDER: Aurex Exploration

DATE PERFORMED: June - August 1992

DATE FILED: December 9, 1992

LOCATION: LAT.: 63°52'N

LONG.: 135°30'W

AREA: Elsa Area

VALUE $: 10,800.00

CLAIM NAME & NO.: Aurex 1 - 36 + 51 - 86, YB28429 - YB28500

WORK DONE BY: A. J. McFaull B.Sc., F.G.A.C.

WORK DONE FOR: Aurex Exploration

DATE TO GOOD STANDING:

REMARKS: # 105 M - Elsa Area
Aurex Exploration staked 72 Quartz Claims near Elsa, Yukon. The claims were staked to cover possible Fort Knox style mineralization. The author performed preliminary prospecting and geological mapping. Initial results revealed contact metamorphic rocks in several exposed trenches. The author theorizes that one or more Cretaceous age granitic intrusions are present in the area and are the source for the metamorphic rocks. This theory is supported by airborne magnetics and preliminary geochemical results which returned anomalous gold values. An extensive reverse circulation drill program has been proposed to check for granitic intrusions and mineralized zones.

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OFFICE OF THE REGIONAL MANAGER
MINERAL RIGHTS
DEC 11 1992
WHITEHORSE
YUKON TERRITORY

TRANSMITTAL FORM

M.R. file no.	
R.M.M.R. file no.	
Date forwarded	09 DEC 92

From ▶ Mining Recorder at:

To ▶ Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

- ☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT — Name
- ☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT — Name — Lease no.
- ☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE — Name — Lease no.
- ☐ SECURITY DEPOSIT
- ☐ FINANCIAL ABILITY
- ☐ ASSIGNMENT OF PLACER LEASE NO. — From — To
- ☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT. — Owner
- ☐ DIAMOND DRILL LOGS — Claims — Claim sheet no.
- ☑ QUARTZ ASSESSMENT REPORT — Claims: AUREX 1-369 51-86, YB 28429-500 — Claim sheet no.: 105-M-13

Type of report: PROSPECTING AND GEOLOGICAL MAPPING

Submitted by: JIM MCFAULL

Cls. work performed on: AUREX 1-369 51-86

$ req. for ren. application: $10,800.00

Please return one numbered copy and index cards for our files.

Signature

REPLY ACTION

Date returned

Signature

902-6027-26 (6-86)

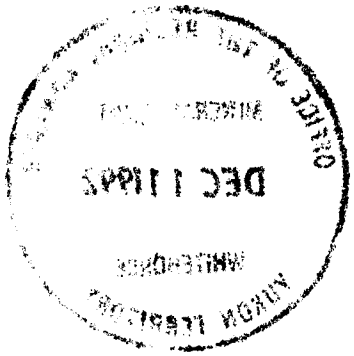
THE GEOLOGY, GEOCHEMISTRY & GEOPHYSICS OF THE AUREX 1-36 & 51-86 QUARTZ CLAIMS YB28429-YB28500 MAYO MINING DISTRICT

BY
A.J.McFAULL B.Sc., F.G.A.C
EXPLORATION GEOLOGIST
AUREX EXPLORATION

DATED: DECEMBER 3,1992

NTS 105-M-13
Lat. 63°52'
Long.135°30'-40'

093051



This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 10,800.00.

Robert Dechlecke

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

INTRODUCTION

A new exploration target model for lode gold in the North has been developed in the Fairbanks, Alaska district. The model is the Fort Knox deposit currently under development by Amax.

Amax also holds claims in the Dublin Gulch area in the central Yukon, near the Keno Hill silver mines at Elsa. They felt this area was geologically similar to the Fort Knox deposit and they initiated an exploration program in late 1991. This resulted in a staking rush around Dublin Gulch in Nov.-Dec. 1991 in which over 1000 claims were staked. Amax has expended over $1,000,000.00 at Dublin Gulch during the 1992 season.

This writer staked 72 claims in this district in April, 1992 on a possible Fort Knox type gold target. The initial target was defined by Au, As stream sediment geochemistry, known Au, As, W showings on adjacent claims held by other companies and an airborne resistivity anomaly with coincident air-magnetic anomaly, suggesting a possible granitic intrusion in the target area. These possible intrusions have not beenmapped due to less than 0.5% outcrop on the property.

Recon prospecting by this writer in June-August,1992 on the AUREX claims located approximately 36 bulldozer trenches cut in 1974 by previous prospectors looking for Keno Hill silver veins. This writer identified contact metamorphic rocks of the calc-silicate skarn/ hornfels type in several of the trenches. These rocks are carrying anomalous values in Au,As,W,Bi,Cu,Pb and Zn. Values are similar to those found on Amax's Dublin Gulch property, 20km. to the north and on H6000 Ltd.'s property at Scheelite Dome, 35km. to the southwest.

The intrusion responsible for this contact metamorphism has not been located due to lack of outcrop but the airborne geophysical anomalies are close at hand ($\pm$ 1km.) to the mineralized trenches.

Territorial government geologists Charlie Roots and Don Murphy are mapping in the vicinity of the AUREX claims and examined the trenches with this writer. They concluded that the intrusive source causing the contact metamorphism must be very close to the hornfels in the trenches due to the intensity of metamorphism. This would support the airborne geophysical anomalies as the probable location of the intrusions.

LOCATION

The target area is located in the central Yukon Territory approximately 430km. north of Whitehorse and 30km. northeast of Mayo and 3km. west of Elsa (site of United Keno Hill Mines Ltd.'s 200,000,000 ounce silver camp). The map sheet is NTS 105-M-13 and Lat. 63°52' Long. 135°30'-135°40'.

The property is bounded on the west and north by Yukon Territorial Highway #11, on the east by the Williams Creek Road and on the southwest by a cat trail up Corkery Creek. Only the southeast quarter of the claim block has no existing road access.

A major hydro-electric power line to the Elsa mines crosses the west end of the claim block next to Highway #11. The dam is located at Mayo and was built in the 1950's to supply the Elsa mines. The Elsa camp is now on indefinite shutdown due to low silver prices and the power is not being used.

A DC-3 capable airstrip is located 30km. south of the AUREX claims at Mayo. Daily sked flights are run from Whitehorse. A Jet Ranger helicopter is also based in Mayo. Groceries, gas, bulk fuel hotels, restaurants, police, fire, hospital and government offices are located in Mayo (pop. $\pm$500).

PROPERTY

The property consists of 72 contiguous claims staked under authority of the Yukon Quartz Mining Act as AUREX 1-36 & 51-86. The block is 18 claims long by 4 wide. Each claim is 450m. x 450m. and 21 hectares in area, totalling 1500 hectares. The claims are recorded at the Mayo Mining Recorder's office and grants have been issued giving 100% ownership to this writer. The claims are valid until April 21, 1993. Grant numbers are YB28429-YB28500. All posts are in place and all government claim tags have been properly affixed to the posts. Both claim lines have been flagged and blazed for line of sight identification from end to end.

TOPOGRAPHY & VEGETATION

The west end of Galena Hill has a relatvely low and gentle topography. The relief on the claim block is less than150m. (400') in total, with a maximum elevation of approximately 3100' a.s.l. Slopes are moderate with a few short steep slopes on the northwest end of the property. The entire eastern half of the claim block is a large flat, swampy plateau.

Vegetation is scrub spruce trees in the lower areas and buckbrush on the upper slopes and in the swampy area to the east.

GEOLOGICAL TARGET MODEL

The geological target model used to target the AUREX claims is the Fort Knox deposit in Fairbanks, Alaska.

The Fairbanks-Circle District has produced 8 million ounces of placer gold since the turn of the century. Lode gold mining was restricted to high grade (+1.0ozAu/ton) quartz veins until 1942. Exploration for low-grade-large tonnage type deposits started around 1969 but was delayed by environmental and native land claim issues until the late 1980's. Exploration in recent years (1989-1990)has included 251 r/c drill holes totalling 149,128' and a 200,000 tonne bulk sample. This work has led to the following model.

Fort Knox deposit is hosted by Proterozoic to lower Paleozoic schist and quartzite. This is intruded by Mesozoic plutons. The main unit the Fairbanks schist, is probably equivalent to the Nasina Series in Y.T.

The deposit is underlain by graphitic schist and marble of the Cleary Sequence. Schists around the deposit contain Sb-lode gold deposits and some massive sulphide deposits. The area is drained by placer gold creeks.

The Fort Knox pluton is 90my. (upper Cretaceous) granite, with 3 phases from fine to coarse grained.

The deposit is cut by a north-west trending shear zone which has controlled the emplacement of veins and pegmatites. The older northwest fractures are crosscut by longitudinal fractures running east to west, the northwest fractures were reactivated and finally the whole system was cut by north-south joints.

Gold appears to be located in biotite-hornblende pegmatites which grade into grey quartz veins. The associated minerals are scheelite, bismuthenite and arsenopyrite with biotite and Kspar resulting from potassic alteration.

Fluid inclusions show evidence of boiling, where a milky white quartz in the main shear zone occurs in stockwork veins with evenly distributed gold values. Bismuthenite and gold occur in an alteration selvage on the edge of the veins and in high grade intense stockwork zones about 10 feet wide. The northwest shear zones

contain granulated quartz and iron oxide and are very high grade. Gold occurs with the granulated quartz.

The last pulse of alteration consisted of zeolite,calcite, clay and chalcedony. Quartz also occurs as breccias and fracture fillings in north-south joints. There are rehealed and broken chalcedonic breccias. The main point is that the Fort Knox deposit is structurally controlled, there is no significant concentrations of gold in the granite itself.

Gold occurs only with bismuthinite- Bi_2S_3. This is a dirty, dark grey mineral with sub-metallic lustre, much less metallic than stibnite. Free gold occurs in the bismuthinite. The bismuthinite can be coated with a yellow oxide-bismite-which is heavy and concentrates in a gold pan. It's a bright yellow and does not have the greenish cast of scorodite. There is a near perfect correlation between Bi, Te and Au (0.976 on 3000 assays).

An igneous hornfels (endoskarn) has formed a mafic contact rock at the intrusive margins where the medium grained phase of the granite is in contact with the schist. Drilling has proved this unit is rootless.

The system is mineralogically zoned- with Sb on the periphery changing with depth to arsenic, tungsten, lead and bottoming in bismuth. Gold increases with depth and bismuth content.

PREVIOUS WORK

The area covered by the AUREX claims was previously partially staked by 9 claims belonging to the late Jack Hawthorne. Some of these claims were staked as far back as the mid-1930's by Hawthorne and were prospected by him until his death in the late 1980's. This included numerous bulldozer trenches in 1974. He was primarily looking for U.K.H.M. type Ag-Pb veins. U.K.H.M. also staked 2 claims just south of the AUREX 68-70 claims in 1949 but lapsed them the next year.

The Yukon Minfile describes this target as the "Newry" Occurance #60 for NTS 105-M-13. No mineralized showings are reported. See the attached Minfile sheets.

The Hawthorne claims lapsed in late 1991 and the area was open in April 1992 when the AUREX claims were staked for this writer.

REGIONAL GEOLOGY

The rocks underlying the Keno Hill area are mainly sedimentary and include various types of argillites, phyllites, slates, schists and quartzites of upper Proterozoic to Mississippian age. Conformable lenses and sills of greenstone, probably Triassic in age, occur in profusion in places in the meta-sediments and a few narrow lamprophyre and quartz- porphyry sills, probably Cretaceous or younger, are present locally. Granitic masses cut the meta-sediments and greenstones at several places; east and north-east of Mayo Lake, northwest of Hanson Lake and south and east of Dublin Gulch. It is suspected that there may be small granitic stocks or plugs present on the AUREX claims. Near these granitic masses, characteristic skarn zones are developed in calcareous rocks of the meta-sedimentary sequence. The age of the granitic rocks is thought to be Cretaceous.

LOCAL GEOLOGY

The rocks exposed on the AUREX claims belong to the "Upper Schist Unit" which is correlated regionally to the upper Proterozoic lower Cambrian "Grit Unit"- now referred to as the Hyland Group.

Granitic intrusions on the adjacent claims are dated as early Cretaceous. Also located on the Aurex claims is a previously unmapped calc-silicate skarn or hornfels rock. All these rocks are similar to those found on the Fort Knox Target model property in Fairbanks, Alaska.

The Hyland Group is composed of sandstones, conglomerates and phyllites. On the AUREX claims these rocks are mainly phyllites which are in contact with the "Keno Hill Quartzites" to the north. The contact is thought to be the Robert Service Thrust Fault. The Hyland rocks along the Fault are highly deformed intercalated grey-green, waxy-lustred phyllonitic quartz-pebble conglomerate, psammite and phyllitic marble. This package is interpreted as a structurally imbricated, isoclinally folded and faulted succession of rocks from immediately above and below the Robert Service Thrust Fault.

The phyllites are coarse grained with a silky sheen on the cleavage surface. Most are greyish or buff coloured. Many are warped dragged or crushed and contain stringers of quartz and carbonate. Boudins of quartz may also occur in these rocks but not abundantly.

In thin section the phyllites contain white mica (sericite) and/or brown mica (biotite), microcrystalline quartz and leucoxene, chlorite, isotropic colloidal material and pyrite. Some contain a little carbonate. accessory minerals are tourmaline, Zircon and rutile. The texture is commonly banded, with layers of sericite, leucoxene and a little quartz alternating with layers of quartz, carbonate and subordinate sericite and/or biotite. In most sections the small irregular masses of pyrite are strung out along particular bands.

Also exposed in bulldozer trenches on the AUREX claims is a previously unmapped, very rusty weathering,dark grey-green fine grained calc-silicate skarn/hornfels containing 1-5% very fine grained disseminated arsenopyrite and minor pyrite. This unit forms prominent gossans in the trenches.

This hornfels is in contact with light tan-buff coloured quartz sericite schist/phyllite typical of the Hyland Group. The hornfels appears to be stratigraphically controlled and is probably the result of contact metamorphism along chemically receptive limey horizons.

These units are of varying thickness in the 5-30m. range and are similar to rocks found on the adjacent SNOWDRIFT (U.K.H.M. LTD) and WAYNE(ISLAND MINING CO. LTD.) and SIN (ARCHER/CATHRO LTD.) claims. The intrusion causing this contact metamorphism is not exposed on the AUREX claims due to lack of outcrop. It is believed to be very close to the hornfels in the trenches due to the intensity of metamorphism the hornfels exhibits.

The skarns mapped nearby occur as irregular bodies, boudins beds and in discontinuous lenses that appear to have resulted mainly from the contact metamorphism of limestone. Some bodies may have been derived from calcareous schist and calcareous quartzite.

The rocks are greenish or greenish-brown, coarse to medium to fine grained and mostly massive, dense and hard, with softer units found locally. Some bodies show faint banding and others are slightly schistose in appearance.

In thin sections the skarn exhibits a wide variety in quantity and types of minerals. The predominant minerals are diopside, fibrous amphibole, scapolite, quartz, carbonate minerals, plagioclase and epidote. In some bodies these minerals are coarse grained and euhedral to subhedral. In others they are fine grained, highly intergrown and irregular. Accessory minerals include sphene and apatite. Scheelite as subhedral to anhedral crystals, occurs in many of the bodies. This mineral is generally disseminated through the groundmass but tends to occur in the carbonate or quartz rich parts. Many of the scheelite

crystals are poikilitic and enclose particles of carbonate, quartz and other minerals. Pyrrhotite is abundant in a few beds and lenses of skarn. It occurs as ramifying patches and blebs in a fine grained groundmass. Where pyrrhotite is present in quantity, the lenses carry up to 0.10 ozAu/ton. On the AUREX claims arsenopyrite occurs in identical manner to pyrrhotite and with similar gold assays. Some of the area skarns are enriched in Bismuth up to 120ppm Bi.

On the AUREX claims this skarn/hornfels rock has been observed in at least 7 trenches located on claims AUREX 7,8,9,10 and in another 2 trenches located on claim AUREX 65.

MINERALIZATION

The hornfels unit containing disseminated arsenopyrite is anomalous in Au, As, Bi, W, Cu, Pb and Zn. The values are similar to other Fort Knox type prospects in the Mayo area, such as Dublin Gulch and Sceelite Dome and on the adjacent SNOWDRIFT, WAYNE & SIN claims. This mineralization covers a local area of 3Km. x 1Km. and is open in all directions from the AUREX claims.

Assay sheets of rock samples and soil geochem samples taken by AUREX EXPLORATION, CYPRUS CANADA LTD. & NORANDA are attached to this report.

The best assays obtained to date were rock grab samples from Trench 2 and Trench 3 located on AUREX 7 claim. Both were rusty weathering fibrous, calc-silicate hornfels with 1%-5% disseminated arsenopyrite. Both samples assayed +6667ppbAu by A.A. and fire assayed 0.157 and 0.105ozAu/ton. A second rock grab sample from the same outcrop in Trench 2 assayed +6667ppbAu and fire assayed 0.231ozAu/ton. Other samples taken from these same outcrops assayed lower and quite variable values, which is typical of skarn mineralization.

These assays are also similar to those given by D. Emond in her two recently published papers on the Tin & Tungsten Skarns of the McQuesten River valley.

GEOPHYSICS

The AUREX claims are covered by the Government total field airborne magnetics (Map 3371G) flown in 1964. Mag hi and low anomalies on this and adjacent map sheets appear to represent granitic intrusions in many cases. One such mag low is located on the western end of the AUREX claim block on the adjacent SNOWDRIFT claims. A smaller mag low is located on upper Corkery Creek just south of the AUREX claim line.

The target area was also covered by DIGHEM III airborne geophysics in 1984 by U.K.H.M. LTD. The resistivity survey parameter (which maps bedrock geology) shows a line of +1000 ohm/meter resistivity highs striking east-west accross the AUREX claims. These may represent possible granitic intrusions and represent the main target on this property. The anomalous zone is approximately 9000m. x 1200m.

The western most resistivity high is coincident with the mag low previously described. These coincident anomalies reinforce each other as possible granitic intrusions.

GEOCHEMISTRY

The stream drainages in this area have been sampled by the Government. There are several anomalies for gold and arsenic along Corkery Creek on the south side of the claim block. The highest is 11000ppbAu.

This writer also took 36 soil geochem samples (#TC001-TC038) at 30m. intervals along a 1km. line from Trench 2 on AUREX 7 to the resistivity high on AUREX 59. Results show minor gold and minor to moderate arsenic anomalies along the line.

Noranda took another 15 soil geochem samples accross the resistivity anomaly on AUREX 59 with no anomalies. Samples were 'B' horizon but may be primarily glacial till as it appears the entire AUREX claim block was glaciated. Soil geochem results may not be reliable as a result.

CONCLUSIONS

The area covered by the AUREX claims is adjacent to known Au,As,W, Bi skarn mineralization on the SNOWDRIFT, WAYNE & SIN claims.

Identical mineralization has been located in several cat trenches on the AUREX claims.

The target area is geochemically anomalous in Au,As in stream sediments, heavy mineral concentrates and soils.

The area has air-mag and resistivity anomalies that may represent possible granitic intrusions. These could represent geological targets similar to the Fort Knox type of mineralized intrusion currently being prospected in Fairbanks, alaska and at Dublin Gulch and Scheelite Dome and elsewhere in the McQuesten River valley.

The AUREX claims are directly adjacent to the southwest end of the Keno Hill silver camp. The Au,As,Bi,W mineralization may be genetically related to the Keno Hill silver veins as both Keno Hill and Fort Knox mineralization events are thought to be related to Cretaceous intrusive events. The AUREX claims may therefore represent a possible regional gold zone directly adjacent to a 200,000,000 ounce silver camp.

All known "Keno Hill" veins located on Galena Hill project southwest along strike onto the AUREX claims. If competant brittle rocks such as granite or hornfels are cut by any of these projected vein faults this could form a favourable location for ore shoots. It is important to recall that Fort Knox type mineralization is strucurally controlled in veins, shear zones and faults.

RECOMMENDATIONS

To prove or disprove this target as a Fort Knox type gold prospect requires locating an Au,As,Bi,W mineralized granitic intrusion on the AUREX claims. This would require a modest exploration program.

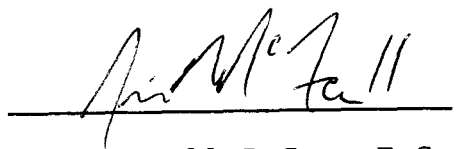
The recommended program would be to rent the U.K.H.M. Atlas-Copco BBE57-01 rotary percussion drill. This drill is located 3km. from the claims at the Elsa Mine.

Mr. Stan Wolarek, of Whitehorse, has an agreement with U.K.H.M. to rent this drill, with himself as driller. Mr. Wolarek was driller on this rig for 15 years with U.K.H.M. before the mine shutdown in 1989. This rig was designed by U.K.H.M. specifically for recon prospecting in the Elsa area in areas of deep glacial till and no outcrop. It was very successful and was used for 25 years and over 2 million feet of drilling at Elsa.

This writer supervised this drill and Mr.Wolarek for 6.5 years and 320,000 feet of that work, as the Exploration Geologist for U.K.H.M. at the Elsa Mine.

A 30m. x 30m. grid of short 15m. holes over the resistivity anomaly on AUREX 59 claim would prove if the bedrock was granitic and/or mineralized. If this was successful the grid could be expanded to drill the mineralized skarns in the trenches on AUREX 7,8,9,10,& 65. If it is not successful the program could be abandoned with minimal cost. The drill operates for $7.00/foot and is very fast, capable of penetration rates up to 1000 feet in one shift.

Respectfully submitted,



Jim McFaull B.Sc., F.G.A.C.
Exploration Geologist
AUREX EXPLORATION

December 3,1992

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AUREX ASSAY SAMPLES

TYPE	SAMPLE #	LOCATION	DESCRIPTION
Rock grab	001	Soil sample station TC011	Whitish quartz sericite phyllite
Rock grab	002	On soil geochem line @ 378m. south of Trench 2 on AUREX 7 claim	Rusty weathering fine grained, anhedral, grey & brown hornfels/skarn with trace very fine grained disseminated arsenopyrite
Rock grab	003 - 010	Trench 2 on AUREX 7 claim	Pale green & white fibrous skarn with 1% very fine grained disseminated pyrite & 1% v.f.g. arseno-pyrite with some aspy. in 1/2" fracture fillings. Skarn in contact with light brown/grey quartz biotite phyllite (not sampled).
Rock grab	011-017	Trench 3 on AUREX 8 claim	Grey, massive, soft hornfels or skarn with 1% v.f.g. diss. pyrite & 2-3% v.f.g. diss. aspy. Also a rusty weathering gossan. Grades into medium green black fibrous hornfels.
Rock grab	018-020	Trench 4 on AUREX 8 claim	White & light green, soft massive, slightly foliated skarn with 2% v.f.g. diss. pyrite & aspy.
Rock grab	021-025	Trench 8 on AUREX 9 claim	Rusty weathering light green/grey, massive,soft, slightly fibrous skarn with 1% v.v.f.g. diss. pyrite & 5% v.v.f.g. diss. aspy.
Soil	TC 001-TC 038	30m. intervals on line south from Trench 2 on AUREX 7 to resistivity hi on AUREX 59	"B" horizon but may be glacial till.

Northern Analytical Laboratories ltd.

06-Jul-92date | Assay Certificate | Page1

Aurex Exploration | WO # 13608

Sample #	Au ppb		Ag ppm	As ppm	Bi ppm
			Au Fire oz/Ton		
001 TC011 WT. QTZ. SEE PHYLLITE	1430	0.042	0.041	<0.1	70	3
002 378m HANS TRENCH HORNFELS	444		0.009	0.2	5010	13
003 TRENCH #2 PALE GREEN/	79			1.1	2060	19
004 WHITE ACTINOLITE	198		0.002	0.7	2760	15
005 HORNFELS	>6667	0.195 oz/T	0.167	3.1	5890	47
006 &	92			0.1	1576	8
007 QTZ BIOTITE PHYLLITE	591		0.031	0.5	5460	15
008 1% VFG DISS PYRITE <1% VFG DISS ASPY	380		0.018	1.1	5400	15
009 SOME MASSIVE ARSENIC ½"	>6667	0.195 oz/T	0.231	2.7	5830	48
010 FF ASPY	24			0.3	444	8
011 TRENCH #3 GREY MASSIVE	956		0.045	0.9	5390	17
012 RUSTY WRX HORNFELS	107		0.007	<0.1	437	10
013 >1% VFG DISS PYRITE	2901	0.085 oz/T	0.091	1.2	3470	27
014 2-3% VFG DISS ASPY	35			<0.1	283	10
015 &	2910	0.085	0.105	1.6	3630	30
016 MED. GREEN & BLACK	2358	0.069	0.091	1.8	5490	29
017 ACTINOLITE HORNFELS	32			0.2	317	9
018 TRENCH #4 WHITE & LIGHT	75			0.5	2680	14
019 GREEN MASSIVE SLIGHTLY	27			0.3	1048	18
020 FOLIATED HORNFELS 1% VFG DISS PYRITE	27			0.1	1430	15
021 TRENCH #5 RUSTY WRX.	1034	0.030	0.050	1.6	2870	19
022 LIGHT GREEN/GREY MASSIVE	1067	0.031	0.048	1.4	3250	21
023 ANHEDRAL HORNFELS	687		0.029	1.0	4050	17
024 ±5% VVFG DISS ASPY	580		0.022	0.8	2140	15
025 1% VVFG DISS PYR	1314	0.038	0.059	1.4	3090	17
TC001	18			0.3	166	5
TC002 SOIL GEOCHEM LINE	23			<0.1	246	4
TC004	28			<0.1	183	3
TC005	24			0.2	154	6
TC006	21			0.4	179	5
TC007	15			0.4	102	6
TC009	13			0.3	141	3
TC010	24			<0.1	230	5
TC011	20			<0.1	424	5
TC012	104			<0.1	1274	7
TC013	218			<0.1	1023	8
TC014	27			<0.1	412	6
TC015	18			0.3	103	5

Certified by

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

Northern Analytical Laboratories ltd.

Aurex Exploration WO # 13608

Sample #	Au ppb	Ag ppm	As ppm	Bi ppm
TC016	13	0.2	101	4
TC017	6	0.1	232	6
TC018	14	0.2	339	7
TC019	23	0.6	197	7
TC020	8	0.9	159	6
TC021	17	1.1	64	4
TC022	13	1.0	45	4
TC023	14	<0.1	94	5
TC024	11	<0.1	122	3
TC025	14	<0.1	90	4
TC026	16	<0.1	132	3
TC027	14	<0.1	95	4
TC028	14	<0.1	124	4
TC029	13	0.2	85	5
TC030	8	<0.1	100	5
TC031	11	<0.1	168	5
TC032	13	<0.1	152	3
TC033	11	<0.1	120	4
TC034	11	<0.1	215	4
TC035	<5	0.3	107	5
TC036	37	0.2	456	6
TC037	17	<0.1	370	5
TC038	21	<0.1	160	4

ertified by

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Northern Analytical Laboratories ltd.

13-Jul-92date | Assay Certificate | Page1

Aurex Exploration | WO # 1362C

Sample #	Au oz/ton
001	0.041
002	0.009
004	0.002
005	0.157
007	0.031
008	0.018
009	0.231
011	0.045
012	0.007
013	0.091
015	0.105
016	0.091
021	0.050
022	0.048
023	0.029
024	0.022
025	0.059

rtified by

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

AUREX EXPLORATION ROCK SAMPLE#	W ppm
13608 001	1
13608 002	1
13608 003	1
13608 004	1
13608 005	1
RE 13608 010	1
13608 006	1
13608 007	1
13608 008	1
13608 009	4
13608 010	1
13608 011	1
13608 012	1
13608 013	1
13608 014	1
13608 015	1
13608 016	1
13608 017	1
13608 018	1
13608 019	1
13608 020	1
13608 021	480
13608 022	189
13608 023	9
13608 024	593
13608 025	242
STANDARD C	10

Sample type: PULP. Samples beginning 'RE' are duplicate samples.

AUREX EXPLORATION SOIL GEOCHEM

SAMPLE#	W ppm
13608 TC001	2
13608 TC002	1
13608 TC005	1
13608 TC006	1
13608 TC007	1
13608 TC009	1
13608 TC010	1
13608 TC011	6
13608 TC012	3
13608 TC013	7
13608 TC014	1
13608 TC015	1
13608 TC016	1
13608 TC017	1
13608 TC018	1
13608 TC019	1
13608 TC020	1
13608 TC021	1
13608 TC022	1
13608 TC023	1
13608 TC024	1
13608 TC025	1
13608 TC026	1
13608 TC027	1
RE 13608 TC023	1
13608 TC028	1
13608 TC029	1
13608 TC030	1
13608 TC031	1
13608 TC032	1
13608 TC033	1
13608 TC034	1
13608 TC035	1
13608 TC036	1
13608 TC037	1
13608 TC038	1
STANDARD C	11

Sample type: PULP. Samples beginning 'RE' are duplicate samples.

CYPRUS CANADA LTD. ASSAY SAMPLES

TYPE	SAMPLE#	LOCATION	DESCRIPTION
Rock grab	50112	Trench on east side Thompson Creek	Quartz sericite schist with fine grained diss. pyrite. Wall rock to narrow aspy. vein
Rock grab	50113	Trench on west side Thompson Creek	quartz sericite schist with 1-3% diss. pyrite
Rock grab	50114	Trench 8 on AUREX 9 claim	F.g. green schistose skarn with trace diss. pyrite & aspy.
Rock chip 8m.	50115	Trench 2 on AUREX 7 claim	Calc-silicate schist/ skarn with trace diss. pyrite & aspy.
Rock chip 6m.	50116	Trench 3 on AUREX 8 claim	Fine to medium grained biotite-diopdide skarn foliated & with 5-8% diss.pyrite & aspy.
Rock grab	50117	Trench 4 on AUREX 8 claim	Light green diopside skarn with trace diss. pyrite & aspy.
Rock grab	50118	Trench 5 on AUREX 8 claim	Strongly foliated green diopside skarn with 3-8% diss. pyrite & aspy.
Rock grab	50119	Trench 5A on AUREX 8 claim	White quartz vein stock-work (25% quartz) in buff weathering mica schist & quartzite.
Rock grab	50120	Stripped area on WAYNE 5 claim	quartz sericite altered quartz-eye porphyry dyke with diss. pyrite.
Rock grab	50121	Trench on WAYNE 5 claim	Dark to light green siliceous skarn with quartz lenses & approx. 5% diss. pyrite & pyrrhotite
Rock grab	50122	Trench on AUREX 65 claim	Banded biotite-diopside skarn with 5-8% pyrite& arsenopyrite.
Rock grab	50123	Trench on AUREX 65 claim	Diopside-calcite-biotite skarn in fault breccia

CYPRUS CANADA LTD. ASSAY SAMPLES

TYPE	SAMPLE#	LOCATION	DESCRIPTION
Rock grab	50124	Trench on AUREX 65 claim	Quartz-aspy. vein in fault zone of 50123 moderately limonitic
Rock grab	50125	Trench on AUREX 65 claim	Rusty weathering quartz sericite phyllite
Diamond drill core	50126	Last 2.0' of core from DDH. SD84-4 SNOWDRIFT 4 claim	Brown, foliated biotite skarn/schist with diss. pyrite.

NORANDA EXPLORATION CO. LTD. ASSAY SAMPLES

TYPE	SAMPLE#	LOCATION	DESCRIPTION
Rock grab	1601A	Trench on AUREX 65 claim	Silicified & hornfelsed schist & 1-2% aspy.
Rock grab	1601B	"	"
Rock chip 2m.	1601C	"	"
		These three samples from same Trench as Cyprus samples 50122-50125	
Soil	RL1-RL15	420m. line on AUREX 59&60 claims @ 30m. intervals	"B" horizon but may be glacial till.

Northern Analytical Laboratories ltd.

17-Jul-92date | Assay Certificate | Page1

Cyprus Canada | CYPRUS CANADA ROCK SAMPLES | WO # 13636

Sample #	Au ppb	As ppm	Bi ppm	Mo ppm	Ag ppm	Cu ppm	Pb ppm	Zn ppm
50112	74	1671	48	<1	<0.1	31	22	124
50113	108	256	28	4	<0.1	20	20	41
50114	116	2080	73	4	<0.1	59	6	92
50115	78	2020	48	<1	<0.1	43	9	63
50116	457	1870	75	<1	<0.1	58	10	71
50117	19	1245	56	<1	<0.1	50	4	95
50118	15	787	59	4	<0.1	46	13	82
50119	7	65	22	2	<0.1	9	8	<1
50120	773	44	42	3	<0.1	7	11	2
50121	154	122	123	<1	0.3	111	25	99
50122	640	503	75	3				
50123	198	1989	75	1				
50124	743	>10000	90	5				
50125	95	647	43	<1				
50126	725	270	51	<1				

Certified by: _____

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

CYPRUS CANADA LTD. ROCK SAMPLES	SAMPLE#	W ppm
	13636 50112	1
	13636 50113	1
	13636 50114	1
	13636 50115	1
	13636 50116	1
	13636 50117	1
	13636 50118	1
	13636 50119	1
	13636 50120	1
	13636 50121	3
	13636 50122	490
	13636 50123	33
	13636 50124	233
	13636 50125	4
	13636 50126	1

Sample type: PULP. Samples beginning 'RE' are duplicate samples.

NORANDA VANCOUVER LABORATORY
Geochemical Analysis

Project Name & No.: AUREX PROPERTY – 312 **Geol.:** R.D. **Date received:** SEP. 01 **LAB CODE:** 9209–004
Material: 15 Soils & 3 Rx **Sheet:** 1 of 1 **Date completed:** SEP. 22
Remarks: • Sample screened @ –35 MESH (0.5 mm)
¤ Organic, Δ Humus, S Sulfide

Au – 10.0 g sample digested with aqua–regia and determined by A.A. (D.L. 5 PPB)

ICP – 0.2 g sample digested with 3 ml $HClO_4/HNO_3$ (4:1) at 203 °C for 4 hours diluted to 11 ml with water. Leeman PS3000 ICP determined elemental contents.

N.B. The major oxide elements and Ba, Be, Ce, La, Li, Ga are rarely dissolved completely from geological materials with this acid dissolution method.

T.T. No.	SAMPLE No.	Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sr ppm	Ti %	V ppm	Zn ppm
48	RL – 1	5	0.2	2.85	37	501	0.6	5	0.38	0.2	71	7	25	23	2.40	0.46	31	15	0.40	212	1	0.06	19	0.05	7	44	0.18	86	57
51	2	5	0.2	4.02	112	547	0.9	5	0.26	0.2	69	10	31	28	3.11	0.82	32	28	0.55	267	1	0.05	22	0.04	8	44	0.17	94	67
52	3	5	0.2	3.66	39	543	0.8	5	0.31	0.2	71	8	35	25	2.99	0.65	33	21	0.50	262	1	0.06	19	0.04	5	47	0.17	100	67
53	4	5	0.2	3.84	54	565	0.8	5	0.33	0.2	72	10	32	30	3.12	0.68	32	22	0.53	275	1	0.06	23	0.04	8	47	0.18	103	70
54	RL – 5	5	0.2	4.27	97	769	1.0	5	0.31	0.2	83	13	30	44	3.37	0.71	37	24	0.54	338	1	0.06	30	0.04	73	50	0.18	108	82
55	RL – 6	5	0.2	3.22	59	581	0.7	5	0.38	0.2	80	7	27	29	2.62	0.64	37	19	0.48	269	1	0.05	19	0.06	5	47	0.16	86	68
56	7	5	0.4	4.49	104	797	1.0	5	0.25	0.2	76	9	21	32	2.93	1.13	36	24	0.54	326	1	0.07	22	0.05	11	47	0.15	96	80
57	8	5	0.4	3.90	61	595	0.8	5	0.25	0.2	69	9	21	28	2.83	0.86	31	21	0.47	266	1	0.06	21	0.03	7	40	0.15	87	69
58	9	5	0.2	3.63	52	579	0.7	5	0.31	0.2	73	7	23	23	2.62	0.82	33	20	0.46	236	1	0.06	17	0.05	8	43	0.16	85	62
59	RL – 10	5	0.2	3.73	132	692	0.8	5	0.35	0.2	71	8	22	45	2.89	0.88	34	20	0.45	273	1	0.06	24	0.06	15	45	0.15	84	79
60	RL – 11	5	0.2	2.77	20	438	0.5	5	0.37	0.2	63	5	26	14	2.11	0.53	28	15	0.38	167	1	0.05	12	0.07	5	43	0.16	81	53
61	12	5	0.2	3.23	97	594	0.8	5	0.36	0.2	69	8	30	39	2.65	0.73	31	20	0.45	291	1	0.05	20	0.06	9	41	0.13	89	80
62	13	5	0.2	2.63	27	461	0.5	5	0.39	0.2	63	7	31	24	2.37	0.52	27	16	0.41	242	1	0.05	18	0.06	6	43	0.14	78	59
63	14	5	0.2	4.13	137	580	0.9	5	0.31	0.2	81	9	28	23	3.04	1.01	36	30	0.67	335	1	0.05	20	0.05	8	41	0.17	80	81
64	RL – 15	5	0.2	3.60	124	508	0.8	5	0.26	0.2	72	8	25	21	2.88	0.77	32	22	0.52	268	1	0.05	19	0.03	11	39	0.16	86	72
65	1601 – A Rx	5	22.4	0.10	3	31	0.2	5	0.01	0.2	6	1	112	3	0.16	0.03	2	1	0.01	18	1	0.01	1	0.01	7	3	0.01	2	2
66	B Rx	5	0.2	2.58	57	110	0.6	5	2.38	0.2	50	5	42	67	1.14	0.16	17	9	0.24	131	1	0.18	14	0.02	2	152	0.13	17	13
67	1601 – C Rx	680	0.4	2.16	2134	149	0.6	5	3.19	0.2	44	5	28	40	1.30	0.35	14	15	0.30	354	1	0.15	12	0.02	2	173	0.08	19	20

DP WH

Au & ICP

Sheet 1 of 1

N. CORD District

3 Rx
15 Soils

RECORD OF SAMPLE TRANSMITTAL

Lab Code 9209-004

NORANDA EXPLORATION COMPANY, LIMITED
P.O. BOX 2380
1050 DAVIE STREET
VANCOUVER, B.C.
V6B 3T5

Date Shipped: AUG 31/92
Date Received:
Shipped Via: CANADIAN
No. of Cartons: 1
No. of Samples: 15 SOILS / 3 ROCKS
Geologist: R. DIMENT
Date: AUG 31/92

MATERIAL:
☑ SOIL ☐ PAN
☐ SILT ☐ CORE
☑ ROCK ☐ OTHER

AUREX PROPERTY
Project KENO HILL AREA No. 312-A4

SAMPLE NOS./COORDS. FROM/LINE	TO/STATION	N.T.S. NOS.	G.C.I. NOS.	ADD ELEMENT	SAMPLE NOS./COORDS. FROM/LINE	TO/STATION	N.T.S. NOS.	G.C.I. NOS.	ADD ELEMENT
1601 A - C		(3)	ROCKS						
RL - 1	→ 15	(15)	SOILS						
		TOTAL	(18)						

Received & Sent

ANALYTICAL INSTRUCTIONS

ICP (30 Elem.) + ____ + ____ ☐
ICP (Whole Rock/Major Oxides) ☐

SPECIAL INSTRUCTIONS OR REMARKS:
30 ELEMENT ICP PLUS
A.A. FOR AU

RESULTS TO: G. BIDWELL / R. DIMENT

21252

White - Office
Yellow - Field

NORANDA EXPLORATION COMPANY, LIMITED 1601

LAB _____

CERT. NO. _____

PROJECT NO. 312 PROPERTY AUREX / PROPERTY EXAM MAYO / KENO HILL AREA.

GRID REFERENCE _____

N.T.S. 105M/14

DATE AUG 31/92

SAMPLE REPORT

@209-on4

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES		SAMPLER
A	SILICIFIED & BRECCIATED SEDIMENT	GRAB	FLOAT				64°52' LAT	135°37' LONG	R.D.
B	SILICIFIED & HORNFELSED SCHIST 1% ARSENO	GRAB	FLOAT				"	"	R.D.
C	SILICIFIED & HORNFELSED SCHIST 2% ARSENO	CONT. CHIP	2m				"	"	R.D.
D									
E									
F									
G									
H									
I									
J									
K									
L									
M									
N									
O									
P									
Q									
R									
S									
T									
U									
V									
W									

ROBERT SERVICE THRUST FAULT
WAYNE
DON
JOHN
AUREX
AIRSTRIP
MARY E
Y56474
Y56475
Y56477
Y56479
Y56481
Y86470
Y86471
62880
62881
62882
62885
62884
62886
62887
62888
62889
LOT 503 BUCONJO
L. 506 BUCONJO 12
L. 508 BUCONJO 14
LOT 504
L. 507
LOT 326
LOT 327 BUCONJO
LOT 501
L. 509
YB03903
80532
Y87464
Y87462
021-025
50114
003-010
50115
018-020
50117
011-017
50116
50118
50119
001
002
TC001
TC011
SOIL GEOCHEM LINE TC001-TC038
50112
50113
50120
50121
50122
50123-125
50126
As
YB28429
YB28431
YB28433
YB28437
YB28439
YB28441
YB28443
YB28445
YB28432
YB28434
YB28436
YB28438
YB28440
YB28442
YB28444
YB28446
YB28469
YB28475
YB28481
YB28483
YB28470
YB28478
YB28480
YB28482
YB28484

STATEMENT OF ASSESSMENT EXPENDITURE

Geologist prospecting property @ $300.00/day x 40 days =	$12,000.00
Gasoline	497.62
Food	388.71
Maps, reports, stationary etc.	49.81
Camp supplies, field gear, tools etc.	675.06
Northern Analytical Assay Lab	1,429.52
Silver trail Inn - lodging, meals	321.80
TOTAL EXPENDITURE	$15,362.52

Note: all invoices are available on request if required.
Note: Geology cost @ $300.00/day is my standard contract rate.

STATEMENT OF QUALIFICATIONS

I , ARTHUR JAMES McFAULL, hereby state I have the following professional qualifications;

1. Bachelor of Science Degree in Geology from the University of British Columbia B.Sc.(1976).

2. 21 years experience in the exploration industry - for details see my attached Personal Resume.

3. 18 years experience in the exploration industry in the Yukon.

4. 6.5 years experience as Exploration Geologist for U.K.H.M. Ltd. at the Elsa Mine which is only 3km. from the AUREX claim block.

5. Fellow of the Geological Association of Canada.

6. Member of the Canadian Institute of Mining and Metallurgy.

7. I have personnaly spent 40 days in June, July and August 1992 prospecting the claims covered by this report.

JIM McFAULL B.Sc., F.G.A.C.
EXPLORATION GEOLOGIST
AUREX EXPLORATION

DECEMBER 3, 1992

PERSONAL RESUME

ARTHUR JAMES McFAULL B.Sc., F.G.A.C.

ADDRESS: 5-100 Lewes Blvd., Whitehorse, Y.T. Y1A 3W1
TELEPHONE: 403-667-7935
DATE OF BIRTH: 14 December 1952

SUMMARY

I have 21 years experience in exploration and production mining geology. Three years in British Columbia and eighteen years in the Yukon.

Experience includes;

1. Exploration management of grassroots to advance stage programs, with a particular emphasis on precious metals and vein deposits.
2. Field supervision of various types of surface and underground exploration programs, from 2 man recce prospecting crews to 50 man trenching and drilling programs.
3. A record of successful exploration programs leading to the discovery of numerous small showings in B.C. and Yukon, and to 7 ore bodies that were put into production as 3 open pit mines, 3 underground mines and one high-grade crown pillar recovery program at the Keno Hill camp. Total production from these discoveries up to the Jan. 1989 mine shutdown was 3,789,302 ounces Ag.
4. Discovered one new ore shoot at the Venus Mine.
5. Familiar with Yukon Mining Regulations.
6. Work well with other people.

QUALIFICATIONS

Graduated from University of British Columbia (1976) with a B.Sc. in Exploration Geology.

DETAILED CAREER RECORD

Apr/92- Prospector- Aurex Exploration
Present 5-100 Lewes Blvd. Whitehorse,Y.T.
Self-employed

Staked 72 Quartz claims in Mayo Mining District on possible Fort Knox type Au, As, Bi, W showing. Prospected claims and located several mineralised showings. Currently looking for investors.

Oct/91- Aurex Exploration
Mar/92 Researching lode gold targets in Klondike, Sixtymile and Mayo areas.

Sept/91 Aurex Exploration

Travelled to Soviet Union to tour mining areas and investigate possibilities of working there. Met with mining officials in Moscow, toured largest placer gold mining area in the world in Kolyma River Basin, Magadan Oblast, eastern Siberia and toured the Norilsk nickel camp in northern Siberia.

Mar/91- Exploration Geologist- Eldorado Mining
Aug/91 Dawson City, Yukon
Reporting to the owner.

Duties included target research and evaluation on possible epithermal lode gold target at Australian Hill on lower Hunker Creek, Klondike. Presented target data to geologists in Reno, Nevada, Coeur d'Alene, Idaho, Spokane,Wash. and Vancouver, B.C. and Whitehorse, Y.T.

Prospected Australian Hill and other areas in the Klondike for lode gold.

Laid of due to budget cuts.

Jan/91- Aurex Exploration
Mar/91 Researching lode gold targets in Klondike, Sixtymile and Mayo areas.

Sept/90- Exploration Geologist-Arbor Resources
Dec/90 Dawson City, Y.T.
Reporting to the Project Geologists
Duties included recon prospecting , drill hole lay-outs and percussion drill sample logging in the Klondike area.
Contract terminated at end of field season.

Apr/90- Exploration Geologist- United Keno Hill Mines Ltd.
Aug/90 409 Black St. Whitehorse,Y.T.
Reporting to the President.
Duties included design of exploration program to assist in re-opening the Elsa mine. Contract terminated due to budget cuts.

Oct/89- Acting Exploration Manager- United Keno Hill Mines Ltd.
Apr/90 409 Black St., Whitehorse, Y.T. Y1A 2N2
Reporting to the President
Duties included management of 3 permanent and several temporary staff. Supervision of diamond drill and rotary percussion drill programs. Designed and budgetted 1990 exploration program of $1.1 million; for prospecting and drilling.
Office closed and all staff laid off Mar.30/90 due to end of CEIP program and loss of 1990 budget.

Apr/87- Senior Exploration Geologist- U.K.H.M. Ltd. Exploration Dept.
Oct/90 409 Black St., Whitehorse,Y.T.
Reporting to the Exploration Manager
Duties included target model research, exploration program design, field supervision of crews and contractors, acquisition and interpretation of field data, synthesis of data into written reports recommending targets for more work or abandonment to senior management.
Field work was centered on the Dawson Lode Project on 1,200 Quartz claims in the Klondike placer gold camp. Targets were postulated structurally controlled epithermal gold-quartz lodes adjacent to placer creeks.
Budgets were $200,000.00 to $500,000.00/year, mainly for percussion and diamond drilling.

Jun/83- Senior Exploration Geologist- U.K.H.M. Ltd. Elsa Mine
Apr/87 Elsa, Y.T.

Reporting to the Chief Mine Geologist

Duties included full responsability for all surface exploration on 1,000 Quartz claims in the Mine area. Primary duty was the replacement of mined out ore reserves by the continuous discovery of new ore bodies.

Keno Hill is a 300 tpd. Ag/Pb/Zn vein-fault camp covering nearly 100 square miles. Exploration in this camp has always been difficult due to 1% outcrop and deep overburden. The primary exploration tool there is the Atlas Copco BBE 57-01 rotary percussion drill.

During these 3.5 years in this job I achieved a near record success in my exploration programs as 5 of my targets were put into production as 3 underground and 2 open pit mines. A sixth target became a high-grade crown pillar recovery pit.

These included; the Silver King Mine (580,809 oz.Ag produced to Jan./89), the Bellekeno Mine (901,559 oz.Ag), the Ruby Offset Mine (46,943 oz.Ag), the Black Cap Open Pit (1,309,920 oz.Ag), the Flame & Moth Open Pit (26,589 oz.Ag) and the Hector 3 & 4 Vein Pillar Recovery Pit (25,199 oz.Ag). This totals 2,891,019 oz.Ag produced up to the Jan. 1989 mine shutdown. The Silver King, Bellekeno and Ruby Offset Mines still have substantial ore on reserve. Silver King had the highest grade ore (2,200.0 oz.Ag/ton) to be discovered in the camp since the 1950's and the Bellekeno Mine is the largest tonnage ore body (over 400,000 tons to date) to be discovered in the camp since the 1960's.

This exploration record has been exceeded by very few of the numerous geologists who have explored this camp for the last 72 years.

Work supervised to accomplish these results included 171,857 feet of rotary drilling, in 1,113 holes; 15,273 feet of diamond drilling in 43 holes and extensive D-9 cat stripping and trenching, backhoe trenching, soil grid geochemistry, 43 line-km of EM16&17 surveys, 2,380 line-km. of DIGHEM III air-borne geophysics and the supervision of the Mt. Hinton project, where a 200 foot adit was driven on a vein, 1,200 feet up a cirque headwall, using helicopter access.

At one time, during the 1984 season, I was personally supervising over 50 people, 4 percussion drills, 2 diamond drills, 1 D-9 cat, 1 Cat 225 backhoe and the Mt. Hinton Adit mining contractors.

Sept/82- Scooptram Operator/ Miner's Helper- Chumar Placers Ltd.
June/83 Miller Creek, Sixtymile River area, Y.T.

Duties included running boiler to steam frozen muck-pile for sluicing, operator of Wagner ST-2A scooptram, miner's helper, blaster's helper and geological consultant to the owners.

Chumar Placers was the first underground placer mine in the Yukon in 40 years and the first ever to room and pillar mine with trackless mining equipment. The mine was in frozen bench gravels 120 feet below surface.

I spent the entire winter of 82/83 in a 7 man camp on Miller Creek, working 12 hours/day x 7 days/week in temperatures down to -60° F.

Job ended when weather warmed up and mine started caving in.

Nov/81- Project Geologist- U.K.H.M. Ltd. Exploration Dept.
Sept/82 409 Black St., Whitehorse, Y.T.

Reporting to the Exploration Manager

Duties included target research for epithermal lode gold deposits in the Yukon. Lead to the inception of the Dawson Lode Project. Project was shelved in 1982 due to budget cuts.

Did recon prospecting in Minto area for DEF-Minto type Cu targets and supervised a 4 man crew.

Laid off due to collapse of mining industry in Sept.1982.

Sept/80- Mine Geologist- U.K.H.M.-Venus Mining Division
Nov/81 409 Black St., Whitehorse, Y.T.

Reporting to the Mine Manager

Duties included assisting in start up operations at mine, acted as Personnel Officer, Purchasing Agent, Expeditor

Mine Engineer, Surveyor, Acting Mine Manager etc.

On start up of mining, was Beat Geologist supervising all development drifting and stoping by mining contractors at the 120 tpd. Au/Ag/Pb/Zn quartz vein Venus Mine. Mine is located 65 mi. south of Whitehorse, Y.T. Did grade control, reserve calculations and assisted Mine Engineer in environmental sampling of water and radon gas.

Discovered one new ore shoot.

Laid off in 1981 due to crash in Au/Ag prices.

Mar/80- Prospector- Aurex Exploration
Sept/80 Whitehorse, Y.T.

Private prospecting partnership.

I set up Aurex to carry out a 3 man recon placer gold prospecting program in the upper Beaver River/ Patterson Range area, 40 mi. N.E. of Keno Hill.

Nov/77- Exploration Geologist- U.K.H.M. Ltd. Elsa Mine
Mar/80 Elsa, Y.T.

Reporting to the Senior Exploration Geologist

Duties included directing and mapping cat and backhoe trenching, overburden (rotary percussion) drilling, diamond drilling supervision, core logging and some data interpretation and report writing.

Work in 1978 included field supervision of 71,035 feet of rotary percussion drilling in 557 holes; 12,134 feet of diamond drilling in 36 holes and D-8 cat trenching. The 1979 program included field supervision of 76,300 feet of r/p drilling in 633 holes; 14,021 feet of diamond drilling in 27 holes, claim staking and geological mapping and soil sampling.

Also was fully responsable for researching the old Galkeno Mine as a possible open pit target. Designed and supervised all r/p drill and diamond drill programs and interpreted all results leading to the discovery of the Galkeno/ Sime/35 Vein Open Pit, which went into production in late 1979. Total production until mined out in 1985 was 898,283 oz.Ag. This was the second largest and second most profitable pit in the camp.

May/77- Party Chief- U.K.H.M. Exploration Dept.
Nov/77 405 Main St., Whitehorse, Y.T.
Reporting to the Exploration Manager
Duties included recon prospecting, claim staking and detailed property mapping and supervision of 4 man soil geochem crew. Target was a volcanogenic massive sulphide at Seagull Lakes, 30 mi. S. of Ross River, Y.T.
Discovered several small Pb/Zn/Ag veins.

May/76- Party Chief- U.K.H.M. Ltd. Exploration Dept.
Sept/76 405 Main St., Whitehorse, Y.T.
Reporting to the Exploration Manager
Duties included 1:50,000 recon prospecting in 2 man fly camps with helicopter support, in southern Yukon.
Targets were Cu and Cu skarn type deposits and porphyry Cu deposits in Mesozoic volcanics and associated limestones and Coast Range intrusives.
Several small showings were located.

May/75- Party Chief- U.K.H.M. Ltd. Exploration Dept.
Sept/75 405 Main St., Whitehorse, Y.T.
Reporting to the Exploration Manager
Duties included 1:50,000 recon prospecting in 2 man fly camps with helicopter support in southern Yukon.
Targets were granitic intrusions and their contacts for porphyry Cu-Mo deposits.
Two small showings were located.

May/74- Party Chief- Amoco Canada Petroleum-Minerals Div.
Sept/74 Vancouver, B.C.
Reporting to Project Geologists
Duties included detailed mapping @ 1"=400' and supervision of 4 man soil geochem crew on 75 claims in central B.C. near Clearwater.
Target was a porphyry Cu-Mo.
Subsequently sent to Bonnet Plume River in northern Yukon on recon silt geochem for Pb/Zn.

May/73- Soil Sampler- Amoco Canada Petroleum Ltd.-Minerals Div.
Sept/73 Vancouver, B.C.
Reporting to the Project Geologist
Duties included recce soil & silt geochem on northern Vancouver Island and in central B.C. east of Williams Lake.

July/72- Claim Staker- Tri-con Exploration Surveys Ltd.
Aug/72 North Vancouver, B.C.
Reporting to Party Chief
Assisted in staking 160 claims on Redfern Lake, 120 mi. S.W. of Fort Nelson, B.C.

June/72- Soil Sampler- Colt Management Ltd.
July/72 Kamloops, B.C.
Reporting to the Project Geologist
Duties included grid soil geochem and magnetometer surveys in the Afton Cu belt, 25 mi. north of Savona, B.C.

ADDITIONAL INFORMATION

Fellow of the Geological Association of Canada
Director of the Yukon Prospectors Association
Member of the Yukon Chamber Of Mines (and a past Director)

REFERENCES

1. Dennis Prince
   Regional Exploration Manager
   Falconbridge Ltd.
   P.O. Box 1140
   Timmins, Ont. P4N 7H9
   705-267-1188
   705-264-6080 FAX

2. Ken Watson
   Assistant Exploration Manager
   Falconbridge Ltd.
   Timmins, Ont.

REVISED 1985 Occurrence No. 60

Property Name: Common NEWRY Other AUREX

Location: Lat. 63°52' Long. 135°37' NTS 105M/13

Metals: Major Minor

Type of Mineral Deposit:

History and Previous Work:

First staked as the Blue Idol, etc cl (38865) and Blueberry cl (38859) two miles south at the head of Corkery Creek in Sept/35 by J.E. Hawthorne, who added Armagh, Newry, etc cl (55034) in June/37, Mary Ann cl (81146) in June/62 and Blacker, etc cl (Y56207) in Sept/71. Hawthorne explored with shallow trenches and shafts from 1935 to 1979. R. Holway bulldozer trenched in 1974 to earn a 50% interest. Apollo ML staked the adjoining Lee, Sam and Apollo cl (Y86352) in Jan-July/74. The Tree, Pine, Spruce cl (YA41520) were staked 2.5 miles east in Jan/80 by W. Malicky, who trenched in 1980. The Ev cl (YA43320) were added to the south in Oct/80 by E. French. I. Tornai tied on Steve and Isabel cl (YA76029) on the west side in Oct/81, restaked the Ev group as Verna cl (YA76688) in July/82 and explored with bulldozer trenching in 1982
* and 1984.

Staked as AUREX 1-36 &51-86 in April 1992 by A.J.McFaull.

Description:

The claims cover south-dipping schists about two miles SW along strike from the former Silver King Mine of United Keno and are probably underlain at depth by the Central Quartzite Fm. No mineralized veins have been reported.

References:

REVISED 1984

Occurrence No. 29

(Page 1)

Property Name: Common WAYNE Other

Location: Lat. 63°53' Long. 135°40' NTS 105M/13

Metals: Major Silver, Lead, Zinc, Gold, Minor Copper
Tungsten

Type of Mineral Deposit: Vein, Skarn

History and Previous Work:

Staked in Sept/55 by G. Rich as the Wayne cl (62902), which were partially overstaked by J. Strebchuk in July/56 as the Alberta cl (62998) and in Sept/56 as the Yukon cl (80078). L.T. Chisholm purchased 50% of the Wayne cls in July/64. The Alberta group was optioned by Rio Plata Silver ML in 1962 and explored by bulldozer trenching and 250 ft of rotary drilling. The Alberta and Yukon groups were optioned from Sept/67 to July/70 by Fort George Mg & EL, which added Joe cl (Y6927) in Nov/67 and performed bulldozer trenching in 1968, shipped 6.48 tons to the Trail Smelter and drilled 200 ft. Reoptioned by Silver Spring ML in Dec/70 and explored in a joint venture with Canadian Reserve O & GL by geophysical surveys in 1971 and bulldozer trenching and 2 drill holes (about 450 ft) in 1972. Silver Spring staked additional Alberta cl (Y56184) in Sept/71 and Evelyn cl (Y68340) in June/72.

Adjoining claims, which have been explored by minor hand and bulldozer trenching in a few cases, include Don cl (62884) in Aug/55 by J. Boyle; Mary E. cl (80531) in Aug/60 by G. Rich; Rusty cl (Y14803) in May/68, MLS cl (Y26975) in Sept/68 and Duke cl (Y68498) in Aug/72 by W.T. Synott. The nearby Snowdrift cl (Y87462) were added by United Keno Hill ML in Mar/74 and Oct/75 and explored with 80 percussion holes (10,485 ft) in 1975 and 46 percussion holes (5,270 ft) in 1982.

More than 600 Zap cl (YA38362) were tied on to the northeast in Mar/79 by Canada Tungsten Mg Corp L and explored by geochem and geophysical surveys in 1979-80. The Wayne group was optioned to Island Mg & ECL in Feb/80, which drilled 14 holes (1212 m) in 1981 and 7 holes (795 m) in 1983.

Canada

Yukon
Government

Property Name: WAYNE NTS: 105M/13

Description:

A branching, north-striking vein cutting Keno Hill (Central) Quartzite Fm near overlying upper Schist Fm has been traced for 400 ft by bulldozing and up to 200 ft below surface by drilling. Mineralization consists of galena, sphalerite and tetrahedrite in a carbonate gangue. The 1968 shipment assayed 133.6 oz/ton Ag, 56.0% Pb, 4.4% Zn and 0.059 oz/ton Au. The 1981 drill program returned low silver values with only a 1 to 1 silver to lead ratio and showed that the vein dips west rather than east. This suggests that the vein is not of the favourable transverse-type which produces ore shoots in this district.

The 1981 drilling unexpectedly intersected two stratiform gold-tungsten-bearing horizons on either side of the quartzite-schist contact. The schist-hosted horizon is a weakly foliated, pyrrhotite-chalcopyrite-pyrite-quartz-calcite-diopside skarn with coarse scheelite, while the second horizon is a brecciated and graphitic section within the quartzite that is cemented with pyrite and scheelite. Core assays returned up to 0.97 oz/ton Au and 2.07% WO_3 over widths ranging from 1.5 ft to 10.4 ft. In addition, four holes cut pyritic zones in a zone of rhyolite dykes and/or sills which returned assays up to 0.146 oz/ton Au over a core length of 3.5 m. Drilling by United Keno on the adjoining Snowdrift group to the west returned assays up to 1.5% WO_3. The 1983 drilling was directed toward the skarns.

References:

P63-38, p.9
P 68-68, p.26
Whitehorse Star; 27 Sept/71, 17 May/72
NM; 24 June, 28 Aug/80
Island Mg & ECL 1981 Annual Report
* YEG 1981, p.167 ; 1983, p.206

REVISED 1984

Occurrence No. 58

Property Name: Common HALFWAY Other Sinister

Location: Lat. 63°48' Long. 135°47' NTS 105M/13

Metals: Major Minor

Type of Mineral Deposit:

History and Previous Work:

Staked as Rose cl (Y85744) in Oct/73 by Y. Lemieux, who trenched in 1976 and 1978. P. Pakvis tied on the Blacklake cl (YA1948) in May/76. The Sin, Is and Ter cl (YA39499) were staked to the north in Apr/79 by Archer, Cathro and Assoc. L and optioned to Canada Tungsten Mg Corp, which explored with mercury geochemistry and MaxMin EM surveys in 1979, 5 percussion holes (60.8 m) in 1980 and airborne geophysical surveys in 1982 before dropping the option. Island Mg
** & E CL optioned the property in Mar/83; added the Mag cl (YA76957) to the southeast in Apr/83 and drilled 3 holes (224 m) on the Sin cl and two holes (216 m) on the Mag claims later in the year.

The No Creek cl (YA77366) were staked 3 km south of the Mag cl in Sept/83 by D. Palmer.

Description:

The Rose claims occur in an area of extensive glacial drift and are probably underlain by schist with minor quartzite horizons (units 4 and 5).

The Sin group was staked to cover a fault which offsets the Central (Keno Hill) Quartzite Formation between Galena Hill and Mt. Haldane. The MaxMin survey outlined three easterly-trending structures of which one has a corresponding Hg soil anomaly. The overburden drilling located several sections with anomalous quantities of scheelite and gold.

References:

YGE 1979-80, p.208
YEG 1984, p.122

Canada

Yukon Government

REGIONAL LOCATION OF AUREX CLAIMS-CENTRAL YUKON

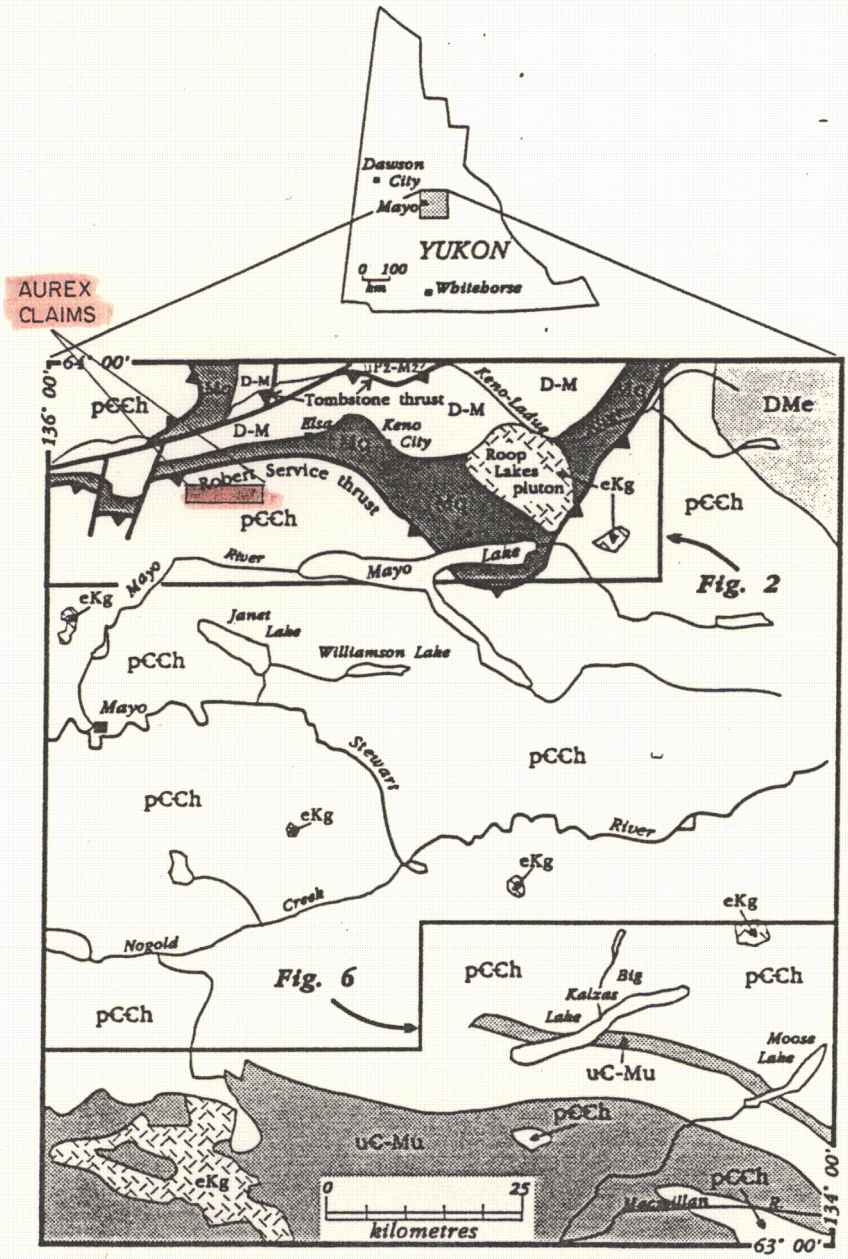


Figure 1. Generalized geological map of Mayo map area (105M) (compiled from Bostock, 1947; Roots, 1991 and references therein as well as new mapping). pCCh, Hyland Group; uC-Mu, undifferentiated Lower to Middle Paleozoic formations (see text); DMe, Earn Group; D-M, undifferentiated Devono-Mississippian strata conformably below "Keno Hill quartzite" in northern part of map area; Mq, "Keno Hill quartzite" (both Mq and D-M are intruded by voluminous metadiorite and metagabbro bodies of inferred Middle Triassic age); eKg, Early Cretaceous granite, quartz monzonite, quartz syenite. Locations of Figures 2 and 6 are indicated.

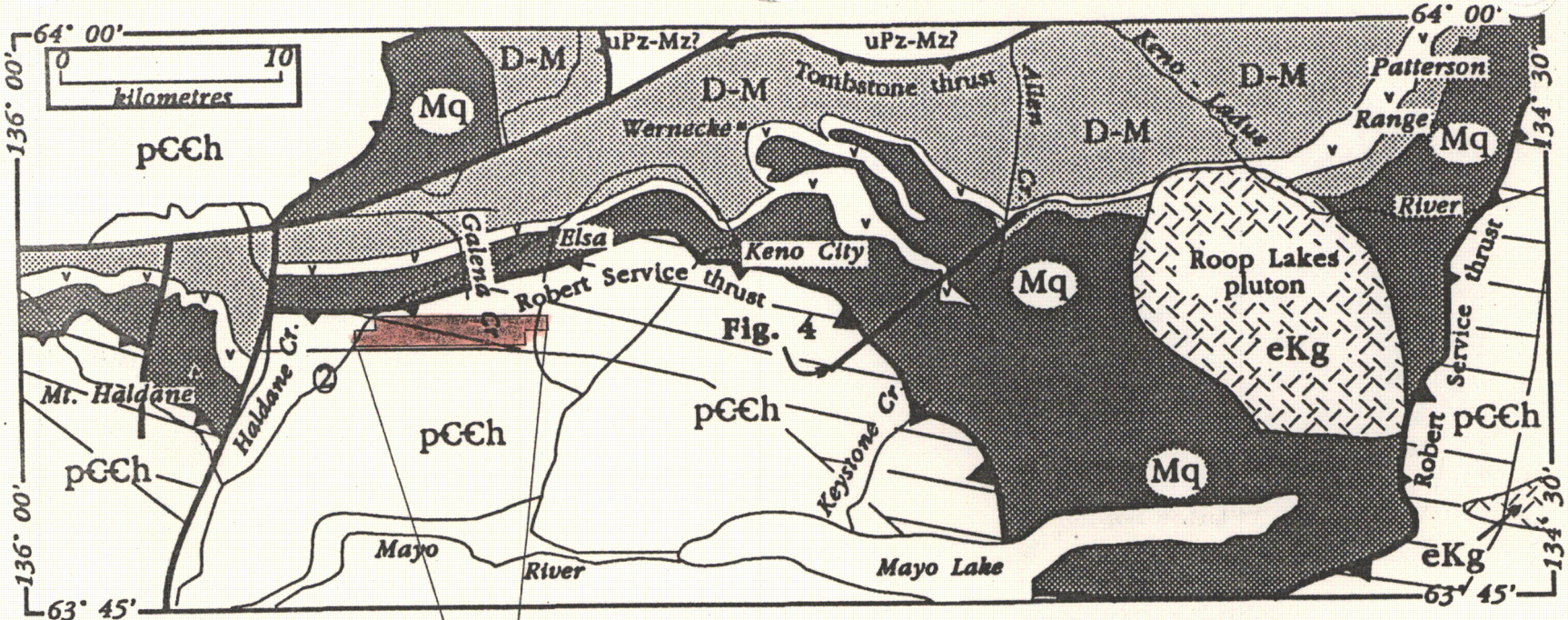
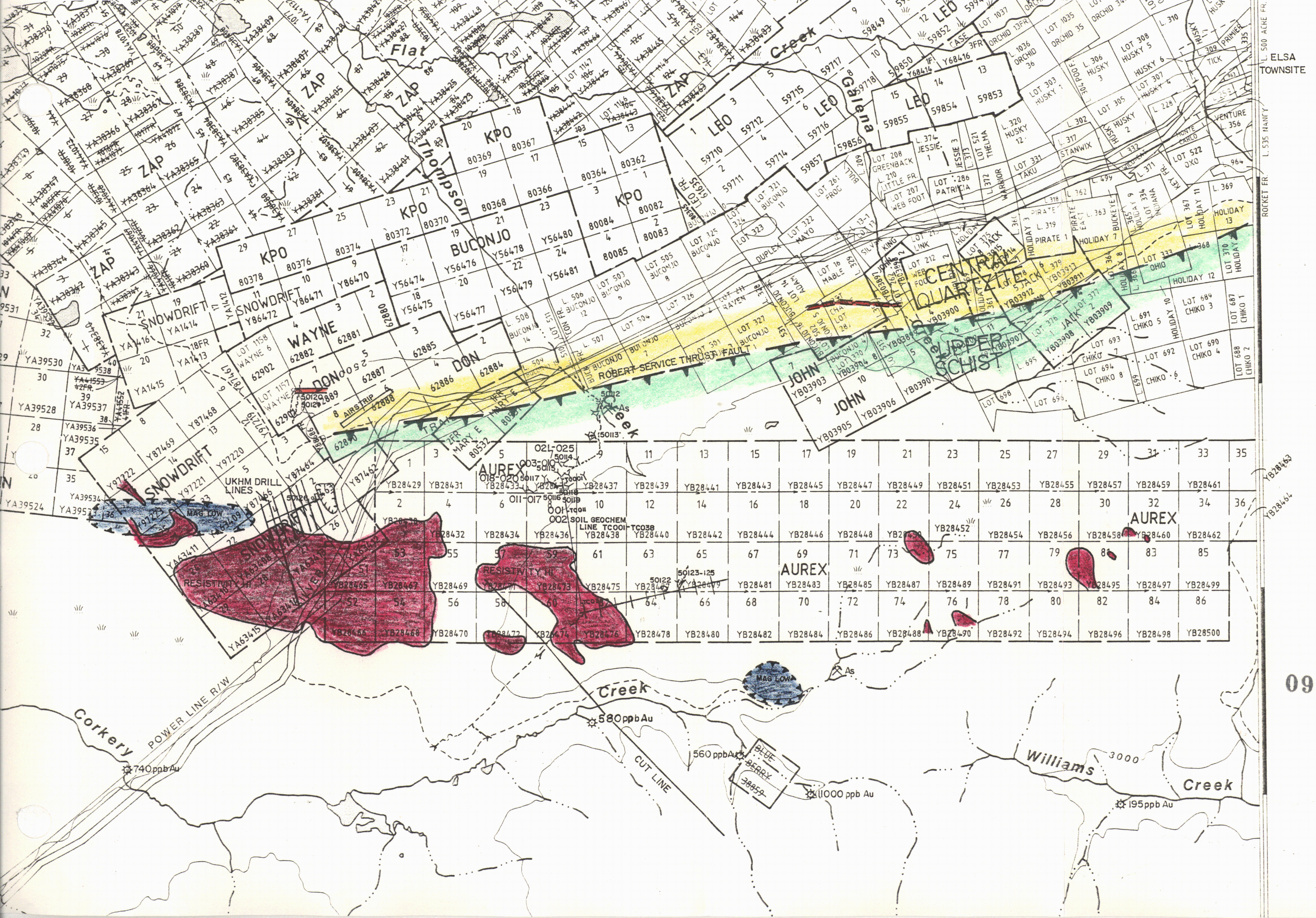


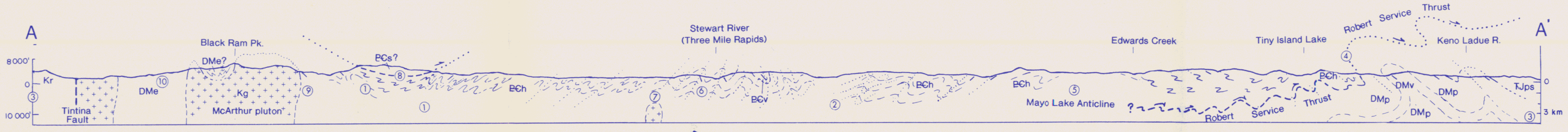
Figure 2. Simplified geological map of the Keno Hill region. Unit designation symbols as in Figure 1. "v" pattern indicates felsic metavolcanic unit below the "Keno Hill quartzite"; metavolcanic strata also occur within the "Keno Hill quartzite" but the contact relations are poorly understood. Ruled area is approximate area underlain by Green's (1971) Unit 1 (see text for discussion).

AUREX CLAIMS

pC€h = Hyland Group
Mq = "Keno Hill" Quartzite
eKg = Cretaceous granitic intrusion


ELSA TOWNSITE
Flat Creek
Thompson
Galena
ZAP
KPO
LEO
BUCONJO
SNOWDRIFT
WAYNE
DON
AIRSTRIP
ROBERT SERVICE THRUST FAULT
CENTRAL QUARTZITE
UPPER SCHIST
JOHN
AUREX
UKHM DRILL LINES
SOIL GEOCHEM LINE TC001-TC038
MAG LOW
RESISTIVITY HI
Creek
Corkery
POWER LINE R/W
CUT LINE
BLUE BERRY
Williams Creek
740ppb Au
580ppb Au
560ppb Au
11000 ppb Au
195ppb Au
3000

093051



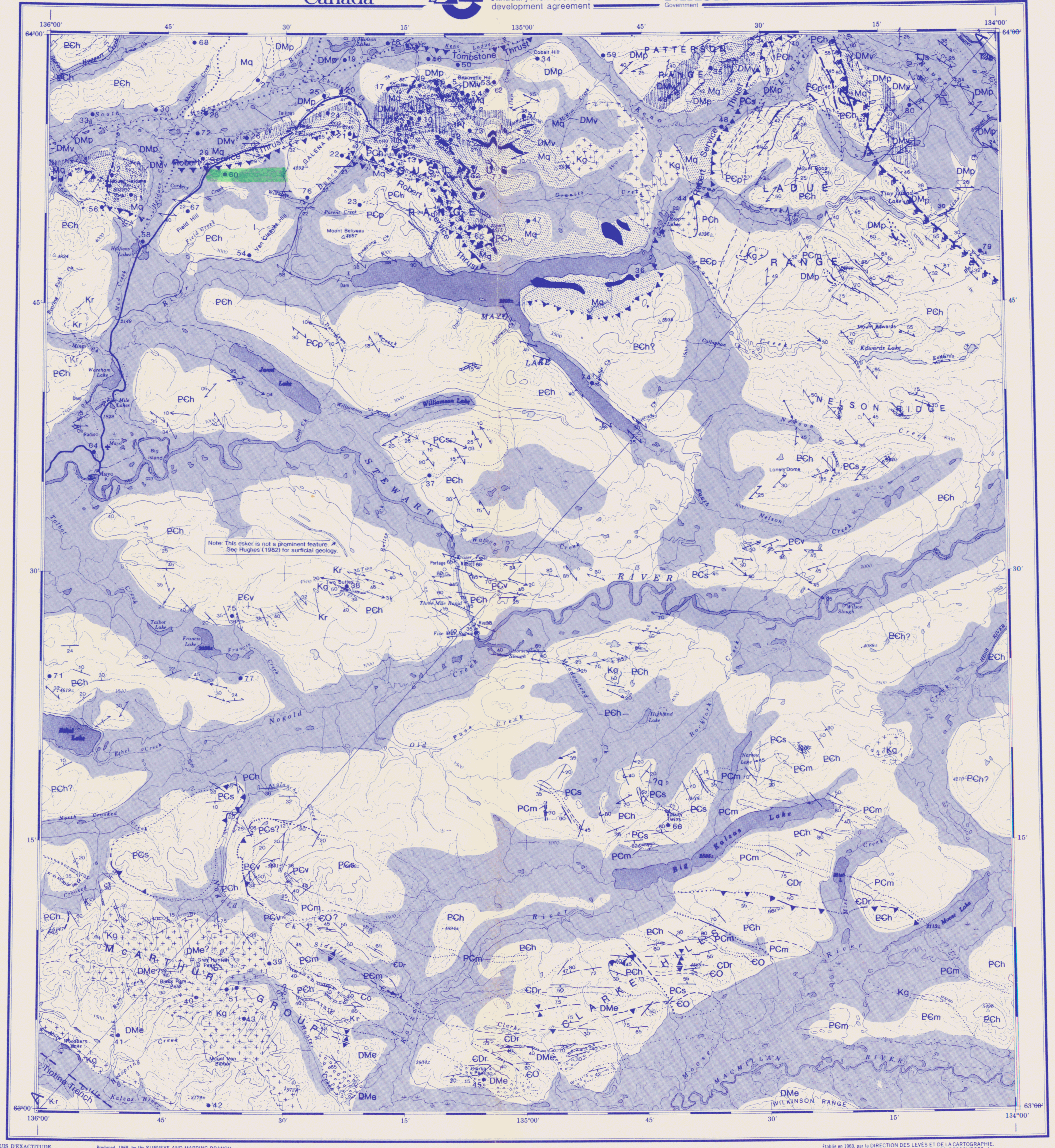
Indian and Northern Affairs Canada / Affaires indiennes et du Nord Canada

Canada

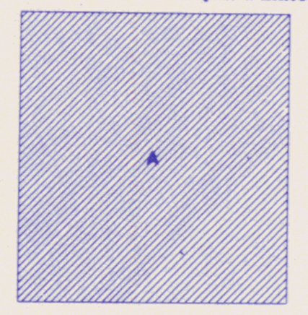
canada/yukon economic development agreement

Yukon Government

Énergie, Mines et Ressources Canada / Energy, Mines and Resources Canada



RELIABILITY DIAGRAM - CROQUIS D'EXACTITUDE



A Large scale mapping, photogrammetric, 1969.

A Cartographie à grande échelle, photogrammétrie, 1969.

Produced, 1969, by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES. Printed 1971.

Magnetic declination 1970 varies from 33°15' Easterly at centre of west edge to 34°03' Easterly at centre of east edge. Mean annual change 4.2' Westerly.

Interim corrections 1977

Roads:
loose or stabilized surface, all weather .... 2 lanes or more / less than 2 lanes
loose surface, dry weather ....
cart track ....
trail or portage ....

FOR COMPLETE REFERENCE SEE REVERSE SIDE

MAYO
YUKON TERRITORY

Scale 1:250,000 Échelle

Miles 5 0 5 10 15 20 Milles

Kilometres 5 0 5 10 15 20 25 30 Kilomètres

CONTOUR INTERVAL 500 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

ÉQUIDISTANCE DES COURBES 500 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Système de référence géodésique nord-américain, 1927
Projection transverse de Mercator

Copies may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa.

Ces cartes sont en vente au Bureau de distribution des cartes ministère de l'Énergie, des Mines et des Ressources, Ottawa.

Établie en 1969, par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES. Imprimée en 1971.

La déclinaison magnétique pour 1970 varie de 33°15' Est au centre de la limite Ouest à 34°03' Est au centre de la limite Est. Variation moyenne annuelle 4.2' Ouest.

Corrections Provisoires, 1977

Routes:
gravier aggloméré, toute saison .... 2 voies ou plus / moins de 2 voies
de gravier période sèche ....
de terre ....
sentier ou portage ....

POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR AU VERSO

GEOLOGICAL SURVEY OF CANADA — COMMISSION GÉOLOGIQUE DU CANADA

LEGEND

NEOGENE

Q — Glacial drift, moraine and river deposits (unconsolidated)

CRETACEOUS

Kr — Rhyolite, trachyte intrusions

Kg — Biotite hornblende granite, quartz monzonite[1]

TRIASSIC

Hornblende-clinopyroxene diorite[2] to gabbro; typically foliated meta-diorite

TRIASSIC AND ?JURASSIC

TJs — Recessive, buff to grey weathering, calcareous slate, siltstone and sandstone; dark grey, finely crystalline limestone

MISSISSIPPIAN

"Keno Hill quartzite"[3]

Mq — Dark grey, thick-bedded to massive, vitreous quartzite; minor interbeds of carbonaceous schist; lenses of chloritic phyllite (interpreted as metavolcanic tuff[4]); includes abundant smaller meta-diorite intrusions (Td)

UPPER DEVONIAN AND MISSISSIPPIAN

(DMe continuous with **Earn Group**; correlative DMp and DMv (new unit) that includes the former "**Lower schist**"

DMe — Upper part: Black- and dark brown-weathering, sandstone, chert grit and thickly bedded chert-pebble conglomerate (**circle pattern**), light grey-weathering fissile mudstone and beige sandstone; Lower part: Black siltstone and mudstone with lenses of chert pebble conglomerate, chert breccia with baritic matrix and dark grey, fetid limestone. At base: Brown-weathering, fine-grained sandstone and siltstone with chert pebbles

DMp — Dark blue-grey- to black-weathering, carbonaceous and locally baritic siliceous slate and chert; local fine-grained, dark grey- to orange-weathering, dark grey quartz arenite; local pebble to cobble conglomerate (**circle pattern**) with flattened clasts of chert and cobbles of quartz arenite; local chert sandstone associated with dark brown-weathering, medium grey to black slate; local bedded barite

DMv — Dark grey- to orange-weathering, foliated, aphanitic, dark grey to waxy green felsic meta-volcanic rocks and foliated quartz porphyry[5]

CAMBRIAN(?) TO LOWER DEVONIAN(?)

Road River Group

€Dr — Light grey- to blue-weathering, black or light grey chert, interbedded with black mudstone and dark brown and black quartz siltstone

MIDDLE ORDOVICIAN(?)

€O — Olive- and brown-weathering siltstone with black laminae, brown sandstone with thin interbeds of black bioturbated chert

UPPER PROTEROZOIC(?) AND LOWER CAMBRIAN(?)

Hyland Group (P€m, P€h, P€s, P€p; stratigraphic order unknown, except P€m may be youngest)

P€m, P€m' — Maroon and green mudstone and siltstone, locally with white quartz sandstone interbeds; PCm' is foliated and phyllitic equivalent.

P€h — Grey-weathering, fine- to coarse-grained, locally calcareous, quartz meta-sandstone (psammite); pale green to grey phyllite. Minor white to grey, crystalline limestone and phyllitic limestone (**hachure pattern**)

P€s — Brown-weathering medium- to coarse-grained quartz-mica schist; compositional layering indicated by carbon or iron content, or friability (minor carbonate cement). Some layers contain 5-10% quartz granules. Forms well-stratified members >100m thick within P€h

P€p — Dark brown-weathering, black carbonaceous slate and minor interbedded, fine grained dark grey quartzite

P€v — Chloritic phyllite and meta-diorite

AGE UNKNOWN; POSSIBLY LATE PALEOZOIC

?l — Massive, white weathering, grey, non-crystalline and locally fetid limestone (Van Cleeves Hill, 10 km NW of Mayo Lake)

?q — White-weathering, grey vitreous quartzite, locally graded with siltstone laminae (5 km NW of Kalzas Twins)

Footnotes:

1 K-Ar age determinations from biotite separates (Ma):

Roop Lakes pluton	81.0	Leech et al. 1963
Mt. Haldane porphyry	89.0 ± 2.6	Stevens et al. 1982
Kalzas Twins hornfels	90.1 ± 1.4	Hunt et al. 1987
Two Buttes plug	97.1 ± 3.6	Stevens et al. 1981

2 U-Pb zircon-baddeleyite age from a mafic sill intruding "Keno Hill quartzite" (in Ogilvie Mountains): 232.2 ± 1.5 Ma (Mortensen and Thompson, 1990)

3 Visean (middle Mississippian) conodonts from limestone lenses within "Keno Hill quartzite" in Dempster Highway area (M.J. Orchard, pers. comm., 1987)

4 Similar locally porphyritic felsic metavolcanic rock at MARG (3 km NE of Mayo map area) has been dated by U-Pb on zircon as Late Devonian or Early Mississippian (J. Mortensen, pers. comm., see Turner and Abbott, 1991).

5 Late Middle Devonian to Late Devonian U-Pb zircon age from foliated felsic schist 10 km NE of Mount Roop (J. Mortensen, pers. comm., see Gordey, 1990)

Regional Bedrock Geology maps

Larsen Creek 116A *Green, 1972*	Nash Creek 106D *Green, 1972* 2 5 4 6	Nadaleen R. 106C *Blusson, 1974*
McQuesten 115P *Bostock, 1964*	1 8 3 7 Mayo 105M *Bostock, 1947*	Lansing 105N *Blusson, 1974*
Carmacks 115I *Tempelman-Kluit, 1984*	Glenlyon 105L *Campbell, 1967*	Tay River 105K *Gordey and Irwin, 1987*

Numbered squares indicate 1:50 000 geology maps:
1,2 - Poole, 1965
3,4,5 Green, 1971
6 - Abbott, 1990
7 - Gordey, 1990
8 - Kindle, 1962; Murphy and Roots, 1992

CROSS SECTION NOTES

(These notes refer to circled numbers on the cross section)

1. Dotted form lines indicate orientation of foliation (S1). The foliation is folded by small and large scale folds.
2. Thin, solid form lines schematically indicate folded bedding. Observed folds have axial planes parallel with regional foliation. Inclined short, solid lines at surface of profile are true dips, where measured near line of section.
3. Bottom part of section is not to scale.
4. Robert Service Thrust surface was deformed both during and after motion on the Tombstone thrust. This interpretation is based upon:
   a. Rocks that appear to overlie the "Keno Hill quartzite" vary in composition and degree of deformation (Green, 1971, p. 55). Alternating layers of quartzite (Keno Hill) and schist (Hyland Group) near Sourdough Hill and Mount Hinton could be separated by tight folds or splays of the Robert Service Thrust (Roots and Murphy, 1992).
   b. Small lenses of DMp within Hyland Group south of Tiny Island Lake (Gordey, 1990) are interpreted as structural inliers of the footwall of Robert Service Thrust.
   c. Recognition of Keno Hill quartzite, in addition to DMv and DMp (Earn Group) in NW corner of map. This may be an inverted succession of footwall rocks, which implies that the overlying Robert Service fault surface is overturned.
   d. All Hyland Group rocks in the central part of the map area, and as far south as Avalanche Creek, are highly strained but no higher than lower greenschist grade. These rocks appear to have been deformed after they were raised to shallow depth; perhaps by northward thrust motion (Robert Service Thrust) over a ramp which currently underlies the northern limit of unstrained Paleozoic strata.
5. Mayo Lake anticline, recognized by Bostock (1947) and Green (1971), plunges SE at 25°. It probably formed after the Tombstone Thrust, and may be structurally related to the Roop Lakes pluton.
6. Isoclinal folds with both north- and south-vergence and 10-300 m amplitude are visible in outcrops along rapids of Stewart River.
7. Three granitic stocks and fine-grained felsic intrusions form a west-northwest trend across the map south of Stewart River.
8. A prominent break in slope in the Avalanche Creek area is here interpreted as a gently dipping thrust. The hanging wall consists of nearly flat-lying sandstone (cliffs 200 m high) but a topographic bench at their base exposes underlying steeply dipping, strongly deformed phyllite and schist. The contact has not been located. If it is a thrust, large klippen exist in Mayo map area. The contact might, however, be an angular unconformity, with implications for timing of deformation in the Hyland Group.
9. The metamorphic aureole (dark hornfels; may contain cordierite) obscures relations around McArthur pluton. The intrusive contact is vertical where observed in north-facing cirques.
10. These rocks have not been visited by the authors.

REGIONAL SETTING

This new synthesis incorporates the early work of Bostock (1947) in addition to the larger scale mapping in the north quarter of the area (see diagram), combined with new field observations in 1990 and 1991.

Mayo map area contains the eastern ends of two laterally extensive structural sheets that moved northward, first on the Robert Service thrust (Green, 1972) and later on the Tombstone thrust (Roots, 1991; Roots and Murphy, 1992). The southern structural sheet is the hanging wall of the Robert Service Thrust. It includes Hyland Group clastic rocks (Gordey, in press) and middle Paleozoic basinal strata. These units can be traced from the Macmillan Pass area (180 km to the southeast) across Mayo map area and are truncated by the Tintina Fault west of the McArthur Group mountains. The Hyland Group is increasingly foliated and recrystallized northward (toward Mayo Lake); this may indicate that the Robert Service Thrust is relatively shallow beneath the central part of the map-area.

The northern third of the map-area is the hanging wall of the Tombstone Thrust (Mortensen and Thompson, 1990). It includes the Keno Hill quartzite and older Earn Group schist and phyllite that were mobilized northwest, then northeast (Roots and Murphy, 1992). Abundant Triassic mafic intrusions lie within this structural sheet, and all rocks are highly strained. The Tombstone Thrust may intersect the surface near the north edge of the map-area because rocks to the north (in the footwall) are only weakly deformed (Abbott, 1990).

Several quartz monzonite stocks intrude the structural sheets. In age and composition the stocks are similar to the Selwyn Plutonic Suite (Anderson, 1987), but metallic mineralization is less common. Ag-Pb-Zn vein mineralization in the Keno Hill camp is derived from a mesothermal system driven by the Roop Lakes pluton (Lynch, 1986, 1989) along faults and fractures of a northeast-trending sinistral brittle shear zone (Roots and Murphy, 1992).

SYMBOLS

Geological contact (defined, approximate, assumed) ....

Bedding (tops unknown, known, vertical, overturned) ....

Foliation (inclined, vertical) ....

Lineation (mineral streaking) ....

Antiform or anticline (trace of axial plane; upright, overturned) ....

Synform or syncline (trace of axial plane; upright, overturned) ....

Fault, displacement unknown (exposed, inferred) ....

Thrust fault (approximate, assumed, overturned) ....

Mineral occurrence (Yukon Minfile number) 40

MINERAL OCCURRENCES[1]

1. UNITED KENO HILL (Ag,Pb,Zn veins; Holdings not shown; incl. of Keno and Galena hills)
2. FAITH (Ag,Pb - Vein)
3. DUNCAN (Ag,Pb - Vein)
4. GOLD QUEEN (Ag,Pb - Vein)
5. SILVER BASIN (Pb,Ag,Au - Vein)
6. NABOB (Ag,Pb - Vein)
7. MONUMENT (Ag,Pb - Vein)
8. COMSTOCK (Ag,Pb - Vein)
9. APEX (Ag,Pb,Zn - Vein)
10. VANGUARD (Ag,Pb - Vein)
11. HOMESTAKE (Ag,Pb - Vein)
12. CHRISTINE (Ag,Pb - Vein)
13. MO (Pb,Ag - Vein)
14. MAYBRUN (Ag,Pb,Zn - Vein)
15. HOGAN (Ag,Pb - Vein)
16. RUNER (Ag,Pb - Vein)
17. WERNECKE (Ag,Pb,Zn - Vein)
18. FORMO (Ag,Pb,Zn - Vein)
19. NOMAD
20. PADDY (Ag,Pb,Zn - Vein)
21. EAGLE (Ag,Pb,Zn - Vein)
22. FISHER (Pb,Zn,Ag - Vein)
23. PARENT
24. CREAM and JEAN (Pb,Zn,Ag - Vein)
25. NORD (Ag,Pb - Vein)
26. GERLITZKI (Ag,Pb,Zn - Vein)
27. TITAN (Ag,Pb - Vein)
28. SHANGHAI (Ag,Pb,Zn - Vein)
29. WAYNE (Ag,Pb,Zn,Au,W - Vein)
30. ARGENT
31. STREBCHUK (Sn,Ag,Pb,W - Vein)
32. MT. HALDANE (Ag,Pb,Zn - Vein)
33. LAYSIER (Ag,Pb - Vein)
34. COBALT (Ag,Pb - Vein)
35. PATTERSON
36. ETTA
37. GORDON (Sb,Ag - Vein)
38. TWO BUTTES (W,Mo - Ppy)
39. SIDESLIP (Cu - Skn)
40. GREAT HORN (W,Cu,Zn - Skn)
41. RAM
42. HOT SPRING (Ag,Pb - Vein)
43. LOST WERNECKE COPPER (Cu - Un)
44. ROOP (W - Skn)
45. ABLE
46. MOON (Ag,Pb - Vein)
47. MT. ALBERT (Ag,Pb - Vein)
48. McKIM (Ag,Pb - Vein)
49. VACA
50. NERO (Ag,Pb - Vein)
51. FRIESEN (Cu,W - Skn0
52. MT. HINTON (Au,Ag - Vein)
53. AVENUE (Ag,Pb - Vein)
54. CHANCE (Sb - Vein)
55. YONO (Ag,Pb - Vein)
56. SUNDOWN (Ag,Pb - Vein)
57. GUSTAVUS (Ag,Pb - Vein)
58. HALFWAY
59. RANKIN
60. NEWRY
61. CHRISTAL (Ag,Pb,Zn - Vein)
62. SEGSWORTH (Ag,Pb,Zn - Vein)
63. IRONCLAD (Ag,Pb,Zn - Vein)
64. WALLINGHAM
65. NADAR
66. KALZAS (W,Sn - Vein)
67. CORKERY
68. WEASEL
69. GAMBLER (Ag,Pb - Vein)
70. HAVRENAK (Au,Ag - Vein)
71. DRILL (W - Vein)
72. BELEY (Zn - Vein)
73. BEMA (Au,Ag - Vein)
74. BIRGIT
75. WHITEMAN
76. GOLDROCK
77. T-BIRD
78. FEED
79. TINY ISLAND (Ba - Form)
80. GORDEY (Ba - Form)

[1] Numbered with Yukon MINFILE reference numbers.
(105M)

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ACKNOWLEDGEMENTS

This project was funded in 1990 by the Cordilleran Division, Geological Survey of Canada and in 1991 by the Canada-Yukon Economic Development Agreement. Discussions with Grant Abbott of Northern Affairs Program and Steve Gordey of the Geological Survey of Canada were helpful in forming our interpretation of this region. The authors are grateful to Lasha Reid, Archer Cathro and Associates, and Trans North Air, Ltd. for logistics, and Peter Daubeny, Stefan Meinke, Fred Roots and David Lucas for field assistance.

Indian and Northern Affairs Canada
Exploration and Geological Services Division
Yukon Region
Open File 1992-4

Energy Mines and Resources Canada
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Open File 2483

GEOLOGY OF MAYO MAP AREA (105M)

by

Charles F. Roots and Donald C. Murphy
Geological Survey of Canada

This Open File map and Open File 1992-3 (**Geology of Keno Hill**) by D.C. Murphy and C. Roots are products of the Canada-Yukon Cooperation Agreement on Mineral Resources 1991-1996, administered by:

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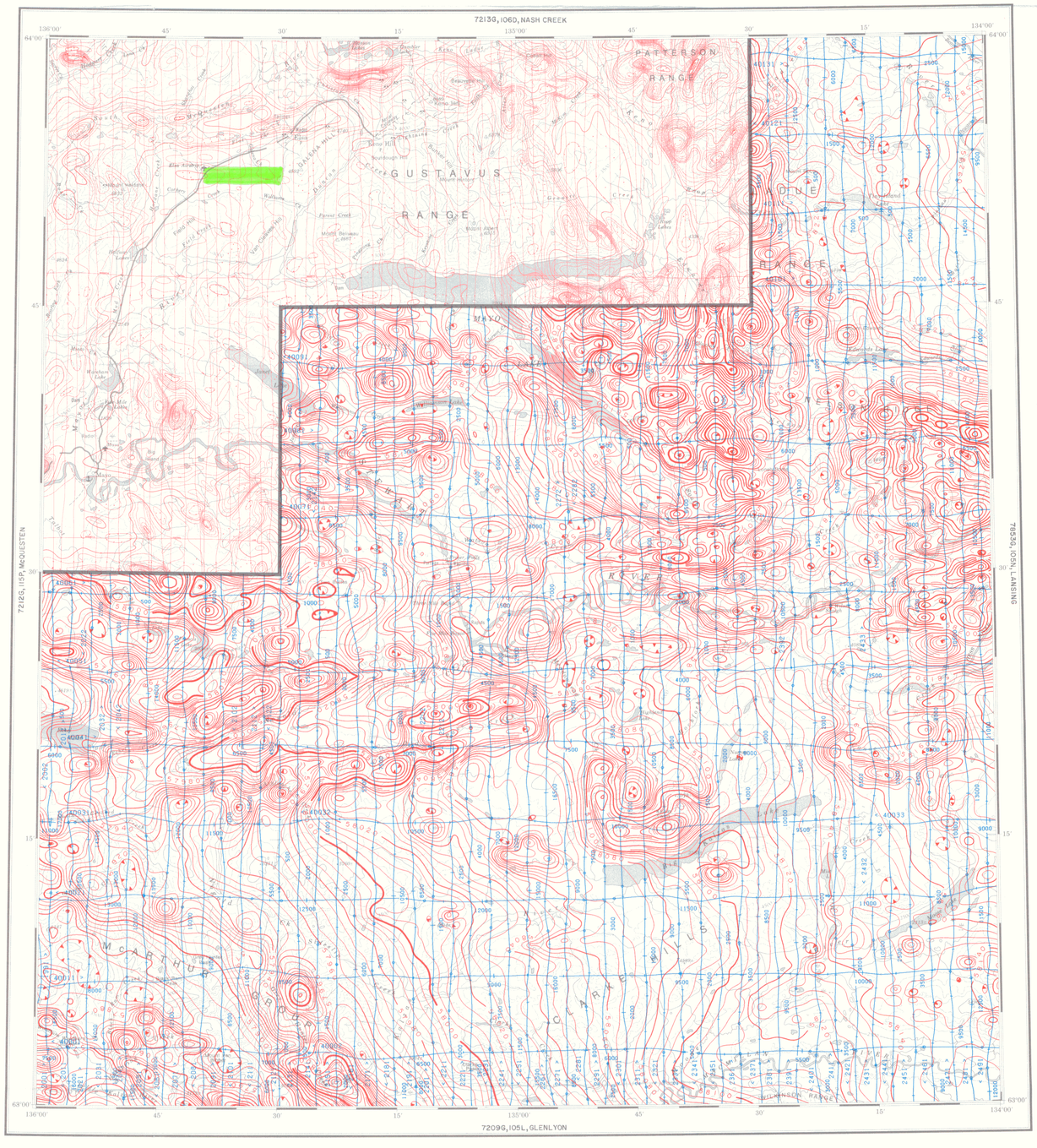
105M GEOPHYSICAL SERIES
AEROMAGNETIC TOTAL FIELD MAP

SÉRIE DES CARTES GÉOPHYSIQUES
CARTE AEROMAGNÉTIQUE DU CHAMP TOTAL 7211G



This map was compiled from digitally recorded aeromagnetic survey data obtained with a cesium vapour magnetometer which measured the total field with a resolution of 0.01 nT. The flight path of the survey aircraft was recorded digitally using GPS navigation data. The GPS differential correction was applied post flight, with the video tape from a vertically mounted camera supplementing the flight path recovery.

The data were levelled using a combined manual/computer process based on the differences of the magnetic values of the control and traverse lines at their intersections.

The total field values for traverse lines were interpolated on a 300 m square grid. Contours were produced at a scale of 1:125 000 and photographically reduced to the published map scale.

The airborne magnetic survey was carried out by Intera Kenting from June to November 1990.

No correction has been made for regional variation.

Due to high geomagnetic activity during the survey period, some short wave-length effects may be present in the data. Diurnal data is available from the Geophysical Data Centre in digital form.

North of Latitude 63°30'N,
West of Longitude 134°30'W

This airborne survey was carried out by Canadian Aero Service Limited, between June 1964 to February 1966 at a flight altitude of 305 metres above ground where possible, with an average flight line spacing of 1 km. Basic contour interval is 5 nT with no correction made for regional variation.

Cette carte a été compilée d'après les données enregistrées numériquement durant un levé aéromagnétique et recueillies à l'aide d'un magnétomètre du type vapeur de césium qui mesure le champ magnétique total avec une précision de 0.01 nT. Le tracé des lignes de vol de l'avion a été recouvert par un système de navigation GPS. La correction différentielle du GPS a été faite après le vol, une camera vidéo montée verticalement a été utilisée pour complémenter le plan de vol.

Les données du levé ont nivellées en utilisant une procédure partiellement automatisée en se servant des différences entre les valeurs magnétiques aux intersections des lignes de contrôle et des traverses.

Les valeurs du champ total des traverses ont été interpolées aux noeuds de la grille à maille carrée de 300 m de côté. Les contours ont été tracés à l'échelle de 1/125 000 et réduit photographiquement à l'échelle de publication de la carte.

Le levé aéromagnétique a été effectué par Intera Kenting entre juin et novembre 1990.

Aucune correction n'a été apporté pour compenser la variation régionale.

Due à l'activité géomagnétique intense pendant l'exécution du levé, certains effets de courtes longueurs d'ondes peuvent se retrouver dans les données. Les données numériques de la diurne sont disponibles au Centre des données géophysiques.

Nord de la latitude 63°30',
Ouest de la longitude 134°30'

Ce levé aéroporté a été effectué par Canadian Aero Service Limited, de juin 1964, à février 1966, à une altitude de 305 mètres au-dessus du sol où possible, avec un espacement moyen de 1 km pour les lignes de vol. L'équidistance des courbes est 5 nT sans corrections pour les variances régionales.

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND GEOPHYSICAL INDEX FOR GEOLOGICAL SURVEY OF CANADA MAPS

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LOCATION MAP – CARTE DE LOCALISATION

ISOMAGNETIC LINES
(absolute total field)
LIGNES ISOMAGNÉTIQUES
(valeur absolue du champ total)

500 nT .....
100 nT .....
20 nT .....
5 nT .....
Magnetic depression .....
Dépression magnétique .....
Flight lines ... < 1451 VISUAL
Lignes de vol . VISUEL GPS
Flight altitude
2134 metres (7000')
above sea level
Altitude de vol
2134 mètres (7000')
au-dessus du niveau
de la mer
Elevation contours in feet
Courbe de niveau en pieds

Energy, Mines and Resources Canada
Énergie, Mines et Ressources Canada

Canada

MAP 7211G CARTE

AEROMAGNETIC TOTAL FIELD - CARTE AÉROMAGNÉTIQUE DU CHAMP TOTAL

MAYO

YUKON TERRITORY – TERRITOIRE DU YUKON

Scale 1:250 000 - Échelle 1/250 000

Kilometres 5 0 5 10 15 20 Kilometres

Universal Transverse Mercator Projection
Projection transverse universelle de Mercator

PUBLISHED 1992 – PUBLIÉE EN 1992

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1992: Aeromagnetic total field, Mayo, Yukon Territory; Geological Survey of Canada, Map 7211G, scale 1:250 000

Notation bibliographique conseillée:
Commission géologique du Canada,
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MAP-CARTE
7211G
MAYO
YUKON TERRITORY
TERRITOIRE DU YUKON
105M

Indian and Northern Affairs Canada / Affaires indiennes et du Nord Canada

Northern Affairs Program / Programme des affaires du Nord

Mineral Rights Droits miniers

Canada

093051

MAYO 29 MARCH 1989

(464)
MAP# 105M/13
DOC# 093051
DWG 78

26 NOV 92
18 NOV 92
27 OCT 92
08 OCT 92
21 SEPT 92
04 AUG 92
21 MAY 92
24 APR 92
19 MAR 92
29 NOV 91
04 NOV 91
31 OCT 91
23 SEPT 91
02 AUG 91
22 APR 91
24 JAN 91
18 OCT 90
14 SEPT 90
22 AUG 90
16 JULY 90
6 APR 90
14 NOV 89
6 JULY 89
26 JUNE 89
1 JUNE 89
14 APR 89

105M-13
QUARTZ

LATITUDE 63°45' TO 64°00'
LONGITUDE 135°30' TO 136°00'

ISSUED UNDER THE AUTHORITY OF THE MINISTER OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

SCALE 1:30,000

1000 0 1000 2000 METRES
1500 0 1500 3000 4500 6000 7500 9000 10500 FEET

N MAGNETIC NORTH N33°04'E

NOTE:

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116A-1	106D-4	106D-3
115P-16	105M-13	105M-14
115P-9	105M-12	105M-11

NOTE: FOR PLACER CLAIMS SEE 105M-13 PLACER

105M-13