

Table 1. Description and geologic setting of hot spring localities in western and central Alaska.

			Geologic Setting			
Name and location		General Description	Province	Host Rock	Remarks	References
1. Pilgrim: (Kruzgamepa)*	Bendeleben A-6 quadrangle, 65°06'N., 164°55'W. Located 40 mi north of Nome, half-mile south of Pilgrim River.	Several springs occur over a distance of a few hundred feet in middle of 5-mi wide alluvium- filled valley of Pilgrim River. An area 100 yds by a half-mile appears to be underlain by warm ground. Discharge is small, less than 10 gal/ min according to Waring (1917). Recorded temperatures range from 69°C. (1915) to 60°C. (1972). Chemical analysis available. Classified as Known Geothermal Resource Area (Godwin and others, 1971).	Seward Peninsula	Concealed	Bedrock concealed; springs occur 2½ mi north of plutonic and high-grade metamorphic rocks of Kigluaik Mountains and 2½ mi south of low-grade metamorphic rocks of Hen-and-Chickens Mountain. Springs are 1½ mi west of inferred fault (Sainsbury and others, 1969). Aero- magnetic survey (State of Alaska Aeromagnetic Survey, 1972, Bendeleben A-4, A-5, A-6 quadrangles) suggests springs may lie along possible east-west fault which may be an extension, or branch, of range front fault bounding south side of central and eastern Bendeleben Mountains (Miller and others, 1972).	Sainsbury and others, 1969
2. Serpentine: (Arctic)	65°51'N., 164°42'W., Bendeleben D-6 quad- rangle; 95 mi north of Nome on Hot Springs Creek.	Springs occur in two main areas about ½ mi apart on Hot Springs Creek. Discharge at eastern spring estimated at about 35 gal/min and temperature measured as 77°C. (Travis Hudson, written comm.). Chemical analysis available.	Seward Peninsula	Biotite granite	Springs occur in Serpentine Hot Springs pluton about one mile from faulted contact. Pluton composed of biotite granite of Cretaceous or Tertiary age; country rock is Precambrian metasiltite and related rocks.	Sainsbury and others, 1969
3. Lava Creek:	65°13'N., 162°54'W., Bendeleben A-2 quad- rangle; 50 mi north of Golovin on south side of Bendeleben Mountains.	One principal spring which occurs on east side of Lava Creek about 100 feet above valley floor. Strong flow, temperature estimated at 60°-65°C. Noticeable H ₂ S odor. Chemical analysis available.	Seward Peninsula	Quartz monzonite	Spring occurs almost on contact between Late Cretaceous quartz monzonite of Bendeleben pluton and migmatite zone of Precambrian age. A biotite sample from the Bendeleben pluton has yielded a K-Ar age of 79.8± 2.4 m.y. (Miller and others, 1972). Parts of the floor of Lava Creek underlain by basalt of Quaternary age.	Miller and others, 1972
4. Battleship Mountain:	64°48'N., 162°55'W., Solomon D-2 quadrangle; 20 mi north of Golovin.	On spring on east side of east fork of Cliff Creek on small bedrock terrace about 75 feet above creek. H ₂ S odor; temperature of 17°C. measured in 1970. Chemical analysis avail- able.	Seward Peninsula	Granodiorite	Spring is in granodiorite of Kachauik pluton near contact with Precambrian schistose marble. Grano- diorite is of probable Cretaceous age (Miller and others, 1972).	Miller and others, 1972
5. Kwiniuk:	64°42'N., 162°28'W., Solomon C-1; 9 mi north- west of Elim.	One principal spring about 100 yds north of Kwiniuk River. Temperature estimated at 40°-50°C. (1971). Chemical analysis avail- able.	Seward Peninsula	Quartz monzonite	Spring is in Darby pluton about 2 mi from country rock and on or near prominent lineaments in the pluton contacts. Darby pluton is Late Cretaceous in age (Miller and others, 1972).	Miller and others, 1972
6. Clear Creek:	64°51'N., 162°18'W., Solomon D-1 quadrangle; 16 mi north of Elim.	Hot springs on either side of east-flowing tributary of Clear Creek. Spring south of tributary has large flow estimated at several hundred gal/m and is about 400 ft above Clear Creek valley floor. A temperature of 63°C. was measured in 1970. Two hot spring areas occur north of tributary. The upper spring is inaccessible by helicopter; the lower one has a smaller flow than the spring to the south and a temperature of 67°C. Chemical analysis available.	Seward Peninsula	Quartz monzonite	Springs are in quartz monzonite of Darby pluton less than ½ mi from contact with Devonian limestone. Pluton-limestone contact is inferred to be major fault (Miller and others, 1972) trending N.18°E.	Miller and others, 1972
7. Granite Mountain: (Sweep- stakes)	65°22'N., 161°15'W., Candle E-5 quadrangle; 40 mi southeast of Candle on the south side of Granite Mountain.	Several hot springs occur over a distance of about 100 feet on the west side of Spring Creek about 50 feet above the valley bottom. Temperature: 49°C. (1972). Chemical analysis available.	Yukon-Koyukuk	Nepheline syenite	Springs are in small satellitic stock of mafic nepheline syenite about 1 mi south of Granite Mountain pluton of mid-Cretaceous age (Miller, 1972). Country rock is Lower Cretaceous andesite.	Patton, 1967; Miller, 1972
8. Hawk River:	66°14'N., 157°35'W., Shungnak 1:250,000 quadrangle; located 50 mi south southwest of Kobuk.	At least one hot spring located in east bank of Hawk River on the south side of the Purcell Mountains. Spring is at south end of clearing (75 ft by 200 ft) in tall timber and flows directly into Hawk River. Temp- erature estimated at +50°C. No chemical analysis available.	Yukon-Koyukuk	Concealed	Spring is in alluvial valley of Hawk River and bedrock is concealed. Based on map position, bedrock is probably hornfelsic andesite of Early Cretaceous age. Spring lies about ½ mi south of mid-Cretaceous monzonite of Hawk River pluton and very close to east-west fault which cuts pluton.	Patton and others, 1968; Miller, 1970
9. South:	66°09'N., 157°07'W., Shungnak 1:250,000 quadrangle; located 52 mi south of Kobuk on south side of Purcell Mountains.	Several hot springs scattered about a west- facing timbered slope 200 ft to 400 ft above south-flowing tributary to Hawk River. Only one hot spring visited. Temperatures estimated at +50°C. Chemical analysis available.	Yukon-Koyukuk	Quartz monzonite	Springs are in Late Cretaceous quartz monzonite of Wheeler Creek pluton within ½ mi of contact with Lower Cretaceous andesite. Springs are approximately on prominent lineament trending N.80°W.	Patton and others, 1968; Miller, 1970
10. Purcell Mountain:	66°23'N., 156°44'W., Shungnak 1:250,000 quad- rangle; located 44 mi south southwest of Kobuk.	Spring is on north bank of unnamed north- flowing tributary to Shinilikrok Creek about 5 mi northeast of Purcell Mountain. Small flow, temperature estimated at 15°-20°C. No chemical analysis available.	Yukon-Koyukuk	Quartz latite	Spring is in Late Cretaceous hypabyssal volcanic complex composed of tuffs, flows, and intrusive rocks. Spring is about ½ mi from contact with Lower Cretaceous andesite and near contact with granitic pluton.	Patton and others, 1968; Miller, 1970
11. Division:	66°22'N., 156°44'W., Shungnak 1:250,000 quad- rangle; located 38 mi south of Kobuk on north side of Purcell Mountain.	Numerous springs on both sides of a head- water stream of Selawik River. Large open meadows up to 1,000 yds by 200 yds; largest area of apparent thawed ground of any hot spring in western Alaska. Temperature estimated at 50°-60°C. No chemical analysis available.	Yukon-Koyukuk	Andesite	Springs are in Lower Cretaceous andesite near prominent N.70°W. trending lineament and about 1½ mi north of quartz monzonite of Wheeler Creek pluton.	Patton and others, 1968; Miller, 1970

This chart is preliminary
and has not been edited
or reviewed for conformity
with Geological Survey
standards and
nomenclature.