

BLUE RIVER GEOCHEMICAL ANOMALIES

(104P/14)

By A. Panteleyev

The 1978 Federal/Provincial Uranium Reconnaissance Program (URP) geochemical survey in McDame map-area, NTS 104P (Geological Survey of Canada, Open File Report 562) identified a significant stream sediment molybdenum-silver-zinc-(lead) anomaly near Blue River, approximately 5 kilometres west of Highway 37.

The area is covered extensively by glacial and fluvio-glacial debris. Bedrock is exposed only where the Blue River, some of the larger tributary creeks, and a few meltwater channels have deeply incised the cover. Bedrocks are sedimentary rocks that appear to be part of the Cambro-Ordovician Kechika Group. Some Tertiary outliers (Tv on Fig. 26) are seen as flat-lying columnar flows. Kechika rocks form a folded sequence of calcareous shale, black shale, siltstone, and black chert.

In Blue River area drainage patterns are poorly defined and swamps, ponds, and kettle lakes are abundant. Only a few streams have any persistent length or flow. Carbonate-rich rocks in the area give rise to mildly alkaline waters (pH 8.2 to 8.3). Calcareous deposits in seepage areas and marl deposits in ponds and lakes are common.

Eight representative specimens of outcroppings along the traverse route (locations shown as X along the dashed line on Fig. 26) were found to have no extraordinary metal content other than in two specimens with 3.9 and 2.4 ppm silver and one with 104 ppm zinc. Molybdenum content in all hand specimens was determined to be <2 ppm. Therefore, the highly anomalous molybdenum-silver-zinc-lead concentrations in stream sediments appear on the basis of the abundance of black nonorganic sediment to be related to recessive-weathering Kechika black shales.

The following data illustrate the geochemical response of stream sediments derived from Kechika rocks in Blue River and Cassiar areas.

STREAM SEDIMENT GEOCHEMICAL DATA, KECHIKA SOURCE ROCKS McDAME MAP-AREA, NTS 104P (IN PPM)

Sample No.	Ag	Cu	Pb	Zn	Co	Mn	Ni	U	W	Mo
Blue River area, URP 1978 Survey (GSC Open File 562), <i>see</i> Figure 26										
781048	0.2*	34	24*	500†	6	215	60	12.2	2	25†
781049	0.8†	42	6	176*	8	480	41	3.0	2	15†
781050	0.1	4	2	38	5	565	15	1.4	2	1
Blue River area, 1979 (this report), <i>see</i> Figure 26										
S-114	0.6*	20	4	70	5	2 120*	30	7	<6	1
S-115	<0.5	8	6	43	7	848	24	2	<6	1
S-116	1.7†	46	10	193*	11	573	58	7	14*	20†
Cassiar map-area, mean of 13 samples (this report)										
composite	0.5*	39	29*	496†	12	337	88	7	<6	6*

* >95 percentile and † >99 percentile values of 802 samples in 104P map-area reported by URP.

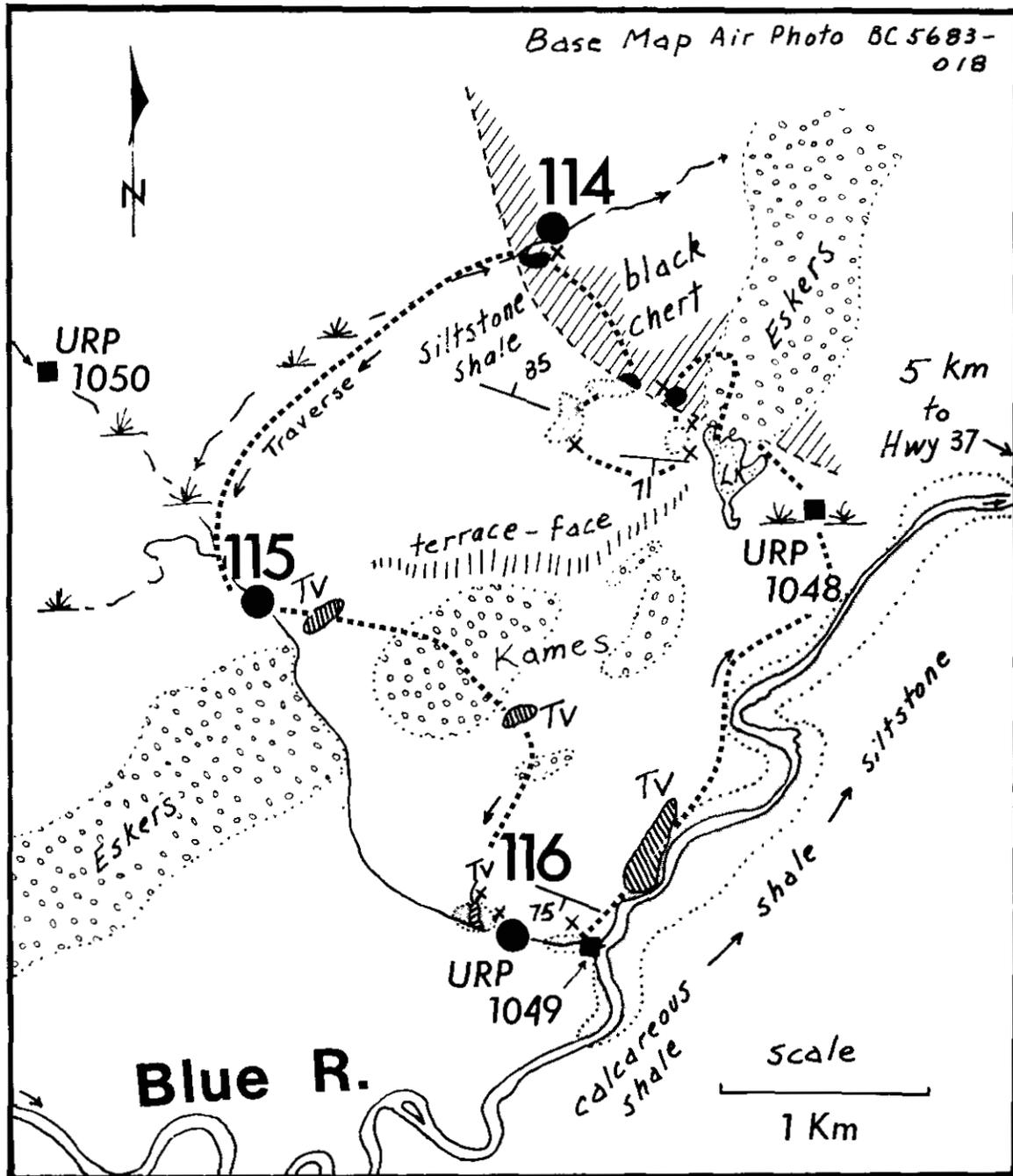


Figure 26. Reconnaissance traverse, Blue River (104P/14), Uranium Reconnaissance Program geochemical anomalies.