# MINERAL INCENTIVES PROGRAMME

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## REPORT

# FOR

# SANDPETE COMPONENT 1992

# PROSPECTOR'S ASSISTANCE PROGRAMME

NTS Map Sheet 115 F 15

61° 59' N 140° 54' W

R.S. Berdahl General Prospecting August 1992

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- III. Assay results

#### 1. <u>OBJECTIVES</u>

The objective of the Sandpete component was to attempt to locate porphyry alterations/mineralization as well as to consider the Monday wollastine showing and evaluate incidental mineral finds.

#### 2. <u>AREA GEOLOGY</u>

The Nutzotin prospecting component is located within the Gravina-Nutzotin tectonic element (Wrangellia W-2 terrain).

Stratified rocks in the area prospected are comprised of Stolai Group Permian argillites, silt stones and buff bioclastic limestone as well as a lighter crystalline limestone. The intrusive rocks are cretaceous "Kluane Range Intrusives", mainly granodiorite. These grade into mafic porphyritic magnetic intrusives - these are often associated with strong magnetic anomalies. Pyritic basalts and greenstones (upper triassic Nikolai greenstones) are common throughout the vicinity.

The area hosts several mineral showings including the AZ and ARN Au/Cu skarns; Monday wollastonite; Chair Gold porphyry; as well as several other porphyries (Cu & Mo) and veins (Au & Cu). Coarse Au and nugget Cu are found in creeks draining the Nutzotin topography.

After several years in this terrain I have concluded that sulfide can be found where limestones contact basalts associated with intrusives. The limestones fill vesicles in the basalt. No doubt the "Kluane range intrusives" which seem to be a multi-phase intrusive have some bearing on the mineralization but generally mineralization occurs where basalts and limestone intercede. The one exception to this was a copper (malachite/limonite) showing (Rich - one grab sample 2FI57 @ 38% Cu) contained entirely in quartzite or possibly rhyolite.

#### 3. <u>METHOD OF PROSPECTING</u>

The wollastonite showing was the first objective considered. Approximately 50 lbs. of wollastonite were taken for sampling. Two general varieties exist. The more common variety is a massive calc silicate with a minor limy constituent. The second occurs in dikes and veins through the massive variety. This second variety is in bladed or radiating fibrous forms. The acicular type seems more common in the north end of the deposit. The topographic situation causes the wollastonite to be exposed on three sides, thus crude measurements were made to determine the tonnage of the Monday showing. Two claims (Monday YB361250) were staked to cover the showing.

The second objective was met by reconnaissance prospecting. While no recognizable alteration patterns were delineated two new copper showings were discovered. As well, the potential strike length of the wollastonite mineralization was extended by three kilometres. Wollastonite was also recognized at the snow copper skarn. Alteration zones are common but may relate to veins, skarns or porphyries.

Twenty-one samples were taken for assay. These included 6 sails, 2 stream sediment and 13 rock samples. All samples were analyzed for Au, Ag, Cu, Pb, Zn, As, and Sb by Northern Analytical Labs in Whitehorse.

#### 4. <u>ASSAY RESULTS/DATA</u>: See Addendum III.

Assay highlights include numerous copper anomalies, especially 2F152, 2F153, 2F154 AND 2F157. It is also important to note the anomalous As and Sb anomalies (2F1521, D2F151, D2F1512) as

possible indicators of gold vein mineralization (see minfile # 48 Hump). Au mineralization was also of interest. (D2F156 Au F153, F157). Soil samples near the snow copper excede 400 ppb Au.

#### 5. CONCLUSIONS AND RECOMMENDATIONS

Wollastonite: The admittedly crude survey of the Monday wollastonite showing suggests 1.125 million tons of exposed wollastonite. Independent tests show random grab samples "assay" between 60 - 85% wollastonite. Due to erosion there is no stripping ratio. The current price of wollastonite, depending on its end use, ranges from \$125.00 (U.S.) TO \$260.00 (U.S.) per ton. Using the lower value the exposed wollastonite's gross value, if it meets consumer's specifications, would be over \$140,000,000.00 (U.S.)

I would recommend a serious marketing investigation in conjunction with a target evaluation and extensive testing of the Monday deposit.

Other: The discovery of other copper occurrences only heightens my belief that the Nutzotin Range has major economic mineral potential, especially for Cu/Au deposits - both skarn and porphyry.

The "rich" showing seems to be associated with a NW trending fault zone. Mineralization occurs as malachite and limonite disseminated within a granodiorite. Large boulders of talus prevented a cursory view of actual bedrock veining. Elsewhere fault saddles on ridges like the "rich" have an associated yellow soil and at 2F1518 a fair amount of quartz carbonate rock is present.

I would recommend anyone reading this report - especially if you can recognize porphyritic alterations - to venture into this area. If Archer Cathios Arn or the AZ drilling programs are fruitful, interest may be generated for further exploration. More grass roots prospecting is needed throughout the entire range.

The Monday skarn has good Cu and modest Au (548 ppb) values at surface. I believe this showing is on strike and associated with the same mineralizing snow skarns which lie 4.5km & 2km respectively on either side of the Monday Cu/Au.

The second "new" copper occurrence is less impressive but supports the theory that mineralization is associated with basalt/limestone contacts. The White River R-20 R-block immediately north of this showing should have good potential as the contacts are present. The showing consists of inch patches of malachite staining scattered over a basalt face over  $50^+$  feet.

#### 6. <u>STATEMENT OF COSTS</u>

Plane - Tin Cup Air 1118 - Tchawsahmon	\$ 749.00
Vehicle @ \$0.26/km - 320 km x 2 (return) x 0.26	\$ 166.00
Labour - 12 days @ \$100.00/day	\$1200.00
Per diem @ \$52.00/day x 24 man days	\$1248.00
Report	<u>\$_32.10</u>
Subtotal:	\$3395.10
Grubstake (total)	<u>\$2568.00</u>
TOTAL	\$5963.10



### <u>ADDENDUM III</u>

#### SANDPETE SOILS/STREAM SEDIMENTS

- D2F151 soil sample from horizontal layer. Orange to yellow with rusty quartz veins on contact of carbonates/wollastonites and volcanics
- D2FA56 soil sample from 3-5 meter garnet skarn zone. Sample contains garnet, limonite and a very bluegreen soil
- D2F158 soil sample yellow clay below malachite stained basal face, near shale/tuff/basal contact
- S2F1510 stream sediment. Second left limit tributary to Bowen at granitic/andesite/limestone contact
- D2F1511 3 meter "chip sample" from altered granitic limestone contact zone. Sample contains calcite, limonite et al
- D2F1512 3' clay zone, stratigraphically above granite 10' vertically above #11
- D2F1516 1 meter chip sample through altered clay
- S2F1517 Stream sediment at approximately 4800 feet
- D2F1518 Yellow clay associated with 248° faults 2 meters wide 2' adjacent to altered "basalt"
- 2F152 metalliferous garnet skarn containing magnetite, chalcopyrite, pyrite to 5-10%; also contains basalt with associated malachite, azurite and sulfides; float
- 2F153 hydrothermally altered (?) corroded rock with sulfides to 2% with malachite stains, limonite and ferricrete; at contact with rusty andesite (greenstone)
- 2F154 rusty andesite (greenstone) with sulfides and malachite staining
- 2F155 limonitic rock without visible sulfides from gassan
- 2F157 granitic felsic rock (rhyolite/quartzite?) with malachite, limonite disseminated and manganese from a 3 meter wide Cu zone
- 2F159 basalt with yellow and white evaporites and minor sulfides
- 2F1513 basalt float with disseminated sulfides associated with calcite filled vugs
- 2F1514 rusty "andesite skarn" with >5% pyrites
- 2F1515, pyritic basalt float from Monday showing area
- 2F1519 altered porphyritic green basalt with sulfides on fractures



28-Sep-92 date

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WO#13772

Sample #	Ag ppm	Cu ppm	Pb ppm	Zn ррт	As ppm	Sb ppm
D2F156	<0.1	402	15	21	54	17
D2F158	<0.1	307	20	163	219	35
D2F1511	<0.1	391	37	1037	363	44
D2F1518	<0.1	793	12	98	78	26
S2F1510	<0.1	90	11	47	49	39
D2F1512	<0.1	64	21	99	>2000	51
D2F151	<0.1	209	14	41	1280	47
32F1517	<0.1	89	8	39	38	16
2F1516	<0.1	281	20	84	89	13
2F1513	<0.1	546	46	95	59	29
2F1519	<0.1	347	21	16	81	18
2F1521	<0.1	299	51	154	>2000	115
PF 159	<0.1	1369	47	121	87	35
_F1520	<0.1	270	19	58	297	50
2F154	5.4	>10000	12	86	74	23
2F1515	<0.1	195	43	18	87	17
2F152	<0.1	1660	113	167	148	31
2F1514	<0 1	171	28	17	120	36
2F153	85	8840	12	52	91	21
2F155	<0 1	861	14	2	87	26
2F157	113 6	>10000	24	813	232	18
2G19	<0.1	90	50	90	54	21
2G123		210-?	9 33%	7 91%		
2G124		•	3 48%	3 46%		

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Sample #	Au ppb	
2F1513	18	,
2F1514	7	
2F1515	13	
2F1516	19	
2F1519	13	
2F 152	18	
2F1520	6	
2F1521	29	
2F153	548	
2F154	53	
2F155	28	
2F157	148	
2F159	11	
110	21	
111يء	37	
2G112	22	
2 <b>Ğ</b> 113	65	
2Ġ114	9	
2G12	17	
2 <u>Ğ</u> 120	9	
2G122	24	
2 <u>Ğ</u> 122	5	
2G123	129	
2Ģ124	56	
2 <u>G</u> 125	27	
2G126	14	
2 <b>G</b> 128	8	
2Q129	<5	
2G130	16	
2G131	25	
2G17	54	
2G18	18	
2G19	17	
"ZN101	5	
<u>'N1010</u>	27	
UN1011	]4 1 d	
2007072	14	
21111013	15	

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Sample #

Au ppb

2N1014	<5
2N1015	12
2N1016	20
2N1017	26
2N1018	24
2N1019	26
2N102	14
2N1020	12
2N104	19
2N105	16
2N106	19
2N107	25
2N109	20
214100	20
2115	20
10 10 10 10 10 10	10
750 815	1719
D2E151	13
021151	19
D2F1311	70
	78
D2F1518	21
U2F156	44/
D2F108	17
D2G1207	96
U2G121	21
M2G117	21
KN105	15
S2F1510	15
S2F1517	41
S2G11	22
S2G118	29
S2G119	24
S2G13	124
S2 <u>G</u> 14	13
S2 <u>G</u> 15	12
S2G16	35

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