

124°30'

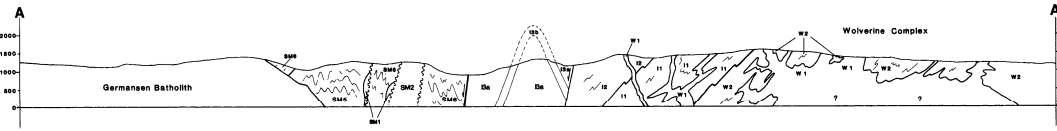
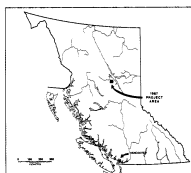
124°00'

Province of British Columbia
 Ministry of Energy, Mines and Petroleum Resources
 GEOLOGICAL SURVEY BRANCH
 OPEN FILE 1988-12a

**GEOLOGY OF THE
 MANSON LAKES
 MAP SHEET**
 NTS 9293
 Scale 1:50,000

ELEVATIONS IN METRES ABOVE MEAN SEA LEVEL
 CONTOUR INTERVAL: 10 METRES

ELEVATIONS EN MÈTRES AU DESSUS DU NIVEAU MOYEN DE LA MER
 ESPACEMENT DES COURBES: 10 MÈTRES



- LEGEND**
- QUATERNARY**
 - (A1) Alluvium deposits, poorly sorted sands and gravels
 - TERTIARY (T)**
 - (V) Fine to beige, claystone and bottle-phyric flow
 - (S) Fine to beige tuffs and agglomerates
 - INTERMEDIATE VOLCANICS**
 - CRETACEOUS**
 - (GR) GERMANSSEN BATHOLITH
 - (A) White to grey, biotite-muscovite granite
 - (B) Grey to olive-green hornblende + biotite granodiorite and diorite
 - UPPER TRIASSIC - LOWER JURASSIC**
 - (TGL) TALLA GROUP (?)
 - (A) Green, hornblende-phyric andesite
 - (B) Grey to green tuff
 - UPPER PALEOZOIC TO TRIASSIC**
 - (SLS) SLOPE MOUNTAIN GROUP
 - (SM6) GRAPHITIC SEDIMENT DIVISION
 - (A) Dark grey to black graphitic siltstone or argillite
 - (B) Dark grey to black, thin bedded, graphitic and calcareous phyllite to argillaceous siltstone
 - (C) Thin bedded, dark grey to black limestone
 - (D) Dark grey to light grey siltstone
 - (E) Dark grey to grey silty phyllite to quartz wacke as in unit SM6
 - (SM7) ARCHAEOZOIC WACKE DIVISION
 - (A) Grey-green to green phyllite and siltstone
 - (B) Grey-green to green argillaceous siltstone
 - (C) Siltstone, grey, fine grained and thin to moderately bedded
 - (D) Buff to reddish, massive to wacke
 - (E) Buff to reddish, massive to wacke
 - (F) Amphibolite
 - (SM8) SILICEOUS SEDIMENT DIVISION
 - (A) Dark grey to dark grey-green siliceous siltstone
 - (B) Grey, green, black and massive siliceous argillite to phyllite
 - (C) Dark grey to black, massive to bedded siltstone
 - (D) Grey-green matrix to interstratified flow(?)
 - (E) Grey-green siltstone and siltstone
 - (F) Grey-green siltstone and/or conglomerate
 - (SM3) BASALTIC DIVISION
 - (A) Dark grey-green massive basalt
 - (B) Dark grey-green columnar basalt
 - (C) Check a and see also note on the Garmanssen batholith
 - (SM2) WOLF RIDGE GABBRO
 - (A) Green to dark grey-green, due to very coarse crystalline, feldspar-calcic clinopyroxene
 - (SM1) ULTRAMAFICS
 - (A) Buff to brown weathering, dark green serpentine
 - (B) Buff to brown weathering, dark green to light green talc-serpentine siltstone
 - (C) Buff to brown weathering, light to dark brown to purple-brown quartz-serpentine siltstone or siltstone
 - UPPER DEVONIAN - LOWER MISSISSIPPIAN**
 - (C) CARBONATITES
 - (A) Siltstone, micaceous and locally or argillite siltstone. These have been metamorphosed to upper greenschist or lower amphibolite grade
 - PROTEROZOIC**
 - (IG) INGENGA GROUP
 - (U) UPPER DIVISION
 - (A) Predominantly grey-green to green siltstone, siltstone, later grey-green to grey siltstone or siltstone. Low calcareous siltstone and siltstone in the east.
 - (B) Siltstone to siltstone or matrix, bedding very indistinct, locally massive
 - (M) MIDDLE DIVISION
 - (A) Grey to brown to grey metamorphosed siltstone, siltstone or siltstone wacke, siltstone with lesser green, brown to olive green biotite-muscovite siltstone, minor garnet amphibolite
 - (L) LOWER DIVISION
 - (A) Brown to olive, siltstone garnet siltstone muscovite foliolar siltstone and garnet, metamorphosed metabasite matrix, minor garnet amphibolite and amphibolite gneiss
 - (B) Amphibolite gneiss, garnet amphibolite gneiss and amphibolite gneiss
 - (W) WOLVERINE COMPLEX (Ingenka Group protolith)
 - (W3) PELTIC DIVISION
 - (A) Predominantly dark grey to dark grey-green siltstone garnet, muscovite biotite siltstone phyllite and siltstone, minor garnet amphibolite and siltstone bearing calc-silicate gneiss
 - (W2) CALC-SILICATE AMPHIBOLITE DIVISION
 - (A) Predominantly garnet bearing amphibolite gneiss, garnet-clinopyroxene amphibolite gneiss, grey to brown garnet amphibolite phyllite. Lesser dark grey to dark grey brown siltstone-garnet, muscovite biotite quartz foliolar gneiss and siltstone
 - (W1) Gneissolite and Pegmatite (Probable Cretaceous to Tertiary age)
 - (A) Pegmatite and related grey to beige garnet-muscovite-biotite amphibolite. Matrix from these are the small spots of matrix-bearing siltstone(?) to units W2 and W3

- SYMBOLS**
- Geological contact: defined, approximate, assumed
 - Normal fault, approximately assumed
 - Fault approximately assumed
 - Fault zone
 - Antiform, axial trace and plunge
 - Basaltic, vertical, north-south oriented
 - Basaltic (parallel to S, in Ingenka and Wolverine rocks)
 - Inclined, vertical
 - second phase foliation, inclined, vertical
 - Siltstone of overcast age, inclined, vertical
 - Joints, inclined, vertical
 - Minor fold axis, first phase, second phase, circulation
 - Mineral lineation
 - Deformed siltstone
 - Axial plane of minor folds: first phase, inclined, vertical
 - second phase, inclined, vertical
 - circulation, inclined, vertical
 - Series of vergence of minor structures, second phase
 - Mineral isograds, biotite, garnet, sillimanite
 - Isolated rock outcrop
 - Area of rock exposure
 - Relationships between D₁, D₂ of Ingenka Group and D₁, D₂ of Slope Mountain Group unroofed

Geology by F. Farn, D.M. Melville, G.A. Malenisek, N.D. Swift
 Additional sources: Armstrong (1949), Melnyk (1982) and Riccio et al. (1982)

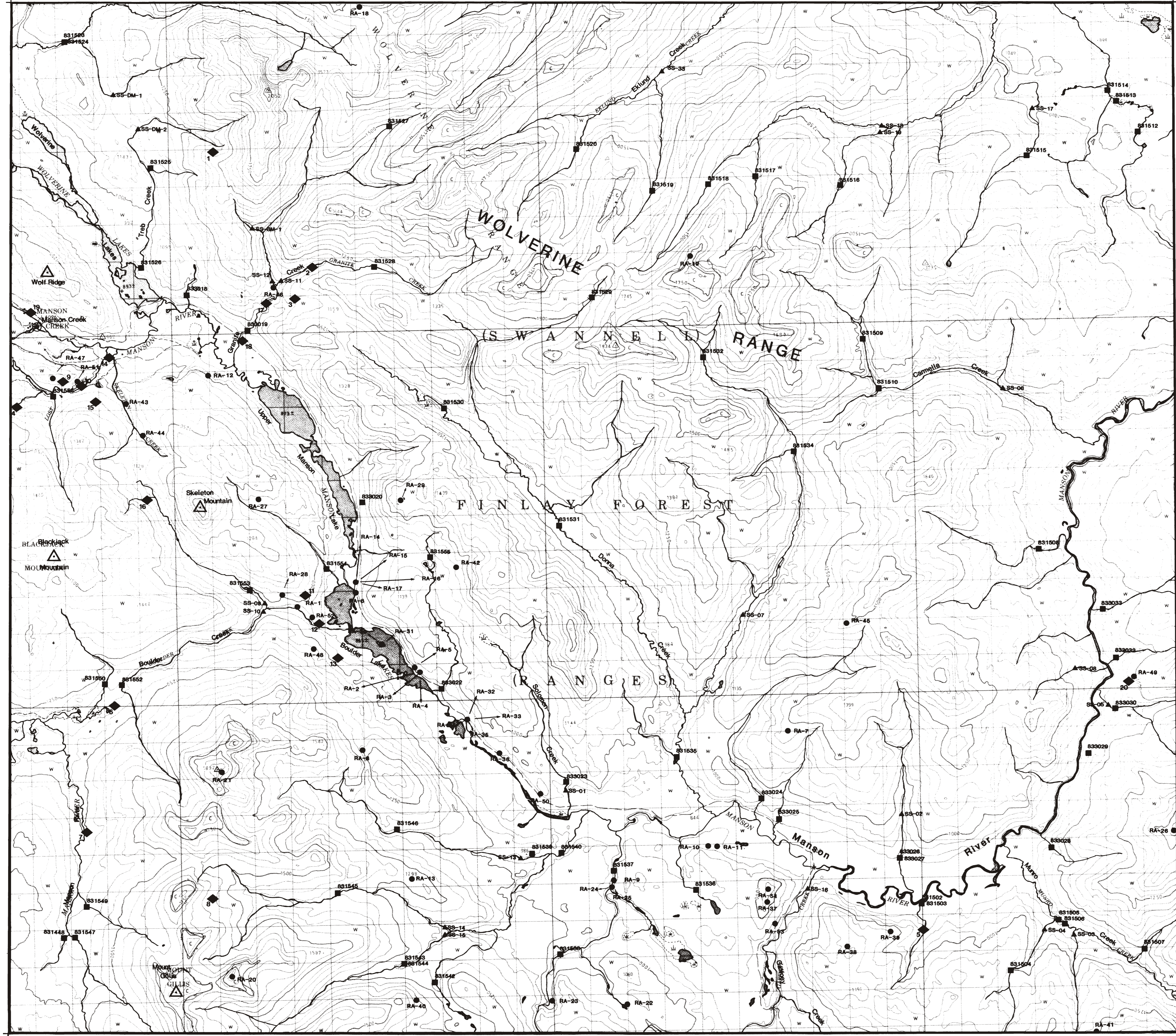
- REFERENCES**
- Armstrong, J.B. (1949) For St. James Mine Area, Central and Chief District, British Columbia. Geological Survey of Canada, Memoir 252
 - Chum, B.C. (1982) Geochronology of the Tertiary Rocks on Gold Island, B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 1202
 - Riccio, J., Malenisek, G. and Swift, N. (1982) Geochronology and Geotectonics of the Cretaceous and Tertiary Rocks on Gold Island, B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report 1202

55°45'



PROVINCE OF BRITISH COLUMBIA
Ministry of Energy, Mines and Petroleum Resources
GEOLOGICAL SURVEY BRANCH
OPEN FILE 1988-12b

**GEOCHEMICAL SURVEYS AND
MINERAL OCCURRENCES,
MANSON LAKES MAP SHEET
NTS 93N/9**



Compiled by D.M. Melville and F. Ferri

LEGEND

- Regional Geochemical Survey, 1983
- Regional Geochemical Survey, 1988
- Rock geochemistry

MINERAL OCCURRENCES

- 1. Wolverine/Virgil Nb, Ti, Zr
- 2. Granite Creek Nb, Ti, Zr
- 3. Lonnie Nb, Ti, Zr
- 4. Manson Creek Cr
- 5. Ormiesca Queen Ba, Zn, Pb, Ag
- 6. Blackjack East Mo
- 7. Jordi Mo
- 8. Blackjack South and Central Mo, Cu
- 9. Tail Tungsten W
- 10. Kathy (Joy, Troy) Pb, Ag, Zn, Cu, Au, Mo
- 11. ASP Pb, Ag, Zn, Cu, Au, Mo
- 12. Bold Pb, Ag, Zn, Cu, Au, Mo
- 13. Berthold Pb, Ag, Zn, Cu, Au, Mo
- 14. Lost Creek Pb±Ag, Au
- 15. Not Named Pb±Ag, Au
- 16. Blackjack Mountain Pb±Ag, Au
- 17. Not Named Ag, Au
- 18. Not Named Ag, Au
- 19. Fairview Au, Ag, Cu, W
- 20. Not Named Cu

124°30'

55°30'

124°00'

ANALYTICAL RESULTS TO ACCOMPANY
GEOLOGICAL SURVEY BRANCH OF BRITISH COLUMBIA
OPEN FILE 1988-12b
FOR THE
MANSON LAKES MAP SHEET
93N/9

D.M. Melville

F. Ferri

ROCK GEOCHEMISTRY
FOR THE
MANSON LAKES MAP SHEET
93N/9

ROCKID	ROCK TYPE	UTM EASTING	UTM NORTHING	AU PPB	AG PPM	CJ* PPM	PB* PPM	ZN* PPM	CO PPM	NI* PPM	AS PPM	SB PPM
RA-01	ALTERED ULTRAMAFIC	413250	6162599	-	-	-	-	-	-	-	-	-
RA-02	QUARTZ VEIN	416524	6160760	<20	<0.5	37	7	14	-	-	-	-
RA-03	QUARTZ VEIN	416524	6160761	-	-	-	-	-	-	-	-	-
RA-04	QUARTZ VEIN	416524	6160761	-	-	-	-	-	-	-	-	-
RA-05	FAULT ZONE	416387	6160891	<20	<0.5	5	27	22	32	520	-	-
RA-06	SERPENTINITE	414833	6162937	<20	<0.5	7	6	43	-	-	-	-
RA-07	QUARTZ VEIN	426436	6158986	-	-	-	-	-	-	-	-	-
RA-08	QUARTZ VEIN	414941	6158684	-	-	-	-	-	-	-	-	-
RA-09	SILICIFIED ULTRAMAFIC	421650	6155062	<20	<0.5	17	151	32	56	0.12%	-	-
RA-10	ALTERED GREENSTONE	424227	6155938	-	-	-	-	-	-	-	-	-
RA-11	QUARTZ VEIN	424468	6155917	-	-	-	-	-	-	-	-	-
RA-12	QUARTZ VEIN	410951	6168868	-	-	-	-	-	-	-	-	-
RA-13	SERPENTINITE	416205	6155197	<20	<0.5	8	12	64	-	-	-	-
RA-14	SILICIFIED ULTRAMAFIC?	414844	6163228	31	<0.5	10	10	59	-	-	-	-
RA-15	ALTERED ULTRAMAFIC	414843	6163228	-	-	-	-	-	-	-	-	-
RA-16	ALTERED ULTRAMAFIC	414844	6163228	-	-	-	-	-	-	-	-	-
RA-17	FAULT GOUGE	414844	6163228	<20	<0.5	210	13	66	-	-	-	-
RA-18	AMPHIBOLITE	415241	6178771	<20	<0.5	212	26	197	7	11	-	-
RA-19	PEGMATITE ⁺	424040	6171850	--	---	---	---	---	---	---	---	---
RA-20	SILTSTONE	411290	6152650	<20	<0.5	68	13	410	7	25	-	-
RA-21	QUARTZ VEIN	411117	6158167	-	-	-	-	-	-	-	-	-
RA-22	GREENSTONE	421969	6151707	-	-	-	-	-	-	-	-	-
RA-23	SILICIFIED VOLCANIC	419941	6151837	<20	<0.5	6	17	30	-	-	-	-
RA-24	SILICIFIED VOLCANIC?	421609	6154882	-	-	-	-	-	-	-	-	-
RA-25	QUARTZ VEIN	421607	6154883	-	-	-	-	-	-	-	-	-
RA-26	CHERT	436808	6156123	<20	<0.5	240	8	163	-	-	-	-
RA-27	FAULT GOUGE	412253	6165513	<20	<0.5	9	18	23	-	-	-	-
RA-28	QUARTZ VEIN	412844	6162915	<20	90	127	9.5%	111	<3	7	-	-
RA-29	ALTERED GABBRO	416088	6165424	<20	<0.5	10	20	78	-	-	-	-
RA-30	QUARTZ VEIN	415503	6161535	-	-	-	-	-	-	-	-	-
RA-31	QUARTZ VEIN	415510	6161533	-	-	-	-	-	-	-	-	-
RA-32	FAULT GOUGE	417788	6159464	<20	<0.5	52	8	34	-	-	-	-
RA-33	FAULT GOUGE	417789	6159465	<20	<0.5	60	10	32	-	-	-	-
RA-34	FAULT GOUGE	417788	6159465	<20	<0.5	68	11	35	-	-	-	-
RA-35	ALTERED VOLCANIC	417789	6159465	<20	<0.5	31	6	40	-	-	-	-
RA-36	QUARTZ VEIN	418630	6158534	-	-	-	-	-	-	-	-	-
RA-37	CHERT	425795	6154400	-	-	-	-	-	-	-	-	-
RA-38	GREENSTONE	427937	6153146	<20	<0.5	415	34	160	38	39	-	-
RA-39	ALTERED CARBONATE	429105	6153528	<20	<0.5	5	12	14	-	-	-	-
RA-40	HORNIFELS	416270	6151919	<20	<0.5	12	16	80	-	-	-	-
RA-41	QUARTZ VEIN	434610	6150721	-	-	-	-	-	-	-	-	-
RA-42	CHERT	417566	6163570	<20	<0.5	141	52	72	14	29	-	-
RA-43	QUARTZ VEIN	408727	6168153	<20	<0.5	3	12	14	<3	<3	-	-

(Cont.)

ROCKID	ROCK TYPE	UTM	UTM	AU	AG	CU*	PB*	ZN*	CO	NI*	AS	SB
		EASTING	NORTHING	PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
RA-44	SILICIFIED ULTRAMAFIC	409160	6167292	<20	0.7	6	128	620	92	0.17%	502	-
RA-45	QUARTZ VEIN	428068	6161868	-	-	-	-	-	-	-	-	-
RA-46	CARBONATITE*	412762	6171212	--	---	---	---	---	---	---	--	--
RA-47	SERPENTINITE	406765	6168857	<20	<0.5	8	11	22	-	-	130	-
RA-48	QUARTZ VEIN	413663	6161443	<20	<0.5	9	540	130	6	4	-	-
RA-49	AMPHIBOLITE	435806	6160294	<20	3	0.12%	27	285	51	132	-	-
RA-50	DIORITE	419715	6157475	<20	<0.5	25	15	44	-	-	-	-
RA-51	QUARTZ VEIN	407400	6168775	-	254	0.32%	12.6%	0.25%	57	38	-	235
RA-52	QUARTZ VEIN	413763	6162328	-	80	3	0.98%	3	155	4	-	14
RA-53	CHERT	426025	6153777	<20	<0.5	375	23	106	-	-	-	-
RA-54	CHERT	425860	6154750	<20	<0.5	40	13	55	-	-	-	-

- - Data in ppm unless otherwise indicated
- * - Rock types are being analyzed for different elements

1988 REGIONAL GEOCHEMICAL
SURVEY OF THE MANSON LAKES

MAP SHEET
(9349)

ID	UTM EASTING	UTM NORTHING	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE PCT	U PPM	TH PPM	SR PPM	V PPM	AU PPB	HG PPB	LOI PCT	WT (gm)	AS PPM	SB PPM	BI PPM	SE PPM	TE PPM
MC-SS-1	420415	6157518	1	31	14	68	0.1	37	13	558	3.12	5	3	31	46	1	40	7.30	8.30	2.6	0.8	0.4	0.2	0.3
MC-SS-2	429509	6156656	1	18	9	39	0.1	19	6	269	1.73	5	4	14	20	1	10	3.60	9.41	6.8	1.1	0.4	0.4	0.3
MC-SS-3	434071	6153362	1	35	19	77	0.3	37	9	462	2.99	5	5	40	40	3	20	6.30	8.00	6.5	0.5	0.3	0.3	0.4
MC-SS-4	433263	6153514	1	39	13	88	0.1	48	12	561	3.00	5	6	37	46	4	10	3.90	14.33	6.7	0.7	0.3	0.3	0.2
MC-SS-5	435109	6159573	1	19	5	29	0.1	15	6	244	2.11	5	17	36	36	2	5	2.40	12.97	1.8	0.2	0.3	0.2	0.2
MC-SS-6	432418	6168129	1	20	7	45	0.2	24	6	258	1.77	5	7	17	26	3	5	2.20	8.35	3.1	0.2	0.3	0.2	0.2
MC-SS-7	425290	6162162	1	28	9	45	0.1	27	6	288	1.94	5	6	24	29	16	5	2.70	13.44	3.6	0.4	0.3	0.2	0.2
MC-SS-8	434218	6160561	1	19	11	72	0.2	27	7	448	1.87	5	2	20	24	3	20	4.80	16.34	6.2	0.3	0.4	0.2	0.2
MC-SS-9	412397	6162704	2	28	13	76	0.1	78	14	1408	3.08	5	5	36	33	630	20	5.80	14.17	13.0	0.7	0.5	0.4	0.3
MC-SS-10	412309	6162481	1	13	2	30	0.2	7	3	248	1.24	5	7	20	26	2	5	2.20	11.25	1.5	0.2	0.2	0.2	0.2
MC-SS-11	412969	6171381	1	8	2	21	0.1	8	4	254	0.92	5	3	15	13	1	5	1.60	17.67	0.4	0.2	0.4	0.2	0.2
MC-SS-12	412742	6171390	1	14	2	23	0.1	8	3	185	0.98	5	4	31	12	2	5	1.40	13.40	0.4	0.2	0.2	0.2	0.3
MC-SS-13	419162	6155691	3	36	23	122	0.1	104	14	947	3.55	5	5	56	38	3	20	7.60	14.56	12.0	0.6	0.2	1.6	0.3
MC-SS-14	417068	6153910	2	23	4	92	0.1	50	8	757	1.66	5	2	25	34	1	5	5.20	20.66	2.8	0.2	0.3	0.7	0.2
MC-SS-15	417083	6153646	3	41	2	82	0.1	28	8	469	2.37	5	5	59	59	3	5	3.70	46.29	2.1	0.2	0.2	1.2	0.2
MC-SS-16	426911	6154723	3	43	6	101	0.3	41	11	707	2.87	5	6	40	45	4	40	4.30	16.58	12.0	1.2	0.4	1.8	0.3
MC-SS-17	433348	6175678	1	12	6	43	0.1	12	5	416	1.49	5	7	11	12	1	5	3.00	6.26	3.8	0.4	0.4	0.2	0.2
MC-SS-18	429281	6175315	1	5	2	15	0.1	1	1	151	0.38	6	13	7	3	1	5	0.90	4.37	0.4	0.2	0.3	0.2	0.4
MC-SS-19	429227	6175108	1	5	3	26	0.2	2	2	297	0.48	5	5	4	3	1	5	2.20	5.07	0.8	0.2	0.3	0.2	0.3
MC-SS-33	423373	6176864	1	28	14	66	0.1	30	8	448	2.68	5	6	48	35	1	30	10.70	5.32	2.0	0.2	0.3	0.3	0.2
MC87-SS-QH1	412224	6172825	1	31	9	67	0.2	40	12	674	3.04	5	8	147	31	1	20	9.20	8.27	1.5	0.2	0.4	0.3	0.2
RGS-SS-DH-1	408524	6176497	1	15	2	47	0.1	21	10	767	2.20	5	4	27	28	2	20	7.10	6.03	0.8	0.2	0.3	0.7	0.2
RGS-SS-DH-2	409187	6175565	1	12	4	36	0.1	16	6	278	1.56	5	6	20	23	1	30	4.40	12.19	0.9	0.2	0.3	0.6	0.2

1983 REGIONAL GEOCHEMICAL
SURVEY OF THE MANSON LAKES
MAP SHEET
(93N)

ID	UTM EASTING	UTM NORTHING	ZN PPM	CU PPM	PB PPM	NI PPM	CO PPM	AG PPM	MN PPM	FE PCT	MO PPM	W PPM	AS PPM	SB PPM	HG PPB	U PPM	U IN WATER PPB	FLUORINE IN WATER PPB	pH OF STREAM
831502	429806	6154153	59	25	3	30	7	0.1	377	1.80	1	3	7.0	0.2	30	3.4	0.49	66	7.6
831503	429806	6154153	55	24	2	31	6	0.1	380	1.70	1	4	5.5	0.4	30	3.8	0.45	56	7.6
831504	432246	6152294	108	30	5	50	11	0.1	1240	2.30	1	1	8.0	0.9	50	2.4	0.03	60	7.7
831505	433869	6153439	72	25	7	35	8	0.1	377	2.20	1	2	6.0	0.3	50	6.7	0.06	50	7.5
831506	434207	6153499	35	11	2	17	4	0.1	207	1.20	1	2	2.5	0.1	20	10.4	0.13	46	7.2
831507	435937	6152938	28	8	1	12	3	0.1	160	1.00	1	3	1.5	0.1	20	9.3	0.14	40	7.0
831508	433434	6163770	65	10	4	17	6	0.2	302	1.40	1	11	5.0	0.1	40	10.0	0.16	42	6.1
831509	428629	6169150	33	6	1	11	3	0.1	240	0.90	1	2	2.0	0.1	20	5.6	0.45	24	6.5
831510	428482	6168068	33	7	1	16	2	0.2	127	0.90	1	2	1.5	0.1	30	9.2	0.47	30	7.5
831512	436136	6174717	58	13	10	16	6	0.3	112	1.50	1	2	2.5	0.1	40	12.8	0.34	54	6.7
831513	435593	6175642	51	11	10	16	3	0.3	144	1.20	1	1	1.0	0.1	40	16.4	0.24	40	6.8
831514	435257	6175888	60	12	8	17	15	0.2	3130	7.60	1	1	8.0	0.1	60	6.0	0.01	34	6.3
831515	433249	6174595	32	3	4	9	4	0.1	430	1.20	1	2	6.0	0.3	20	6.2	0.04	52	6.8
831516	427722	6173161	25	1	5	3	1	0.1	131	0.45	1	1	1.5	0.2	20	10.2	0.40	34	6.5
831517	425816	6173994	25	1	3	3	2	0.2	373	0.65	1	1	1.0	0.1	20	11.0	0.17	30	6.2
831518	424527	6173588	26	1	2	4	3	0.2	144	0.50	1	1	1.0	0.1	30	6.9	0.60	30	6.1
831519	423029	6173843	36	2	6	7	27	0.3	2980	2.70	1	2	1.5	0.1	40	6.9	0.21	30	6.1
831520	420916	6174739	34	3	4	8	6	0.3	335	0.95	1	2	1.5	0.1	40	18.4	0.16	30	6.3
831523	407934	6177774	30	18	1	16	4	0.1	409	2.85	1	1	1.5	0.1	190	7.2	0.01	46	7.0
831524	407934	6177774	42	17	2	22	7	0.4	174	1.65	1	1	1.5	0.1	110	6.3	0.01	52	7.1
831525	409666	6174583	36	2	11	21	6	0.3	375	1.65	1	4	1.5	0.2	60	11.4	1.20	68	7.5
831526	409079	6171787	36	15	1	22	8	0.1	313	1.70	1	3	3.0	0.3	50	9.6	0.22	52	7.4
831527	415585	6175345	16	1	1	7	2	0.1	69	0.60	1	3	1.0	0.1	30	11.2	0.04	24	6.6
831528	415247	6171740	29	5	1	11	5	0.1	236	0.95	1	1	1.0	0.2	40	11.9	0.12	38	6.4
831529	420434	6170192	48	7	3	12	7	0.2	576	1.50	1	1	1.0	0.2	50	10.1	0.01	36	6.0
831530	417291	6167949	43	8	1	18	6	0.1	126	1.40	1	2	1.0	0.2	40	3.2	0.20	60	7.7
831531	420541	6164719	45	29	1	11	2	0.2	132	0.50	1	1	1.0	0.1	140	14.8	0.12	62	6.3
831532	424265	6168926	36	4	2	10	4	0.1	242	1.00	1	1	1.0	0.1	40	11.4	0.50	36	6.5
831534	426814	6166079	48	11	4	15	8	0.1	239	1.40	1	2	1.5	0.2	30	8.0	0.48	38	6.0
831535	423240	6158443	62	30	4	37	12	0.1	498	2.20	1	2	6.0	0.3	60	2.8	0.10	52	7.6
831536	423922	6154756	25	6	1	7	2	0.2	210	0.50	2	1	1.5	0.1	80	1.5	0.01	56	7.6
831537	421705	6155382	118	38	5	78	14	0.6	427	2.20	2	2	6.0	1.0	50	3.7	0.10	54	7.8
831538	420210	6153229	82	29	4	63	11	0.3	272	1.70	2	2	3.0	0.4	30	3.6	0.06	56	7.3
831539	419398	6155770	60	21	5	40	10	0.2	284	2.10	1	2	4.5	0.4	20	2.8	0.03	56	7.4
831540	420068	6155851	62	23	6	42	10	0.2	305	2.10	2	14	5.5	0.2	30	6.1	0.04	48	7.2
831542	416804	6152366	20	4	1	3	1	0.2	228	3.40	5	1	1.5	0.1	60	0.8	0.04	42	6.7
831543	415798	6152924	48	20	1	16	10	0.2	251	1.55	2	3	1.5	0.2	20	9.4	0.27	38	6.6
831544	415798	6152924	50	21	2	19	10	0.1	268	1.60	2	2	1.0	0.1	20	10.5	0.27	38	6.5
831545	414033	6154814	80	27	4	16	7	0.1	164	1.20	5	1	1.5	0.2	30	14.8	1.15	32	6.6
831546	415903	6156580	74	21	3	46	9	0.1	326	1.70	3	21	3.0	0.2	20	3.6	0.04	36	7.0

(Cont.)

ID	UTM EASTING	UTM NORTHING	ZN PPM	CU PPM	PB PPM	NI PPM	CO PPM	AG PPM	MN PPM	FE PCT	MO PPM	W PPM	AS PPM	SB PPM	HG PPB	U PPM	U IN WATER PPB	FLUORINE IN WATER PPB	pH OF STREAM
831547	406866	6153969	34	4	4	5	5	0.2	1030	1.45	3	1	1.0	0.2	30	23.6	0.80	32	6.2
831548	406541	6154150	55	6	2	5	5	0.2	1570	1.90	3	1	1.5	0.2	40	17.0	0.06	30	6.3
831549	407448	6154714	47	15	3	7	4	0.2	391	1.20	1	1	1.5	0.2	30	8.8	0.18	32	6.5
831550	407966	6160245	32	17	2	16	3	0.2	211	1.05	2	1	2.0	0.1	50	20.2	0.12	40	6.8
831552	408542	6160405	37	54	1	12	7	1.0	427	5.30	12	1	11.0	0.5	130	155.5	0.26	46	7.7
831553	411881	6163011	64	20	9	56	12	0.2	335	2.10	1	3	11.0	1.2	50	3.9	0.10	60	7.2
831554	413847	6163745	240	4	99	80	12	0.5	398	2.10	4	1	12.5	1.7	70	2.7	0.47	58	7.9
831555	416887	6163641	30	80	1	25	8	0.1	697	2.10	1	1	2.0	0.1	110	1.4	0.01	56	7.5
831556	406642	6168302	118	55	14	88	16	0.3	716	2.90	5	4	12.5	0.9	30	2.8	0.30	64	7.6
833018	410358	6171208	110	34	15	48	12	0.5	768	2.55	2	1	9.5	1.2	60	4.8	0.12	160	8.0
833019	411895	6170170	40	12	3	20	8	0.3	324	1.40	1	1	1.0	0.1	40	11.2	0.24	28	7.3
833020	415087	6165239	72	45	5	48	14	0.8	749	2.45	1	1	5.0	0.6	50	2.9	0.20	64	8.1
833022	417063	6160465	51	35	5	32	4	0.3	248	0.80	1	1	2.0	0.1	150	30.8	0.08	36	7.6
833023	420356	6157602	60	31	5	39	13	0.4	562	2.25	1	1	4.5	0.7	70	2.7	0.07	54	8.1
833024	425586	6157247	37	11	3	20	6	0.2	309	1.20	1	5	1.5	0.1	30	3.4	0.13	44	7.4
833025	426117	6156736	36	15	5	28	7	0.2	303	1.50	1	8	1.0	0.1	30	3.8	0.03	48	7.5
833026	429265	6155376	32	12	4	20	6	0.2	225	1.25	1	5	1.5	0.2	20	4.1	0.05	42	7.2
833027	429265	6155376	32	13	4	21	6	0.2	237	1.35	1	9	1.5	0.2	30	5.0	0.23	42	7.4
833028	433456	6155745	51	37	5	32	10	0.4	598	2.10	1	1	4.5	0.4	30	4.9	0.04	46	7.4
833029	434624	6158213	44	20	4	26	8	0.2	620	1.70	1	1	2.0	0.2	40	6.8	0.12	46	7.3
833030	435335	6159449	21	11	2	13	4	0.1	234	0.95	1	1	1.0	0.1	20	5.1	0.08	40	7.1
833032	435625	6161048	28	14	2	18	6	0.2	319	1.15	1	1	1.5	0.1	20	5.8	0.04	44	7.3
833033	435015	6162083	50	15	3	23	6	0.1	456	1.35	1	1	2.0	0.1	30	5.1	0.04	42	7.5

ANALYTICAL PROCEDURES FOR GEOCHEMISTRY

ANALYTICAL PROCEDURES FOR 1988 STREAM SILT GEOCHEMISTRY

Analyses performed by ADME Analytical Laboratories Ltd., 852 E. Hastings St., Vancouver, B.C., V6A 1R6

1. Elements Mo through V

Inductively Coupled Plasma Emission Spectroscopy (ICPES) A 0.500 gram sample is digested with 3ml 3-1-2 HCl-HNO₃-H₂O at 95 degrees C for one hour and is diluted to 10 ml with water. This leach is almost total for base metals, but partial for Fe and Mn.

2. Gold (Au)

Graphite Furnace Atomic Absorption A 10 gram sample (or the sample material remaining after Analytical procedure 1 (above) was completed, which, due to sampling difficulties, may have totalled less than 10 grams- see WT column) was ignited at 600 degrees C, digested with hot aqua regia, extracted with MIBK, and analysed by graphite furnace atomic absorption.

3. Mercury (Hg)

Same digestion as in Analytical Procedure 1 above. An aliquot of the extract is added to a SnCl₂-HCl solution. The reduced Hg is measured by cold vapour AA.

4. Elements As through Te

Hydride Generation of volatile elements and determination by ICPES. Digestion as in Analytical Procedure 1 above.

5. Loss on Ignition (LOI)

A 0.5gram sample was placed in a furnace and heated to 500 degrees C over 2 to 3 hours and held at this temperature for an additional 4 hours. After cooling to room temperature the sample was reweighed.

ANALYTICAL PROCEDURES FOR 1983 STREAM SILT GEOCHEMISTRY - See British Columbia Department of Energy, Mines, and Petroleum Resources, Geological Survey Branch - Regional Geochemical Survey Open File #11 and Geological Survey of Canada Open File #1001.

ANALYTICAL PROCEDURES FOR 1988 ROCK GEOCHEMISTRY

Analysis performed by B.C. Geological Survey - Analytical Sciences Laboratory

1. Gold (Au) And Silver (Ag)

A 0.5 Assay Ton (approx. 15g) sample weight is subjected to a standard fire assay technique to generate a Au/Ag bead. The bead is dissolved in acid and Au is measured down to <20 ppb and Ag is measured down to <0.5 ppm by atomic absorption analysis.

2. Base Metals (Cu, Pb, Zn, Co*, Ni, As, Sb)

Samples are digested using a mixed acid attack which includes HF. The dilute acid dissolution of the residue is further diluted to a specific volume and the elements are measured using AAS.

* - As samples are crushed using tungsten carbide equipment inevitable contamination may occur.

MINERAL OCCURRENCES

NAME	MINFILE NUMBER
1-Wolverine/Virgil.....	93N174
2-Granite Creek.....	93N190
3-Lonnie.....	93N12
4-Manson Creek.....	93N135
5-Omineca Queen.....	93N87
6-Blackjack East.....	93N118
7-Jordi.....	NEW
8-Blackjack South and Central.....	93N119
9-Tait Tungsten.....	93N78
10-Kathy(Joy, Troy).....	93N30
11-ASP.....	93N27
12-Bold.....	93N137
13-Berthold.....	93N28
14-Lost Creek.....	93N117
15-Not Named.....	93N136
16-Blackjack Mountain.....	93N148
17-Not Named.....	93N113
18-Not Named.....	93N134
19-Fairview.....	93N23
20-Not Named.....	NEW