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# GEOLOGY AND NOBLE METAL GEOCHEMISTRY OF THE WREDE CREEK MAFIC-ULTRAMAFIC COMPLEX

NST 94D/9

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SCALE 1:16 000

## LEGEND

### INTRUSIVE ROCKS

#### GRANITOID ROCKS - MIDDLE JURASSIC

7 HORNBLENDE-BEARING QUARTZ MONZONITE/MONZONITE/QUARTZ DIORITE/DIORITE; BUFF-WHITE WEATHERING, WHITE TO PALE GREY, MEDIUM GRAINED, EQUIGRANULAR; INCLUDES RARE PLAGIOCLASE PORPHYRY

#### WREDE CREEK MAFIC-ULTRAMAFIC COMPLEX - LATE TRIASSIC(?)

6 HORNBLENDE GABBRO/CLINOPYROXENE-HORNBLENDE GABBRO (10-40% PLAGIOCLASE; 50-90% HORNBLENDE; 0-30% CLINOPYROXENE) AND HORNBLENDE CLINOPYROXENE; HORNBLENDE (0-10% PLAGIOCLASE; 50-100% HORNBLENDE; 0-50% CLINOPYROXENE); PALE GREY TO BLACK WEATHERING, FINE TO COARSE GRAINED

5 HORNBLENDE CLINOPYROXENITE (50-90% CLINOPYROXENE; 10-50% HORNBLENDE); MEDIUM BROWN WEATHERING, COARSE GRAINED

4 UNDIFFERENTIATED CLINOPYROXENITE INCLUDES HORNBLENDE CLINOPYROXENITE (50-90% CLINOPYROXENE; 10-50% HORNBLENDE); CLINOPYROXENITE (50-100% CLINOPYROXENE); OLIVINE CLINOPYROXENITE (50-90% CLINOPYROXENE; 10-40% OLIVINE); OLIVINE-HORNBLENDE CLINOPYROXENITE (50-90% CLINOPYROXENE; 10-50% HORNBLENDE; 0-15% OLIVINE); DARK TO MEDIUM GREY-GREEN WEATHERING, MEDIUM TO COARSE GRAINED

3 OLIVINE CLINOPYROXENITE (10-40% OLIVINE; 50-90% CLINOPYROXENE); MEDIUM TO PALE GREY-GREEN WEATHERING, MEDIUM TO COARSE GRAINED

2 WEHRLITE (40-65% OLIVINE; 35-60% CLINOPYROXENE); DARK TO MEDIUM BROWN WEATHERING, PREDOMINANTLY MEDIUM GRAINED OR MEDIUM TO COARSE GRAINED

1 DUNITE (90-100% OLIVINE; 0-10% CLINOPYROXENE); PALE BUFF-ORANGE WEATHERING, DARK GREY TO BLACK, FINE TO MEDIUM GRAINED

### STRATIFIED ROCKS

#### TAKLA GROUP - UPPER TRIASSIC

8 BROWN TO DARK GREY WEATHERING, MEDIUM GREY-GREEN AND DARK GREY AUGITE AND AUGITE-PLAGIOCLASE CRYSTAL TUFTS, FLOWS AND VOLCANIC BRECCIA

#### LAY RANGE ASSEMBLAGE (HARPER RANCH GROUP) - UPPER PALEOZOIC

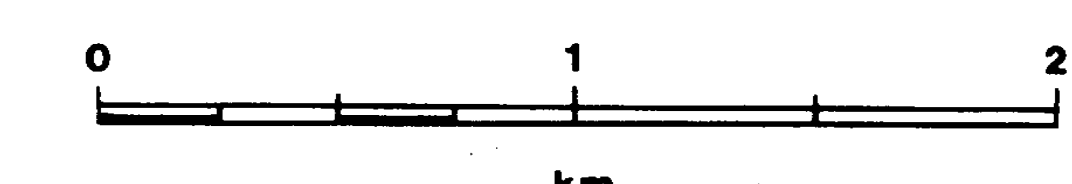
9 PHYLLITE, PHYLITIC QUARTZITE, CHLORITE SCHIST, CHERT, LITHIC TUFF, VOLCANIC BRECCIA AND MINOR FILLON BASALT

#### EAGLE BAY ASSEMBLAGE - UPPER PROTEROZOIC TO PALEOZOIC

10 CLASTIC AND VOLCANIC ROCKS

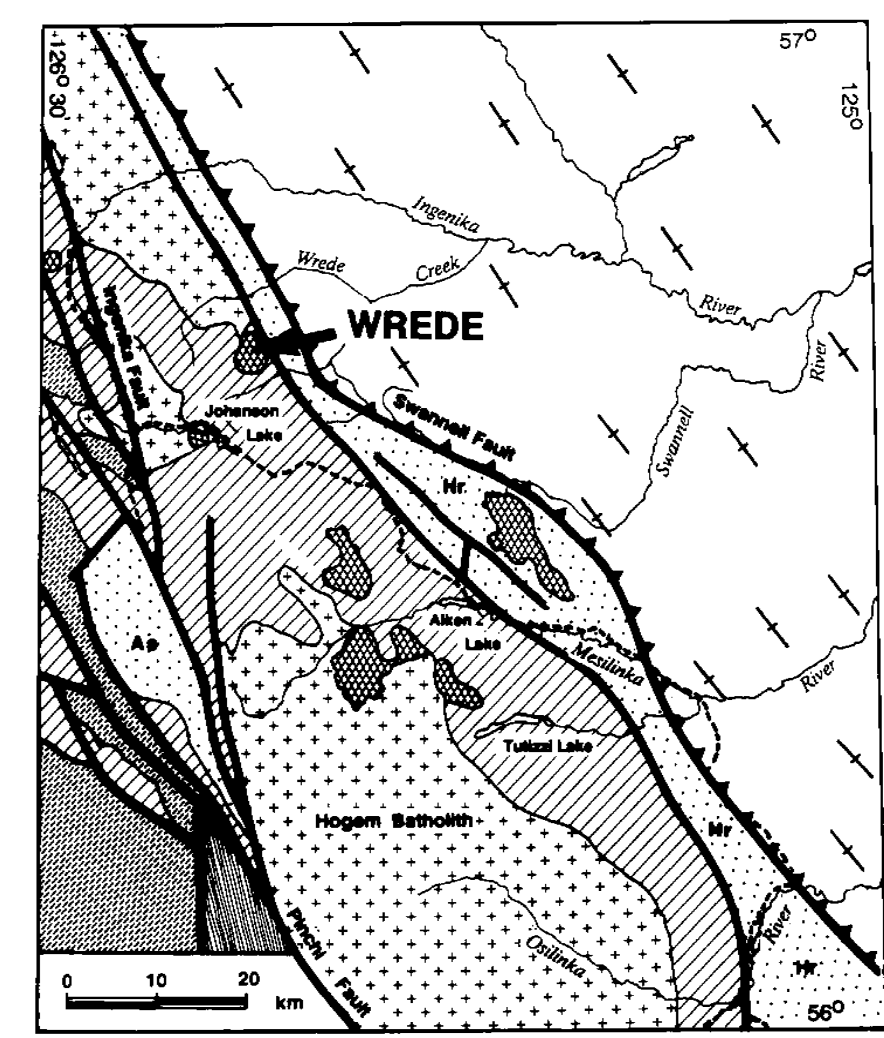
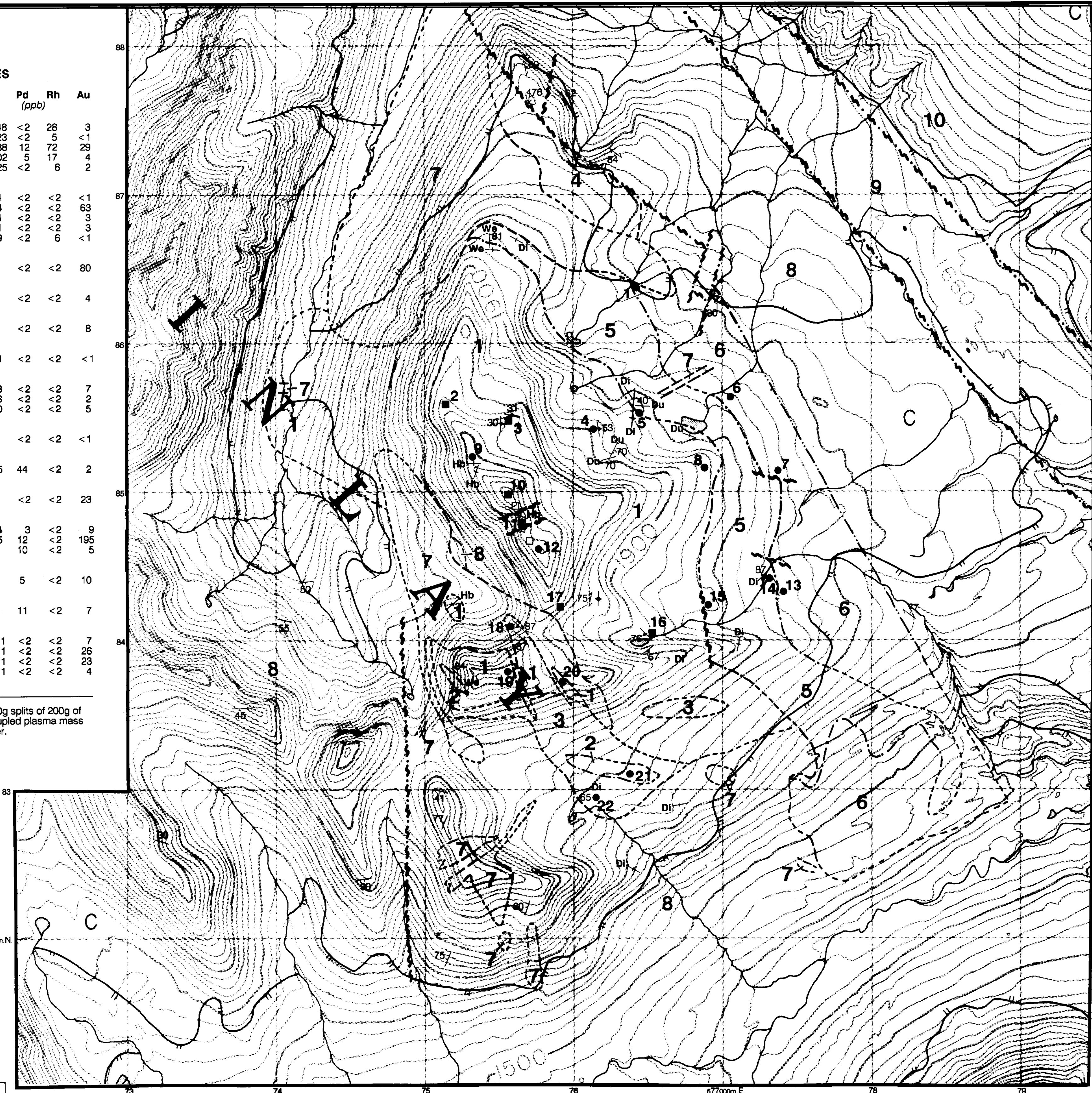
### SYMBOLS

- Geological boundaries (defined or approximate, gradational, assumed) .....
- Geological boundary inferred from aeromagnetic data .....
- Bedding attitude (inclined, vertical) .....
- Magmatic layering .....
- Schistosity or foliation attitude (inclined, vertical) .....
- High-angle fault or shear zone (defined, inferred) .....
- Dikes (Di - diorite, quartz diorite, monzonite and quartz monzonite; We - wehrlite; Du - dunite; Hb - Hornblende-feldspar pegmatite) .....
- Chromitite schlieren orientation .....
- Other chromitite localities .....
- Chromitite geochemical sample site .....
- Geochemical sample site .....
- Outcrop .....

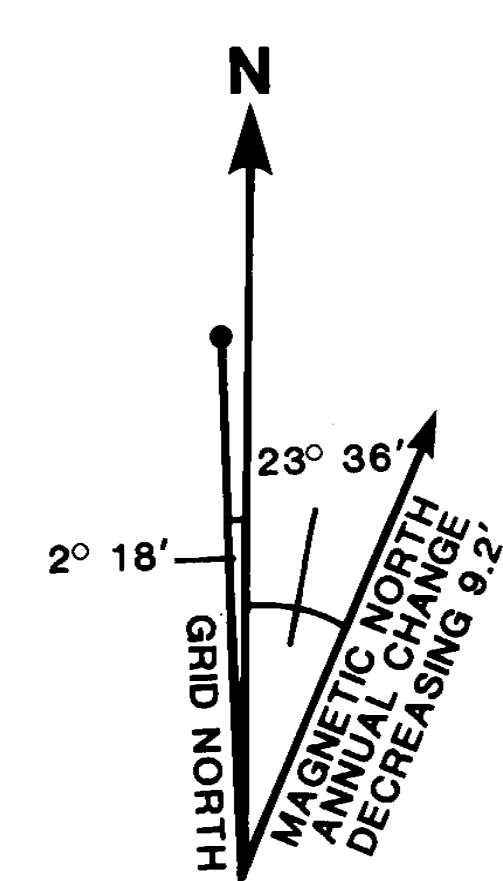
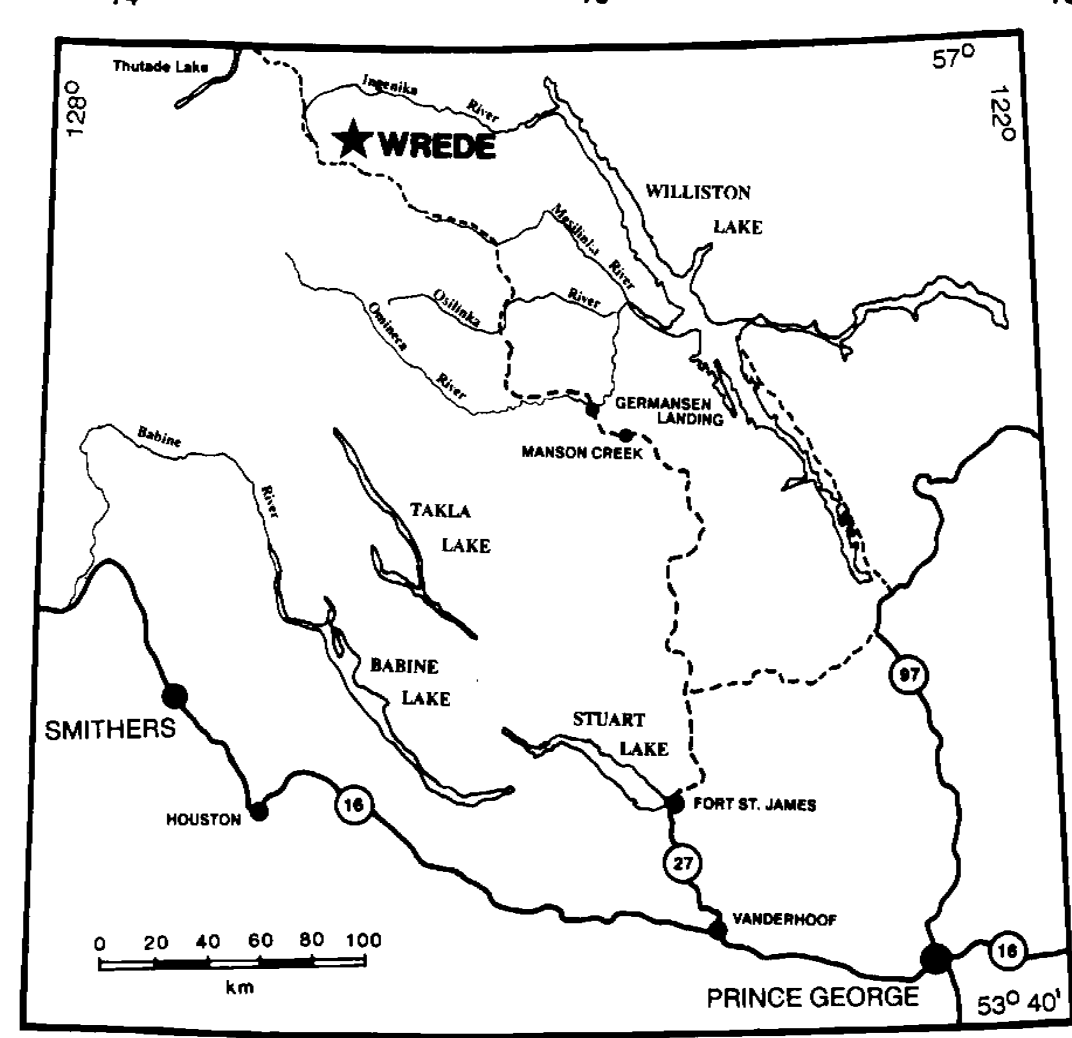


NOBLE METAL ABUNDANCES						
LOCALITY	UTM ZONE 9V	SAMPLE	Pt	Pd	Rh	Au
Northing Easting			(ppb)			
<b>CHROMITITE</b>						
2	6285600N 675140E	GN-89-6006-1	248	<2	28	3
3	6285490N 675580E	GN-89-8002B	123	<2	5	<1
10	6284980N 675570E	GN-89-8000A	2388	12	72	29
16	6284050N 676520E	GN-89-7027A	2002	5	17	4
17	6284230N 675900E	GN-89-6026	125	<2	6	2
<b>DUNITE WITHIN CHROMITITE RICH ZONE</b>						
2	6285600N 675140E	GN-89-6006-2	<1	<2	<2	<1
3	6285490N 675580E	GN-89-8002A	14	<2	<2	63
4	6285425N 676120E	GN-89-6017A	<1	<2	<2	3
10	6284980N 675570E	GN-89-8000B	11	<2	<2	3
16	6284050N 676520E	GN-89-7027B	19	<2	6	<1
<b>DUNITE</b>						
12	6284610N 675770E	GN-89-7005	2	<2	<2	80
<b>DUNITE DIKE</b>						
5	6285530N 676430E	GN-89-6008-1	6	<2	<2	4
<b>CARBONATIZED DUNITE</b>						
19	6283800N 675550E	GN-89-6024	5	<2	<2	8
<b>WEHRLITE</b>						
21	6283100N 676370E	GN-89-8020	31	<2	<2	<1
<b>OLIVINE CLINOPYROXENITE</b>						
5	6285530N 676430E	GN-89-6008-2	3	<2	<2	7
8	6285180N 676880E	GN-89-8011	26	<2	<2	2
15	6284260N 676900E	GN-89-9030	30	<2	<2	5
<b>OLIVINE CLINOPYROXENITE DIKE</b>						
5	6285530N 676430E	GN-89-6008-3	9	<2	<2	<1
<b>CLINOPYROXENITE</b>						
22	6282950N 676150E	GN-89-8018B	15	44	<2	2
<b>HORNBLENDE CLINOPYROXENITE</b>						
14	6284420N 677310E	GN-89-9026	9	<2	<2	23
<b>CLINOPYROXENE-HORNBLENDE GABBRO</b>						
6	6285645N 677040E	GN-89-7007A	4	3	<2	9
6	6285645N 677040E	GN-89-7007B	15	12	<2	195
13	6284340N 677400E	GN-89-7032	8	10	<2	5
<b>HORNBLENDE GABBRO</b>						
7	6285150N 677370E	GN-89-7011	5	5	<2	10
<b>HORNBLENDE</b>						
1	6286400N 676420E	GN-89-6023	8	11	<2	7
<b>HORNBLENDE PEGMATITE</b>						
9	6285250N 675315E	GN-89-6004	<1	<2	<2	7
11	6284900N 675650E	GN-89-7001	<1	<2	<2	26
18	6284100N 675590E	GN-89-7041Z	<1	<2	<2	23
20	6283725N 675910E	GN-89-7043Z	<1	<2	<2	4

Noble metals were preconcentrated by fire assay using 30g splits of 200g of rock powder (-200 mesh) and analyzed by inductively-coupled plasma mass spectroscopy by Acme Analytical Laboratories, Vancouver. Detection limits: Pt and Au 1 ppb; Pd and Rh 2 ppb.



- LAYERED ROCKS**
- Lower to Middle Jurassic Hazelton Group: Mafic to intermediate volcanic and sedimentary rocks
- Upper Triassic Takla Group: Mafic to intermediate volcanic and volcaniclastic rocks, conglomerate, wacke, shale, limestone
- Upper Paleozoic Harper Ranch (Hr) and Aitlik (Aa) Group: Metavolcanic and sedimentary rocks
- Cache Creek Group: Tuff, chert, limestone, ophiolite rocks
- Upper Proterozoic Inglet Group and Wokwena Metamorphic Complex: Metasedimentary rocks and amphibole, greis
- INTRUSIVE ROCKS**
- Early Jurassic Granitoid rocks
- Late Triassic (?) Alaskan-type mafic-ultramafic complex



GENERALIZED GEOLOGIC SETTING OF THE WREDE CREEK COMPLEX