

810841

ATLIN DISTRICT

Notes made from an unpublished  
and unfinished report by

Dr. Black.

ATLIN DISTRICT

Notes from unpublished and unfinished report by Dr. Black.

Ref: Gwillion - GSC, Gainnes 1910, Cockfield 1925,  
M of M Repts esp 1900, 1904, 1932, 1936.

Placer Creeks

- Pine, Spruce, Otter, Wright (Snake ?), Ruby, Boulder,  
Birch, McKee.

GEOLOGY

Heavy drift, smooth slopes, and therefore few outcrops  
so all geological contacts assumed.

Rocks: Units 1 and 2 (oldest rocks) -- largely siliceous and  
argillaceous with some marble, volcanic beds, flows  
and probably some intrusives included.

Unit 3 -- largely greenstone - believed to overlie  
unitw 1 and 2.

Intruding 1 - 3 are basic and ultrabasic bodies and  
intruding the oldest group are granitic bodies -- older  
rocks also cut by dykes.

In creek bottoms some partly consolidated gravel deposits.  
They are pre-glacial and probably accumulated in the  
Tertiary -- are gold bearing-- Overlain by fluvio-  
glacial deposits up to several hundred feet thick.

Ruby Creek -- lava flows late glacial in age.

| <u>Era</u> | <u>Period</u>              | <u>Map Unit</u> | <u>Lithology</u>                             |
|------------|----------------------------|-----------------|--|
| Cenozoic   | { Recent                   | 9               | Hydromagnesite.                              |
|            | { Late Pleistocene         | 8               | Scoriae.                                     |
|            | { Late Pleistocene         | 7               | Lava.  |
|            | { Tertiary or early Pleist | 6               | Pre-glacial placer<br>gravels.               |
| Mesozoic   | { Jurassic ?               | 5               | Granitic intrusives.                         |
|            | { Jurassic ?               | 4               | Basic and ultrabasic<br>intrusives.          |
| Paleozoic  | { Permo-carboniferous      | { 3             | Greenstone, minor<br>marble.                 |
|            | {                          | { 2             | Marble.                                      |
|            | {                          | { 1             | Quartzite, argillite,<br>marble, greenstone. |

Alterations:

"Talc deposits in the valley of Boulder and Otter creeks are interbedded with marble beds and probably formed from alteration of dolomitic beds."

"In addition the group (group 3) has been chloritized and much of it has been serpentized and carbonatized. Some tan coloured rocks have developed composed of mixtures of serpentine and marble."

Ultrabasic Intrusives:

Originally olivine-pyroxene rocks (dunite-pyroxenite plus some gabbro). Considerable magnetite present (giving magnetic anomalies) and some chromite.

Alteration: Chiefly development of serpentine, hornblende, and chlorite; but tremolite and other amphiboles are present. Asbestos veinlets and other amphiboles are present. Asbestos veinlets less than 1/8" in width are common but usually scattered widely. The widest asbestos veinlets seen were about 1/4" wide and are in the largest intrusive body between Birch and Boulder Creeks.

The ultrabasics are cut by granitic dykes. Possibly the ultrabasics are localized along or near a synclinal axis or some unknown structural feature near Pine Valley.

Granitic Intrusives:

Medium and/or coarse-grained with phenocrysts up to 2" long -- chiefly granite to Qtz diorite, cut by late lamprophyre dykes. These dykes are especially common at the west end of Munro Mtn where they strike southeasterly and dip northeasterly.

Scoriae and Lavas:

(Ruby Creek and vicinity).

Flows probably derived from near valley floor. Individual flows 5-15 feet thick with the maximum lava thickness (about 120') opposite Cracker Pass. The lava is blue-grey-black in colour, fine-grained-glassy, vesicular and amygdaloidal and of basaltic composition.

Scoriae from small cone east of Ruby Creek and two fans on west slope of Ruby Creek -- crater at the top of mountain between Boulder and Ruby Creeks. The scoriae is believed to be of late glacial age.

Hydromagnesite:

(viz Young -- GSC SR 1915, pp 56-61)

Total extent of 26 acres -- depth " a few inches to over 6 feet" according to Young. Hydromagnesite was presumably deposited in pods (?) fed by underground waters.

STRUCTURE

Detection and delineation difficult due to scarcity of outcrop.

The distribution of map unit 1 is roughly arcuate. Beds on Munro Mtn strike eastward, those near Boulder, Otter, and Wright Creeks strike southward; at the head of Spruce Creek and in McKee valley most beds strike westward making it apparent that the arcuate distribution is the result of folding. The dips are toward the centre of the arc so a major syncline is suggested with the axis near Pine Valley striking westward and presumably plunging in that direction.

Beds at the head of Wright Creek appear to be on a limb of some other fold -- drag folds are not common.

The placer deposit of Spruce Creek is extremely straight and suggests the possibility that the creek may be located along a fault. The bedrock is weathered and decomposed -- much clay is present and possibly some gouge.

PHYSIOGRAPHY and GLACIATION

Believes placers originally formed on all creeks of area. Ice presumably moving in from SW actually sluggish but of sufficient magnitude and duration to form a sheet (Llewellyn Sheet).

Atlin valley glaciated by northward moving glacier. Lower Pine Creek and McKee valleys eroded with ice-marginal lakes forming and giving deltaic deposits up to 3500'.

All important placer gravels yet mined in the area were yellow-stained as opposed to till and recent deposits (grey-br-blue).

Only about lower 4 feet of yellow gravels is mined plus two feet of bedrock. Spruce Creek has narrow (150') gold bearing channel.

Many of the nuggets are angular and contain considerable white quartz. Fineness 841.75 to 774.

|                            |                 |       |   |                       |
|----------------------------|-----------------|-------|---|-----------------------|
| Boulder Creek concentrate: | WO <sub>3</sub> | 52.1% | } | Sample                |
|                            | Sn              | 12.6% |   |                       |
|                            | Pt              | .08oz |   |                       |
|                            | WO <sub>3</sub> | 48.5% | } | 1949, 3-ton shipment. |
|                            | Sn              | 10 %  |   |                       |

Nuggets of wolframite and chromite were seen in black sand from Spruce Creek operations.

Spruce Creek channel buried deeper and deeper as followed upstream.

LODE DEPOSITS

Boulder Creek Tungsten Veins:

Up to 25 feet wide but mostly 2'-3'. Milky, glassy, or sugary white quartz with wolframite plus pyrite, galena and molybenite. Strike NE and dip 45 degrees NW. These veins are only found in the area underlain by granitic rock.

Box (Imperial) M of M Rept 1950, pp 71-72, 1933 p 77.

Located on the west end of Munro Mtn especially between 3250' and 3350' elevation. A group of closely spaced veinlets constitute a vein zone (290°/60S), 3 feet wide, glassy quartz, siderite, pyrite, minor chalcopyrite, galena, and molybenite. The workings are caved.

Box Lakeview (M of M Rept 1933, p.78)

S slope of ridge between Boulder and Birch creeks. Several quartz veins in parallel fractures (345°/70°W). Quartz is white, milky and unmineralized - in argillites (290°/65°S). Caved.

Surprise (GSC SR 1924, p 23A)

Two miles south of west end of Surprise Lake. Up to 20' wide of quartz with minor galena, chalcopyrite and siderite in greenstone (350°/70°SW).

Suggests two probably lode gold areas:

1. Area at head of McKee, Spruce, Otter, and Wright creeks.
2. Headwaters area Birch, Boulder, and Ruby Creeks.

2 contact met magnetite deposits noted on the mountain NE of Ruby Creek.

\* \* \* \* \*

Notes made by E.D. Dodson.