

MAP NO.: ASSESSMENT REPORT X
105 D 11 PROSPECTUS X
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 092898
MINING DISTRICT: WHITEHORSE
TYPE OF WORK: PROSPECTING

REPORT FILED UNDER: TOM MORGAN

DATE PERFORMED: APRIL, 1990

DATE FILED: JUNE 21, 1990

LOCATION: LAT.: 60°37'N

AREA: IBEX RIVER

LONG.: 135°25'W

VALUE \$: 2,200

CLAIM NAME & NO.: DUCK 1-10
DON 1-12

WORK DONE BY: BRIAN LUECK

WORK DONE FOR: TOM MORGAN

DATE TO GOOD STANDING:

REMARKS: These two separate claim groups were prospected in search of the source of multi element geochemical anomalies from gov't Regional Stream Sediment Sampling program. Nothing was located which would account for the anomalies.

092898

Geology Report on the DON and DUCK Claim Groups
NTS 105 D 11
Whitehorse Mining District
135° 25' W; 60° 37' N
and 135° 17' W, 60° 33' N

for

Tom Morgan

by

Brian Lueck
Geologist

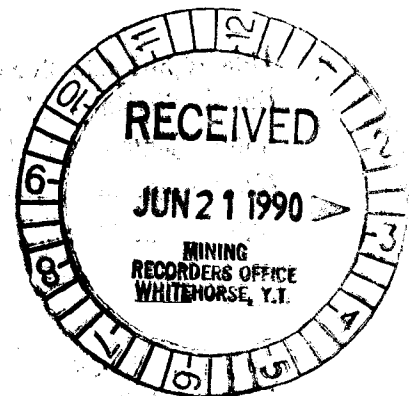


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Introduction

This report has been prepared at the request of Mr. T. Morgan, registered owner of the DON and DUCK claims. The claims were staked to cover two distinct areas containing multi-element geochemical anomalies in adjacent stream pups.

Studies of air magnetic data and air photos have indicated strong linear structures which strike northwest on the DON claims and northeast on the DUCK claims.

Both areas are geologically and geochemically similar. Limited sampling of some of the mineralized zones present on both properties indicates that here is good potential for hosting both base and precious metal deposits on these properties.

It is recommended that further prospecting and systematic sampling of sulphide zones be undertaken. Massive pyrrhotite-chalcopyrite veins with anomalous gold and nickel values make an interesting prospecting target on the DON claims. Fracture veinlets in greywacke and shale near intrusive contacts contain galena, sphalerite, arsenopyrite and pyrite. These fracture veinlets occur on both properties and some breccia zones appear to be pervasive near some contact areas, judging from limited outcrop in rugged sideslope areas.

Claims

The DON and DUCK claims were staked on April 19, 1989, by Gordon Clark and Associates for T. Morgan. The claims are effective to April 25, 1991, pending approval of this report.

Claim Name	Units	Expiry Date	Owner
DON 1-12	12	4B 25719 April 25, 1991	T. Morgan
DUCK 1-10	10	April 25, 1991	T. Morgan

4B 25709

Location and Access

The claims are located about 12 miles southwest of Whitehorse. They cover areas of ridge outcrop and talus slope. These areas are drained by stream pups which contain multi-element geochemical anomalies in their silt samples.

The DON claims can be reached by a rough dirt road up the Ibex River Valley. The DUCK claims can be accessed by helicopter or by foot or boat from Fish Lake.

History

There is no history of prospecting in this area. Government regional geochemical sampling has identified a coincident As, Zn, Au, Cu, Fe, Sb, Mo, Co, and Cd anomaly on the DUCK claims and a coincident As, Ni, Zn, Au, Cu, Mo, Fe, Sb, Cd, Mo and Co anomaly on the DON claims.

Government aeromagnetic surveys of the region show prominent linear magnetic structures on both claim blocks.

Regional Geology

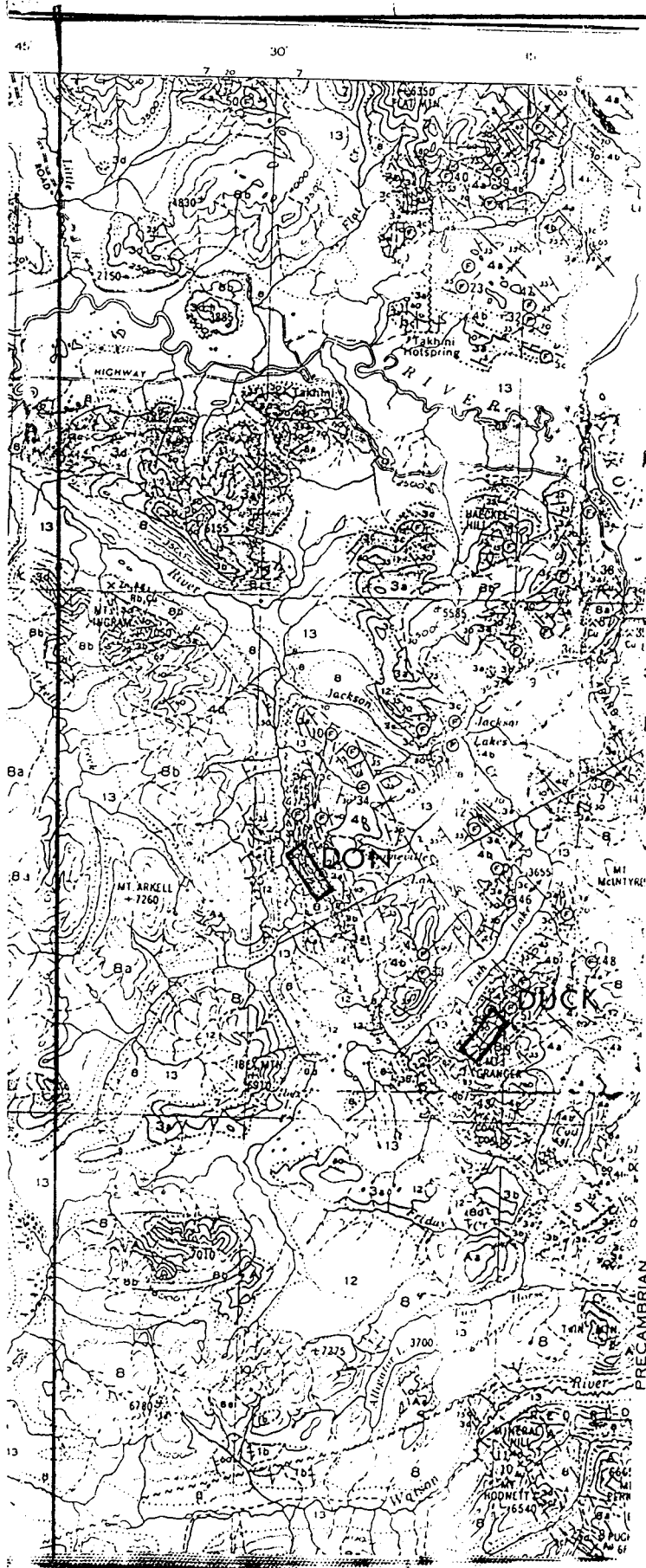
A: DON Claims

The claim block lies directly on a northwest striking complex fault zone which lies at the boundary between Cretaceous granodiorite of the Coast Plutonic Complex, and Whitehorse Trough sediments and volcanics. Intruded rocks include the Upper Triassic Lewes River Group and earlier Mesozoic sediments of the Laberge Group (Wheeler 1951).

Recent basalts and pyroclastic cones intrude this area to the southeast of the claim block. Regionally, this fault zone covered by the claims is mapped as an anticlinal thrust zone, with thrusting from the northeast. Thrusts place Jurassic Tantalus Formation over Cretaceous granodiorite and step out thrusts placing Triassic Lewes River Group over later deposited Tantalus Formation. (Wheeler 1951).

B: DUCK Claims

These claims cover a northeast striking contact between Coast Range Granodiorite to the southwest and Upper Triassic Lewes River Group greywackes, conglomerates, sandstones and shales. The contact appears to be a near vertical shear with extensive hornfelsing of the sediments near the contact. Dykes of intrusive rock strike northeast where they penetrate the shallowly dipping sedimentary sequence. The contact probably represents an extensional crustal break with the sediments downthrown to the northwest. The prominent highland of Mt. Granger is cored by the uplifted granitic rocks.



- QUATERNARY**
- 13 Alluvium, glacial deposits, volcanic ash, loess
 - 12 MILLS CANYON BASALT basalt, minor pyroclastic rock
- TERTIARY OR EARLIER**
- 11 Granite porphyry, rhyolite
- SKURUM GROUP**
- 10 Andesite, basalt, rhyolite, and trachyte breccias, tuffs, and flows, granitic agglomerate, minor greywacke
 - 9 Pink quartz monzonite
- CRETACEOUS**
- COAST INTRUSIONS**
- 8 Granodiorite, granite, quartz monzonite, quartz diorite, and allied rocks; B_a, hornblende-biotite-oligoclase granodiorite; B_b, leucocratic granite, biotite granite; B_c, biotite-hornblende quartz diorite; B_d, hornblende diorite; B_e, gneissic porphyritic granodiorite; B_f, shattered granodiorite and granitic breccia; B_g, pyramitic syenite
- HUTSHI GROUP**
- 7 Basalt, andesite, quartz latite, and rhyolite flows, breccias, and tuffs, conglomerate, minor greywacke and argillite. 7a, basalt dyke. 7b, altered volcanic rocks probably belonging to Hutshi group
- 6 Peridotite, dunite, serpentinite, pyroxenite
- MESOZOIC**
- JURASSIC (?) AND CRETACEOUS**
UPPER JURASSIC (?) AND LOWER CRETACEOUS
- 5 TANTAUS FORMATION arkose, siltstone, conglomerate, argillite, coal
- JURASSIC**
LOWER JURASSIC AND LATER LABERGE GROUP
- 4 4a, greywacke, arkose, quartzite, conglomerate, siltstone, argillite, hornfels; 4b, mainly conglomerate
- TRIASSIC**
UPPER TRIASSIC
- LEWES RIVER GROUP**
- 3a, greywacke, siltstone, argillite, conglomerate, and tuffaceous equivalents; 3aa, includes Jurassic rocks; 3b, andesite, basalt flows and associated pyroclastic rocks; 3c, limestone, limestone breccia; 3d, metamorphosed rocks, probably belonging to Lewes River group
- PALAEZOIC**
- PENNSYLVANIAN (?) AND PERMIAN**
TAKU GROUP
- 2 2a, mainly chert; 2b, greenstone flows and pyroclastic rocks; 2c, limestone, limestone breccia; 2d, metamorphosed volcanic rocks, probably belonging to Taku group; 2ds, metamorphosed volcanic rocks containing numerous serpentine bodies
- LATER AND PRECAMBRIAN**
- YUKON GROUP**
- 1 1a, Quartz-mica, quartz-chlorite, and mica schists, quartzite, micaceous quartzite, gneiss, and amphibolite; 1b, feldspathic gneiss, gneissic granitic rocks, lit-par-lit gneiss; 1c, crystalline limestone
- Volcanic rocks of uncertain age. Aa, metamorphosed volcanic rocks

REGIONAL GEOLOGY

SCALE = 1:250,000

Location Geology

A: DON Claims; Sampling and Prospecting

Prospecting

Several traverses across sideslope outcrop zones provided a basis for preliminary sampling and prospecting within the region drained by the anomalous stream pups. The most prevalent feature of the area is the abundance of sulphide minerals in the country rock (2-20% pyrite and pyrrhotite). This type of disseminated sulphide is found almost everywhere on the claim block.

Lewes River Volcanic greenstone and subvolcanic andesites and gabbroic intrusives are impregnated with disseminated pyrrhotite, whereas altered sediments and felsic volcanics contain pyrite.

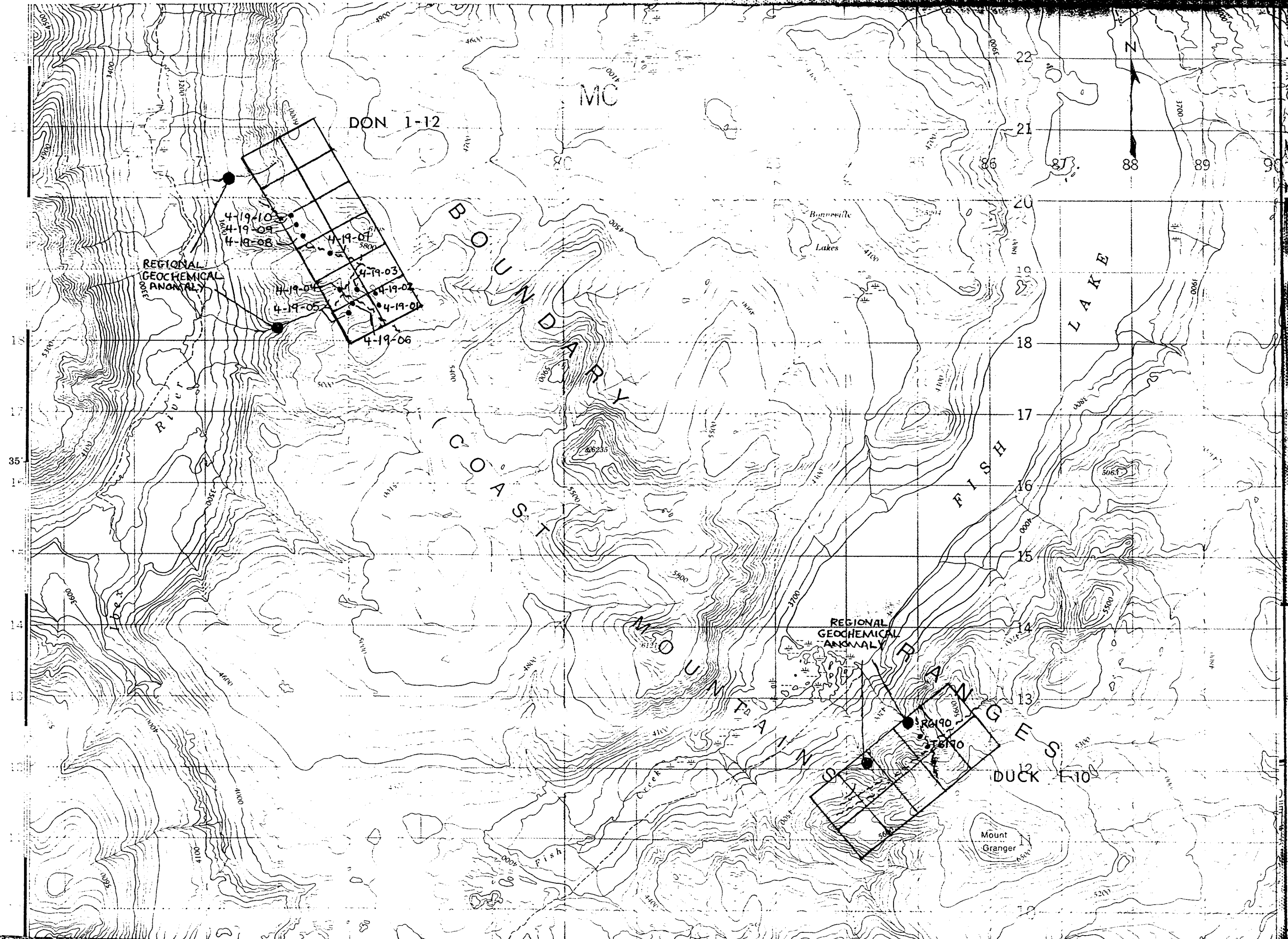
Geological contacts are extremely complex, with slivers of varying intrusive, volcanic, and sedimentary rock interdigitated in northwest striking, steeply dipping lenses. Fracture veinlets of pyrite and/or pyrrhotite are common; and quartz, carbonate and sulphide veinlets are found in crackle zones in andesite and rhyolite dykes.

Metamorphic grade is lower greenschist and cooler. No schists or gneiss were observed except for some foliation of the obviously intrusive phase. Hornfelsing is common.

Sampling

Sample Descriptions

Sample #	Description
4-19-01	Silicified and sulphide bearing altered greenstone - pyritic.
4-19-02	Average sample of abundant talus of pyrrhotite bearing hornblende-feldspar porphyry andesite.
4-19-03	Pyritic, felsic volcanic; silicified with small quartz veinlets throughout.
4-19-04	Completely altered and rusted greenstone volcanic; quartz-pyrite-pyrrhotite veinlets - scorodite stain.



LEGEND

- - GOVT. SILT SAMPLE
- - WRITER'S SAMPLE
- SCALE = 1:50,000
- FAULT ZONE

11111 105-D-11
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 (311)

- 4-19-05 Outcrop grab samples of silicified andesite dyke with quartz veinlet swarms throughout - pyrrhotite-chalcopyrite in quartz stringers - minor malachite staining.
- 4-19-06 Bleached and silicified metavolcanic-quartz veinlets and replacements; porous and oxidized with relict goethite after cubic pyrite.
- 4-19-07-A Massive to net textured sulphides; mostly pyrrhotite with some chalcopyrite; some sulphides sheared out in bands.
- 4-19-07-B Quartz-eyed altered volcanic with ~ 50% pyrite from same area as 4-19-07(A).
- 4-19-08 Float occurrence of quartz-pyrite-galena-sphalerite-chalcopyrite veinlet.
- 4-19-09 Bleached and silicified porous volcanic - heavily oxidized.
- 4-19-10 Pyritic greenstone - abundant.

B: DUCK Claims; sampling and prospecting

The traverse into the DUCK claim block was completed after the sampling program on the DON claims and similar material was not assayed if values proved to be low from similar rock on the DON claims. This was a purely financial consideration. Samples were collected and are in storage with the writer.

The DUCK claims cover a northeasterly striking contact between Lewes River Group sediments to the northwest and granodiorite of the Coast Range Complex to the southeast.

Hornfelsing and sulphide replacement in sediments is the predominant alteration style seen on the property. Fracturing and sulphidation, with minor quartz and carbonate veining in some areas is prominent at contacts with intrusive dykes and the main granodiorite body.

Bad weather and fog did not permit the writer to visit all of the gossans or linear fracture zones which are in the claim block. A prominent gossan which occurs at the headwaters of the ridge between the two anomalous stream pups contains sulphide bearing hornfelsed greywacke.

Zones within the greywacke contain quartz-breccia stringers or stockworks which contain pyrrhotite-pyrite-galena and chalcopyrite. A talus fines sample was taken directly below the gossan and samples of stockwork quartz bearing sulphides were taken.

Aeromagnetic Data and Air Photo Interpretation

On the DON claims, a profound linear aeromagnetic anomaly is situated along the fault contact described previously. A magnetic high associated with a mafic intrusive phase is paralleled by a magnetic low corresponding to the altered sediments and volcanics along the fault. This long linear magnetic anomaly attests to the continuity of the controlling fault structure on the claim block. Air photo linears follow prominent galleys and weather preferentially. Prospecting float from one of these linears produced samples of massive pyrrhotite-chalcopyrite. These linears should be carefully prospected and sampled.

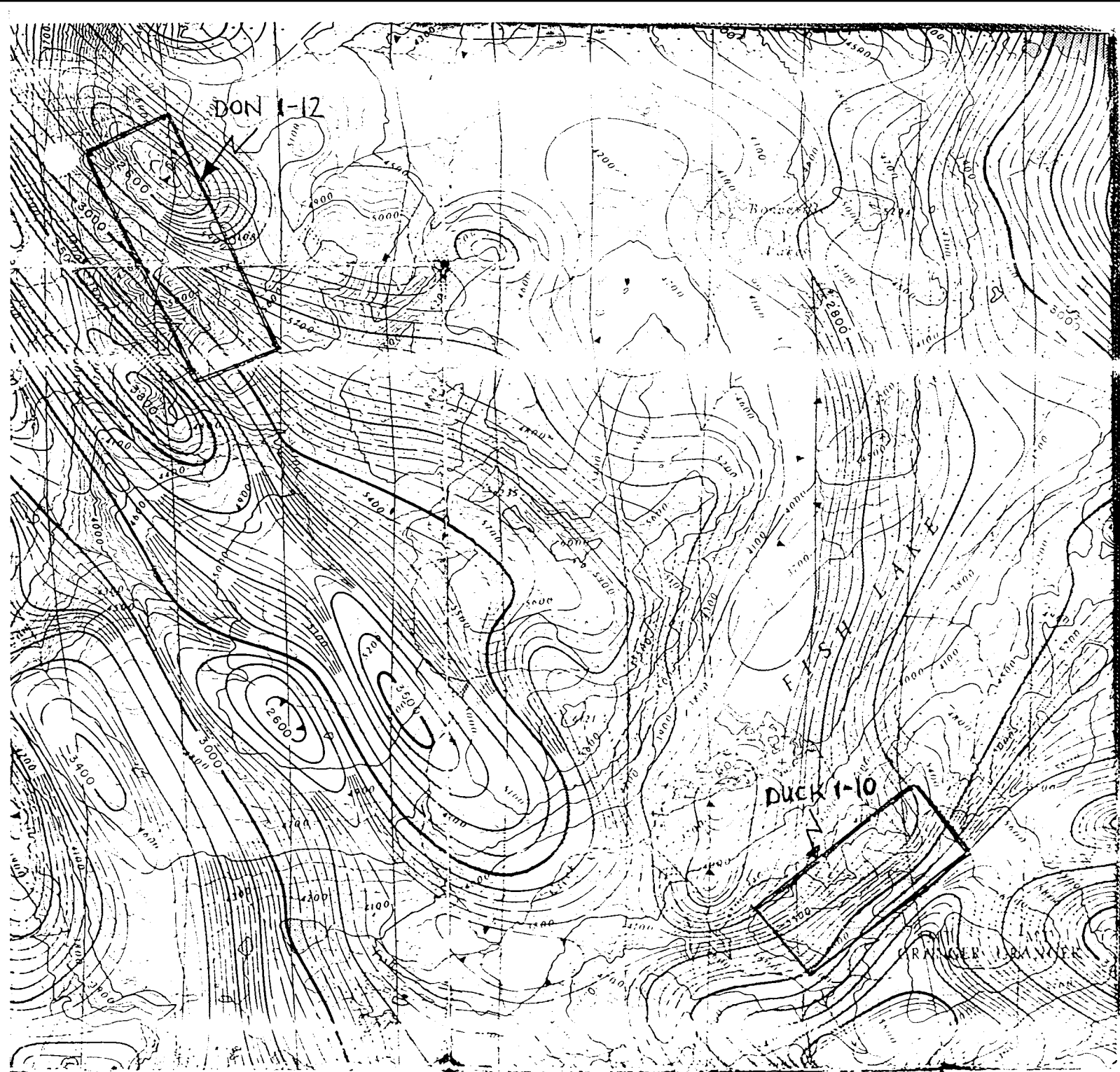
On the DUCK claims, a less prominent northeasterly striking magnetic linear parallels the contact between the intrusive and the sediments. Prominent rusty fracture zones parallel this contact and linear structures are abundant on air photos.

Discussion

The two claim blocks cover different types of fault contacts between Coast Range intrusives and Whitehorse Trough volcanics and sediments. Gold, silver, copper, nickel, lead, zinc, and platinum values have been discovered in rock samples taken on the property and further prospecting and sampling is warranted as the claim blocks were only traversed and prospected in a very preliminary manner.

Recommendations

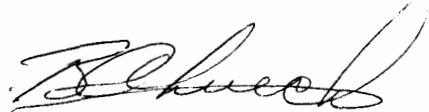
It is recommended that a systematic followup of this geochemical anomaly be done to find the main source of the Au, Cu, Zn, Pd within the drainage basins. Intensive prospecting of geochemical source areas will reveal the source of metal, which will occur, most likely, as massive sulphide veins or veinlets and/or quartz-sulphide polymetallic stockwork zones in fractured volcanics. Evaluation of the occurrences can then be made to see if further work is warranted.



AEROMAGNETIC MAP - DON + DUCK CLAIMS

STATEMENT OF COSTS

Helicopter - set outs and pick ups	\$1,125.00
Assays	170.00
Geologist - 3 days @ \$250.00/day	750.00
Assistant - 3 days @ \$100.00/day	300.00
Report writing, drafting, typing	400.00
Camp costs - 3 days x 2 persons @ \$30.00/person/day	<u>180.00</u>
Total:	<u>\$2,925.00</u>



STATEMENT OF QUALIFICATIONS

I, Brian A. Lueck, of the City of Whitehorse in the Yukon Territory, hereby certify:

1. That I am a consulting geologist and I was present on the property during all phases of exploration work done in 1987.
2. That I am a graduate in Honours Geology of the University of British Columbia (1985).
3. That I have been engaged in mineral exploration or have been employed as a geologist in the Yukon and British Columbia for a period of 5 years.
4. That I believe the contents of this report to be true and that I have supervised the collection of samples and believe them to be accurate representations of the mineralization which is present.
5. That I have attended Carleton University in a Masters geology program and that I have successfully completed one year of graduate studies.



Brian A. Lueck, B. Sc.

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**Geochemical
 Lab Report**

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PROJECT: NONE GIVEN PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Mo PPM	Pb PPM	Zn PPM	As PPM	Ba PPM	Sb PPM	W PPM	Hg PPB
R2 4-19-01		<10	0.4	168	<1	16	56	4	780	<1	<2	30
R2 4-19-3		40	0.2	74	2	8	27	2	1300	<1	8	10
R2 4-19-4		<10	0.4	196	2	5	75	<2	1100	<1	<2	10
R2 4-19-6		13	3.6	144	6	75	78	<2	5300	1	5	5
R2 4-19-7B		<10	2.2	731	5	15	56	<2	390	<1	2	5
R2 4-19-8		780	>50.0	427	1	>10000	15469	1740	<100	252	<2	265
R2 4-19-9		<10	2.4	71	<1	138	72	7	3300	1	4	10
R2 4-19-10		<10	2.4	233	<1	312	150	18	420	1	4	15

