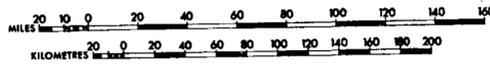


BRITISH COLUMBIA



Scale 1:3 000 000

PRELIMINARY MAP No. 22
 RADIOACTIVE OCCURRENCES

by P.A. CHRISTOPHER

July 1976

17a Radioactive Occurrences



104

94

103

93

83

102

92

82

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NOTES TO ACCOMPANY PRELIMINARY MAP NO. 22

RADIOACTIVE OCCURRENCES IN BRITISH COLUMBIA

BY P. A. CHRISTOPHER

JULY 1976

More than 60 radioactive occurrences have been recorded in British Columbia. These include several types of deposits and contain various radioactive minerals.

The abbreviations below have been used in all references:

- (1) AS – Assessment Report, on file with the B.C. Department of Mines and Petroleum Resources
- (2) BCAR – Annual Report, *Minister of Mines and Petroleum Resources, B.C.*
- (3) Bull. – Bulletin, *B.C. Department of Mines and Petroleum Resources*
- (4) EG 16, 1952 – Economic Geology Series No. 16, 1952, *Geological Survey of Canada*
- (5) EG 16, 1962 – Economic Geology Series No. 16, 1962, *Geological Survey of Canada*
- (6) EG 18 – Economic Geology Series No. 18, *Geological Survey of Canada*
- (7) EG 27 – Economic Geology Series No. 27, *Geological Survey of Canada*
- (8) GEM – Geology, Exploration and Mining in British Columbia, *B.C. Department of Mines and Petroleum Resources*
- (9) Mem. 223(R) – Memoir 223, revised edition, *Geological Survey of Canada*
- (10) P M 1949 – Property map, 1949, on file with the B.C. Department of Mines and Petroleum Resources
- (11) Sum. Rpt. – Summary Report, 1932, Part A, *Geological Survey of Canada*

Occurrences are listed according to NTS map designations. Numbers in brackets after properties refer to locations shown on the accompanying map.

82E/1W SD (1) (49° 07.4' - 118° 23.4') – On the ridge between Toronto and Snowball Creeks, 4 kilometres east of Granby River and 10.5 kilometres north-northeast of Grand Forks. Scattered uraninite and some uranophane occur in pegmatite in gneiss. GEM 1970, p. 432; AS 3172.

- 82E/2W **DOLO** (2) (49° 01.3' - 118° 57.9') – At 1 065 metres elevation, south of Myers Creek, 5.6 kilometres south of Rock Creek. Magnesium, tungsten, and thorium reported in dolomite. GEM 1970, p. 411.
- 82E/5W **RENO** (3) (49° 20' - 119° 48') – On Marsel Creek, 14 kilometres north of Keremeos and 2.4 kilometres above Keremeos Creek. Possible columbite in black chert associated with serpentinized olivine pyroxenite. GEM 1974, p. 55; AS 5005.
- 82E/10W **SAND, CUP, LASSIE** (4) (49° 36.3' - 118° 47.4') – On Sandrift and Copperkettle Creeks between 870 and 1 310 metres elevation, 6.4 to 13 kilometres north of Christian Valley. Some radioactive mineralization found in volcanic rocks and in crosscutting intrusive dykes. GEM 1970, p. 410; AS 2482.
- 82E/10W **FUKI – DONEN** (5) (49° 32.4' - 118° 52.9') – On Dear Creek, 17.6 kilometres northeast of Beavertell. Secondary radioactive mineralization is found in Tertiary sedimentary rocks in a stream valley buried under Tertiary lava. GEM 1969, p. 302; AS 2013, 2484, 3135, 3775, 4630.
- 82E/11E, 6E **CARMI MOLYBDENUM** (6) (49° 29.0' - 119° 08.8') – Between 1 800 and 2 700 metres elevation on Wilkinson Creek near Carmi, 13 kilometres northwest of Beavertell. Uraninite, associated with purple fluorite, as disseminated grains in gneissic granodiorite breccia. AS 5203.
- 82E/11E, 14E **PB 81-179** (7) (49° 45.5' - 119° 07.7') – At 1 190 metres elevation, 27 kilometres southeast of Kelowna, astride the Canadian Pacific Railway line. Radioactivity anomaly in thin basal sandstones and conglomerates, and locally in overlying vesicular basalt. GEM 1973, p. 52; AS 4629.
- 82F/1W **LUCKY** (8) (49° 07.5' - 116° 26.5') – At the junction of Arrow Creek and Goat River. Thorite has been reported. EG 16, 1962, p. 234.
- 82F/3E **MOLLY** (9) (49° 05' - 117° 12') – On Lost Creek south of Salmo. Uraninite was detected with molybdenum-tungsten mineralization in skarn. EG 16, 1952, p. 45; Bull. 41, p. 132.
- 82F/4E **MOTA** (10) (49° 13.8' - 117° 42') – On China Creek, 1.3 kilometres west of the Trail-Castlegar Highway. Uraninite is found in pegmatite. BCAR 1968, p. 239.
- 82F/4W **GIANT – COXEY** (11) (49° 05.3' - 117° 49.7') – On the west slope of Red Mountain, 2.4 kilometres northwest of Rossland. Some radioactivity is reported with molybdenite mineralization. EG 16, 1952, p. 44; BCAR 1966, p. 200.
- 82F/5E **GIBSON CREEK GOLD MINE** (12) (49° 22' - 117° 38.5') – At about 915 metres elevation, 5 kilometres north of Castlegar. Uraninite occurs in granitic rocks. Assays up to 0.11 per cent U₃O₈ across 0.6 metre are reported. BCAR 1955, p. 50.

- 82F/5E **LUCKY BOY (13)** ($49^{\circ} 27.7' - 117^{\circ} 37'$) – About 2.4 kilometres northwest of Krestova. Scattered grains of samarskite are found in pegmatite pods in syenite gneiss. BCAR 1956, p. 77.
- 82F/6W **LUCKY, BILL, TAG (14)** ($49^{\circ} 29.5' - 117^{\circ} 23.5'$) – On Kootenay River near the Canadian Pacific Railway bridge at Sproule Creek. Uraninite occurs in pegmatite. EG 16, 1962, p. 234.
- 82F/8E **CARIBOO (15)** ($49^{\circ} 22' - 116^{\circ} 10'$) – At the head of the north fork of Moyie Creek. Radioactivity was detected in galena-sphalerite-scheelite mineralization. BCAR 1969, p. 347.
- 82F/11W **TRY AGAIN (LEMON CREEK) (16)** ($49^{\circ} 42' - 117^{\circ} 26'$) – On Lemon Creek about 3.2 kilometres from the highway and 8 kilometres south of Slocan. Allanite and fergusonite (?) are found in pegmatite. BCAR 1955, p. 65.
- 82K/4E **STA – TITE (ARROW LAKE) (17)** ($50^{\circ} 14' - 117^{\circ} 58'$) – On a tributary of Arrow Park Creek, 14.4 kilometres north of Arrow Park. Uranium and thorium were detected in samples from a narrow seam in granite. BCAR 1954, p. 142.
- 82K/6W **LUCKY JACK – BULLOCK (18)** ($50^{\circ} 24.5' - 117^{\circ} 07.5'$) – About 0.8 kilometre south of Poplar Creek settlement. Uranium indicated in some samples. BCAR 1952, p. 191.
- 82K/9W **ICE 9 (ANNETTE, SLIDE) (19)** ($50^{\circ} 38.5' - 116^{\circ} 30.0'$) – On Forster Creek, at elevations 1 460 to 2 746 metres, 37 kilometres west of Radium Hotsprings. Geochemical anomalies of molybdenum, uranium, and possibly niobium in granite and meta-sedimentary rocks. GEM 1971, p. 426; AS 3222.
- 82K/9W **FORSTER CREEK (20a)** ($50^{\circ} 39' - 116^{\circ} 21'-27'$) – Gravels contain uraninite, pyrochlore, and other radioactive minerals derived from a granite pluton at the head of the creek. EG 18, 1958, p. 28.
- 82K/15W **VOWELL CREEK (20b)** ($50^{\circ} 50' - 116^{\circ} 45'-50'$) – As for Forster Creek.
- 82K/15W **MALLOY CREEK (20c)** ($50^{\circ} 50' - 116^{\circ} 52'$) – As for Forster Creek.
- 82K/15E **BUGABOO CREEK (20d)** ($50^{\circ} 44'-50' - 116^{\circ} 42'$) – As for Forster Creek.
- 82L/2W **VAL (21)** ($50^{\circ} 04' - 118^{\circ} 55'$ approximately) – On Vidler Creek near Lumby. Uranium has been reported in Tertiary sandstones, conglomerates, and tuffaceous arkoses. BCAR 1968, p. 222.
- 82L/2W **SPAR (22)** ($50^{\circ} 14.8' - 118^{\circ} 48.5'$) – On the hill north and east of Blue Springs Creek, 11.2 kilometres east of Lumby. Monazite occurs in irregular patches in pegmatite in Shuswap rocks. One sample showed $U_3O_8 = 0.044$ and $ThO_2 = 0.069$. GEM 1971, p. 431; AS 3434.

- 82L/6E **BRETT – BIRD (23)** ($50^{\circ} 28.5' - 119^{\circ} 06.5'$) – On Sneezby Creek, 1.6 kilometres east of Highway 97A, 7 kilometres north of Armstrong. Uraninite (?) reported in pegmatite. EG 16, 1952, p. 44; BCAR 1950, p. 226; AS 49.
- 82L/7W **SH, AS (24)** ($50^{\circ} 18' - 118^{\circ} 49'$) – Twelve kilometres northeast of Lumby, extending north-northwest from Shuswap Falls. Uraninite mineralization associated with pegmatite. GEM 1973, p. 101.
- 82M/12W **REXSPAR (25)** ($51^{\circ} 33' - 119^{\circ} 55'$) – At about 915 metres elevation on the east side of Foghorn Creek, 5 kilometres south of Birch Island. Several radioactive minerals occur with fluorite and celestite in trachyte (?). BCAR 1954, p. 108; Canadian Mining Journal, July 1956, p. 59; EG 16, 1962, p. 205; AS 2337, 2340.
- 82M/12W **BULLION (26)** ($51^{\circ} 34.3' - 119^{\circ} 51.5'$) – At the mouth of Lute Creek. Similar to Rexspar. BCAR 1968, p. 164.
- 82M/12W **RAY (27)** ($51^{\circ} 32' - 119^{\circ} 55'$) – At head of Foghorn Creek. Uranium and fluorite reported. BCAR 1968, p. 165.
- 82M/12W **MY, RAY (28)** ($51^{\circ} 37' - 119^{\circ} 55'$) – At Birch Island, on the north side of the North Thompson River, between Raft River and Crossing Creek. Two small radioactivity anomalies (uranium and thorium) reported by airborne gamma ray survey. BCAR 1968, p. 165; AS 1737.
- 82M/16E **TRIDENT CREEK (29)** ($51^{\circ} 56.9' - 118^{\circ} 03.9'$) – At mouth of Trident Creek where it enters Kinbasket Lake (Columbia River). Radioactive minerals reported in delta believed to originate from nepheline syenite near head of creek. BCAR 1959, p. 104.
- 82N/1W **DEMON, COLTI (30)** ($51^{\circ} 11.5' - 116^{\circ} 20.6'$) – Near the head of Moose Creek, about 43 kilometres southeast of Golden. Radioactive mineralization, largely thorium bearing, occurs in an igneous complex. BCAR 1954, p. 150.
- 82N/1W **WATERLOO (31)** ($51^{\circ} 10.0' - 116^{\circ} 22.9'$) – At approximately 2 130 metres elevation at head of Moose Creek, 48 kilometres southeast of Golden. Some uranium minerals present in limestone and calcareous shale. GEM 1970, p. 467; GEM 1972, p. 94.
- 82N/7W **KING DAVID (32)** ($51^{\circ} 18.1' - 116^{\circ} 52.9'$) – Along Kicking Horse River, approximately 7 kilometres upstream from Golden. Weak radioactivity anomaly with occasional values in germanium, zirconium, and uranium. AS 184.
- 83D/6E **VERITY – PARADISE (33)** ($52^{\circ} 24' - 119^{\circ} 09.7'$) – East of the Canadian National Railway tracks at Mile 109, 37 kilometres north of Blue River. Uranian pyrochlore and columbite occur in a 'carbonatite' layer in gneiss. BCAR 1950, p. 229; BCAR 1952, p. 115; BCAR 1954, p. 111; EG 18, 1958, p. 31; AS 1630.

- 92F/16W **LANG BAY (GE) (34)** ($49^{\circ} 48' - 124^{\circ} 19'$) – On Lang Creek, above Lang Bay, 22 kilometres southeast of Powell River. Germanium occurs in thin sparse streaks of lignite coal and in carbonaceous shale. BCAR 1949, p. 218; BCAR 1959, p. 127.
- 92H/3E **INTERNATIONAL (35)** ($49^{\circ} 00.4' - 121^{\circ} 08.5'$) – At the head of Galene Creek near the International Boundary. Carnotite (?) has been reported in lead mineralization. BCAR 1938, p. F22; EG 16, 1961, p. 233.
- 92H/3E **AM (36)** ($49^{\circ} 09.8' - 121^{\circ} 01.3'$) – Five kilometres south of Highway 3 near the west boundary of Manning Park. Uraninite and monazite have been identified with copper mineralization. BCAR 1949, p. 210; BCAR 1954, p. 152; AS 4074, 4075.
- 92H/6W **HOPE (37)** ($49^{\circ} 23' - 121^{\circ} 26'$) – Black sand from the Hope area is said to have contained radioactive material. EG 16, 1952, p. 45.
- 92I/2E **COPPERADO (38)** ($50^{\circ} 12' - 120^{\circ} 36'$) – About 8 kilometres north of the outlet of Nicola Lake. Allanite occurs in pegmatite. BCAR 1949, p. 120.
- 92I/4W **ROSYD (BOTANIE OCCURRENCE) (39)** ($50^{\circ} 15' - 121^{\circ} 34'$) – On the east bank of Thompson River 1.6 kilometres north of Lytton. A sample from a shear in limestone contained $U_3O_8 = 0.062$ and $ThO_2 = 0.001$. BCAR 1955, p. 34.
- 92I/4W **LYTTON BAR (39)** ($50^{\circ} 15' - 121^{\circ} 36'$) – Placer concentrate from Lytton Bar, on the west side of Fraser River 1.6 kilometres upstream from Lytton, contained 0.16 per cent U_3O_8 equivalent. BCAR 1948, p. 180.
- 92I/5E **ORLEAN (PAQUET OCCURRENCE) (39)** ($50^{\circ} 19.5' - 121^{\circ} 39'$) – In a road cut 11.7 kilometres north of Lytton on the highway to Lillooet. Metazeunerite was identified in copper-stained material from a shear zone in slate. BCAR 1955, p. 33.
- 92I/10E **COPPER KING (40)** ($50^{\circ} 42.3' - 120^{\circ} 35.6'$) – Just north of Highway 1 about 25 kilometres west of Kamloops. Minor amounts of pitchblende occur in patches and veinlets with copper sulphides and magnetite in a shear zone at the entrance to the open cut into the glory hole of the old workings. Memoir 249, p. 109, Geological Survey of Canada; AS 3800, 3823.
- 92J/9E **INDEX (41)** ($50^{\circ} 31.7' - 122^{\circ} 00'$) – On the summit between the north fork of Texas and Cottonwood Creeks. Low-grade radioactive samples were found with molybdenum mineralization in granite. BCAR 1949, p. 113.
- 92J/15W **GEM (LITTLE GEM) (42)** ($50^{\circ} 53.8' - 122^{\circ} 57.7'$) – On Roxy Creek. Uraninite and allanite occur with cobalt-gold mineralization in pegmatite. Assays up to 1.89 per cent U_3O_8 equivalent across 60 inches were obtained. BCAR 1948, p. 112; EG 16, 1952, p. 43.

- 92J/15W **COBALT (PACIFIC GOLD AND URANIUM) (42)** ($50^{\circ} 53.8'$ - $122^{\circ} 57.7'$) – Surrounding the Gem and similar in nature. EG 16, 1952, p. 44.
- 92K/3E **RADIUM (GEILER) (QUADRA ISLAND OCCURRENCE) (43)** ($50^{\circ} 04'$ - $125^{\circ} 13'$) – North end of Gowland Harbour, Quadra Island, 8 kilometres north of Campbell River. Small seams of carnotite found in crevices in volcanic rocks. BCAR 1932, p. 208; EG 16, 1952, p. 45; Sum. Rpt., p. 54.
- 92O/3W **TASEKO – MOHAWK (MOTHERLODE – MOHAWK) (44)** ($51^{\circ} 06'$ - $123^{\circ} 23'$) – At 1 980 metres elevation on spur between Gibson (Granite) Creek and Taseko River. High count with geiger counter. Property underlain by quartz diorite. EG 16, 1952, p. 44; GEM 1970, p. 213 (ref.).
- 93A/10W **EAGLET (45)** ($52^{\circ} 34.1'$ - $120^{\circ} 58.6'$) – On the east side of Quesnel Lake at the mouth of Wasko Creek, 3.2 kilometres northeast of the point at the junction of the north arm and main lake. Allanite is found with fluorite and other minerals in pegmatite gneiss. BCAR 1965, p. 263.
- 93B/16W **QUESNEL RIVER (46)** ($53^{\circ} 00'$ - $122^{\circ} 17'$) – Monazite was reported in placer sand from workings 13 kilometres above Fraser River. EG 16, 1962, p. 235.
- 93D/4 **PROMISE WELL (47)** ($52^{\circ} 06.4'$ - $127^{\circ} 45'$) – Pegmatite showed 0.0065 per cent uranium oxide equivalent. BCAR 1953, p. 166.
- 93F/15W **ABE (MOLLY) (48)** ($53^{\circ} 59.2'$ - $124^{\circ} 51.7'$) – On the north slope of Nithi Mountain, 9.6 kilometres south of Fraser Lake. Sabugalite and torbernite occur in fractures and cavities in a rhyolite porphyry dyke in granite. BCAR 1955, p. 28; BCAR 1956, p. 28.
- 93H/8E **McBRIDE (49)** ($53^{\circ} 18'$ - $120^{\circ} 12'$) – Placer sand from near McBride was reported to be radioactive, probably due to thorium. EG 16, 1962, p. 235.
- 93H/13E **GOLD – THORIUM CLAIM (50)** ($53^{\circ} 58'$ - $121^{\circ} 39'$) – As for McBride. EG 16, 1952, p. 45.
- 93H/13W **UG, LAD (51)** ($53^{\circ} 49'$ - $121^{\circ} 53'$) – Fifty-six kilometres east-southeast of Prince George along Bowron River at approximately 750 metres elevation. Uranium and germanium in shale beds below coal seams containing uranium, germanium, and resin. GEM 1974, p. 251.
- 93J/1W **GISCOME (JHG, SAMSON) (52)** ($54^{\circ} 03.6'$ - $122^{\circ} 20.0'$) – Approximately 2.4 kilometres east of Giscome, just south of Eaglet Lake and the Canadian National Railway line. Uranium-bearing vein reported in gneissic granite. Niobium associated with galena and sphalerite in skarn also reported. P M 1949; GEM 1974, p. 251.
- 93M/4E **VICTORIA (53)** ($55^{\circ} 10.4'$ - $127^{\circ} 38.9'$) – On the northwest slope of Rocher Deboule Mountain, 8 kilometres south of Hazelton. Uraninite and allanite occur with sulphides in veins in granodiorite. BCAR 1949, p. 82; Bull. 43, p. 69; EG 16, 1952, p. 42.

- 93M/4E **RED ROSE (53)** ($55^{\circ} 08.4'$ - $127^{\circ} 36'$) – Between Armagosa and Red Rose Creeks. Uraninite occurs with other minerals, particularly molybdenite in veins. Bull. 43, p. 54; EG 16, 1952, p. 42.
- 93M/4E **HIGHLAND BOY (53)** ($55^{\circ} 10'$ - $127^{\circ} 37'$) – On upper Juniper Creek. Uraninite is found in a complex deposit. Bull. 43, p. 53; EG 16, 1952, p. 41.
- 93M/4E **ROCHER DEBOULE (53)** ($55^{\circ} 09.5'$ - $127^{\circ} 38.6'$) – At the head of Juniper Creek, 8 kilometres south of Hazelton. Uraninite occurs in veins with other minerals. Bull. 43, p. 59; EG 16, 1952, p. 42.
- 93M/4E **BLACK PRINCE (54)** ($55^{\circ} 10.2'$ - $127^{\circ} 33.8'$) – At 1 370 metres elevation at the head of Mudflat Creek, 8.8 kilometres south-southwest of New Hazelton. Minor radioactivity associated with scheelite in shear zones in porphyritic granodiorite. Mem. 223(R), p. 30; Bull. 43, p. 48.
- 93M/4E **BLUE LAKE (54)** ($55^{\circ} 10.2'$ - $127^{\circ} 34.2'$) – Just west of Black Prince at 1 615 metres elevation. Similar to Black Prince. Mem. 223(R), p. 32; Bull. 43, p. 49.
- 93M/4E **GOLDEN WONDER (54)** ($55^{\circ} 11.1'$ - $127^{\circ} 42.0'$) – At foot of Rocher Deboule, at 400 metres elevation, 0.8 kilometre southeast of Highway 16 and 11 kilometres southwest of New Hazelton. Minor uranium associated with thin sulphide lenses in narrow fissure zones in tuffs. Mem. 223(R), p. 44; EG 16, 1952, p. 41.
- 93N/9W **LONNIE (55)** ($55^{\circ} 41'$ - $124^{\circ} 22.5'$) – On the southeast side of Granite Creek, 2.4 kilometres from the Manson Creek road. Uraniferous pyrochlore is found in a carbonate complex. BCAR 1954, p. 96; BCAR 1955, p. 29; EG 18, p. 29.
- 93N/9W **VIRGIL (56)** ($55^{\circ} 44'$ - $124^{\circ} 27'$) – On west flank of Wolverine Range at 1 680 metres elevation, 11 kilometres northwest of Manson Creek. Niobium plus minor uranium values associated with a syenite-carbonate complex. GEM 1974, p. 278; EG 18, p. 29.
- 93N/11W **SMOKE (57)** ($55^{\circ} 35'$ - $125^{\circ} 18'$) – At 1 220 metres elevation, 24 kilometres west-southwest of Germansen Lake, 6.4 kilometres north of the junction of Kwanika and West Kwanika Creeks. Uraninite locally in quartz stringers in widely spaced fractures in a small alaskite plug (intruding granite). GEM 1974, p. 280; AS 5372.
- 94E/8E **TOR CLAIMS (58)** ($57^{\circ} 17.7'$ - $126^{\circ} 01.5'$) – Near headwaters of Pelly Creek, 40 kilometres west of Fort Ware. High radiation zones, partly attributable to hafnium in zircon, associated mainly with silicified limestone. No uranium, thorium, or radium found. AS 218.
- 94F/13 **SPRINGIRON LAKE (GATAGA RIVER) (59)** ($57^{\circ} 58'$ - $125^{\circ} 45'$) – Near headwaters of the south fork of the Gataga River, 2.4 kilometres north of Springiron Lake. Minor uranium and vanadium in gossan associated with grey shale. EG 27, p. 49.

- 94L/12E **DALL LAKE (60)** ($58^{\circ} 34.8'$ - $127^{\circ} 32.2'$) – Radioactive float was found in a creek. EG 16, 1952, p. 44.
- 94M/8E **LIARD RIVER HOTSPRINGS (61)** ($59^{\circ} 26'$ - $126^{\circ} 06'$) – At Mile 497 on the Alaska Highway. Radioactivity was detected in the water and tufa at the hot springs.
- 94N/12W **WISHING WELL (DEER RIVER SPRINGS) (62)** ($59^{\circ} 31'$ - $125^{\circ} 57'$) – Ten kilometres northwest of the Liard River, 22 kilometres north-northwest of Prudence Mountain. Mildly radioactive calcareous tufa from slightly radioactive cool springs.
- 104N/11W **PURPLE ROSE – FISHER (CRACKER CREEK) (63)** ($59^{\circ} 44'$ - $133^{\circ} 18'$) – At 1 525 to 1 830 metres elevation between Cracker, Ruby, and Boulder Creeks. Minor zeunerite and metazeunerite occur with quartz in Cretaceous alaskite. Selected sample contained 0.088 - 0.059 U_3O_8 . BCAR 1955, p. 7.
- 104N/12W **HUSSELBEE (BEAVER) (64)** ($59^{\circ} 42.1'$ - $133^{\circ} 51.8'$) – On the west side of Atlin Lake just south of Deep Bay, about 19 kilometres north of Atlin. Uraninite occurs with pyrite, fluorite, and galena in amphibolite. BCAR 1953, p. 79.