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PETRIFIED WOOD OCCURRENCES IN ALASKA

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INTRODUCTION

This report briefly discusses 26 occurrences of petrified woood in Alaska (table 1). The locations of these occurrences is shown on figure 1. For reference, the geologic time scale is also included (app. A).

This report may be periodically updated as additional occurrences are compiled. To submit information on petrified-wood occurrences, please contact the authors.

Table 1. Description of petrified-wood occurrences in Alaska.

Map no.	Location and description	Reference
1	Redwood(?) logs, 6-in. diam, tight growth rings; one log 6 ft by 18 in., large growth rings. Found in Kigalik canyon, Kigalik River. Area contains gravel bars that consist entirely of petrified wood.	Bob Dittrick, personal commun., Anchorage, AK
2	Occurs in the Killik River Quadrangle in the SE ¼ of township 6 S., Range 14 W., on the east side of the Karupa River immediately north of Heather Creek. Type of wood unknown. Segment of silicified logs range from about 3 in. to 12 in. diam as well as many small lath-shaped pieces. Colors range from white, light yellow-brown to dark gray & black (the latter being most common). Weathers out of a conglomerate sandstone on a low rubble-covered hill top. Lower Cretaceous in age in the Tuktu formation or undifferentiated Killik tongue-Tuktu Formation.	
3	Occurs in the Killik Bend of the Colville River in the Ikpikpuk A-2 Quadrangle. Petrified tree stump 5 ft tall, 8 in. diam in growth position. Found in the Chandalar Formation, Killik Tongue, Lower Cretaceous (Albian).	Robert Detterman, personal commun., Menlo Park, CA

Map no.	Location and description	Reference
4	Mineralized wood 2 in. in diam. Tertiary age (possibly Damion). Probably Coniferous larix or Spruce. Occurs in the Harrison A-1 or A-2 Quadrangle.	Stu Rawlinson, personal commun., DGGS, Fairbanks, AK
5	Mt. Michelson D-3 quad in the NE ¼ of section 14. Mineralized and flattened tree stump 10½ in. diam at top, 14 in. diam at the bottom, and 14 in. long. Found in high bluff on east side of Katakturak River probably from lacustrine deposits in the Tertiary Sagaranirktok Formation.	Stu Rawlinson personal commun., DGGS Fairbanks, AK
6	Fossil dinosaur skin impressions and tracks and fossil wood found along the Kikolik River and Avingak Creek in the Utukok River Quadrangle. Occurs within the Cretaceous Corwin Formation in sandstones in cutbanks. Occurs in an ancient, river-dominated, bird-foot delta system that extends from near the north edge of the Brooks Range across the Arctic Coastal Plain. The fossils provide limited evidence for a warm temperate to subtropical climate and a swampy, forested landscape for northern Alaska between 100 million and 70 million years ago.	Roehler and Stricker, 1984
7	Located along the lower Coleen River. Conifer trunks up to 4 ft diam partially fossilized by replacement with hematite particularly in the cores of the trunks. Pieces litter the river bars for several miles at this locality. Can be seen eroding out of river banks of unconcolidated silt. Samples available for inspection At the USBM office, Room 206 O'Neill Bldg., UAF, Fairbanks.	Jim Barker, personal commun., USBM, Fairbanks, AK

Map no.	Location and description	Reference
8	Petrified log found at the east end of Lakloey Hill in the North Pole area, Fairbanks. The log, discovered by Jim Carroll is 28 in. in diam, weighs about 4 tons, and is estimated to be 40-50 million years old. The log was found at Brown's Hill Rock Quarry under 20 ft of overburden. The fossil wood has a Mohs' hardness of about 7.	V.D. Heiner, 1981
9	Occurrence at McCallum Creek which crosses the Richardson Hwy, Mt. Hayes A-4 Quadrangle. Petrified and partially petrified wood fragments up to 1 ft long in clay and sand beds with lignite material and cones. Pollen of Douglas fir, pine hemlock and taxodiaceae as well as elm, walnut and hop hornbeam was recovered. These beds underlie thousands of feet of gravel which might be correlated with Nenana gravel on the North side of the Alaska Range. Probable age is Pliocene (Clamgulchian(?) and older).	Florence Weber, personal commun., USBM, Fairbanks, AK
10	Petrified wood near the Chickaloon River associated with Eocene(?) volcanics in the Anchorage D-3 to D-4 Quadrangle.	Sue Karl, personal commun., USGS, Anchorage, AK
11	A petrified forest occurs in the intertidal zone about 5 mi south of Anchor Point in the Seldovia C-5 Quadrangle. The forest consists of several logs, branches, root systems, and stumps up to 6 ft in diam (see fig. 2). Seven stumps occur in growth position, some elongated in a NE-SW directions (which suggests a possible NE-SW prevailing wind direction). Replacing ment includes a combination of silica and calcium carbonate while some stumps are completely coalified. The forest occurs within the Miocene Beluga or Sterling Formation and appears to have been buried by volcanic ash.	K.M. Goff, M.D. Albanese, 1985, personal commun., DGGS, Fairbanks, AK

Map no.	Location and description	Reference
12	Seldovia C-4 Quadrangle. Mineralized wood found in numerous sites in the bluff along the west side of Kachamak Bay particularly SW of McNeil Canyon. Diameters generally do not exceed 6 in. Types unknow but leaf fossils include birch, aspen and willow. Found as flood-plain and flood-basin deposits of the Beluga Foramtion (Homerian Stage) of middle to late Miocene ages. Petrified wood is associated with carbonate-cemented nodules, usually adjacent to coal beds.	Stu Rawlinson, personal commun., DGGS, Fairbanks, AK
13	An entire forest of stumps and logs up 2 ft in diam on Kuiu Island, Port Camden-Keku Strait (Petersburg Quadrangle) between high and low tide zone. Early tertiary (Paleocene(?) or Eocene(?) wood. Possibly redwood.	Sue Karl and David Brew, personal commun., USGS, Buddington and Chapin, 1929. Brew and others, 1984
14	East of Kejulik River, Mt Katmai A-5 Quadrangle, SE¼ section A partially calcified and silicified log on the surface of a ridge. Occurs in an olive gray siltstone with small limestone lenses and gray limestone concretions, many of which contain the pelecypod Buchia Mosqnensis (von Buch) of the Naknet Formation. Possibly late Jurassic in age (late Kimmeridgian--early Tithonian). An unusual replacement; sample available for inspection.	John Miller, USGS, Menlo Park, CA
15	Located on the west flank of Pevlik volcano, Ugashik C-2 Quadrangle. Pieces of a petrified log in a sandstone and siltstone section of the Chignik Formation of Upper Cretaceous age.	R.L. Detterman, personal commun. USGS, Menlo Park, CA
16	Located on a ridge east of Yantarni Volcano, Ugashik A-4 Quadrangle. Logs up to 8 in. bedded in a sandstone and siltstone section of the Tolstoi Formation.	R.L. Detterman and others, 1985

Map no.	Location and description	Reference
17	Located on the south slope of Aniakchak Volcano, Chignik D-1 Quadrangle. Numerous small trees overrun by lava flow during the eruption of Meshikarc volcanoes 28-40 million years ago. Occurs in the Meshik Formation.	R.L. Detterman and others, 1981
18	Located on the north shore of Kujulik Bay, Sutwik Island C-6 Quadrangle. Numerous stumps (probably all sequoia) overrun by volcanic lahar deposits in the Meshik Formation, Upper Eorcene to Lower Oligocene. 28 - 38 million years ago.	Smirnoff and Connelly, 1980
19	Numerous logs and stumps on a ridge south of Veniaminof Volcano. Logs and stumps occur grouth postion in a volcanic sandstone tuff sequence. The wood is probably Sequoia. Occurs within the Meshik-Stepovak Formation of Upper Eocene to Lower Olqocene age. K-Ar age dates range from 28-38 million years.	R.L. Detterman, personal commun., USGS, Menlo Park, CA
20	Numerous pieces of wood and small logs occur in the mountains west of Port Moller in the Port Moller D-2 Quadrangle. Occurs in a volcanic sandstone and volcanic mudstone section probably within the Milky River Formation of Pliocene age.	R.L. Detterman, personal commun., USGS, Menlo Park, CA
21	Numerous fragments of logs up to 8 in. in a siltstone section with minor interbeds of sandstone in the mountains north of Cape Aliaksin, Port Moller C-3 Quadrangle. Occurs within the Tolstoi Formation of Upper Paleocene to Lower Eocene age. Type of wood is unknown.	R.L. Detterman, personal commun., USGS, Menlo Park, CA

Map no.	Location and description	Reference
22	West side of Unga Island, Port Moller B-3. Petrified Forest of numerous Sequoia logs and stumps up to 50 ft long and 5 ft in diameter. Found in the Unga Conglomerate of Upper Oligocene to Lower Miocene age.	G.R. Eakins, 1970
23	East shore of Pavlof Bay, Pt. Moller B-5 Quadrangle. Numerous fragments of petrified wood included in sandstone. The wood is probably not locally derived. Occurs in Tolstoi formation of late Paleocene to Early Eocene age.	R.L. Detterman, personal commun., USGS, Menlo Park, CA
24	Located in a sea cliff exposure on the South side of Wosnesenski Island in the Port Moller A-5 Quadrangle. Sequoia stumps 2-3 ft in diameter occur in growth position in the Unga Conglomerate (Upper Oligocene to Lower Miocene) overlain by volcanic sequences.	R.L. Detterman, personal commun., USGS, Menlo Park, CA
25	Occurs on the west side of Ukolnoi Island, Moller A-5 Quadrangle. Numerous fragments of logs 6 in. in diameter included in sandstone and conglomerate sequence. Fragments have probably been washed into the location with sediments. Type of wood unknown.	R.L. Detterman, personal commun., USGS, Menlo Park, CA
26	Logs, stumps branches, and fragments of petrified wood that is black, gray or white in color. Occurs in outcrop on the west side of Herendeen Bay, the southside of Canoe Bay, and in the hills at the head of Albatross Anchorage in the Port Moller C-4 Quadrangle. Also, occurs in many places on the Alaska peninsula as glacial erratic material, much of which probably came from Unga Island.	Florence Weber, personal commun., USGS, Fairbanks, AK

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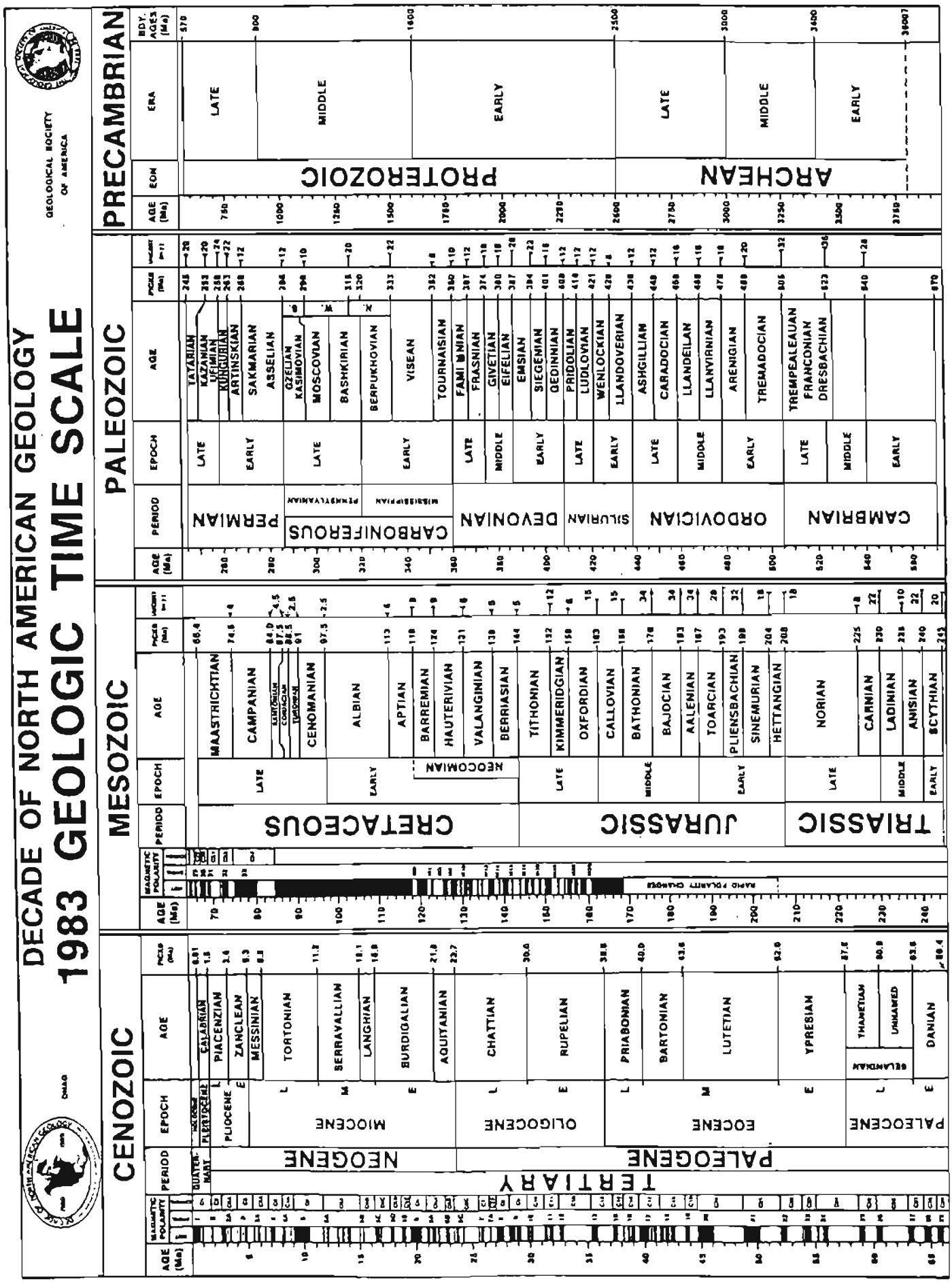
Appendix A


DECADE OF NORTH AMERICAN GEOLOGY
1983 GEOLOGIC TIME SCALE
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MESOZOIC
PALEOZOIC
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TERTIARY
NEOGENE
PALEOGENE
QUATERNARY
PLEISTOCENE
PLIOCENE
MIOCENE
OLIGOCENE
EOCENE
PALEOCENE
CRETACEOUS
JURASSIC
TRIASSIC
PERMIAN
CARBONIFEROUS
DEVONIAN
SILURIAN
ORDOVICIAN
CAMBRIAN
PROTEROZOIC
ARCHEAN
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PERIOD
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AGE
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RADIO POLARITY CHRONS
HOLOCENE
CALABRIAN
PIACENZIAN
ZANCLEAN
MESSINIAN
TORTONIAN
SERRAVALLIAN
LANGHIAN
BURDIGALIAN
AQUITANIAN
CHATTIAN
RUPELIAN
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VALANGINIAN
BERRIASIAN
TITHONIAN
KIMMERIDGIAN
OXFORDIAN
CALLOVIAN
BATHONIAN
BAJOCIAN
AALENIAN
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SINEMURIAN
HETTANGIAN
NORIAN
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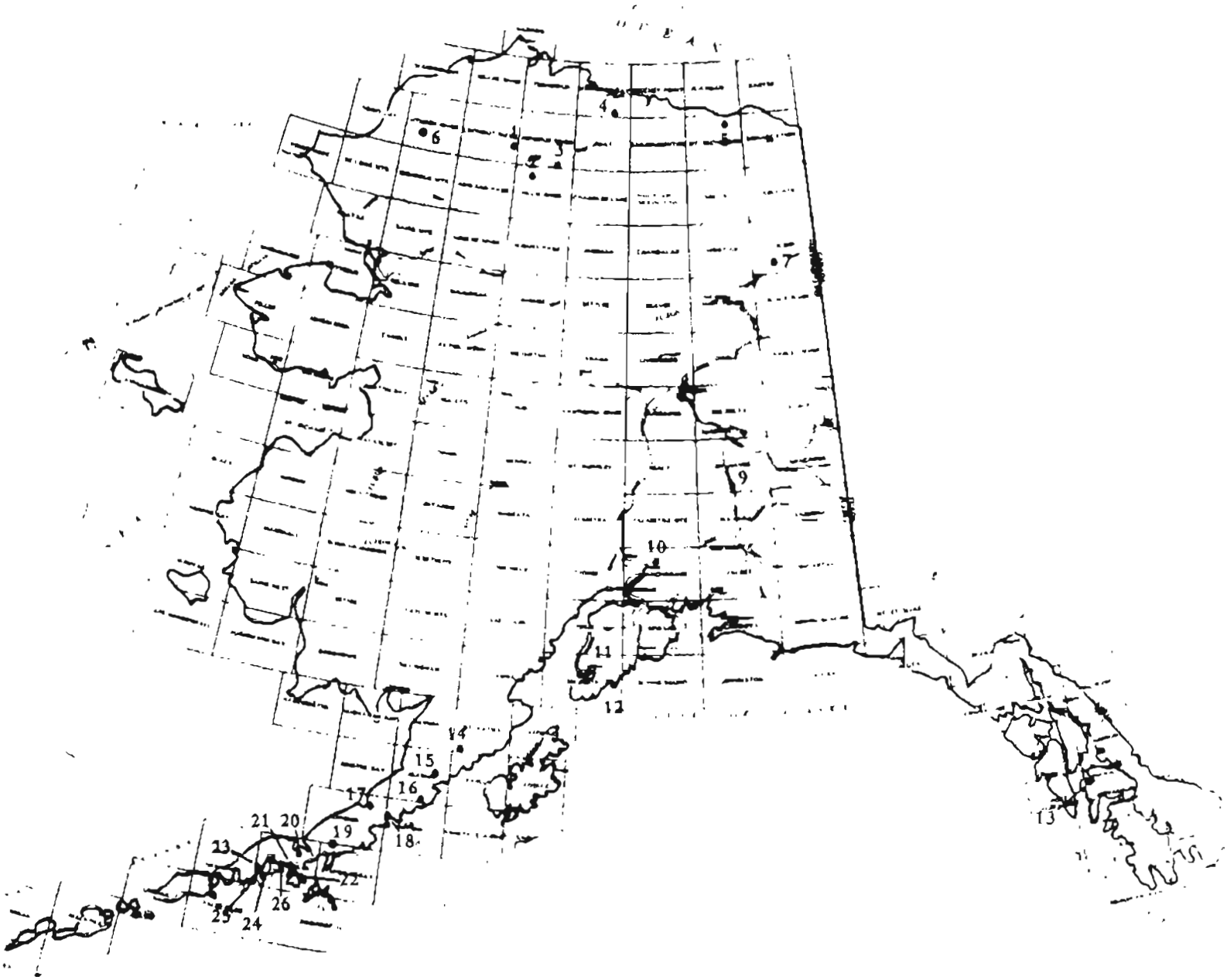

Figure 1. Location of petrified-wood occurrences in Alaska. Map numbers are keyed to descriptions of occurrences in table 1.

Figure 2. A petrified tree stump from a petrified forest near Anchor Point on the Kenai Peninsula, Alaska (map number 11, fig. 1).