



**REGIONAL GEOCHEMICAL SURVEYS\***  
**RGS 13 — PRINCE GEORGE 93G/W 1/2 AND**  
**McBRIDE 93H/E 1/2**  
**RGS 14 — McLEOD LAKE 93J**

By A. J. Boronowski and W. M. Johnson

The British Columbia Ministry of Energy, Mines and Petroleum Resources conducted a regional geochemical silt and water sampling survey during July, August, and early September 1985 which covered NTS 93J, the western half of 93G, and the eastern half of 93H (Fig. 15-1).

The ministry organized and supervised all components of RGS 13. Sampling and analytical work were funded from the first year of the British Columbia/Canada Mineral Development agreement. Data processing will be carried out by the Department of Energy, Mines and Resources.

For RGS 14 the ministry funded organization, supervision, and sample collection activities while the Department of Energy, Mines and Resources funded the commercial sample preparation, analyses, and data processing. Field supervision for both surveys was carried out by A. J. Boronowski under the direction of W. M. Johnson.

When they become available field and analytical data are processed, then plotted onto maps at a scale of 1:250 000. Field data and statistics are summarized in an accompanying publication. The open files are expected to be released in June, 1986.

To date twenty-two map-areas covering approximately 293 350 square kilometres have been sampled in British Columbia; average density ranges from one site per 12.5 square kilometres to one site per 15 square kilometres with two map sheets (103I and P) sampled at twice this density.

Field sampling for RGS 14 was carried out by Hi-Tec Resource Management Ltd. and for RGS 13 by McElhanney Engineering Services Ltd. Contractor's crews consisted of an average of five men. Access was good on 93G/W 1/2, but poor on 93J and 93H/E 1/2 due either to muskeg or mountainous terrain. Helicopters were used to collect samples that were inaccessible by truck, motorcycle,

or boat. Helicopters were chartered by McElhanney Engineering Services Ltd. from Northern Mountain Inc. based in Prince George and by Hi-Tec Resource Management Ltd. from Airlift Corp. based out of Abbotsford. RGS 14, covering 14 300 square kilometres, was sampled at 1088 sites for an average coverage of one sample for 13.14 square kilometres. RGS 13, covering 14 150 square kilometres, was sampled at 1047 sites for an average of one sample for 13.52 square kilometres.

Water samples are analysed for uranium, fluorine, and pH. Stream sediments are analysed for zinc, copper, lead, nickel, cobalt, silver, manganese, iron, arsenic, molybdenum, tungsten, mercury, uranium, antimony, and cadmium.

The survey areas are underlain by the economically favourable Slide Mountain, Cache Creek, Takla, and Hazelton Groups, the ultramafics of the Trembleur Intrusions, and felsic intrusions of Cretaceous and Tertiary age. Exploration has been conducted for gold, platinum, and nickel within the Slide Mountain Group, but no zoned Alaskan-type ultramafics have been reported. Copper-gold mineralization has been explored for in the felsic intrusions. Base and precious metal values are reported from volcanics of the Slide Mountain Group. Some exploration for base metals has also been conducted in the metasedimentary rocks. The ultramafics and adjoining areas have been examined for nickel, asbestos, and precious metals. The Pinchi Lake fault strikes across two of the map-areas and is the focus of exploration for mercury and precious metals. The Rocky Mountain Trench and Thrust Belt zone, which strikes across two of the map-areas, has potential for hosting carbonatites. The map-areas have not undergone intensive mineral exploration due to thick glacial drift and lack of mineral showings. The geochemical survey results will provide information for appraising the economic mineral potential of these overburden covered, apparently less mineralized areas.

\* This project is a contribution to the Canada/British Columbia Mineral Development Agreement.  
British Columbia Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1985, Paper 1986-1.

TABLE 16-1

SAMPLE DESCRIPTION	CU ppm	MO ppm	ZN ppm	AG ppm	CD ppm	NI ppm	CO ppm	AU ppb FA + AA	PB ppm	CO ppm	FE per cent	AS ppm	SB ppm	AU ppb FA + AA
<b>BLACKWATER MOUNTAIN AREA (93G/2)</b>														
<i>Panned Stream Sediment Samples</i>														
93G858001	106	12	574	0.6	4.8	154	44	10	252	164	40.00	166	13.2	<50
93G858002	48	1	116	0.4	0.1	248	38	<10	180	176	18.40	380	15.6	60
93G858003	50	1	100	0.4	0.4	90	20	<20	160	166	34.40	320	12.0	<20
93G858004	16	1	76	0.4	0.4	56	16	<10	306	162	36.00	300	11.2	360
93G858005	NSS	NSS	NSS	NSS	NSS	NSS	NSS	<50	270	280	>40.00	146	14.4	<10
93G858007	124	22	178	0.1	3.0	54	16	<20	166	190	>40.00	260	12.4	20
93G858008	30	1	144	0.4	0.4	68	18	<10	314	266	>40.00	240	13.2	1000
93G858009	116	6	260	1.4	0.8	114	34	17200	250	172	>40.00	300	7.6	<10
93G858010	50	1	164	0.1	1.0	72	18	<10	180	180	>40.00	300	34.8	<10
93G858011	68	4	240	0.4	1.2	90	22	1500	210	200	>40.00	240	16.0	100
93G858012	82	8	216	0.8	0.6	98	28	280	326	180	38.00	220	20.0	80
93G858013	76	4	410	0.4	3.2	116	28	70	150	160	37.20	320	12.0	130
93G858014	32	4	92	0.1	1.4	38	12	<50	196	190	>40.00	320	16.8	<10
93G858015	36	1	134	0.1	1.2	56	16	<10	186	200	>40.00	320	14.4	250
93G858016	774	1	116	0.6	0.4	70	22	<50	164	166	>40.00	280	15.6	10
93G858017	62	1	212	0.1	1.0	80	24	1300	160	154	37.20	220	8.0	550
93G858018	60	1	236	5.2	0.8	86	24	21000						
93G858019	120	6	534	0.6	3.6	140	40	50						
<i>Silt Stream Sediment Samples</i>														
93G857001	71	9	470	0.5	5.0	142	45	<5	22	23	5.30	30	3.6	<5
93G857002	27	1	47	0.1	0.1	243	15	<5	31	23	5.40	33	2.2	20
93G857003	64	2	73	0.4	0.9	190	25	<5	30	23	5.20	46	2.4	15
93G857004	27	1	138	0.2	0.1	90	13	<5	19	19	4.00	14	1.2	5
93G857005	113	17	830	1.3	17.0	375	55	<5	20	24	5.20	24	1.2	5
93G857006	29	1	46	0.1	1.0	39	11	<5	26	22	4.60	20	1.4	5
93G857007	95	9	410	1.5	14.0	148	56	<5	29	27	5.70	20	1.0	<5
93G857008	43	1	150	0.2	1.9	59	21	<5	21	23	5.20	30	1.8	<5
93G857009	38	1	84	0.1	0.5	51	17	340	24	27	5.30	29	1.4	<5
93G857010	31	1	105	0.1	0.6	41	12	<5	37	23	5.10	22	2.0	15
93G857011	38	1	148	0.1	0.9	49	17	5	2	8	2.40	6	0.1	<5
93G857012	39	1	82	0.1	0.2	42	17	<5	29	32	6.40	60	2.8	30
93G857013	57	2	358	0.6	3.3	108	27	<5	23	20	5.10	27	2.2	<5
93G857014	41	1	128	0.1	0.8	55	12	<5	22	19	4.70	29	1.7	<5
93G857015	40	1	180	0.2	1.4	60	18	50	10	12	3.00	7	0.4	15
93G857016	45	1	75	0.1	0.1	43	17	<5	9	13	3.30	8	0.3	10
93G857017	35	1	135	0.2	0.8	46	13	10						
93G857018	34	1	135	0.1	0.8	46	13	10						
93G857019	66	5	435	0.4	4.2	125	38	<5						